PLANNING BOARD

Tuesday, March 11, 2025 at 4:30 PM
Room 24 (Ground Level of City Hall) and Zoom

MEMBERS
Brandon Mazer, Chair
David Silk, Vice Chair
Marpheen Chann
Austin Smith

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AGENDA:

PUBLIC HEARING - 4:30 PM

1. **ROLL CALL AND DECLARATION OF QUORUM**
2. **COMMUNICATION AND REPORTS**
3. **REPORT OF ATTENDANCE AT THE MEETING HELD ON FEBRUARY 25, 2025**

Public Hearing
165 Washington Avenue: Mazer, Barker, Chann, Murphu, Smith and Stanley present; Silk absent.
125 Thompson's Point Road: Mazer, Barker, Chann, Murphu, Smith and Stanley present; Silk absent.
716 Stevens Avenue: Barker, Chann, Murphy, Smith and Stanley present; Mazer recused and Silk absent.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON FEBRUARY 25, 2025

i. Major Site Plan and Traffic Movement Permit; 165 Washington Avenue; Redfern Properties, LLC, Applicant. Barker motioned, and Stanley seconded a motion to waive Technical Manual Standard Sec. 1.5.1.C to allow a driveway separation of 11.43 feet. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to waive Technical Manual Standard Sec. 1.10.7 to permit a two-way driveway aisle width of 22.22 feet. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to approve the Major Site Plan application. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to approve the Traffic Movement Permit. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to adopt the draft approval letter as the Planning Board's decision, and to authorize the Board Chair to sign the approval letter as drafted. Vote 6-0 (Silk absent).

ii. Major Site Plan and Subdivision; 125 Thompson's Point Road; Forefront Partners I, LP and CPI Management, LLC, Co-Applicants. Barker motioned, and Stanley seconded a motion to waive Technical Manual Standard Sec. 3.6.2, to permit one access road for a residential development with greater than 100 units. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to approve the Major Site Plan application. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to approve the Subdivision application. Vote 6-0 (Silk absent). Barker motioned, and Stanley seconded a motion to adopt the draft approval letter as the Planning Board's decision, and to authorize the Board Chair to sign the approval letter as drafted. Vote 6-0 (Silk absent).

iii. Institutional Overlay Zone and Zoning Map Amendment; 716 Stevens Avenue; University of New England, Applicant. Stanley motioned, and Murphy seconded a motion to recommend to the City Council the rezoning of the UNE Portland Campus to B-2 Community Business and OS-P Open Space Preservation. Vote 5-0 (Mazer recused, Silk absent). Stanley motioned, and Murphy seconded a motion to approve the University of New England Institutional Development Plan (IDP). Vote 5-0 (Mazer recused, Silk absent). Stanley motioned, and Chann seconded a motion to recommend to the City Council the adoption of the Institutional Overlay Zone map boundary. Vote 5-0 (Mazer recused, Silk recused). Stanley motioned, and Murphy seconded a motion to recommend to the City Council the adoption of the University of New England Regulatory Framework. Vote 5-0 (Mazer recused, Silk absent).

5. NEW BUSINESS

i. Major Site Plan and Conditional Use; 1 Hope Avenue; GenX Capital Partners, LLC, Applicant. The Planning Board will hold a hybrid public hearing to consider a major site plan and conditional use application for inclusionary zoning to facilitate the development of a 54-unit Planned Residential Unit Development at 1 Hope Avenue. The subject property is currently undeveloped woodlands, is 13.7 acres in size, and is located within the R-3 Residential zone. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002454-2023.

1 Hope Avenue
Major Site Plan & Subdivision Review
PL-002454-2023
GenX Capital Partners, LLC

Submitted to:	Portland Planning Board	**Prepared By:**	Zach Powell
Public Hearing Date:	March 11, 2025	**Date:**	March 7, 2025

I. INTRODUCTION

GenX Capital Partners, LLC has submitted a Major Site Plan application as well as an Inclusionary Zoning Conditional Use application to facilitate the development of a Planned Residential Unit Development (PRUD) on an approximately 13.71 acre (597,071 square feet) parcel, addressed at 1 Hope Avenue in the R-3 (Residential) zoning district. The proposed development includes 54 new residential units, housed within 9 duplex buildings and 12 triplex buildings, along with a 20-foot wide paved private road.



Figure 1: Site plan

The application previously appeared before the Planning Board for two workshops. The first workshop on September 12, 2023, established the pending proceeding date for the application and served as an introduction to the project and provided background on the annexation & rezoning of the project site. The second workshop on October 22, 2024, provided an update on the process of the application review.

The application is being referred to the Planning Board for compliance with the February 6, 2023 version of the City of Portland's Land Use Code, Site Plan standards (Section 14.6), Subdivision standards (Section 15.4)(Triggered by Table 6-A, Footnote 4), Inclusionary Zoning (Section 18.2.3), Design Review Manual Section (h), and Site Location of Development (Site Law) (November 22, 2022 version of the Technical Manual Section 14).

The Planning and Urban Development Department mailed 54 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the February 26, 2025 and February 27, 2025 editions of the *Portland Press Herald*.

Applicant: GenX Capital Partners, LLC
Applicant Representatives: Haley Ward, Inc. & Barton & Loguidice

II. PROJECT DATA & WAIVER REQUESTS

Project Data	
Existing Zoning	R-3 (Residential)
Property Size	597,071 square feet (13.71 acres)
Existing Use	Undeveloped, Forest
Proposed Use	Planned Residential Unit Development (PRUD)
Total Developed Area	391,882 square feet
Impervious Surface Area	155,301 square feet
Parking Spaces	57 (54 garage & 3 surface along proposed private road)
Waiver Request	**Applicable Standard**
Proposed preservation of less than 30% of trees >10 inches DBH within the required 25-foot setback from external property boundaries.	Section 14.6.2(B)(3) of the Land Use Code – 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 or are deemed unsalvageable by the Portland City Arborist.
Proposed ± 9,917 square feet of wetland impact and construction of a stream crossing	Section 14.6.2(A)(1) of the Land Use Code – All development shall preserve and protect significant natural features by incorporating them into site design.
Encroachment of ±0.4 acres into the required 100-foot perennial stream buffer	Section 8.2.1. of the Technical Manual – Development located adjacent to perennial streams, a minimum 100-foot buffer strip on either side of the stream should be maintained. The undisturbed buffer must be placed in deed restrictions.
Driveway width of 26 feet for a driveway serving less than 10 automobiles	Section 1.5.1(B) of the Technical Manual – Minor driveways serving <10 residential spaces are permitted a maximum width of 20 feet.

III. EXISTING CONDITIONS AND SURROUNDING AREA

The development site consists of three parcels, totaling 13.71 acres, of undeveloped woodlands bounded by the Presumpscot River Preserve to the east, the Basket Lane Subdivision to the southeast, and Hope Avenue to the south. The property has a high degree of relief in topography due to a transecting stream running approximately east-west along the southerly property boundary, and a consistent slope towards the Presumpscot River. Other

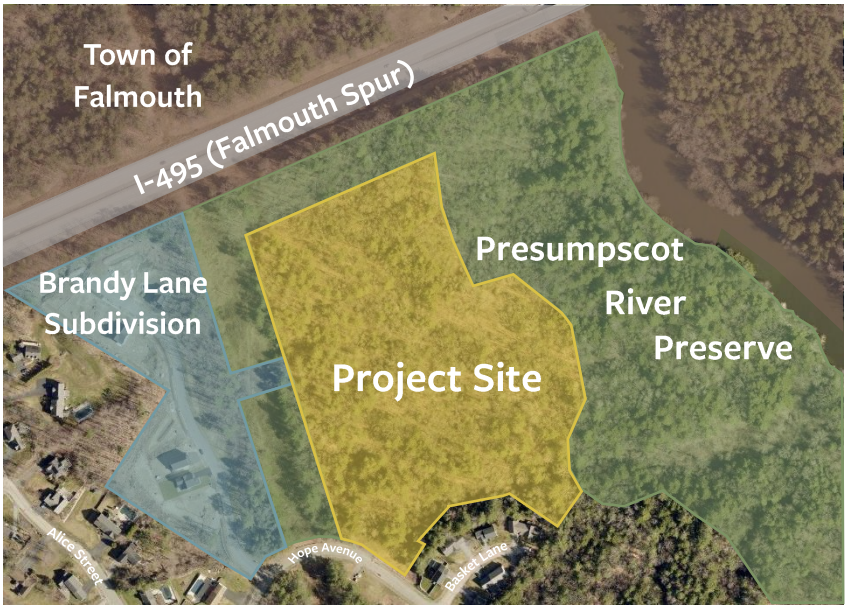


Figure 2: Aerial imagery of the project site and surrounding context

property constraints include extensive wetlands located throughout the site. Immediately west of the proposed development site is a Central Maine Power (CMP) transmission line, which is situated within a 135-foot-wide utility easement. The Brandy Lane Subdivision also partially borders the proposed development to the west. Development of Brandy Lane commenced in 2018, and the construction of new single-family homes began in 2023. In looking at the surrounding context, this area of North Deering is predominantly low-density single-family housing, with the majority of properties being zoned RN-1 (Residential).



Figure 3: Public Open Space Plan documenting open space in green with a connection plan south to the Portland Trails network and a central open space with three play features.

IV. PROPOSED DEVELOPMENT

GenX Capital Partners, LLC proposes the development of 54 new dwelling units through a combination of duplex and triplex buildings. The development includes the construction of a private road through the site that connects to an existing curb cut on Hope Avenue. The proposed road contains a stream crossing with a box culvert. The proposed development includes sidewalks throughout the site connecting to the existing sidewalk network at Hope Avenue. As the site is located adjacent to existing conservation land and an extensive trail network managed by Portland Trails, the Applicant is proposing to dedicate passive recreation open space within the site and would connect the eastern and western portions of the site with existing trails in the area.

V. RIGHT, TITLE, & INTEREST

The Applicant has provided a short form quitclaim deed dated June 17, 2022 for the parcels associated with 1 Hope Avenue as demonstration of Right, Title, and Interest (**Attachment 3**). The deed includes an easement to the City of Portland for the purpose of providing a gravel emergency access road and a 3,083 sq. ft. culvert easement benefiting the City of Portland which includes the right to construct, repair, and perpetually

maintain the culverts, pipes, or ditches related to the existing drainage system. The Applicant has provided an easement dated December 30, 1955 granted to the Portland Water District for the purposes of accessing portions of the site as well as lay, relay, repair, maintain, and remove water pipe or pipes (**Attachment 3**).

VI. FINANCIAL & TECHNICAL CAPACITY

On May 14, 2024, the City and GenX Capital Partners entered into a Consent Judgment (**Attachment 12**) which resolved a code enforcement action brought by the City for violations of Portland City Code Section 29-21 (Mutilation of Trees) and Section 29-18 (Tree Removal Without Permit). GenX Capital Partners admitted to the violations, and the Court approved the Consent Judgment, which GenX Capital Partners voluntarily executed.

As of the writing of this report, GenX Capital Partners has failed to comply with the contribution requirements outlined in the Consent Judgment. The judgment mandates that GenX Capital Partners pay $10,000 to Portland Trails and $1,600 to the City of Portland Tree Trust, both by December 1, 2024. To date, GenX Capital Partners has not made any contribution payments, constituting a direct violation of the Court's order. The City has filed a Motion for Contempt with the court to address GenX Capital Partners' noncompliance with the Consent Judgment. A hearing is scheduled in May for the court to hear that motion.

Pursuant to Sections 2-201 to 2-205 of the City Code, applicants must satisfy outstanding debts before pursuing new permits. Therefore, staff recommends that the Board table any vote on the proposed project until all outstanding debts are resolved.

A letter (**Attachment 12**) from Titan Funding, LLC has been submitted stating that a loan for the total cost of the project ($22 million) has been supplied to the Applicant. The Applicant has submitted a narrative on the development team's technical capacity **(Attachment 12).** Titan Funding, LLC has indicated that a $25 million line of credit has been secured for the construction of the subdivision and dwelling units for the Presumpscot Wood Subdivision Project. Additionally, the Applicant has provided a list of current and past development projects in Saco, Cape Elizabeth, and Falmouth, ME, along with key members of the development team.

VII. ZONING ANALYSIS

At the time of application submittal, the property was zoned R-3 and abutted the RPZ (Resource Protection) & Contract Zone #40. The purpose of the R-3 zone is to provide for residential development with at least 6,500 square feet per dwelling structure. The Applicant is proposing a PRUD and is subject to *Table 7-B: PRUD Dimensional* Standards in Chapter 14, Article 7. The table below provides information on R-3 PRUD dimensional requirements and the proposed development's conformance.

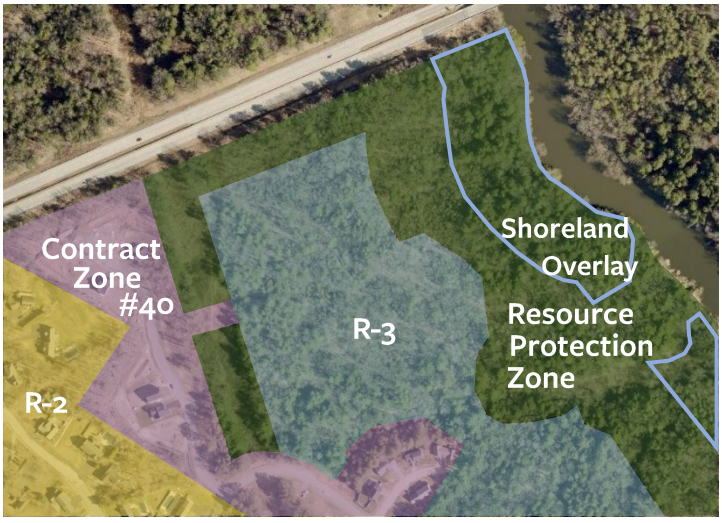


Figure 4: City of Portland Zoning Map (as of pending proceeding date)

Overall, the development complies with most standards, except for Buildings 20 and 21, which encroach into the required 25-foot setback from exterior lot lines. Zoning Administrator Ann Machado has requested updated architectural drawings that accurately reflect scale, include all building elements (e.g., decks, bulkhead doors), and ensure consistency in building footprint dimensions with the site plan.

Zoning Dimensional Review (Article 7)

Dimensional Standards (Table 7-B)

Standard	***R-3 PRUD Requirement***	***Proposed***	***Finding***
Lot area (Minimum)	3 acres	13.71 acres	Complies
Net land area per dwelling unit (Minimum)	6,500 square feet x 54 dwelling units = 351,000 square feet (8.06 acres)	13.71 acres/54 units = 6,500 square feet	Complies
Units per building (Maximum)	6	3	Complies
Average number of units per building (Maximum)	5	2.57	Complies
Structure height (Maximum)	35 feet	24 feet	Complies
Building length with internal garages (Maximum)	140 feet	115 feet	Complies
Building setback from external subdivision property lines (Minimum)	25 feet	20.5 feet	Does Not Comply
Distance between detached PRUD dwelling units (Minimum)	16 feet	16 feet	Complies
Common recreation open space area (Minimum)	300 square feet per dwelling unit x 54 dwelling units = 16,200 square feet	43,700 square feet/54 units = 809 square feet per dwelling unit	Complies
Habitable space elevation	No habitable space in a PRUD shall be below grade, except basements that are part of and below above-ground units.	Basements are proposed as part of units with habitable space exclusively above grade.	Complies

VIII. INCLUSIONARY ZONING

As the proposed project would create ten or more net new dwelling units, the Applicant is required under Section 18.2.3 to designate at least 25% of the units as workforce housing for sale or rent, as defined by Article 3 of the Land Use Code. Alternatively, the Applicant may opt to pay a fee-in-lieu of $182,830 per required workforce housing unit to the City's Jill C. Duson Housing Trust Fund based on the 2025 fee-in-lieu rate.

To comply with the City's Inclusionary Zoning requirement, the Applicant intends to partially satisfy the 25% workforce housing requirement by constructing 8 units on-site, with 8 of the 12 center triplex units serving as the workforce housing units, and paying a fee-in lieu for the remaining 6 units, resulting in a fee-in-lieu in the amount of $1,096,980.

IX. OCTOBER 22, 2024 WORKSHOP

The Applicant team provided an overview of updates to the application since the first workshop, including the completion of the soil study and geotechnical review. The Planning Board raised questions related to the auto-oriented design of the garages, support for more active open space in the center of the site, and location & design of the detention ponds. Public comment raised concerns about the embankment design, the results of the soil survey, and impacts to the Presumpscot River & pump station capacity.

Board members expressed support to conduct additional geotechnical analysis of the proposed embankment & impacts of mass wasting, providing additional buffer space between the trail/trail

connections & proposed houses, and providing additional active-use open space area in the center of the site as part of the next resubmission.

X. UPDATES FROM OCTOBER 22, 2024 WORKSHOP

Following the last workshop, the Applicant submitted the following items in February to respond to Board and Staff comments:

- Updated site plan set with roadway dimensions for the City and private right-of-way
- Updated landscape plan to reflect changes for additional active recreation space
- Supplemental geotechnical report on the proposed embankment
- Updated stormwater management report reflecting the reduction in units and relocation of outlet locations
- 48-hour speed data for Summit Street
- Letter regarding financial capacity
- Update on the pump station design document process with the Department of Public Works

XI. SITE PLAN REVIEW

Section 14.6 of the City's Land Use Code establishes standards under which Site Plan applications must be reviewed. Per this section, Site Plans shall adhere to the following requirements:

Section 14.6.1. Transportation Standards

A. Impact on Surrounding Street Systems

Staff Comment: Based on the most recent submission, the Third-Party Traffic Engineer and City Staff do not expect the proposed development to result in significant or unacceptable impacts to the City's street system. The project is anticipated to create 33 trips in the AM peak hour and 37 trips in the PM peak hour and therefore does not meet the minimum threshold to require a Traffic Movement Permit (TMP). A detailed traffic study evaluating the capacity of roadways and intersections in the vicinity of the project is not required given the relatively low levels of new traffic volume to be generated.

Based on Staff requests, the Applicant has provided 48-hour speed counts for westbound traffic on Summit Street West of Curtis Road. The results indicate speeds that align with results from other neighboring streets of low volumes and generally adhere to the 25 mph limit. The Applicant has not yet provided Staff with speed counts for eastbound traffic on Summit Street. Staff have requested this information be provided and are awaiting submission.

B. Access and Circulation

Staff Comment: Access to the proposed structures would be from a private street off Hope Avenue. The Applicant has updated the cul-de-sac design to ensure a sufficient turning radius for emergency vehicles in previous site plan sets. Staff have requested turning templates be provided for the latest site plan set. An internal sidewalk is proposed to connect to the site from Hope Avenue. The Applicant has provided revised plans showing a sidewalk at the end of the cul-de-sac and provided crosswalks for roadway crossings. Sidewalks are proposed along the public right-of-way and the private roadway, with the site plan updated to use the City Standard detail for typical crosswalk markings from the Technical Manual (Figure I-17).

Sight distances have been measured in both directions from the proposed intersection of the private street with Hope Avenue and the Applicant has provided the minimum 200 feet for the posted 25 mph speed limit (240 ft. to the left; 300 feet to the right).

No service features are proposed that would necessitate a stacking capacity for the site. Driveways are long enough to permit informal parking without encroaching onto sidewalks or the roadway. From the previous site plan set, the Applicant has updated the driveway design to remove planting strips between driveways in response to prior Planning Board feedback. This change results in 25.5'-wide driveways, which exceed the permitted driveway width for driveways providing parking for less than 10 vehicles. Staff have requested that the Applicant submit a waiver request to this standard and support the request to exceed the maximum requirement by 6 feet.

C. Public Transit Access

Staff Comment: Not applicable. The proposed development is not located along an existing public transit route on a principal or minor arterial roadway and therefore is not required to install a transit shelter.

D. Parking

Staff Comment: The development meets the minimum parking requirements per Ch. 14, Article 19, Table 19-A, which requires a minimum off-street parking ratio of one space per residential unit. The development provides each unit with one garage space, three additional spaces along the private road near the trail connection, and additional space for vehicles to park one vehicle each of the unit driveways. Each of the units contains covered, secure space where bicycles can be stored, which exceeds the minimum requirement for storage of 22 bicycles.

Snow storage areas are identified in the site plan set and do not encroach on stormwater management systems, but Staff have requested revisions to ensure that snow storage is not collocated with street lighting, trees, shrubs, or perennials.

No electric vehicle charging stations are required since the surface parking lot proposes less than 5 automobile spaces per building.

E. Transportation Demand Management

Staff Comment: Not applicable. The proposed development does not meet or exceed the thresholds requiring a transportation demand management plan.

Section 14.6.2. Environmental Quality Standards

A. Preservation of Significant Natural Features

Staff Comment: Since the project is proposing a ±0.4-acre encroachment into the perennial stream buffer, submission of a waiver to §8.2.1 of the Technical Manual was identified by Water Resources. The Applicant submitted a replanting and invasive species management plan to promote natural revegetation with a 2:1 ratio of trees to shrubs. The plan was reviewed by Water Resources and was determined to adequately address their concerns in supporting a waiver.

Waivers for encroachments into perennial stream buffers must be accompanied by recorded deed restrictions, which would be recommended as a condition of approval if the Board approves the waiver.

Additionally, a waiver is required for compliance with §14.6.2(A)(1) of the Land Use Code, given the proposed impacts to wetlands and watercourses, which Staff have requested the Applicant update the waiver table and provide a justification. The project was reviewed by the Maine Department of Environmental Protection for NRPA Tier 1 permits, with the approval letter for the wetland fill (L-30483-TC-B-N) included as **Attachment 9**. Staff have requested confirmation from the Applicant that the changes from the 2022 site plan submitted with the Tier 1 permit application will not impact the NRPA permit.

Staff have also requested a copy of the approval for the NRPA permit by rule (PBR) (PBR_ID_78667) for the proposed stream crossing. Review by the Army Corps of Engineers for a General Permit is still ongoing. When initially submitted, the application proposed 13,457 square feet of wetland impacts which have decreased to 9,917 square feet in the most recent site plan submission by preserving more of the existing wetland in the center of the site.

City Staff are recommending as a condition of approval that the Applicant submit approvals for the NRPA stream crossing & Army Corps of Engineers applications. Through compliance with State and Federal regulations, minimization of wetland impacts, and proposed design for the encroachment into the perennial stream buffer, the proposed application has minimized impacts to significant natural features to the extent practicable.

B. Landscape Preservation

Staff Comment: An existing conditions plan has been provided which identifies the location, species, and size of trees over 16" DBH. Additional information on landscape preservation has been provided on sheet LA-100, which proposes four-foot fencing around the dripline on- and off-site trees totaling 69. The landscaping plan has been updated to diversify street trees in response to City Forester concerns about Asian Long-Horned Beetles. The City Forester has noted that the White Fringetree is the only identified non-Ash host for the Emerald Ash Borer, which may result in negative impacts to the six proposed Fringetrees.



Figure 5: Landscape plan showing site frontage along Hope Avenue with trees proposed to be preserved (outlined in orange), new street trees (in green), grassed underdrain storm filter (in purple), transformer (in red), and projected sign location (in blue).

The development is required to have setbacks of 25 feet from the exterior of the property boundary and preserve a minimum of 30% of trees ≥10" diameter breast height (DBH) within this setback. City Staff have requested the Applicant identify the number of existing trees >10" DBH within this setback, along with the number of trees to be preserved within the setback. Based on an initial review, 34 trees ≥16" diameter breast height currently exists within the setback area and is required to preserve 10 trees. As submitted, 5 trees

within the setback area are proposed to be preserved. Based on these totals, a waiver request would need to be submitted justifying why the standard cannot be met along with identifying what alternative(s) are proposed to be used. New trees within the 25-foot setback are proposed to be planted, with final locations not shown in the landscape plan.

The City Forester is repeating requests for additional information on the basal area targeted for retention and updates to landscape plan notes.

C. Site Landscaping and Buffers

Staff Comment: The Applicant has submitted a landscape plan that provides native buffers along the perimeter of the site, with access points to the east and west to the Portland Trails network. Each unit includes a combination of an ornamental tree, small shrubs, and herbaceous plants, which provide screening between units and the central open space, as well as the preservation of 54 trees with a diameter breast height (DBH) of 16" or greater. This exceeds the City's requirement for site landscaping as detailed in §14.6.2.C, which requires one mature tree or six plantings for every 30 feet of roadway frontage, for a total requirement of 83 trees, based upon the 2,496 feet of frontage on Hope Avenue. Given the expansive tree-save areas proposed around the periphery of the site, staff consider this standard to be addressed.

Staff have requested additional information related to the location and proposed buffering of the heat pumps for the units, as well as the transformer proposed to be located along Hope Avenue.

A total of 77 street trees have been proposed when 108 are required for the site. A total of 8 existing trees are located within 20 feet of the private right-of-way, which can count towards the requirement through approval from the City Forester. Staff encourages the Applicant to consider planting street trees along the Hope Avenue frontage to meet this requirement. For any remaining trees that cannot be feasibly planted along the street or through an alternative on-site, a contribution to the City's Tree Fund will be made and included as a recommended condition of approval.

D. Water Quality, Stormwater Management, and Erosion Control

Staff Comment: Based on feedback from Staff and the Planning Board, stormwater detention ponds and fencing have been moved from the lot lines to provide sufficient space for maintenance access and to minimize erosion impacts within the Presumpscot River Preserve.

A soil survey & geotechnical report have been submitted. The soil survey finds that the soils for the site are generally suitable for the proposed development, and encourages avoiding and minimizing development in areas with fine-textured soils and a high seasonal water table. The geotechnical report identified changes to the embankment that should be considered, including the removal of soft soils from the bottom of the gully prior to the placement of any new embankment fill and culvert bedding, the flattening of proposed embankment slopes with reinforcement, the potential removal of bedrock for the box culvert, and the establishment of clear 'limits of work' to protect native and sensitive silts and clays.

A supplemental geotechnical assessment was completed by S.W. Cole for the proposed embankment and found that the 1:1 unreinforced embankment was unstable against failure and sloughing. Two potential solutions were analyzed; a reinforced embankment with a 1:1 rip-rap faced sideslopes, or an unreinforced embankment with 1.5:1 rip-rap faced sideslopes. Both options were found to provide sufficient safety for long-term static conditions and seismic loading conditions. The Applicant team has selected the use of a geo-grid reinforced embankment with 1:1 rip-rap faced sideslopes, which is shown on sheets C103, C201, and C504.

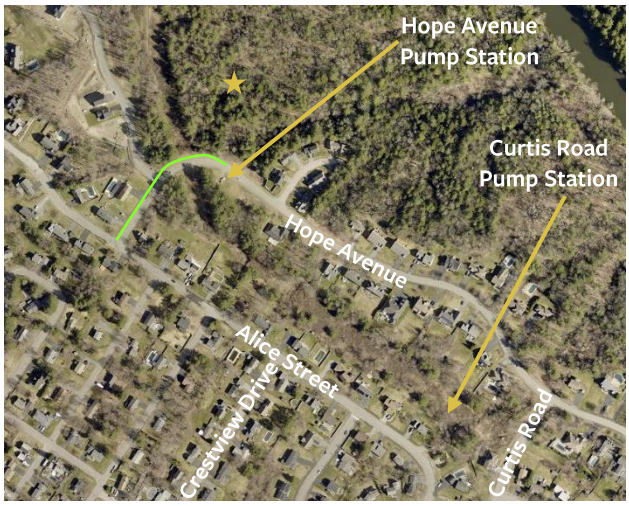


Figure 6: Aerial image identifying the Hope Avenue & Curtis Road pump stations, with the force main to be cleaned & camera inspected (in green) and the site (identified with a star).

Overall, concerns about the stability of the site based on mass wasting and the embankment were raised at the October 22, 2024 workshop, with direction from the Planning Board to have updated application materials be reviewed by a third-party geotechnical consultant. It is anticipated that engineering firm SGH will be completing this review and staff is recommending that the Board table their vote on the application until the third party review is complete and found to be acceptable by the third-party geotechnical consultant, subject to revisions as necessary.

The Applicant team has updated the stormwater management design based on comments from Water Resources related to the access drive embankment, outlet protection, HydroCAD post-development modeling for Ponds A & B, and the construction management plan related to erosion & sedimentation control measures.

City Staff have requested the following updates related to the stream crossing and stormwater infrastructure:

Stream Crossing

- Updated design documents that demonstrate the stream crossing meet StreamSmart Crossing principles to ensure that the crossing is resilient to extreme storm events
- Additional hydrologic and hydraulic calculations and mapping related to storm events
- Detail drawings for the proposed geo-grid reinforcement for the embankment and how the reinforcement will be incorporated with utilities in the roadway

Stormwater Infrastructure

- Updates to the plan set to include the outlet of Wetpond A into the defined development limits, along with erosion control measures around Wetponds A & B
- Alignment of HydroCAD calculations with values listed in the site plan set
- Updates to the Hydro CAD model to correctly model the storage for Biocell 1 and include outlet restrictions to asses impacts to secondary outlets
- Additional information on the outlet configurations for the bioretention cells and inclusion of outlet protection for pipe outfalls and drip edge filters

- Inclusion of a level spreader to deconcentrate flows from the storm drain pipe into the internal wetland

Additional provisions are proposed for the stormwater management agreement for the site to address the long-term stability of soils at stormwater discharge points and long-term inspection, repair, maintenance, and replacement of the culvert.

Section 14.6.3. Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans

Staff Comment: As land annexed from Falmouth and disposed of for housing creation, the project meets Portland Plan goals to *increase, preserve, and modify the overall supply of housing city-wide*, as well as *leveraging underused properties owned by the City*. The project also furthers Portland's Plan 2030 goal to strengthen connections between open space by establishing two trail connections that connect the proposed internal open space area on the site to the greater Portland Trails network & Presumpscot River Preserve.

B. Public Safety and Fire Prevention

Staff Comment: Staff feedback from previous reviews led to an increase in the number of hydrants for the site and the provision of turning templates for fire trucks to confirm sufficient emergency access.

Units are proposed to be sprinklered and provide a 20-foot wide access road, which meet the minimum subdivision standards.

Proposed street lights have been relocated to move closer to crosswalks to improve visibility & safety between motorists and pedestrians.

C. Public Utilities

Staff Comment: As mentioned during the last workshop, the Department of Public Works has provided guidance and direction to the Applicant on wastewater system upgrades which will be required to be implemented by the Applicant before the project's private wastewater system can begin operation and connect to the City system. These upgrades include at a minimum, upgrades to the Hope Avenue pump station, cleanout of the wastewater line between the Hope Avenue pump station and Alice Street discharge point, and a camera inspection of this portion of City infrastructure. Any required repair work identified through the camera inspection would be the responsibility of the Applicant.

Public Works Staff are recommending that the approval of the wastewater capacity authorization for the project be added as a condition, where the design package and review by DPW staff can be finalized. The design package would include the proposed pump station improvements (plan and profile, final design of the proposed bypass and cleanout structure, a construction plan from the pump station package manufacturer, and a bypass plan.

The Applicant has submitted evidence that outreach with the Portland Water District & Central Maine Power for ability to serve letters has begun but have not yet been received.

Section 14.6.4. Site Design Standards

A. Massing, Ventilation, and Wind Impact

Staff Comment: Structures are located in the center of the site and provide distance from existing structures to avoid negative health, safety, and diminution impacts. The Applicant notes that the proposed heat pumps have quiet operations, which should not result in significant impacts to the residential units or use of the central open space.

B. Shadows

Staff Comment: Not applicable, since shadow analyses are only required for structures greater than 45 feet outside of the B-3, B-5, B-6, and B-7 zones. The proposed structures are less than 45 feet in height.

C. Snow and Ice Loading

Staff Comment: The Applicant has noted that snow removal from a private contractor will be employed should onsite snow storage be inadequate. As noted in comments related to Parking and Design, a reconfiguration to remove snow storage areas that are collocated with landscaping and street lights has been requested by Staff.

D. View Corridors

Staff Comment: Not applicable, since the site is not located along a designated view corridor.

E. Historic Resources

Staff Comment: Not applicable. The site is not designated as a local landmark or located within a local historic district. A copy of the application was forwarded to the Maine Historic Preservation Commission who determined that the proposed application would not have an impact on historic properties and no further consultation is required unless additional resources are discovered.

F. Exterior Lighting

Staff Comment: The site currently has 195 feet of frontage along Hope Avenue. There is an existing street light near the property's frontage along Hope Avenue, which provides adequate street lighting in accordance with the street lighting standards of the Technical Manual.

A photometric plan was submitted for the private street lighting for the site, which proposes 23 LED street lights that are used in residential neighborhoods for public rights-of-way.

G. Noise and Vibration

Staff Comment: Staff continue to request additional details on the proposed heat pump systems, including their screening and placement to ensure they are positioned away from adjacent units and the street. Similar concerns have been raised regarding the proposed transformer along Hope Avenue.

H. Signage and Wayfinding

Staff Comment: The Applicant states that aside from traffic regulation, the only sign for the development will be an identifying sign along Hope Avenue, that will be submitted for a sign permit at a later date in compliance with Article 20 of the Land Use Code. Staff encourages the Applicant to identify opportunities for signage at trail crossings for the private road and with Portland Trails to promote safer and easier connections to the greater Portland Trails network.

I. Design Standards

Staff Comment: Based on the September 4th design memorandum and Board feedback, the Applicant has updated the application to remove on-street parking, which addressed the larger requested updates related to pedestrian safety. Lighting has been relocated to better align with crosswalks to improve safety between pedestrians and motorists. The February 28, 2025 design memorandum (**Attachment B**) has found the design to be consistent with the R-3 PRUD & Multiple-Family development standards of the Technical Manual. Staff have requested additional information on how public access to open space will be provided and whether the central open space is open to Portland Trail users or just for residents of the subdivision.

XII. SUBDIVISION REVIEW

Table 6-A, Footnote 4 of the Land Use Code specifies that PRUDs shall be subject to the review and approval by the Planning Authority under Article 15 (Subdivision). Section 15.4.1 of the City's Land Use Code establishes standards under which Subdivision applications must be reviewed. Per this section, Subdivisions shall adhere to the following requirements:

A. Water or Air Pollution

Staff Comment: Refer to site plan assessment of water quality, stormwater management, and erosion control standards in Section XI of this report under §14.6.2(D).

B. Sufficient Water Supply

Staff Comment: Refer to site plan assessment of public utilities in Section XI of this report under §14.6.3(C).

C. Impacts to Existing Water Supply

Staff Comment: Refer to site plan assessment of public utilities in Section XI of this report under §14.6.3(C).

D. Soil Erosion & Stormwater Detention

Staff Comment: Refer to site plan assessment of water quality, stormwater management, and erosion control standards in Section XI of this report under §14.6.2(D).

E. Impacts to Highways & Public Roads

Staff Comment: Refer to site plan assessment of transportation standards in Section XI of this report under §14.6.1.

F. Adequate Sewer & Stormwater Disposal

Staff Comment: Refer to site plan assessment of public utilities in Section XI of this report under §14.6.3(C).

G. Impacts to City Solid Waste & Sewage

Staff Comment: The Applicant has submitted a letter indicating ability for solid waste collection during construction, with solid waste anticipated to be collected by the City at approximately 0.84 tons a week.

Refer to site plan assessment of public utilities in Section XI of this report under §14.6.3(C) for assessed impacts to the City's sewer system.

H. Adverse Impacts on Visual, Historic & Natural Resources

Staff Comment: Refer to the site plan assessment of impacts to existing natural resources and landscape preservation, view corridors, and historic preservation in Section XI of this report under §14.6.2(A&B) and §14.6.4(D&E).

I. Compliance with Comprehensive Plan

Staff Comment: Refer to site plan assessment of consistency with City master plans in Section XI of this report under §14.6.3(A).

J. Financial and Technical Capacity

Staff Comment: Refer to Section VI of this report.

K. Shoreland Zone Impacts

Staff Comment: Not applicable. The project is not located within the shoreland zone.

L. Groundwater Quality & Quantity

Staff Comment: Refer to site plan assessment of water quality, stormwater management, and erosion control standards in Section XI of this report under §14.6.2(D).

M. Flood Risk

Staff Comment: Not Applicable. The site is not located in a flood zone.

N. Stormwater Management

Staff Comment: Refer to the site plan assessment of the site plan stormwater management review in Section XI of this report under §14.6.2(D) & §14.6.3(C).

O. Depth-to-Shore Frontage Ratio

Staff Comment: Not Applicable.

P. Subdivisions Located in Two or More Municipalities

Staff Comment: Not Applicable.

XIII. SITE LOCATION OF DEVELOPMENT

The proposed development is required to receive approval for a Site Location of Development (SLOD) Permit application. The City of Portland has delegated review authority for SLOD permits. Section 14.3 of the *Technical Manual* contains the SLOD standards required to be met. SLOD review standards overlap with several site plan standards, which are listed below:

- Financial & Technical Capacity: Refer to Section VI of this memorandum
- Traffic Movement: Refer to the assessment of §14.6.1(A) in Section XI of this memorandum
- No Adverse Effect on the Natural Environment, Ground Water, Flooding, Storm Water Management & Erosion and Sedimentation Control: Refer to the assessment of §14.6.2 in Section XI of this memorandum
- Soil Types: Refer to the assessment of §14.6.2(D) in Section XI of this memorandum
- Infrastructure: Refer to the assessment of §14.6.3(C) in Section XI of this memorandum

XIV. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The Applicant held a neighborhood meeting on May 31, 2023 (**Attachment 41**). Comments from the neighborhood meeting focused on impacts on the transportation system, school system, and Presumpscot River Preserve/Portland Trails.

Since the last Planning Board workshop, the Planning & Urban Development Department has received nine public comments (PC1 – PC9) regarding the proposed development. Comments have focused on concerns about the stability of the site, impacts to the Presumpscot River Preserve, traffic concerns, and the scale of the development.

XV. STAFF RECOMMENDATION

Due to the outstanding debt associated with a Consent Judgment resolving a code enforcement action for violations of Portland City Code Section 29-21 (Mutilation of Trees) and Section 29-18 (Tree Removal Without Permit), as discussed in Section VI of this report, along with required application updates, Planning Department staff recommend that the Planning Board table the application. The application should not proceed until the outstanding debt is paid and Planning Staff determine that the Applicant has provided responses to ensure that the project meets the applicable standards of Portland's Land Use Code. The Planning Board is encouraged to deliberate and provide broad feedback on the remaining aspects of the project relevant to the applicable standards.

XVI. ATTACHMENTS

STAFF ATTACHMENTS

A. City Staff February 26, 2025 Comment Letter
B. March 2025 Design Review Memorandum
C. Compiled City Staff Comments
D. January 23, 2025 Contempt Motion & May 13, 2024 Consent Judgment
E. Land Use Code in Effect as of Pending Proceeding Date
F. Technical Manual in Effect as of Pending Proceeding Date

APPLICANT SUBMITTAL

1. Project Description + Narrative 2025-02-12
2. Major Site Plan & Subdivision Checklists
3. Right, Title & Interest
4. Condominium Documents
5. Evidence of State & Federal Approvals 2025-02-12
6. SLOD Application Form
7. NRPA Permit by Rule Application
8. NRPA Tier 1 Application
9. NRPA Tier 1 Signed Permit
10. Zoning
11. Waiver Table
12. Financial & Technical Capacity
13. Consistency with City Master Plans
14. Public Safety and Fire Prevention
15. Availability of Public Utilities
16. Pump Station Upgrade Packet

17. Massing, Ventilation, and Wind Impact
18. Shadows
19. Snow and Ice Loading
20. View Corridors
21. Historic Areas
22. Exterior Lighting
23. Noise and Vibration
24. Signage and Wayfinding
25. Zoning Related Standards
26. Construction Management Plan
27. Building Information and Design Specs
28. Solid Waste
29. Traffic Assessment
30. Speed Appendix
31. Westbound 48-Hour Summit Street Speed Data
32. Photo Log for ADA Compliance
33. Soils
34. Geotechnical Report
35. Supplemental Geotechnical Reinforced Embankment Report
36. High-Intensity Soil Survey
37. Stormwater Management Report
38. HydroCAD Results
39. Buffering
40. May 31, 2023 Neighborhood Meeting Materials & Minutes
41. Applicant Response to Comments (January 23, 2025)

PLANS

Plan 1. Site Plan & Landscape Plan Sets 2025-02-12
Plan 2. Boundary Survey 2023-11-21
Plan 3. Architectural Drawings

PUBLIC COMMENT

PC 1. Robert Benak 2025-02-27
PC 2. Will Plumley 2025-03-01
PC 3. Irwin Novak 2025-03-02
PC 4. Jim Wolf 2025-03-05
PC 5. Benjamin Haber 2025-03-05
PC 6. Robert Benak 2025-02-27
PC 7. Robert Benak 2025-03-06
PC 8. Mark Arienti 2025-03-06
PC9. Elly Lovin 2025-03-06

City Staff Comments | February 26, 2025 | PL-002454-2023 | 1 Hope Avenue
Planner: Zach Powell (zpowell@portlandmaine.gov)

Please submit a written response to the comments below and upload the response, revised submissions, and new material to ProjectDox (make sure all submissions maintain the same file naming format to allow for versioning). Once uploaded, please send an email to zpowell@portlandmaine.gov notifying the planner of the resubmission:

The following comments summarize the comments received so far for the review of the February 12, 2025 resubmission. Additional comments may be provided on this application prior to the March 11, 2025 Planning Board meeting.

General Comments

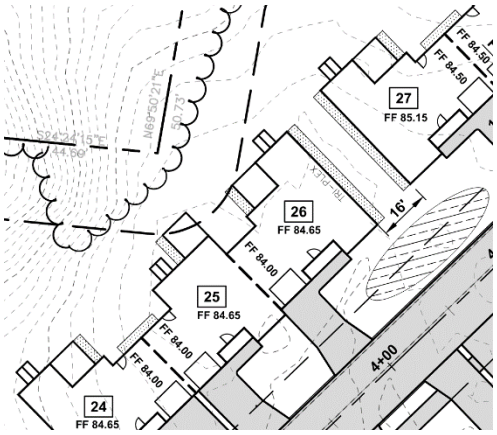
- Update application materials to reflect the correct unit count (54), when 53 and 60 are still noted in application documents.
- Identify how public access will be provided and signed for the Portland Trails connections & associated trail parking. Please confirm whether the central open space of the site is proposed to be accessible to individuals beyond residents of the subdivision.
- Confirm whether discussions have begun with Charles Wordell at the Department of Public Works related to addressing the units for E-911 purposes. If not, please submit a PDF copy of an email to Charles Wordell (cww@portlandmaine.gov) initiating discussions on the proposed street names & numbering for the units, with approval of the E-911 addresses to be recommended as a condition of approval.

Application Documents

- Update the waiver table to include a waiver to §14.6.2(A)(1) of the Land Use Code for impacts to significant natural resources. As part of the waiver request, submit a narrative justification for the waiver (impacts to wetlands and stream crossing), including, but not limited to, how the application complies with applicable state and federal regulations and how preservation measures are being implemented to the extent practicable.
- Update the waiver table to include a waiver to §1.5.1 of the Technical Manual for maximum driveway width when 20 feet is the maximum permitted and the proposed driveways have a width of 25.6 feet, along with a supporting narrative justification.
- Only westbound Summit Street 48-hour speed study data has been submitted when westbound and eastbound data was provided in the larger speed study collection. Submit eastbound Summit Street 48-hour speed study data.
- Submit a copy of the approval letter for PBR_ID-78667 (Stream Crossing NRPA Permit), which has a listed completion date of February 15, 2024 on the DEP Permit Tracker.
- As requested in previous comment letters, please state how the proposed heat pumps will be screened.

Site Plan & Landscape Plan

- Update site plan sheet C102 to include current information on the application (e.g., total proposed number of units, total square footage of wetland impacts, total disturbed area).
- Correct the building numbering in the site and landscape plan sets (e.g., duplicate building numbers).
- Units labeled as 25 & 26 project into the required 25-foot setback from exterior lot lines. Update the site plan set to provide the minimum 25-foot setback from exterior lot



lines for all building components (including, but not limited to decks & bulkheads).

- Submit a site plan sheet showing turning templates for a City fire truck in the cul-de-sac.
- Update the site plan & landscape plan to include screening of the proposed transformer near Hope Avenue to meet the buffering standards of §14.6.2.(C)(2)(a) of the Land Use Code.
- Update the site plan and landscape plan to ensure that areas marked for snow storage are not collocated with any trees, shrubs, perennials, or street lighting.
- Update the landscape plan to remove formerly proposed units and on-street parking, along with associated landscaping.
- Update the following planting notes on Sheet LA101:
    - Revision to Note #3 to read "*All planting shall be done in accordance* ***with ANSI A300 standard Ch 6: Planting and Transplanting***"
    - Revision to Note #7 to include text explicitly stating that "***compost will not have 'sludge' or 'biosolids' as a parent material.***"
    - Revision to Note #8 to state, "*Landscape Architect shall approve final placement of all plant materials and reserves the right to make field adjustments to plantings as necessary* ***after receiving approval from the City Forester and the Department of Planning and Urban Development.***"
- Update Landscape Sheet LA-100 to include the 25-foot setback from the exterior property boundary and identify the total number of existing trees >10" DBH within the setback & the number of existing trees >10"DBH within the setback proposed to be preserved.

  §14.6.2(B)(3) of the Land Use Code requires that at least 30% of existing trees >10" DBH within the required setback to be preserved. If less than 30% is proposed to be preserved, update the waiver table to submit a waiver for §14.6.2(B)(3) of the Land Use Code and provide a narrative justifying why the standard cannot be met, along with identifying what alternative(s) are proposed to be used (new tree plantings and/or contributions to the Tree Fund).

Architectural Drawings

- The proposed duplex footprint in the site plan set does not match the footprints shown in the architectural drawings. Clarify and update.
- The submitted site plan shows decks off of the duplex units, but are not shown in the floor plans. Update the floor plans to include the proposed decks, similar to how decks are shown for the triplex units.
- The submitted site plan shows bulkhead doors on the rear elevation of the triplex units, but are not shown in the floor plans. Update the floor plans to include the proposed bulkhead doors, similar to how bulkhead doors are shown for the duplex units.
- Update the side elevations for the duplex and triplex units to show the projection of the bulkhead doors from the rear elevation.
- The listed scale (1/8 inch = 1 foot) for the duplex elevations is still incorrect and should read as 0.1316675 inch = 1 ft. Updated the listed scale for duplex elevations.

Design Review
Planning and Urban Development Department

Subject:	1 Hope Avenue
Zone:	R-3
Date of Application Submission:	April 7, 2023
Date of Review:	February 28, 2025
Reviewer(s):	Zach Powell (Senior Planner), Sean King (Urban Designer), Matt Grooms (Development Review Service Manager)
Project ID:	PL-002454-2023

I. INTRODUCTION

The first Planning Board workshop on September 12, 2023, established the pending proceeding date for this application. The proposed development at 1 Hope Avenue is subject to design standards according to the Planned Residential Unit Development (PRUDs) in the R-3 residential zone from the City of Portland *Design Manual*.

II. DESIGN REVIEW COMMENTS - *Design standard not met are shown in **red** text to require a resubmission and response, while text shown in **bold** address prior Staff comments within the latest resubmission to meet a specific design standard.*

(h) Planned Residential Unit Development (PRUDs) in the R-3 Residential Zones.

***(1)** STANDARDS. Planned residential unit developments (PRUDs) in the R-3, R-5 or R-5a residential zones and manufactured housing parks in any zone shall meet the following standards.*

Standard (1) a. Design relationship to the site

The layout and design of buildings, roadways, parking areas, open space, recreation amenities, landscaping, drainage facilities and control mechanisms and other site improvements are organized to complement and accentuate the natural topography, vegetation, streams, water features, and other existing features of the site, and the solar orientation provides natural light within dwelling units, in outdoor open space and in recreation areas.

Staff comments: The proposed placement, orientation and arrangement of the Duplex and Triplex residential buildings minimize disturbance of the site's natural features, significant wetlands and forested areas. The development plan provides drainage facilities towards the perimeter of the development area that staff finds appropriate to minimize the impact on existing natural features.

The proposed internal vehicular circulation includes a single looped private drive with individual driveways for each residential building that staff finds responds to the natural topography with minimized disturbance to natural features. In addition, staff finds the variety of driveway lengths acceptable to allow for the Applicant's proposed building locations greater than twenty feet from the private street.

Standard (1) b. Internal design character and relationship to the surrounding neighborhood

The design and layout of the development and buildings exhibit a cohesive design character and complement existing development in the surrounding neighborhood by virtue of such features as architectural style, height, scale and massing, character of exterior facades and roofs, circulation, open space, landscaping, and the transition of scale and massing with the surrounding neighborhood. Buildings with more than two (2) dwelling units or greater than forty (40) feet in length shall provide variation in roof and facade character through changes in facade setback, roof configuration, and projecting or recessed building elements.

Staff comments:

Context: The surrounding neighborhood context is single-family residences organized on similar lot sizes that connect to the public street network. Staff finds that the proposed development with multi-family buildings exhibits a cohesive arrangement of buildings with individual driveways that connect to a private street. In addition, the proposed development is buffered with natural edges from the surrounding neighborhood.

The development plan minimizes disturbance of the existing perennial stream with a singular roadway crossing and preservation of wetlands towards the center and edges of the property site. The Applicant has proposed a native plant palette to transition the development area into the existing forested edges of the property that abut the City of Portland property.

Architectural character: The surrounding neighborhood context is predominately one and two-storied single-family residences with attached garages and simple roof forms. The proposed two-story buildings include shared entrance canopies and window fenestration patterns oriented toward the private street. **The Applicant has resubmitted elevations for the Duplex and Triplex buildings that staff finds to provide sufficient variation in roof forms along with the arrangement of exterior materials to express the gable roof and primary entrances from the horizontal vinyl siding.**

Pedestrian circulation: **The proposed pedestrian circulation includes sidewalks primarily towards the center of the development and crosswalks with ADA-compliant curb ramps and pole lighting for nighttime illumination allowing residents to access recreation and open space areas. Staff finds the distribution of proposed sidewalks to be acceptable based on the anticipated low volume of traffic.**

Standard (1) c. Recreation and open space

All open spaces on the site shall be integrated into the development and designated on the site plan. Each development shall have the following features:

1. External buffers: An effective and permanent screening from neighboring properties and roadways;

Staff comments: The proposed development intends to minimize existing vegetation clearing to preserve trees and natural features at the property edges. Staff finds the proposed street trees promote a welcoming buffer into the private property. **The Applicant has resubmitted plans that concentrate the development area and revegetate with trees and shrubs for screening that staff finds appropriate.**

2. Internal buffers: Areas planted, maintained and located in such a manner as to provide privacy between units and buildings and paved areas and screening of parking, utilities, roadways, waste collection facilities and storage facilities;

Staff comments: The proposed development provides internal buffers through shade and ornamental trees at each residential building and driveways for adequate screening between buildings. In addition, staff finds the buffer area, indicated on the landscape plans, behind the buildings provides adequate screening from the abutting City property.

3. Passive recreational open space: Open spaces, designated and improved with such features as gardens, picnic areas, walking trails; benches and lawn and seating areas;

Staff comments: The proposed development provides walking paths at the center of the development and trail connections to the existing Presumpscot River Preserve. Additional passive recreational open space is provided by the three natural play features and bench seating located at the center of the development for communal use.

4. Active recreational open space: Open spaces designated and improved for active recreational use with facilities such as tennis courts, basketball courts, multipurpose game fields, swimming pools, and children's playgrounds; and

Staff comments: The Applicant provides active recreational lawn areas at the center of the development to allow for flexible outdoor communal use.

5. Private open spaces: Open spaces designated for the individualized use of unit owners such as yards, decks and patios;

Staff comments: The proposed development has indicated private decks at the rear of each residential building, yard space and ornamental tree plantings that staff finds appropriate for providing private open space for each unit. The Applicant has resubmitted plans with additional trees and shrubs at the rear of each residential building that provides privacy.

Att. C

Zachary Powell <zpowell@portlandmaine.gov>

1 Hope Avenue - Final Traffic Review Comments

Tom Errico <thomas.errico@tylin.com> Thu, Mar 6, 2025 at 2:40 PM
To: "zpowell@portlandmaine.gov" <zpowell@portlandmaine.gov>
Cc: Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Kristoffer DeVolder <kdevolder@portlandmaine.gov>

Hi Zack – I have reviewed the application materials and have the following final traffic review comments.

In my professional opinion traffic from the project will not create unacceptable mobility problems.

- **Final Status: I have no further comment.**

The applicant should consider adding a sidewalk to the end of the cul-de-sac. Crosswalks shall also be provided for roadway crossings.

- **Final Status: The plans have been revised, and I have no further comment.**

The applicant shall conduct a traffic calming study on the abutting neighborhood streets that will provide access to the development. This study shall document existing vehicle speed conditions and identify strategies to address potential problems.

- Status: The applicant collected a limited sample of speed data within the neighborhood. It is requested that speed data be collected over a minimum 48-hour period and that an additional location on Summit Street be included.
- Current Status: The applicant has conducted the extended speed data on Garsoe Drive, Hope Avenue and Curtis Road. The data indicates vehicle speeds are compliant with the regulatory speed limit. As requested previously, the speed study should include a location on Summit Street.
- **Final Status: The applicant performed the requested speed survey, but not all the data has been provided. The applicant shall provide the full speed survey as a condition of approval for review and if problems are identified mitigation improvements may be required.**

The applicant shall conduct an evaluation of pedestrian facilities documenting adequate accessibility from the site to the nearest Metro transit stop.

- Status: The applicant conducted a general evaluation of facilities. The evaluation shall also include an evaluation of ADA facility compliance between the site and the bus stop.
- Current Status: The applicant conducted the evaluation and noted ADA issues. These generally consisted of ADA ramp non-compliant conditions. DPW should note if improvements are warranted.
- **Final Status: The applicant has conducted this review and no further action by the applicant is required.**

A detailed traffic study evaluating the capacity of roadways and intersections in the vicinity of the project is not required given the relatively low levels of new traffic volume to be generated. I would note that documenting existing vehicle speeds and understanding speeding and neighborhood traffic management issues is required and requested above.

- Status: See above comment.
- **Final Status: I have no further comment.**

The location of on-street parking spaces is not evenly distributed throughout the site and the applicant should note how parking will be managed so that vehicles do not park in non-pull-out areas. Also, the five parking spaces at station 6+00 are not abutting a sidewalk and access into and out of vehicles may be difficult, since it also abuts a snow storage area.

- Status: The applicant has noted that no further changes to on-street parking is proposed. I find these comments to be inadequately addressed.
- **Final Status: On-street parking is no longer being proposed. 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

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Building A, Suite One
Falmouth, ME 04105, United States

TYLin.com



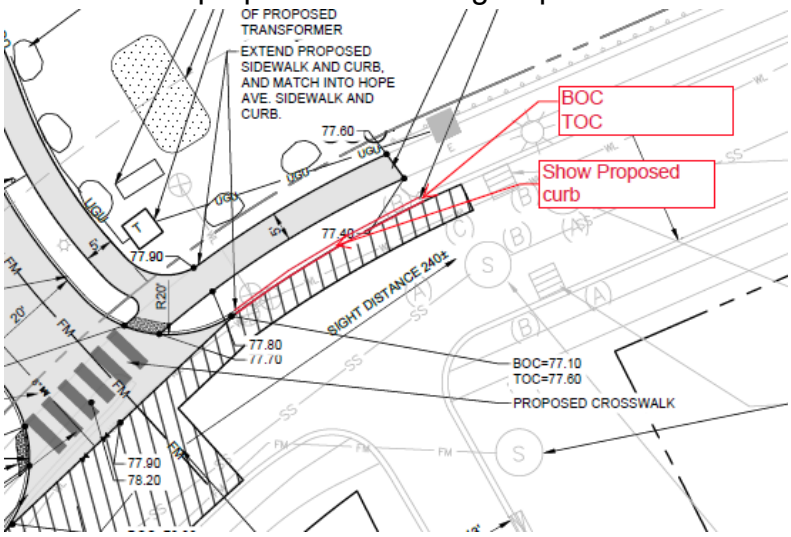
Zachary Powell <zpowell@portlandmaine.gov>

PL-002454-2023 1 Hope Avenue DPW Comments

Kristoffer DeVolder <kdevolder@portlandmaine.gov> Tue, Mar 4, 2025 at 7:57 AM
To: Zachary Powell <zpowell@portlandmaine.gov>
Cc: Justin Pellerin <jrp@portlandmaine.gov>, Keith Gray <kgray@portlandmaine.gov>, "thomas.errico@tylin.com" <Thomas.Errico@tylin.com>, Lauren Swett <lswett@woodardcurran.com>, Benjamin Pearson <bnp@portlandmaine.gov>

Hello Zach,

Below are DPW's comments for PL-002454-2023 1 Hope Avenue. Let me know if you have any questions.

- **PL-002454-2023 1 Hope Ave** Major Site Plan Review
  - Comments for Review
  - DPW Transportation
    - C106 - Show proposed curb along Hope ave
    - 

    - Provide fire access turning templates within the development.
  - DPW Water Resources

Main Roadway Culvert Sizing & Placement
We have reviewed the updated design of the roadway culvert/stream crossing at the main access road and have the following comments:

The City requests that all projects meet StreamSmart Crossing principles for any stream crossings. The proposed culvert design does not appear to meet the StreamSmart principles:

- Span the Channel - We cannot confirm that the culvert spans the stream channel. Please add stream banks - not just stream centerline - to the plans. Given that the stream channel is naturally sinuous and irregular, we request that the culvert design be updated to include wing walls, to help minimize scour and future degradation.
- Set the Crossing at the Correct Elevation - The culvert appears to be perched at the outlet. We request that the culvert design be modified to better match the natural stream channel elevation.
- Slope Matches the Stream - It appears the culvert slope needs to be modified, as the outlet appears perched. We suggest increasing the culvert length to allow for a better slope alignment and to minimize the need for fill material at the culvert outlet.
- Substrate in the Crossing - We understand that the design calls for a natural substrate material to be placed on the culvert bottom. Ensuring the elevation and slope are correct will keep the material in place within the culvert.

- Given the highly erodible soils, the significant hydrology on the site, and the proposed 1:1 fill slope at the stream crossing, the City will be including long-term inspection, repair and maintenance, and replacement of the culvert in the Stormwater Maintenance Agreement.
- Additionally, the applicant has provided basic hydrologic and hydraulic calculations for the proposed roadway culvert stream crossing. The information appears to be incomplete. Please provide the following:
    - A watershed map depicting the drainage area and time of concentration flow path.
    - Time of concentration calculations.
    - Verification of the selected design storm event.
    - Backup information for the calculated rainfall intensity value.
- The grading and drainage plan indicates that the proposed 1:1 riprap slope at the proposed stream crossing requires geo-grid reinforcement. It doesn't appear that the project detail has been updated to reflect this slope construction requirement. The detail should be updated to reflect the geotechnical design requirements.

Storm drain outfall protection:

- Outlet protection must be provided for concentrated pipe outfalls for Biocells A and B.
- Further information should be provided on the outlet configurations for the bio cells. It's unclear based on the grading and drainage plan and the detail shown on sheet C-504.
- The 24" storm drain pipe from CB -7 draining into the internal wetland area should meet chapter 500's discharge to wetland standards. Flow should be deconcentrated with a level spreader.
- Given the highly erodible soils and the significant hydrology on site, we continue to have concerns over the long-term stability of the soils at all stormwater discharge points. The City will be including additional provisions in the Stormwater Maintenance Agreement, which will require site plan amendments for additional engineered solutions as needed, should flow become reconcentrated and cause any erosion on neighboring property.

Hope Avenue Sanitary Sewer Pump Station Upgrades:

The applicant has submitted various materials for the required upgrades to the Hope Avenue Pump Station in coordination with the Department of Public Works (DPW). However, the following outstanding information is needed before DPW can approve the design and grant wastewater capacity authorization for the project:

- Finalize the design of the proposed pump station improvements, including construction details (plan and profile).
- Finalize the design of the proposed by-pass and cleanout structure based on DPW feedback.
- Submit a site-specific construction plan for the new pump station package from the manufacturer, in coordination with the site contractor, prior to construction.

- Provide DPW with a finalized pump station by-pass plan before construction begins, in coordination with the site contractor.

Thank you,
Kris
--
Kris DeVolder, PE
Sr. Engineer
City of Portland Department of Public Works
212 Canco Rd, City of Portland, ME 04103
kdevolder@portlandmaine.gov
Phone: (207) 874-8817

public works

Zachary Powell <zpowell@portlandmaine.gov>

1 Hope Avenue Project Review

1 message

Lauren Swett <lswett@woodardcurran.com> Wed, Mar 5, 2025 at 10:17 AM
To: Zachary Powell <zpowell@portlandmaine.gov>
Cc: Justin Pellerin <jrp@portlandmaine.gov>, Kristoffer DeVolder <kdevolder@portlandmaine.gov>

Hi Zach,

I have the following comments for 1 Hope Avenue.

- I have reviewed their stormwater design, and generally agree with their approach with using the proposed systems, but have a few comments on what they have presented.
  - Calculations have been provided in the stormwater management report for required areas and volumes for the proposed underdrained soil filters and bioretention cells. These values do not correspond to the values provided in the details on Sheets C405 and C505 included in the latest set. These values should be correlated, and should also match what is presented in the HydroCAD model, confirming that the systems will be constructed as the design intends.
  - The HydroCAD model for Biocell 1 should be updated to include only 6 inches of stormwater storage, matching the design intent for the bioretention cells. This will likely result in flow over the berm secondary outlet that should be considered.
  - The stormwater management report includes outlet restrictions in the system designs to provide for required draindown times - the two soil filters, the two ponds, and one of the bioretention cells includes 2-inch ball valves, and one of the bioretention cells includes a 0.25-inch orifice. I do not see that these components have been included in the system details on the plans. They have not been accounted for in the HydroCAD model, and will likely impact the amount of flow that will be directed to secondary outlets.
  - Outlet protection should be provided for the proposed bioretention cells.
  - A detail is provided for the proposed drip edge filters, but the locations of outlets have not been shown. Based on locations of the proposed systems, outlets will likely be made on some steeper sloped areas, and outlet protection will be required.
  - The outlet for Wetpond A is shown with its pipe, level spreader and associated grading outside of the defined limit of development. The limit should be updated, and the erosion control plan modified to show sediment barrier around this area. Similarly, erosion control has not been shown for the Wetpond B outlet area, and should be updated to include this graded space.
- Additional information should be provided on the plans to clarify slope stabilization. Details have been provided for bank stabilization with erosion control mesh and for 1:1 rip rap stabilized slopes with nonwoven geotextile base. A geotechnical report has been provided with design information on 1:1 rip rap slopes stabilized with geo-grid. A detail should be provided for this stabilization method. I would also suggest that they consider showing the geo-grid layers on their profile to show how it will be incorporated with the proposed utilities within the roadway.
- The Applicant has noted NRPA permits for wetland impacts. The Permit By Rule should be provided, it was referenced, but I didn't see it included in ProjectDox. The Tier 1 NRPA for wetland impacts references plans from September 2022. The Applicant should confirm that there are no changes that could impact the NRPA permit.

Let me know if you have any questions.

Thank you,

Lauren

Lauren Swett, PE*
Technical Manager | Principal

Woodard & Curran

207.558.3763 207.219.3591 woodardcurran.com

lswett@woodardcurran.com

12 Mountfort St, Portland, ME 04101

*Licensed in Maine, New Hampshire, and Georgia

Zachary Powell <zpowell@portlandmaine.gov>

Comments for 1 Hope Avenue (PL-002454-2023)

Mark Reiland <mreiland@portlandmaine.gov> Thu, Mar 6, 2025 at 11:29 AM
To: Zachary Powell <zpowell@portlandmaine.gov>

Here you go, overall the plan looks pretty good, just a couple language edits:

- PL-002454-2023 (1 Hope Ave)
  - Sheet 13773.001-LA101
    - Please edit text of Planting Note #3 to replace “acceptable horticultural practices” to “ANSI A300 Ch 6: Planting and Transplanting guidelines”
    - Species selection:
      - White Fringetree is the only identified non-ash host to emerald ash borer. Portland is in the thick of an EAB infestation that is moving pretty aggressively across the landscape and may negatively impact the planted fringetree. Not necessary to change species since only 6 are called to be planted, more just informational
  - Sheet 13773.001-LA102
    - Please edit text of Unit Planting Note #5 to replace “acceptable horticultural practices” to “ANSI A300 Ch 6: Planting and Transplanting guidelines”
    - Tree Installation Detail - Ball & Burlap
      - Please change the wording from “Top of Root Ball Flush to Finished Grade” to “Trunk flare at or slightly above finished grade”
        - The trunk flare/root collar is often buried several inches within the B&B bundle and needs to be uncovered and set at or slightly above grade. If top of root ball is installed flush with the finished grade without excavating the trunk flare they can wind up planted several inches too deep which can slow down establishment
        - “Trunk flare” and “root collar” can be used interchangeably

Mark Reiland
City Arborist

City of Portland, Maine

212 Canco Road - Suite A
Portland, ME 04103

[Quoted text hidden]

Zachary Powell <zpowell@portlandmaine.gov>

1 Hope Ave - PL-002454-2023

1 message

Ann Machado <amachado@portlandmaine.gov> Wed, Feb 26, 2025 at 9:48 AM
To: Zachary Powell <zpowell@portlandmaine.gov>

Zach -

Here are my comments for this site plan.

1. Do they need a permit from the Army Corp of Engineers?

2. They indicate that they need to provide 14 Affordable units and that 8 will be constructed on site. Do they need to indicate either on the site plan or in a written document which units will be the affordable units?

3. With the R-3 PRUD the setback to the exterior property line is 25'. Looking at the proposed site plan (c102) the rear deck of unit 20 encroaches into the setback .
4. The footprint provided on the architectural plans for the duplexes do not match the footprint of the duplexes on the site plan.

5. In the architectural plans the side elevations for the duplexes don't show the bulkheads and possible decks off the rear.

Let me know if you have any questions.

Ann

Ann Machado
Zoning Administrator
Permitting and Inspections Department
City of Portland, Maine
(207) 874-8709
amachado@portlandmaine.gov

STATE OF MAINE

DISTRICT COURT
Location: Portland
Docket No. CUMCD VI-24-28
Docket No. CUMCD VI-24-29

CITY OF PORTLAND, a body politic and Corporate, located in the county of Cumberland and State of Maine,

Plaintiff,

v.

GENX CAPITOL PARTNERS,

Defendant.

PLAINTIFF'S VERIFIED MOTION FOR A FINDING OF CONTEMPT AGAINST DEFENDANT AND INCORPORATED MEMORANDUM OF LAW

The Plaintiff, the City of Portland ("Portland"), Maine respectfully requests, pursuant to M. R. Civ. P. 66(d), that this honorable Court find the Defendant, GenX Capitol Partners ("Defendant"), in contempt of this Court's May 14, 2024 Consent Judgment.[1] The Consent Judgment resolved a code enforcement action brought by Portland against the Defendant pursuant to Portland City Code of Ordinances, Section 29-21 (Mutilation of Trees) and the Portland City Code of Ordinances, Section 29-18 (Tree Removal without Permit). The Defendant admitted to the violations and the Court approved the Consent Judgment which was voluntarily executed by the Defendant.

The Defendant has failed to comply with the contribution requirements of the Consent Judgment. The contribution requirements of the Consent Judgment are found in Paragraphs 1 and 2 on Page 1 of the document.[2] These paragraphs state that the "Defendant shall pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024" and that "Defendant shall pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or

[1] *See* Consent Judgment, dated May 14, 2024, attached hereto as "EXHIBIT 1."
[2] *Id.*

before December 1, 2024."[3] To date, the Defendant has not made a single contribution payment, in direct violation of the Court Order.

In support of its motion, Portland submits the following incorporated memorandum of law.

BACKGROUND

The Defendant was served with summonses for tree removal without a permit (Portland City Code of Ordinances, Section 29-18) and tree mutilation (Portland City Code of Ordinances, Section 29-21) on March 15, 2024. The Defendant had removed and/or damaged an area of trees and vegetation on land owned by the City of Portland on or about January 29, 2024. Prior to the Defendant's appearance in Court for the summonses, the Defendant and Plaintiff executed a Consent Judgment which was subsequently executed by the Court on May 14, 2024.

The Consent Judgment required the Defendant to pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024, and also pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or before December 1, 2024. To date, the Defendant has failed to comply with any of the contribution payment requirements of the Consent Judgment as no payments have been made. The balance remains at $11,160.00.

Plaintiff, City of Portland, has made repeated demands to the Defendant to arrange for compliance with the Consent Judgment through payment of the contribution amounts. Portland has given the Defendant ample notice and numerous opportunities to comply with the obligations under the Consent Judgment, but the Defendant has failed to comply with the Court's Order.

[3] *Id.*

ARGUMENT

The Court may find a party in contempt when that party has "fail[ed] to comply with a lawful judgment . . . of the court." M.R. Civ. P. 66(a)(2)(A)(ii). When a party fails to comply with an order to abate a violation of a municipal code, it is proper to find them in contempt, issue fines, and grant the municipality other prospective relief. *Town of Kittery v. Dineen*, 591 A.2d 236, 236-37 (Me. 1991); *see also Town of Stonington v. Galilean Gospel Temple*, 1999 ME 2, 722 A.2d 1269, 1273-74 (affirming contempt order for violation of nuisance law, and upholding award of civil penalties).

On May 13, 2024, the Defendant signed a Consent Judgment which consisted of a detailed list of requirements. As set forth above, to date, the Defendant has failed to comply with all of the requirements included in the Court Order. As the Defendant has failed to comply with a lawful judgment of the Court, she is in contempt and subject to the requirements delineated in the Consent Judgment as well as any other relief this honorable Court deems appropriate.

WHEREFORE, Portland respectfully requests that the Court find the Defendant in contempt of this Court's May 14, 2023 Consent Judgment, and order that the Defendant:

> Pursuant to Paragraphs 1 of the Consent Judgment, immediately pay a contribution in the amount of $10,000.00 to Portland Trails. Payment shall be made by cashier's check or money order and made out to "Portland Trails" and delivered to counsel for Plaintiff for recording and subsequent forwarding to Portland Trails; and
>
> Pursuant to Paragraph 2 of the Consent Judgment, immediately pay a contribution in the amount of $1,600.00 to City of Portland Tree Trust. Payment shall be made by cashier's check or money order and made out to "City of Portland, Tree Trust" and delivered to counsel for Plaintiff for recording and subsequent forwarding to City of Portland, Parks Division.

Dated: January 23, 2025.

Richard M. Bianculli Jr., Esq., Bar No. 5496
Neighborhood Prosecutor
Portland Police Department
109 Middle Street
Portland, ME 04101
P · (207) 756-8350
F · (207) 874-8521
richb@portlandmaine.gov

STATE OF MAINE
County of Cumberland

Personally appeared the above named RICHARD M. BIANCULLI JR. on January 23 2025, and made oath that the foregoing instrument is based upon his personal knowledge and is true.

Before me,

Attorney-at-Law
Nicole Albert, Esq., Maine Bar No. 4956

NOTICE

This Motion shall be heard on February 10, 2025 at 10:00 AM/PM in Courtroom 3 of the Cumberland County District Court. Opposition to this motion must be filed not later than twenty-one (21) days after the filing of the motion unless another time is provided by the Maine Rules of Civil Procedure or set by the Court. The failure to file timely opposition will be deemed a waiver of all objections to the motion, which may be granted without further notice or hearing.

STATE OF MAINE
CUMBERLAND, ss.

DISTRICT COURT
CIVIL ACTION
DOCKET NO. CV-24-0028
DOCKET NO. CV-24-0029

CITY OF PORTLAND,	)	
	)	
Plaintiff,	)	
	)	
v.	)	**CONSENT JUDGMENT**
	)	
GENX CAPITOL PARTNERS,	)	
	)	
Defendant.	)	

THIS MATTER was scheduled for an initial appearance on May 13, 2024 on the civil charges of one (1) count of tree removal without permit in violation of Portland City Code of Ordinances, Section 29-18, and one (1) count of tree mutilation in violation of Portland City Code of Ordinances, Section 29-21. The Defendant, GenX Capitol Partners, hereby admits to the violations. Having reached agreement on the matter, the Parties hereby consent to the entry of this Consent Judgment as follows.

It is hereby ordered that:

1. Defendant shall pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024.
2. Defendant shall pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or before December 1, 2024.
3. Failure to comply with any portion of this Consent Judgment may constitute contempt of court and may subject the Defendant to prosecution for such contempt pursuant to M. R. Civ. P. 66(c); and
4. The Clerk shall enter this Consent Judgment on the Docket by reference, pursuant to M.R. Civ. P. 79(a).

STATE OF MAINE
Cumberland, ss. Clerk's Office
MAY 13 2024
RECEIVED

SEEN AND AGREED TO:

Dated: May 13, 2024.

For the City of Portland
Richard M. Bianculli Jr., Esq.
Neighborhood Prosecutor
Portland Police Department
109 Middle Street
Portland, ME 04101
P – 207.756.8350
F – 207.874.8521
richb@portlandmaine.gov

Dated: May 13, 2024.

Greg Shinberg, authorized agent
GenX Capitol Partners
P.O. Box 4424
Portland, ME 04101
207-772-7070

SO ORDERED:

Dated: May 13, 2024.

Judge, District Court

Att. E

CITY OF PORTLAND
LAND USE CODE



2/6/23

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
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 Overlay	284-21/22
11/8/22	18.4.5 Conversion Permit	By Referendum
2/6/23	Article 8.5 The Roux Institute at Northeastern University Overlay	125-22/23

TABLE OF CONTENTS

Article 1. INTRODUCTORY PROVISIONS 1-1

1.1 Title
1.2 Zoning Map
1.3 Purpose
1.4 Applicability
1.5 Enforcement
1.6 Relationship with Other Laws
1.7 Delegation of Authority
1.8 Rules of Interpretation
1.9 Successive Applications
1.10 Amendments
1.11 Transition Rules

Article 2. ADMINISTRATION 2-1

2.1 Planning Board
2.2 Historic Preservation Board
2.3 Zoning Board of Appeals

Article 3. DEFINITIONS 3-1

Article 4. NONCONFORMING USES, STRUCTURES, & LOTS 4-1

4.1 Continuation
4.2 Nonconforming Uses
4.3 Nonconforming Lots
4.4 Nonconforming Buildings/Structures

Article 5. ZONES 5-1

5.1 Establishment of Zones
5.2 Zoning Map
5.3 Conditional or Contract Zoning
5.4 Base Zone Purpose Statements

Article 6. USE STANDARDS 6-1

6.1 Applicability
6.2 Determination of Use
6.3 Change of Use
6.4 Supplemental Use Standards
6.5 Conditional Uses
6.6 Accessory Uses
6.7 Temporary Uses
6.8 Performance Standards

TABLE OF CONTENTS

Article 7. DIMENSIONAL STANDARDS 7-1
- 7.1 Applicability
- 7.2 Rules of Measurement
- 7.3 Dimensional Standards
- 7.4 Supplemental Dimensional Standards
- 7.5 Space and Bulk Exceptions

Article 8. OVERLAY ZONES 8-1
- 8.1 Compact Urban Residential (R-7) Overlay
- 8.2 Downtown Entertainment Overlay
- 8.3 Fort Sumner Park Overlay
- 8.4 Helistop Overlay
- 8.5 Institutional Overlay
- 8.6 Island Transfer Station Overlay
- 8.7 Pedestrian Activities District (PAD) Overlay
- 8.8 Stream Protection Overlay
- 8.9 University of Southern Maine Overlay
- 8.10 Waynflete School Overlay

Article 9. FORM-BASED ZONES 9-1
- 9.1 India Street Form-Based Zone

Article 10. WATERFRONT ZONES 10-1
- 10.1 In General
- 10.2 Eastern Waterfront Port Zone
- 10.3 Waterfront Central Zone
- 10.4 Waterfront Port Development Zone

Article 11. SHORELAND ZONE 11-1
- 11.1 Purpose
- 11.2 Applicability
- 11.3 Review Procedure
- 11.4 Use-Specific Land Use Standards
- 11.5 Supplemental Site Plan Standards

Article 12. FLOOD PLAIN MANAGEMENT 12-1
- 12.1 Purpose
- 12.2 Applicability
- 12.3 Definitions
- 12.4 Flood Hazard Development Permit
- 12.5 Certificate of Compliance
- 12.6 Variances

12.7 Records and Reporting
12.8 Penalties
Article 13. RESOURCE PROTECTION ZONE 13-1
13.1 Use
13.2 Dimensional Requirements
13.3 Off-Street Parking
13.4 Shoreland and Floodplain Management Regulations
Article 14. SITE PLAN 14-1
14.1 Purpose
14.2 Applicability
14.3 Project Classification
14.4 Review and Approval Authority
14.5 Review Procedures
14.6 Site Plan Review Standards
14.7 Master Development Plan Review Standards
14.8 Waivers
14.9 Phasing
14.10 Conditions of Approval
14.11 Post-Approval Procedures
14.12 Expiration of Approvals
14.13 Extension of Approvals
14.14 Amendments to Approved Plans
14.15 Consistency with Approved Site Plans
14.16 Appeals
Article 15. SUBDIVISIONS 15-1
15.1 Purpose
15.2 Applicability
15.3 Review Procedures
15.4 Review Standards
15.5 Technical and Development Standards
15.6 Waivers
15.7 Guarantees and Associated Fees
15.8 Construction Records and Inspection
15.9 Transfer of Ownership
15.10 Plat Amendments
15.11 Vacation of Plats
15.12 Exemptions
15.13 Appeals

Article 16. IMPACT FEES 16-1
16.1 Purpose
16.2 Applicability
16.3 Calculation of Impact Fee
16.4 Annual Adjustment of Impact Fee
16.5 Modification of Impact Fees
16.6 Reduction in Fees for Affordable Housing
16.7 Collection of Impact Fee
16.8 Segregation of Impact Fees from General Revenues
16.9 Use of Impact Fees
16.10 Refund of Unused Impact Fees
16.11 Review and Revision
16.12 Administrative Rules and Regulations
16.13 Effective Date
Article 17. HISTORIC PRESERVATION 17-1
17.1 Purpose
17.2 Definitions
17.3 Administrative Procedures
17.4 Categories and Criteria for Designation
17.5 Nomination, Consideration, and Designation
17.6 Interim Protections for Nominations
17.7 Certificates of Appropriateness and Non-Applicability
17.8 Standards for Review of Application for Certificate of Appropriateness
17.9 Certificate of Economic Hardship
17.10 Maintenance
17.11 Penalties
17.12 Appeals
Article 18. HOUSING 18-1
18.1 Housing Preservation and Replacement
18.2 Affordable Housing
18.3 Jill C. Duson Housing Trust Fund
18.4 Condominium Conversion
18.5 Relocation of Displaced Tenants
Article 19. OFF-STREET PARKING & LOADING 19-1
19.1 Off-Street Parking
19.2 Off-Street Loading
19.3 Sustainable Transportation Fund

Article 20. SIGNS **20-1**
20.1 Purpose
20.2 Definitions
20.3 Applicability
20.4 Review Procedures
20.5 Sign Districts Established
20.6 General Restrictions for all Signs
20.7 General Requirements for all Signs
20.8 Standards for Permanent Signs
20.9 Standards for Temporary Signs
20.10 Nonconforming Signs
20.11 Enforcement
Article 21. PUBLIC ART **21-1**
21.1 Establishment
21.2 Purpose
21.3 Definitions
21.4 Funding
21.5 Administration
Article 22. REGULATION OF EXPLOSIVES **22-1**
22.1 Purpose
22.2 Applicability
22.3 Review Process
22.4 Storage and Handling
22.5 Enforcement
22.6 Penalties
22.7 Notice Requirements
22.8 Hours of Blasting
22.9 Waivers
22.10 Suspension of Blasting Operations

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 Fsubordinate 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)
	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)	◐	◐	◐	◐	◐	◐	
	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]	6.4.4
	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	◐	◐	●	◐	
	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	◐		●		6.4.5
	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 8.7 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. 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.	.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 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.	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.)			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.

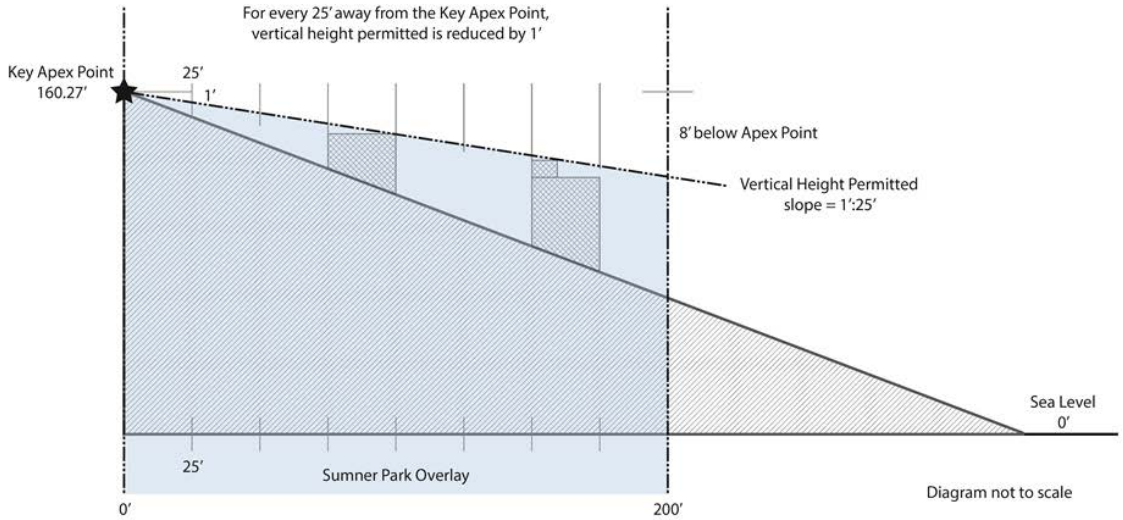


FIGURE 8-A: FORT SUMNER PARK OVERLAY PERMISSIBLE HEIGHT

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 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.

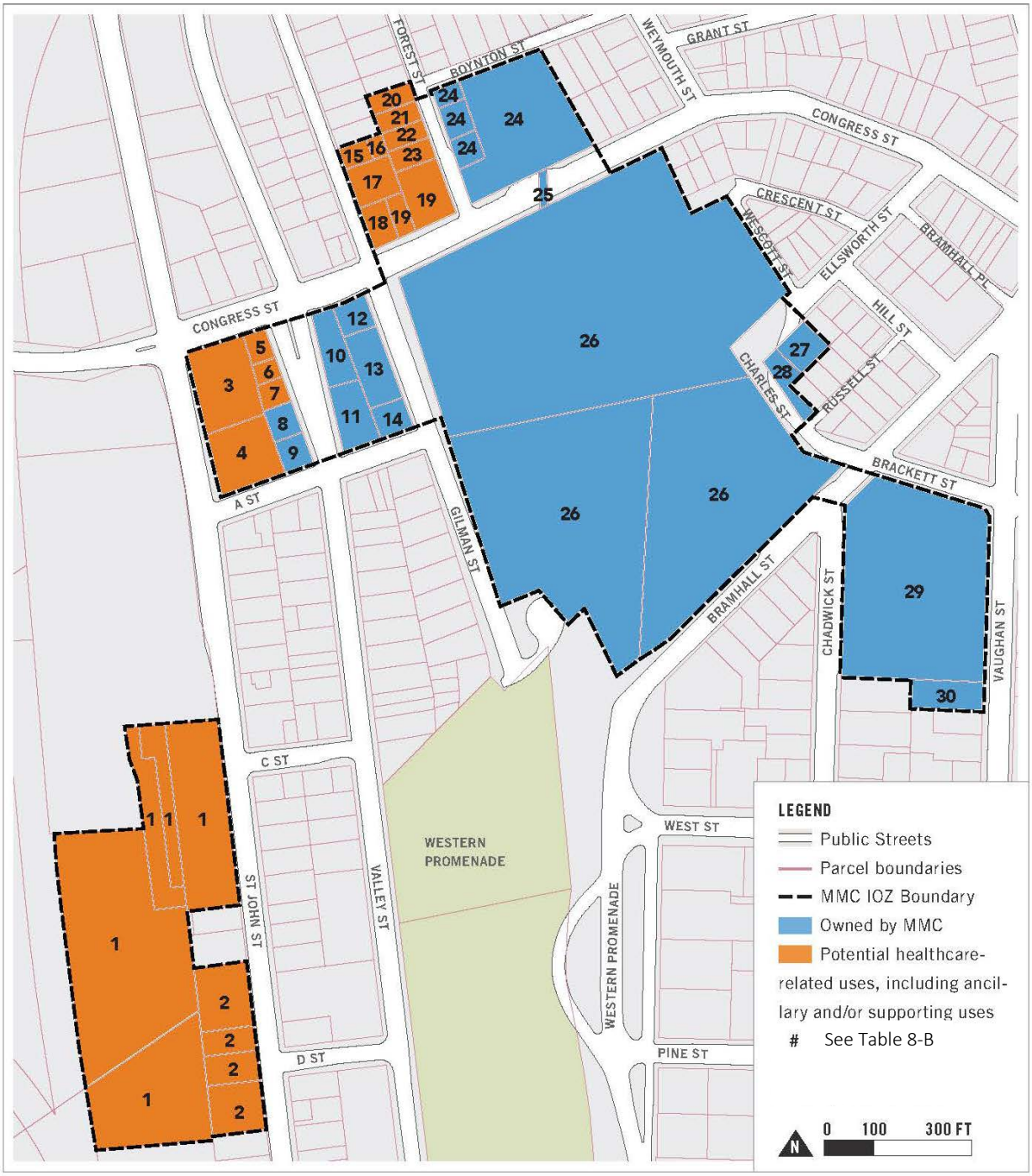
G. Amendments. A regulatory framework and IOZ boundary as adopted by the City Council shall remain in force unless and until amended. Amendments to a regulatory framework and/or IOZ boundary may be brought forth by the City or eligible institution. Proposed amendments to the IOZ boundary or regulatory 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.

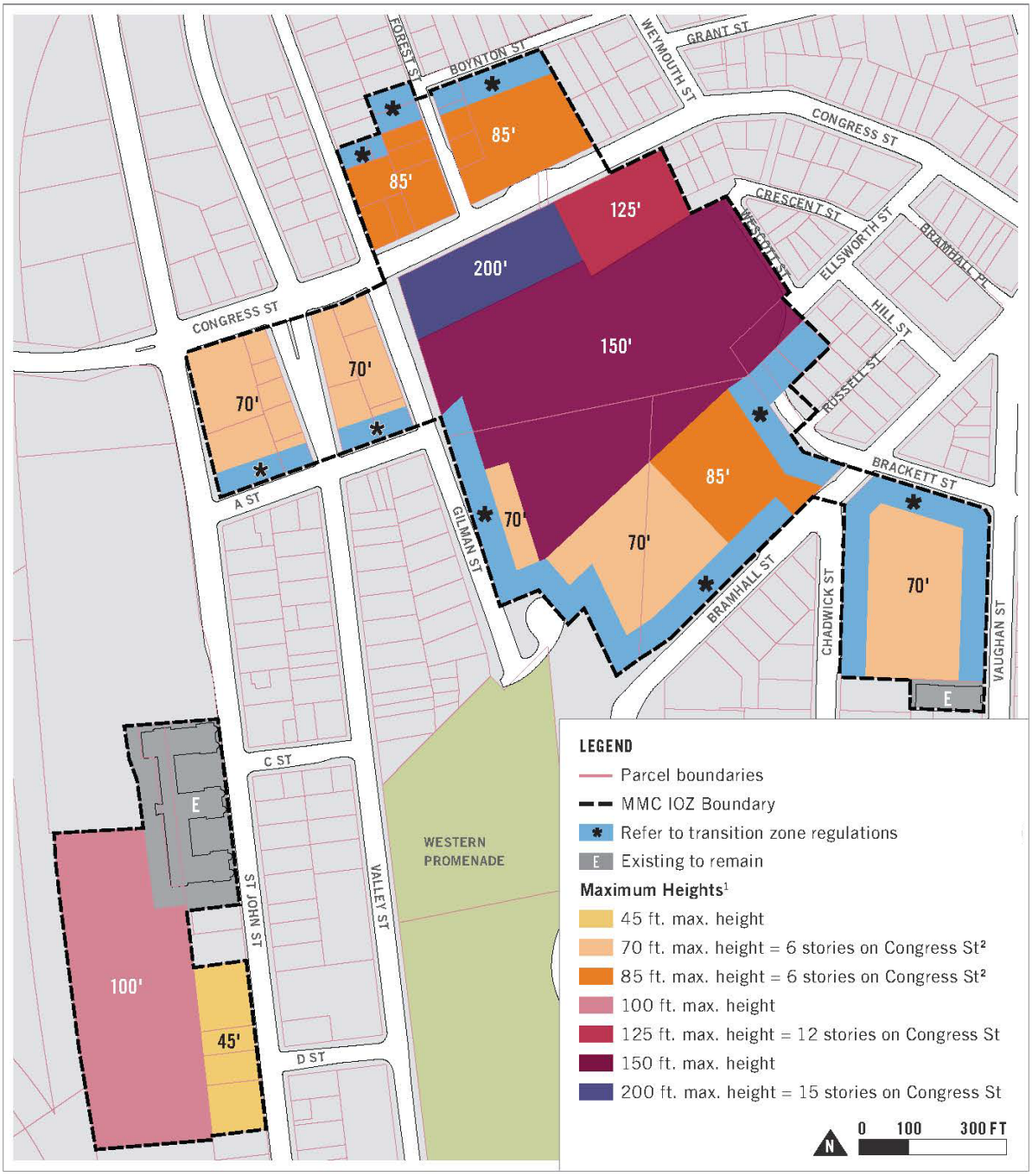
G. **Transportation**

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

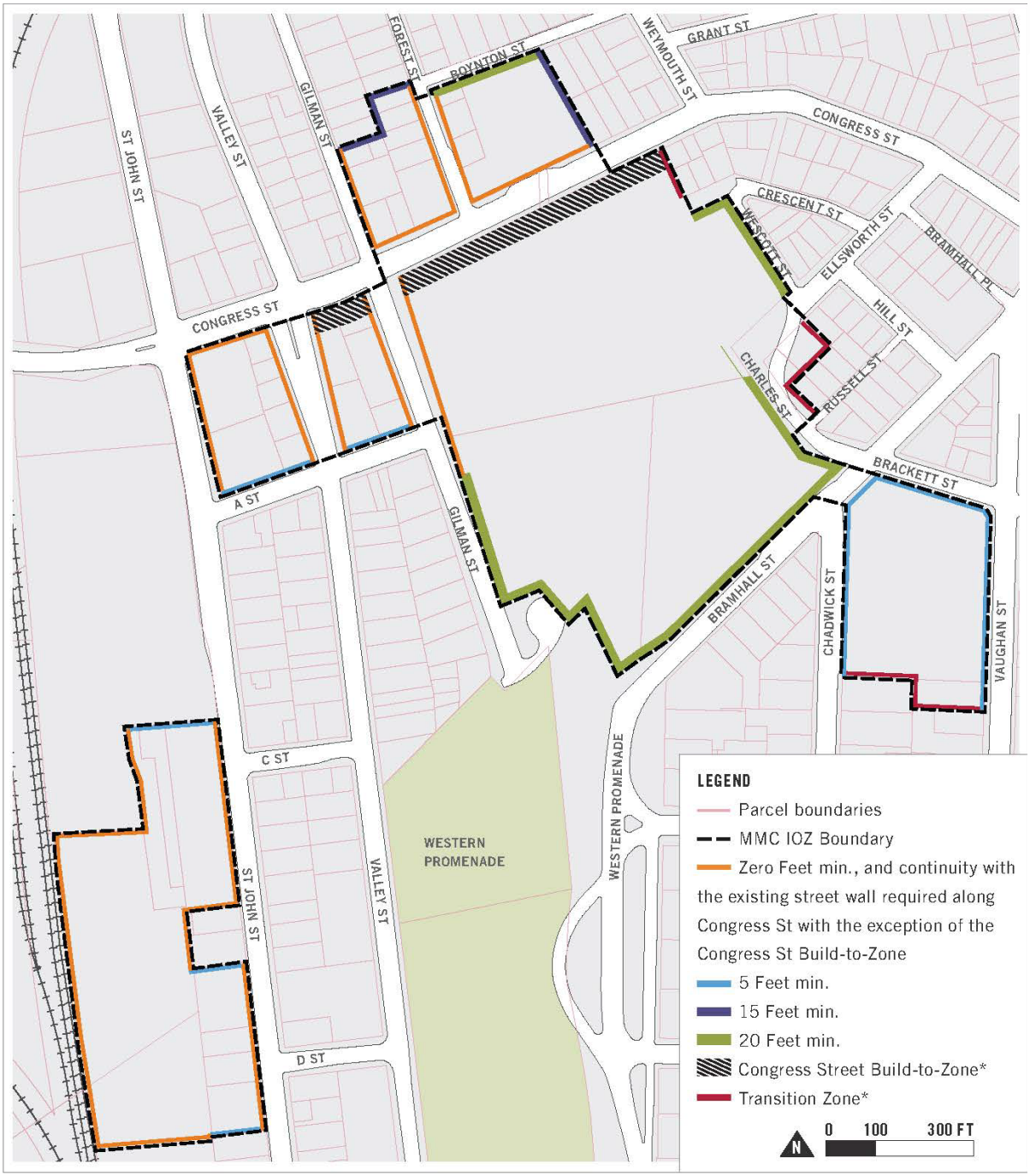
Building heights (max.)	Max. building heights for new buildings within the IOZ shall be governed by the Maximum Building Heights Map in Figure 8-C, or by the transition zones clause of this table for those buildings located in transition zones. Refer to IDP "Chapter 5. Design" for methodology on determining 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

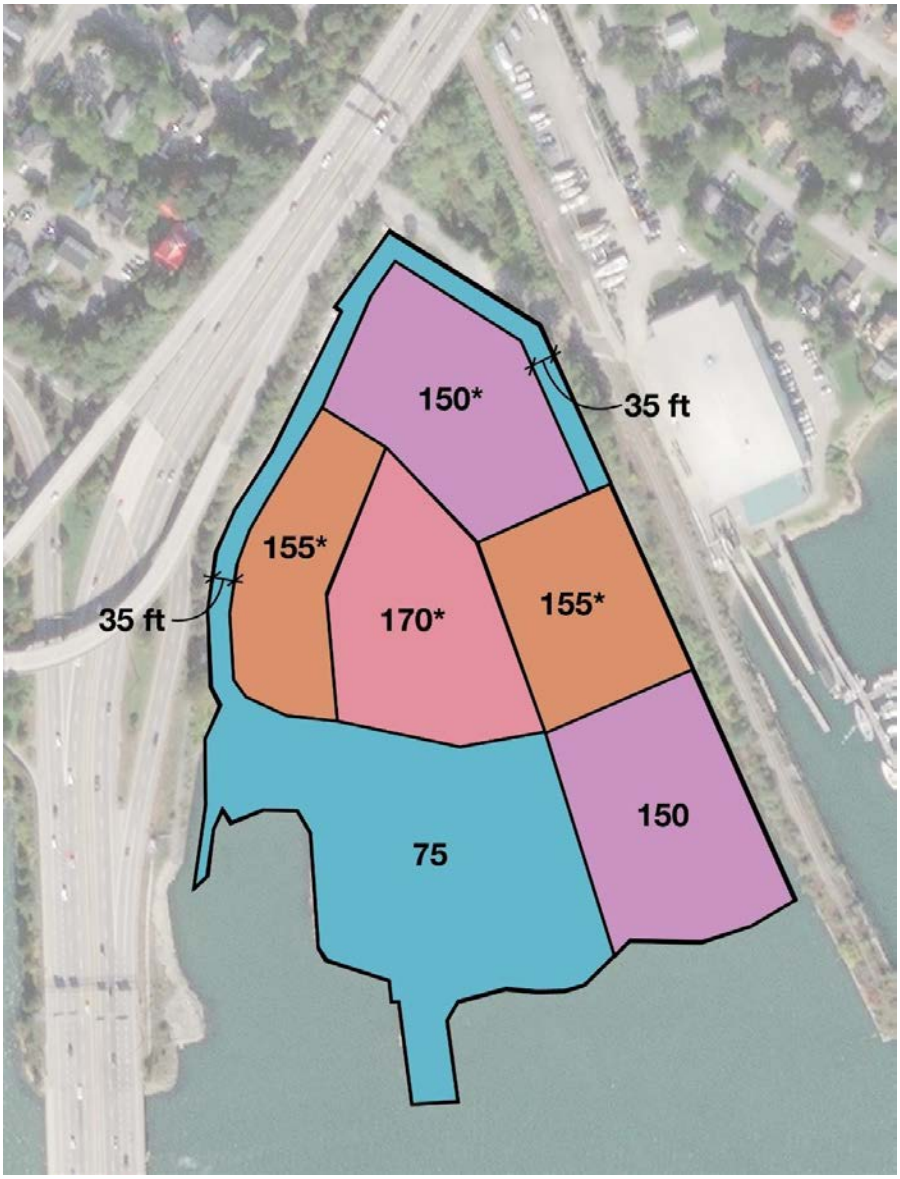
4. Within the boundary of the IOZ, hotels shall be limited as follows:
   a. No more than one hotel shall be located in the IOZ.
   b. The hotel shall contain no more than 130 rooms.
   c. The hotel shall be no more than eight stories in height, not including structured parking. There shall be no more 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

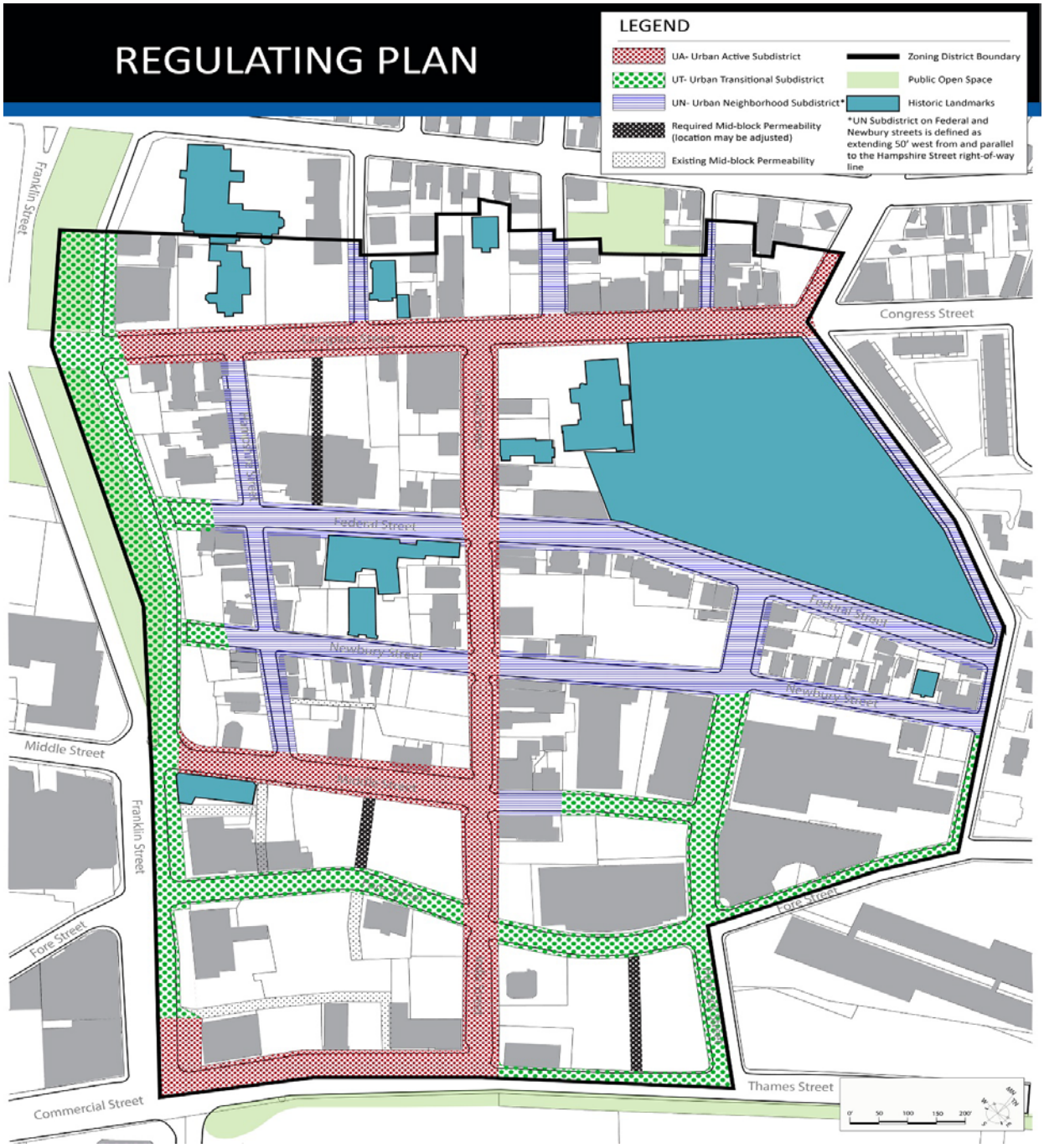


FIGURE 9-A: IS-FBC REGULATING PLAN

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.

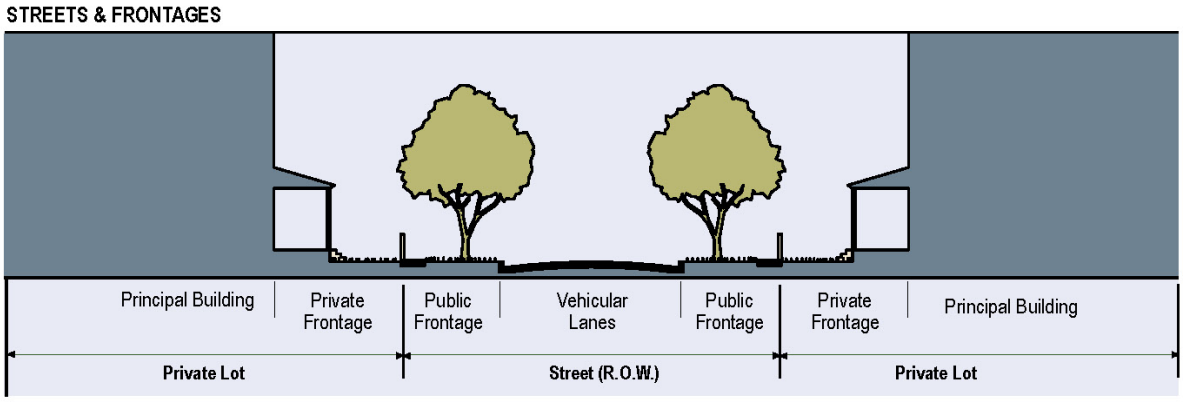
Party wall. Any partition wall common to two adjacent or attached buildings.

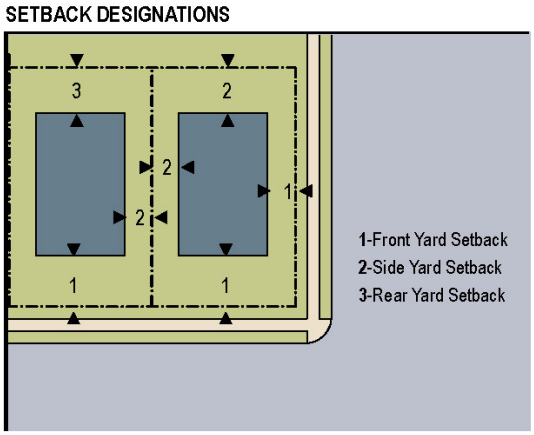
Regulating plan. A zoning map that shows the boundary of the area and subdistricts subject to regulation by the India Street Form-Based Code.

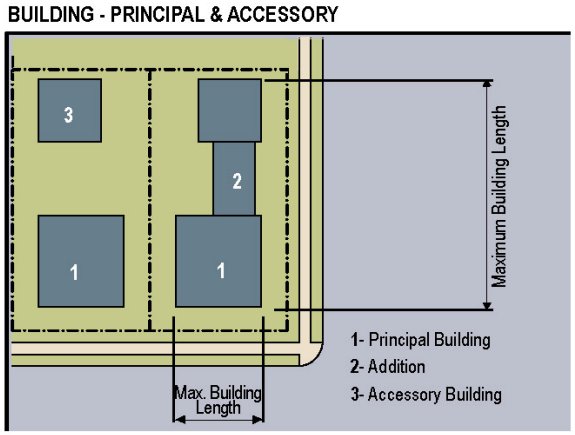
Stepback. A building setback of a specified distance measured from the ground floor building face that occurs at a prescribed number of stories or height above the ground and excludes the minimum necessary housing of elevators, stairways, tanks, fans, or other building operating equipment not intended 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.







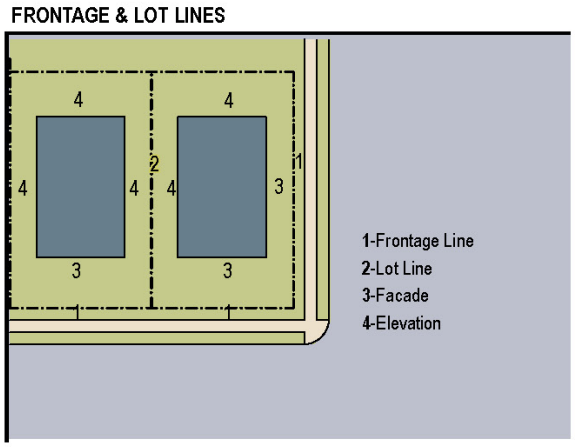


FIGURE 9-B: IS-FBC TERMS ILLUSTRATED

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.

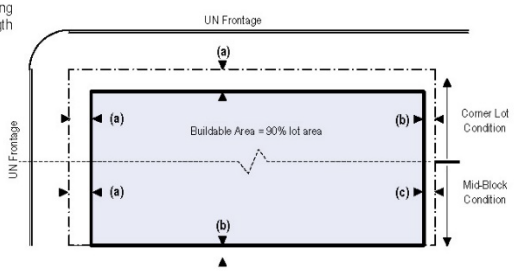
SITING STANDARDS	
Orientation - Principal Frontage	determined by applicant
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length - Principal facade	50' max.
Building Length - Secondary fac.	50' max.
BLANK FACADE length (max)	15'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	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

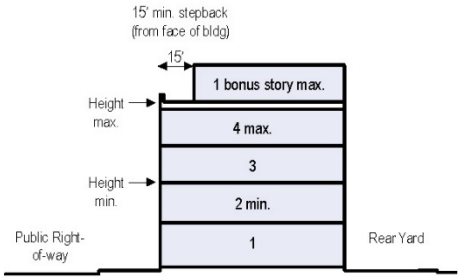
SITING STANDARDS

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.



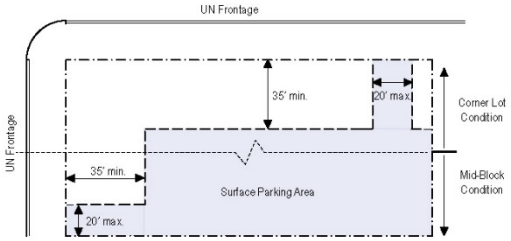
HEIGHT STANDARDS

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.

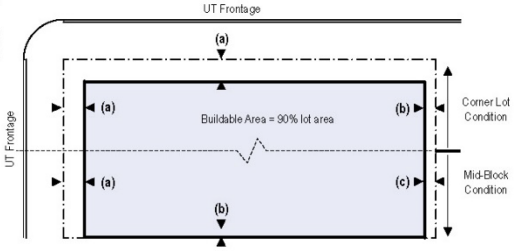
UT

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)

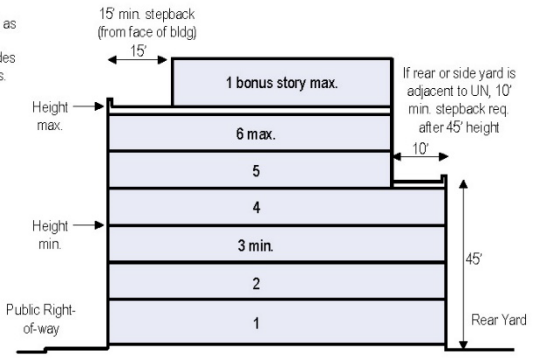
SITING STANDARDS

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.



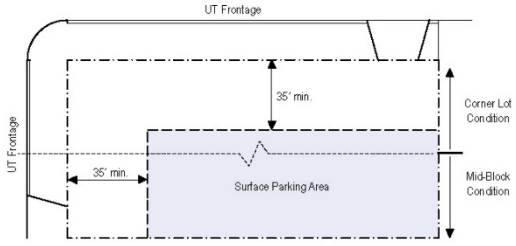
HEIGHT STANDARDS

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

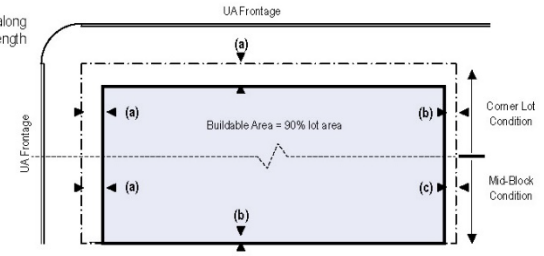
SITING STANDARDS	
Orientation - Principal Frontage	face a UA street
Lot Coverage	90% max
FRONTAGE REQUIREMENTS	
Building Length	50' max.
BLANK FACADE length (max)	15'
Additional Building Length	(see also Table 9-A)
ATTACHED BUILDINGS	unlimited run
Ground Floor Partitions	150' max., up to 3 modules
Massing 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)

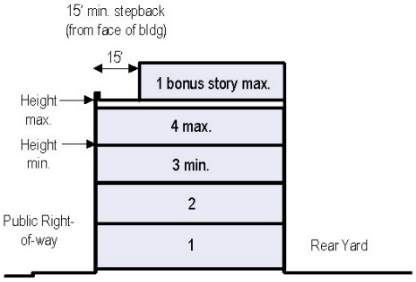
SITING STANDARDS

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.



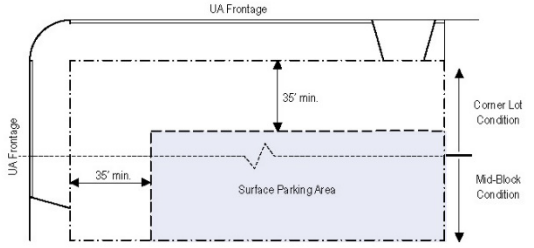
HEIGHT STANDARDS

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

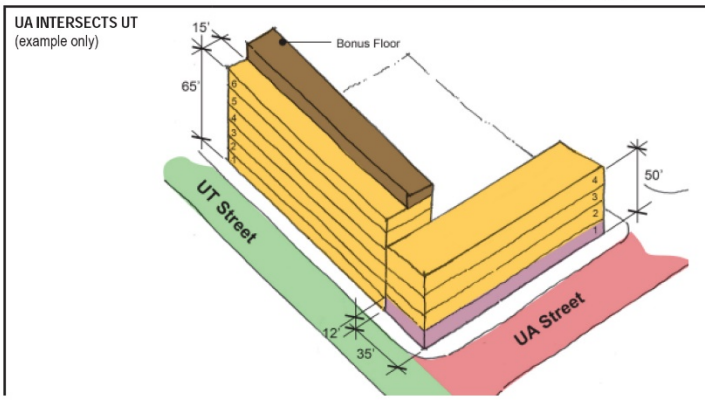
UN INTERSECTS UN

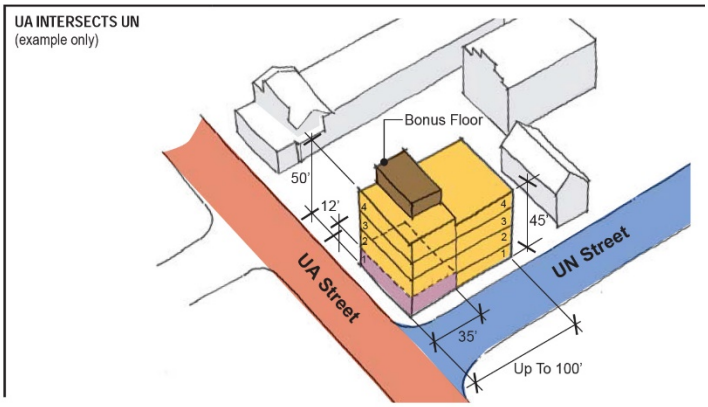
Building Length maximums:	
Principal Frontage	30' max.
Secondary Frontage	50' max.

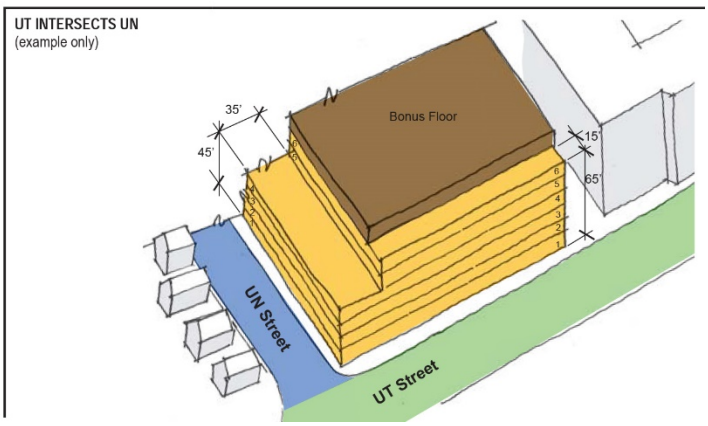
Notes and Exceptions

* Does not have to correspond to legal building address

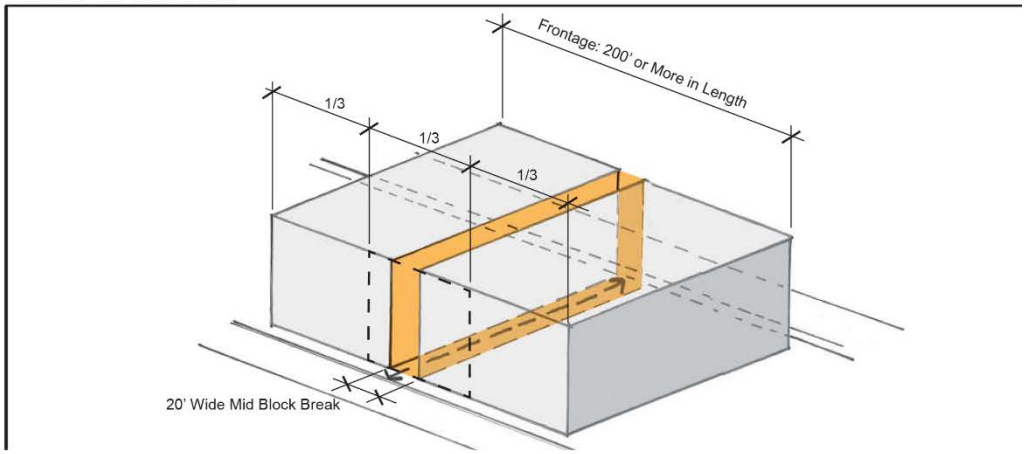
CORNER



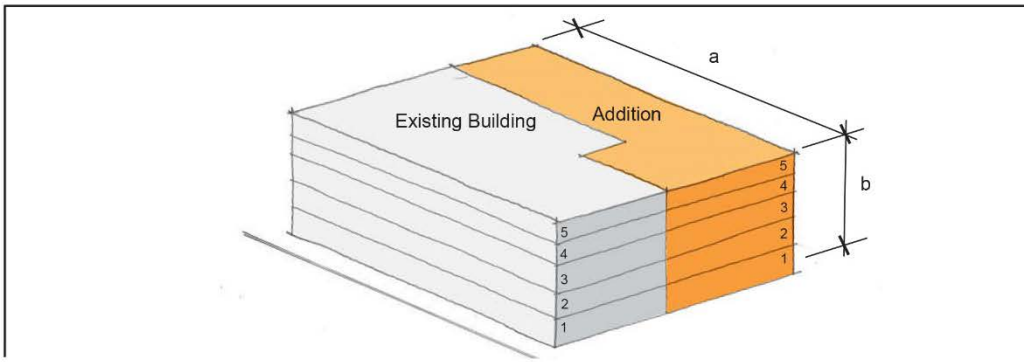




MID-BLOCK PERMEABILITY



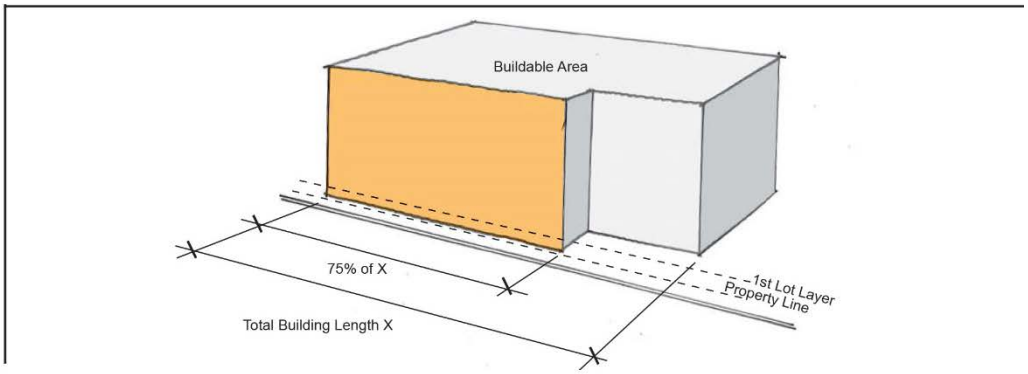
ADDITION



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.

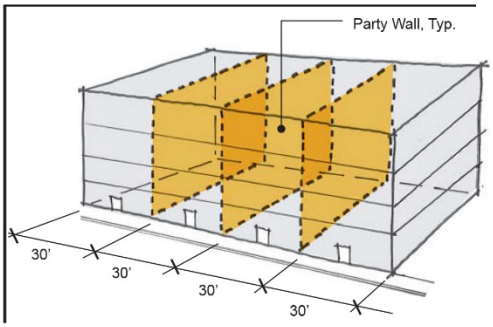
BUILDING LENGTH - 1st LOT LAYER



At least 75% of the total building length must be within the 1st LOT LAYER.

FIGURE 9-G: DIMENSIONAL REQUIREMENTS ILLUSTRATED

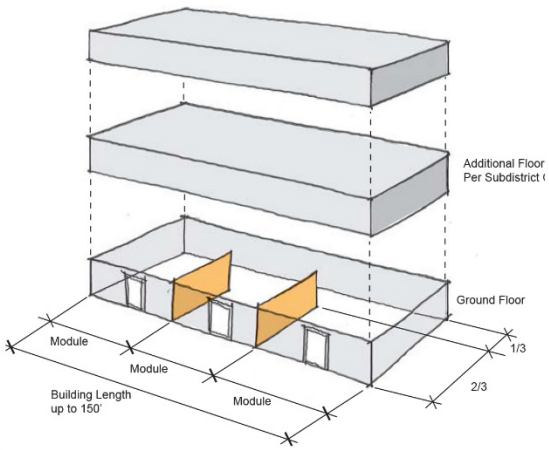
ADDITIONAL BUILDING LENGTH - ATTACHED BUILDINGS



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.

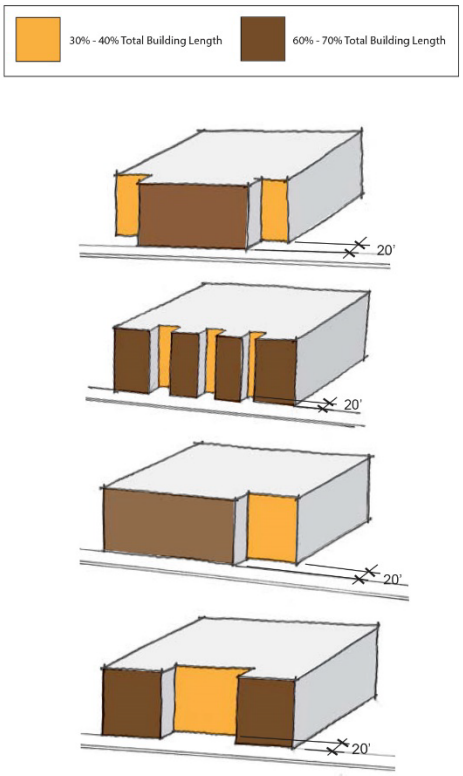
ADDITIONAL BUILDING LENGTH - GROUND FLOOR PARTITIONS (UA)



Additional Building Length is permitted up to 150' with the provision of a least two Ground Floor Partitions

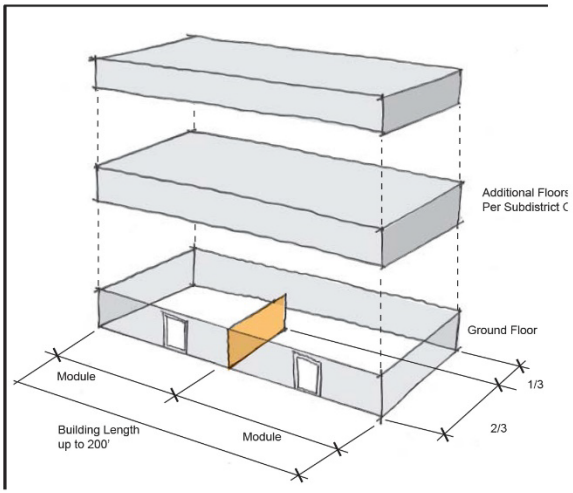
See General Development Standards and BDS for additional requirements.

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 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.

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 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	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

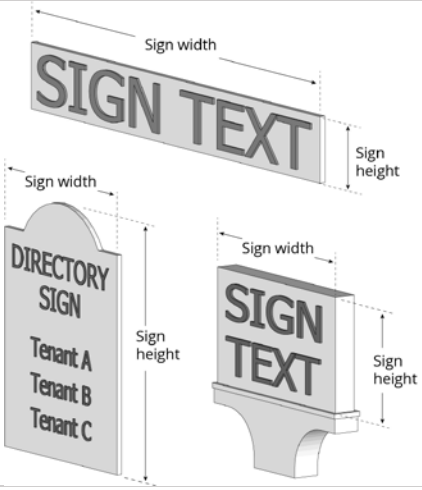
20.7.1 Sign measurement

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.	

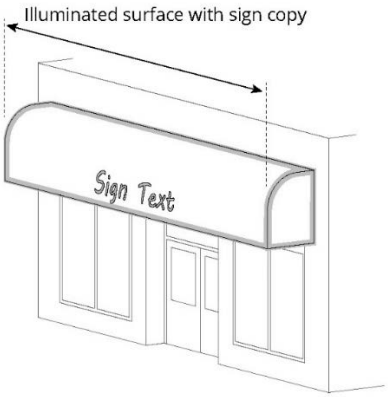
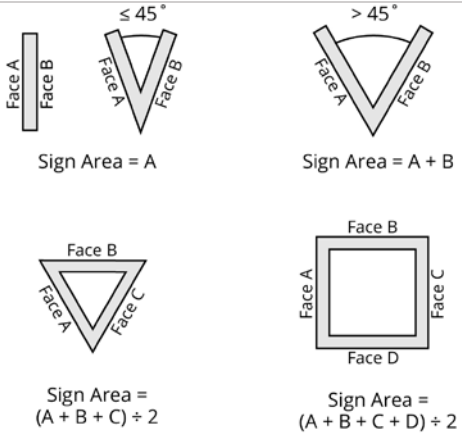
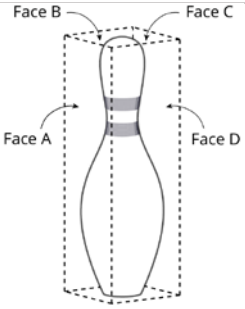
Signs on illuminated surface	Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.	

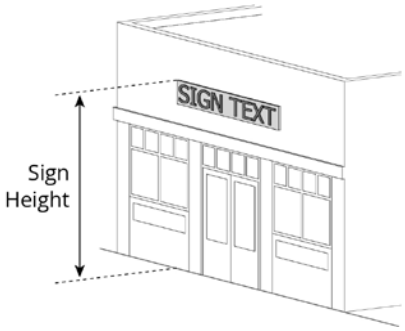
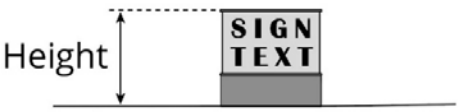
TABLE 20-C (CONT.): SIGN AREA MEASUREMENT

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.

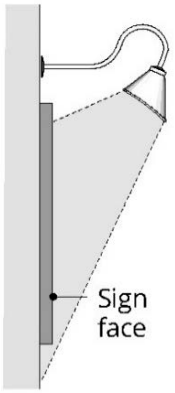


FIGURE 20-A: EXTERNAL ILLUMINATION

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.

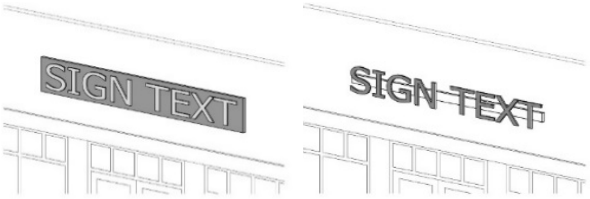


FIGURE 20-B: RACEWAY CABINET EXAMPLES

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.

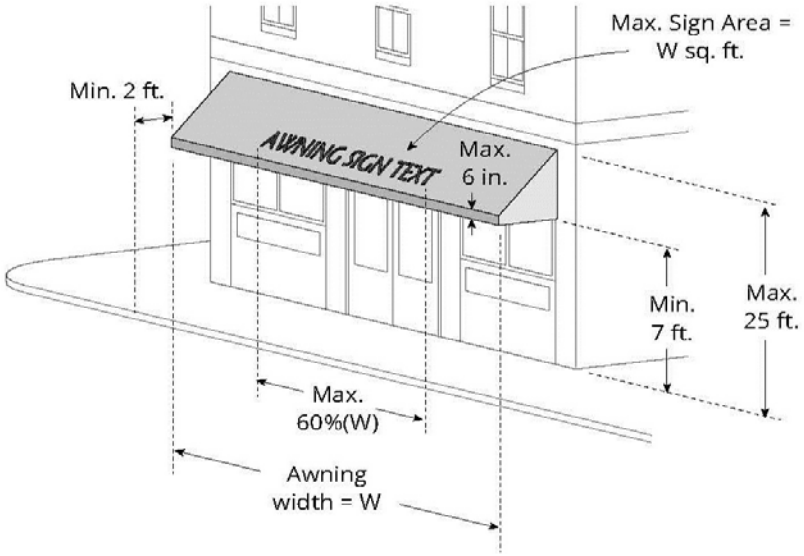


TABLE 20-I: STANDARDS FOR CANOPY SIGNS

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

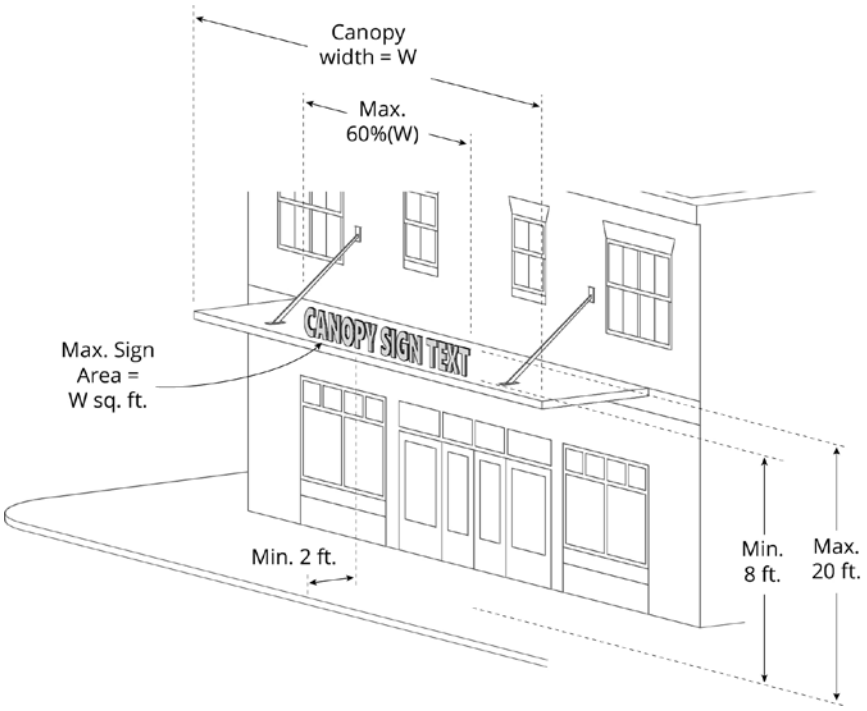


TABLE 20-J: STANDARDS FOR BLADE SIGNS

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

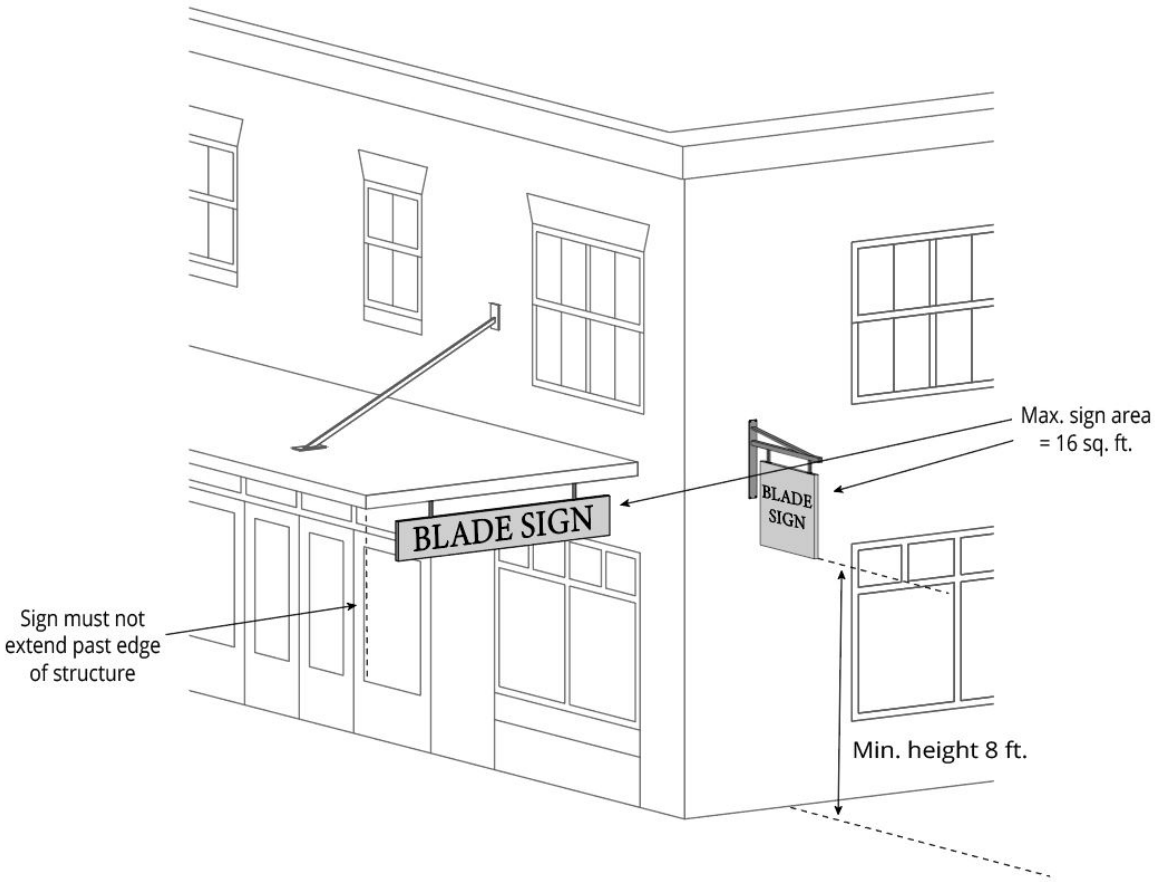


TABLE 20-K: STANDARDS FOR DIRECTIONAL SIGNS (BUILDING-MOUNTED)

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

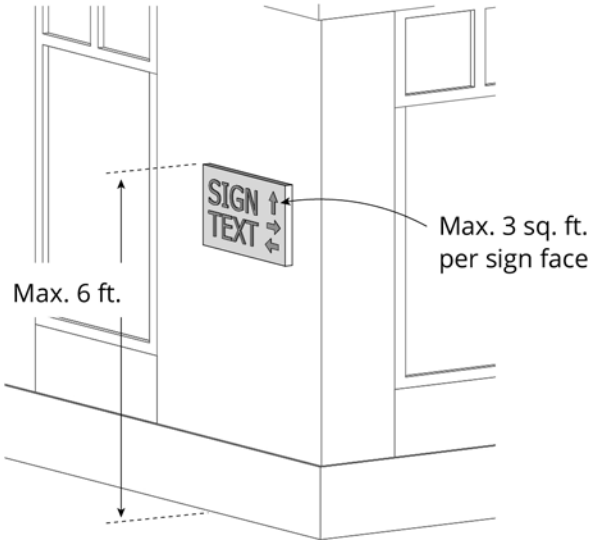


TABLE 20-L: STANDARDS FOR DIRECTORY SIGNS (BUILDING-MOUNTED)

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

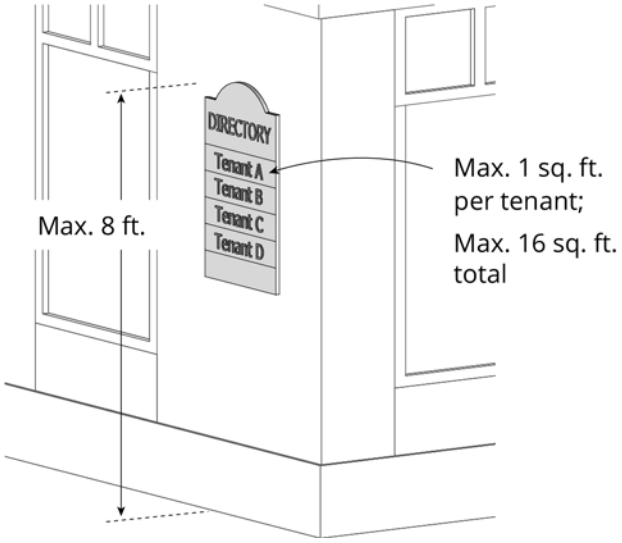


TABLE 20-M: STANDARDS FOR MARQUEE SIGNS

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

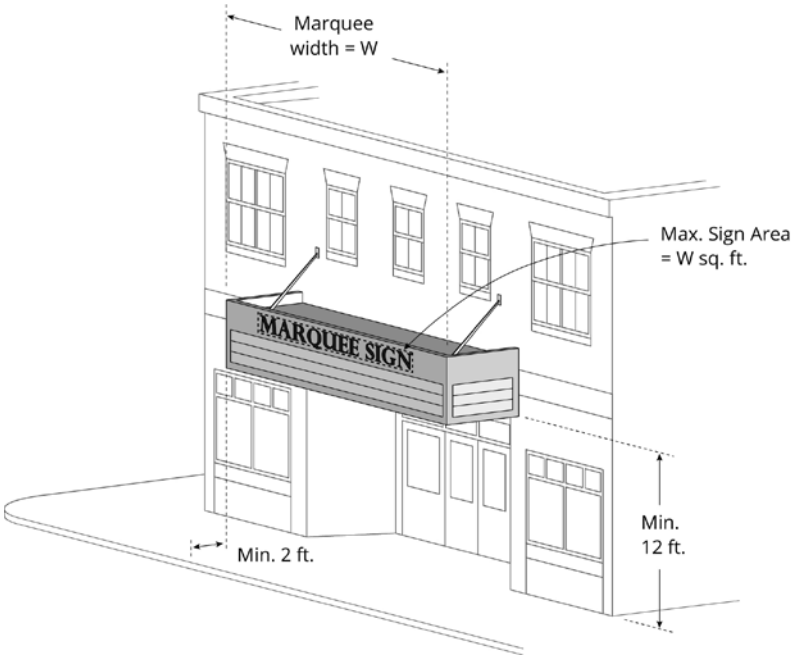


TABLE 20-N: STANDARDS FOR PROJECTING SIGNS

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.

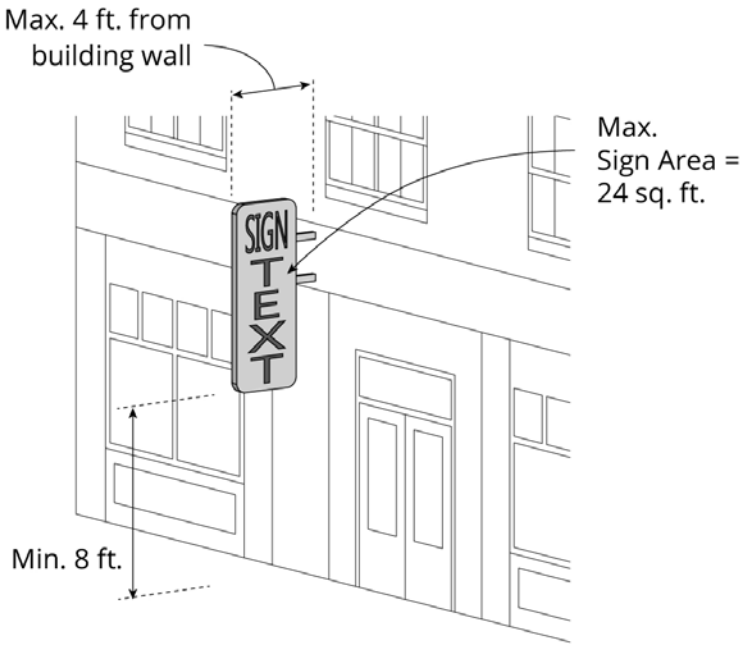


TABLE 20-O: STANDARDS FOR SERVICE ISLAND CANOPY SIGNS

Standard	Requirements
Sign area (max.)	20 SF
Number of signs (max.)	1 per canopy façade, not to exceed 2 signs total
Illumination	Internal illumination

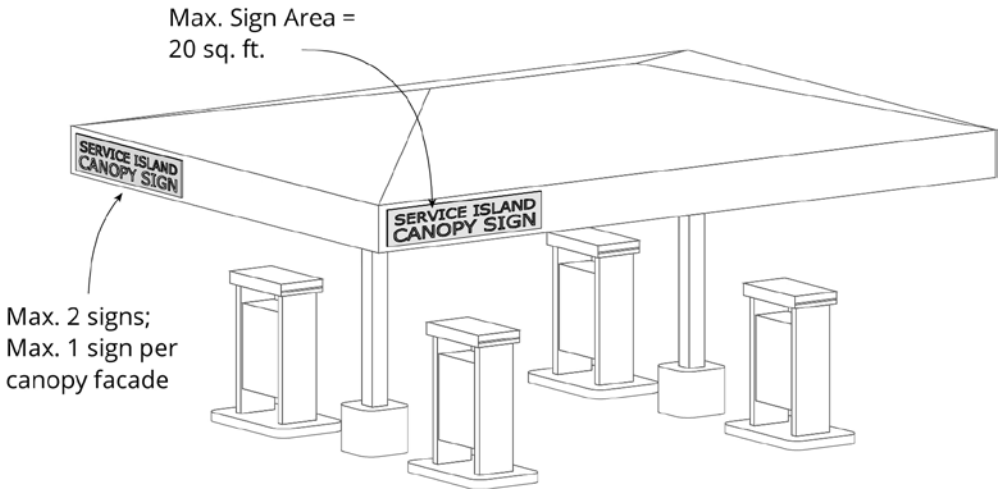


TABLE 20-P: STANDARDS FOR WALL SIGNS

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.

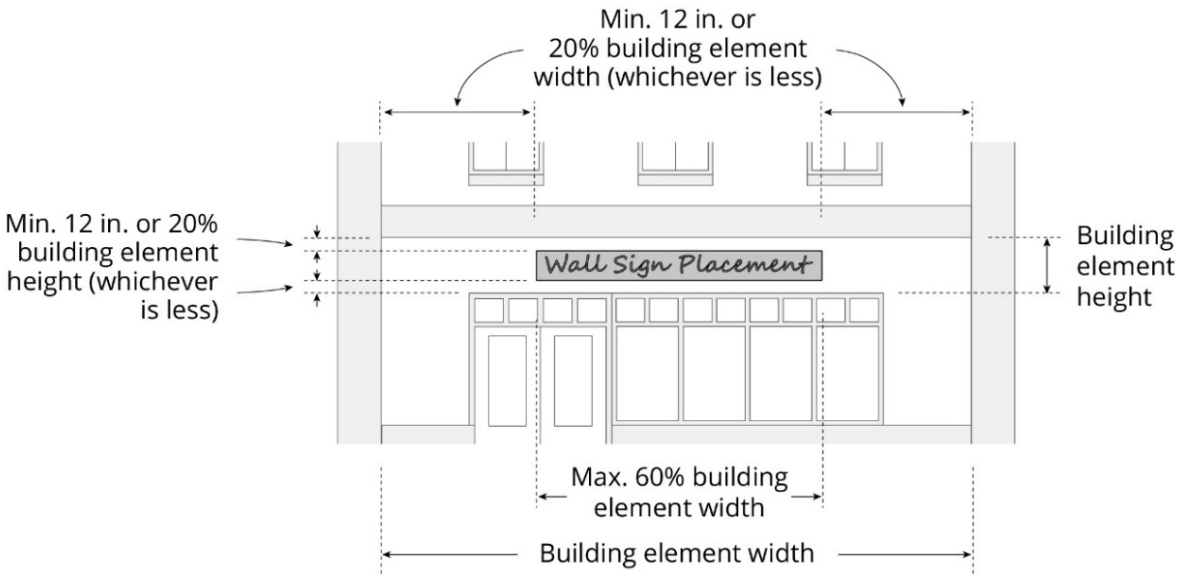
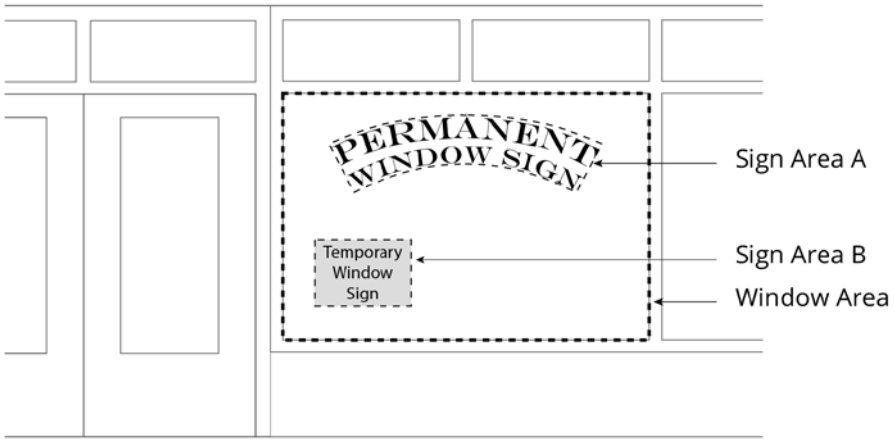


TABLE 20-Q: STANDARDS FOR WINDOW SIGNS

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

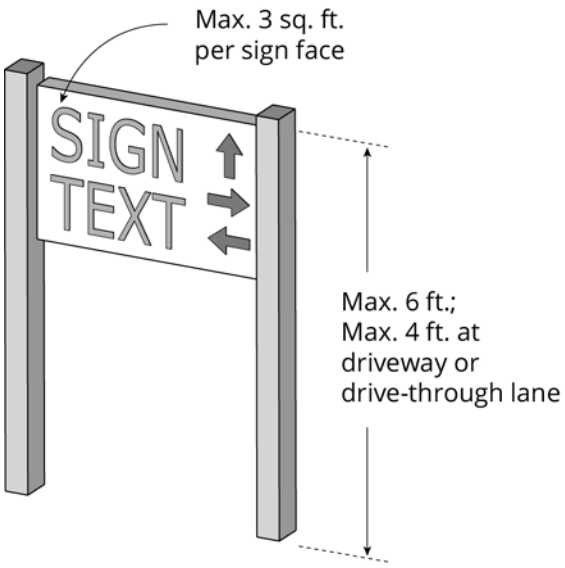


TABLE 20-T: STANDARDS FOR DIRECTORY SIGNS (FREESTANDING)

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

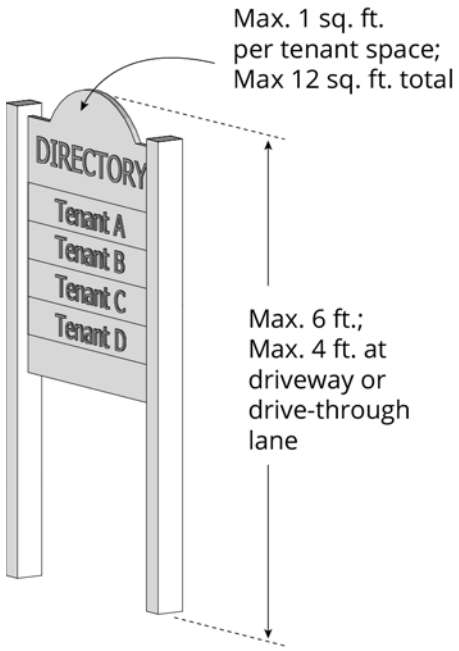
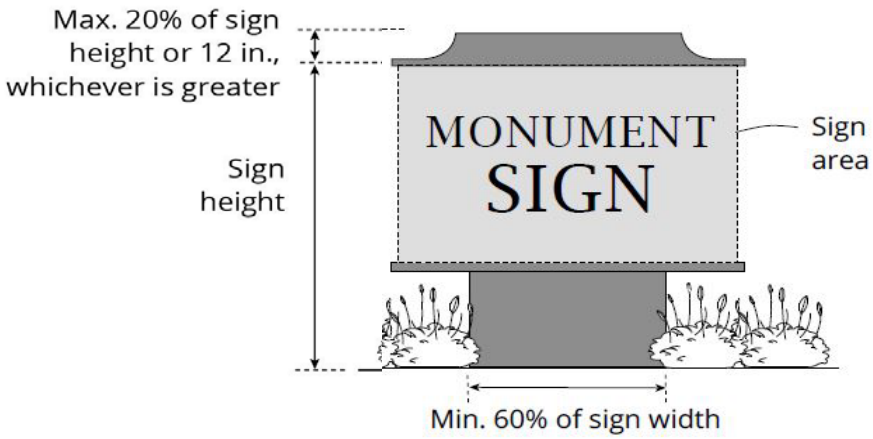


TABLE 20-U: STANDARDS FOR MONUMENT SIGNS[1]

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.					

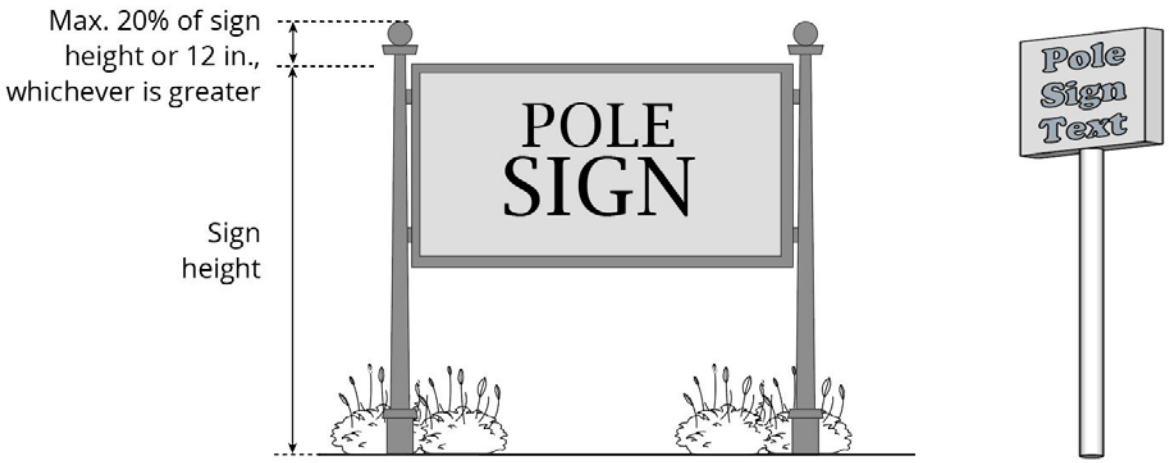


[1] The maximum sign area and sign height standards may be further limited by the standards established in Table 20-R. If no value is included in the table below, then a monument sign is not allowed in that sign district

[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

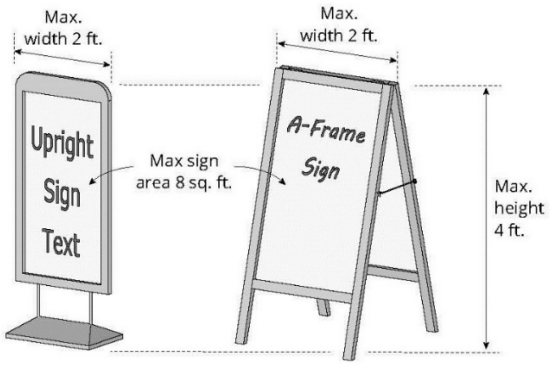
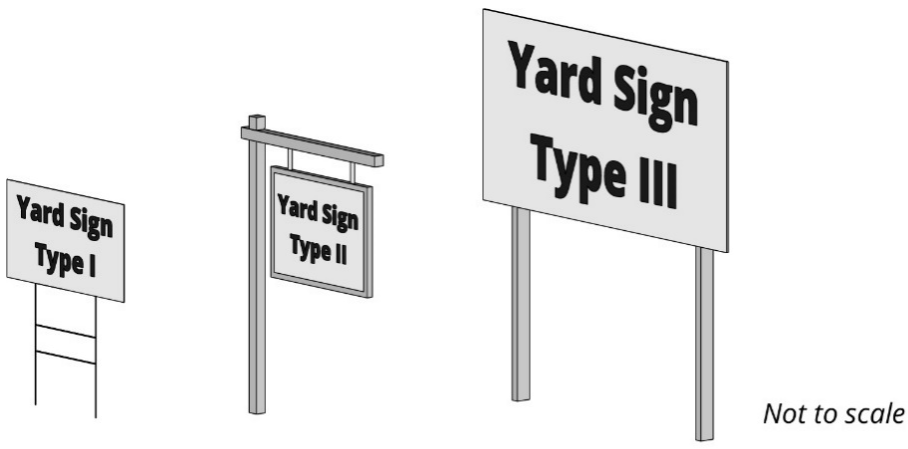
Temporary Sign Type[1]	Standard: Height	Standard: Width (max.)	Standard: Area (max.)	Other Requirements
	Min. 30 in. Max. 4 ft.	2 ft.	8 SF	Prohibited in residential zones. Must not be placed in public right-of-way except as permitted by the City. [3] If advertising a business, only permitted during regular 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.

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

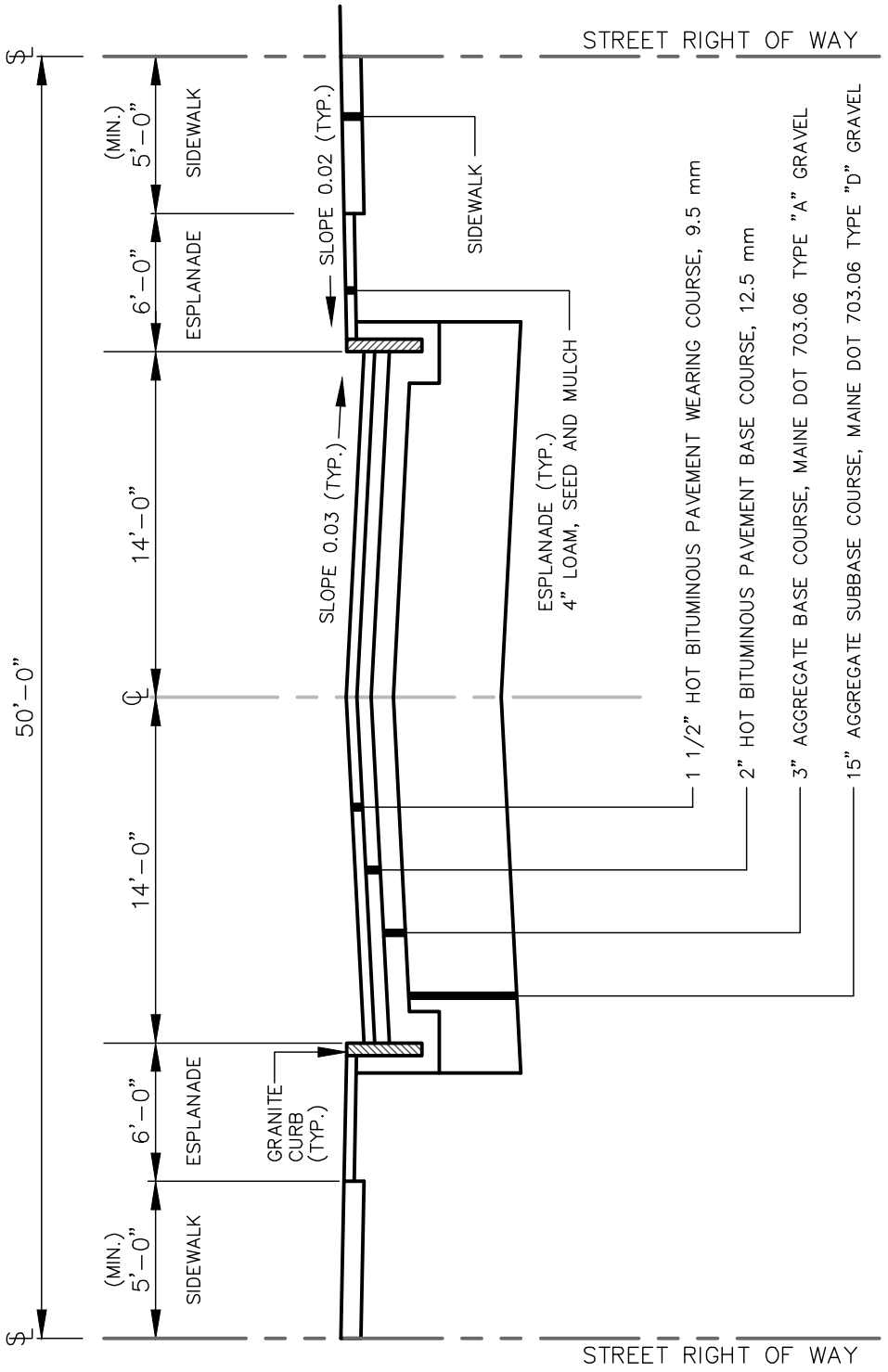
- Where site constraints prevent locating a transit shelter on the site, it shall be located within a public sidewalk area along the property

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.

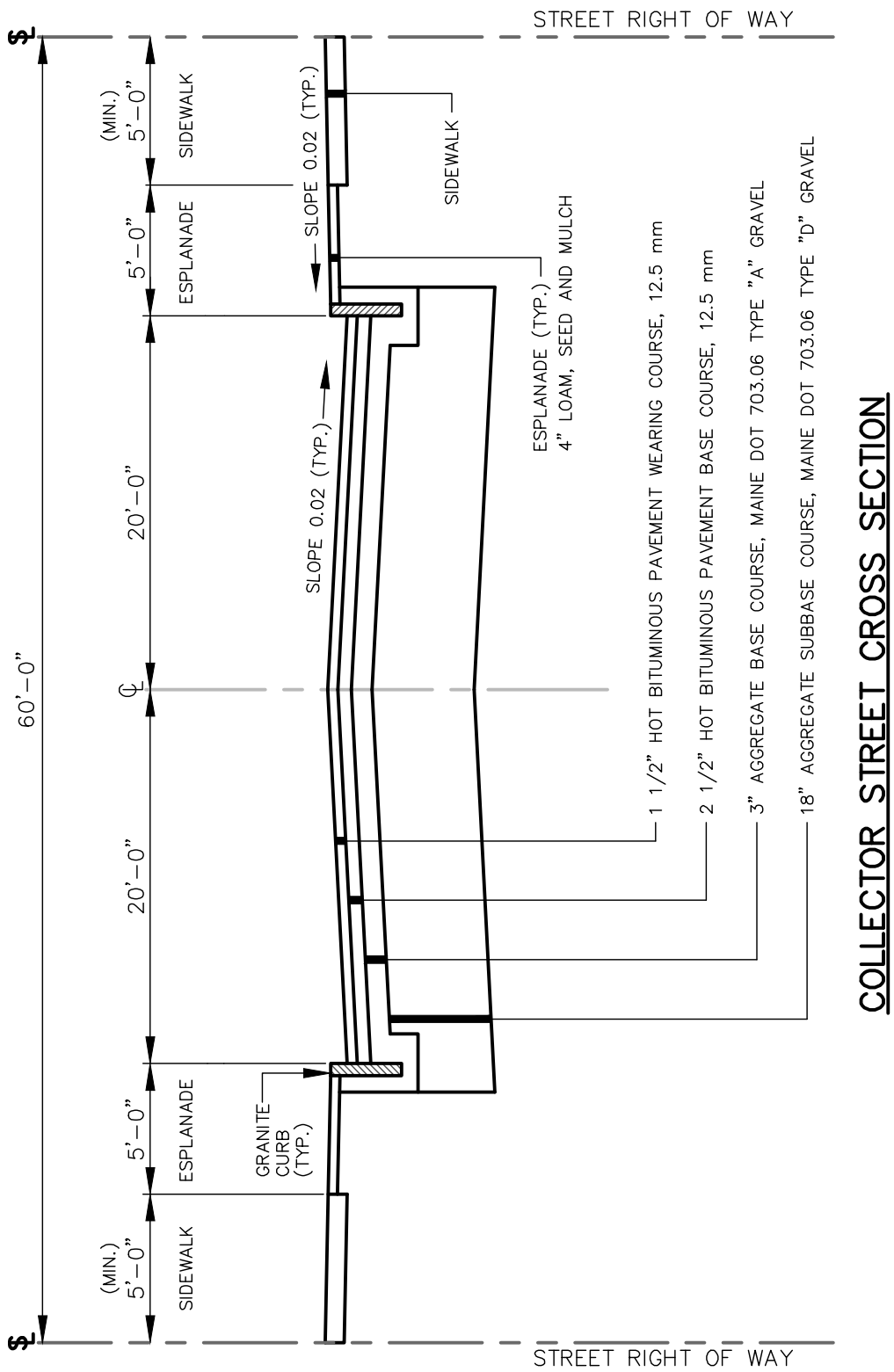
1.17.3. Where necessary, developments shall provide easements to the City, sufficient in size to accommodate public transit infrastructure and access to the transit stop.



LOCAL STREET CROSS SECTION

NOT TO SCALE

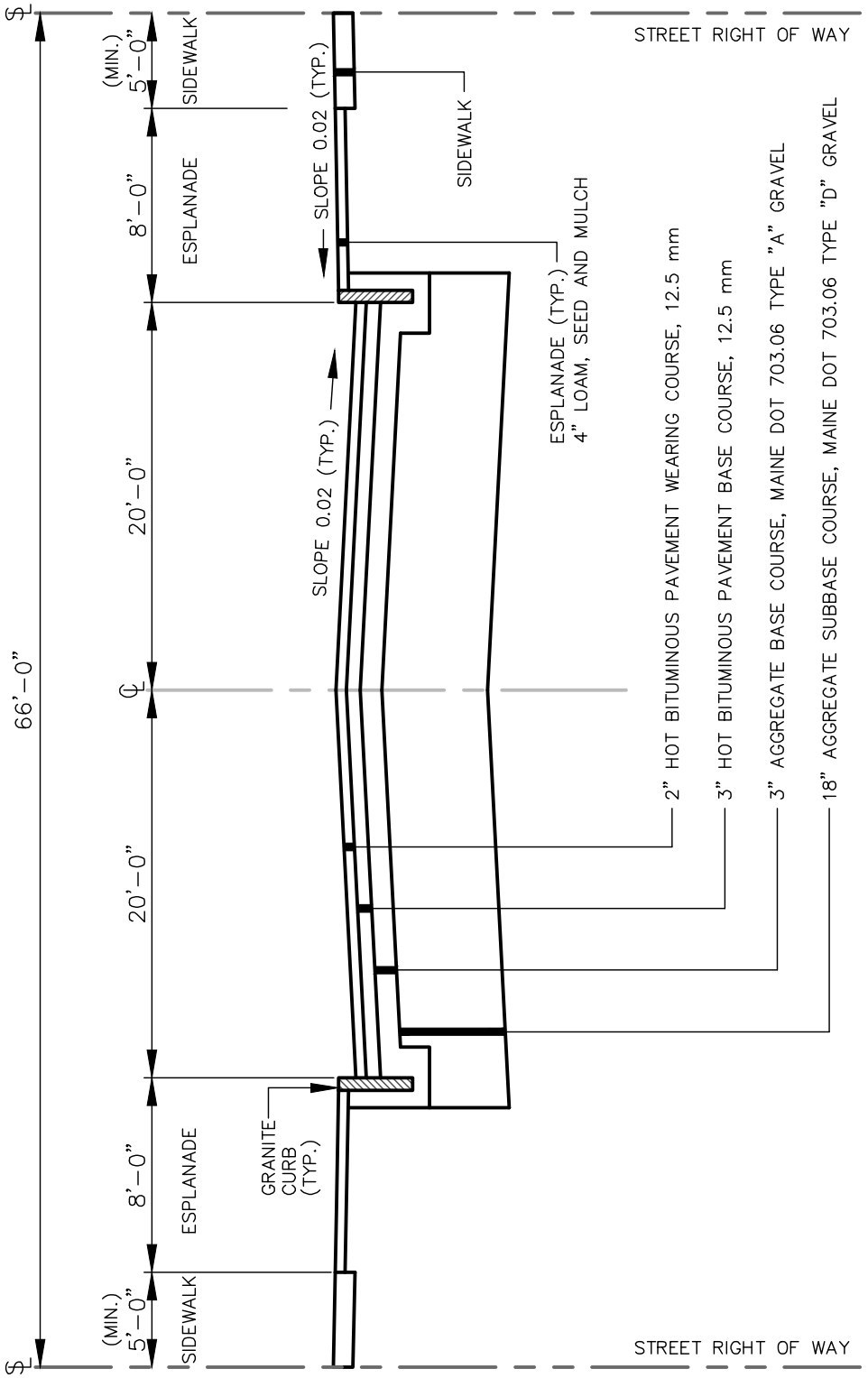
DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: **I-1**
	LOCAL STREET CROSS SECTION		



COLLECTOR STREET CROSS SECTION

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: **I-2**
	COLLECTOR STREET CROSS SECTION		



ARTERIAL STREET CROSS SECTION

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: **I-3**
	ARTERIAL STREET CROSS SECTION		

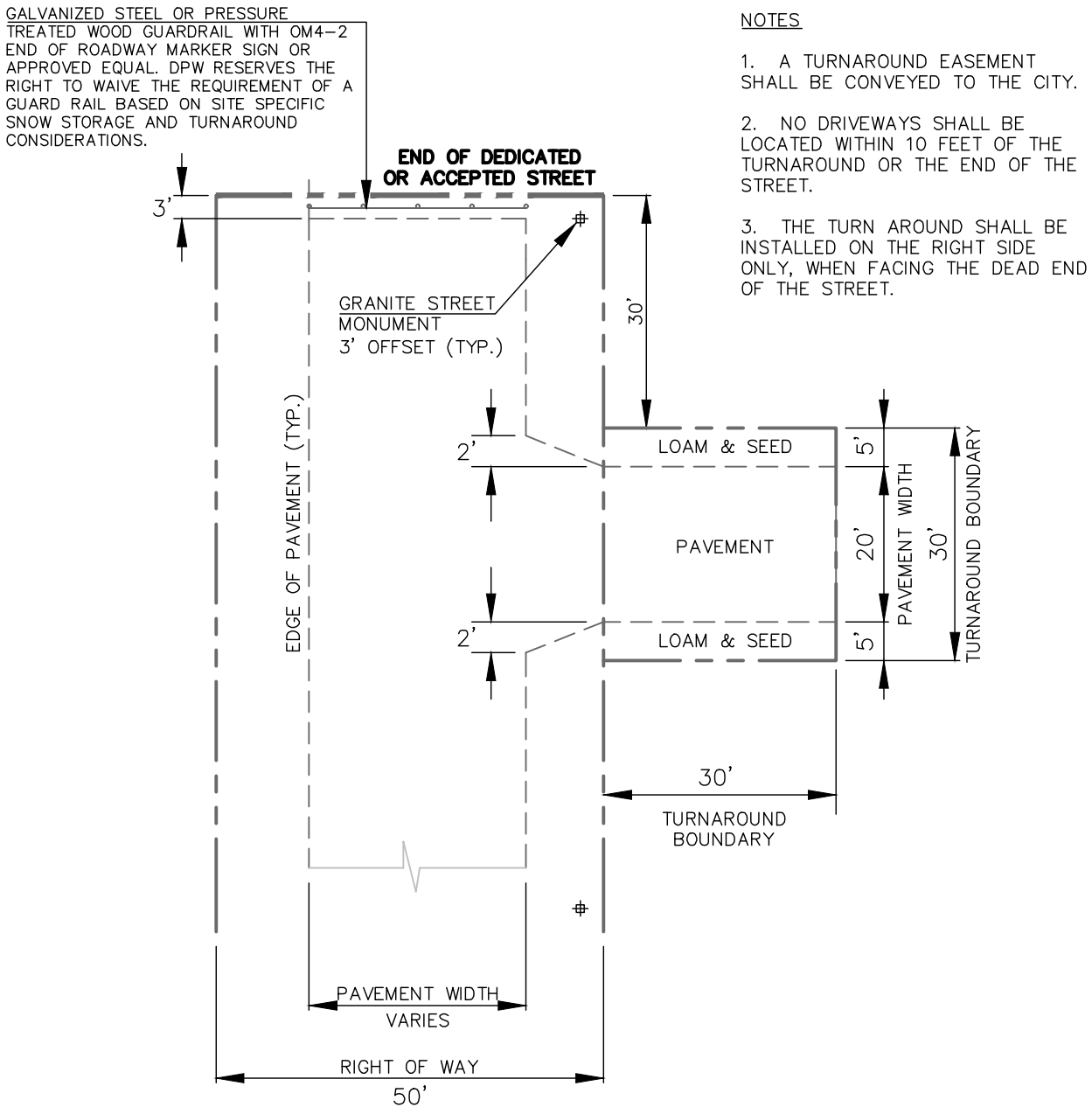
STREET CLASSIFICATION	R.O.W. WIDTH (ft.)	UTILITY LOCATION DIMENSIONS	
		W (ft.)	G (ft.)
LOCAL	50	5	5
COLLECTOR	60	7	7
ARTERIAL	66	8	8

NOTES:
1. DEPTH OF SANITARY SEWER AND STORM DRAIN PER CITY ENGINEER.
2. DEPTH OF UNDER DRAIN SHALL BE 3'-6" FROM GUTTER LINE TO PIPE INVERT.
3. DEPTHS OF ELECTRIC, TELEPHONE, CABLE TELEVISION AND FIRE TO BE AT LEAST 36 INCHES BELOW FINISH GRADE. DEPTHS OF OTHER UTILITIES PER REQUIREMENTS OF APPLICABLE UTILITY COMPANY. WHEN TREES ARE PROPOSED FOR THE ESPLANADE, THE UTILITIES DESIGNATED FOR THAT LOCATION SHALL MAKE NECESSARY PROVISIONS.
4. APPLICABLE WARNING TAPE SHALL BE PLACED OVER EACH UTILITY.
5. RIGID PVC CONDUIT IS REQUIRED FOR STREET AND DRIVEWAY CROSSINGS AND OTHER PAVEMENT CROSSINGS MORE THAN 12 FEET IN LENGTH. CONDUITS CROSSING STREETS SHALL BE ENCASED IN CONCRETE. CONCRETE SHALL BE DESIGNED TO HAVE MINIMUM 3,000 PSI COMP STRENGTH AND SHALL HAVE A MINIMUM 4" THICK ENCASEMENT ON ALL SIDES OF CONDUIT.
6. UTILITY MANHOLES SHALL NOT BE LOCATED WITHIN TRAVEL LANE VEHICLE TRACKING TO THE EXTENT POSSIBLE.

UTILITY LOCATIONS IN STREETS

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	**FIGURE:**
	UTILITY LOCATIONS IN STREETS		**I-4**



NOTES

1. A TURNAROUND EASEMENT SHALL BE CONVEYED TO THE CITY.

2. NO DRIVEWAYS SHALL BE LOCATED WITHIN 10 FEET OF THE TURNAROUND OR THE END OF THE STREET.

3. THE TURN AROUND SHALL BE INSTALLED ON THE RIGHT SIDE ONLY, WHEN FACING THE DEAD END OF THE STREET.

TURNAROUND ON DEAD END STREET

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-5
	TURNAROUND ON DEAD END STREET		

GENERAL NOTES

1. DESIGN OF ACCESSIBLE RAMPS AND ASSOCIATED FACILITIES ARE GOVERNED BY THE 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, WHICH IS DETAILED IN DOJ SECTION 28 CFR 35.151. ADDITIONAL GUIDANCE AND INFORMATION CAN BE FOUND IN THE PROPOSED PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES PUBLISHED BY THE U.S. ACCESS BOARD. IN ANY CASE WHERE THE DESIGN REQUIREMENTS ARE MORE STRINGENT BETWEEN ADA STANDARDS AND CITY REQUIREMENTS, THE ADA STANDARDS SHALL GOVERN.

2. SIDEWALKS SHALL BE CONSTRUCTED IN BRICK, CONCRETE, OR BITUMINOUS, ACCORDING TO THE SIDEWALK & DRIVEWAY APRON MATERIALS POLICY, UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER.

3. SIDEWALKS AND RAMPS SHALL BE BUILT ACCORDING TO THE FOLLOWING DIMENSIONS AND GRADES:
   SIDEWALK RUNNING SLOPE: MATCH ADJACENT STREET GRADE
   SIDEWALK CROSS SLOPE: 1.0% MINIMUM, 2.0% MAXIMUM
   SIDEWALK WIDTH: 5'-0" MINIMUM, WIDER PREFERRED
   ESPLANADE (WHERE PROVIDED) 2'-0" MINIMUM, 4'-0" OR GREATER PREFERRED IF LANDSCAPED.

4. TWO CURB RAMPS ARE REQUIRED AT EACH SIDEWALK CORNER. EACH CURB RAMP SHALL CONNECT THE PEDESTRIAN ACCESS ROUTE AT EACH PEDESTRIAN STREET CROSSING. IN ALTERATIONS WHERE PHYSICAL CONSTRAINTS PREVENT TWO CURB RAMPS FROM BEING INSTALLED AT A STREET CORNER, A SINGLE PEDESTRIAN CURB RAMP MAY BE PERMITTED.

5. OPPOSING CURB RAMPS AT A SINGLE CROSSING SHALL ALIGN TO PROVIDE A STRAIGHT PATH OF TRAVEL FROM THE TOP OF THE RAMP TO THE CURB RAMP ON THE OPPOSITE SIDE OF THE ROADWAY TO THE MAXIMUM EXTENT FEASIBLE.

6. ALL SIDEWALKS AND RAMPS SHALL DRAIN TOWARD THE STREET, DRIVEWAY, OR PARKING AREA, WITH A MAXIMUM CROSS SLOPE OF 2.0%.

7. LEVEL LANDINGS (NO GREATER THAN 2.0% SLOPE IN ANY DIRECTION) AT THE BOTTOM OF PERPENDICULAR RAMPS SHALL BE WHOLLY CONTAINED WITHIN MARKED CROSSWALKS.

8. PONDING SHALL NOT BE PERMITTED WITHIN THE CURB RAMP LIMITS. RAMPS SHALL NOT ALTER ROADWAY DRAINAGE PATTERNS.

9. TRANSITION FROM RAMPS TO WALKS OR STREET SURFACE SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. PAVEMENT AT THE STREET SURFACE SHALL BE MILLED AND REPAVED TO ACHIEVE FLUSH CONDITION.

10. CURB RAMP AND FORM WORK SLOPES SHALL BE CHECKED WITH A DIGITAL LEVEL OF AN APPROPRIATE LENGTH. NO PORTION OF A RAMP RUN SHALL EXCEED THE MAXIMUM SLOPE REQUIREMENT.

11. THE COUNTER SLOPE WITHIN 2' OF THE CURB RAMP SHALL BE 5% MAXIMUM. IN ALTERATIONS, IF THE COUNTER SLOPE OF 5% MAXIMUM CANNOT BE ACHIEVED, THE SLOPE ELEVATION MAY BE ADJUSTED SO THAT THE COMBINED COUNTER SLOPE AND RAMP SLOPE DO NOT EXCEED 13.3%.

12. VERTICAL DROP-OFF EDGES TO RAMPS SHALL NOT BE BUILT UNLESS THE RAMP ABUTS AN ESPLANADE OR OTHER AREA NOT TO BE USED BY PEDESTRIANS.

13. AT MARKED CROSSWALKS, THE FULL WIDTH OF THE RAMP OR LANDING SHALL BE CONTAINED WITHIN THE PAVEMENT MARKINGS.

14. DETECTABLE WARNING PANELS SHALL BE PROVIDED ON ALL RAMPS AS PER FIGURE I-7 OF THESE STANDARD DETAILS.

15. RAMP FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.

16. SIGNS, POLES, PLANTERS, MAILBOXES, ETC. SHALL NOT BE LOCATED WHERE THEY WILL INTERFERE WITH THE USE OF SIDEWALK RAMPS.

17. SIDEWALK RAMPS SHALL NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS, OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED, THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS.

18. THE PUBLIC SIDEWALK CURB RAMP STANDARDS DEPICTED HERE MAY NOT BE APPROPRIATE FOR ALL LOCATIONS. FIELD CONDITIONS AT INDIVIDUAL LOCATIONS MAY REQUIRE SPECIFIC DESIGNS. RAMP DESIGNS THAT ARE COMPLIANT WITH ADA BUT NOT LISTED IN THESE DETAILS MAY BE APPROVED BY THE CITY ENGINEER.

19. DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF THESE DETAILS AND TO ADA GUIDELINES TO THE MAXIMUM EXTENT FEASIBLE ON ALTERATION PROJECTS, AND WHEN STRUCTURALLY PRACTICABLE ON NEW CONSTRUCTION PROJECTS AS REQUIRED BY THE ADA ACCESSIBILITY GUIDELINES.

20. MAXIMUMS AND MINIMUMS DO NOT HAVE TOLERANCES AND ARE NOT TO BE EXCEEDED OR UNMET.

21. THE STANDARD TURNING SPACE (LEVEL LANDING) IS 4'-0" X 4'-0" SLOPING NO MORE THAN 2.0%. WHERE THE TURNING SPACE SHALL BE 4'-0" MINIMUM BY 5'-0" MINIMUM. THE 5'-0" DIMENSION SHALL BE PROVIDED IN THE DIRECTION OF THE RAMP RUN.

22. DETECTABLE WARNINGS SHALL BE INSTALLED AT ALL SIGNED OR SIGNALIZED INTERSECTIONS. THEY SHALL HAVE A TRUNCATED DOME SURFACE. THE DOMES SHALL BE IN A SQUARE PATTERN AND ALIGNED WITH PEDESTRIAN TRAFFIC WHERE POSSIBLE.

23. DETECTABLE WARNINGS SHALL SPAN THE WIDTH OF THE PEDESTRIAN RAMP. SEE STANDARD DETAIL FIGURE I-7.

24. ALL DETECTABLE WARNING FIELDS PLACED AT THE SAME INTERSECTION SHALL BE MADE UP OF THE SAME UNIFORM MATERIAL TYPE. DETECTABLE WARNINGS SHALL BE CONTRASTING IN COLOR TO THE ADJACENT WALKWAY.

25. A RAMP WITH A RUNNING SLOPE LESS THAN 5.0% IS DEFINED AS A "BLENDED TRANSITION". BLENDED TRANSITIONS DO NOT REQUIRE A LEVEL LANDING AT THE TOP OF THE RAMP.

26. THE RAMP LENGTH SHALL NOT EXCEED 15 FEET. ADJUST RAMP LENGTH OR SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FEASIBLE.

27. ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH.

28. RAMP GRADE BREAKS SHALL BE PERPENDICULAR TO THE RUNNING SLOPE.

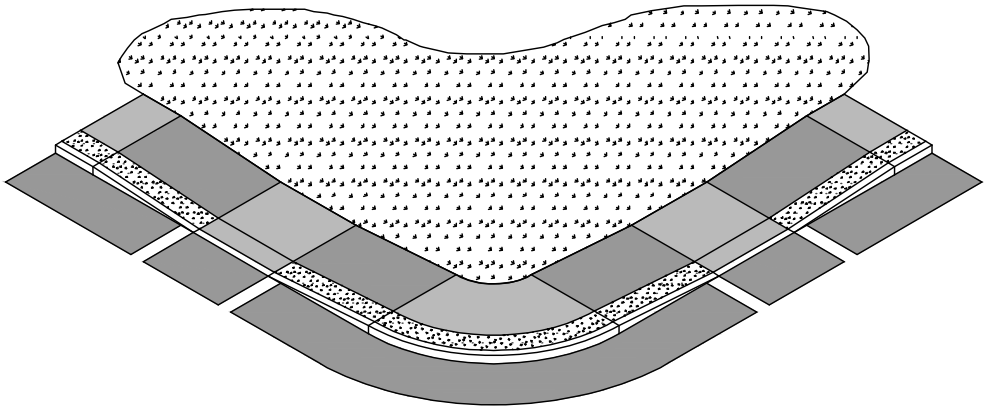
29. THERE SHALL BE A MINIMUM OF 12" AGGREGATE SUBBASE COURSE - GRAVEL UNDER THE SIDEWALK SURFACE ON PEDESTRIAN RAMPS.

30. DRAINAGE STRUCTURES, UTILITY POLES, TRAFFIC SIGNAL EQUIPMENT OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED IN THE CURB RAMP OR TURNING SPACE AREAS.

31. BEFORE RETROFITTING RAMPS, THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS AND AVOID PONDING IN THE FINAL CONFIGURATION.

32. A TEMPORARY PEDESTRIAN ACCESS ROUTE SHALL BE PROVIDED WHENEVER THE EXISTING PEDESTRIAN ACCESS ROUTE IN THE PUBLIC RIGHT OF WAY IS BLOCKED BY CONSTRUCTION, ALTERATION, MAINTENANCE OR OTHER TEMPORARY CONDITIONS. REFER TO MUTCD FOR GUIDANCE.

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	ACCESSIBLE RAMP GENERAL NOTES		I-6



~ ISOMETRIC VIEW ~
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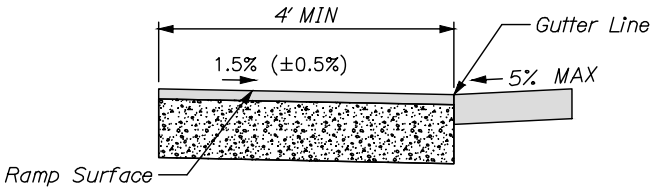
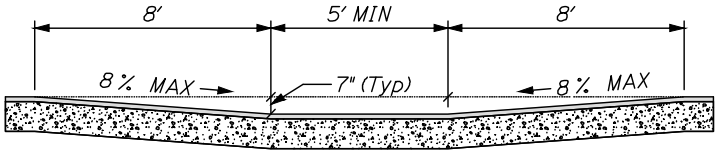


~ SECTION A-A ~



~ SECTION B-B ~

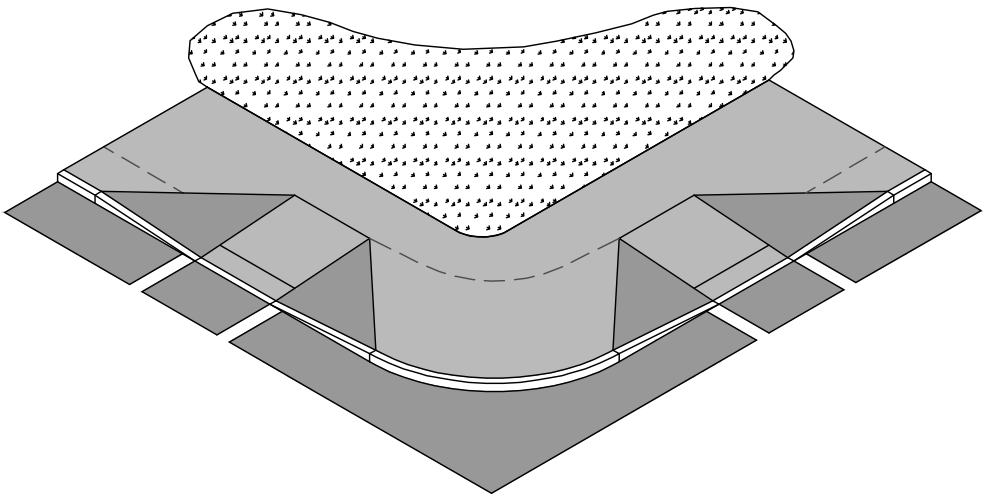
~ PLAN VIEW ~

NOTES:
1. THIS DESIGN IS THE PREFERED OPTION WHEN THE SIDEWALK & ESPLANADE WIDTH IS LESS 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.

PARALLEL ADA RAMP – SIDEWALK LESS THAN 6.5' WIDE WITH OR WITHOUT ESPLANADE

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-6A
	PARALLEL ADA RAMP FOR SIDEWALK LESS THAN 6.5' WIDE		



~ ISOMETRIC VIEW ~
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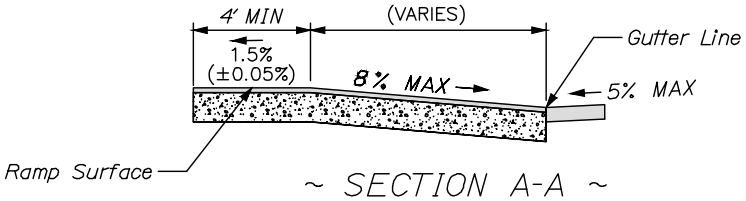

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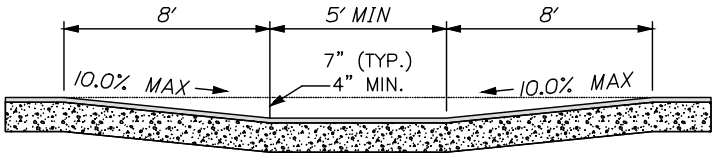


~ SECTION B-B ~
(not to scale)

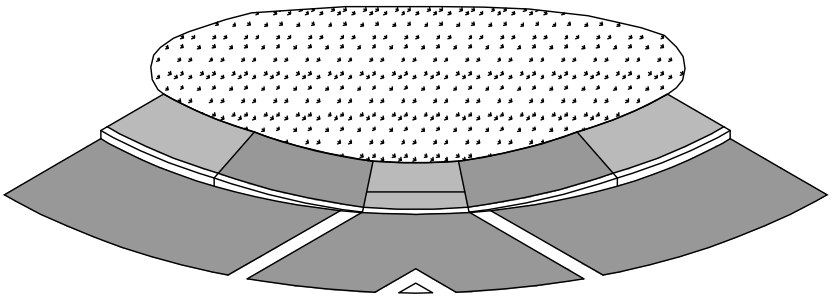
~ PLAN VIEW ~
(not to scale)

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

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-6B
	PERPENDICULAR ADA RAMP FOR SIDEWALK GREATER THAN 6.5'		



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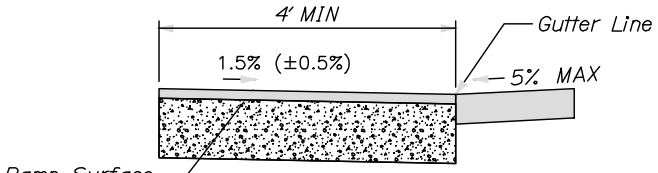

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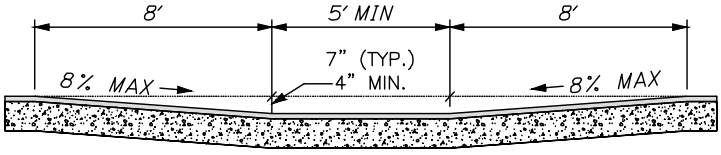
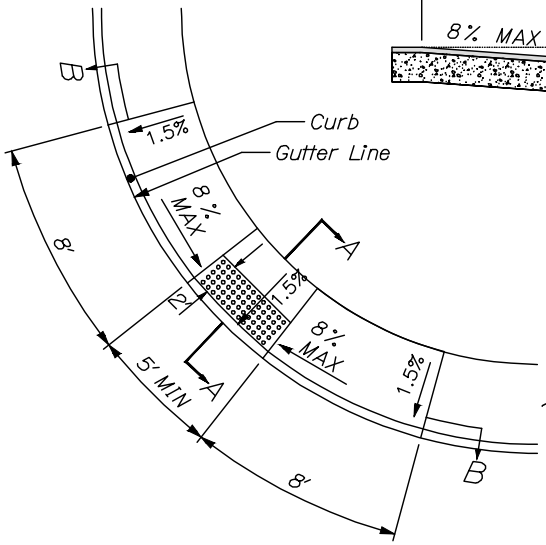


~ SECTION B-B ~



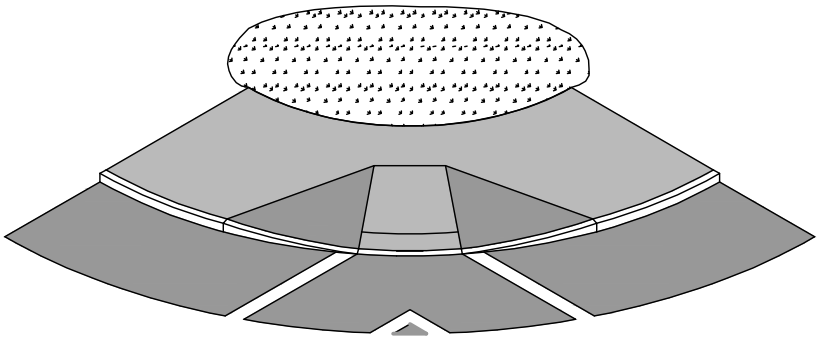
~ PLAN VIEW ~

NOTES:
1. THIS LESS DESIRABLE DESIGN SHOULD NOT BE USED UNLESS REQUIRED BY DESIGN CONSTRAINTS. IT DOES NOT PROVIDE DIRECTIONAL CUES.
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.

APEX RAMP – SIDEWALKS **LESS THAN** 6.5' WIDE WITH NO ESPLANADE

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-6C
	APEX RAMP FOR SIDEWALK LESS THAN 6.5' WIDE		



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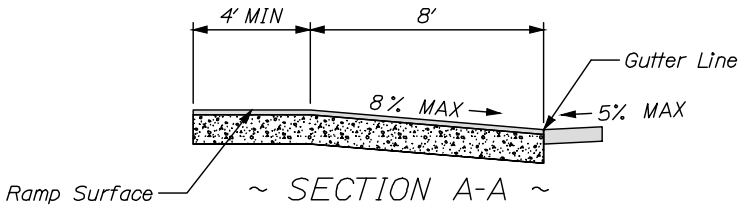
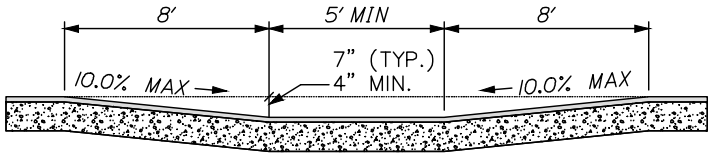
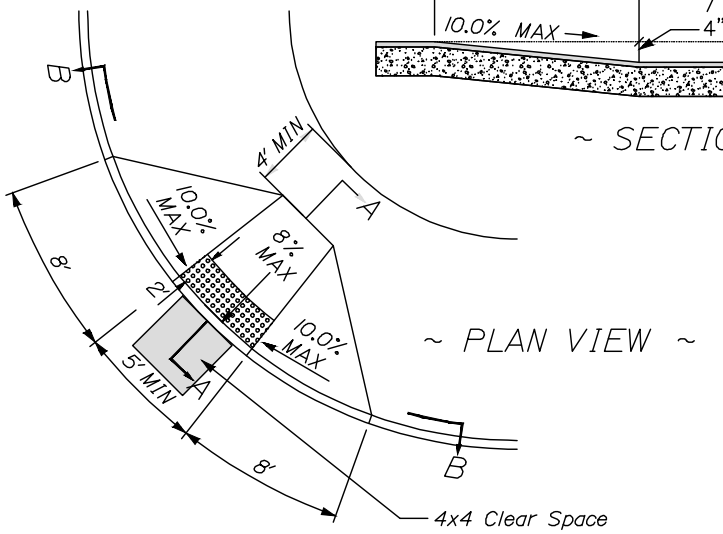


~ SECTION A-A ~



~ SECTION B-B ~



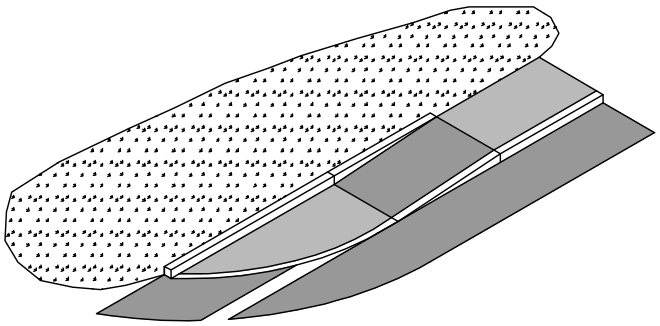
~ PLAN VIEW ~

NOTES:
1. THIS LESS DESIRABLE DESIGN SHOULD NOT BE USED UNLESS REQUIRED BY DESIGN CONSTRAINTS. IT DOES NOT PROVIDE DIRECTIONAL CUES.
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.

APEX RAMP – SIDEWALK GREATER THAN 6.5' WIDE WITH OR WITHOUT ESPLANADE

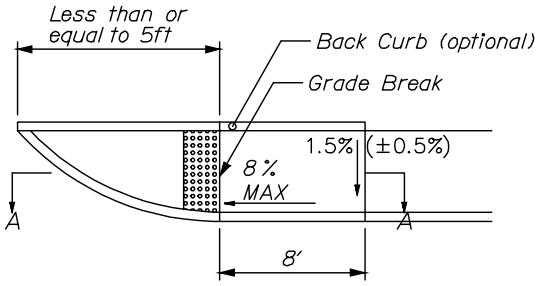
NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-6D
	APEX RAMP FOR SIDEWALK 6.5' WIDE AND GREATER		

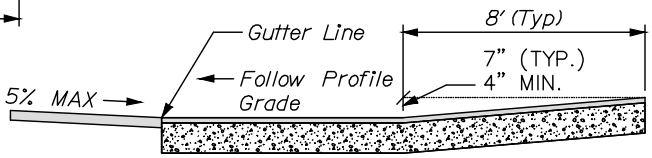


~ PERSPECTIVE VIEW ~

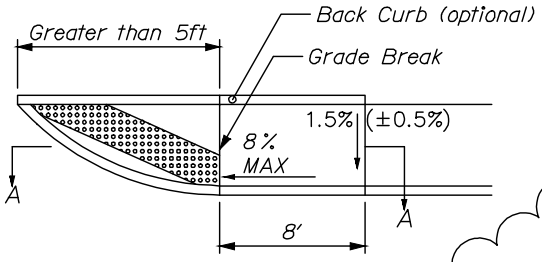
(NOT TO SCALE)



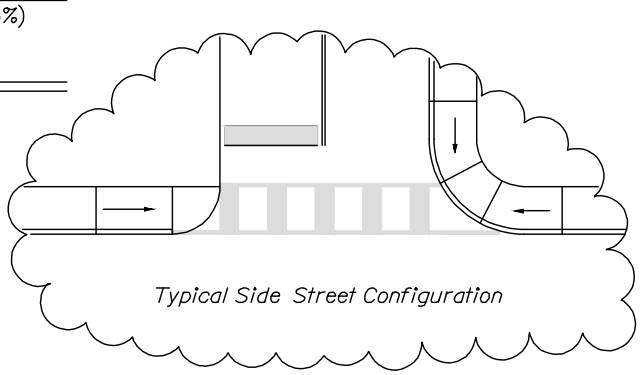
~ *PLAN VIEW* ~



~ SECTION A-A ~



~ **PLAN VIEW** ~



Typical Side Street Configuration

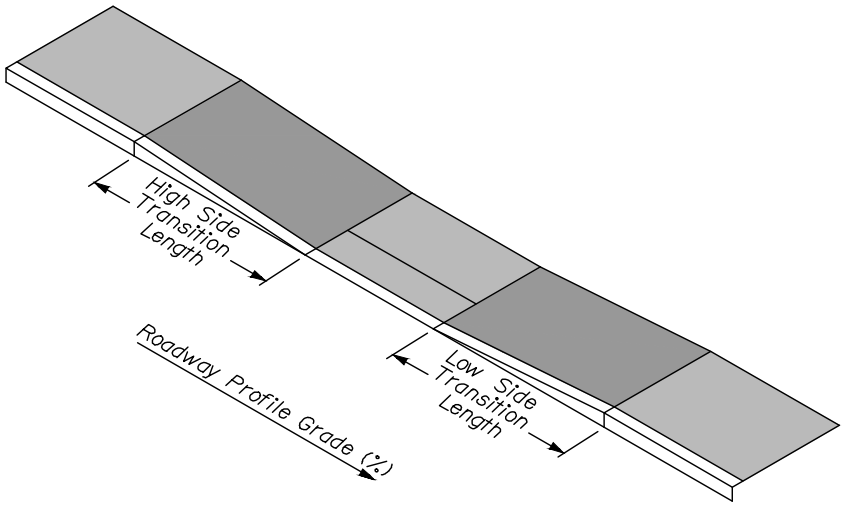
NOTES:

1. FOR USE ONLY WHEN NO SIDEWALK IS PRESENT ON THE SIDE ROAD.
2. USE *THIS* DETECTABLE WARNING PLACEMENT IF THE DISTANCE FROM THE GRADE BREAK TO THE GUTTERLINE IS LESS THAN OR EQUAL TO 5 FEET.
2. USE **THIS** DETECTABLE WARNING PLACEMENT IF THE DISTANCE FROM THE GRADE BREAK TO THE GUTTERLINE IS GREATER THAN 5 FEET.
3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

SIDE STREET RAMP
WITH OR WITHOUT ESPLANADE

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-6E
	SIDE STREET RAMP WHEN NO INTERSECTING SIDEWALK IS PRESENT		



Pedestrian Ramp Length Table

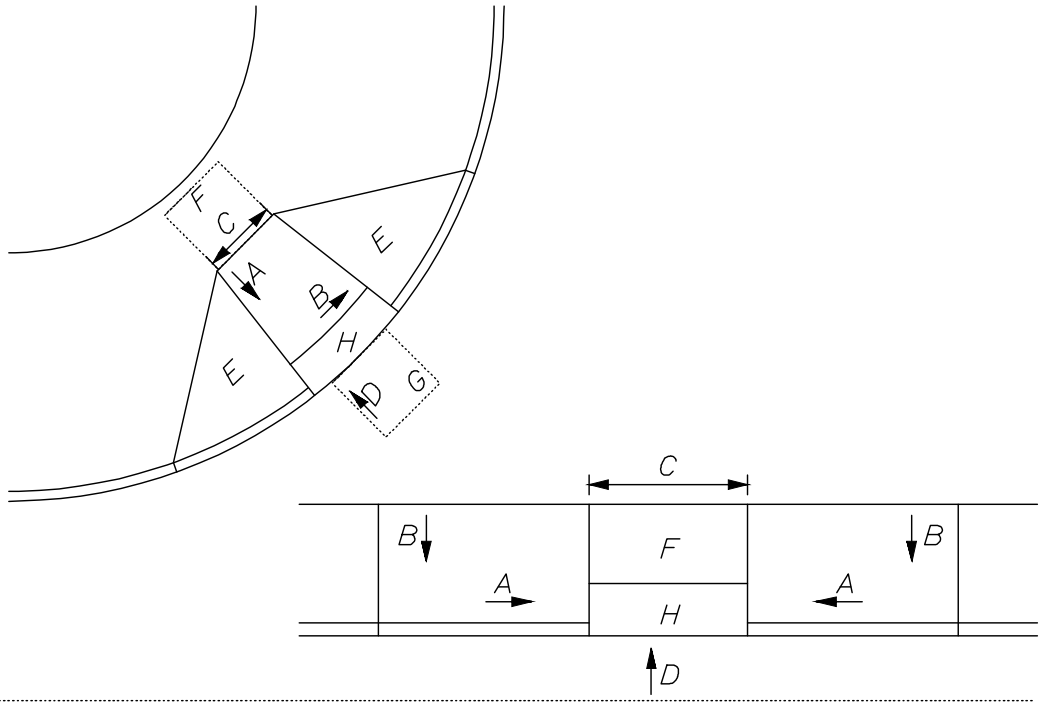
Curb Reveal (Inches)		7	6	5	4	3
	Roadway Profile Grade	Minimum Transition Length Required (Feet)				
Low Side Transition Length	-7% and Lower	4.0	4.0	4.0	4.0	4.0
	-6%	8.0	4.0	4.0	4.0	4.0
	-5%	8.0	4.0	4.0	4.0	4.0
	-4%	8.0	8.0	4.0	4.0	4.0
	-3%	8.0	8.0	4.0	4.0	4.0
	-2%	8.0	8.0	8.0	4.0	4.0
	-1%	8.0	8.0	8.0	4.0	4.0
	0%	8.0	8.0	8.0	8.0	4.0
High Side Transition Length	1%	8.0	8.0	8.0	8.0	4.0
	2%	10.0	8.0	8.0	8.0	4.0
	3%	12.0	10.0	8.0	8.0	8.0
	4%	14.0	12.0	10.0	8.0	8.0
	5%	15.0	15.0	14.0	10.0	8.0
	6%	15.0	15.0	15.0	15.0	12.0
	7% and Hgher	15.0	15.0	15.0	15.0	15.0

Choose roadway profile grade by rounding up for positive grades and down for negative grades. Round to the nearest whole integer. If constraints prevent placement of the ramp length required by the table, place the maximum length possible and check the slope. If above the maximum allowable slope, consider design modifications before considering technical infeasibility.

RAMP LENGTH TABLE
FOR SIDEWALK RAMPS
NOT TO SCALE

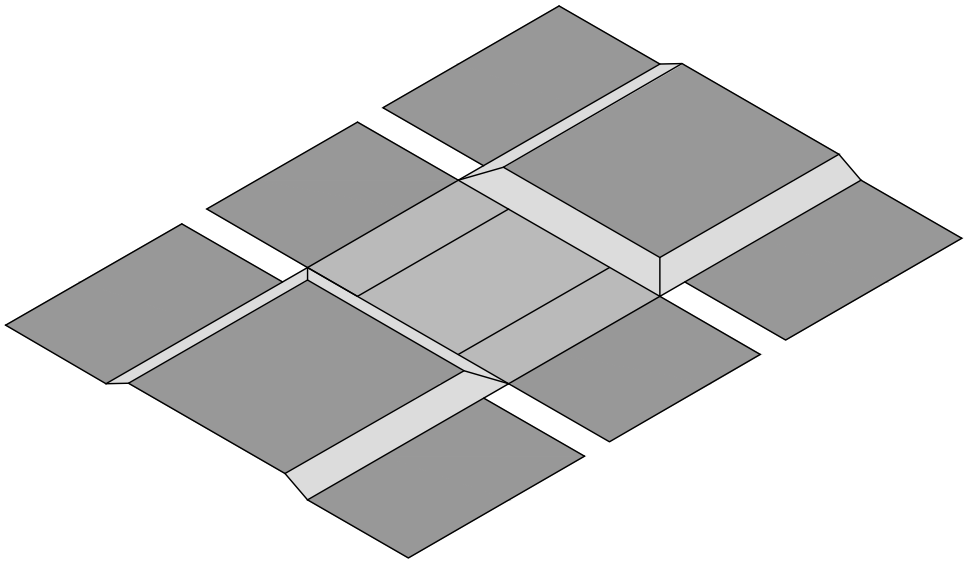
DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
REVISED:	**PEDESTRIAN RAMP LENGTH TABLE FOR SIDEWALK RAMPS**		I-6F

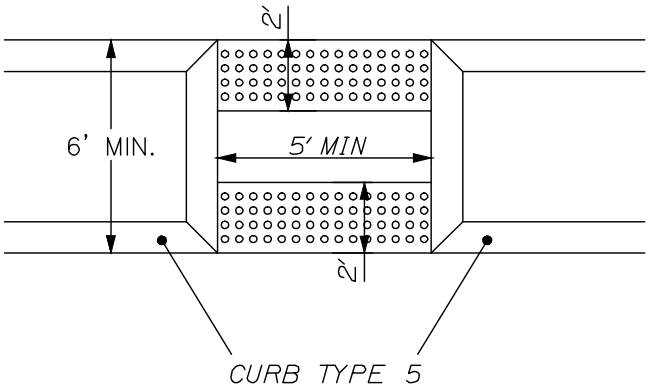
CURB RAMP REQUIREMENTS		
Running Slope	A	Max. 8.33% (1:12)
Cross Slope	B	Max. 2% (1:50) MIN. 1% *Ramp cross slope at street crossings without stop or signal control may match roadway profile.*
Clear Width	C	Min. 5 feet *For existing ramps only, ramp width may remain 4 feet.*
Counter Slope	D	Max. 5% (1:20) *Adjacent surface must be flush with the ramp.*
Flared Sides	E	Max. 10% (1:10)
Turning Space	F	4 feet by 4 feet *Maximum slope of 2% in any direction. May include Detectable Warnings*
Clear Space	G	4 feet by 4 feet *Located at the bottom of the ramp outside active travel lanes.*
Detectable Warnings	H	*Required at traffic controlled intersections and mid-block crossings, full ramp width.*



PEDESTRIAN RAMP REQUIREMENTS
FOR SIDEWALK RAMPS
NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	PEDESTRIAN RAMP REQUIREMENTS FOR SIDEWALK RAMPS		I-6G





NOTES:
1. INSURE POSITIVE DRAINAGE (2% MAXIMUM CROSS SLOPE).

ISLAND PEDESTRIAN CROSSINGS

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-6H
	ISLAND PEDESTRIAN CROSSINGS		

NOTES:

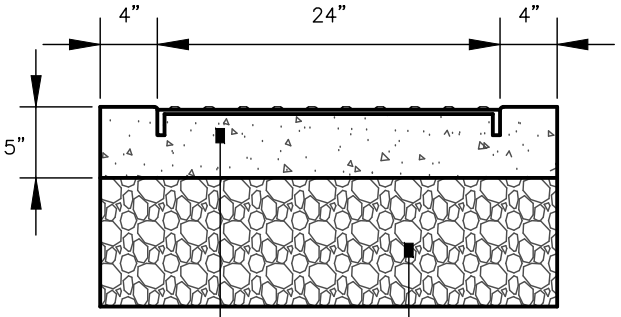
1. ALL DETECTABLE WARNING PLATES SHALL BE UNCOATED CAST IRON. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

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.

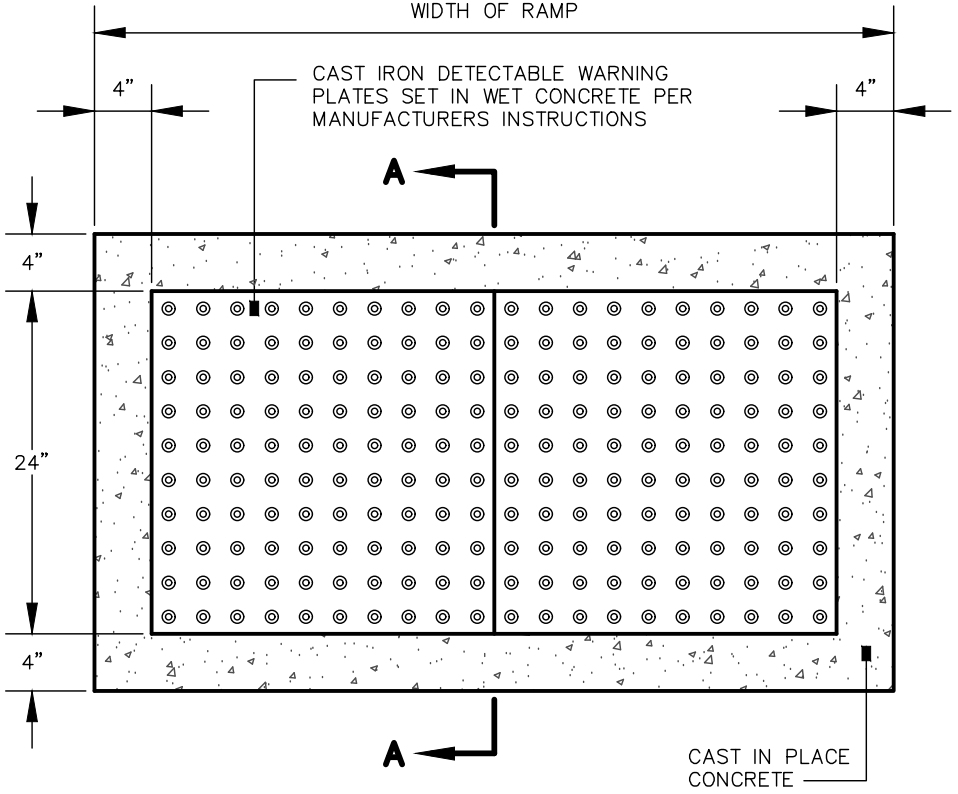
3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.

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.



SECTION A–A



PLAN VIEW

SIDEWALK RAMP DETECTABLE WARNING PANEL

NOT TO SCALE

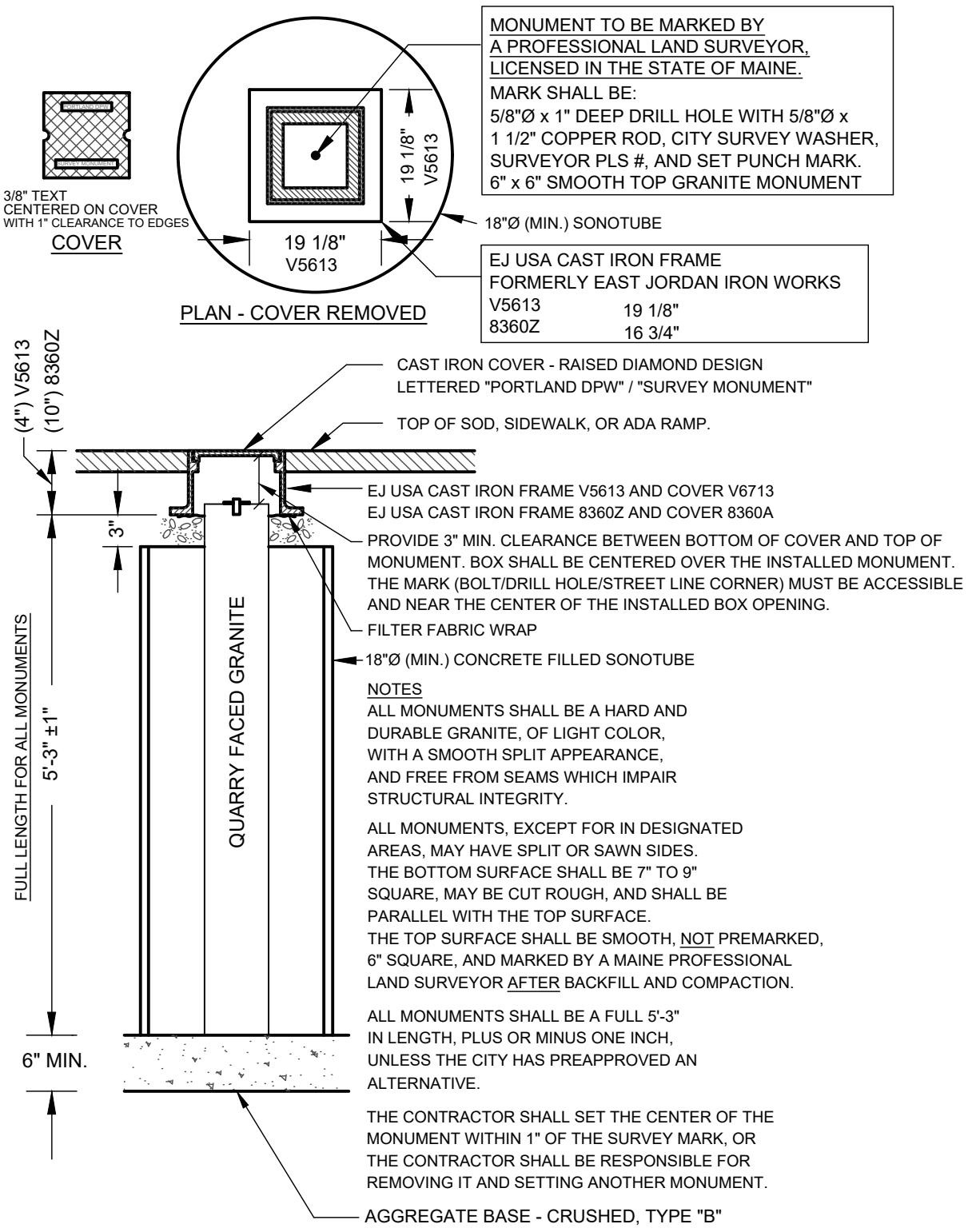
DATE: NOV. 2022
REVISED:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

TRANSPORTATION DESIGN STANDARDS
SECTION I

SIDEWALK RAMP DETECTABLE WARNING PANEL

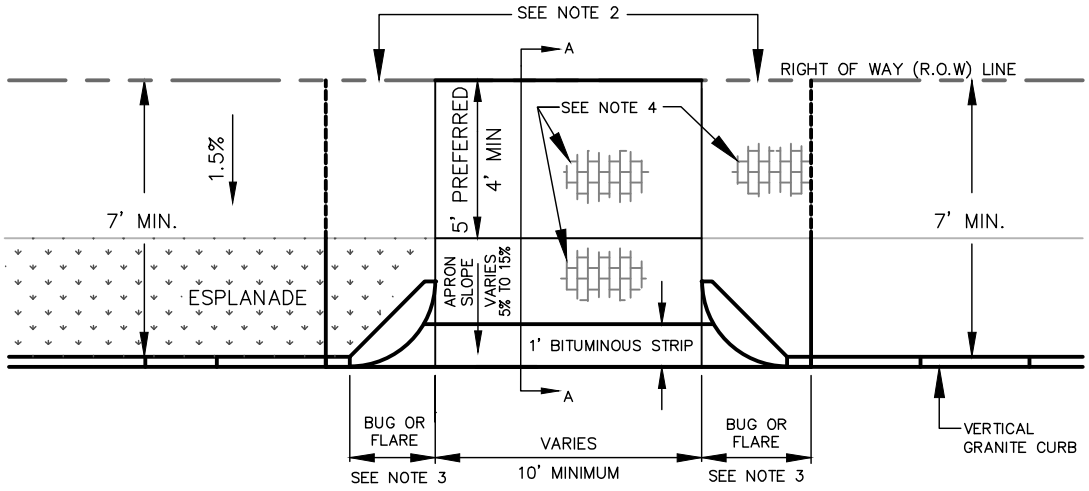
FIGURE: I-7



GRANITE STREET MONUMENTS - NEW OR REPLACEMENT

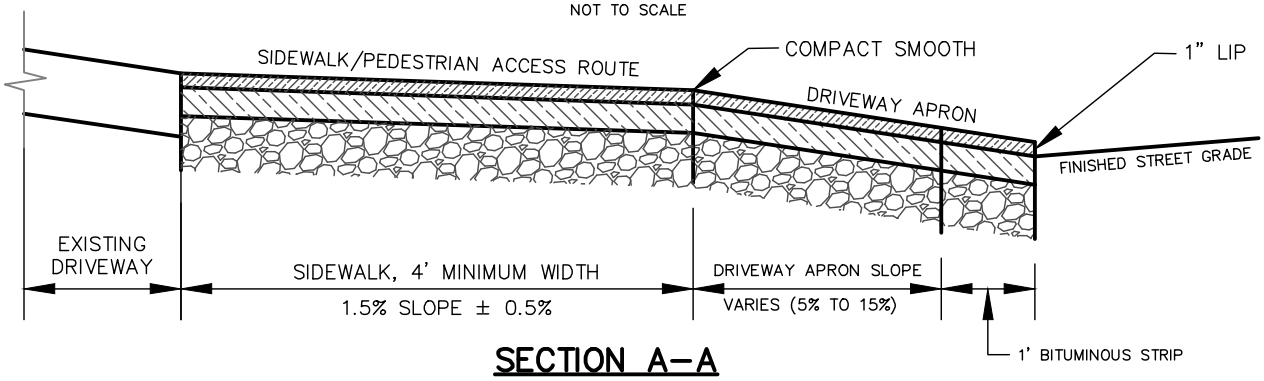
NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
	GRANITE STREET MONUMENT - NEW OR REPLACEMENT		I-8



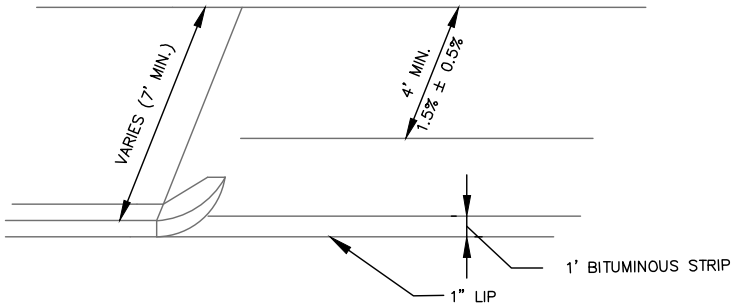
STANDARD RESIDENTIAL DRIVEWAY APRON LAYOUT

NOT TO SCALE



SECTION A–A

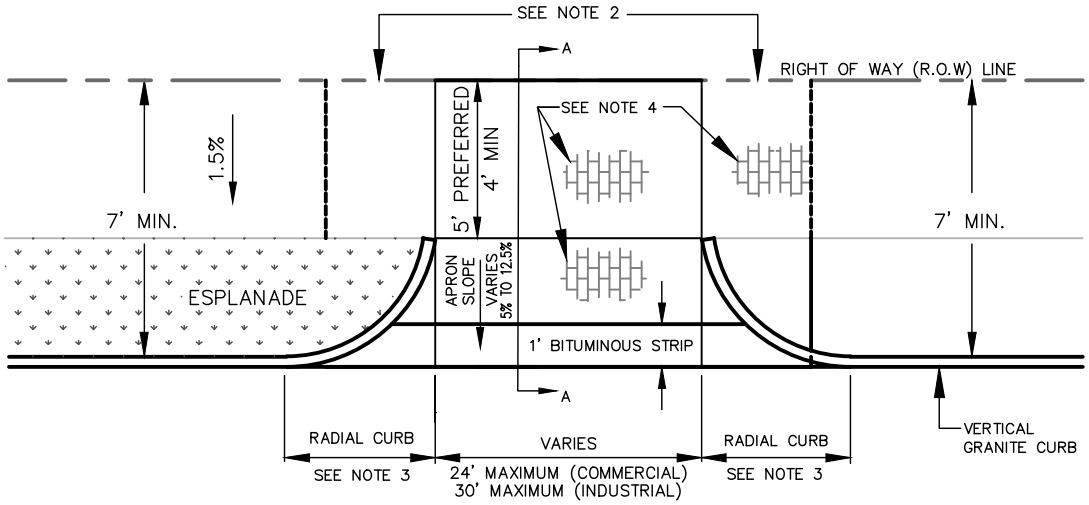
NOT TO SCALE



NOTES:

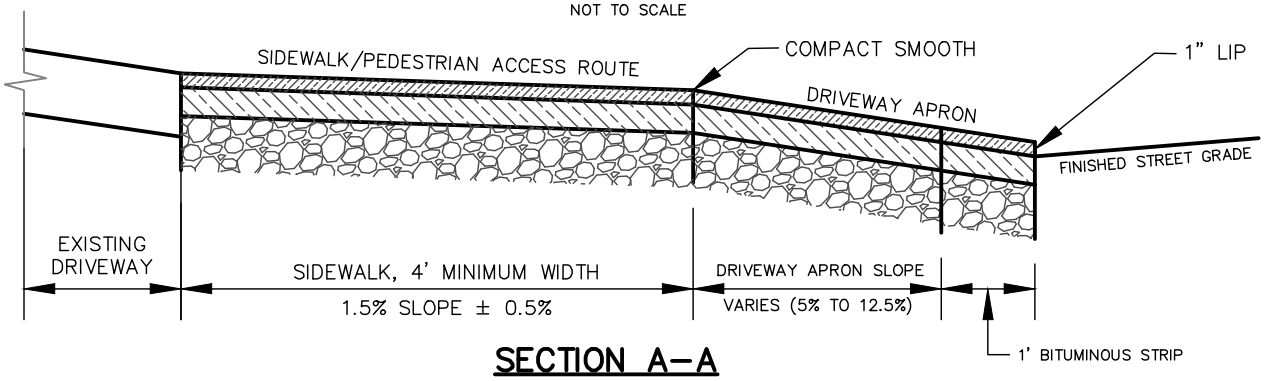
1. MATCH EXISTING GRADE AT R.O.W LINE. WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. TWO–FOOT RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW–VOLUME DRIVEWAYS UNLESS OTHERWISE DIRECTED BY DPW. AT OTHER DRIVEWAYS, STANDARD FLARE/TIPDOWN TREATMENTS SHALL BE USED.
4. ALL MATERIALS IN ROW TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.
5. THIS LAYOUT MAY BE REQUIRED AT MINOR DRIVEWAYS SERVING COMMERCIAL OR INDUSTRIAL USES.

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	RESIDENTIAL DRIVEWAY APRON		I-9A



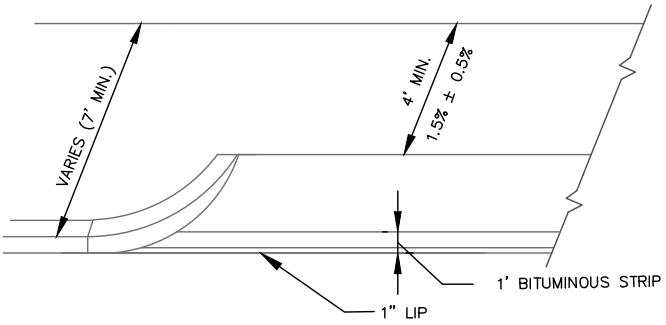
STANDARD COMMERCIAL DRIVEWAY APRON LAYOUT

NOT TO SCALE



SECTION A–A

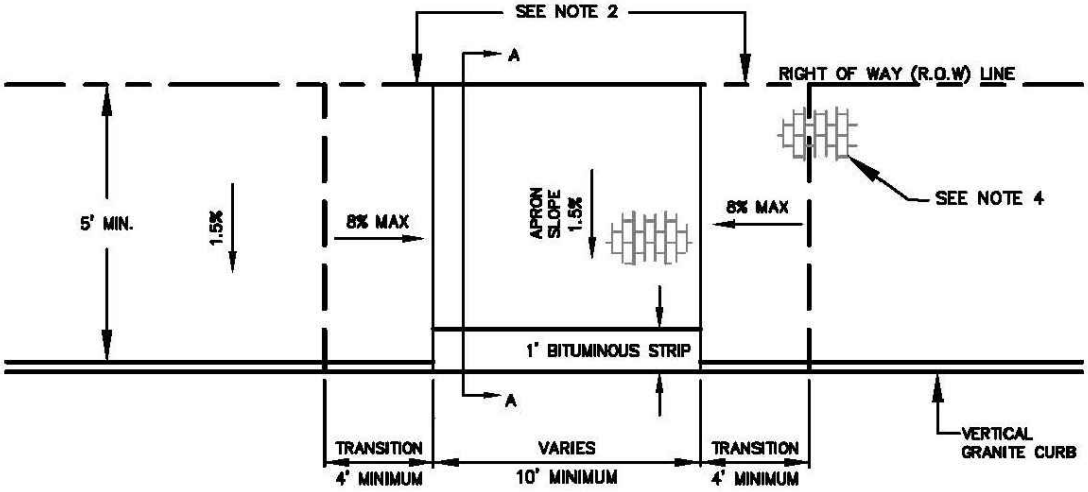
NOT TO SCALE



NOTES:

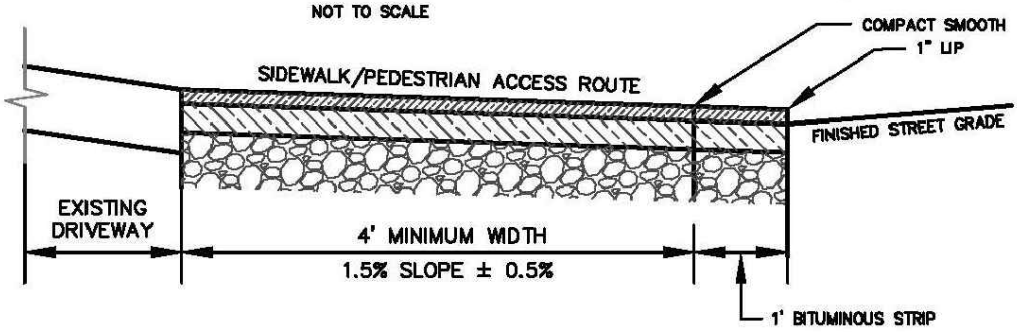
1. MATCH EXISTING GRADE AT R.O.W LINE. WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. DRIVEWAY CURB RADIUS SHALL NOT BE LARGER THAN REQUIRED BY THE SITE'S DESIGN VEHICLE.
4. ALL MATERIALS IN ROW TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK..

DATE: NOV. 2022	CITY OF PORTLAND, MAINE	**TRANSPORTATION DESIGN STANDARDS**	FIGURE:
REVISED:	TECHNICAL STANDARDS MANUAL	SECTION I	
	COMMERCIAL/INDUSTRIAL DRIVEWAY APRON		I-9B



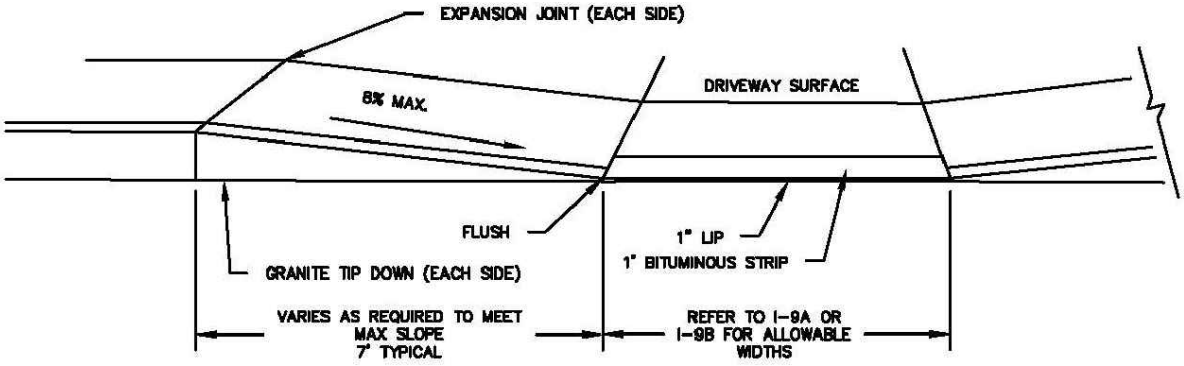
DRIVEWAY APRON AT CONSTRAINED SIDEWALK LAYOUT

NOT TO SCALE



SECTION A–A

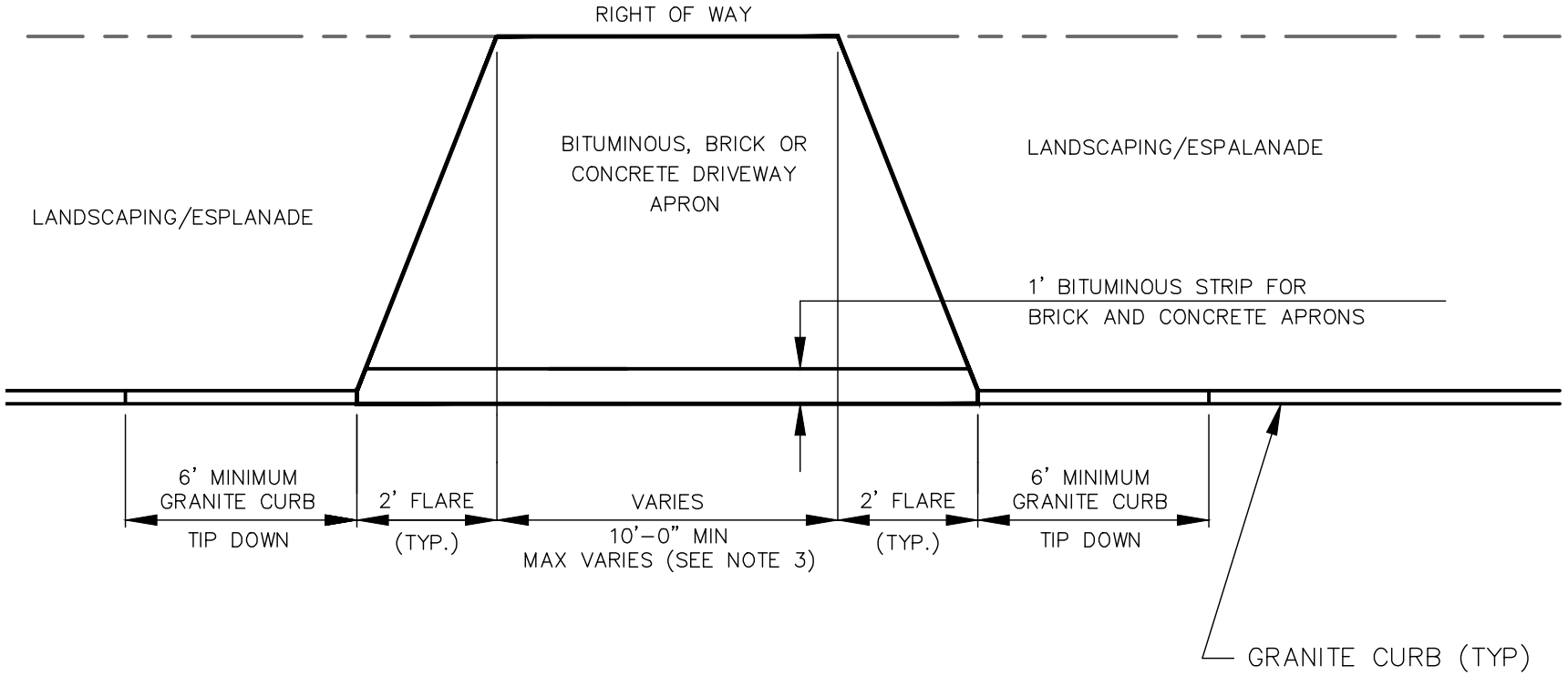
NOT TO SCALE



NOTES:

1. MATCH EXISTING GRADE AT R.O.W LINE. WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. SIDEWALK TRANSITION SLOPE SHALL NOT EXCEED 8.33%. RAMP LENGTH SHALL ACCOMMODATE THIS CONSTRAINT UP TO 15 FOOT RAMP LENGTH OR AS OTHERWISE REQUIRED BY ADA STANDARDS.
3. MOUNTABLE CURB (SEE DETAIL I–15) OR INCREASE IF BITUMINOUS LIP IS PREFERRED TO MAINTAIN SIDEWALK GRADE THROUGH APRON.
4. ALL MATERIALS IN ROW TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	DRIVEWAY APRON AT CONSTRAINED SIDEWALKS		I-9C



NOTES:

1. THIS DETAIL SHALL NOT BE USED UNLESS THERE ARE NO EXISTING OR PROPOSED SIDEWALKS ALONG THE FRONTAGE OF THE PROPERTY SERVED BY THE PROPOSED DRIVEWAY.
2. MATCH GRADE OF EXISTING DRIVEWAY AT R. O. W. LINE, EXCEPT WHEN DIRECTED OTHERWISE BY CITY ENGINEER.
3. MAXIMUM DRIVEWAY WIDTH IS 20 FEET FOR MINOR RESIDENTIAL DRIVEWAYS, 24 FEET FOR COMMERCIAL DRIVEWAYS, AND 30 FEET FOR INDUSTRIAL DRIVEWAYS.

DRIVEWAY APRON LAYOUT ALONG FRONTAGE (NO SIDEWALK)

NOT TO SCALE

DATE: NOV. 2022
REVISED:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

TRANSPORTATION DESIGN STANDARDS
SECTION I

DRIVEWAY APRON LAYOUT
ALONG STREET FRONTAGE (NO SIDEWALK)

FIGURE:
I-9D

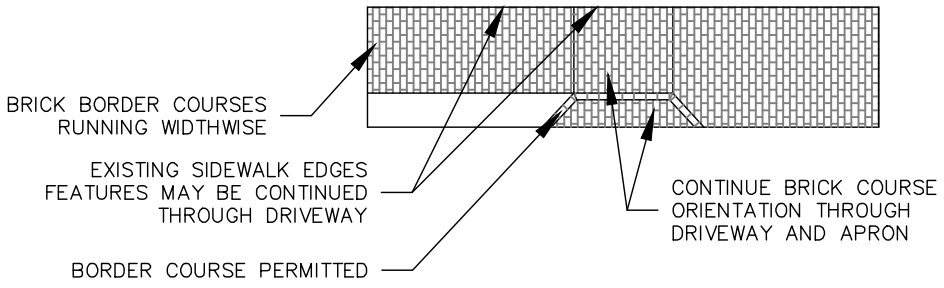
DATE: NOV. 2022
REVISED:

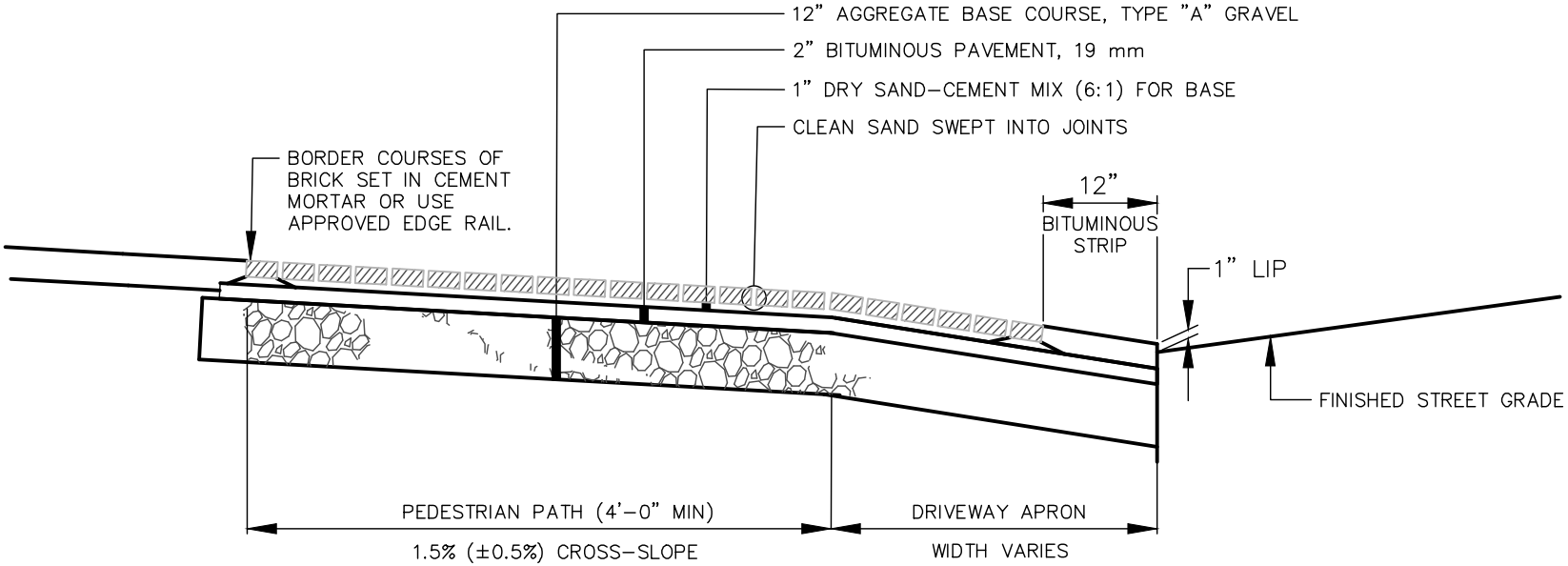
BRICKS TO BE USED:

NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM # 193623, PINE HALL PATHWAY PAVER BRICK.

REPAIR /MAINTENANCE TO EXISTING BRICK SIDEWALKS: VERMONT PAVER; SUPPLIED BY GAGNE AND SONS.
SPECIFICATION NUMBER:
"VERMONT BACKER BRICK",
ITEM NUMBER # VBBB

BRICK ORIENTATION DETAIL





BRICK DRIVEWAY APRON WITH BITUMINOUS BASE

NOT TO SCALE

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

TRANSPORTATION DESIGN STANDARDS
SECTION I

BRICK DRIVEWAY APRON WITH BITUMINOUS BASE

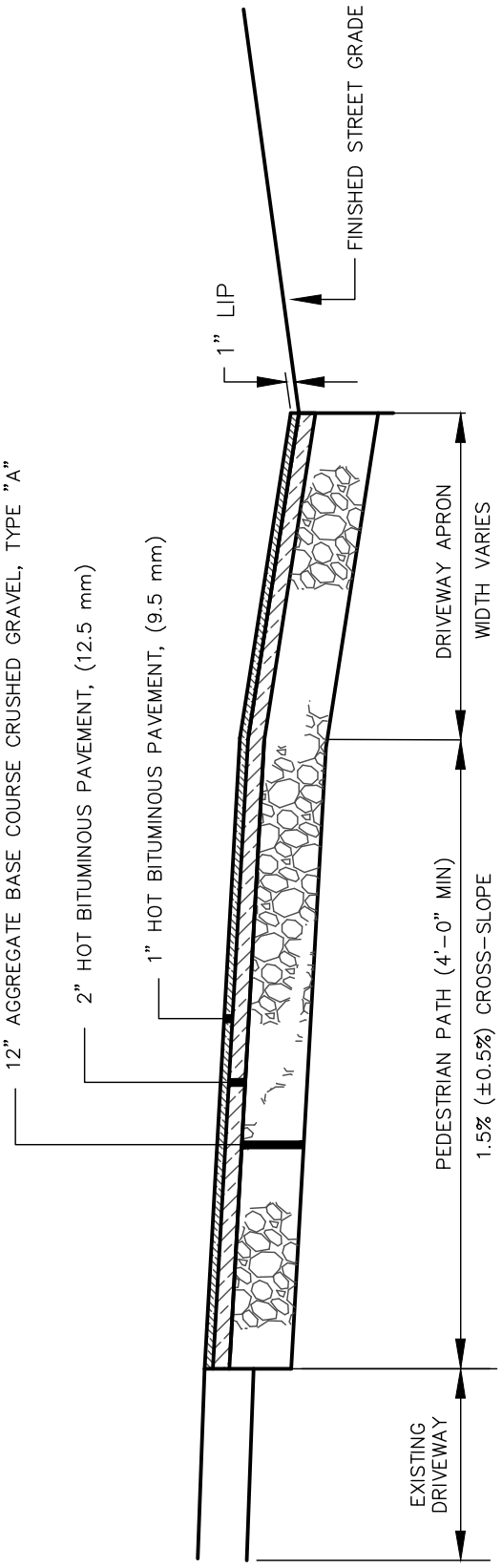
FIGURE:
I-10A

REINFORCED CONCRETE DRIVEWAY APRON

NOT TO SCALE

NOTE
CONCRETE SIDEWALKS TO BE TREATED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR APPLICATION.

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-10B
	REINFORCED CONCRETE DRIVEWAY APRON		



BITUMINOUS DRIVEWAY APRON

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-10C
	BITUMINOUS DRIVEWAY APRON		

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 # 193623, 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 # VBBB,
OR APPROVED EQUAL

BRICK SIDEWALK WITH BITUMINOUS BASE

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-11A
	BRICK SIDEWALK WITH BITUMINOUS BASE		

DATE: NOV. 2022
REVISED:

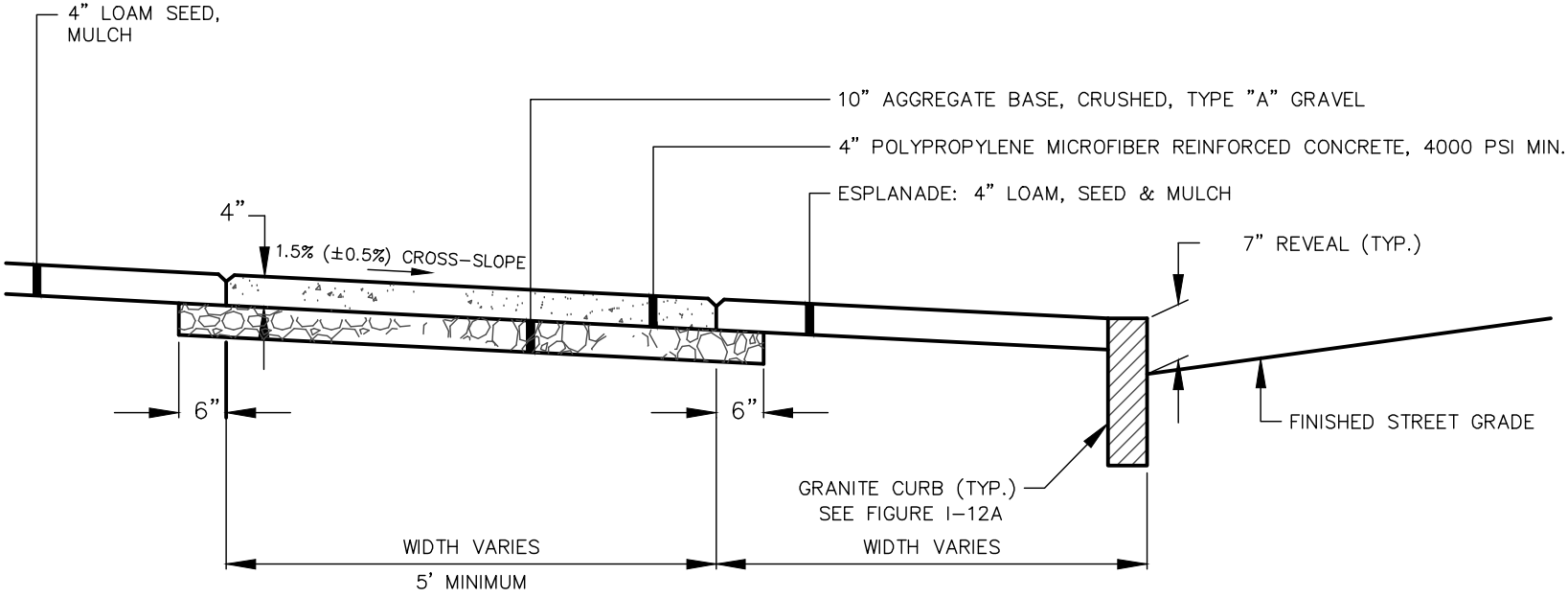
CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL

TRANSPORTATION DESIGN STANDARDS
SECTION I

REINFORCED CONCRETE SIDEWALK

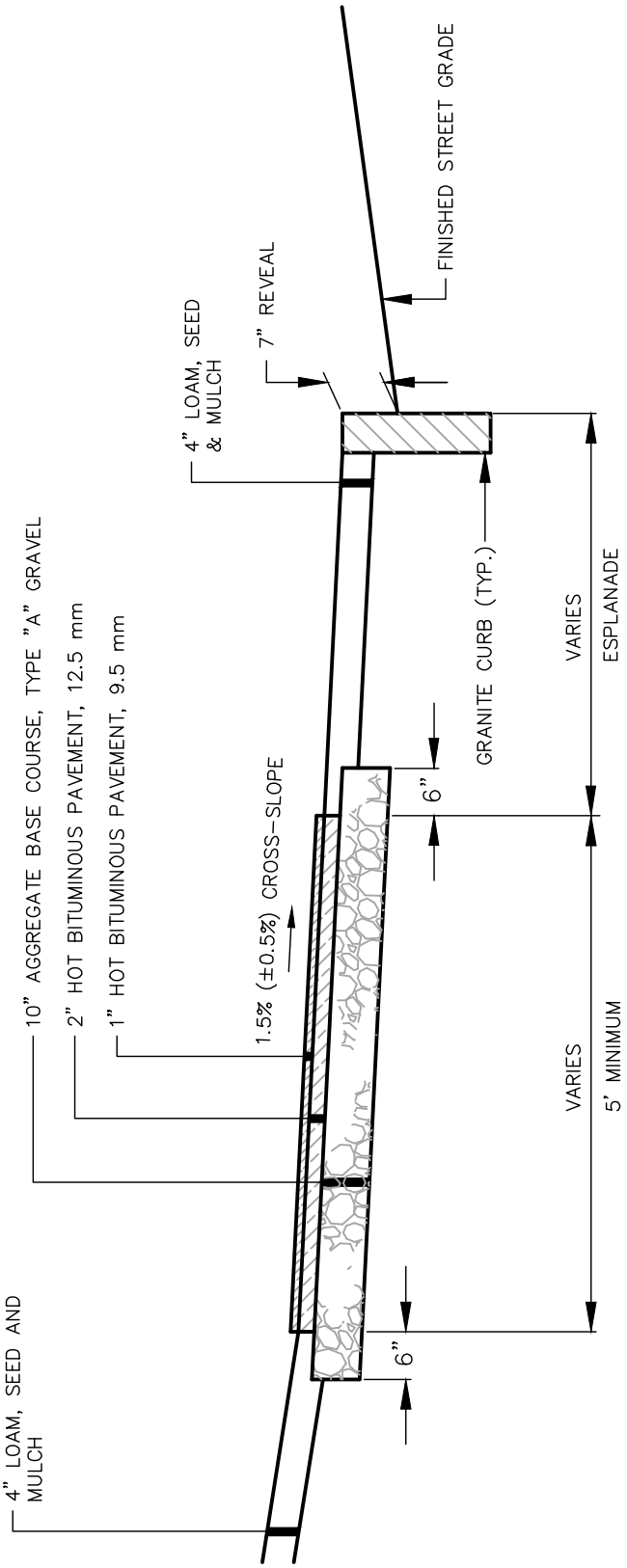
FIGURE:
I-11B

NOTE
CONCRETE SIDEWALKS TO BE TREATED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR APPLICATION.



REINFORCED CONCRETE SIDEWALK

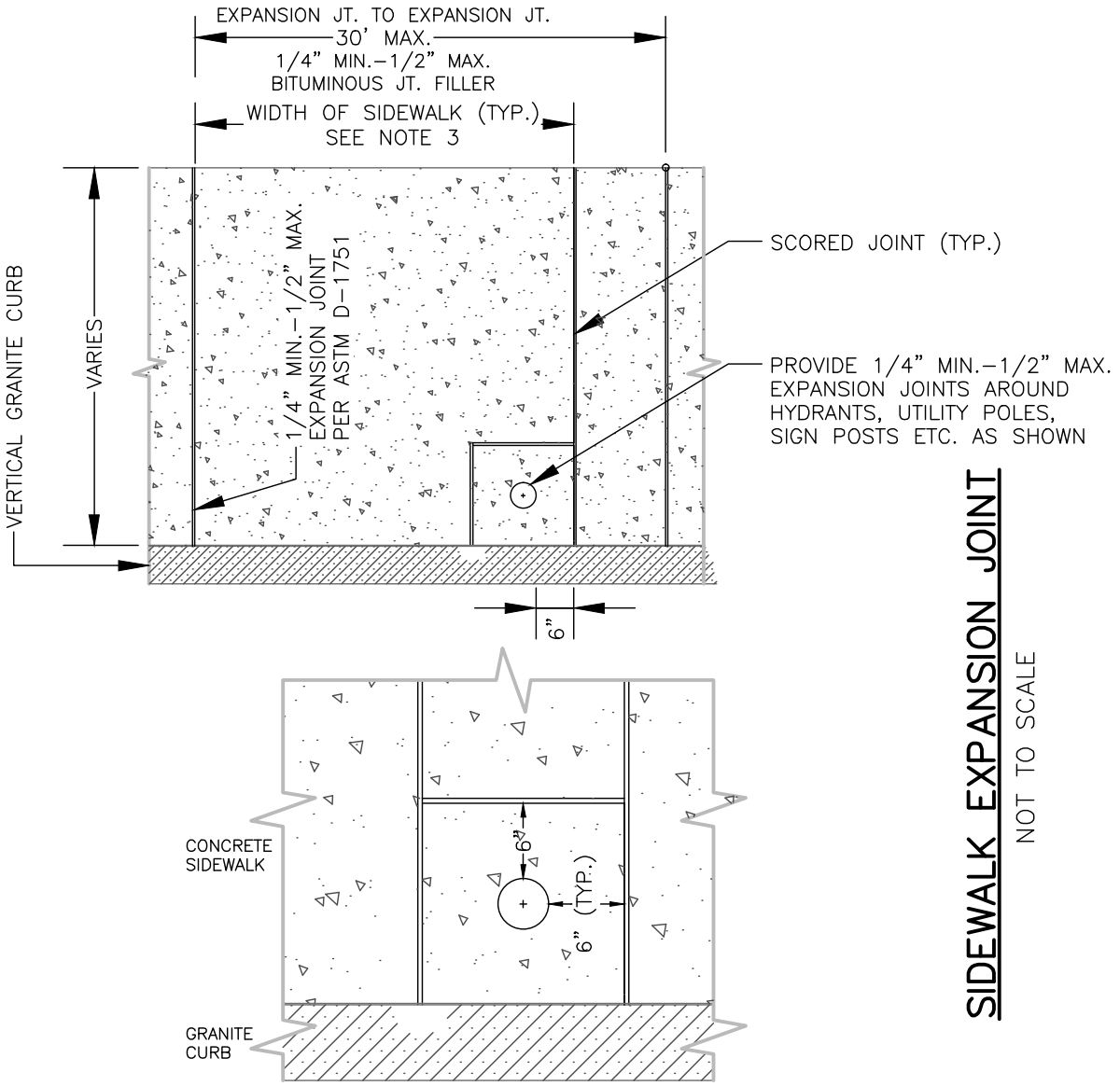
NOT TO SCALE



BITUMINOUS SIDEWALK

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-11C
	BITUMINOUS SIDEWALK		



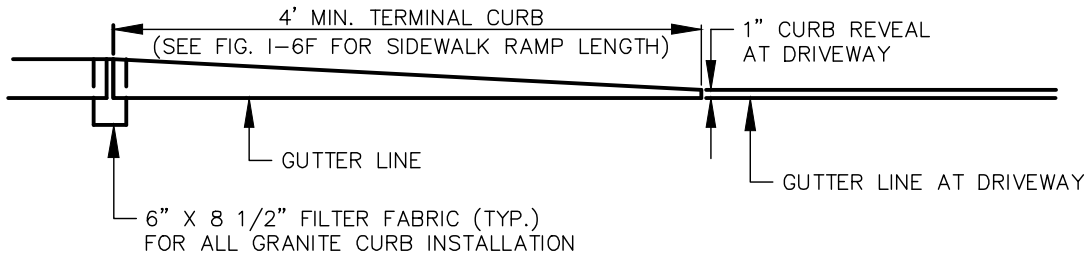
SIDEWALK EXPANSION JOINT

NOT TO SCALE

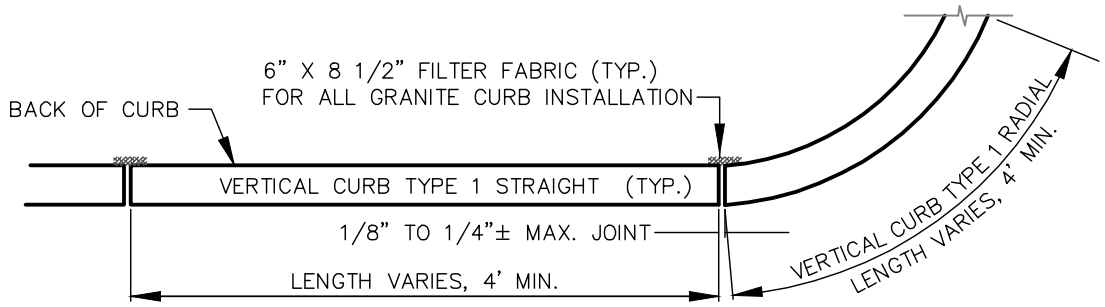
CONCRETE SIDEWALK JOINT NOTES:

1. EXPANSION JOINTS SHALL BE LOCATED WHERE SIDEWALK ABUTS DRIVEWAYS, CURB OR OTHER ADJACENT STRUCTURES.
2. SLABS SHALL BE PLACED ALTERNATELY IN LENGTHS, NOT TO EXCEED 30 LINEAR FEET OR AS DIRECTED AND SHALL BE SEPARATED BY AN EXPANSION JOINT OF PREFORMED EXPANSION FILLER 1/4" MIN.–1/2" MAX. IN THICKNESS AND SHALL EXTEND THE FULL LENGTH/DEPTH OF THE CONCRETE.
3. THE SIDEWALK SURFACE SHALL BE SCORED INTO BLOCK UNITS. THE DEPTH OF SCORING SHALL BE AT LEAST ONE QUARTER OF THICKNESS OF THE SLABS (1" TYP.). SCORED JOINTS MUST BE COMPLETED AS PART OF THE FINISHING PROCESS. SAW CUTTING OF JOINTS IS NOT ALLOWED. SCORED JOINTS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:
   A. IN LOCATIONS TO ENSURE BLOCK UNITS DO NOT EXCEED 36 SQUARE FEET.
   B. AT THE SPACING THAT MATCHES ADJACENT TIP DOWN CURB
   C. EXTENSION OF EXPANSION JOINTS LOCATED AT HYDRANTS & UTILITY POLES.
4. ALL OUTSIDE EDGES OF THE SLAB AND ALL JOINTS SHALL BE ROUNDED WITH A 1/4" RADIUS EDGING TOOL.
5. CONCRETE SHALL BE FINISHED BY MEANS OF A FLOAT, STEEL TROWELED AND BROOMED WITH A FINE BRUSH IN A TRANSVERSE DIRECTION.

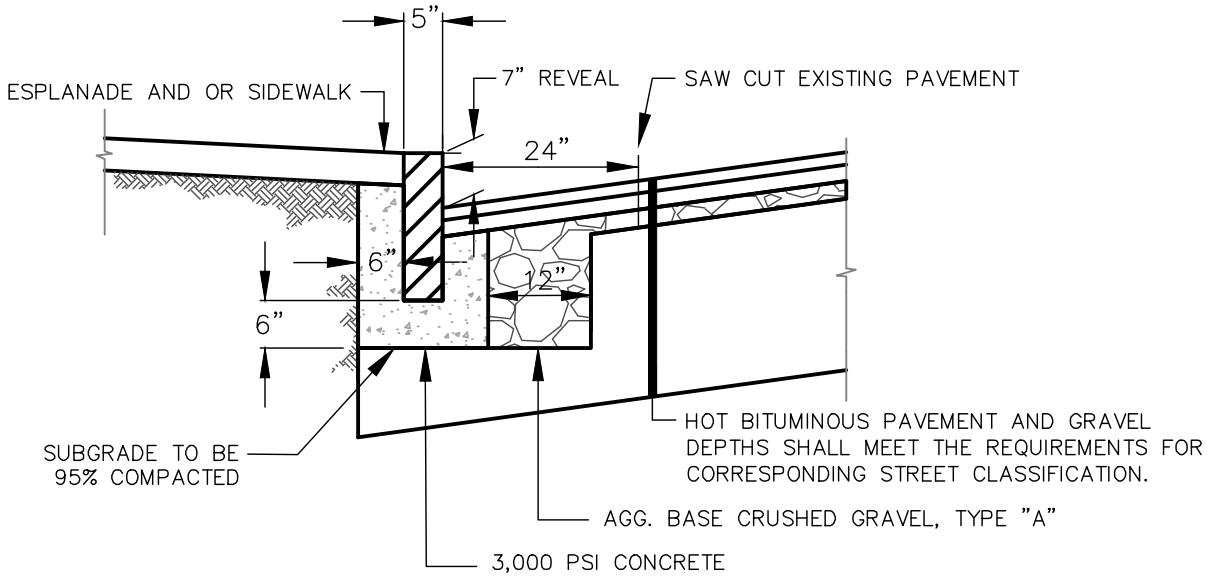
DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
REVISED:	**SIDEWALK EXPANSION JOINT**		I-11D



TERMINAL CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



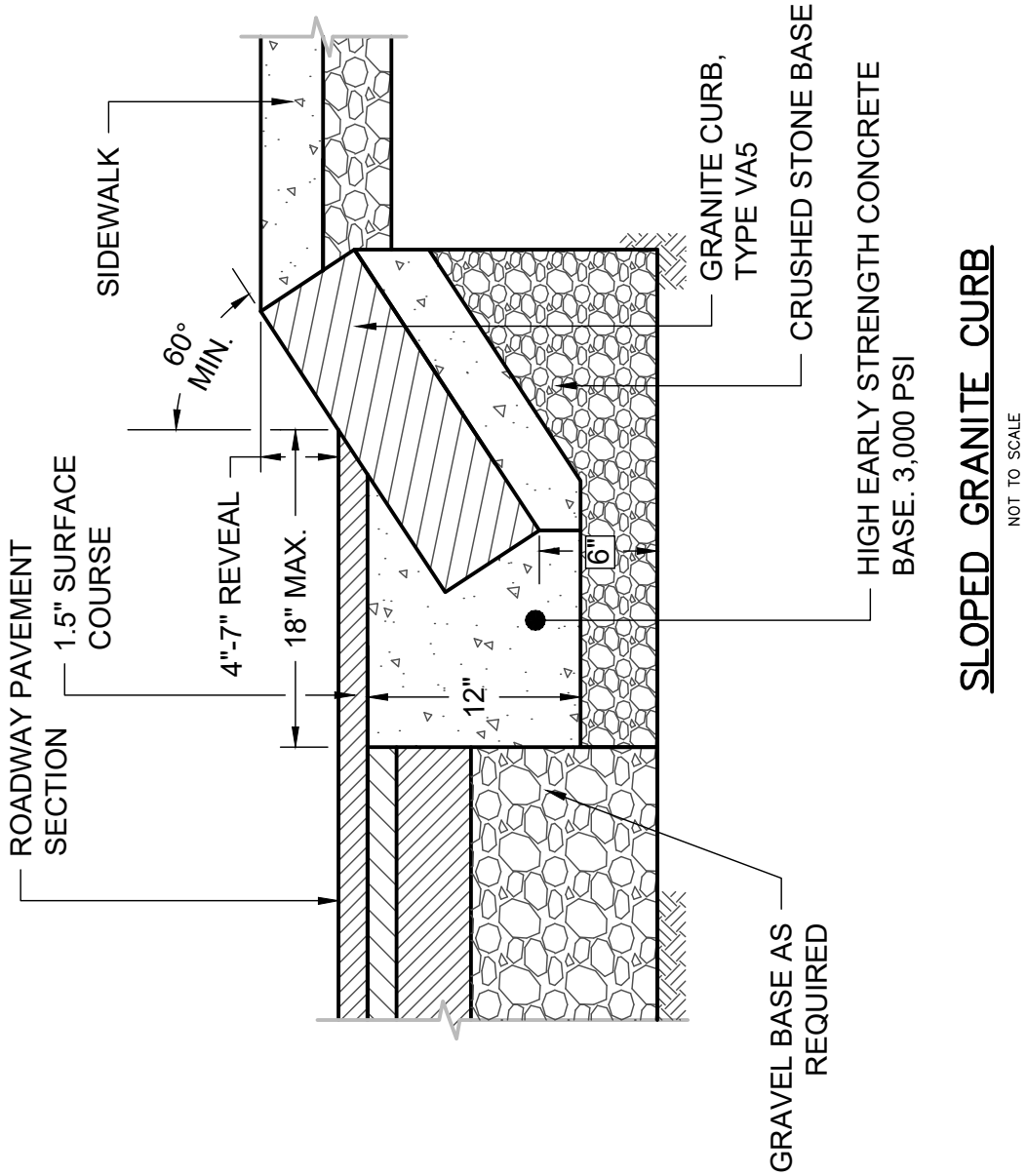
VERTICAL GRANITE CURB CROSS SECTION

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.

VERTICAL GRANITE CURB

NOT TO SCALE

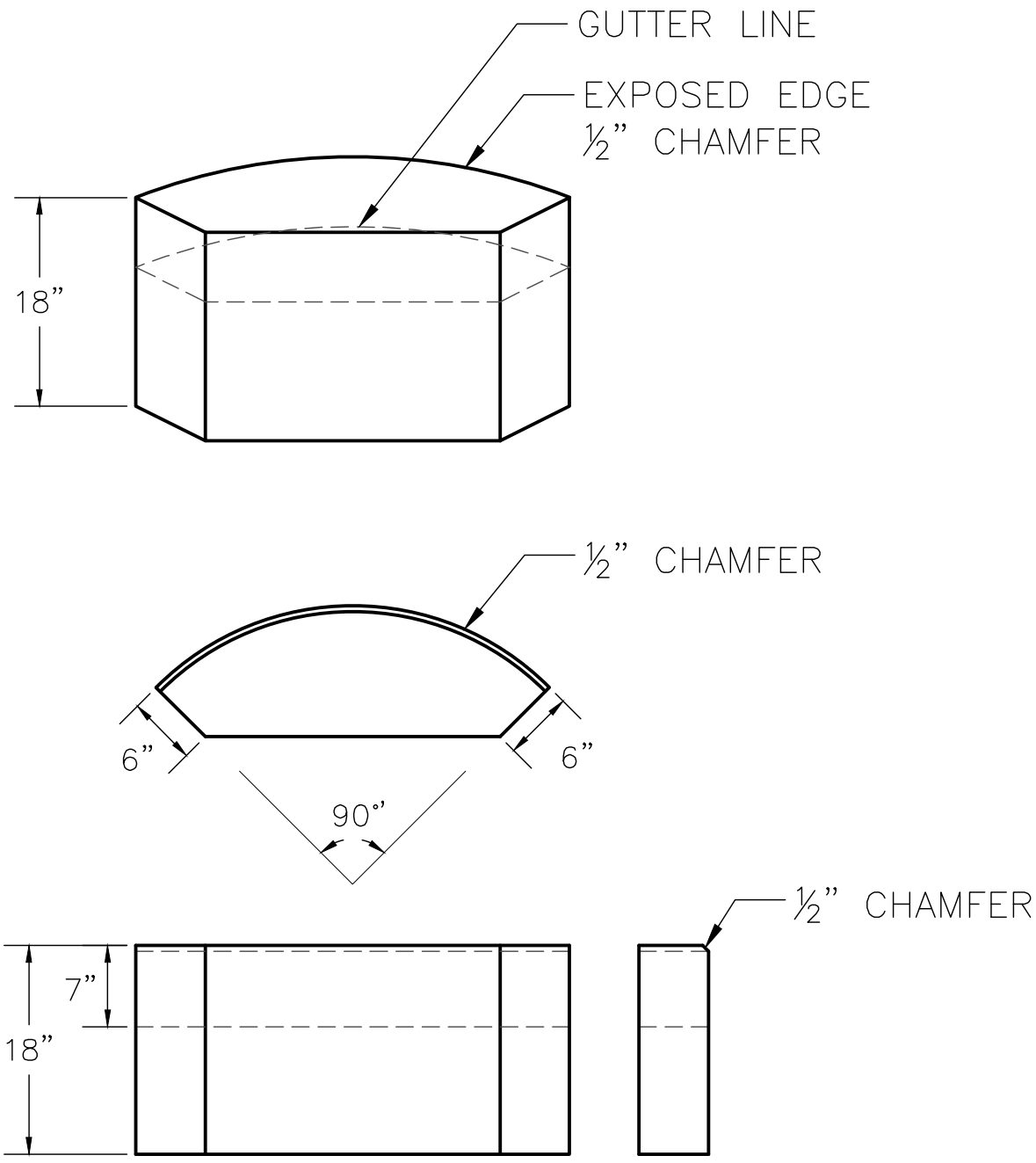
DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-12
	VERTICAL GRANITE CURB		



SLOPED GRANITE CURB

NOT TO SCALE

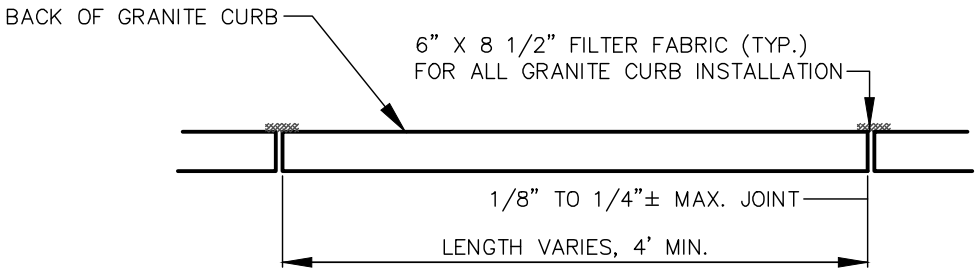
DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE: I-13
	SLOPED GRANITE CURB		



GRANITE RADIUS CORNER "BUG"

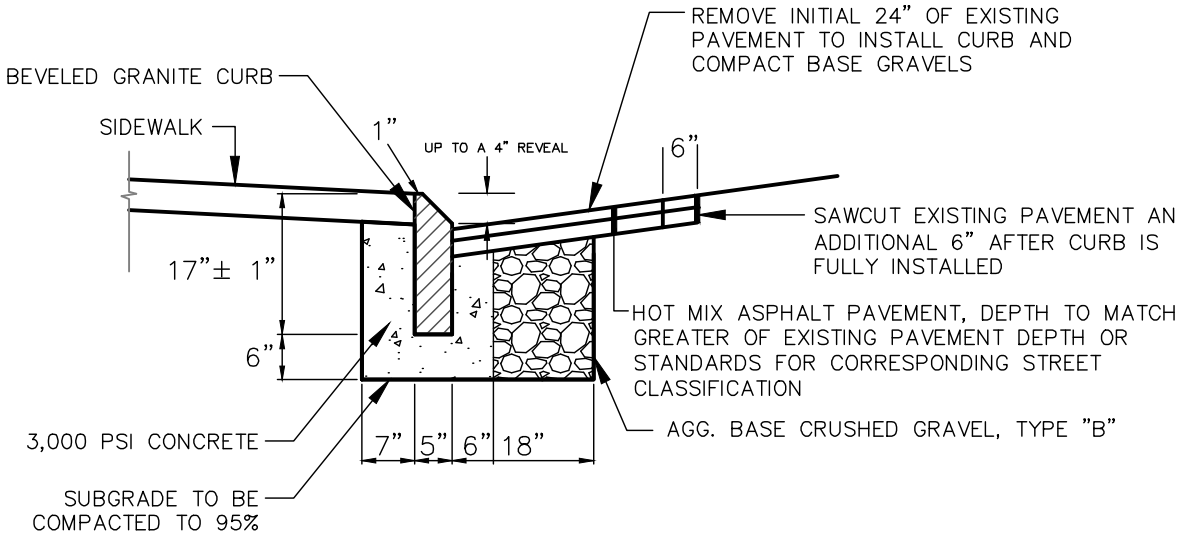
NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	GRANITE RADIUS CORNER "BUG"		I-14



VERTICAL GRANITE CURB PLAN VIEW

NOT TO SCALE



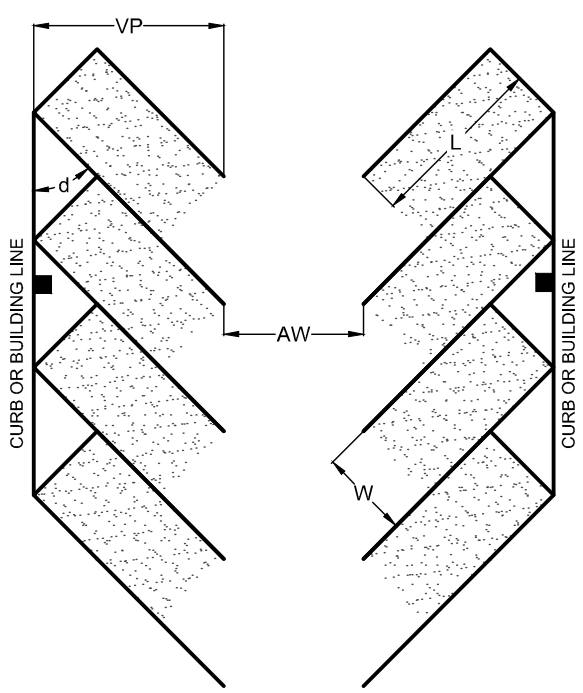
NOTES:

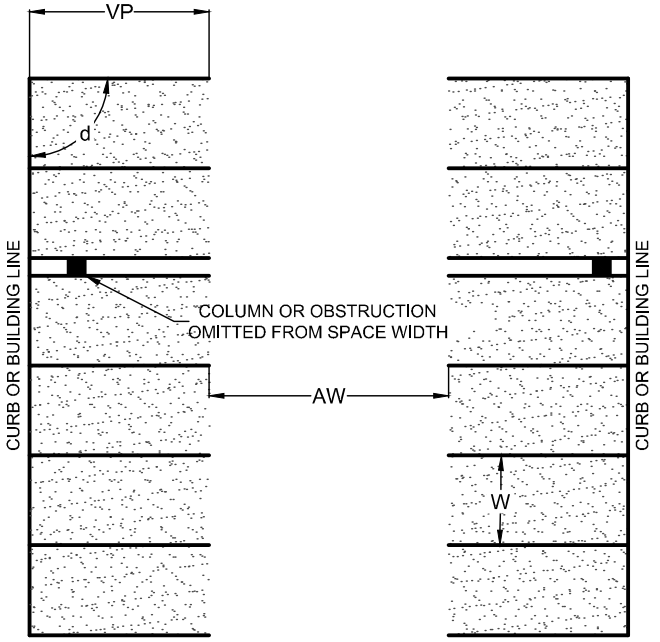
1. INSTALL PER MANUFACTURER'S SPEC'S
2. PROVIDE CUSTOM TRANSITION CURB THAT TIPS DOWN 3" IN BETWEEN MOUNTABLE AND VERTICAL CURBS. SAWCUT TRANSITION STONE IN THE FIELD FOR FLUSH JOINT WITH ADJACENT VERTICAL CURB
3. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
4. 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.
5. CURBING SHALL BE SET IN A 6–INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
6. WOODEN SHIMS MAY BE USED TO SET CURB.

MOUNTABLE BEVELED GRANITE CURB CROSS SECTION

NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
REVISED:	**MOUNTABLE BEVELED GRANITE CURB**		I-15





Standard Parking Dimensions

Parking Angle (d)	Space Length (L)	Space Width (W)	Aisle Width (AW)	Vehicle Projection (VP)
90°	18	9	24	18.0
75°	18	9	22	19.7
60°	18	9	19	20.1
45°	18	9	14	19.0
30°	18	9	12	16.7
0° (parallel)	20	8	12	8.0

Compact Parking Dimensions

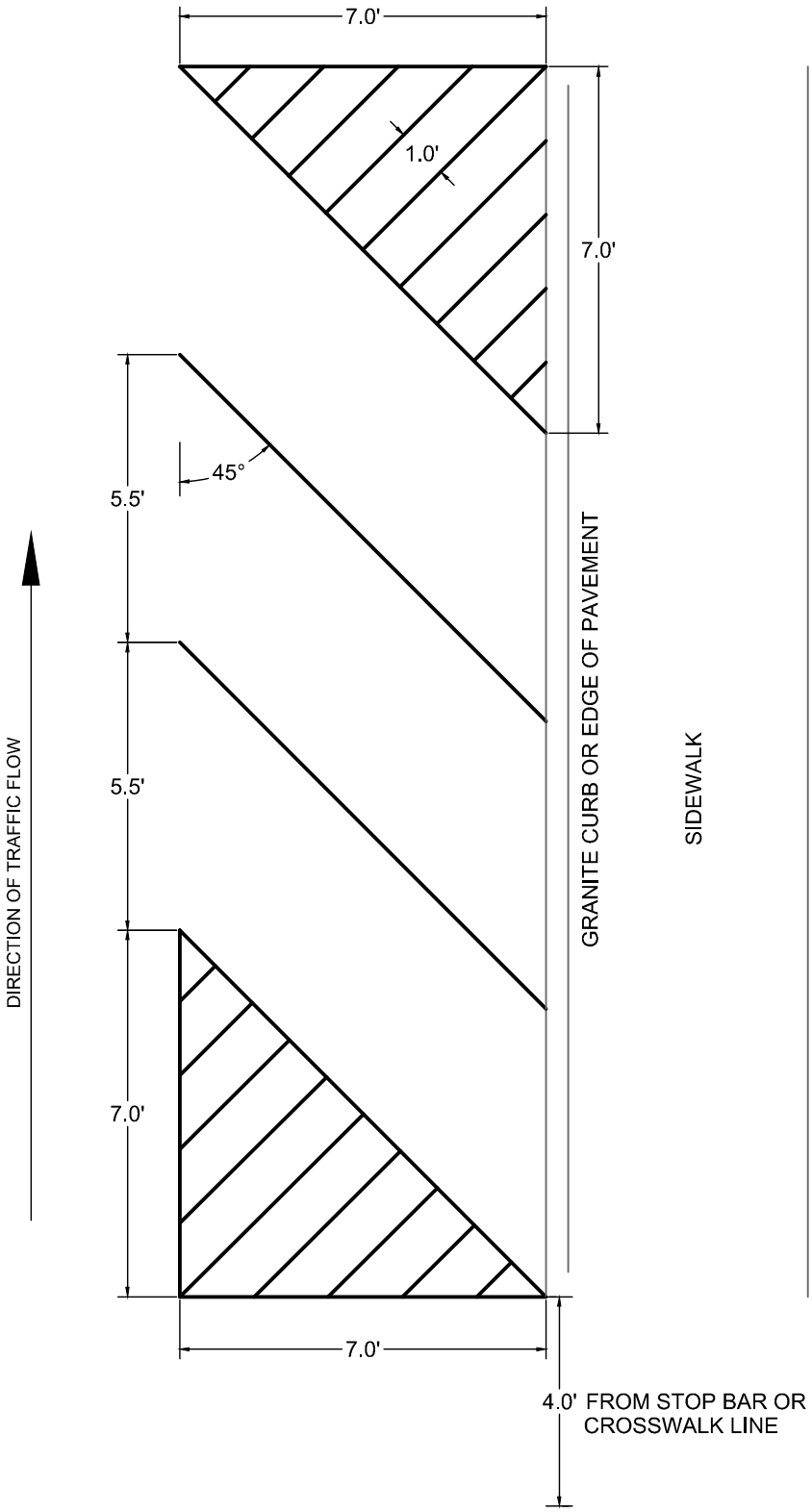
Parking Angle (d)	Space Length (L)	Space Width (W)	Aisle Width (AW)	Vehicle Projection (VP)
90°	15	8	24	15.0
75°	15	8	22	16.8
60°	15	8	19	17.5
45°	15	8	14	16.9
30°	15	8	12	15.2
0° (parallel)	15	7	10	7.0

All dimensions in feet

NOTES:

1. STANDARD SPACE WIDTH MAY BE REDUCED TO 8.5 FEET IN LOW-TURNOVER LOTS.
2. COMPACT SPACES SHOULD BE DESIGNED AS CLOSE TO STANDARD AS POSSIBLE WITHIN SITE CONSTRAINTS.
3. ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN ACCORDANCE WITH ADA, AND SHALL BE CONSIDERED A STANDARD PARKING SPACE WHEN CALCULATING THE PERMISSIBLE NUMBER OF COMPACT SPACES.
4. DIMENSIONS REPRESENT CLEAR WIDTH AN DO NOT INCLUDE OBSTRUCTIONS SUCH AS STRUCTURAL COLUMNS.

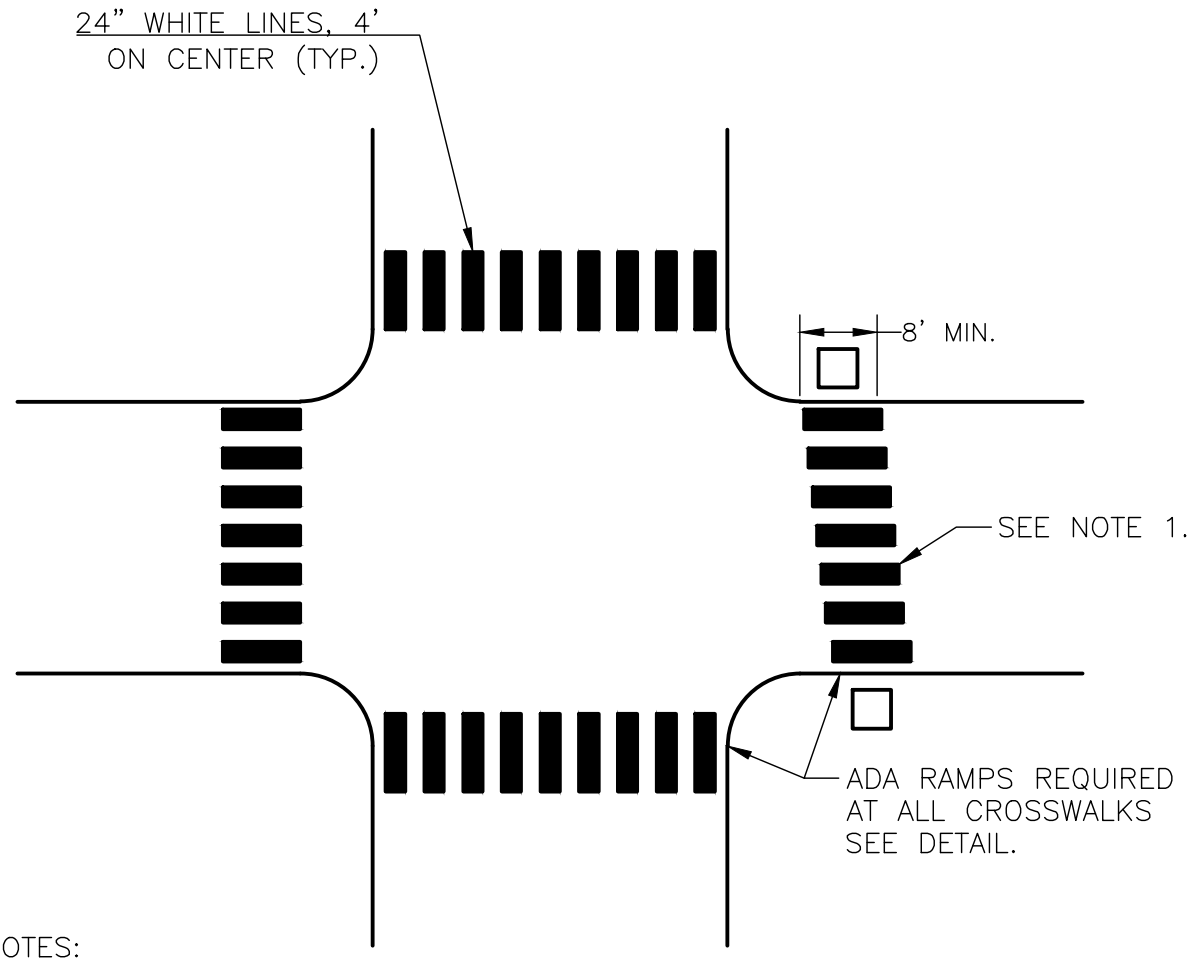
DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
REVISED:	**VEHICLE PARKING DIMENSIONS**		I-16A



MOTORCYCLE PARKING

*ALL PAVEMENT MARKINGS SHALL BE 4 INCH WIDE WHITE LINES.

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-16B
	MOTORCYCLE PARKING DIMENSIONS		



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.

CROSSWALK MARKINGS

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	TYPICAL CROSSWALK MARKINGS		I-17

TYPICAL BIKEWAY PAVEMENT MARKINGS



SHARED USE LANE
SYMBOL



BICYCLE LANE
SYMBOL

TYPICAL BIKEWAY ROUTE SIGNAGE



R3–17
30"x24"



R3–17
30"x24"

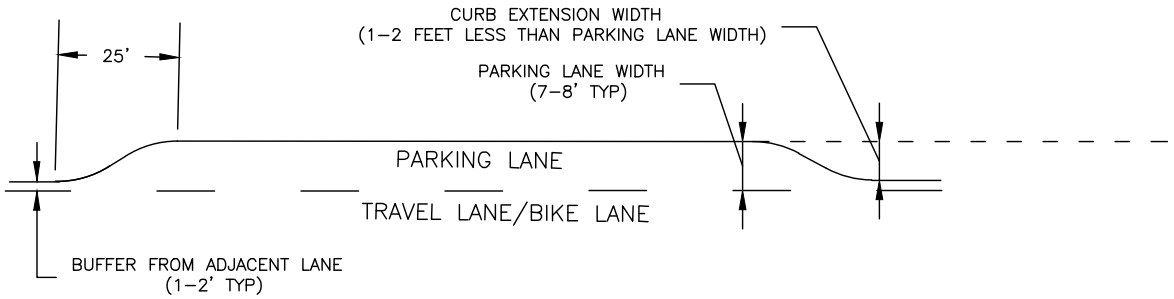


R3–17B
30"x12"



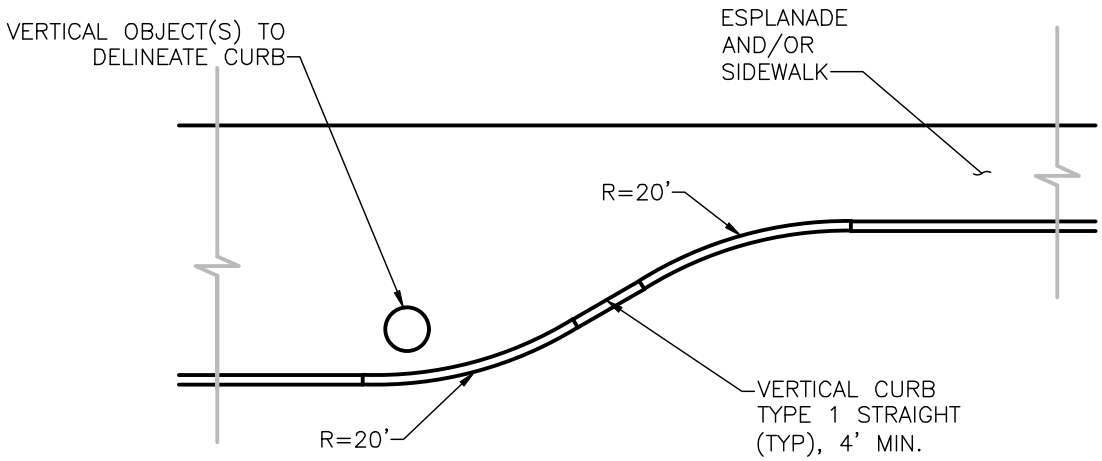


DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
	TYPICAL BIKEWAY PAVEMENT MARKINGS AND BICYCLE ROUTE SIGNAGE		I-18



NOTES:

1. CURB EXTENSIONS SHOULD NOT IMPEDE THE WIDTH OF THE ADJACENT VEHICLE TRAVEL LANE OR BICYCLE LANE.
2. PROPOSED MATERIALS SHALL BE CONSISTENT WITH THE CITY SIDEWALK MATERIAL POLICY.
3. DRAINAGE MODIFICATIONS SHALL BE MADE SO THAT CURB EXTENSIONS DO NOT IMPEDE STORMWATER FLOW.
4. CURB EXTENSIONS SHALL BE DESIGNED TO FACILITATE SNOW REMOVAL OPERATIONS WHILE MINIMIZING IMPACTS TO DRAINAGE AND ON–STREET PARKING.
5. ALL CURB EXTENSIONS SHALL BE REVIEWED AND APPROVED BY THE CITY ENGINEER.
6. THE POTENTIAL IMPLEMENTATION OF GREEN INFRASTRUCTURE FOR STORMWATER MANAGEMENT SHALL BE CONSIDERED AT EACH CURB EXTENSION LOCATION AND IMPLEMENTED IF FEASIBLE. THE WATER RESOURCES DIVISION OF PUBLIC WORKS MUST REVIEW AND APPROVE GREEN INFRASTRUCTURE SYSTEMS BEFORE BEING INSTALLED WITHIN CITY STREETS.



TYPICAL CURB EXTENSION

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-19
	TYPICAL CURB EXTENSIONS		



R1-5



R1-5a



R1-6

Unsignalized Pedestrain Crosswalk Signage

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
	UNSIGNALIZED PEDESTRIAN CROSSWALK SIGNAGE		I-20

School Advance Warning Assembly



School Crosswalk Warning Assembly



SCHOOL AREA CROSSING SIGNS

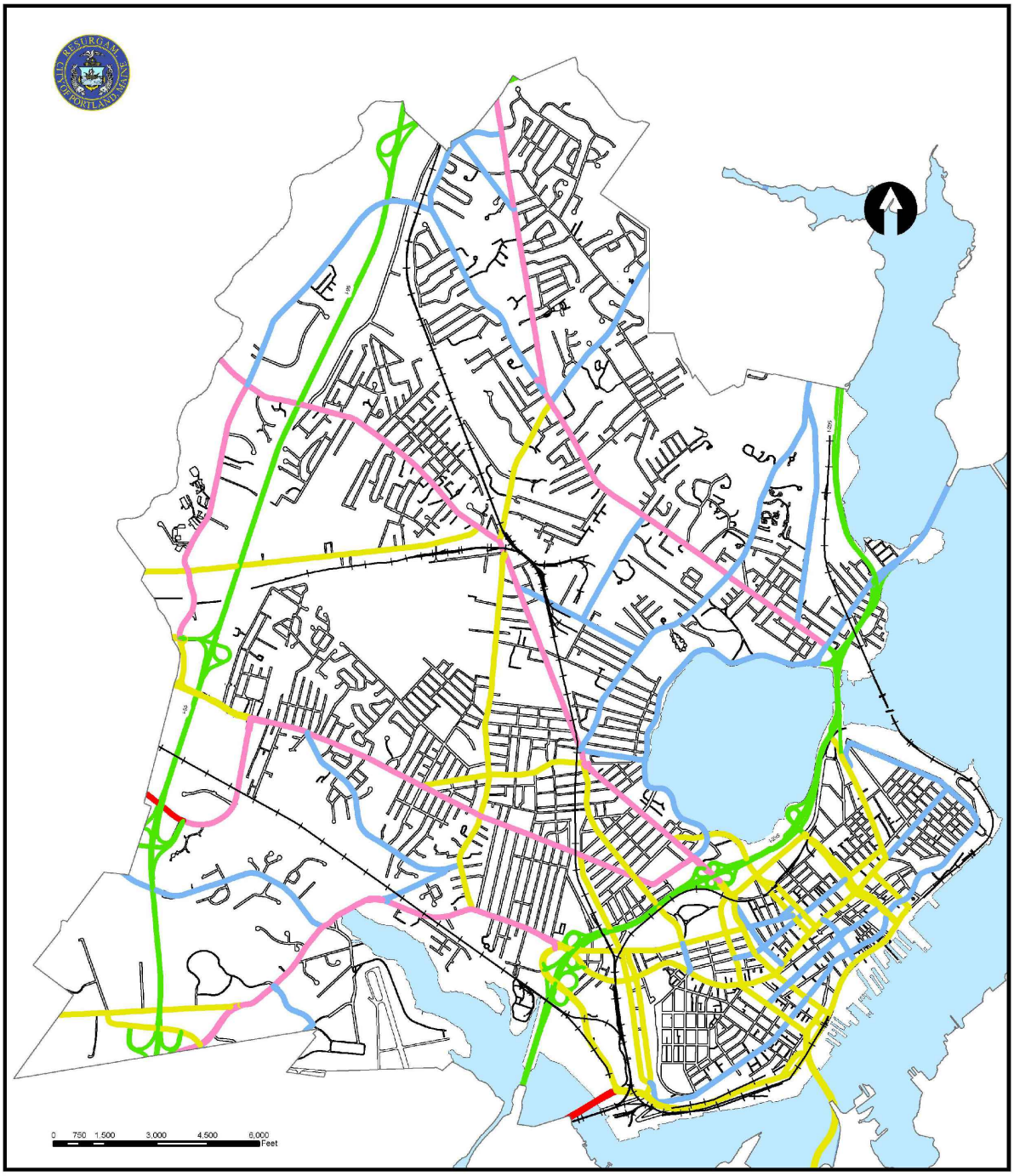


PEDESTRIAN CROSSING SIGN

Typical Crosswalk Signage

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
	TYPICAL CROSSWALK SIGNAGE		I-21

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
REVISED:	**GUIDELINES FOR CROSSWALK INSTALLATION AT UNCONTROLLED INTERSECTIONS AND MID-BLOCK CROSSINGS**		I-22



City of Portland, Maine
FEDERAL STREET CLASSIFICATION

Map prepared by City of Portland's Department of Public Works
September 2021

Legend
- Other Principal Arterial - Federal & Expressway
- Principal Arterial - Interstate
- Other Principal Arterial
- Minor Arterial
- Major Urban Collector
- Local

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-23
	FEDERAL STREET CLASSIFICATION		

BICYCLE PARKING RACK PLACEMENT

RACK PLACEMENT RULES:

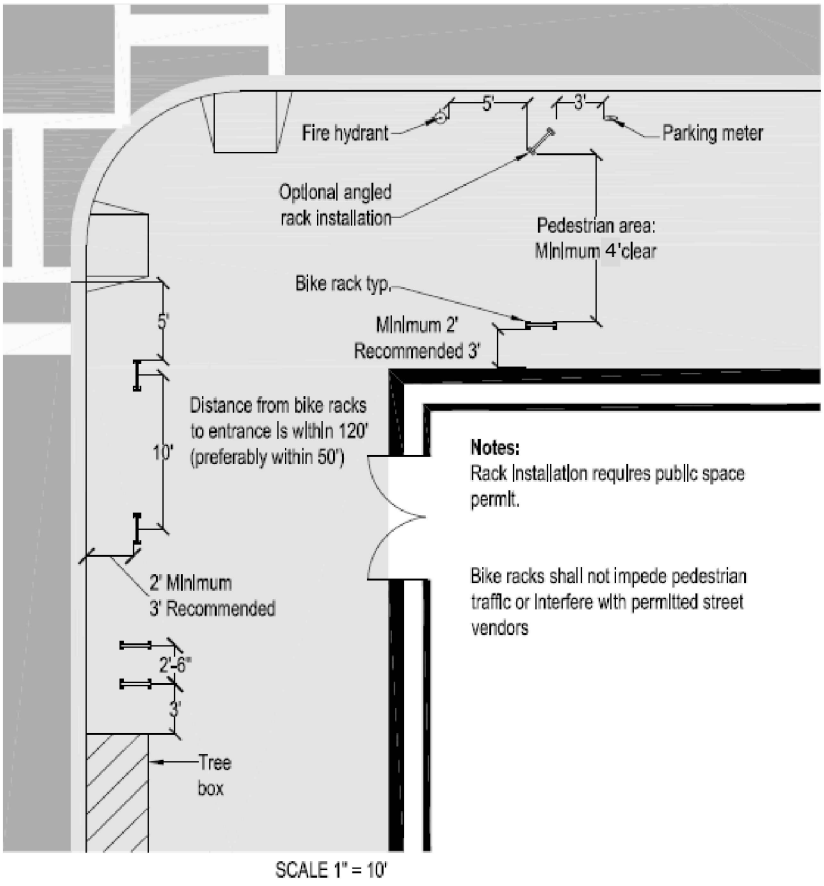
5' from:
Fire hydrant
Crosswalk

4' from:
Loading zone
Bus stop
Bus shelter
Bus bench

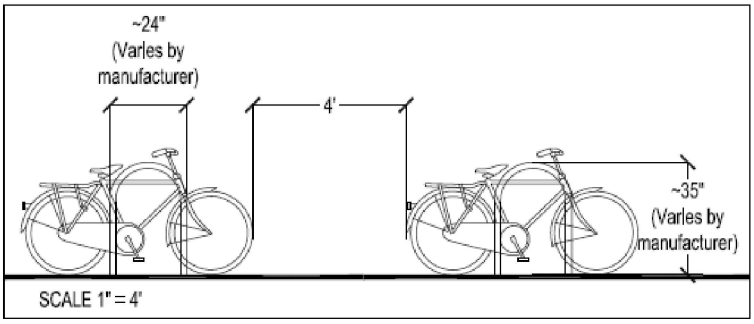
Min. 2', Rec. 3' from:
Curb

3' from:
Parking meter
Newspaper rack
US mailbox
Light pole
Sign pole
Driveway
Tree space
Trash can
Utility meter
Manhole
Other street furniture
Other sidewalk obstructions

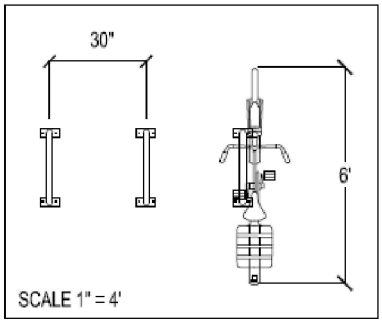
WALL SETBACKS
For racks set parallel to a wall:
Min. 24", Rec. 36"
For racks set perpendicular to a wall:
Min. 28", Rec. 36"



SIDE VIEW



SIDE BY SIDE RACKS:



d. District Department of Transportation

District Department of Transportation
Bicycle Facility Design Guide

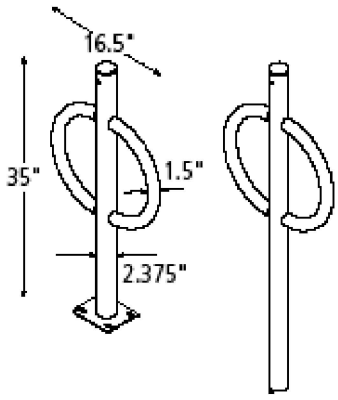
REVISED: Feb. 2006
SCALE: AS NOTED

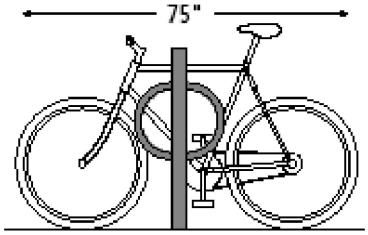
27

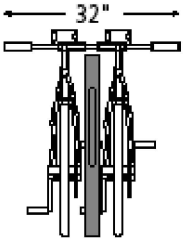
DATE: AUGUST 2009	CITY OF PORTLAND, MAINE	**TRANSPORTATION SYSTEMS AND STREET DESIGN**	FIGURE:
REVISED:	TECHNICAL STANDARDS MANUAL	SECTION I	
	BICYCLE PARKING RACK PLACEMENT GUIDELINES		I-24

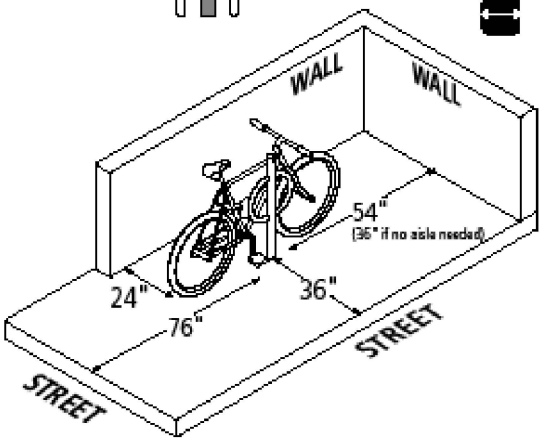
BIKE HITCH

Specifications and Space Use









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
An after fabrication hot dipped galvanized finish is standard. 250 TGIC 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 aisle is needed between bike and wall)

Distance Between Racks:
Minimum: 24"
Recommended: 38"

Street Setbacks:
Minimum: 36"

DERO BIKE RACKS

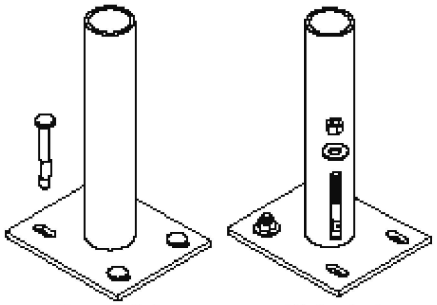
www.dero.com 1-800-290-4915

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
	BICYCLE RACK SPECIFICATION - BIKE HITCH		I-24A

BIKE HITCH — Installation Instructions - Surface Mount

Tools Needed for Installation

Tape Measure
Marker or Pencil
Masonry Drill Bit
Drill (Hammer drill recommended)
Hammer
Wrench 9/16"
Level
Washers (for leveling if necessary)

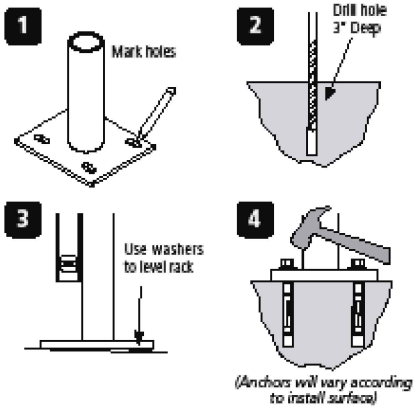


Recommended Base Materials:

Solid concrete is the best base material for installation. Ask your Dero Rack representative which anchor is appropriate for your application to ensure the proper anchors are shipped with your rack. Be sure nothing is underneath the base material that could be damaged by drilling.

Installation:

3/8" anchors are shipped with the rack. Place the rack in the desired location. Use a marker or pencil to outline the holes of the flange onto the base material. Drill the holes in accordance with the specifications shipped with the anchors. Make sure the holes are at least 6" away from any cracks in the base material.



Tamper Resistant Fasteners

The concrete spike is a permanent anchor. The top of the wedge anchor can also be pounded sideways after installation so that it cannot be removed. Other tamper resistant fasteners are also available for purchase.

When using the special tamper resistant nuts, always set and first tighten the anchors. Once the rack is installed, replace two nuts from the bracket (opposite sides from each other) with the tamper resistant fastener. DO NOT OVERTIGHTEN the tamper resistant nut.

If you have any questions about installation or other features of the Bike Bike Rack, please call us toll free at 1-800-298-4915





DERO BIKE RACKS www.dero.com 1-800-298-4915

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
REVISED:	**BICYCLE RACK SPECIFICATION - BIKE HITCH**		I-24B

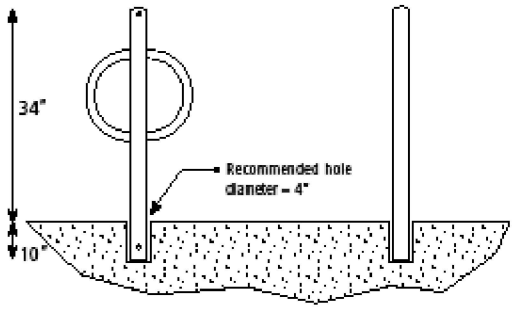
BIKE HITCH — In-ground Installation Instructions

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"
Trowel	at bottom of page)

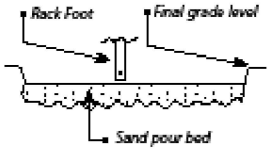
Installing into Existing Sidewalk

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.

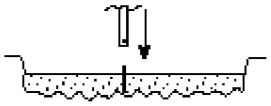


Installing Into a New Sidewalk:

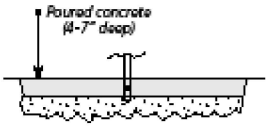
Stake Method:



1. Use rack to measure exact location in pour bed.

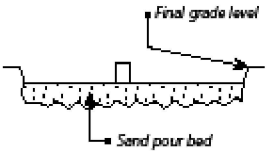


2. Pound stake into pour bed where end of rack will sit. Slide rack end onto stake. You may need to dig the end of the rack into the sand to make sure the rack sits at least 35" above final grade level. The stake keeps the rack straight while the concrete is being poured.

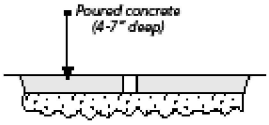


3. Make sure the rack is level and true. Pour concrete around the rack. Make sure the rack is not touched until the concrete has completely set.

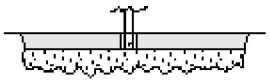
Sleeve Method:



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.



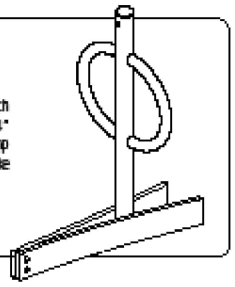
2. Pour concrete and allow to cure.

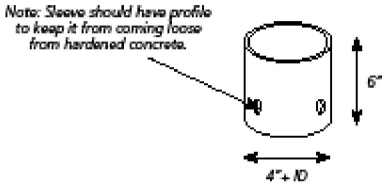


3. After appropriate cure time, dig out sand from sleeves and insert racks, making sure they are level and at the appropriate height. Pour in Por-Rok or epoxy grout and allow to set.

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.





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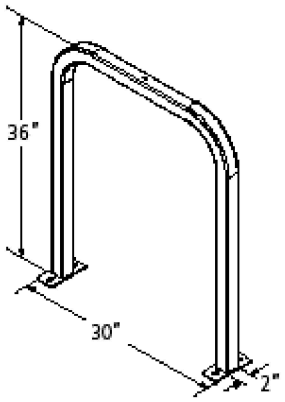
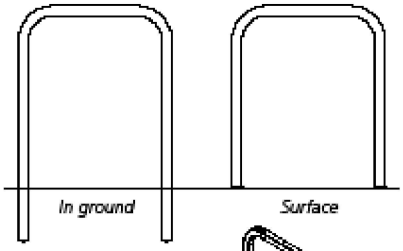
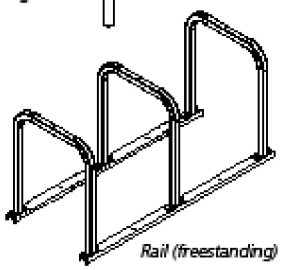
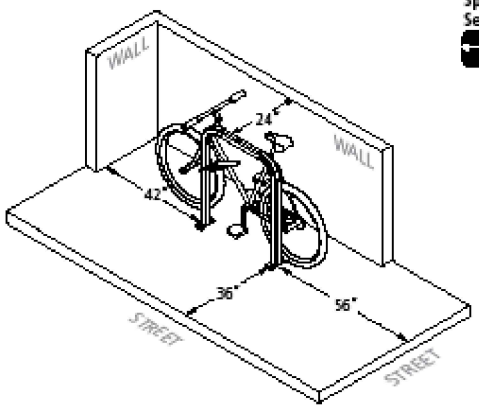
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
	BICYCLE RACK SPECIFICATION - BIKE HITCH		I-24C

DOWNTOWN RACK — Specifications and Space Use









Product — Dero Downtown Rack
As manufactured by Dero Bike Racks

Capacity — 2 Bikes

Materials — 2" x 2" x 3/16" tube

Finishes — An after fabrication hot dipped galvanized finish is standard. 250 TGIC 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. Specify in ground mount for this option.
Foot Mount has two 2.5"x6"x.25" feet with two anchors per foot. Specify foot mount for this option.
Rail Mounted Downtown Racks are bolted to two parallel rails which can be left freestanding or anchored to the ground. Rails are heavy duty 3"x1.4"x3/16" thick galvanized mounting rails. Specify rail mount for this option.

Space Use and Setbacks

Wall Setbacks:
For racks set parallel to a wall:
Minimum: 24"
Recommended: 36"

For racks set perpendicular to a wall:
Minimum" 28"
Recommended: 42"

Distance Between Racks:
Minimum: 24"
Recommended: 36"

Street Setbacks:
Minimum: 24"
Recommended: 36"

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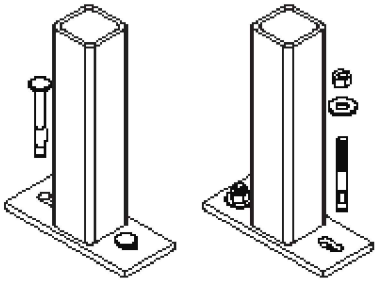
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
	BICYCLE RACK SPECIFICATION - DOWNTOWN RACK		I-25A

DOWNTOWN RACK — Installation Instructions - Surface Mount

Tools Needed for Installation

Tape Measure
Marker or Pencil
Masonry Drill Bit
Drill (Hammer drill recommended)
Hammer
Wrench 9/16"
Level

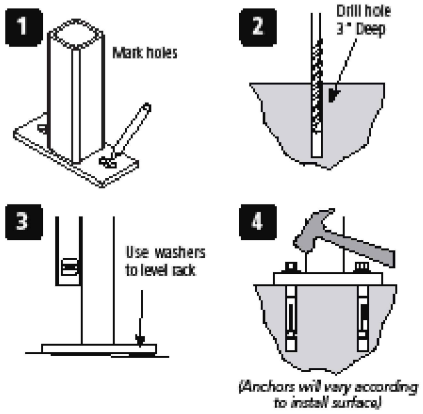


Recommended Base Materials:

Solid concrete is the best base material for installation. To ensure the proper anchors are shipped with your rack, ask your Dero Rack representative which anchor is appropriate for your application. Be sure nothing is underneath the base material that could be damaged by drilling.

Installation:

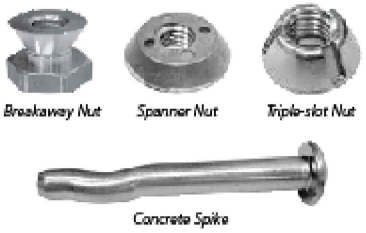
3/8" anchors are shipped with the rack. Place the rack in the desired location. Use a marker or pencil to outline the holes of the flange onto the base material. Drill the holes in accordance with the specifications shipped with the anchors. Make sure the holes are at least 3" away from any cracks in the base material. Use washers to level rack if necessary. Tap in anchors and follow your specific anchor instructions provided with the rack.



Tamper Resistant Fasteners

The concrete spike is a permanent anchor. The top of the wedge anchor can also be pounded sideways after installation so that it cannot be removed. Other tamper resistant fasteners are also available for purchase.

When using the special tamper resistant nuts, always set and first tighten the anchors. Once the rack is installed, replace two nuts from the bracket (opposite sides from each other) with the tamper resistant fastener. DO NOT OVERTIGHTEN the tamper resistant nut.



If you have any questions about installation or other features of the Downtown Rack, please call us toll free at 1-800-298-4915

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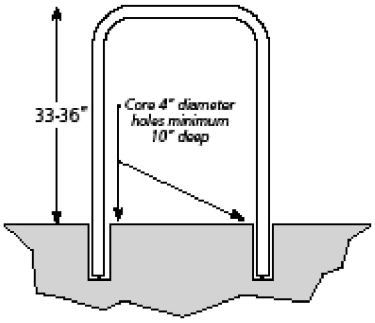
DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
REVISED:	**BICYCLE RACK SPECIFICATION - DOWNTOWN RACK**		I-25B

DOWNTOWN RACK — Installation Instructions - In Ground Mount

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	



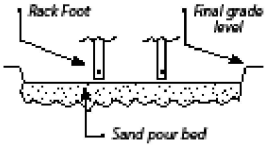
Installing into Existing Sidewalk

Core holes no less than 3" diameter (4" recommended) and no less than 6" deep into sidewalk. Fill holes with Por-Rok or epoxy grout. Place Downtown Rack into holes, making sure the rack is level. 33"-36" of the Downtown Rack should remain above the surface. If the Downtown Rack is less than 33" high, it will not support the bike adequately. Make sure the rack is level and held in place until the grout has set.

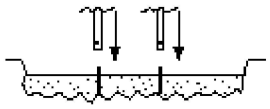
Installing Into a New Sidewalk:

Stake Method:

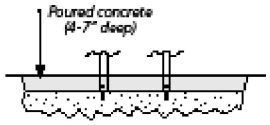
1. Use rack to measure exact location in pour bed.



2. Pound stake into pour bed where end of rack will sit. Slide rack end onto stake. You may need to dig the end of the rack into the sand to make sure the rack sits at least 35" above final grade level. The stake keeps the rack straight while the concrete is being poured.

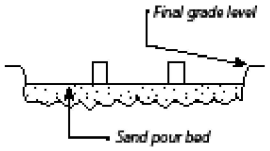


3. Make sure the rack is level and true. Pour concrete around the rack. Make sure the rack is not touched until the concrete has completely set.

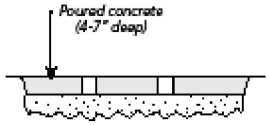


Sleeve Method:

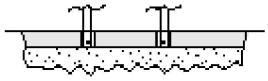
1. Place corrosion resistant sleeve (min. 4" inside diameter) in sand pour bed in exact location where rack will be installed. Make sure top of sleeve is at same level as desired finished concrete surface. Fill sleeve with sand to keep it in place and prevent it from filling with concrete.



2. Pour concrete and allow to cure.

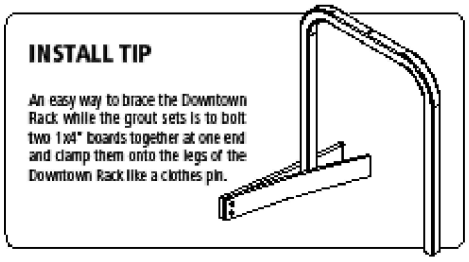


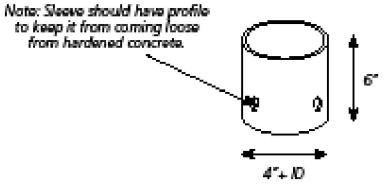
3. After appropriate cure time, dig out sand from sleeves and insert racks, making sure they are level and at the appropriate height. Pour in Por-Rok or epoxy grout and allow to set.



INSTALL TIP

An easy way to brace the Downtown Rack while the grout sets is to bolt two 1x4" boards together at one end and clamp them onto the legs of the Downtown Rack like a clothes pin.





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DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION SYSTEMS AND STREET DESIGN** SECTION I	FIGURE:
	BICYCLE RACK SPECIFICATION - DOWNTOWN RACK		I-25C

NOTES:

1. SURFACE. BUS STOP BOARDING AREAS SHALL HAVE A FIRM, STABLE SURFACE.

2. DIMENSIONS. BUS STOP BOARDING AREAS SHALL PROVIDE A CLEAR LENGTH OF 8' MINIMUM, MEASURED PERPENDICULAR TO THE CURB OR VEHICLE ROADWAY EDGE, AND A CLEAR WIDTH OF 5' MINIMUM, MEASURED PARALLEL TO THE VEHICLE ROADWAY. THIS AREA SHALL BE CLEAR OF ANY OBSTRUCTIONS, INCLUDING BUT NOT LIMITED TO: BICYCLE RACKS, LIGHT POLES, UTILITY POLES, FIRE HYDRANTS, STREET SIGNS, STREET FURNITURE, NEWSPAPER BOXES OR SIMILAR OBSTACLES.

3. CONNECTION. BUS STOP BOARDING AREAS SHALL BE CONNECTED TO STREETS, SIDEWALKS OR PEDESTRIAN PATHS BY AN ADA ACCESSIBLE ROUTE.

4. SLOPE. PARALLEL TO THE ROADWAY, THE SLOPE OF THE BUS STOP BOARDING AREA SHALL BE THE SAME AS THE ROADWAY, TO THE MAXIMUM EXTENT PRACTICABLE. PERPENDICULAR TO THE ROADWAY, THE SLOPE OF THE BUS STOP BOARDING AREA SHALL NOT EXCEED 2%.

ADDITIONAL WIDENING, AS NEEDED.

BUS BOARDING AREA
WITHOUT ESPLANADE
NOT TO SCALE

BUS BOARDING AREA
WITH ESPLANADE
NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE:
REVISED:	**BUS STOP BOARDING AREA LAYOUT FOR SIDEWALK WITH OR WITHOUT ESPLANADE**		I-26

NOTES:

1. DIMENSIONS. MINIMUM CLEAR FLOOR INTERIOR AREA ENTIRELY WITHIN THE PERIMETER OF THE SHELTER IS 2'-6" WIDE BY 4' DEEP TO PERMIT WHEELCHAIR OR MOBILITY AID USER ACCESS. THE MINIMUM SHELTER OPENING FOR WHEELCHAIR ACCESS IS 2'-8".

2. CONNECTION. BUS SHELTER OPENINGS WILL BE CONNECTED TO THE BUS BOARDING AREA BY AN ADA ACCESSIBLE ROUTE.

3. SLOPE. PARALLEL TO THE ROADWAY, THE SLOPE OF THE BUS BOARDING AREA SHALL BE THE SAME AS THE ROADWAY, TO THE MAXIMUM EXTENT PRACTICABLE. PERPENDICULAR TO THE ROADWAY, THE SLOPE OF THE BUS BOARDING AREA SHALL NOT EXCEED 2%.

ADDITIONAL WIDENING, AS NEEDED.

BUS SHELTER AND SHELTER SITING WITHOUT ESPLANADE

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**TRANSPORTATION DESIGN STANDARDS** SECTION I	FIGURE: I-27
	BUS SHELTER AND SHELTER SITING LAYOUT FOR SIDEWALK WITHOUT ESPLANADE		

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

FIGURE II–01 = LIST OF DETAILS

FIGURE II–02 = PRECAST CONCRETE MANHOLE

FIGURE II–03 = TYPICAL INSIDE DROP MANHOLE

FIGURE II–04 = GENERAL NOTES FOR MANHOLES AND CATCH BASINS

FIGURE II–05 = CAST IRON MANHOLE COVER AND FRAME

FIGURE II–06 = MANHOLE RISER RING

FIGURE II–07 = PRECAST CONCRETE CATCH BASIN

FIGURE II–08 = CATCH BASIN FRAME AND GRATE

FIGURE II–09 = CATCH BASIN HOOD

FIGURE II–10 = TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS

FIGURE II–11 = 4' GRANITE HEADSTONE FOR CATCH BASIN INLET

FIGURE II–12 = TYPICAL PIPE TRENCH INSTALLATION AND NOTES

FIGURE II–13 = PLASTIC PIPE CONNECTION METHODS 1 & 2

FIGURE II–14 = PLASTIC PIPE CONNECTION METHODS 3 & 4

FIGURE II–15 = MASONRY PLUG

FIGURE II–16 = TYPICAL EXISTING LATERAL CONNECTION

FIGURE II–17 = TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

FIGURE II–18 = FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT

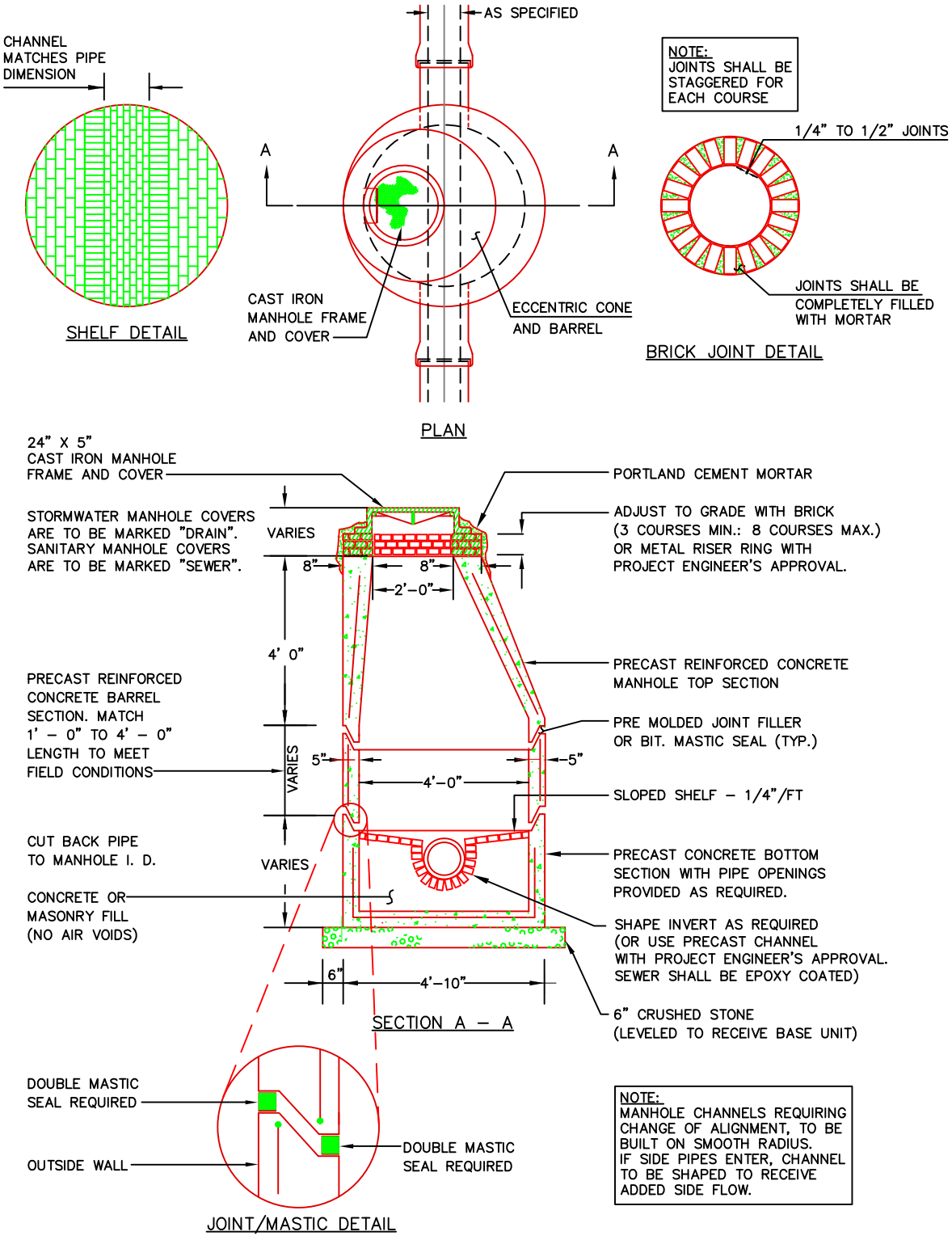
FIGURE II–19 = EXTERNAL GREASE TRAP DESIGN

FIGURE II–20 = OIL / GRIT SEPARATOR

FIGURE II–21 = SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT

FIGURE II–22 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A

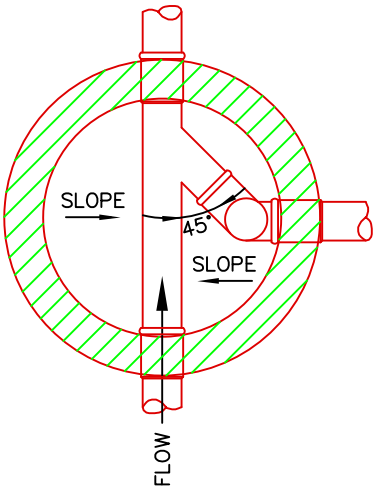
FIGURE II–23 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE B



PRECAST CONCRETE MANHOLE

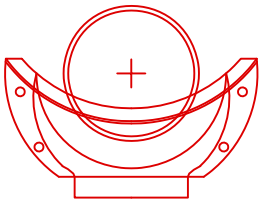
NOT TO SCALE

DATE: DEC. 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-2
REVISED: DEC. 2021	**PRECAST CONCRETE MANHOLE**		



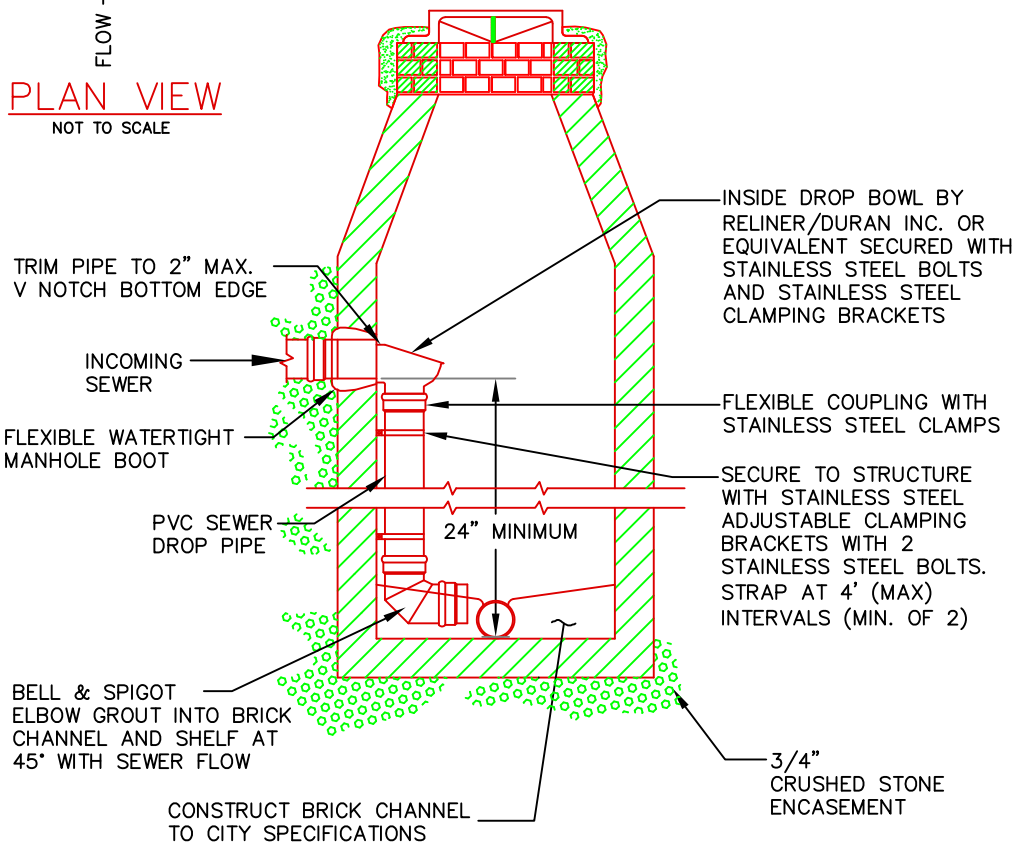
PLAN VIEW

NOT TO SCALE



DROP BOWL MOUNTING POSITION

NOT TO SCALE



NOTES:

1) DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.
2) MANHOLE MUST HAVE A MINIMUM DIAMETER OF 5' TO USE AN INSIDE DROP
3) ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS SHOWN.

NOT TO SCALE

DATE: APRIL 2022	CITY OF PORTLAND, MAINE	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS**	FIGURE:
REVISED:	TECHNICAL STANDARDS MANUAL	SECTION II	II-3
	TYPICAL INSIDE DROP MANHOLE		

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.

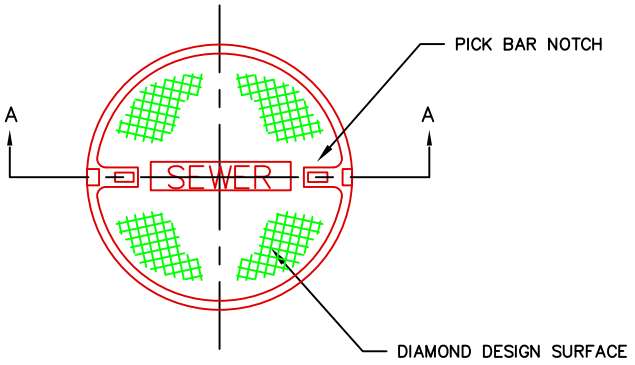
13. ALL MANHOLES AND CATCH BASINS REQUIRE BUOYANCY CALCULATIONS AND THE STRUCTURES SHALL BE MODIFIED AS NECESSARY BASED ON THOSE CALCULATIONS.

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

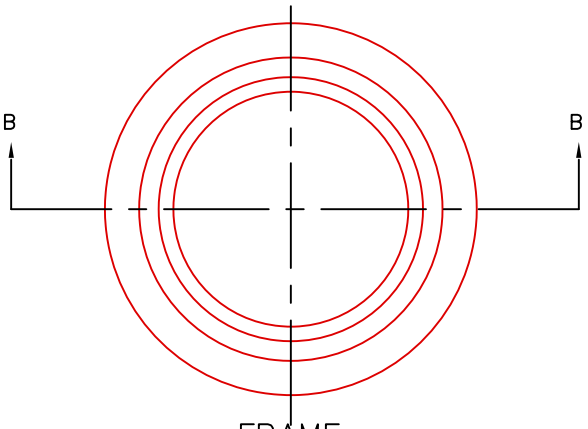
NOTES:
1. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.

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



COVER
PLAN VIEW

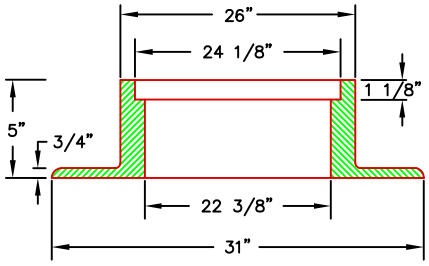


FRAME
PLAN VIEW

NOTE:
ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".



SECTION A – A
COVER

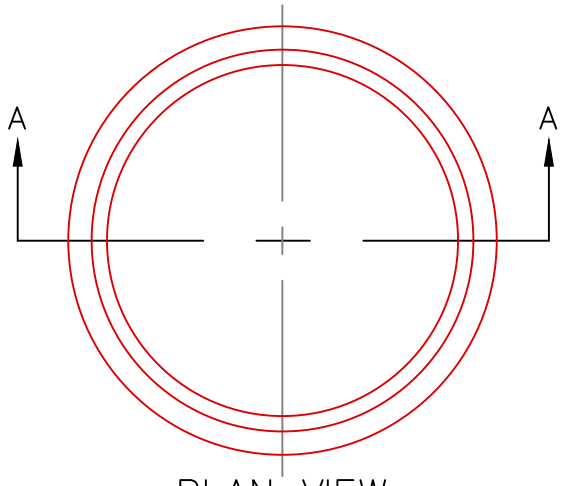


MIN. WGT. 320 LBS.
SECTION B – B
FRAME

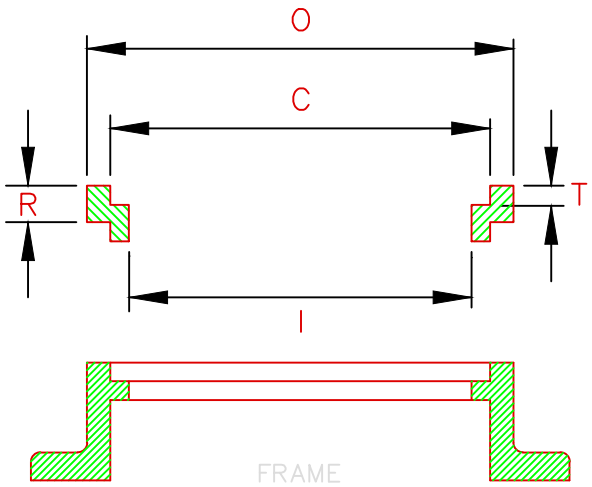
CAST IRON MANHOLE COVER AND FRAME

NOT TO SCALE

DATE: AUG 2009 REVISED: DEC 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-5
	CAST IRON MANHOLE COVER AND FRAME		



PLAN VIEW

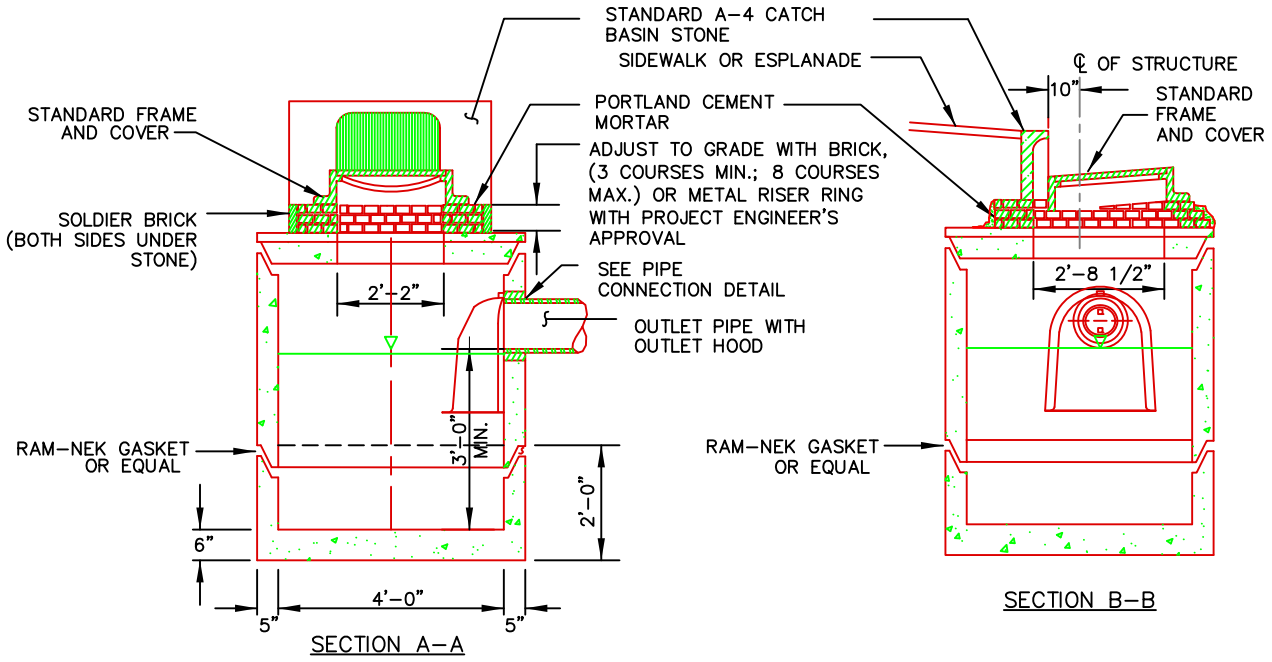


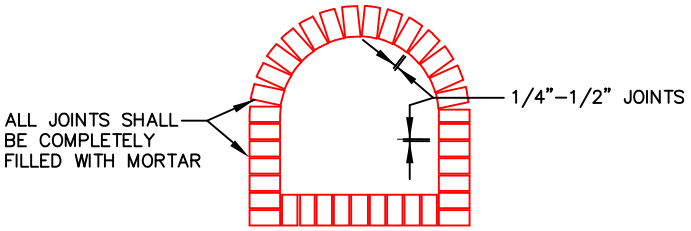
SECTION A–A

SIZE	C	R	T	O	I	Wt.
R241 1/2	24	1 1/2	1 1/8	26 1/4	22 1/2	60
R242	24	2	1 1/8	26 1/4	22 1/2	80
R242 1/2	24	2 1/2	1 1/8	26 1/4	22	100
R243	24	3	1 1/8	26 1/4	22	120

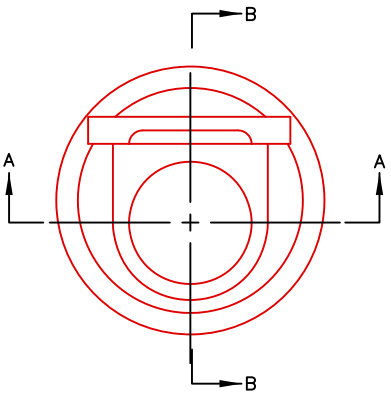
MANHOLE RISER RING

NOT TO SCALE

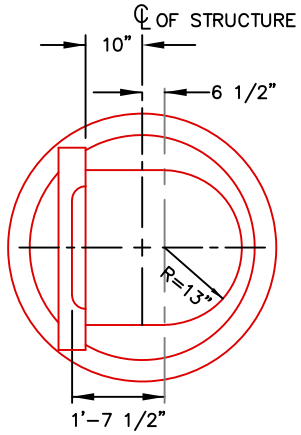




BRICK/JOINT DETAIL



PLAN VIEW
COVER, FRAME AND STONE



PLAN VIEW
TOP SLAB

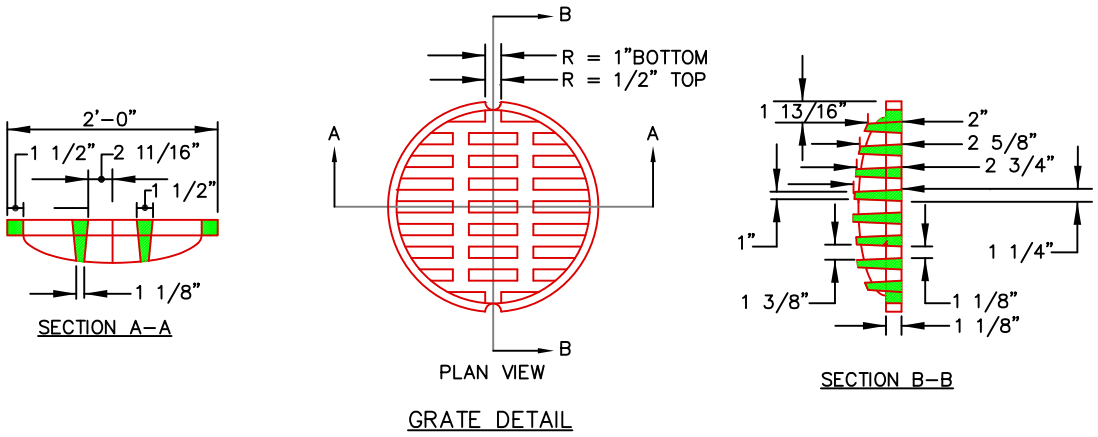
PRECAST CONCRETE CATCH BASIN – TYPE "E"

NOT TO SCALE

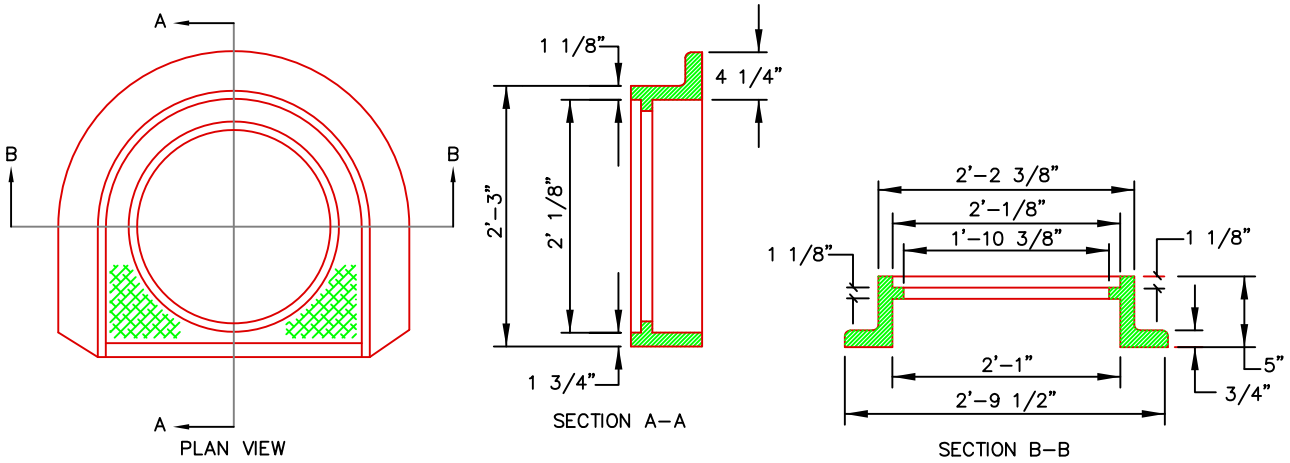
DATE: MARCH 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-7
	PRECAST CONCRETE CATCH BASIN		

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



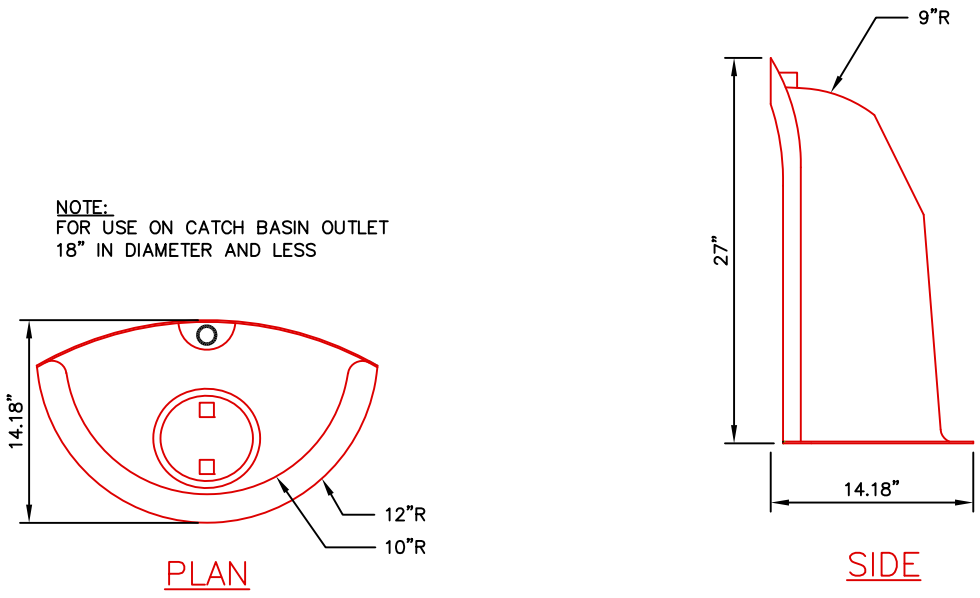
GRATE DETAIL

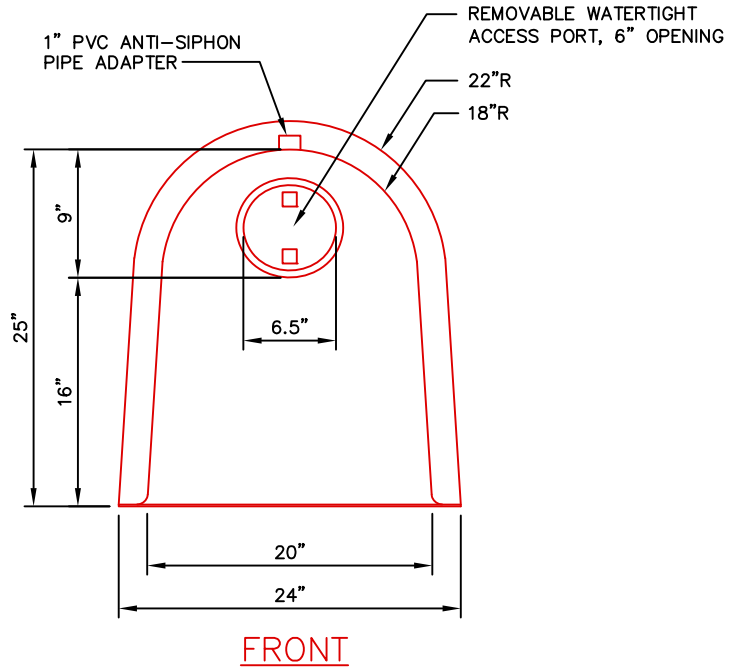


FRAME DETAIL

CATCH BASIN FRAME & GRATE

DATE: AUGUST 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-8
	CATCH BASIN FRAME AND GRATE		



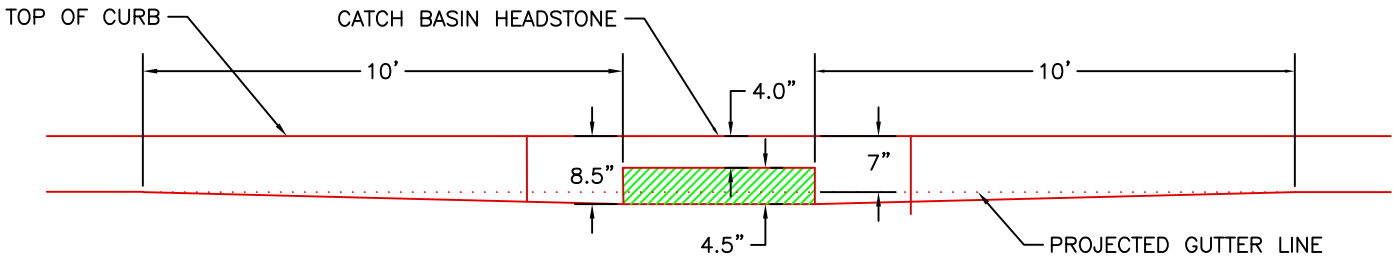


CATCH BASIN HOOD

NOT TO SCALE

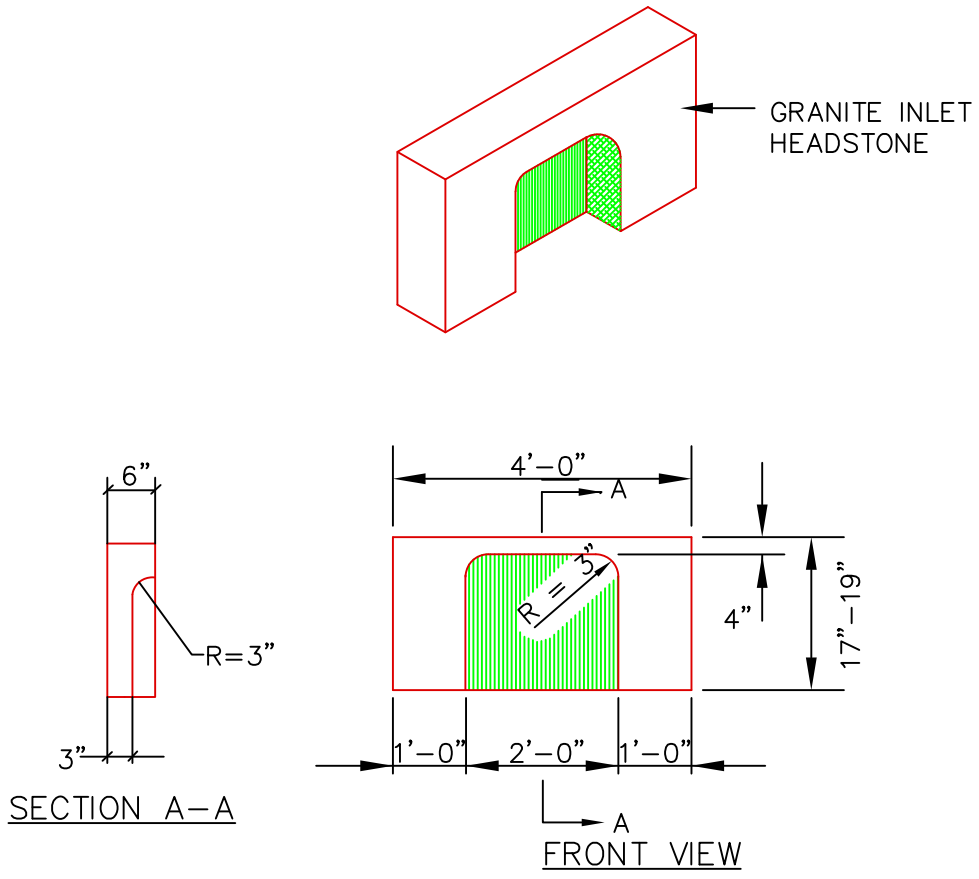
DATE: MARCH 2019 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-9
	CATCH BASIN HOOD		

NOTE:
DISH 10' EITHER SIDE OF HEADSTONE FOR CATCH BASIN AT LOW POINT



NOT TO SCALE

DATE: AUG 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-10
	TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS		



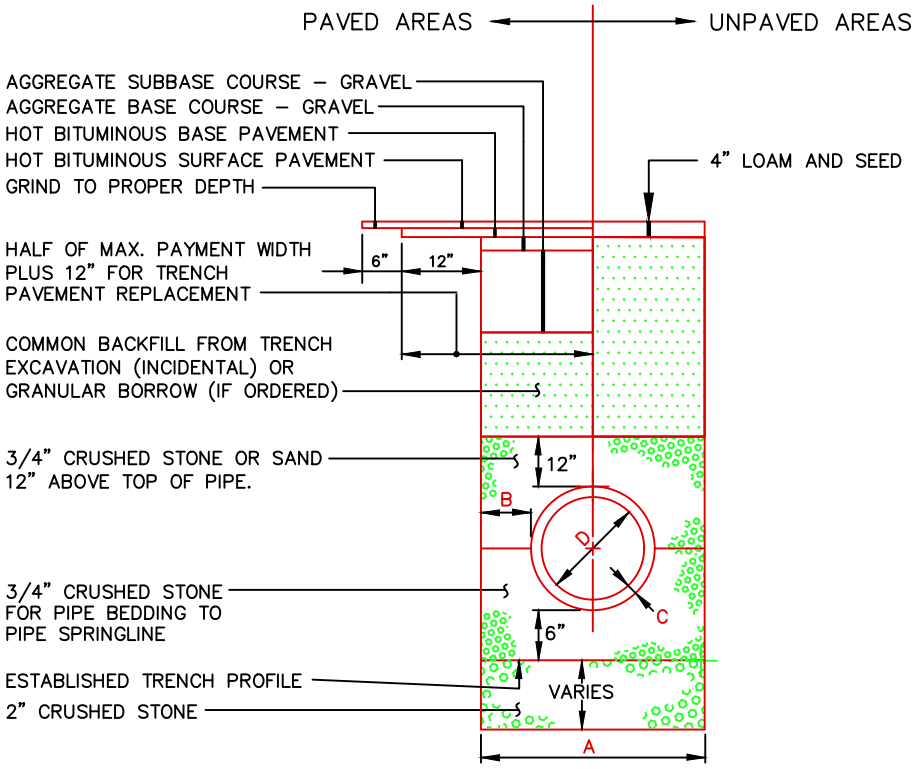
4' GRANITE HEADSTONE FOR CATCH BASIN INLET

NOT TO SCALE

DATE: AUG 2009 REVISED: AUG 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-11
	4' GRANITE HEADSTONE FOR CATCH BASIN INLET		

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..



NOTES

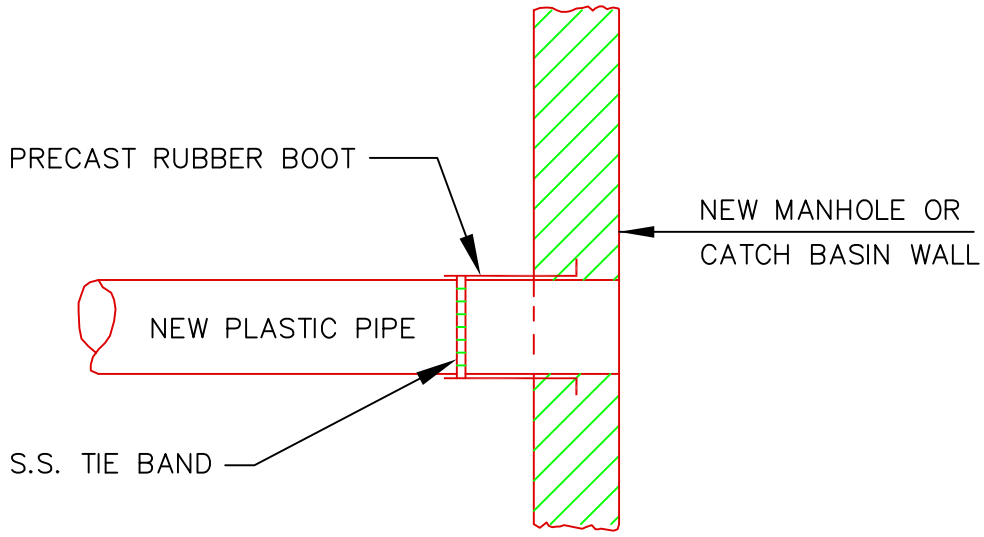
1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION B SHALL BE SUFFICIENT 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

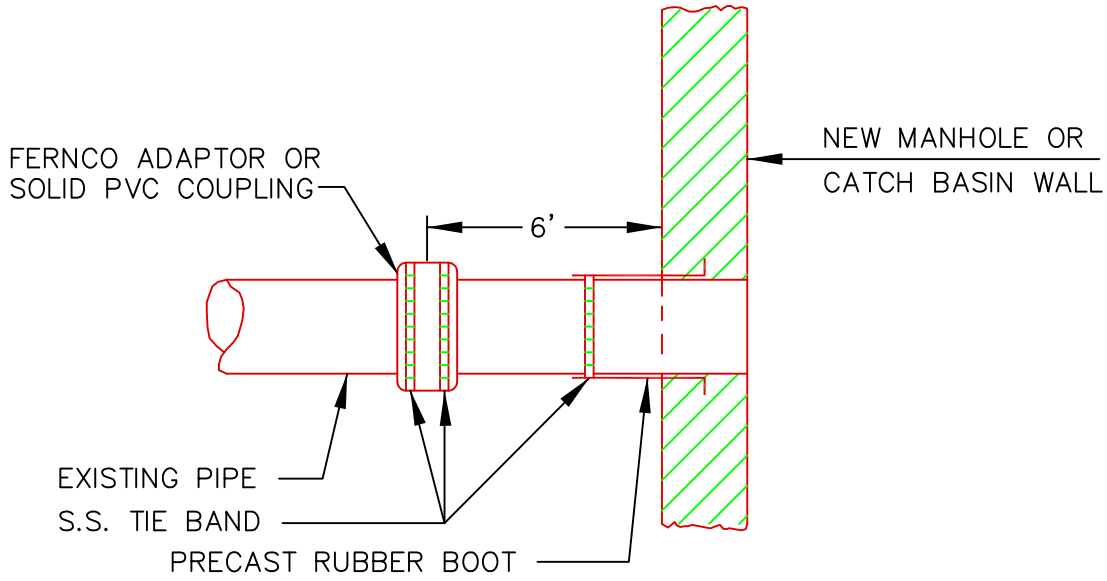
TYPICAL PIPE TRENCH INSTALLATION

NOT TO SCALE

DATE: AUGUST 2009 REVISED: SEPTEMBER 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-12
	TYPICAL PIPE TRENCH INSTALLATION AND NOTES		



METHOD 2 – NEW CONSTRUCTION



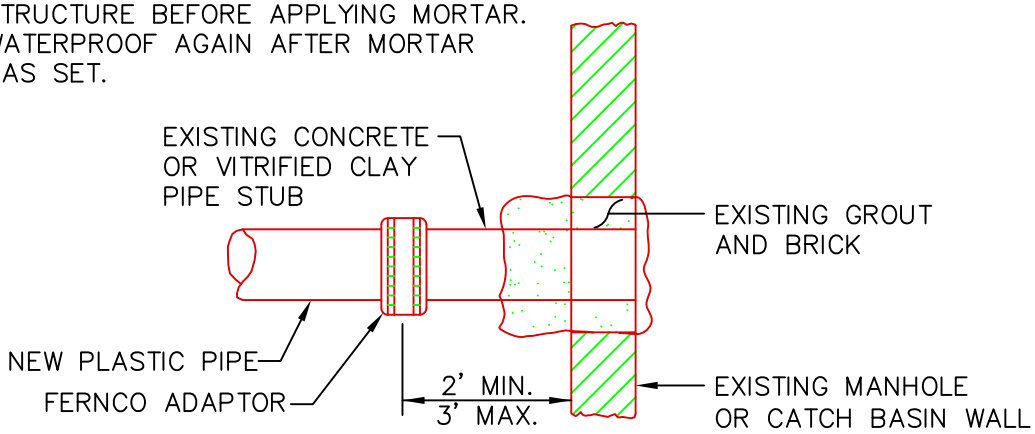
METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-13
	PLASTIC PIPE CONNECTION METHODS 1 & 2		

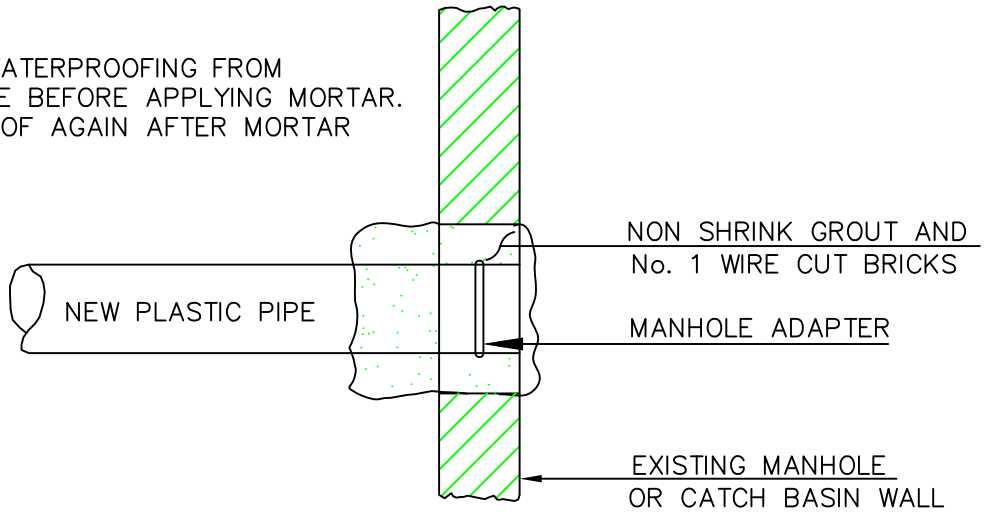
NOTE:
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.



METHOD 4 – NEW PIPE TO EXISTING STRUCTURE STUB

NOTE: EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY SAW CUT THE STRUCTURE TO CREATE PIPE OPENING. THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT BOTH INSIDE AND OUTSIDE THE STRUCTURE.

NOTE:
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.

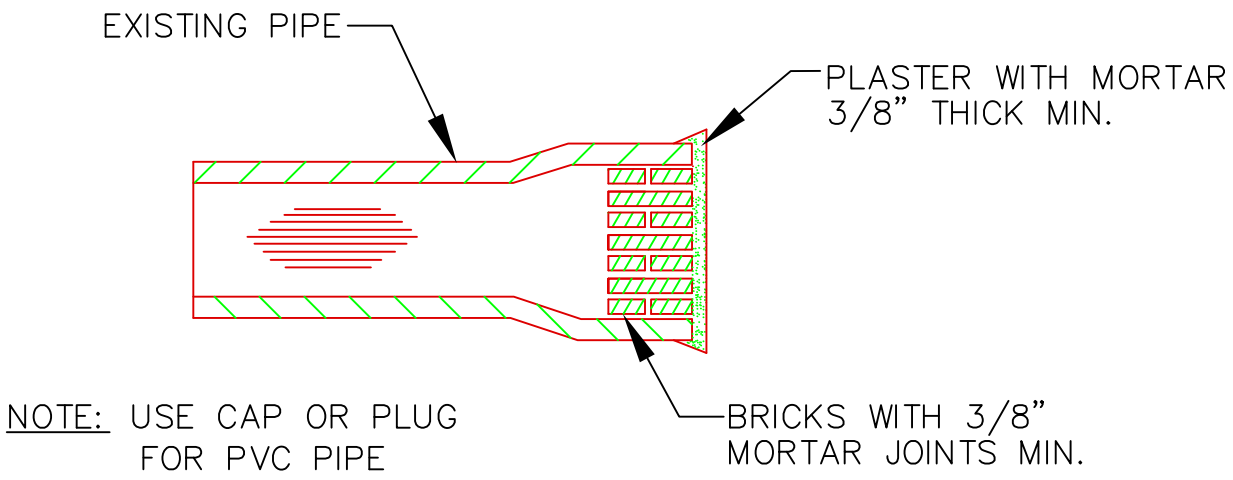


METHOD 3 – NEW PIPE INTO EXISTING STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-14
	PLASTIC PIPE CONNECTION METHODS 3 & 4		



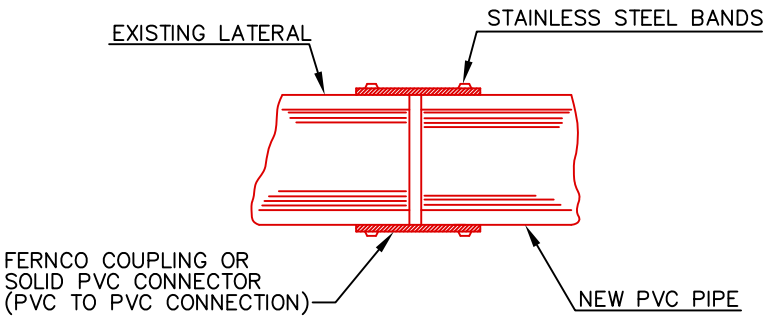
MASONRY PLUG

NOT TO SCALE

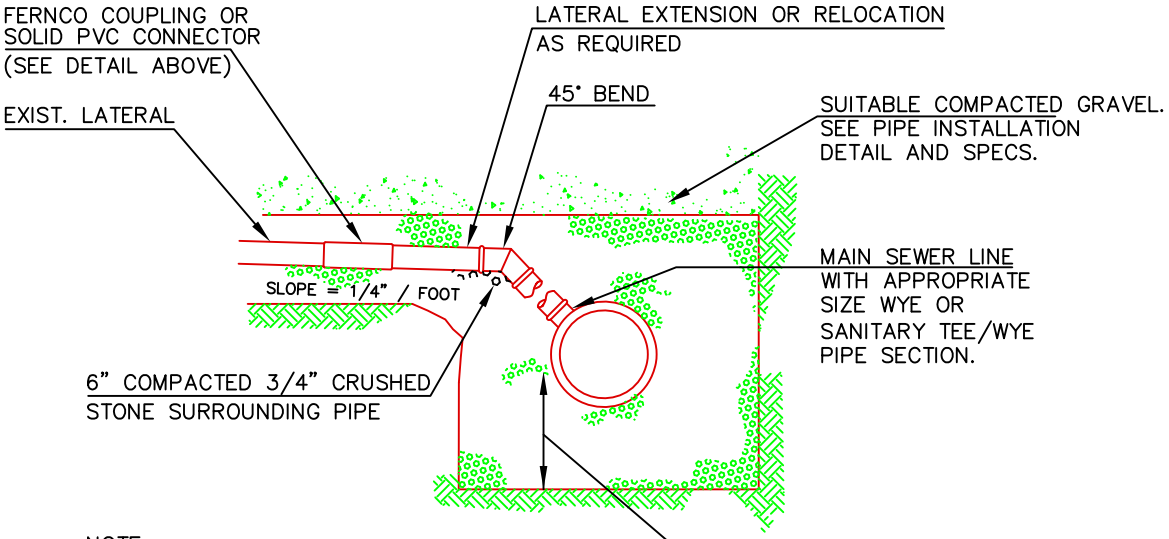
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-15
	MASONRY PLUG		

NOTE:
LOCATIONS AND ELEVATIONS OF STUBS SHOWN ON THE PLANS ARE TO BE CONSIDERED AS APPROXIMATE AND MAY BE ADJUSTED AS DIRECTED TO SUIT FIELD CONDITIONS.

HOUSE CONNECTIONS AND CATCH BASINS CONNECTIONS TO THE MAIN LINE OF THE SEWER, SHALL CONSIST OF AN APPROPRIATE WYE BRANCH CONNECTION AS SHOWN ON THE PLANS, OR AS DIRECTED. ACTUAL WYE LOCATIONS FOR HOUSE CONNECTIONS AND CATCH BASIN CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF WYE LOCATIONS WHICH SHALL BE GIVEN TO THE CITY OF PORTLAND UPON COMPLETION OF THE CONTRACT.
ALL PVC TO PVC COUPLING SHALL BE "SOLID PVC COUPLINGS".



FERNCO COUPLING FOR REPAIR OR REPLACEMENT

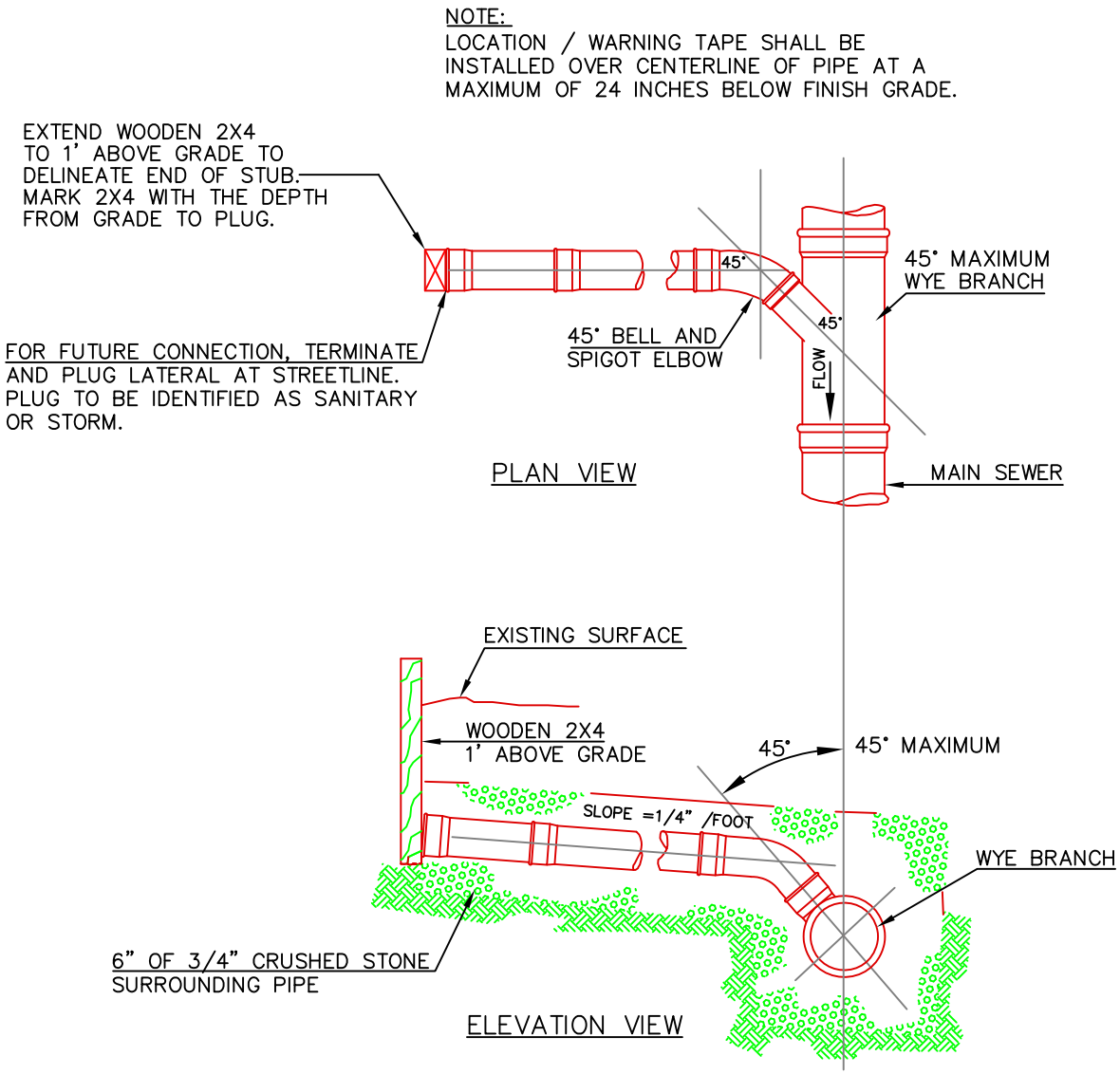


SECTION

TYPICAL EXISTING LATERAL CONNECTION

NOT TO SCALE

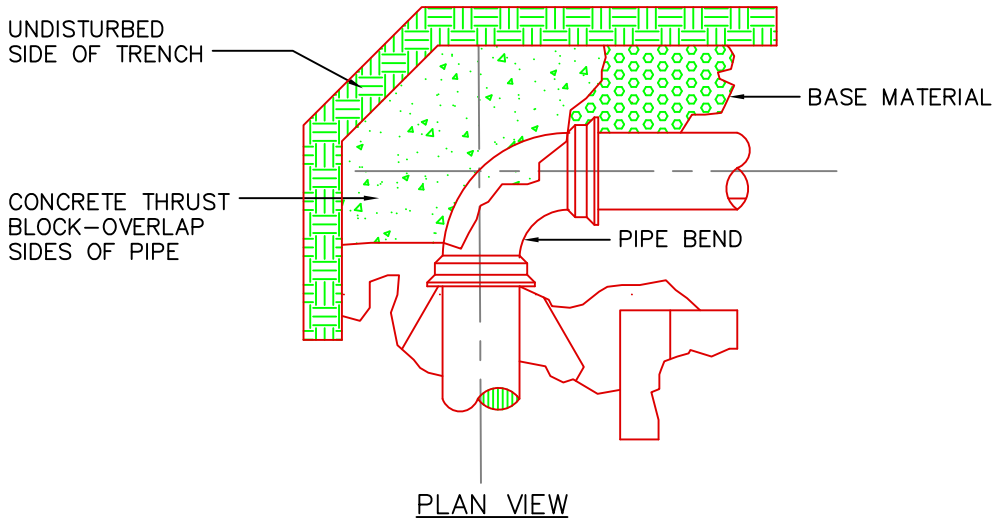
DATE: DEC. 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-16
	TYPICAL EXISTING LATERAL CONNECTION		

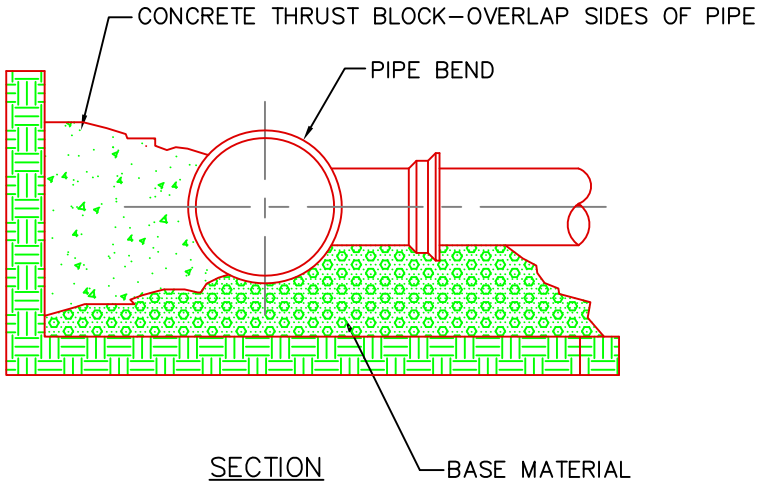


TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-17
	TYPICAL HOUSE LATERAL TEE/WYE CONNECTION		





THRUST/RETAINER SCHEDULE		
1/4 BEND	(90°)	USE POURED–IN–PLACE THRUST BLOCK w/RETAINERS
1/8 BEND	(45°)	THRUST BLOCK w/RETAINERS
1/16 BEND	(22 1/2"°)	THRUST BLOCK
1/32 BEND	(11 1/4"°)	THRUST BLOCK

NOTE: KEEP CONCRETE LEAR OF PIPE JOINT, NUTS AND BOLTS

FORCE MAIN – CONCRETE THRUST BLOCK PLACEMENT ON VERTICAL & HORIZONTAL BENDS

NOT TO SCALE

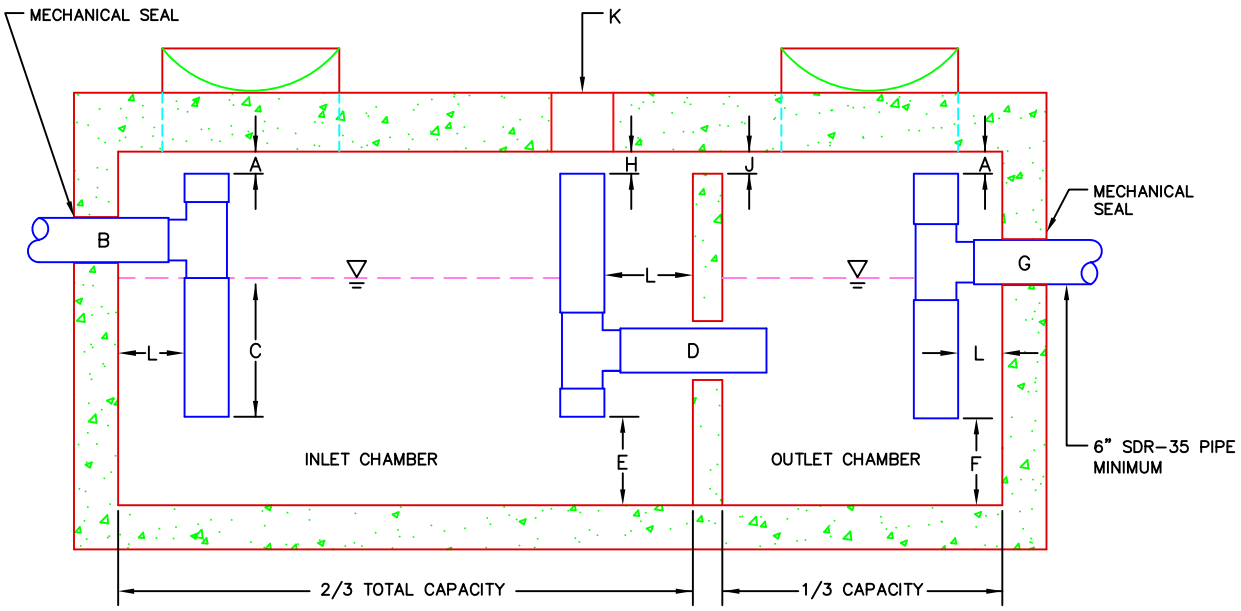
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-18
	FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT		

1000 GALLON GREASE INTERCEPTOR:

A) MINIMUM 6", BUT NOT LESS THAN PIPE DIAMETER.
B) INLET PIPE INVERT TO BE 2 1/2" ABOVE LIQUID SURFACE.
C) INLET PIPE TO TERMINATE 2/3 DEPTH OF WATER LEVEL.
D) BAFFLE T
E) 6" FROM FLOOR TO END OF BAFFLE PIPE.
F) 6" FROM FLOOR TO END OF OUTLET PIPE.
G) OUTLET PIPE NO SMALLER THAN INLET PIPE.
H) TOP OF BAFFLE PIPE TERMINATES NO LOWER THAN BAFFLE HEIGHT.
I) INLET CHAMBER IS ⅔ TOTAL CAPACITY; OUTLET CHAMBER IS ⅓ TOTAL CAPACITY.
J) 6" MINIMUM DISTANCE FROM CEILING.
K) MINIMUM 6" CLEANOUT.
L) INLET AND OUTLET PIPES MUST BE SPACED SO THAT CLEAR ACCESS CAN BE MADE FROM MANHOLES.

THIS STRUCTURE MUST DISCHARGE TO A CITY OF PORTLAND STANDARD MANHOLE WITH CHANNEL AND MUST BE RATED.

DAILY PROCESS FLOW FROM THE FACILITY WITH NO SANITARY OR OTHER EXTRANEOUS WASTES FLOWING THROUGH IT.

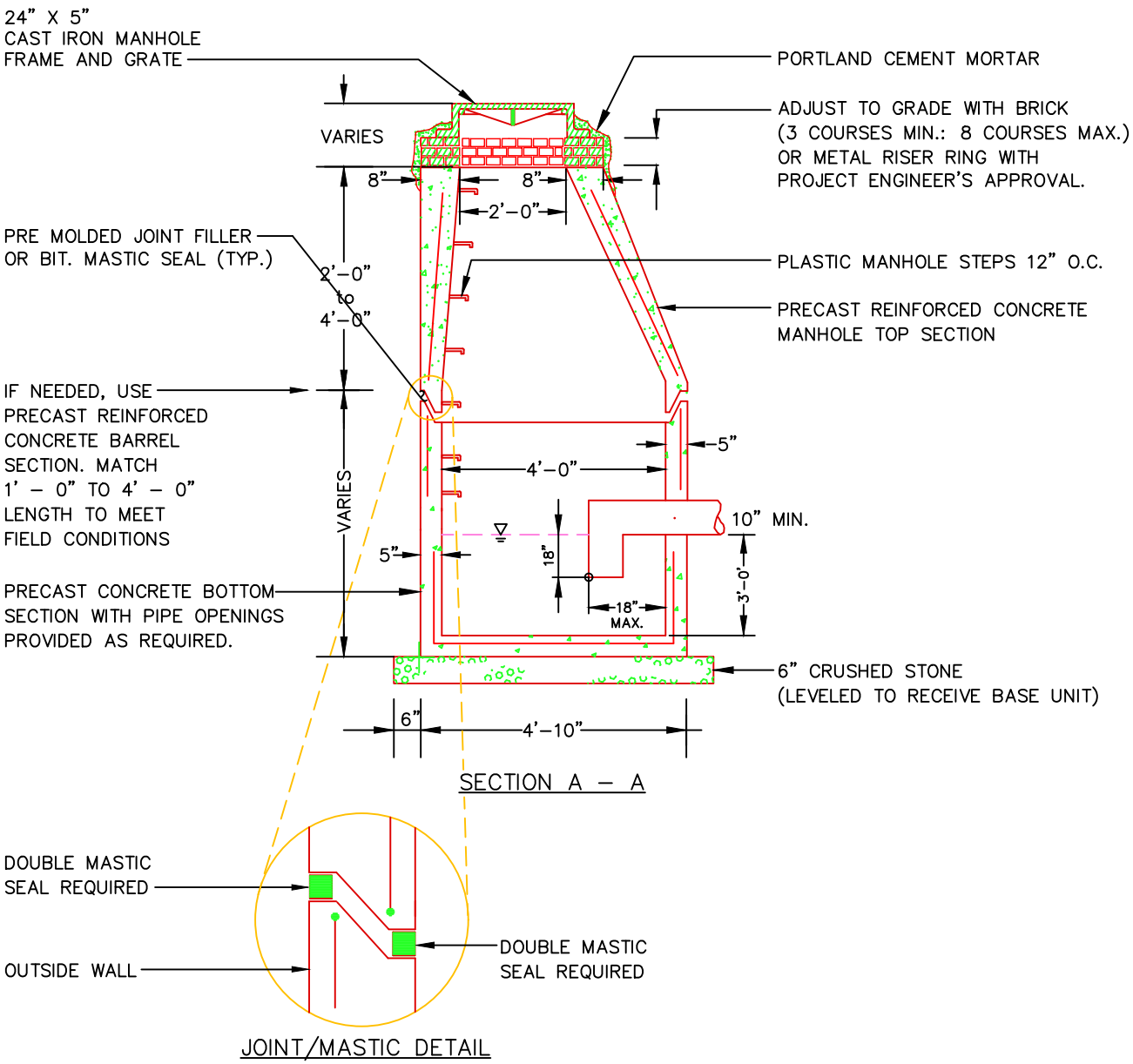


1000 GALLON GREASE INTERCEPTOR

DATE: APRIL 2014 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-19
	EXTERNAL GREASE TRAP DESIGN		

NOTES:

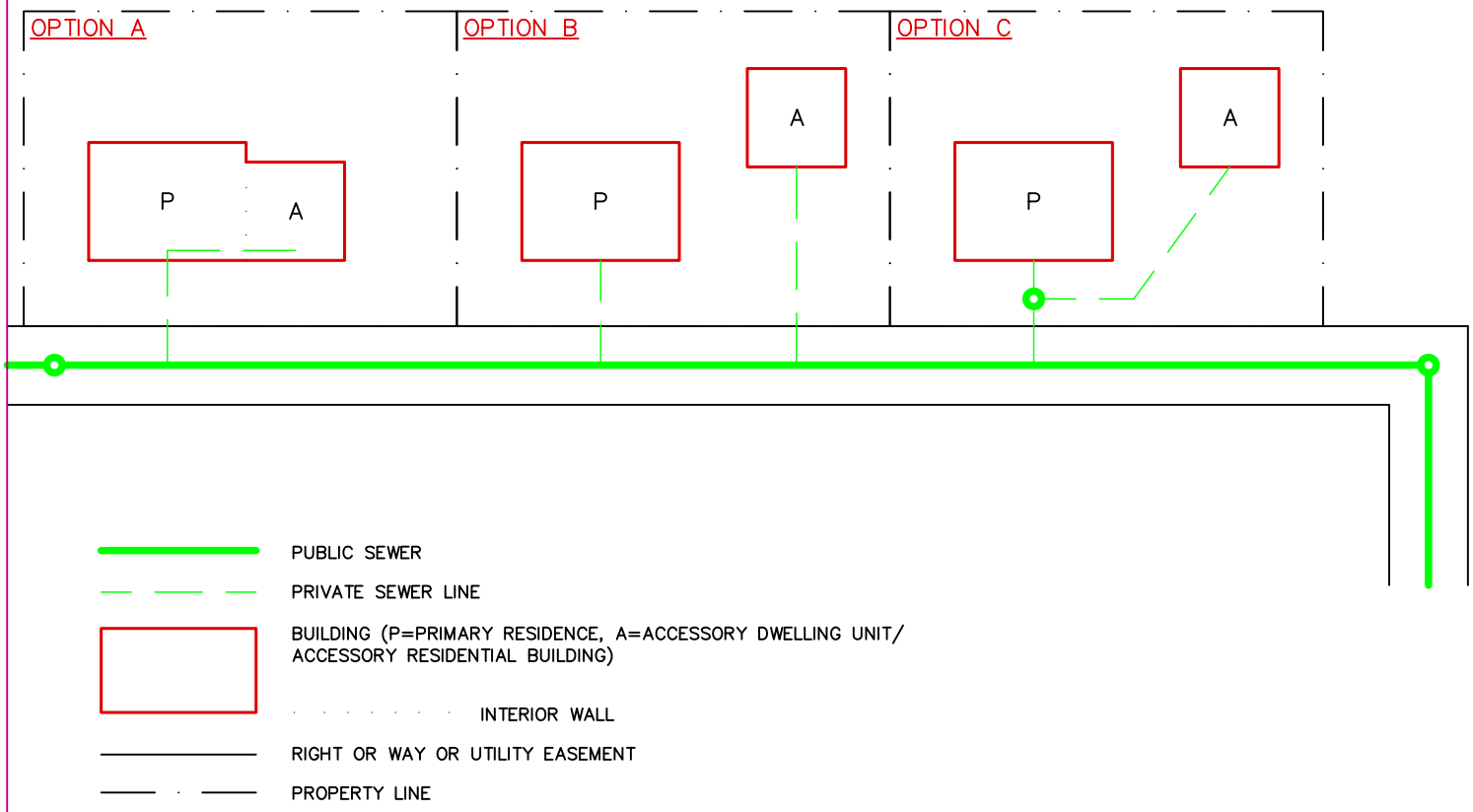
- FOR USE IN PARTIALLY OR TOTALLY ENCLOSED PARKING GARAGES, AUTOMOTIVE REPAIR FACILITIES OR ANY OTHER PROPOSED STRUCTURE WHERE DEEMED APPROPRIATE BY THE CITY ENGINEER.
- DISCHARGE SHALL BE TO SANITARY SEWER.
- A VENT PIPE MAY BE REQUIRED THAT HAS A VERTICAL OUTLET OFF TO THE SIDE OF THE STRUCTURE.
- AN OIL ABSORBENT BOOM IS REQUIRED TO BE PLACED WITHIN THE MANHOLE ON THE WATER SURFACE AND REPLACED AT A MINIMUM ANNUALLY.



OIL / GRIT SEPARATOR

NOT TO SCALE

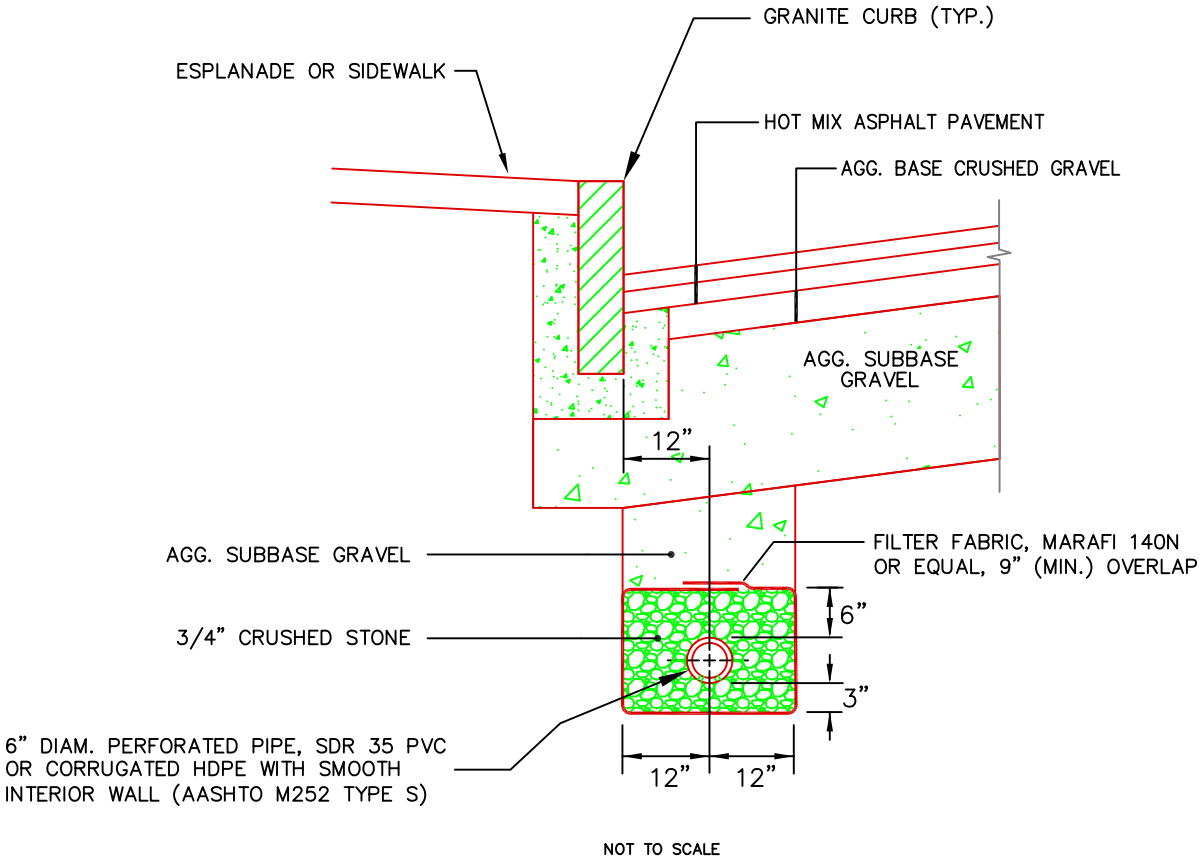
DATE: FEB 2015 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-20
	OIL / GRIT SEPARATOR		



POTENTIAL SEWER LINE CONFIGURATION FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT

NOT TO SCALE

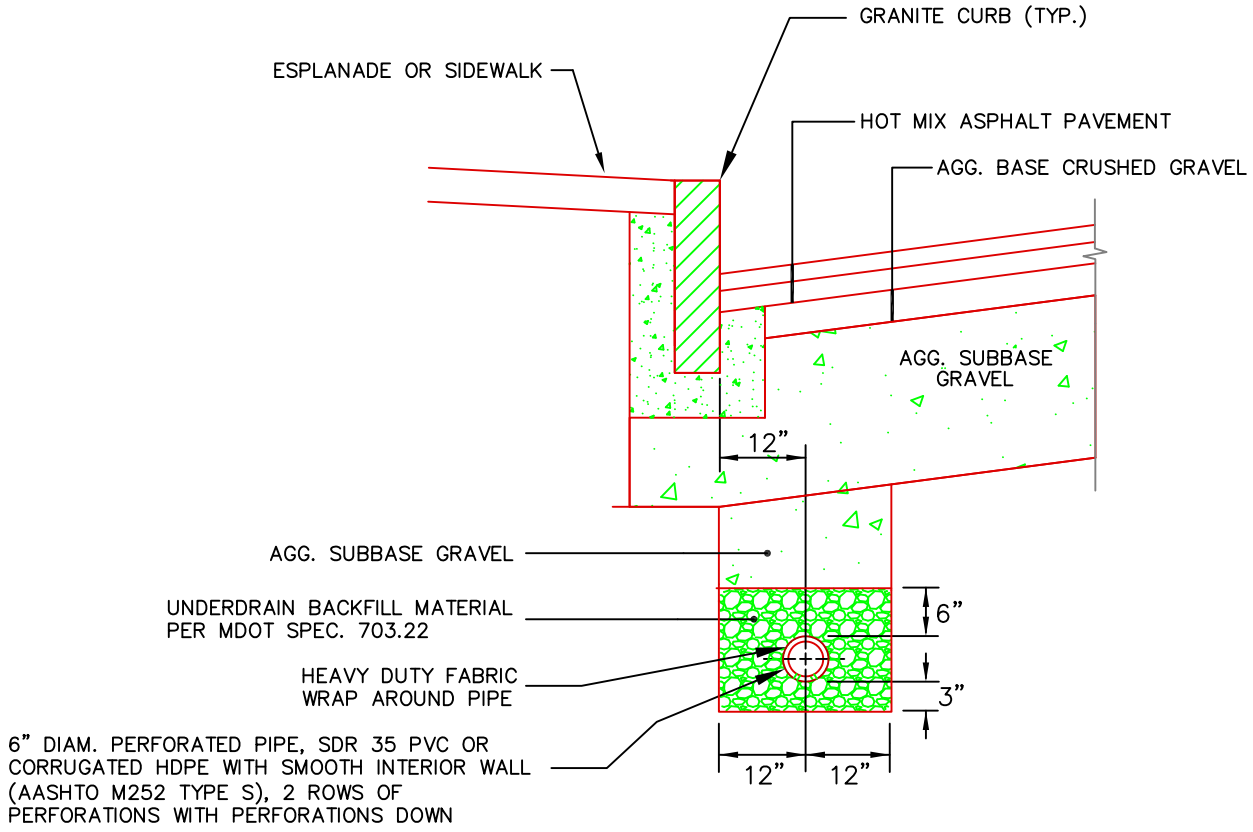
DATE: APRIL 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-21
	SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT		



NOT TO SCALE

NOTES
1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

DATE: AUGUST 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-22
	TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A		



NOT TO SCALE

NOTES
1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN. THE PIPE SHALL BE FURNISHED WITH A HEAVY DUTY FABRIC WRAP, SUCH AS "FILTER SOCK" BY ADS.

DATE: AUGUST 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-23
	TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE B		

FIGURE II–01 = LIST OF DETAILS

FIGURE II–02 = PRECAST CONCRETE MANHOLE

FIGURE II–03 = TYPICAL INSIDE DROP MANHOLE

FIGURE II–04 = GENERAL NOTES FOR MANHOLES AND CATCH BASINS

FIGURE II–05 = CAST IRON MANHOLE COVER AND FRAME

FIGURE II–06 = MANHOLE RISER RING

FIGURE II–07 = PRECAST CONCRETE CATCH BASIN

FIGURE II–08 = CATCH BASIN FRAME AND GRATE

FIGURE II–09 = CATCH BASIN HOOD

FIGURE II–10 = TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS

FIGURE II–11 = 4' GRANITE HEADSTONE FOR CATCH BASIN INLET

FIGURE II–12 = TYPICAL PIPE TRENCH INSTALLATION AND NOTES

FIGURE II–13 = PLASTIC PIPE CONNECTION METHODS 1 & 2

FIGURE II–14 = PLASTIC PIPE CONNECTION METHODS 3 & 4

FIGURE II–15 = MASONRY PLUG

FIGURE II–16 = TYPICAL EXISTING LATERAL CONNECTION

FIGURE II–17 = TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

FIGURE II–18 = FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT

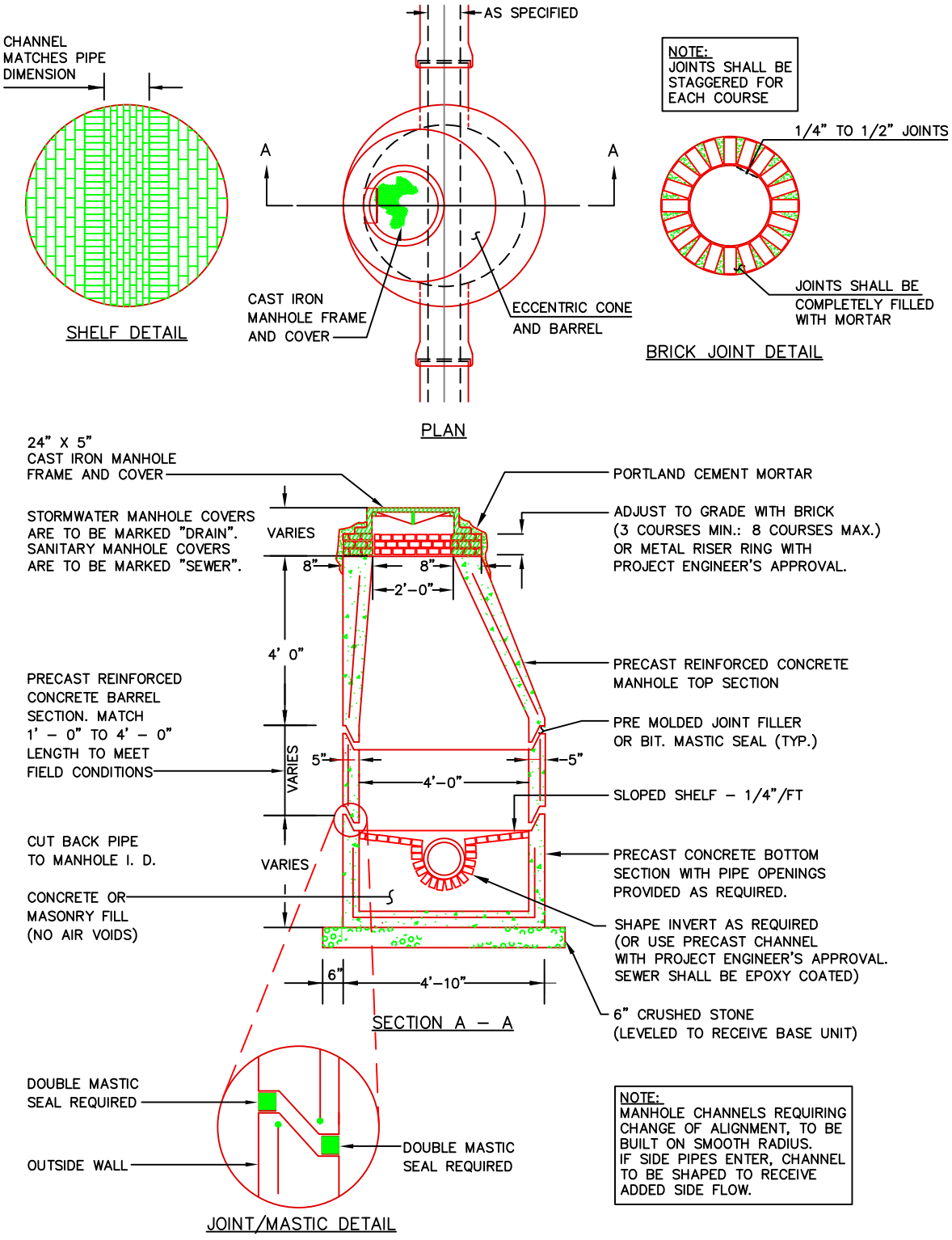
FIGURE II–19 = EXTERNAL GREASE TRAP DESIGN

FIGURE II–20 = OIL / GRIT SEPARATOR

FIGURE II–21 = SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT

FIGURE II–22 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A

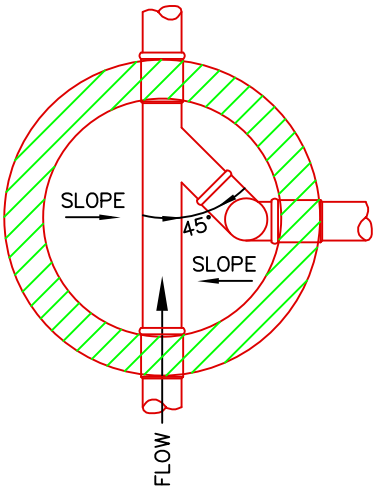
FIGURE II–23 = TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE B



PRECAST CONCRETE MANHOLE

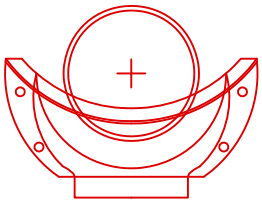
NOT TO SCALE

DATE: DEC. 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-2
	PRECAST CONCRETE MANHOLE		



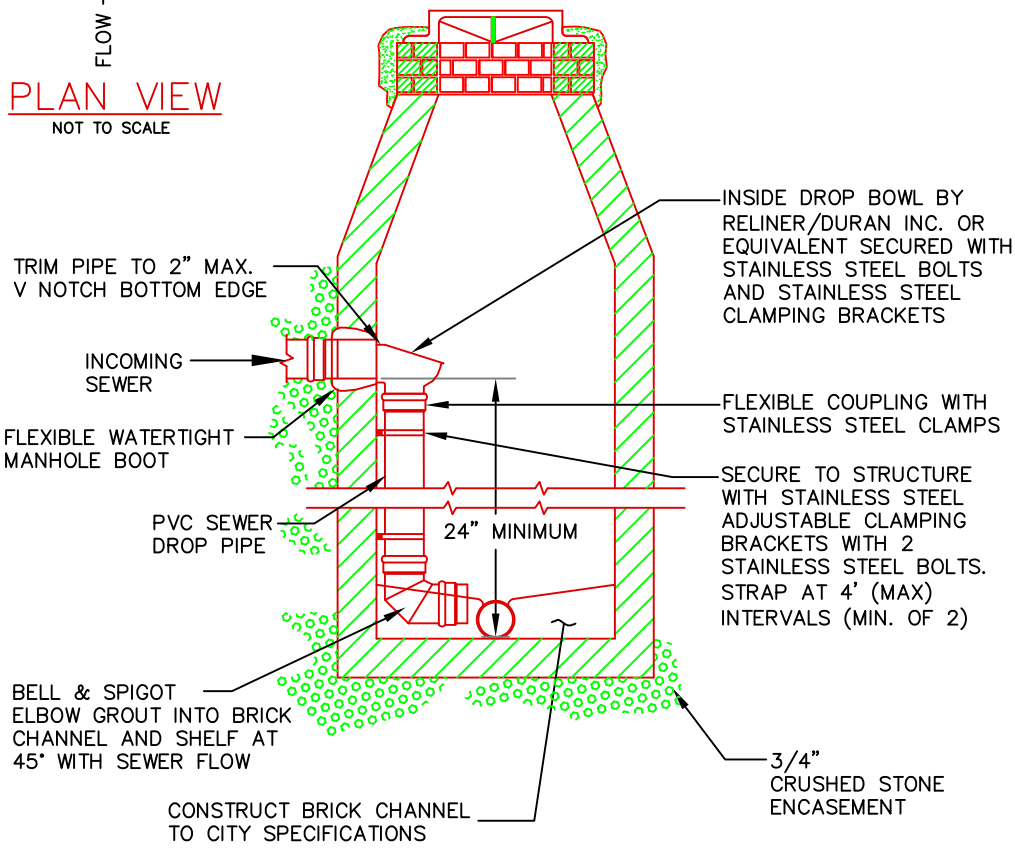
PLAN VIEW

NOT TO SCALE



DROP BOWL MOUNTING POSITION

NOT TO SCALE



NOTES:

1) DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.
2) MANHOLE MUST HAVE A MINIMUM DIAMETER OF 5' TO USE AN INSIDE DROP
3) ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP BOWL AS SHOWN.

NOT TO SCALE

DATE: APRIL 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-3
	TYPICAL INSIDE DROP MANHOLE		

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.

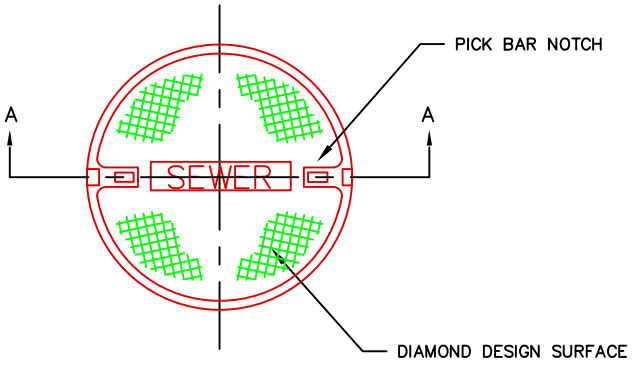
13. ALL MANHOLES AND CATCH BASINS REQUIRE BUOYANCY CALCULATIONS AND THE STRUCTURES SHALL BE MODIFIED AS NECESSARY BASED ON THOSE CALCULATIONS.

GENERAL NOTES FOR MANHOLES AND CATCH BASINS

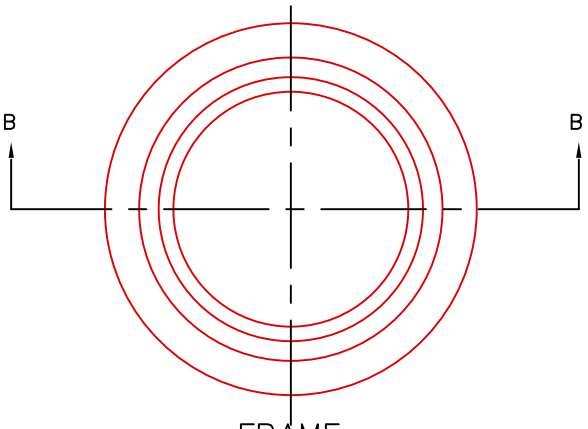
NOTES:
1. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.

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



COVER
PLAN VIEW

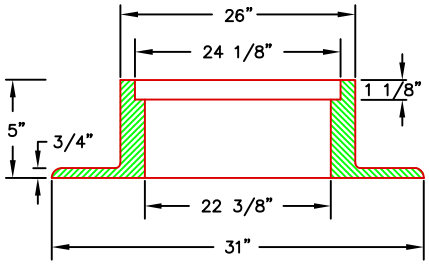


FRAME
PLAN VIEW

NOTE:
ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".



SECTION A – A
COVER

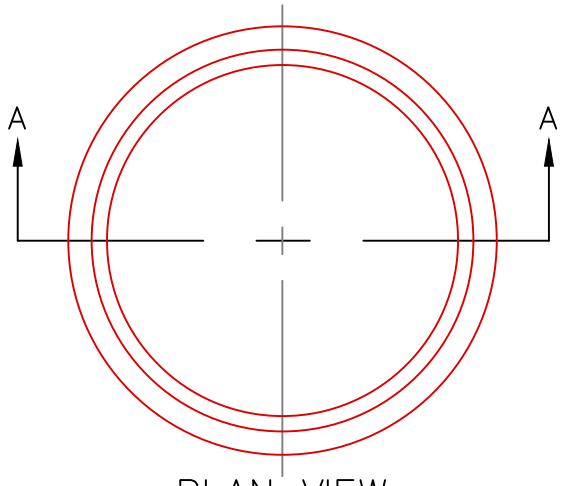


MIN. WGT. 320 LBS.
SECTION B – B
FRAME

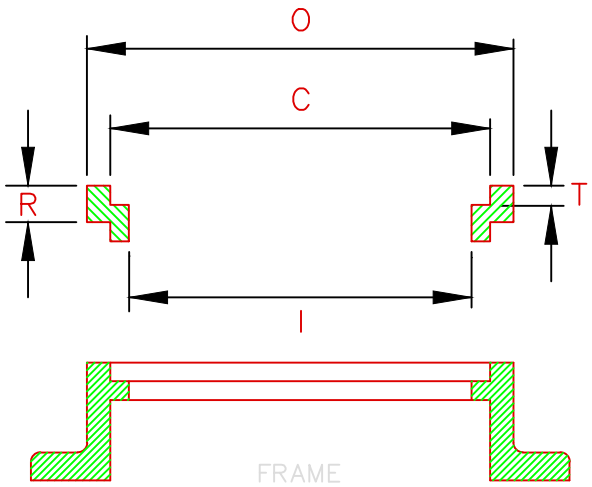
CAST IRON MANHOLE COVER AND FRAME

NOT TO SCALE

DATE: AUG 2009 REVISED: DEC 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-5
	CAST IRON MANHOLE COVER AND FRAME		



PLAN VIEW



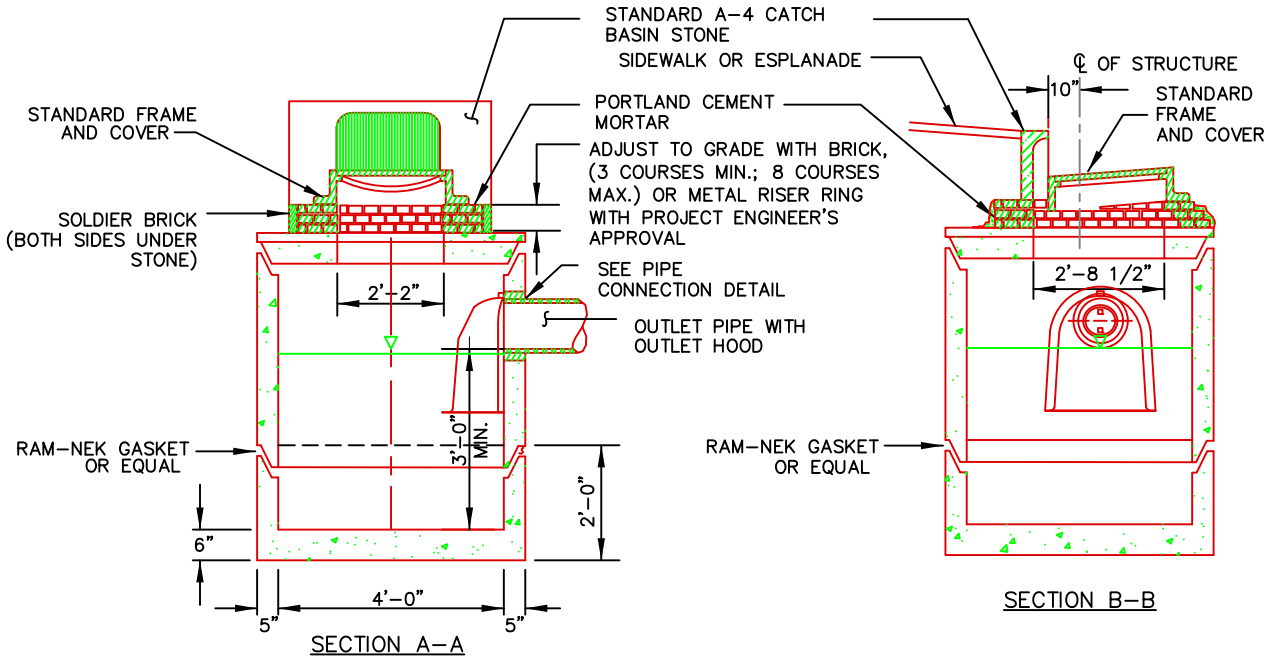
SECTION A–A

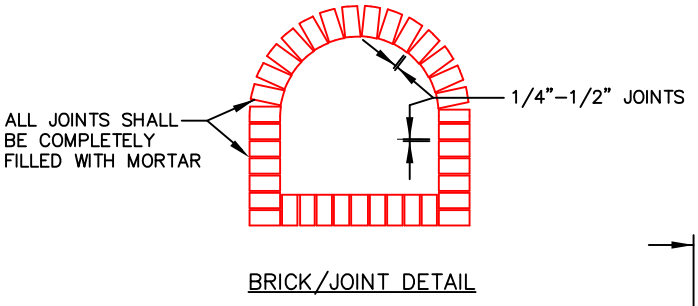
SIZE	C	R	T	O	I	Wt.
R241 1/2	24	1 1/2	1 1/8	26 1/4	22 1/2	60
R242	24	2	1 1/8	26 1/4	22 1/2	80
R242 1/2	24	2 1/2	1 1/8	26 1/4	22	100
R243	24	3	1 1/8	26 1/4	22	120

MANHOLE RISER RING

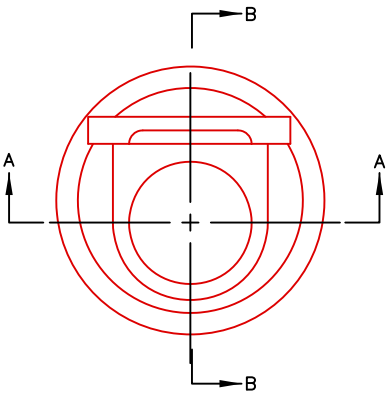
NOT TO SCALE

DATE: DEC 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-6
	MANHOLE RISER RING		

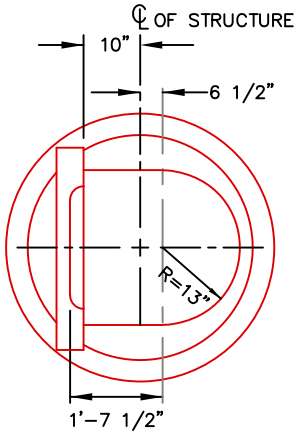




BRICK/JOINT DETAIL



PLAN VIEW
COVER, FRAME AND STONE



PLAN VIEW
TOP SLAB

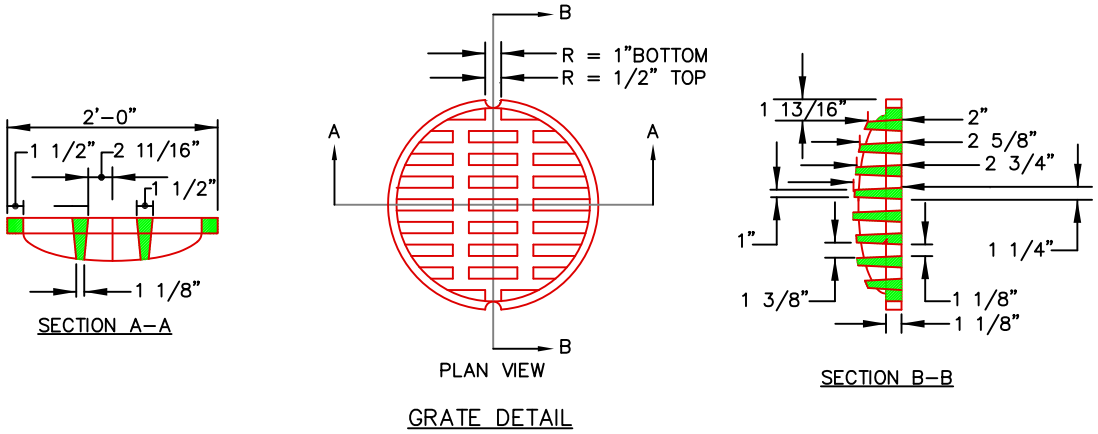
PRECAST CONCRETE CATCH BASIN – TYPE "E"

NOT TO SCALE

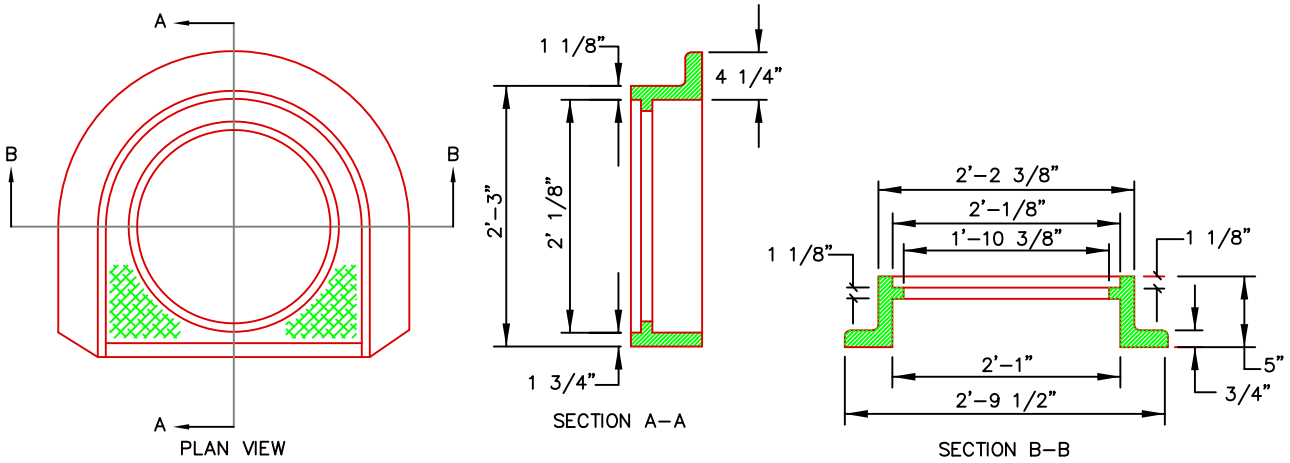
DATE: MARCH 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-7
	PRECAST CONCRETE CATCH BASIN		

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



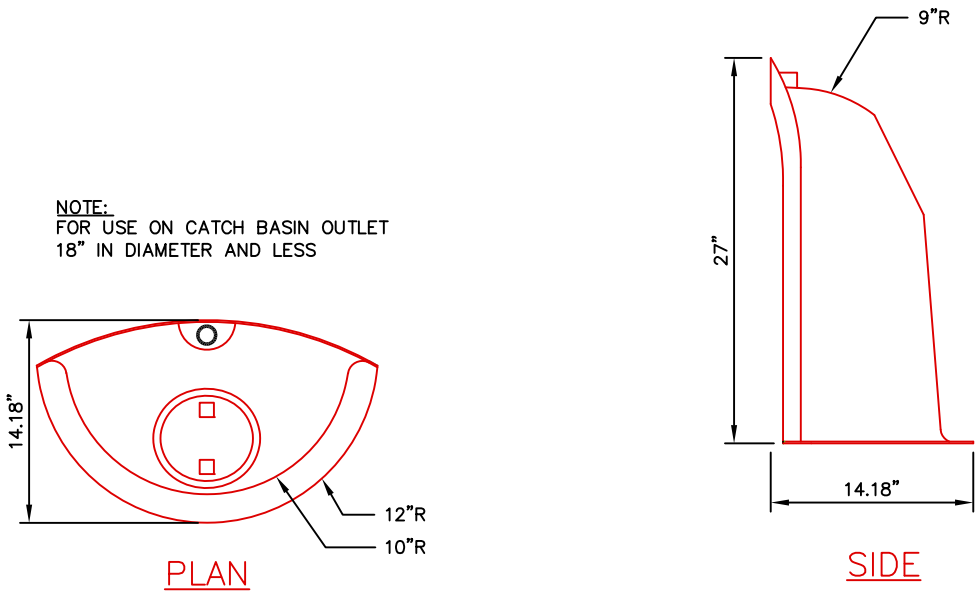
GRATE DETAIL

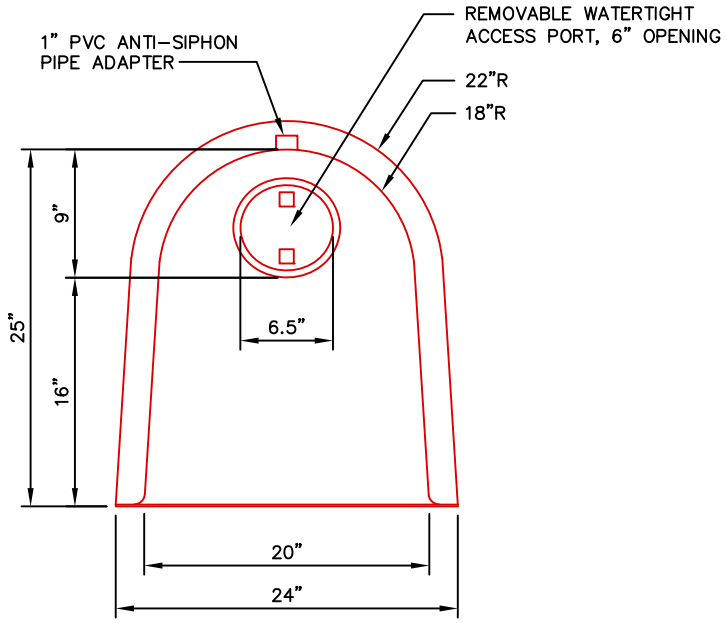


FRAME DETAIL

CATCH BASIN FRAME & GRATE

DATE: AUGUST 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-8
	CATCH BASIN FRAME AND GRATE		



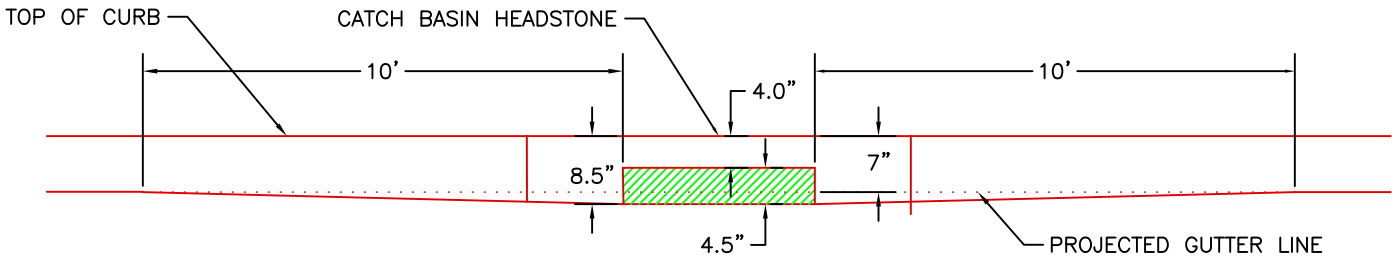


CATCH BASIN HOOD

NOT TO SCALE

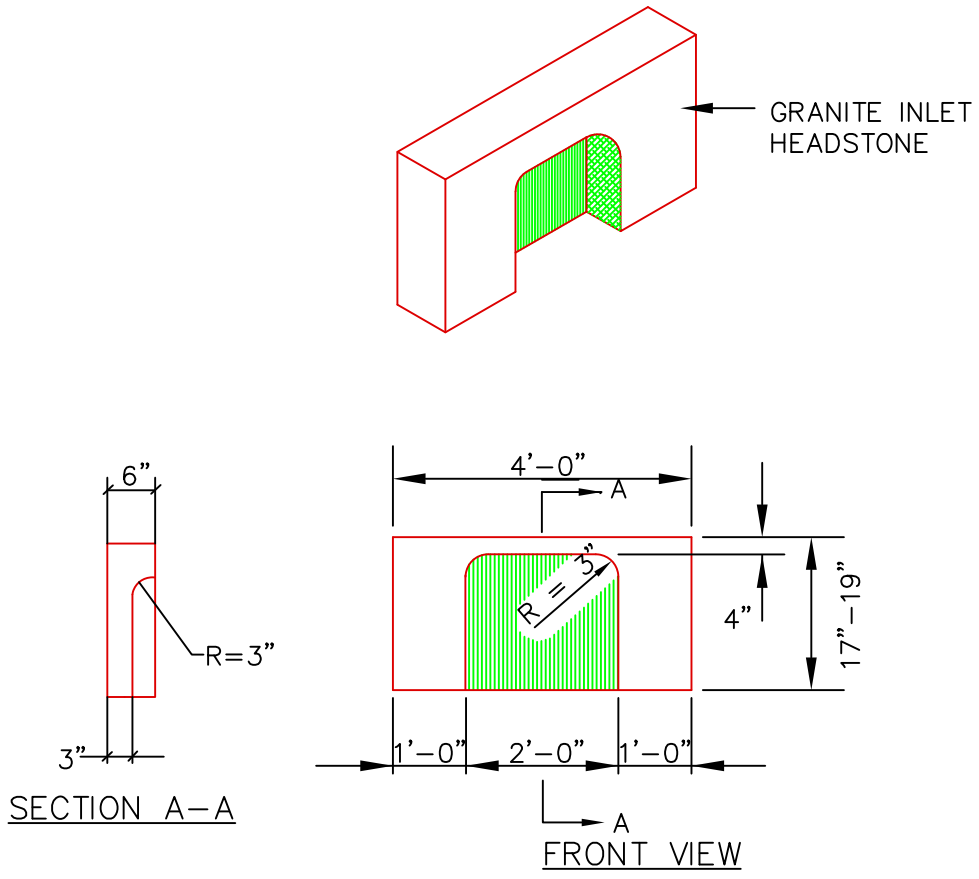
DATE: MARCH 2019 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-9
	CATCH BASIN HOOD		

NOTE:
DISH 10' EITHER SIDE OF HEADSTONE FOR
CATCH BASIN AT LOW POINT



NOT TO SCALE

DATE: AUG 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-10
	TYPICAL PAVEMENT GRADING FOR CATCH BASIN INLETS		



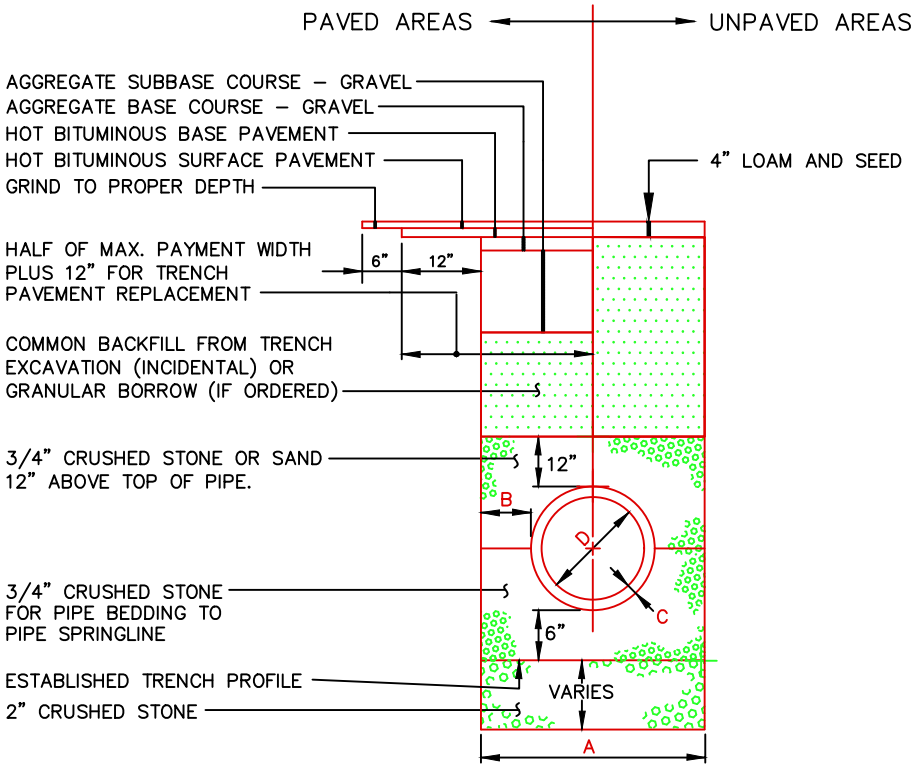
4' GRANITE HEADSTONE FOR CATCH BASIN INLET

NOT TO SCALE

DATE: AUG 2009 REVISED: AUG 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-11
	4' GRANITE HEADSTONE FOR CATCH BASIN INLET		

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..



NOTES

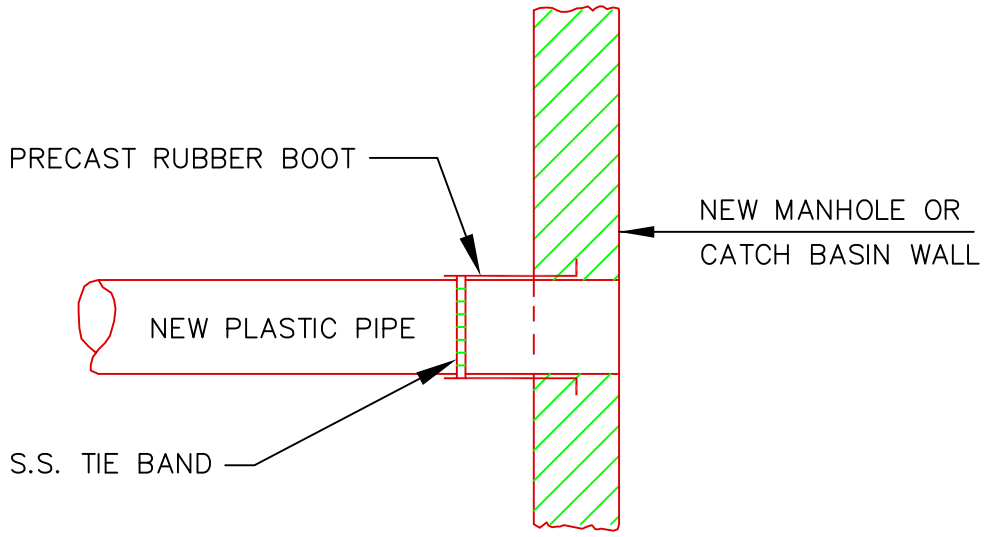
1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION B SHALL BE SUFFICIENT 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

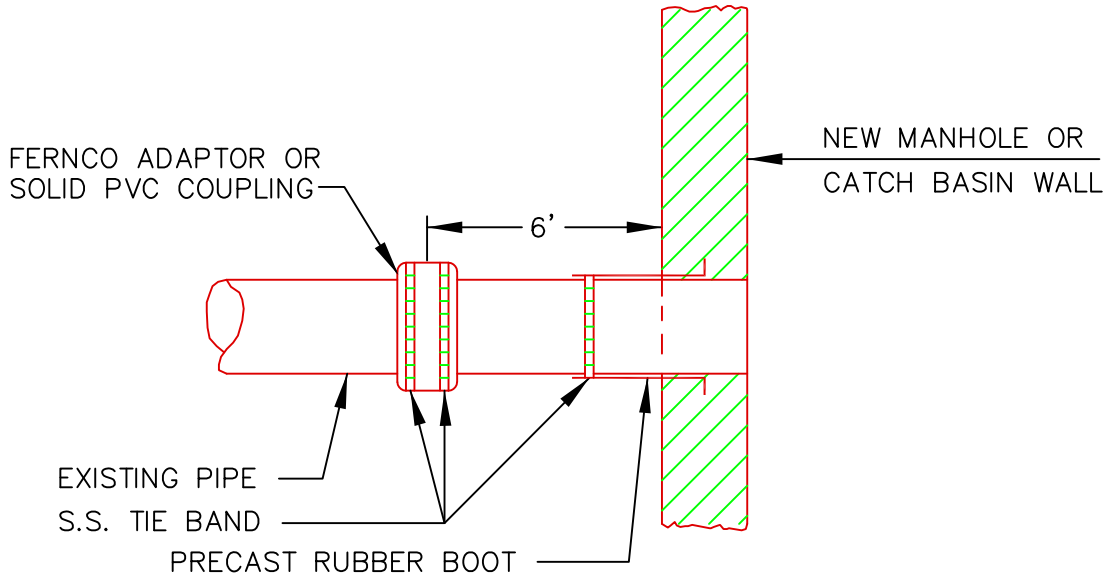
TYPICAL PIPE TRENCH INSTALLATION

NOT TO SCALE

DATE: AUGUST 2009 REVISED: SEPTEMBER 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-12
	TYPICAL PIPE TRENCH INSTALLATION AND NOTES		



METHOD 2 – NEW CONSTRUCTION



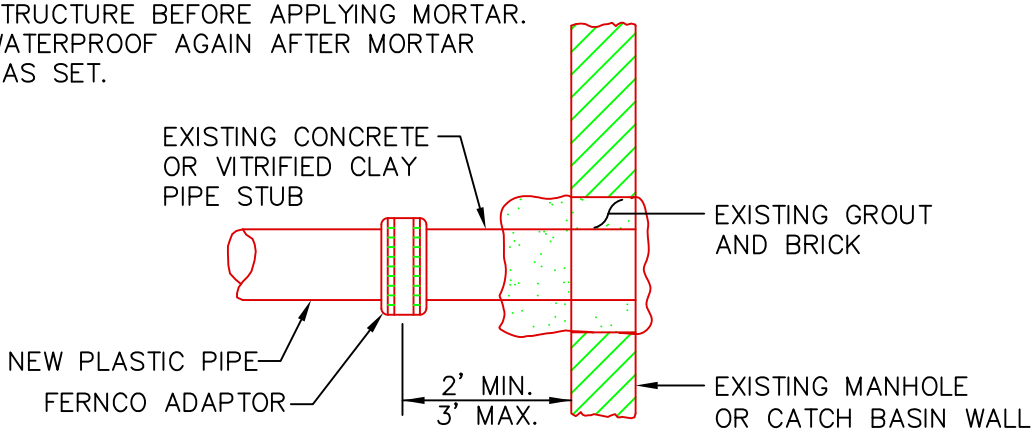
METHOD 1 – EXISTING PIPE INTO NEW STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-13
	PLASTIC PIPE CONNECTION METHODS 1 & 2		

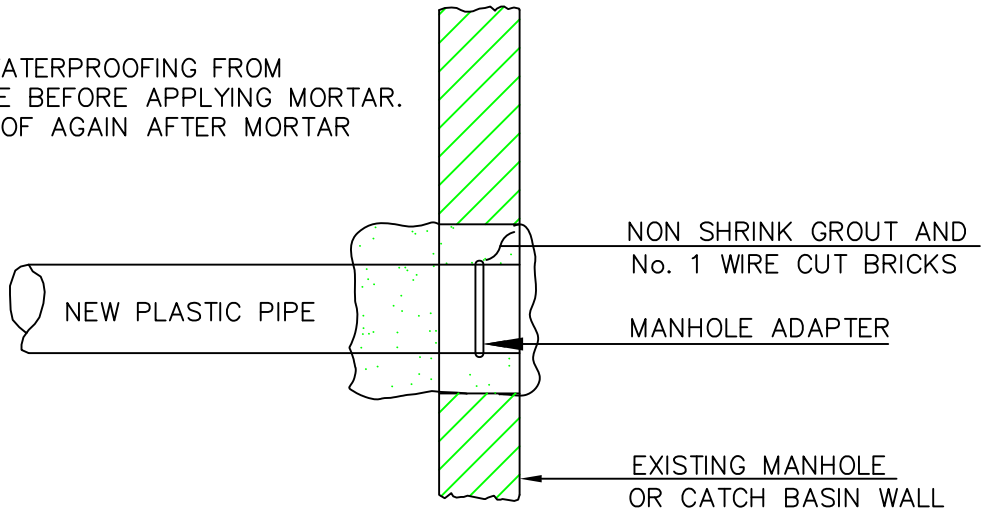
NOTE:
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.



METHOD 4 – NEW PIPE TO EXISTING STRUCTURE STUB

NOTE: EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION. IF PIPE DIAMETER IS SO LARGE THAT CORE DRILLING IS PROHIBITED, THE CONTRACTOR MAY SAW CUT THE STRUCTURE TO CREATE PIPE OPENING. THE NEW OPENING MUST THEN BE SEALED AND WATERTIGHT BOTH INSIDE AND OUTSIDE THE STRUCTURE.

NOTE:
REMOVE WATERPROOFING FROM STRUCTURE BEFORE APPLYING MORTAR. WATERPROOF AGAIN AFTER MORTAR HAS SET.

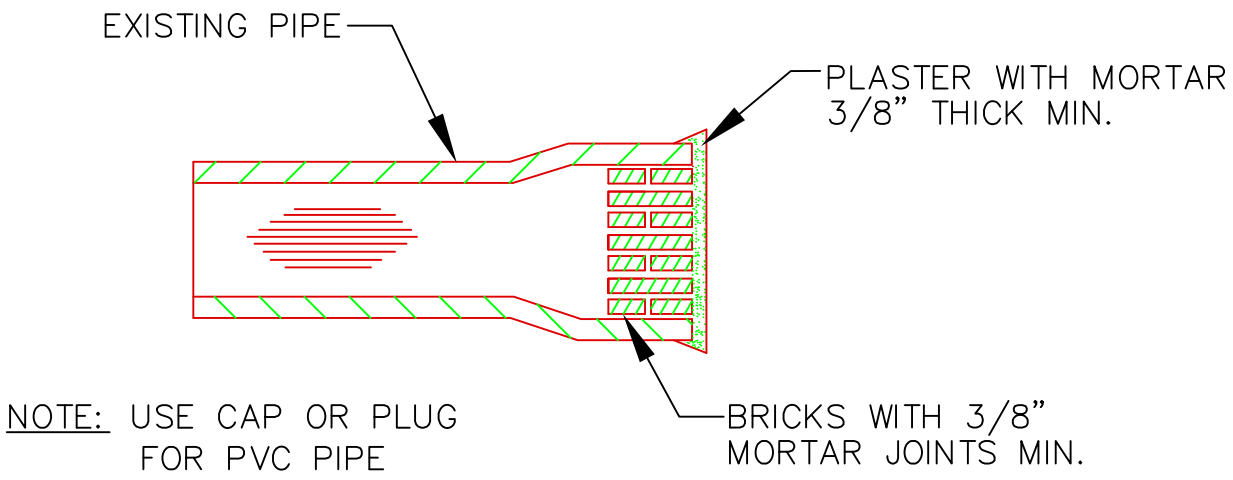


METHOD 3 – NEW PIPE INTO EXISTING STRUCTURE

PLASTIC PIPE CONNECTIONS

NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-14
	PLASTIC PIPE CONNECTION METHODS 3 & 4		



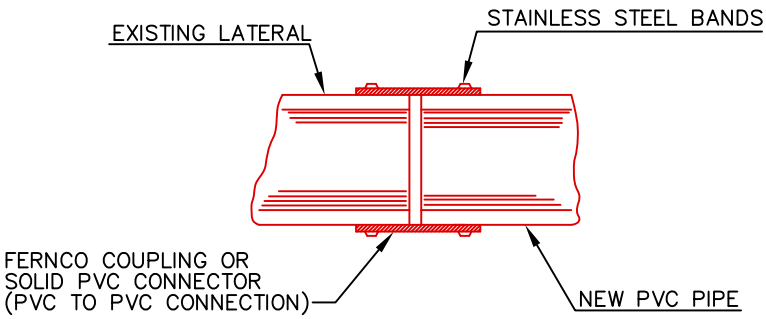
MASONRY PLUG

NOT TO SCALE

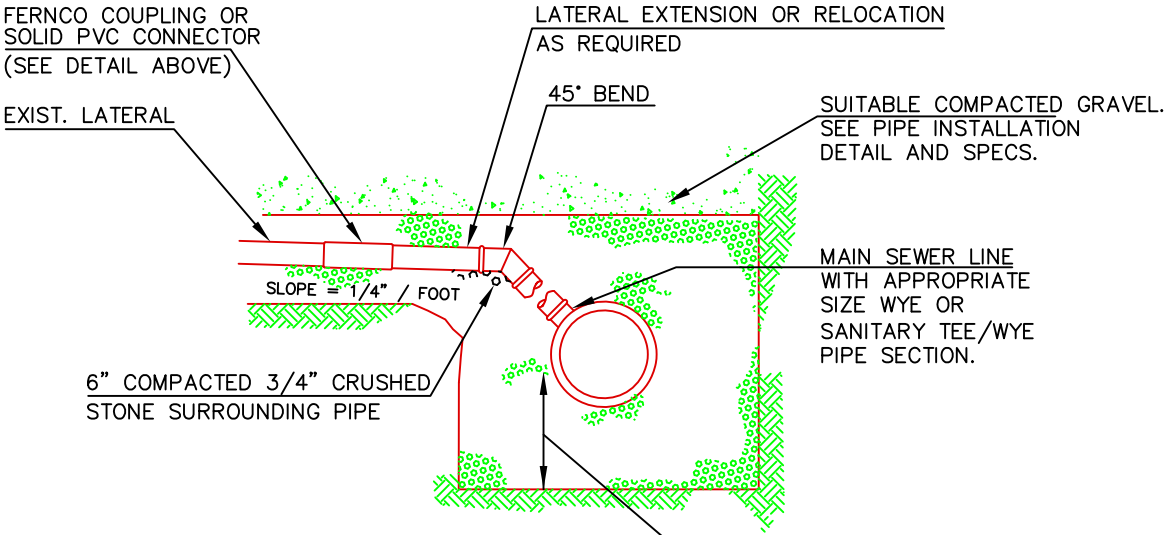
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-15
	MASONRY PLUG		

NOTE:
LOCATIONS AND ELEVATIONS OF STUBS SHOWN ON THE PLANS ARE TO BE CONSIDERED AS APPROXIMATE AND MAY BE ADJUSTED AS DIRECTED TO SUIT FIELD CONDITIONS.

HOUSE CONNECTIONS AND CATCH BASINS CONNECTIONS TO THE MAIN LINE OF THE SEWER, SHALL CONSIST OF AN APPROPRIATE WYE BRANCH CONNECTION AS SHOWN ON THE PLANS, OR AS DIRECTED. ACTUAL WYE LOCATIONS FOR HOUSE CONNECTIONS AND CATCH BASIN CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION. THE CONTRACTOR SHALL KEEP A COMPLETE RECORD OF WYE LOCATIONS WHICH SHALL BE GIVEN TO THE CITY OF PORTLAND UPON COMPLETION OF THE CONTRACT.
ALL PVC TO PVC COUPLING SHALL BE "SOLID PVC COUPLINGS".



FERNCO COUPLING FOR REPAIR OR REPLACEMENT

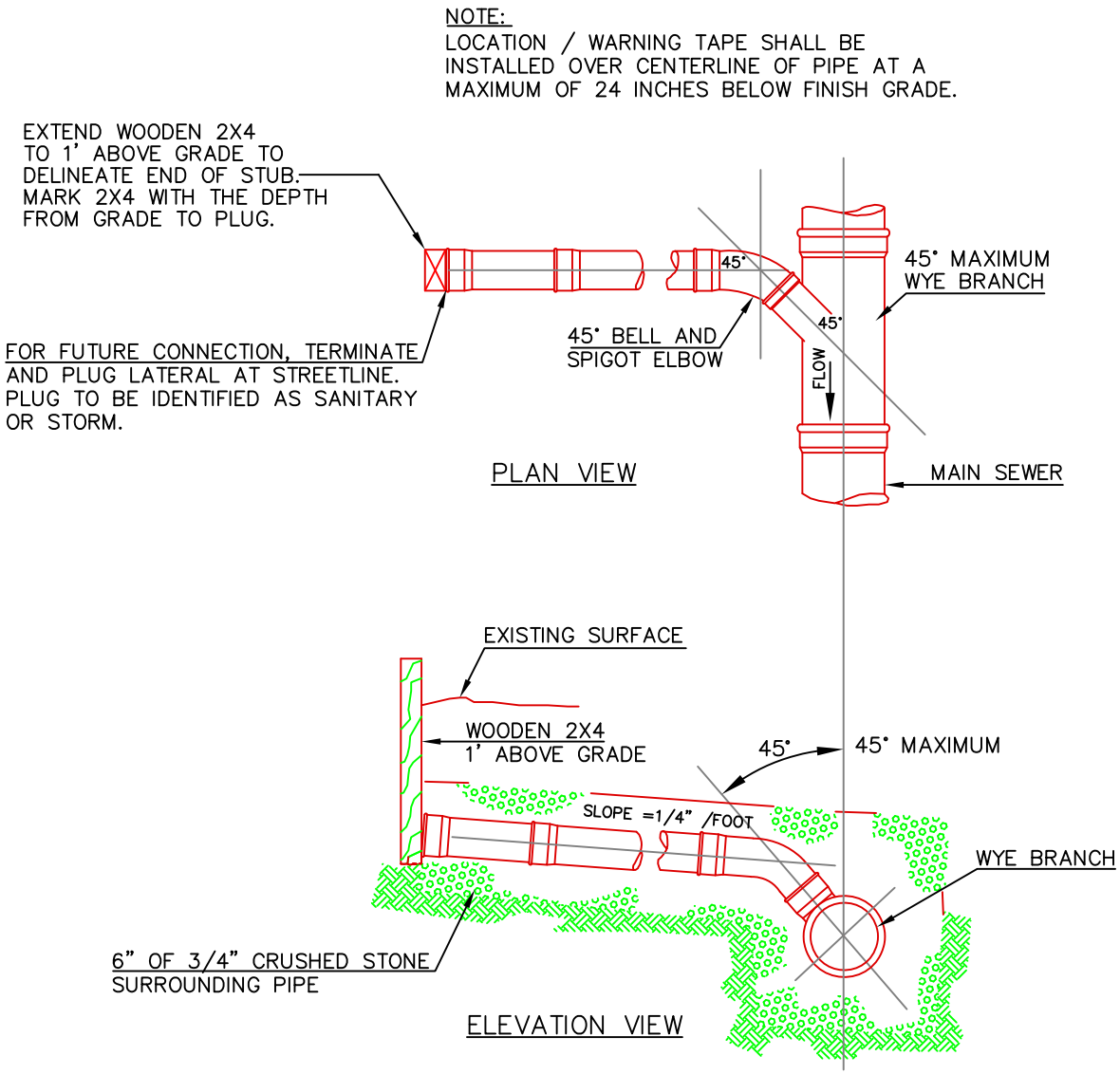


SECTION

TYPICAL EXISTING LATERAL CONNECTION

NOT TO SCALE

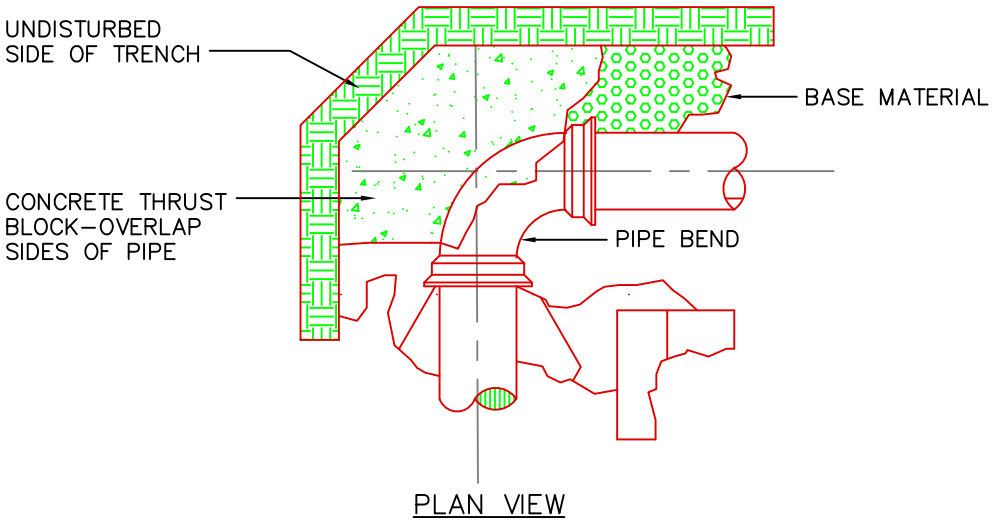
DATE: DEC. 2009 REVISED: DEC. 2021	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-16
	TYPICAL EXISTING LATERAL CONNECTION		

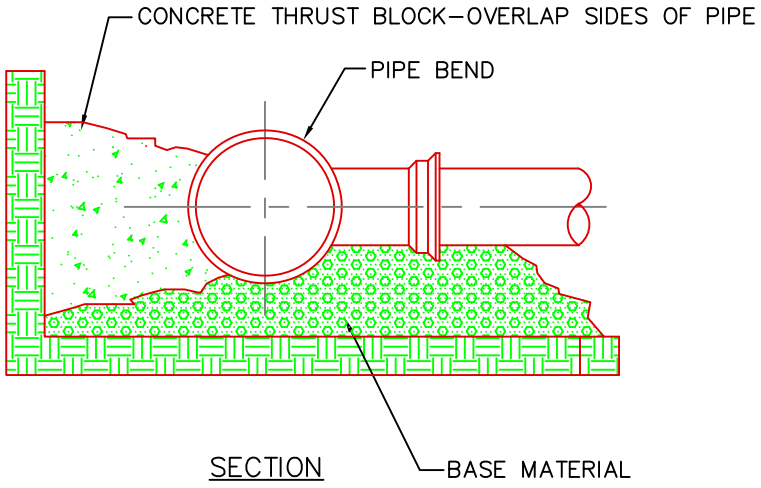


TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-17
	TYPICAL HOUSE LATERAL TEE/WYE CONNECTION		





THRUST/RETAINER SCHEDULE		
1/4 BEND	(90°)	USE POURED–IN–PLACE THRUST BLOCK w/RETAINERS
1/8 BEND	(45°)	THRUST BLOCK w/RETAINERS
1/16 BEND	(22 1/2"°)	THRUST BLOCK
1/32 BEND	(11 1/4"°)	THRUST BLOCK

NOTE: KEEP CONCRETE LEAR OF PIPE JOINT, NUTS AND BOLTS

FORCE MAIN – CONCRETE THRUST BLOCK PLACEMENT ON VERTICAL & HORIZONTAL BENDS

NOT TO SCALE

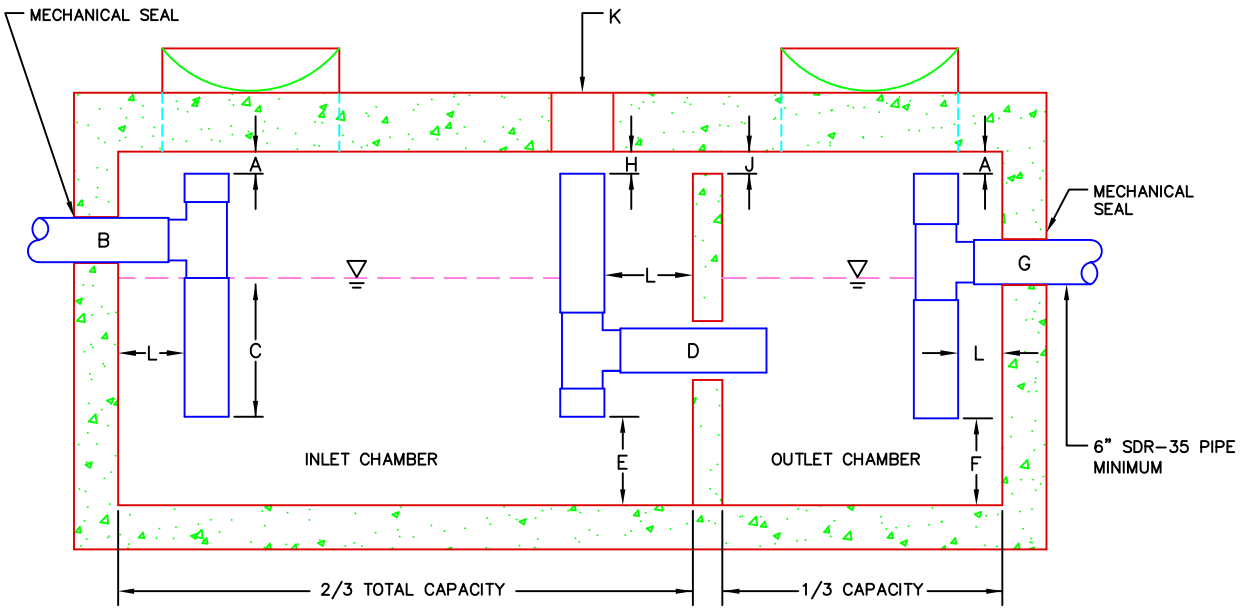
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-18
	FORCE MAIN CONCRETE THRUST BLOCK PLACEMENT		

1000 GALLON GREASE INTERCEPTOR:

A) MINIMUM 6", BUT NOT LESS THAN PIPE DIAMETER.
B) INLET PIPE INVERT TO BE 2 1/2" ABOVE LIQUID SURFACE.
C) INLET PIPE TO TERMINATE 2/3 DEPTH OF WATER LEVEL.
D) BAFFLE T
E) 6" FROM FLOOR TO END OF BAFFLE PIPE.
F) 6" FROM FLOOR TO END OF OUTLET PIPE.
G) OUTLET PIPE NO SMALLER THAN INLET PIPE.
H) TOP OF BAFFLE PIPE TERMINATES NO LOWER THAN BAFFLE HEIGHT.
I) INLET CHAMBER IS ⅔ TOTAL CAPACITY; OUTLET CHAMBER IS ⅓ TOTAL CAPACITY.
J) 6" MINIMUM DISTANCE FROM CEILING.
K) MINIMUM 6" CLEANOUT.
L) INLET AND OUTLET PIPES MUST BE SPACED SO THAT CLEAR ACCESS CAN BE MADE FROM MANHOLES.

THIS STRUCTURE MUST DISCHARGE TO A CITY OF PORTLAND STANDARD MANHOLE WITH CHANNEL AND MUST BE RATED.

DAILY PROCESS FLOW FROM THE FACILITY WITH NO SANITARY OR OTHER EXTRANEOUS WASTES FLOWING THROUGH IT.

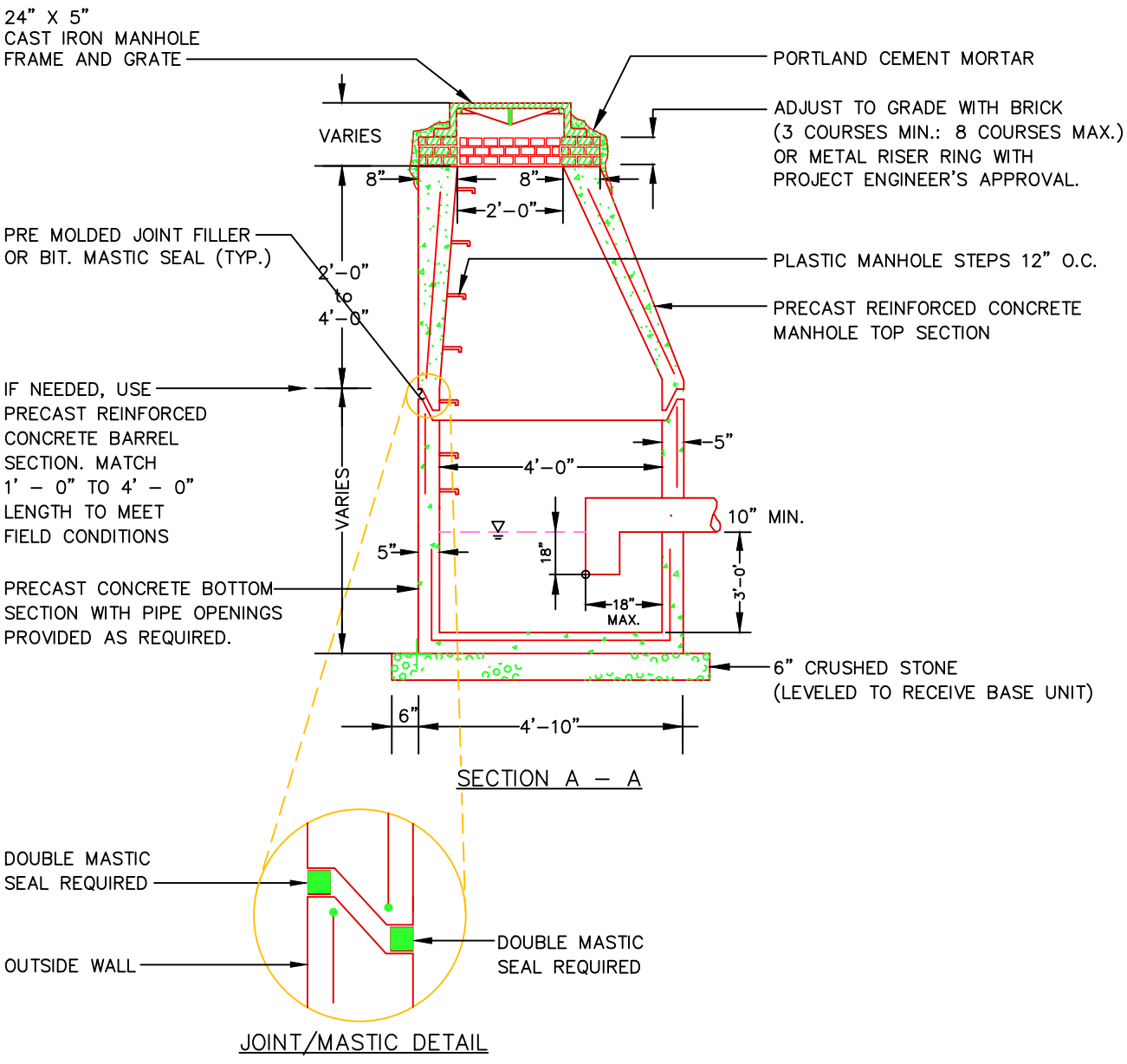


1000 GALLON GREASE INTERCEPTOR

DATE: APRIL 2014 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-19
	EXTERNAL GREASE TRAP DESIGN		

NOTES:

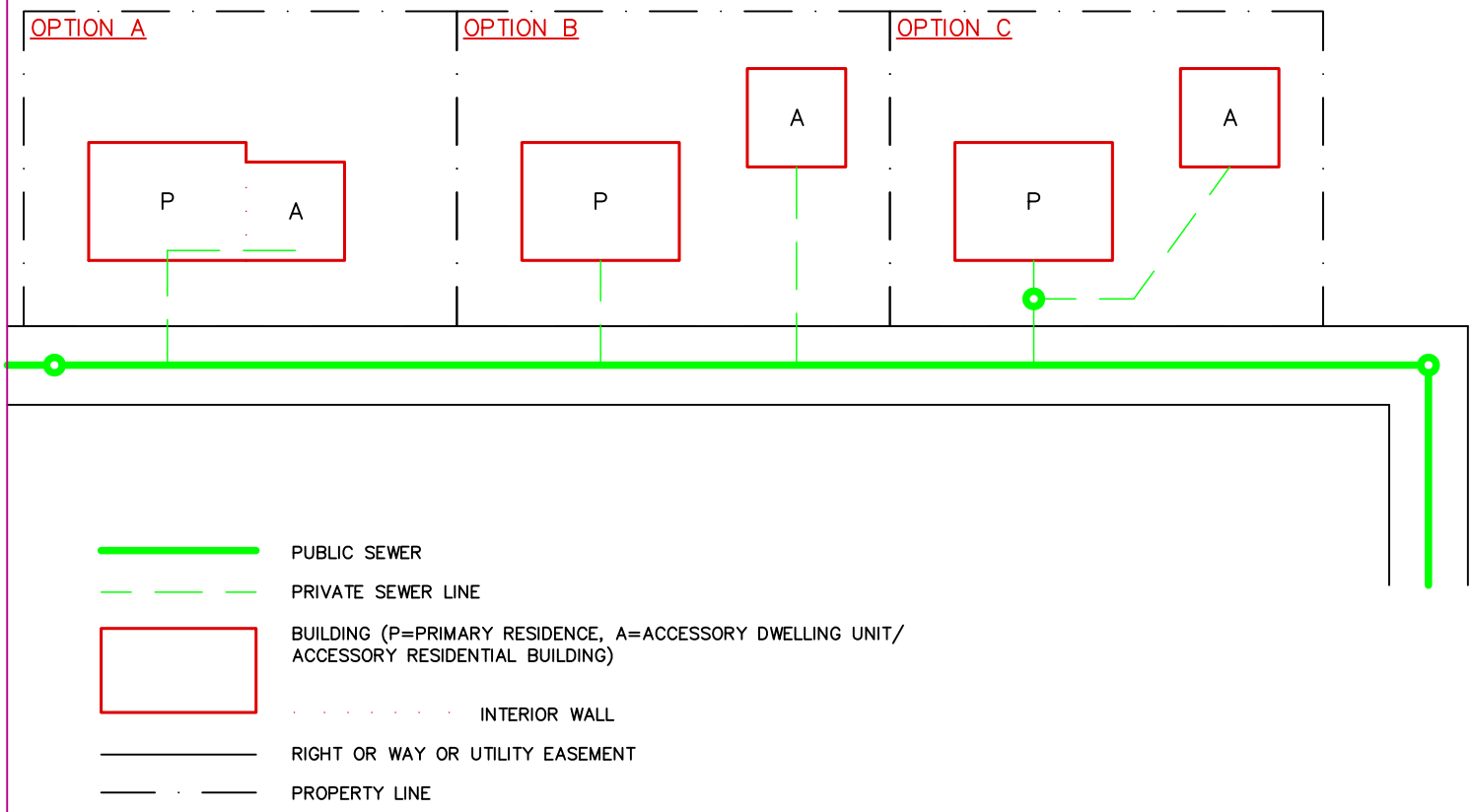
- FOR USE IN PARTIALLY OR TOTALLY ENCLOSED PARKING GARAGES, AUTOMOTIVE REPAIR FACILITIES OR ANY OTHER PROPOSED STRUCTURE WHERE DEEMED APPROPRIATE BY THE CITY ENGINEER.
- DISCHARGE SHALL BE TO SANITARY SEWER.
- A VENT PIPE MAY BE REQUIRED THAT HAS A VERTICAL OUTLET OFF TO THE SIDE OF THE STRUCTURE.
- AN OIL ABSORBENT BOOM IS REQUIRED TO BE PLACED WITHIN THE MANHOLE ON THE WATER SURFACE AND REPLACED AT A MINIMUM ANNUALLY.



OIL / GRIT SEPARATOR

NOT TO SCALE

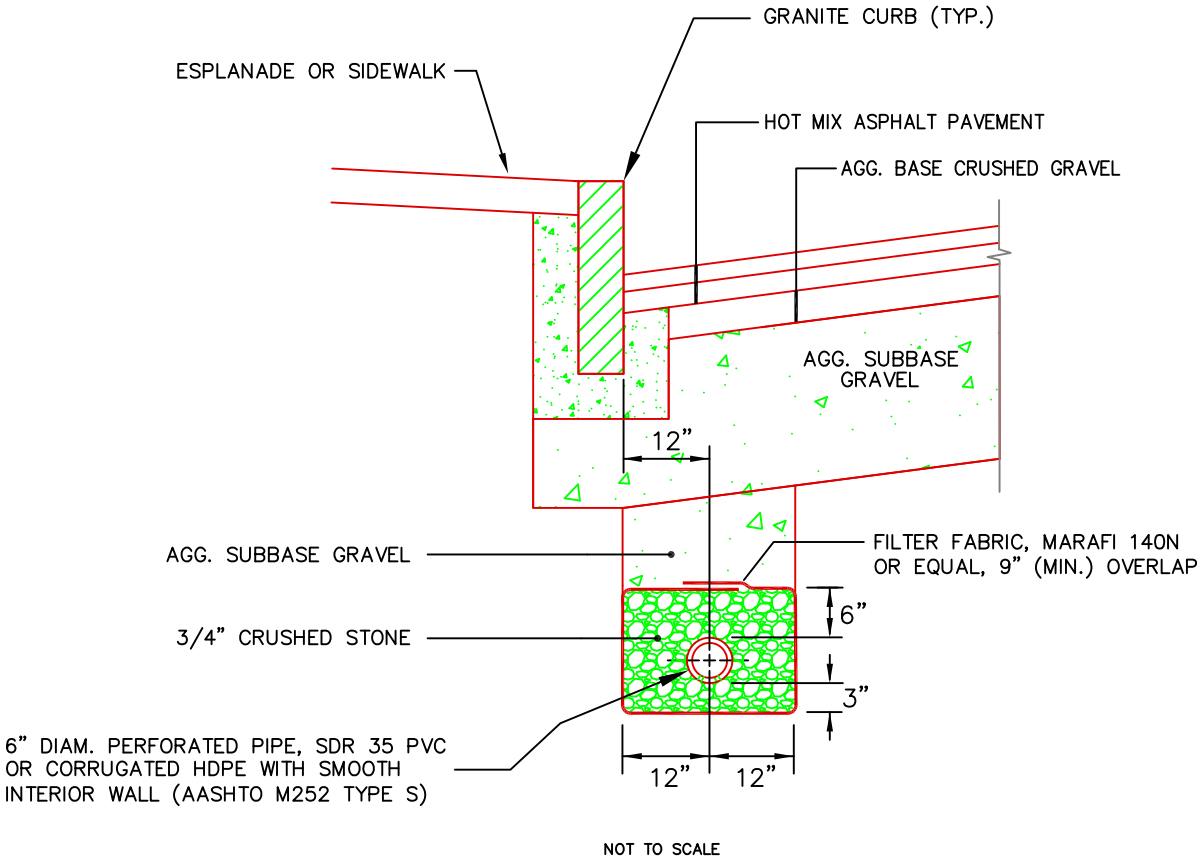
DATE: FEB 2015 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-20
	OIL / GRIT SEPARATOR		



POTENTIAL SEWER LINE CONFIGURATION FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT

NOT TO SCALE

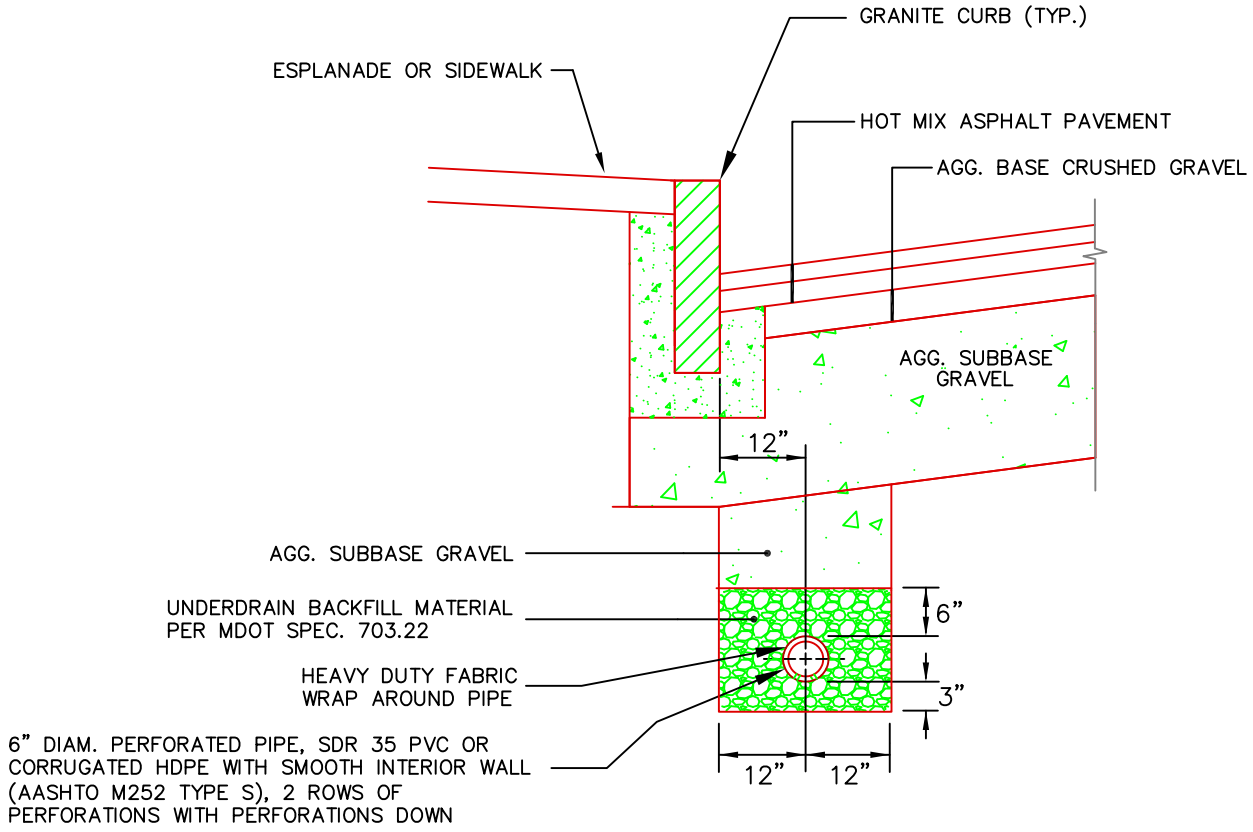
DATE: APRIL 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-21
	SEWER LINE CONFIGURATIONS FOR PRIMARY RESIDENCES WITH AN ACCESSORY DWELLING UNIT		



NOT TO SCALE

NOTES
1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

DATE: AUGUST 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-22
	TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE A		



NOT TO SCALE

NOTES
1. UNDERDRAIN PIPE INVERT ELEVATIONS SHALL BE AT LEAST 42 INCHES BELOW GUTTER GRADES.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN. THE PIPE SHALL BE FURNISHED WITH A HEAVY DUTY FABRIC WRAP, SUCH AS "FILTER SOCK" BY ADS.

DATE: AUGUST 2009 REVISED: AUG 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS** SECTION II	FIGURE: II-23
	TYPE "B" UNDERDRAIN INSTALLATION ALTERNATIVE B		

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.

Figure IV-1: City of Portland Recommended Tree List

Small Trees - (Mature Height < 25')

Common Name	*Botanical Name*	Cultivars	Uses	Native	Notes
Amelanchier or Shadbush	*Amelanchier*	"Autumn Brilliance", "Cumulus", "Robin Hill Pink"	Street tree/ Naturalize	x	Single stem tree forms
European Hornbeam	*Carpinus betulus*	Upright forms available	Street tree		
American Hornbeam	*Carpinus caroliniana*		Lawn/Landscape	x	
Hawthorn	*Crataegus crusgalli*	"Cusgali", "Winter King"	Street tree		Thornless
Flowering Crabapple	*Malus x*	"Adirondack", "Springsnow"	Street tree		
Sargent Cherry	*Prunus sargentii*	"Accolade","Pink Flair"	Street tree & Ornamental		
Striped Maple	*Acer pennsyvanicum*		Naturalize	x	Naturalizing in shaded areas
Magnolia	*Magnolia spp.*	Many cultivars	Ornamental		
Hop-Hornbeam	*Ostrya virginiana*		Naturalize	x	Tolerates shade / understory
Sourwood	*Oxydendrum*		Ornamental	x	Interesting lat summer flower
"Arnold's Promise" Witchhaz	*Hamamelis*				

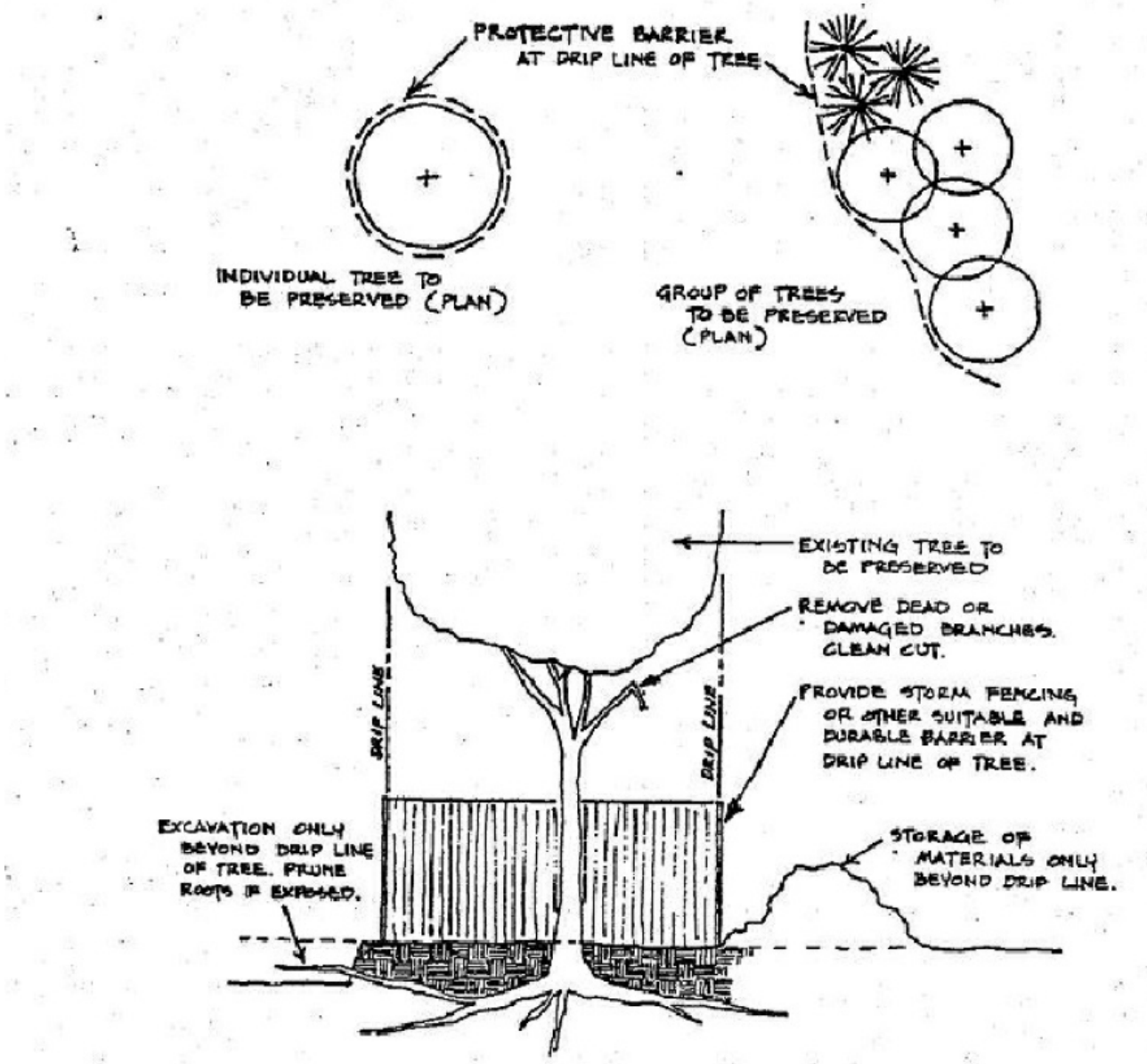
Medium Trees to Large trees 25' > 45'

Common Name	*Botanical Name*	Cultivars	Uses	Native	Notes
Red Maple	*Acer rubrum*	"Armstrong", "Bowhall", "Karpick", "Red Pointe"	Street tree/ Landscape	x	Cultivars from upright to oval shape
Sugar Maple	*Acer saccharum*	"Green Mountain"	Naturalize Landscape use	x	
White Birch	*Betula papyrifera 'Renc*	"Renaissance Reflection"	Naturalize	x	
River Birch	*Betula nigra*	"Heritage"	Naturalize	x	
Yellow Birch	*Betula lenta*		Naturalize	x	
Hackberry	*Celtis laevigata*		Street tree		
Gingko	*Ginkgo biloba*	"Mygar", "Autumn Gold"	Street tree		
Thornless Honeylocust	*Gleditsia inermis*	"Streetkeeper" (Upright form)	Street tree		
Tuliptree	*Liriodendron*		Street tree		
Tupelo	*Nyssa sylvatica*		Naturalize		
Swamp White Oak	*Quercus bicolor*		Street tree/Naturalize		
Red Oak	*Quercus rubra*		Street tree/Naturalize		
Upright-Growing Oaks	*"Beacon" Oak*		Street tree/Naturalize		
	"Urban Pinnacle" Oak		Street tree/Naturalize		
	"Kindred Spirit" Oak		Street tree/Naturalize		
	"Regal Prince"		Street tree/Naturalize		
American Elm	*Ulmus americana*	"Accolade", "Princeton"	Street tree	x	
Lacebark Elm	*Ulmus parvifolia*		Street tree		Interesting bark
Zelkova	*Zelkova serrata*	Musashino Zelkova	Street tree		

Conifers

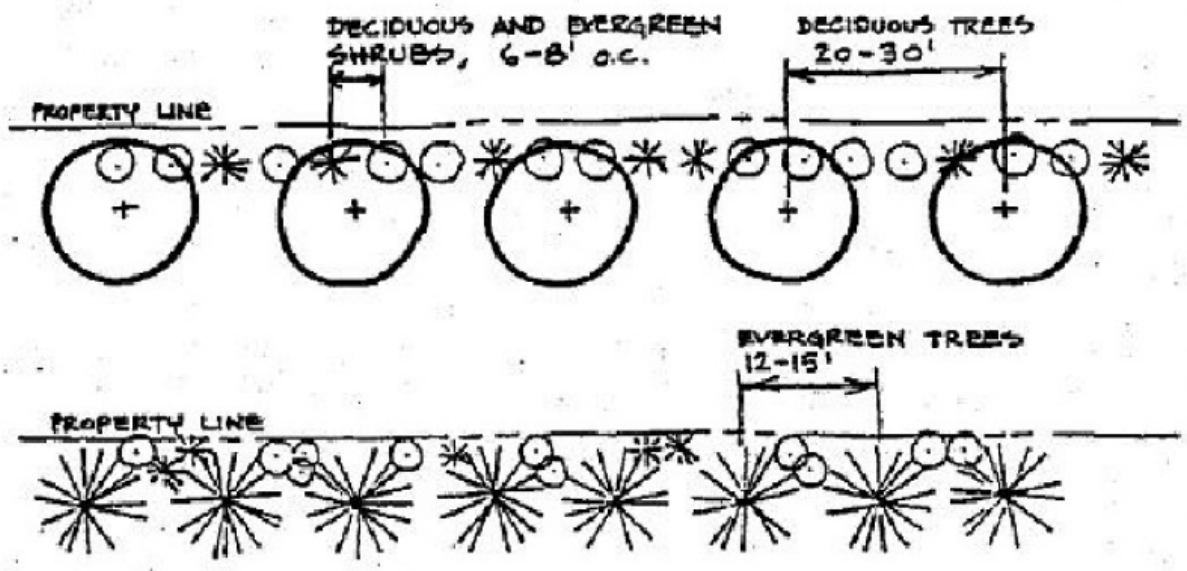
Common Name	*Botanicanal Name*	Cultivars	Uses	Native	Notes
Alaska Cedar	*Callitropsis nootkatens*	Alaska Weeping Cedar	Buffer planting		Fast growing
Red Cedar	*Juniperus virginiana*		Naturalize/ Ornamental	x	
Eastern Larch or Tamarack	*Larix larcina*		Naturalize/ Ornamental	x	Deciduous
Dawn Redwood	*Metasequoia*		Ornamental		Deciduous
White Spruce	*Picea glauca*		Naturalize	x	
Serbian Spruce	*Picea omorika*		Ornamental		Upright / good for narrow locations
Pitch Pine	*Pinus rigida*	Small sizes available	Naturalize	x	Full sun, sandy soils
White Cedar	*Tuja occidentalis*	"Dark American", "Techny"	Naturalize	x	Can be pruned into hedge

Notes:
In the case of street trees, small trees (<25') are preferred in locations with overhead utilities, and fruiting varieties should generally be avoided.

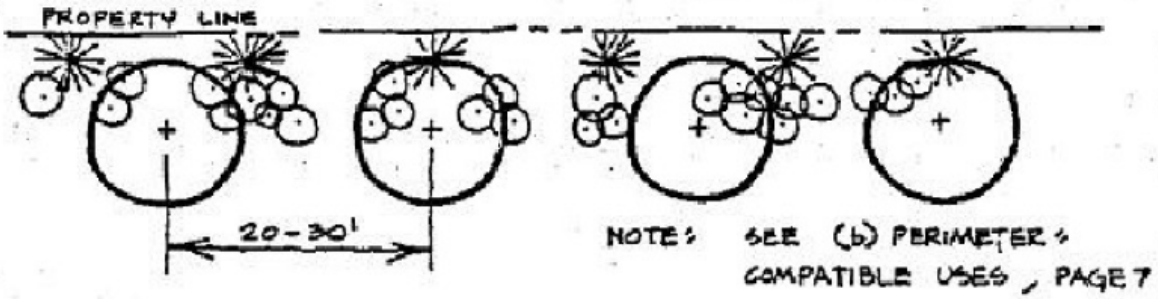


NOT TO SCALE

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION** SECTION IV	**FIGURE:** **IV-2**
REVISED:	**TREE PRESERVATION DETAIL**		



A. Commercial/Industrial Screening



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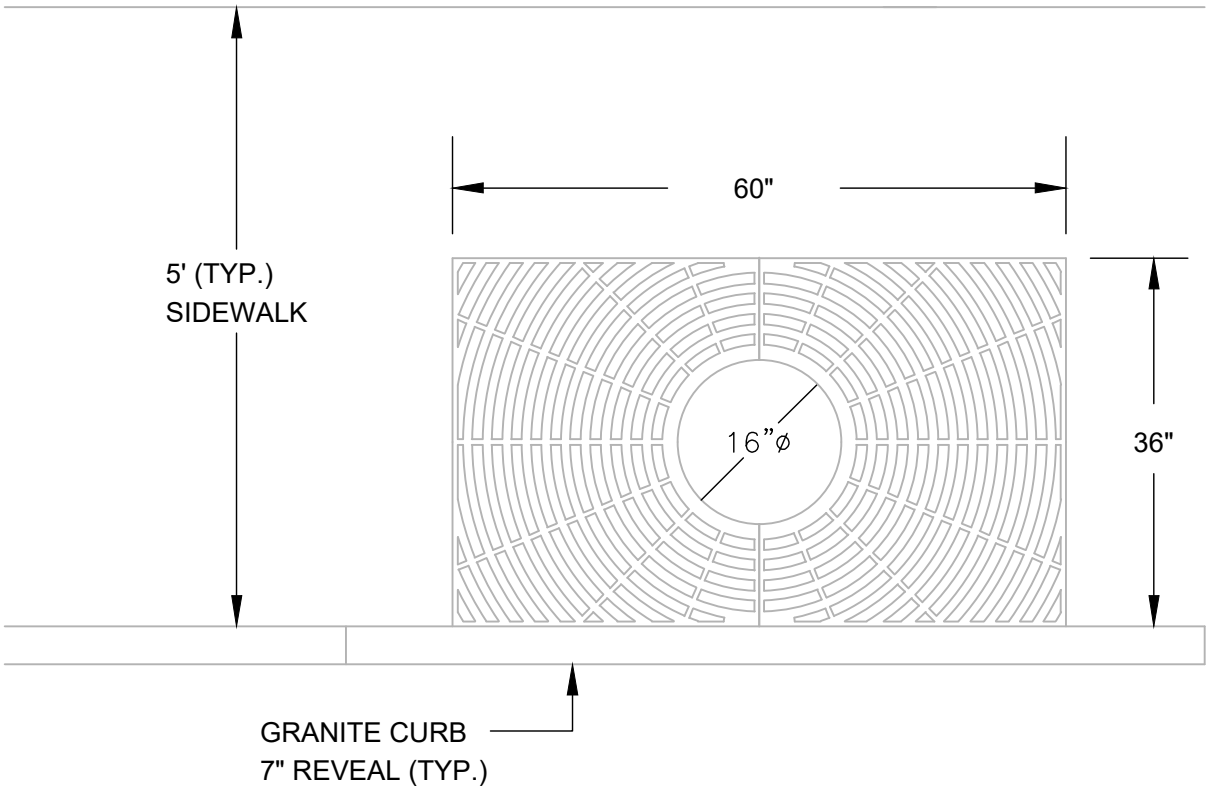
DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION** SECTION IV	**FIGURE:** **IV-3**
REVISED:	**LANDSCAPING BETWEEN COMPATIBLE USES**		

NOTES:

1. 16"Ø EXPANDABLE TREE OPENING. 0.25" SLOT OPENINGS.
2. ALL TREE GRATES SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST.
3. FINAL PLACEMENT LOCATION OF TREE GRATES SHALL BE APPROVED BY DPW AND SHALL CONSIDER SIDEWALK WIDTH AND ADA COMPLIANCE, ON-STREET PARKING CONFIGURATIONS, ABOVE AND BELOW GROUND UTILITIES AND OTHER OBSTRUCTIONS.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY. SEE SIDEWALK CONSTRUCTION DETAILS IN SECTION 1 OF THE TECHNICAL MANUAL.
5. WHEN THE TREE GRATE IS INSTALLED IN A CONCRETE SIDEWALK, A NOTCH MUST BE INSTALLED ALONG THE EDGE TO HOLD THE GRATE, WHEN INSTALLED IN A BRICK SIDEWALK IT REQUIRES A FRAME TO BE INSTALLED TO HOLD THE GRATE IN PLACE.



PLAN VIEW

EXPANDABLE TREE GRATE WITH FRAME
NEENAH MODEL R-8810

NOT TO SCALE

http://www.nfco.com/literature/TreeGrateCatalog22/Avenue.pdf

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**LANDSCAPE AND LANDSCAPING PRESERVATION EXISTING VEGETATION** STANDARDS - SECTION IV	FIGURE:
	EXPANDABLE TREE GRATE WITH FRAME FOR NARROW RESIDENTIAL URBAN STREETS		IV-4A

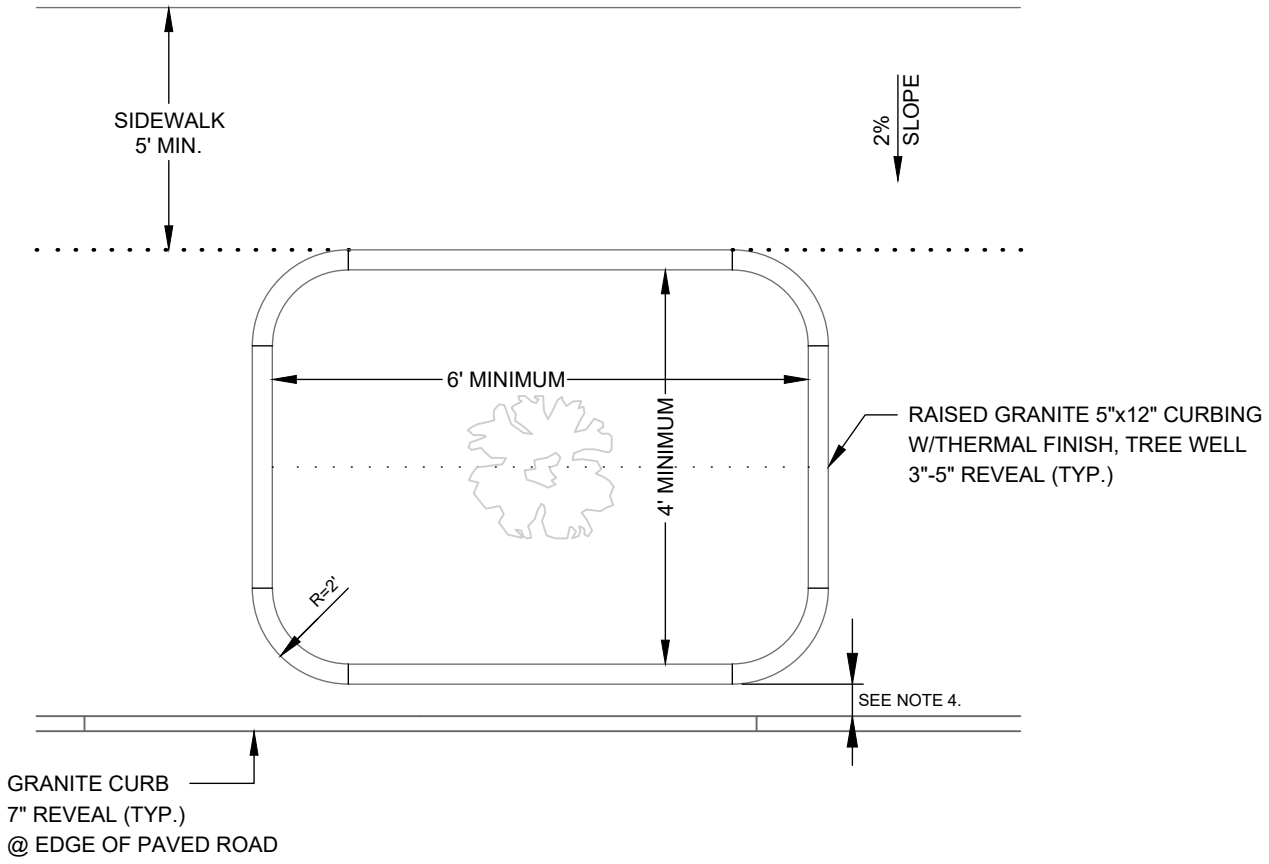
NOTES:

1. ALL TREE WELLS SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST.

2. FINAL PLACEMENT LOCATION OF THE GRANITE CURB TREE WELL SHALL BE APPROVED BY DPW AND SHALL CONSIDER SIDEWALK WIDTH, STREET PARKING STATUS, ABOVE AND BELOW GROUND UTILITIES AND OTHER OBSTRUCTIONS.

3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY. SEE SIDEWALK CONSTRUCTION DETAILS IN SECTION 1 OF THE TECHNICAL MANUAL.

4. RAISED CURB TREE WELL OFFSETS FROM THE CURB LINE SHALL TAKE THE LOCATION OF ON-STREET PARKING INTO ACCOUNT. WHERE ADJACENT TO ON-STREET PARKING AND SIDEWALK WIDTH ALLOWS, A MINIMUM OFFSET OF 2 FEET IS PREFERRED, UNLESS IT CAN BE DEMONSTRATED THAT THE PLACEMENT OF THE TREE WELLS WILL NOT INTERFERE WITH THE OPENING OF VEHICLE DOORS.



PLAN VIEW

GRANITE BORDER TREEWELL IN SIDEWALK WITH NO ESPLANADE

NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**LANDSCAPING AND LANDSCAPE PRESERVATION** STANDARDS - SECTION IV	FIGURE: IV-4B
	GRANITE BORDER TREE WELL IN SIDEWALK WITH NO ESPLANADE		

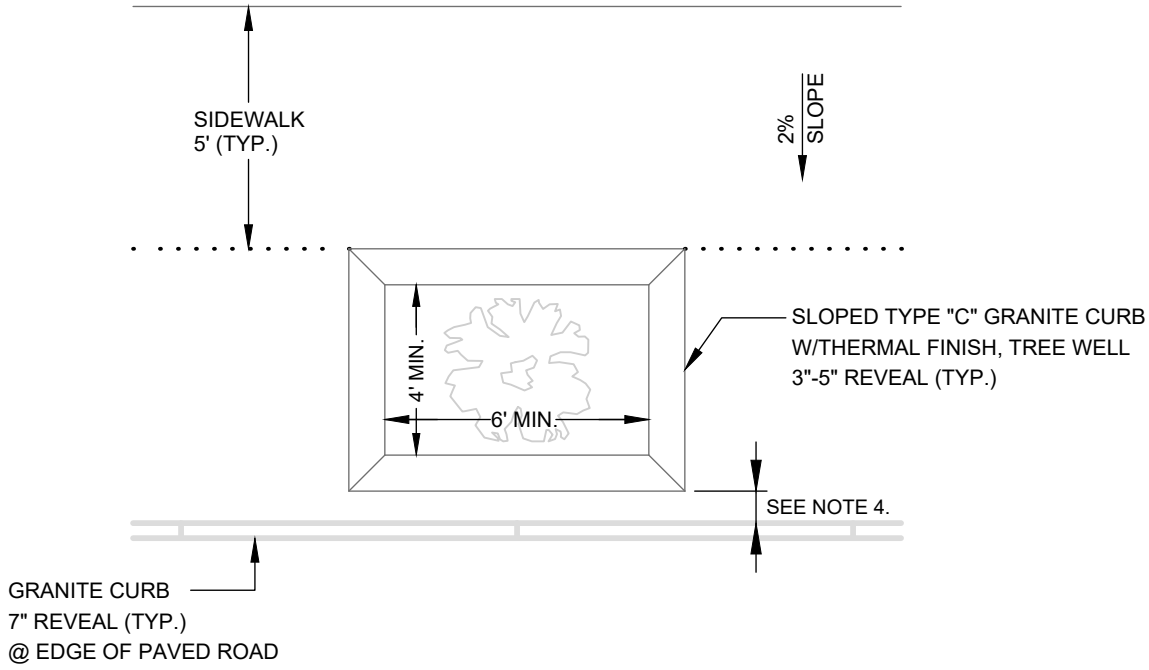
NOTES:

1. ALL TREE WELLS SHALL COMPLY WITH CITY TECHNICAL STANDARDS AND MUST BE APPROVED BY THE CITY ARBORIST.

2. FINAL PLACEMENT LOCATION OF THE GRANITE CURB TREE WELL SHALL BE APPROVED BY DPW AND SHALL CONSIDER SIDEWALK WIDTH, STREET PARKING STATUS, ABOVE AND BELOW GROUND UTILITIES AND OTHER OBSTRUCTIONS.

3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY. SEE SIDEWALK CONSTRUCTION DETAILS IN SECTION 1 OF THE TECHNICAL MANUAL.

4. RAISED CURB TREE WELL OFFSETS FROM THE CURB LINE SHALL TAKE THE LOCATION OF ON-STREET PARKING INTO ACCOUNT. WHERE ADJACENT TO ON-STREET PARKING AND SIDEWALK WIDTH ALLOWS, A MINIMUM OFFSET OF 2 FEET IS PREFERRED, UNLESS IT CAN BE DEMONSTRATED THAT THE PLACEMENT OF THE TREE WELLS WILL NOT INTERFERE WITH THE OPENING OF VEHICLE DOORS.

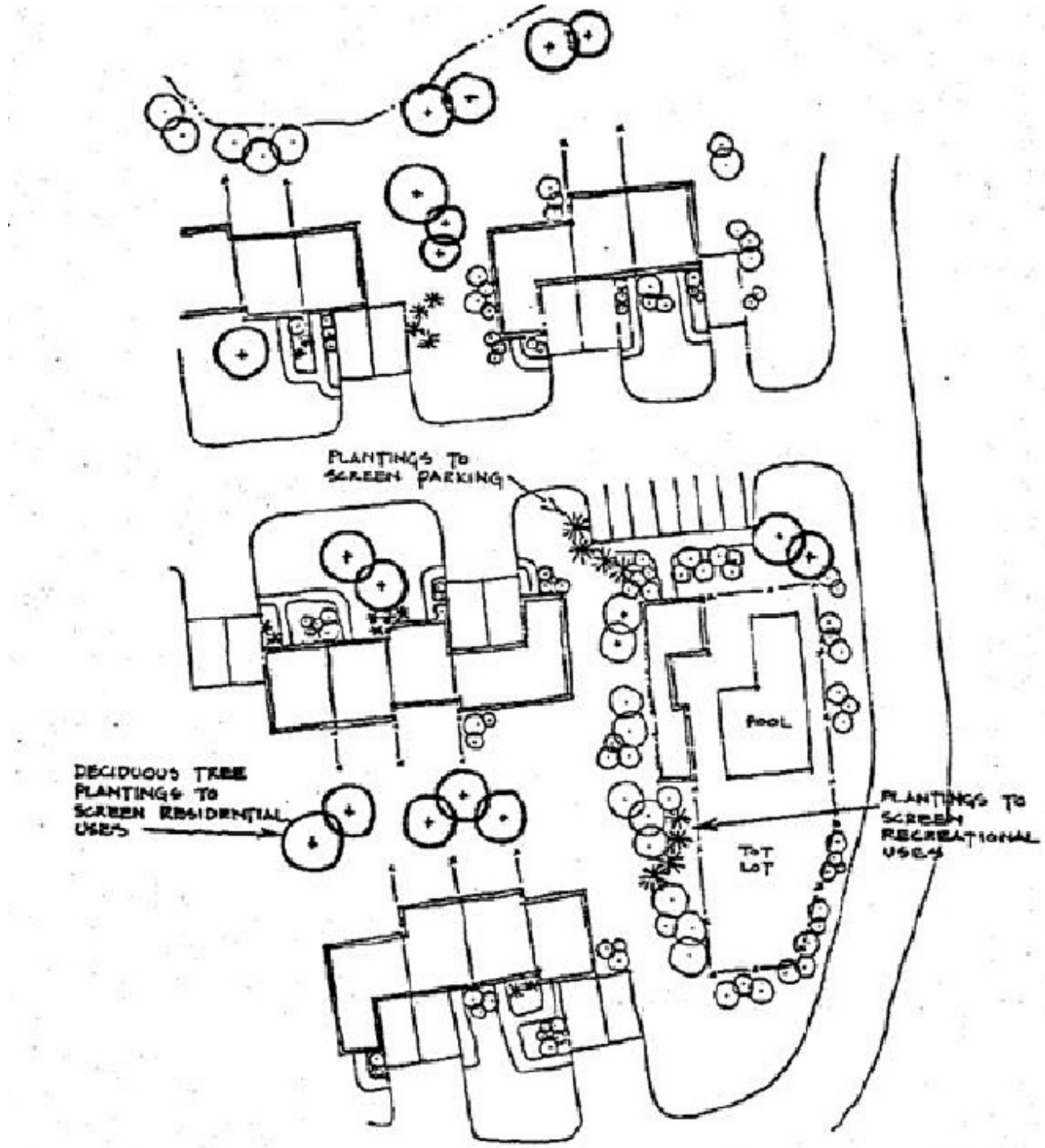


PLAN VIEW

SLOPED TYPE "C" TREE WELL IN SIDEWALK WITH NO ESPLANADE

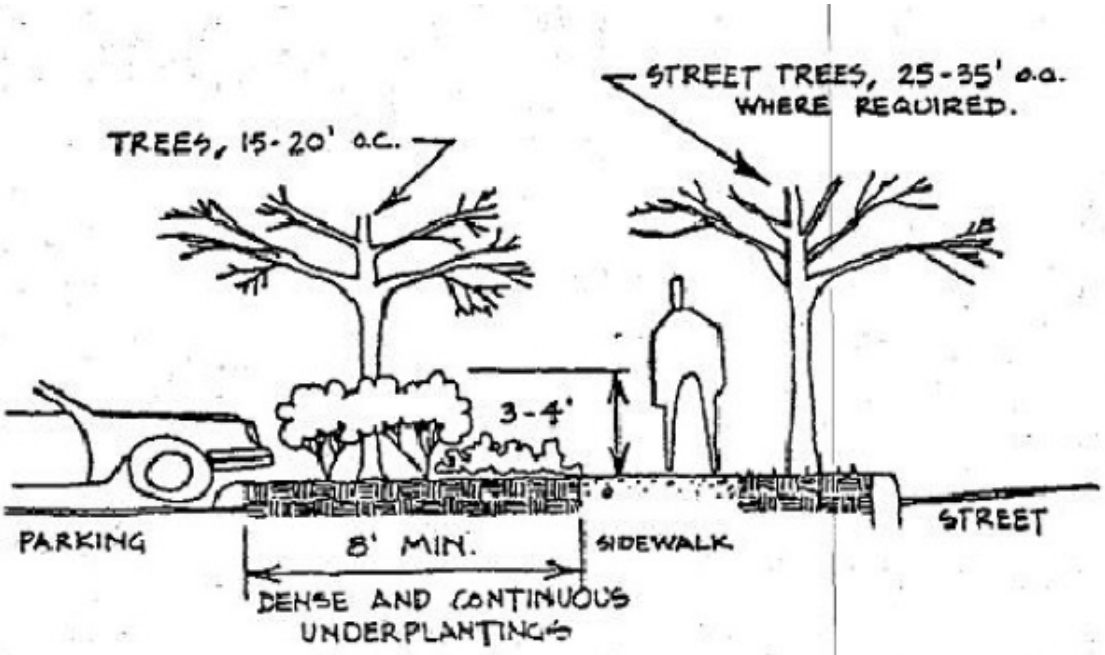
NOT TO SCALE

DATE: NOV. 2022 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**LANDSCAPING AND LANDSCAPE PRESERVATION** STANDARDS - SECTION IV	FIGURE: IV-4C
	SLOPED TYPE "C" GRANITE TREE WELL IN SIDEWALK WITH NO ESPLANADE		

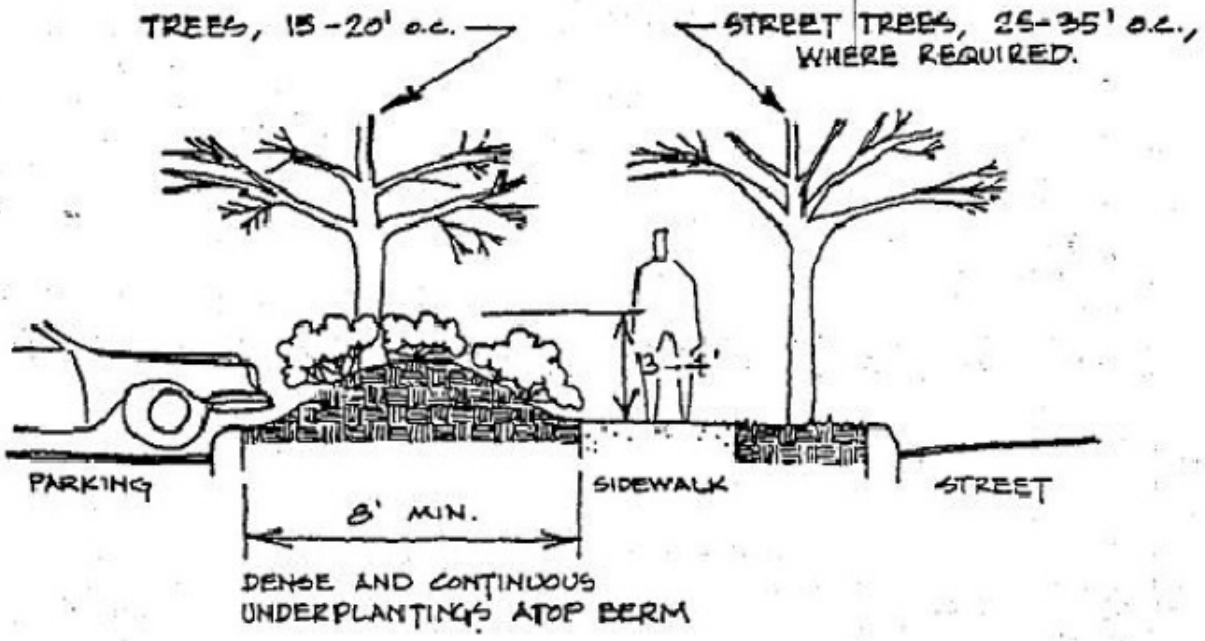


NOT TO SCALE

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION** SECTION IV	**FIGURE:** **IV-5**
REVISED:	**INTERIOR SITE LANDSCAPING**		

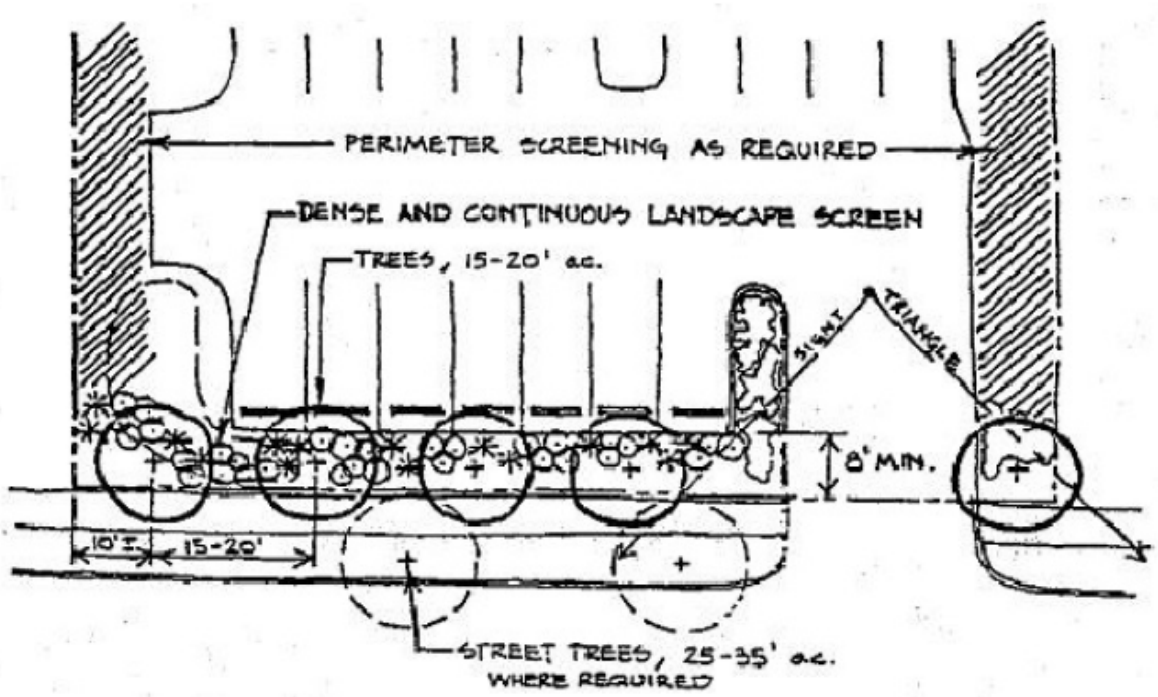


A. Screening from Street (section)

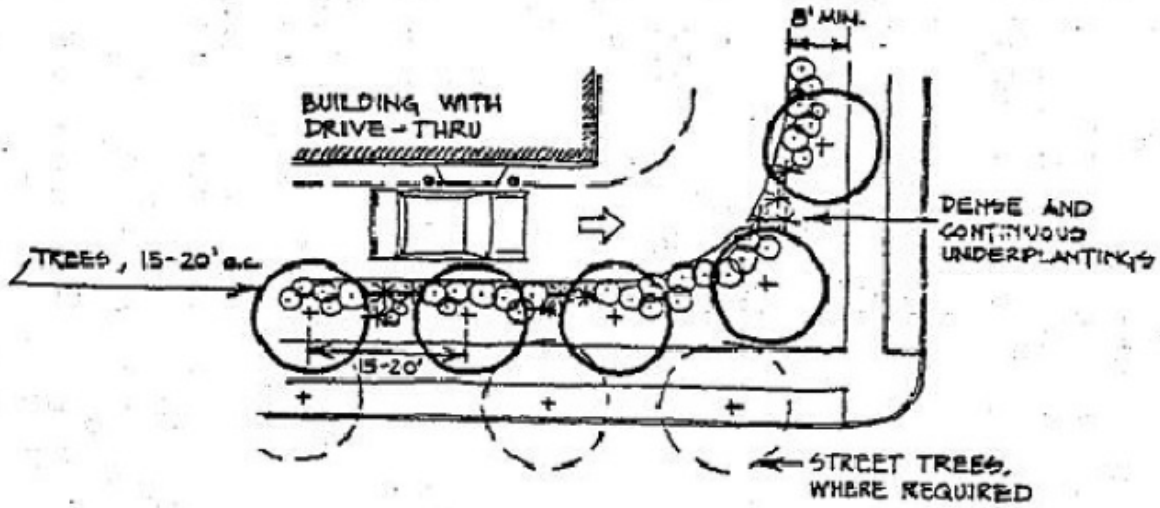


NOT TO SCALE

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION** SECTION IV	**FIGURE:**
REVISED:	**PARKING LOT SCREENING FROM PUBLIC VIEW**		**IV-6A**



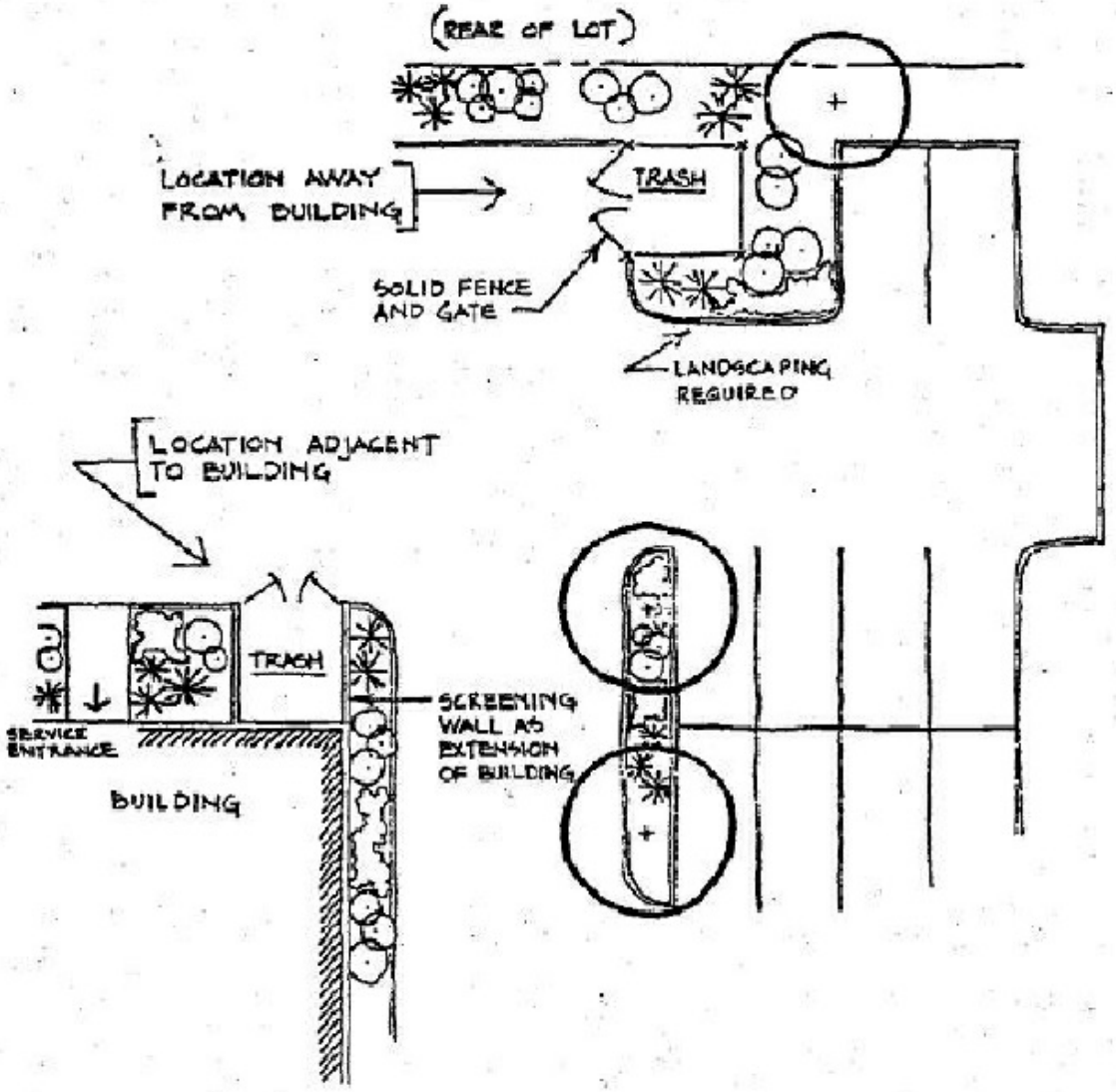
C. Screening from Street (plan)



D. Screening of Drive-Thru (plan)

NOT TO SCALE

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION** SECTION IV	**FIGURE:** **IV-6B**
REVISED:	**PARKING LOT SCREENING FROM PUBLIC VIEW**		



NOT TO SCALE

DATE: AUGUST 2009	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	**STDS FOR LANDSCAPING AND PRESERVATION OF EXISTING VEGETATION** SECTION IV	**FIGURE:** **IV-7**
REVISED:	**SCREENING OF ACCESSORY SITE ELEMENTS**		

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 STANDARDSFOR SINGLE AND TWO-FAMILY HOMES

6.1. STANDARDS

6.1.1. Single and two family homes shall meet the requirements of Chapter 500, Appendix A, Appendix B 1a. and 1b, and Appendix C only, found under Section IV of the Technical Manual.

6.1.2. Erosion and sediment control measures shall follow the guidelines established by the Maine Department of Environmental Protection and contained in the publication “Maine Erosion and Sediment Control BMP’s”, which may be obtained on the MDEP website:

(http://mainegov-images.informe.org/dep/blwq/docstand/escbmps/) or may be viewed at the City of Portland Planning Division.

6.1.3. Sediment should be removed from runoff water before it leaves the site.

6.1.4. Temporary erosion control devices will be in place before commencing construction activities.

6.1.5. If any winter construction is planned, a specific winter construction erosion and sedimentation control plan will be implemented.

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.

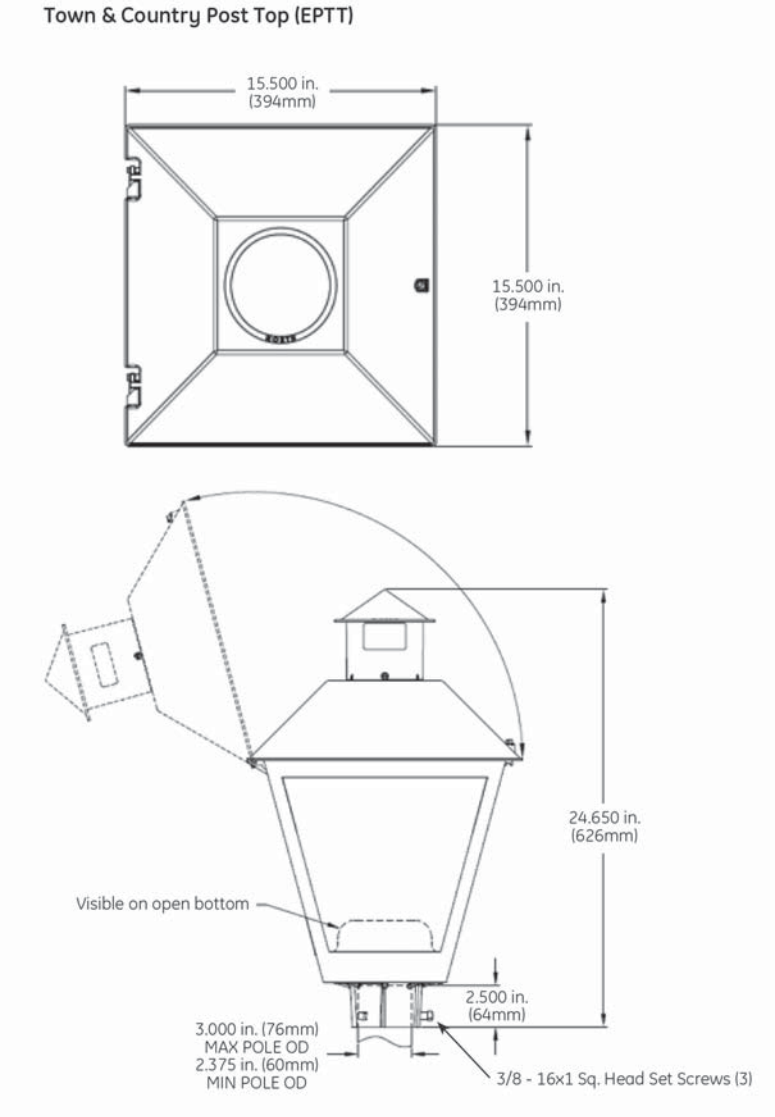
b) Connection of the construction contractor's secondary service conductors at an existing service point, where a new service is provided.

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.



LUMINAIRE

GE Evolve LED Post Top Town & Country (EPTT)
Model: EPTT-01-0-06-D-A-30-A-P-BLCKR-R

Die-case aluminum housing with acrylic refractor in white opal.

Pole-mounted, secondary surge protection
Voltage (120 through 277V)
Asymmetric HO, 56 watt
LED 3000K color temperature

LIGHTING POLE

Aluminum, smooth tapered pole with 5/32“ thickness (.156”).

EPA rating from 4.6 to 6.9 (using 110mph wind speed ratings from AAHTO).

Maximum weight capacity = 75-100 lbs.

Base bolt pattern: 10“ diagonal.

DIMENSIONS

Pole Height = 15’ max.
Pole Diameter = 6” base tapered to 3”

FINISH

Black (standard)

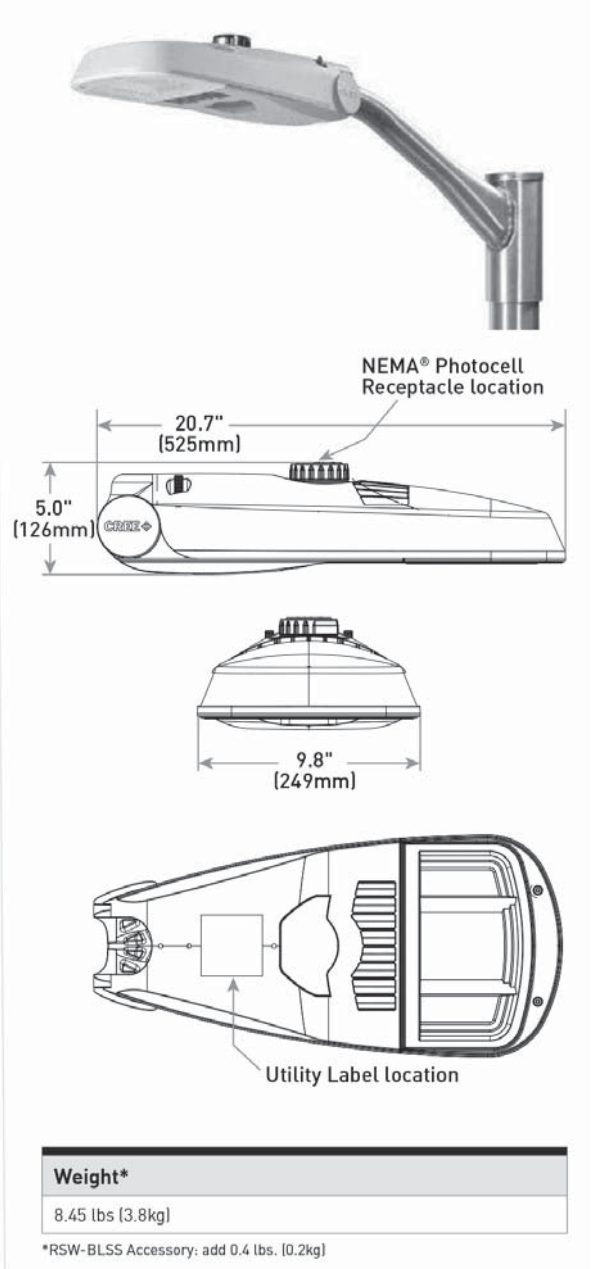
APPLICATION

Standard sidewalk lighting for residential streets not specified for decorative lighting.

Spacing: According to Section 10.2.1

Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property near sidewalk may be accommodated where space is a constraint.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-1
Revised Date:	**RESIDENTIAL**		



Weight*
8.45 lbs (3.8kg)

*RSW-BLSS Accessory: add 0.4 lbs. (0.2kg)

LUMINAIRE

Cree RSW series LED streetlight
Model: RSWS-A-HT-3ME-3L-30K7-UL-GY-N-X3

Small, horizontal tenon
Optics IES Type III Medium, 2,756 lumens
23 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

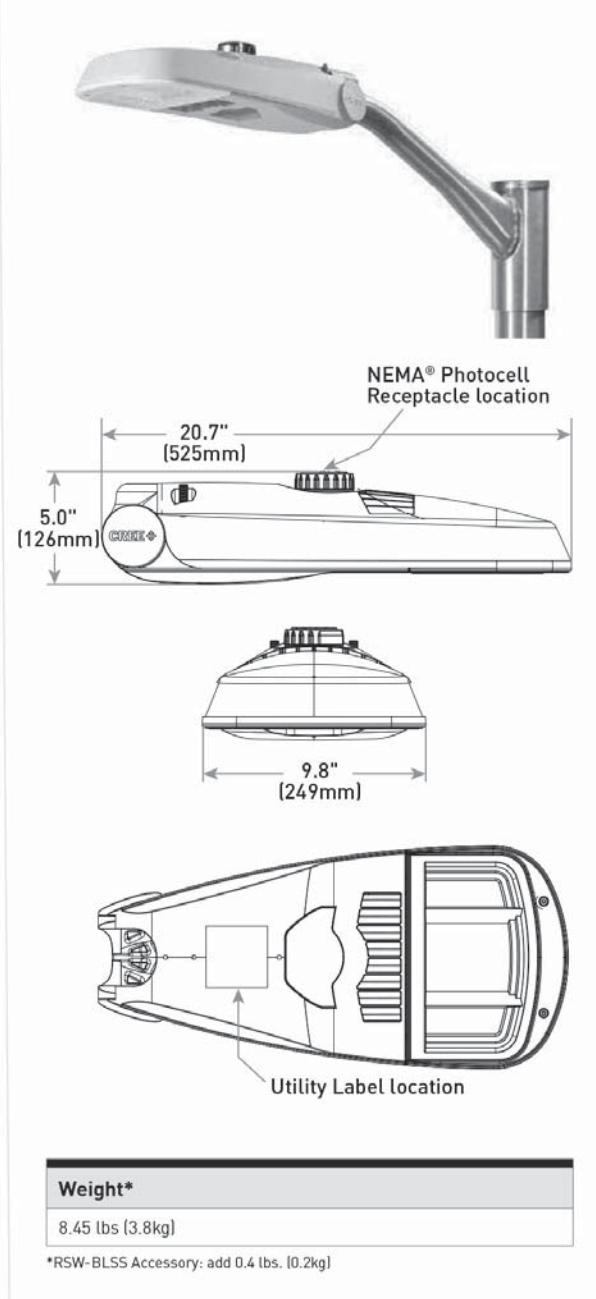
Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2A
Revised Date:	**COBRAHEAD A**		



Weight*
8.45 lbs (3.8kg)

*RSW-BLSS Accessory: add 0.4 lbs. (0.2kg)

LUMINAIRE

Cree RSW series LED streetlight
Model: RSWS-A-HT-3ME-5L-30K7-UL-GY-N-X1

Small, horizontal tenon
Optics IES Type III Medium, 3,617 lumens
30 watts
Universal voltage (120-277V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20’ or 30’

FINISH

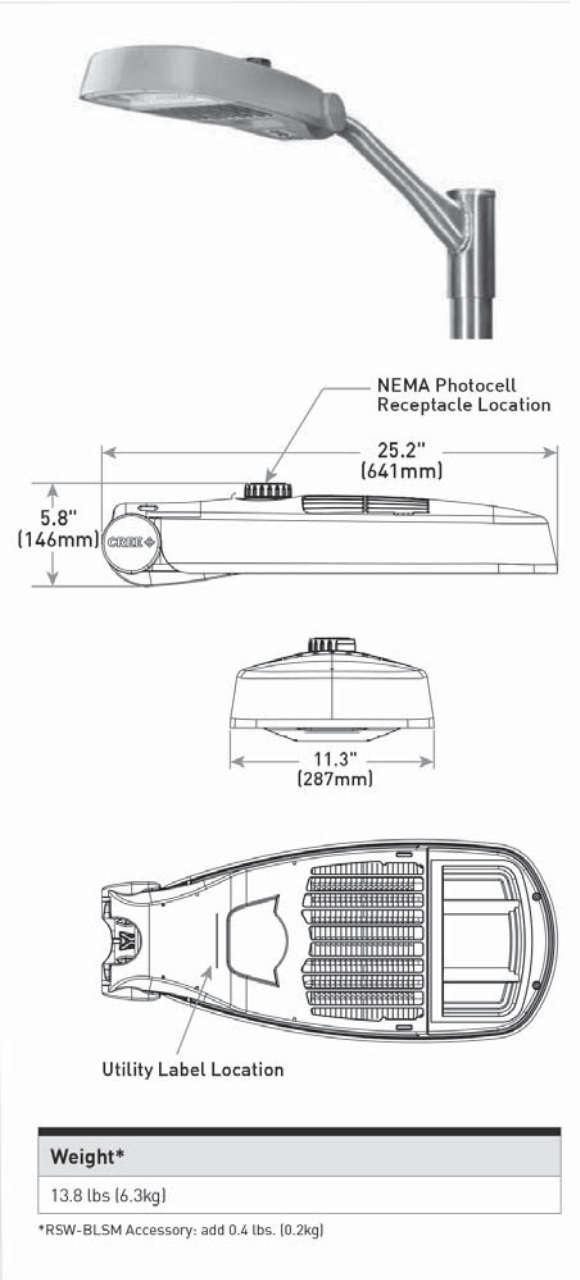
Grey: GY (standard)

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2B
Revised Date:	**COBRAHEAD B**		



Weight*
13.8 lbs (6.3kg)

*RSW-BLSM Accessory: add 0.4 lbs. (0.2kg)

LUMINAIRE
Cree RSW series LED streetlight
Model: RSWM-A-HT-3ME-9L-30K7-UL-GY-N-X1

Medium, horizontal tenon
Optics IES Type III Medium, 6,500 lumens
50 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE
Mount to existing pole or according to Section 10.2.1

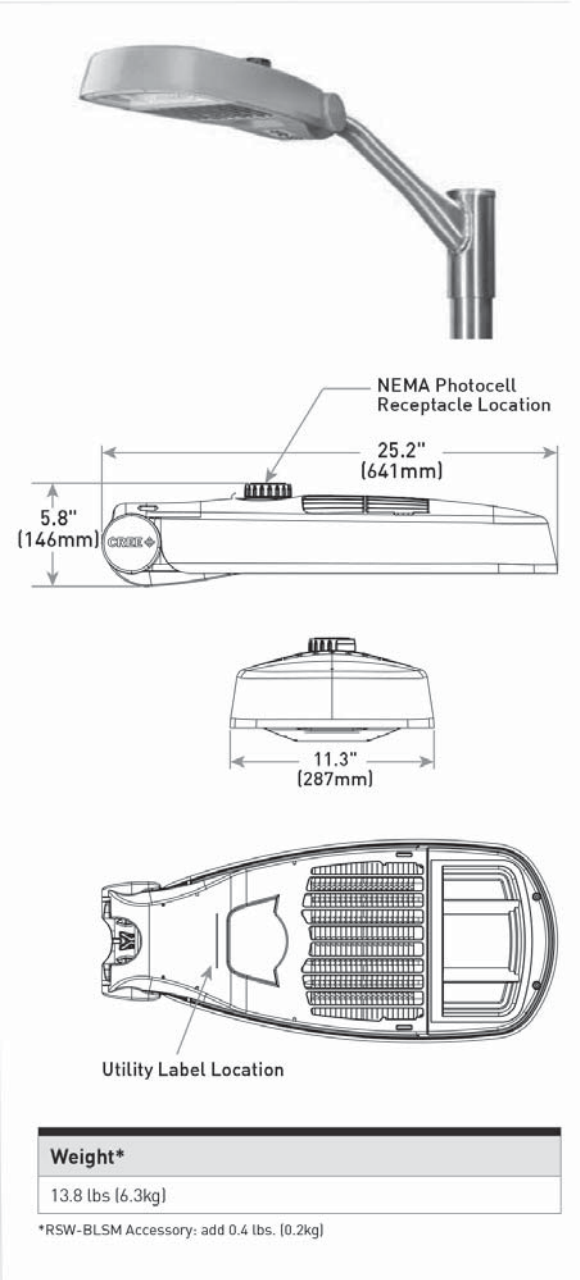
DIMENSIONS
Pole Height = 20' or 30'

FINISH
Grey: GY (standard)

APPLICATION
Standard street lighting for streets not specified for decorative lighting.

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2C
Revised Date:	**COBRAHEAD C**		



Weight*
13.8 lbs (6.3kg)

*RSW-BLSM Accessory: add 0.4 lbs. (0.2kg)

LUMINAIRE
Cree RSW series LED streetlight
Model: RSWM-A-HT-3ME-9L-30K7-UL-GY-N-X6

Medium, horizontal tenon
Optics IES Type III Medium, 8,975 lumens
75 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LAMP
Vertical mounted, LED 3000K color temperature

LIGHTING POLE
Mount to existing pole or according to Section 10.2.1

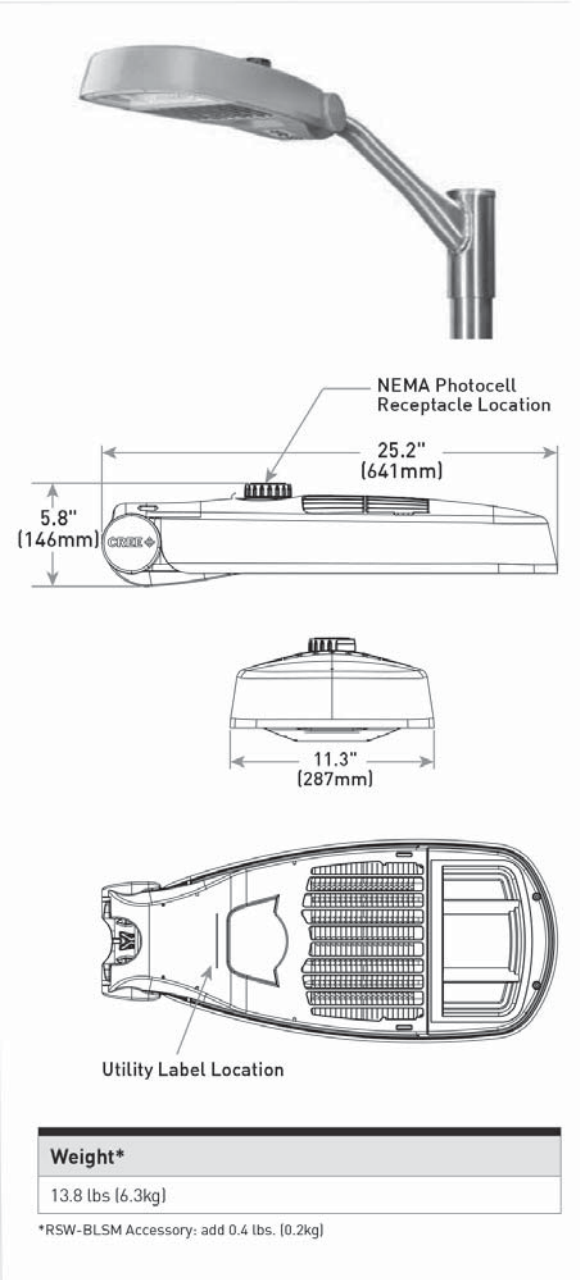
DIMENSIONS
Pole Height = 20' or 30'

FINISH
Grey: GY (standard)

APPLICATION
Standard street lighting for streets not specified for decorative lighting.

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2D
Revised Date:	**COBRAHEAD D**		



Weight*
13.8 lbs (6.3kg)

*RSW-BLSM Accessory: add 0.4 lbs. (0.2kg)

LUMINAIRE

Cree RSW series LED streetlight
Model: RSWM-A-HT-3ME-9L-30K7-UL-GY-N

Medium horizontal tenon
Optics IES Type III Medium, 9,325 lumens
83 watts
Universal voltage (120-227V)
7-pin photocell receptacle
LED 3000K color temperature

LIGHTING POLE

Mount to existing pole or according to Section 10.2.1

DIMENSIONS

Pole Height = 20' or 30'

FINISH

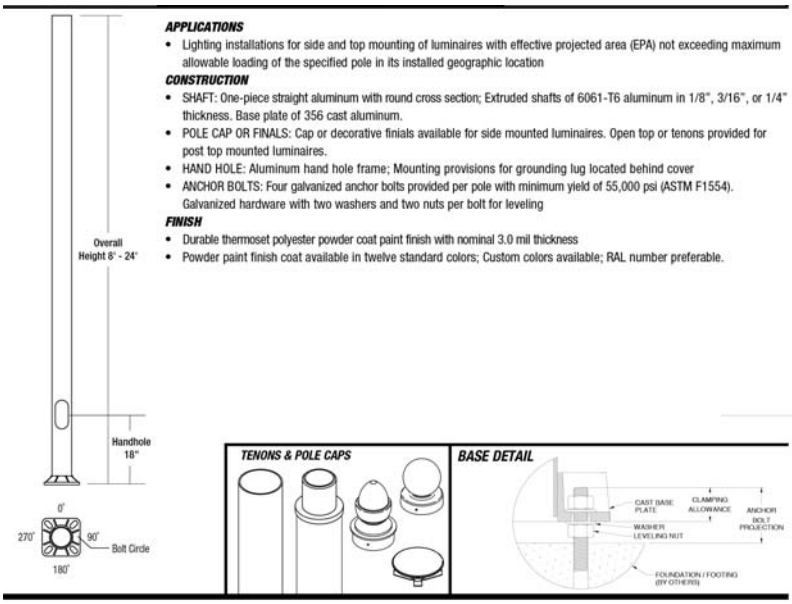
Grey: GY (standard)

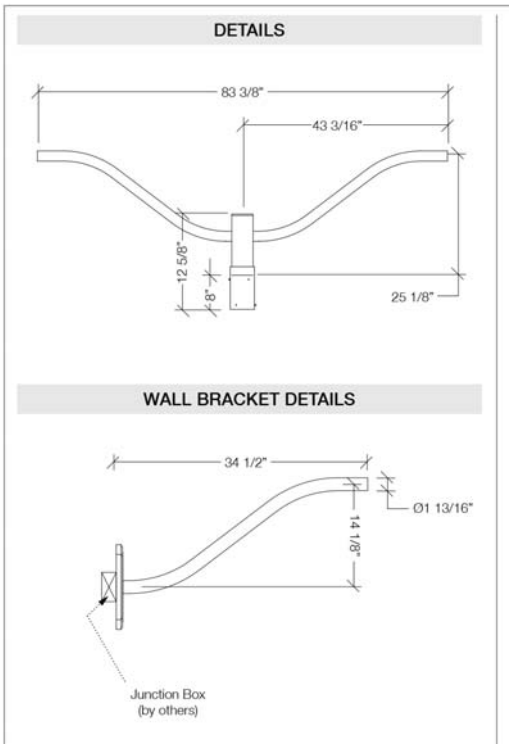
APPLICATION

Standard street lighting for streets not specified for decorative lighting.

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2E
Revised Date:	**COBRAHEAD E**		





LIGHTING POLE (see Section 10.2)

Pole: Beacon RSA-B-SHO-S Series
Model:
RS-B-SHO-S-16-40-A/B/C-CAP-2L-B3-DBT-VM2

Aluminum, smooth tapered pole of 6061-T6 aluminum.

Arm: Beacon AA-10 Cobra
Model: AA-10-S-5-B-P-GYS

Smooth profile on arms with copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

Performance standards for locations near shoreline (AAMA 2604, ASTM D522, resists surface impacts of up to 160 inch-pounds).

Base bolt pattern: Four galvanized anchor bolts per pole with minimum yield of 55,000 psa (ASTM F1554). Galvanized hardward with two washers and two nuts per bolt for leveling.

DIMENSIONS

Pole Height = 20' or 30' (according to Section 10.2.1)

FINISH

Grey: GYS Grey Smooth (standard)

Thermoset polyester powder coat paint finish with nominal 3.0 mil thickness.

Corrosion-resistant polyester powder-coat electrostatically applied meeting AAMA 2604 performance specification.

APPLICATION

Standard street lighting for streets not specified for decorative lighting.

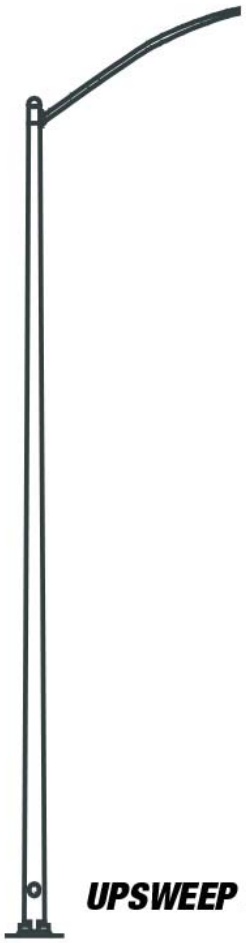
To be used within .5 mi. of shoreline and where existing poles are not available for mounting cobrahead fixture.

Spacing: According to Section 10.2.1

Follow established pattern and orientation - typically single arm overhanging towards street.

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2F
Revised Date:	**COBRAHEAD POLE - WATERFRONT**		



UPSWEEP STYLE

LIGHTING POLE (see Section 10.2)
Hubbell FTA Series - Upsweep Style
Model: RTA

Standard aluminum, smooth tapered pole.

DIMENSIONS
Pole Height = 20' or 30' (according to Section 10.2.1)

FINISH
Grey (standard)

APPLICATION
Standard street lighting for streets not specified for decorative lighting.

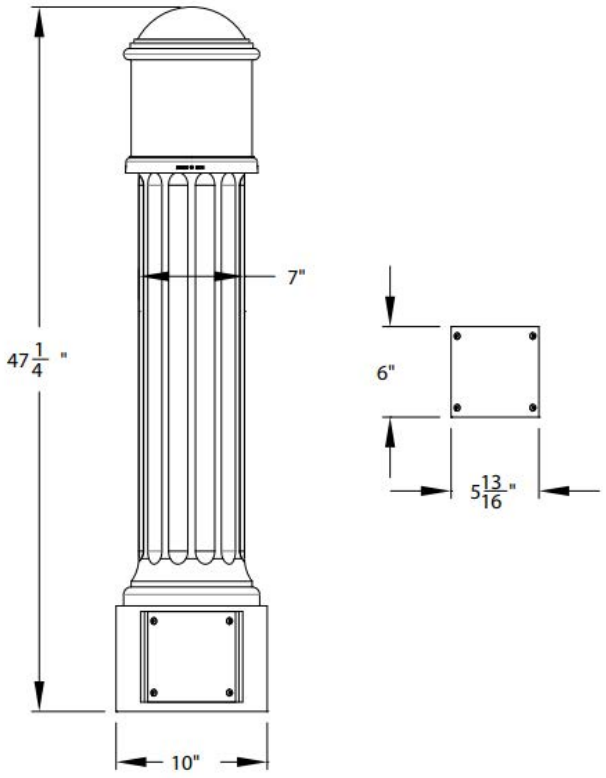
To be used further than .5 mi. from shoreline and where existing poles are not available for mounting cobrahead fixture.

Spacing: According to Section 10.2.1

Follow established pattern and orientation - typically single arm overhanging towards street.

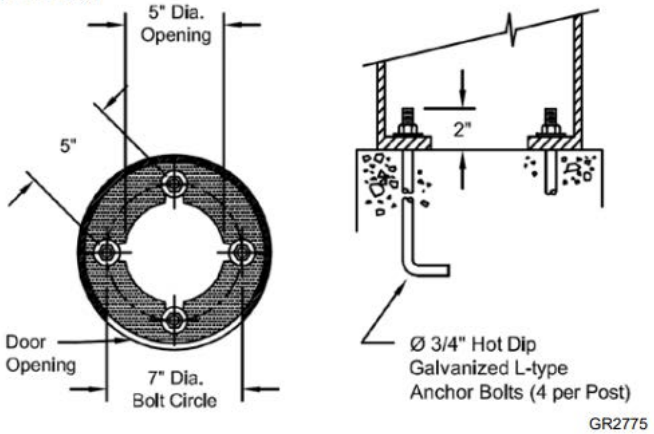
Fixture placed in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-2G
Revised Date:	**COBRAHEAD POLE - NON-WATERFRONT**		



Maximum standard weight - 58 lbs.
Maximum weight with Direct Burial Base Option - 88 lbs.

HLBOLED:



GR2775

LUMINAIRE

Hamilton LED Series Cast Aluminum Bollard
Model: HLBOLED CA P40 30K MVOLT GL5 ACS BK AO ABG

Mechanical Specifications

Be heavy grade A356.1 cast aluminum (aluminum with <1% copper)

Wet locations listed

One-piece casting with a removable top

All welders shall be certified per Section 5 of ANSI/ AWS D1.2-90

Access door opening for anchor bolts and wiring access is 3"x 5" x 4.5"

The finish shall utilize a polyester powder coat paint to ensure maximum durability rigorous multi-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117) on standard BLACK.

Optical Specifications

IP65 light engine

Type 5 distribution with prismatic borosilicate glass and a smooth clear acrylic outer lens

Control Options

Field adjustable output to adjust output to luminaire – AO

Electrical Specifications

The driver shall meet the following requirements:

Certified by UL or CSA for wet locations

A factory programmable electronic driver with 0-10V dimming

LEDs shall have a minimum of 70 CRI and available in 3000K CCT

The electrical system shall be designed to meet ANSI/ IEEE C62.41.2 and shall offer a 10kV/5kA surge protection, fail off.

FINISH

Black (standard)

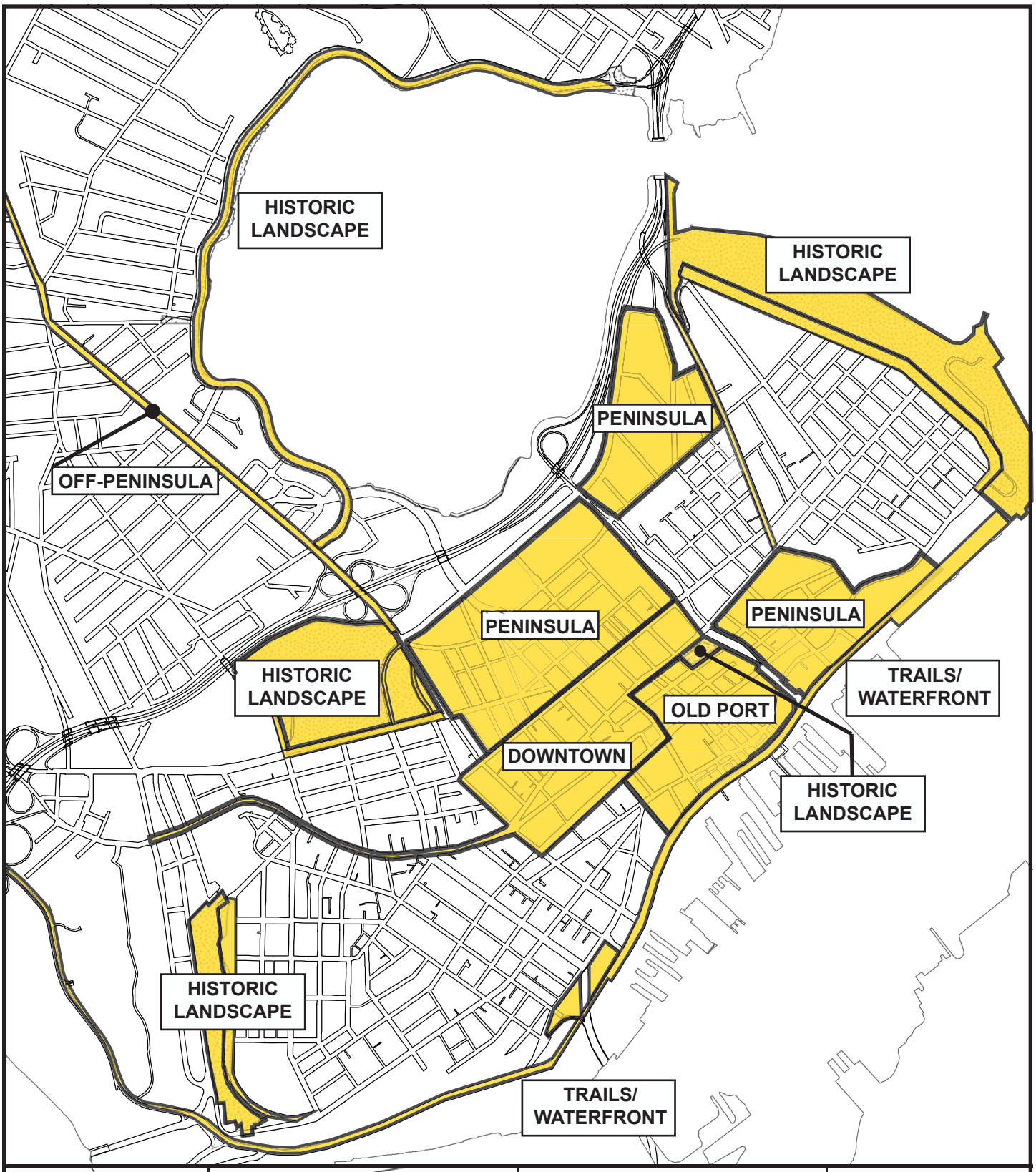
APPLICATION

Sidewalk lighting where height is limited - underpasses, parks, piers

Can be used as a security bollard.

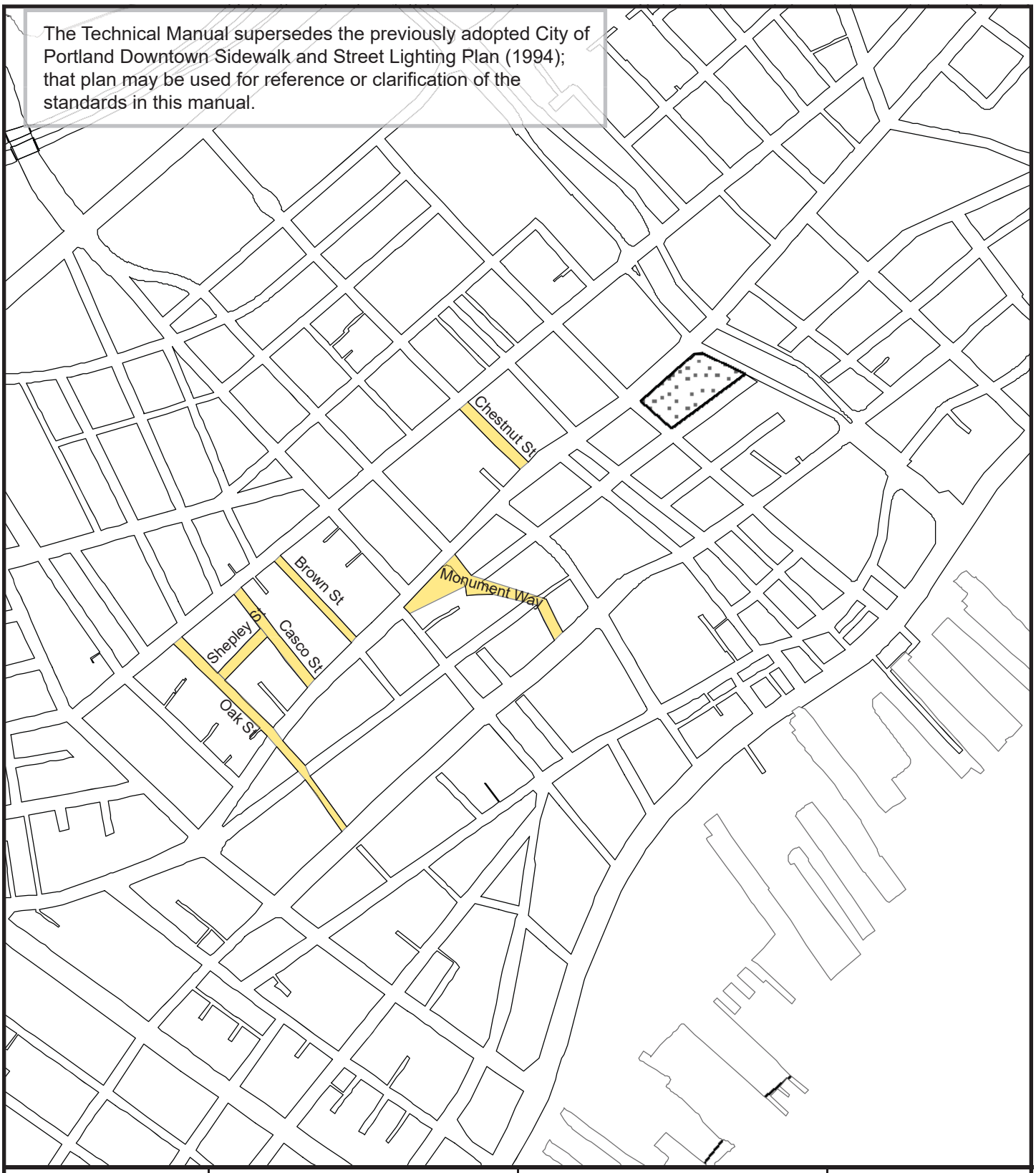
Spacing: To be determined by Department of Public Works per specific project

Date: **March 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-3
Revised Date: 11/22/22	**LIGHTED BOLLARD**		



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-4
Revised Date:	**MAP: DECORATIVE LIGHTING AREAS**		

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.



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-5A
Revised Date:	**MAP: Decorative Light - DOWNTOWN PEDESTRIAN**		

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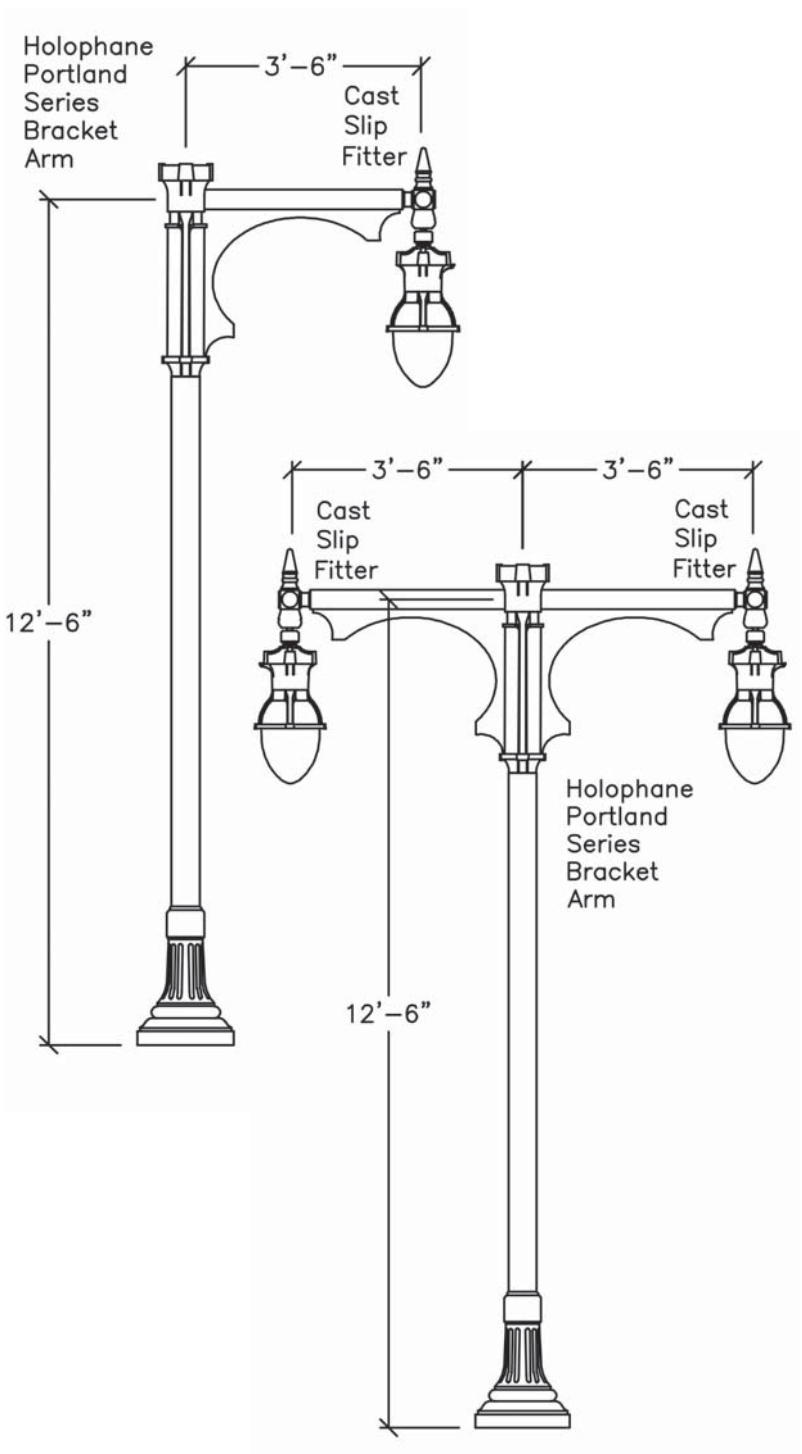
Street & Sidewalk Lighting
DECORATIVE LIGHT - DOWNTOWN



LUMINAIRE
Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-volatage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature

BRACKET ARM
Holophane Portland Series (custom)
Model PD42CA-RAL6012

Portland Series steel crossarm with a post-top fitting for a 3-1/2" by 8" tenon.

SLIP FITTER
Holophane
Model :WLLF200SCA-RAL6012
2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE AND BASE
Holophane North Yorkshire Cast Steel
Model NY-S-13-FTB-P13-ABG-RAL6012

Cast steel pole, smooth 5" diameter shaft with integrated base rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DIMENSIONS
Overall Height = 12' 6"
Bracket Arm Length = 3' 6"
Base Diameter = 17"

FINISH
Dark Green: RAL-6012 (custom)

APPLICATION
Sidewalk lighting or pedestrian lighting areas

Spacing:
One side: 60' - 80'on center
Alternating sides: 100' - 175' on center

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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-5B
Revised Date:	**DOWNTOWN PED 1**		

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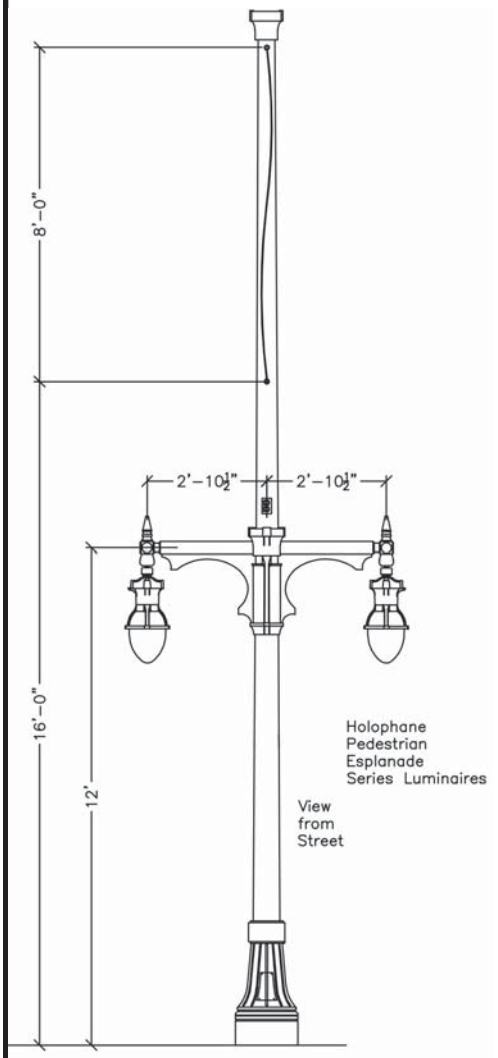
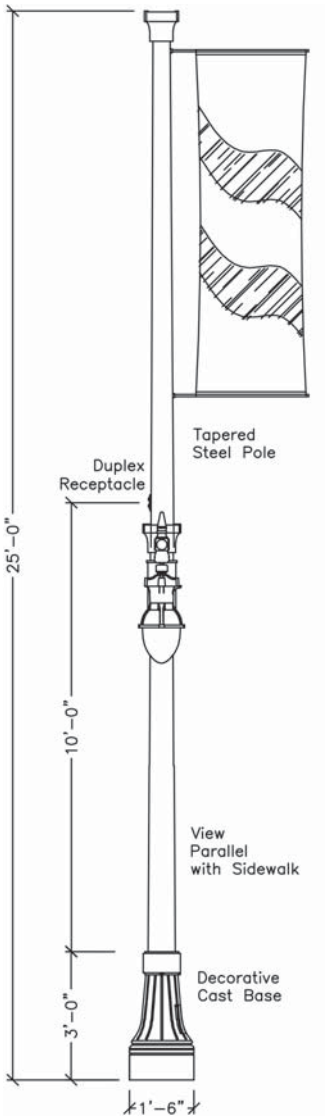
Street & Sidewalk Lighting
DECORATIVE LIGHT - DOWNTOWN





LUMINAIRE
Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-volatage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature.

BRACKET ARM
Holophane Portland Series steel dual crossarm (custom)
Model: PD69-CA-RAL6012

SLIP FITTER
Holophane
Model: WLLF200S-CA-RAL6012
2-3/8" O.D. with swivel cast fitter

LIGHTING POLE
Holophane
Model: PM-18-CSB-CA-RAL6012

Tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DECORATIVE BASE
Holophane
Model: PM18CSB-CA-RAL6012
Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS
Overall Height = 25' 0"
Bracket Arm Length = 2' 10 1/2"
Base Diameter = 18"

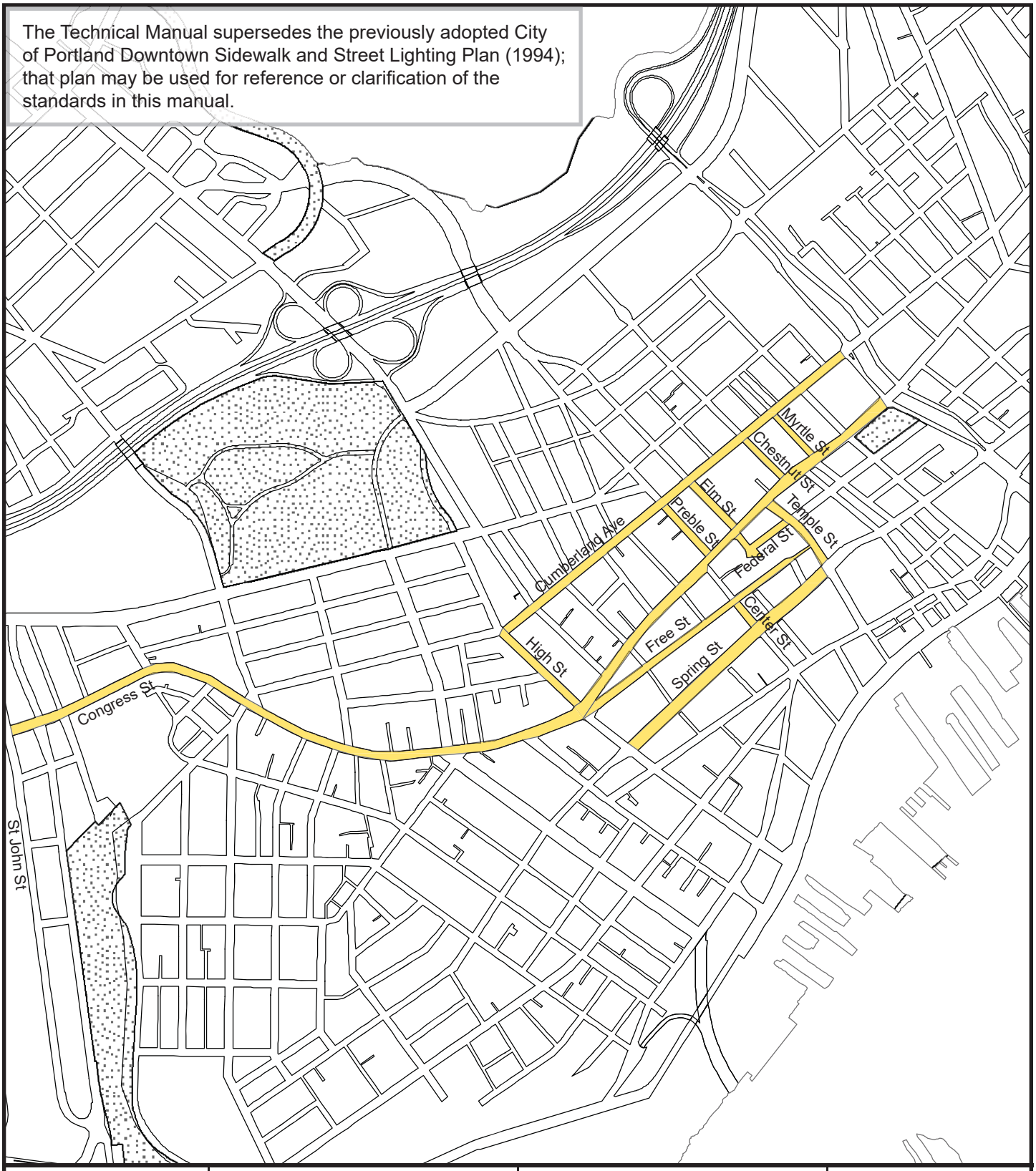
FINISH
Dark Green: RAL-6012 (custom)

APPLICATION
Sidewalk lighting or pedestrian lighting areas
Suggested layout:
One side: 90' - 100' on center
Alternating sides: 175' -225' on center

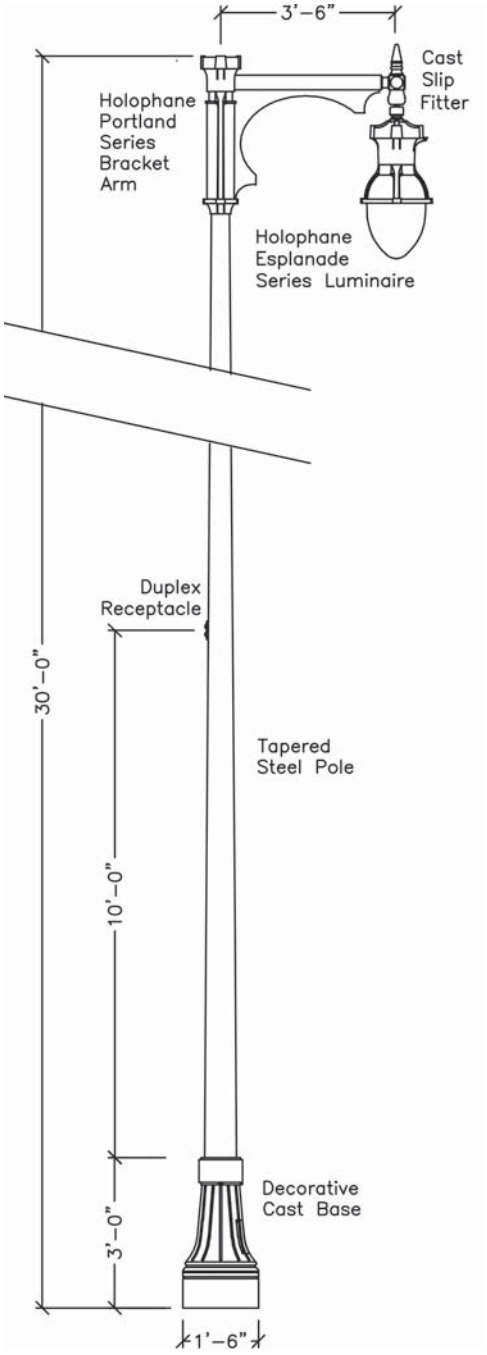
Double-arm fixture placed with bracket arms parallel to sidewalk. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-5C
Revised Date:	**DOWNTOWN PED 2**		

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.



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-5D
Revised Date:	**MAP: Decorative Light - DOWNTOWN STREET**		



LUMINAIRE
Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-volatage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature.

BRACKET ARM
Holophane Portland Series steel crossarm (custom)
Model: PD42-CA-RAL6012
Steel crossarm with a post-top fitting for a 3 1/2" by 8" tenon

SLIP FITTER
Holophane
Model: WLLF200S-CA-RAL6012
2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE
Holophane
Model: PM-18-CSB-CA-RAL6012
Tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DECORATIVE BASE
Holophane
Model: PM18CSB-CA-RAL6012
Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

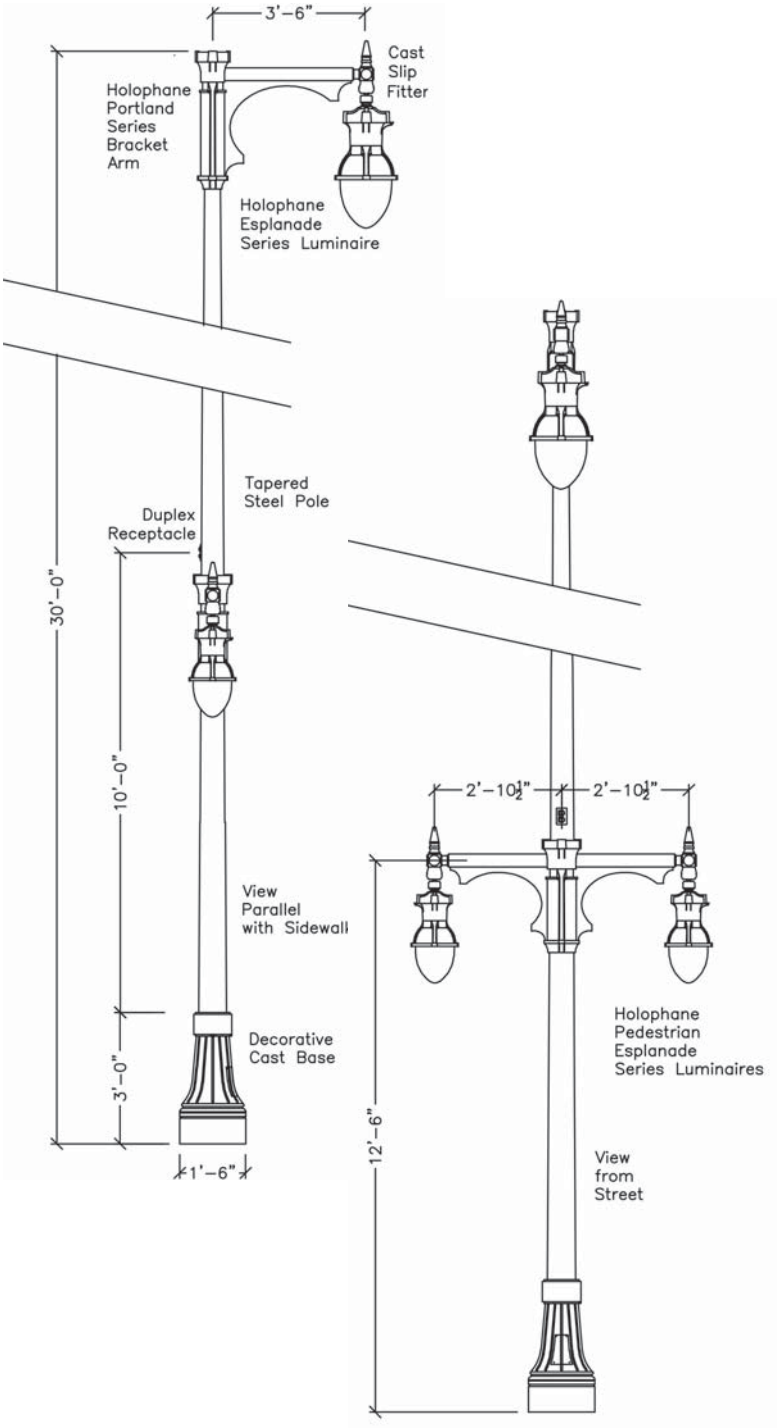
DIMENSIONS
Overall Height = 30' 0"
Bracket Arm Length = 3' 6"
Base Diameter = 18"

FINISH
Dark Green: RAL-6012 (custom)

APPLICATION
Street lighting
Spacing:
One side: 90' - 100' on center
Alternating sides: 175' - 225' on center

Single-arm fixture placed in furnishing zone with luminaire oriented over sidewalk. Double-arm fixture placed with bracket arms parallel to sidewalk or in medians. If sidewalk space is limited, Planning Authority may approve lights within private property or attached to building.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-5E
Revised Date:	**DOWNTOWN STREET**		



LUMINAIRE
Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC

Cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. Luminaire shall include an integral ballast with modular wiring connectors and multi-volatage taps. Provide an internal receptacle type photocell control. LED 3000K color temperature

BRACKET ARM
Holophane Portland Series steel (custom)
Top Bracket Arm: Steel crossarm with a post-top fitting for a 3 1/2" by 8" tenon
Model: PD42-CA-RAL6012
Lower Bracket Arm: Steel dual crossarm
Model: PD69-CA-RAL6012

SLIP FITTER
Holophane
Model: WLLF200S-CA-RAL6012
2-3/8" O.D. with swivel cast fitter.

LIGHTING POLE
Holophane
Model: PM-18-CSB-CA-RAL6012

Tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

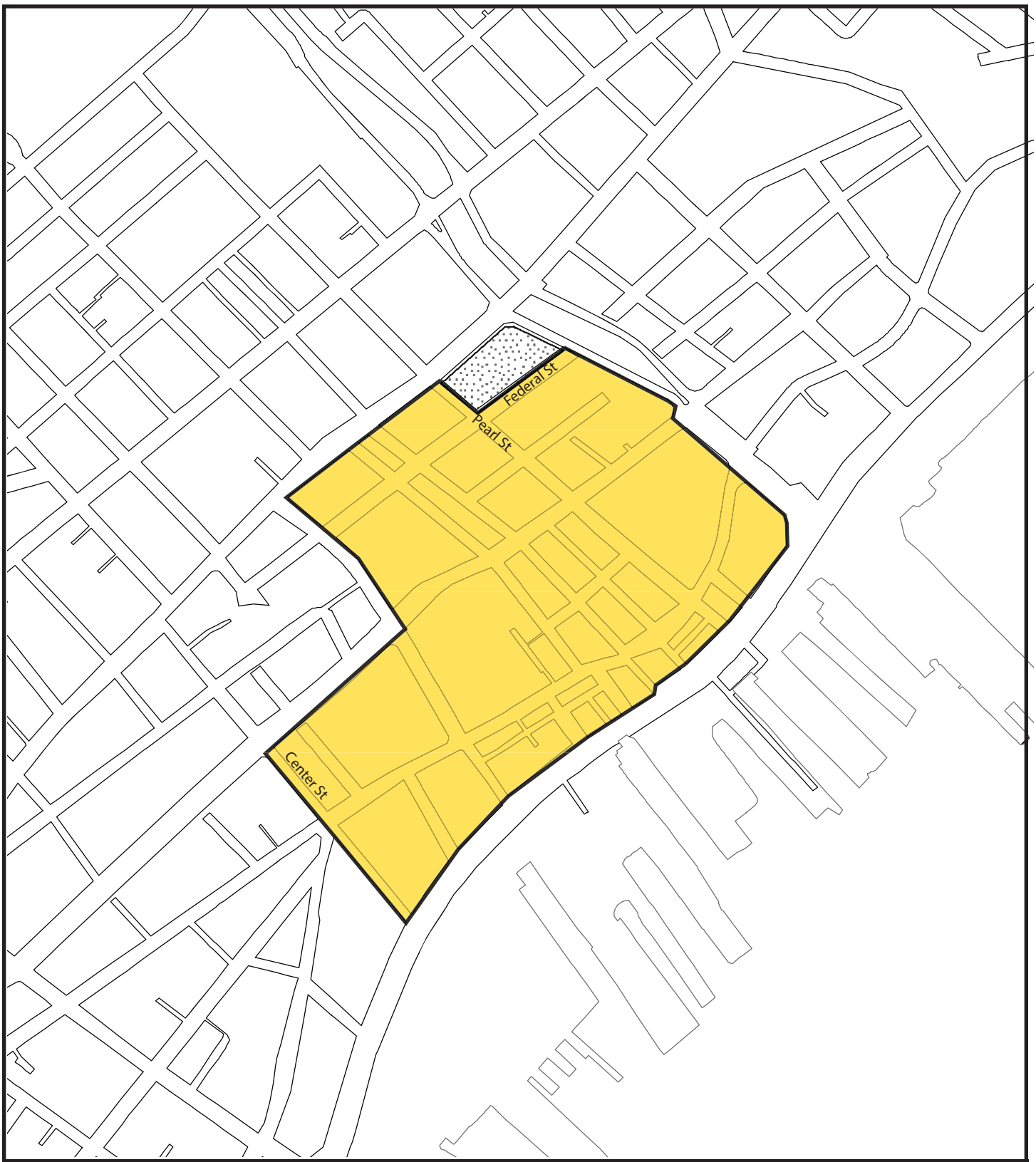
DECORATIVE BASE
Holophane
Model: PM18CSB-CA-RAL6012
Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS
Overall Height = 30' 0"
Upper Bracket Arm Length = 3' 6"
Lower Bracket Arm Length = 2' 10 1/2"
Base Diameter = 18"

FINISH
Dark Green: RAL-6012 (custom)

APPLICATION
Street/pedestrian lighting combination.
Spacing:
One side: 90' - 100' on center
Alternating sides: 175' - 225' on center
Double-arm bracket arms parallel to sidewalk.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-5F
Revised Date:	**DOWNTOWN COMBO**		



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-6A
Revised Date:	**MAP: Decorative Light - OLD PORT**		

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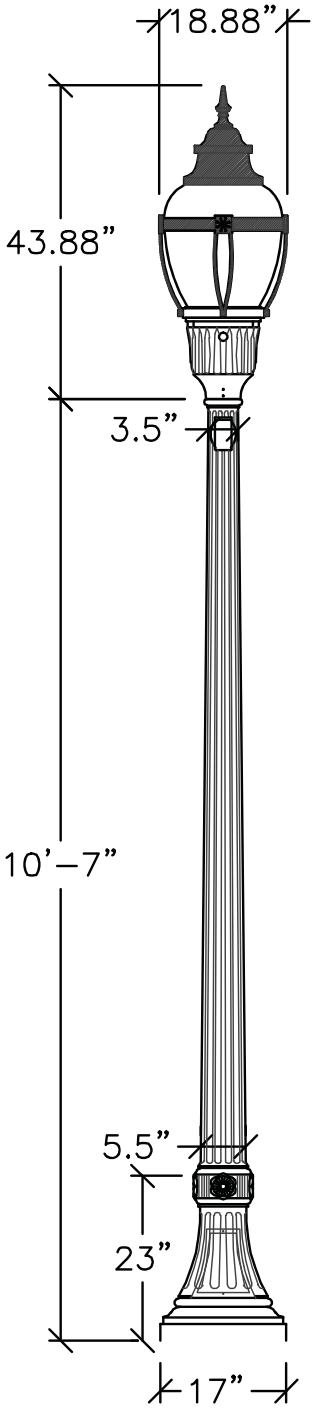
Street & Sidewalk Lighting
DECORATIVE LIGHT - OLD PORT



LUMINAIRE

Holophane Washington Postlite II LED - Acrylic

Model: WAUE2-P20-30K-AS-BK-3-BK-6-P7-F-PCLL

Cast aluminium housing with stainless steel hardware.

Thermal resistant acorn borosilicate glass refractor with IES Type asymmetric Type IV distribution.

Luminaire shall include decorative ribs, solid band, and spike finial, with internal twist-lock receptacle type photocell control. LED 3000K

LAMP

IES Type asymmetric Type IV distribution
LED 3000K color temperature

LIGHTING POLE

Holophane North Yorkshire - Aluminum pole and base

Model: NYA-11-FTJ-17-P07-ABG-BK-R126A

Tapered, fluted cast aluminum pole shaft rated for a 90mph wind load with a 1.3 gust factor.

Provide four hot-dipped galvanized steel L-type anchor bolts. Provide GFI rated duplex receptacle outlet.

Lighting pole shall be hot dipped galvanized prior powder coat paint.

DIMENSIONS

Overall Height = 14’ 3”
Pole Height = 10’ 7”
Taper = 5.5” to 3.5”
Base Diameter = 17”

FINISH

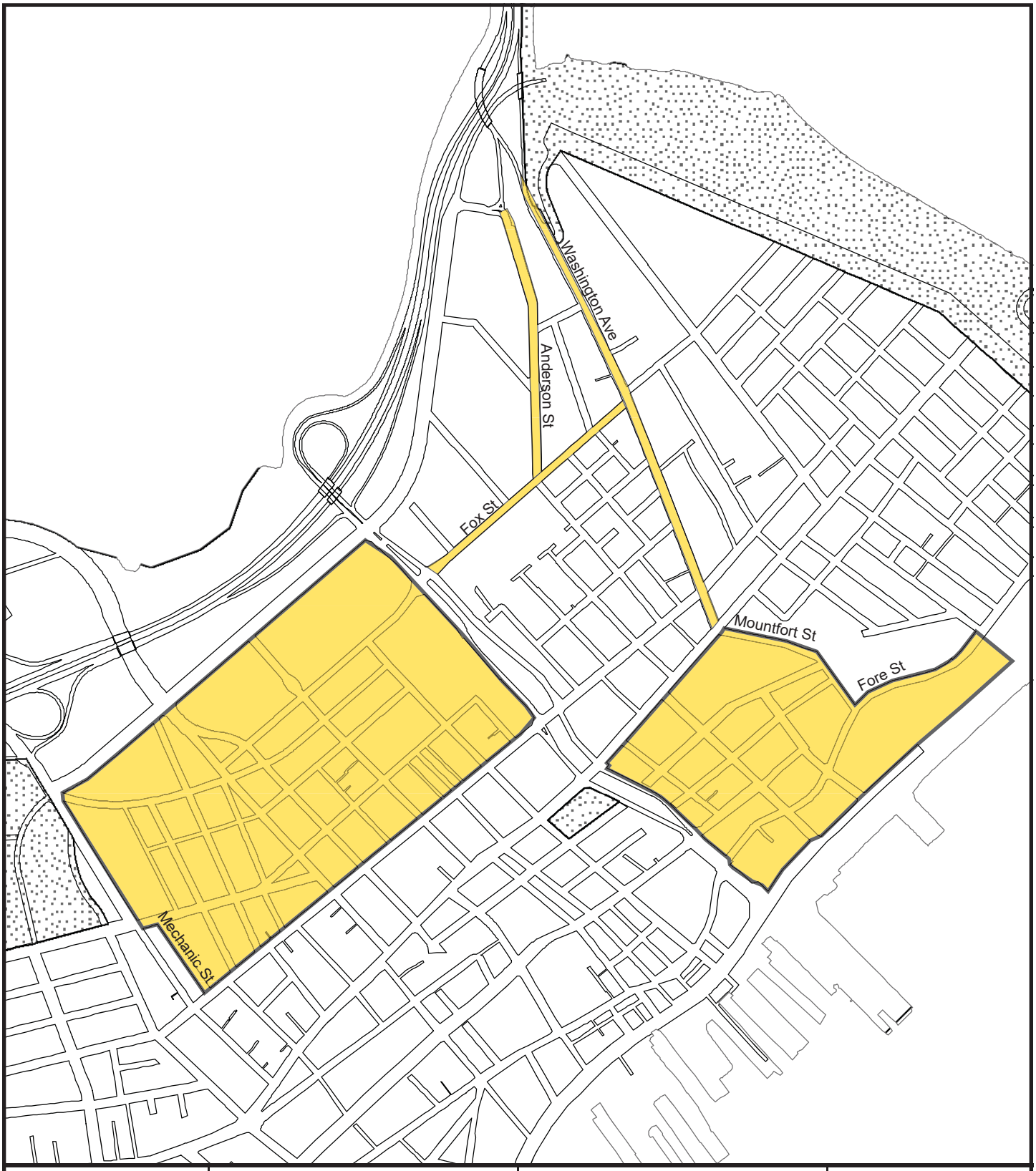
Black (standard)

APPLICATION

Street/Sidewalk lighting for two-way streets with parking on both sides.

Spacing: 60’ - 80’ on center (staggered pattern both sides of street)

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-6B
Revised Date:	**OLD PORT**		



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-7A
Revised Date:	**MAP: Decorative Light - PENINSULA MEDIUM STREET**		

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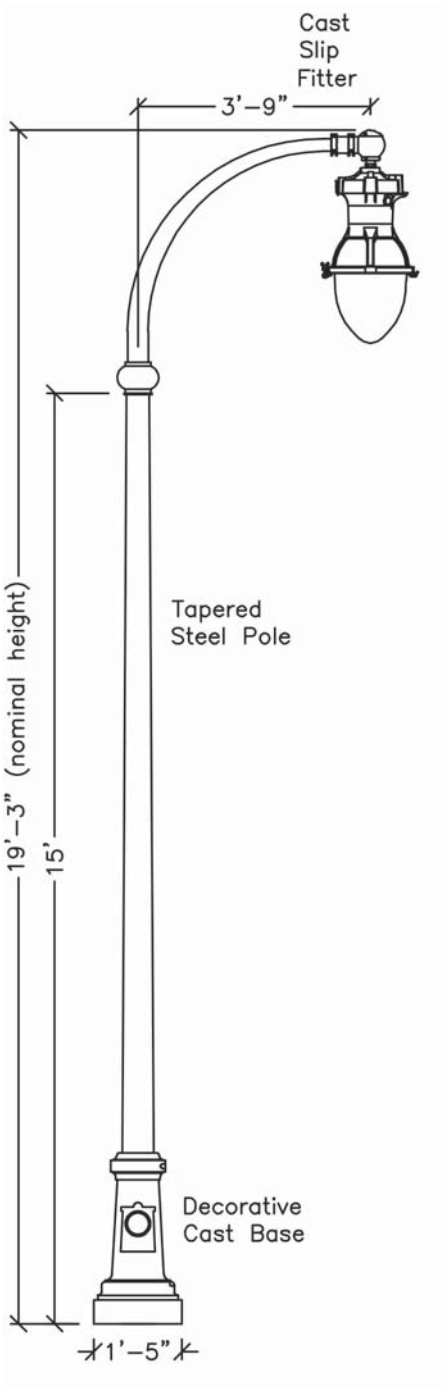
Street & Sidewalk Lighting
DECORATIVE LIGHT - PENINSULA



LUMINAIRE
Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
or Spring City Columbia Series
Model: ALMCLU-LE080/EVX/X2-30-CR3-GR14-LACLB-FED-CU
Pendant mount, cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. LED 3000K color temperature.

BRACKET ARM
Holophane OUC Roadway Arm
Model: OUC 6063-T6
or Spring City Columbia Arm
Model: AARCLA-1S-51-53-TN2.38/7.00-CU
Aluminum crossarm with a post-top fitting for a 3 1/2“ by 8” tenon. Single Arm 45” Oriented 180 degrees.

SLIP FITTER
Holophane Boston Harbor Series
Model: BHLF-200-SCA/AS
2 3/8” O.D. with swivel cast fitter.

LIGHTING POLE
Holophane
Model: CM17CSB-CA-RAL6012
or Spring City Cambridge Series
Model: SSHSM-G11-7.00-15.00-TN3.50/8.00-CU
Smooth, tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powdercoat paint.

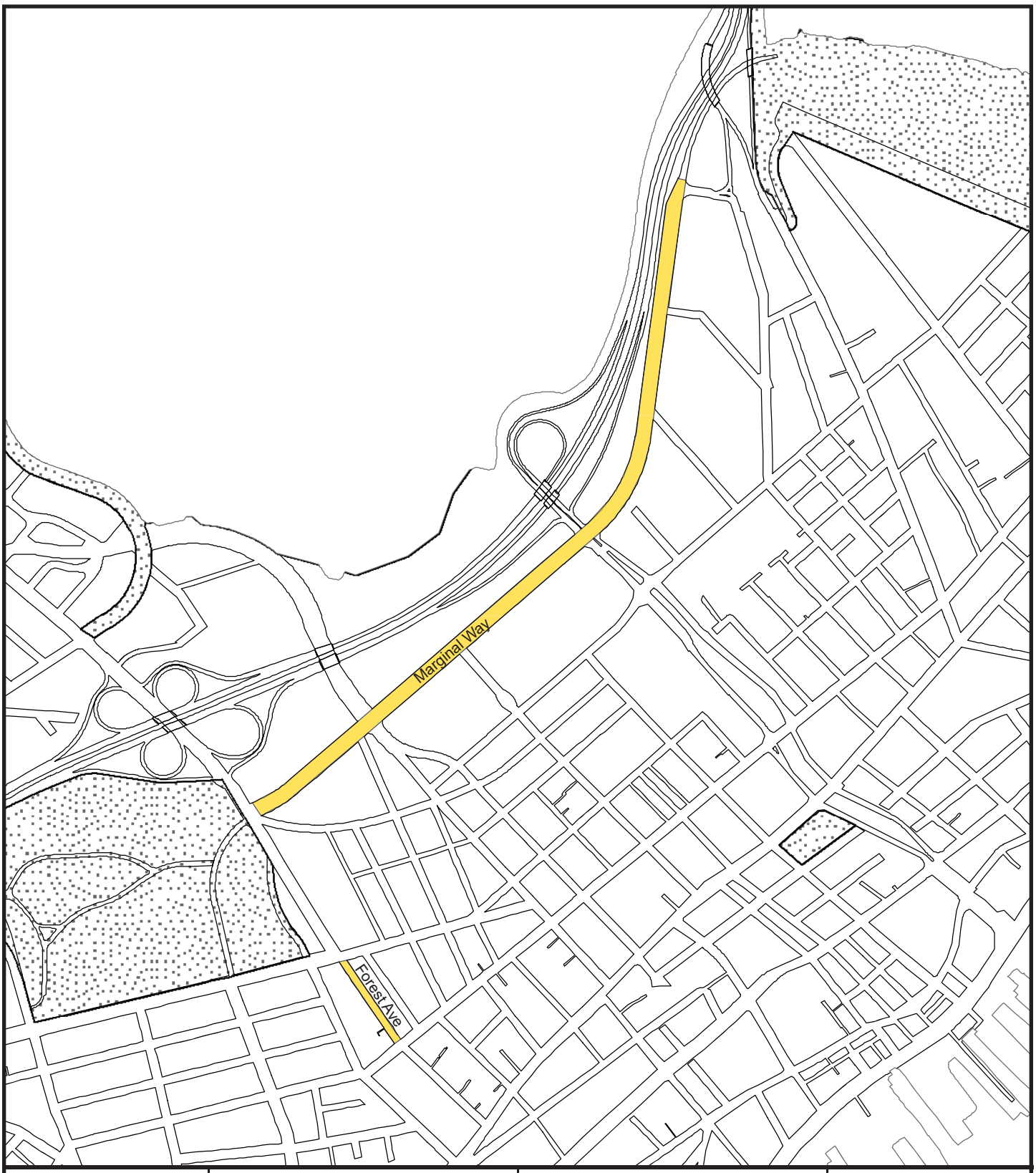
DECORATIVE BASE
Holophane Cambridge Series
Model: CM17CSB
or Spring City Cambridge Series
Model: DWBCMB-17-CU
Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

DIMENSIONS
Overall Height = 19’ 3”
Pole Height = 15‘ 0”
Base Diameter = 17“ to 18”

FINISH
Black (standard)

APPLICATION
Stree/sidewalk lighting. Decorative fixture not needed on same side of street as existing cobrahead fixtures.
Spacing: 80’ - 100’ on center
Place in furnishing zone overhang towards street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-7B
Revised Date:	**PENINSULA MEDIUM STREET**		



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-7C
Revised Date:	**MAP: Decorative Light - PENINSULA LARGE STREET**		

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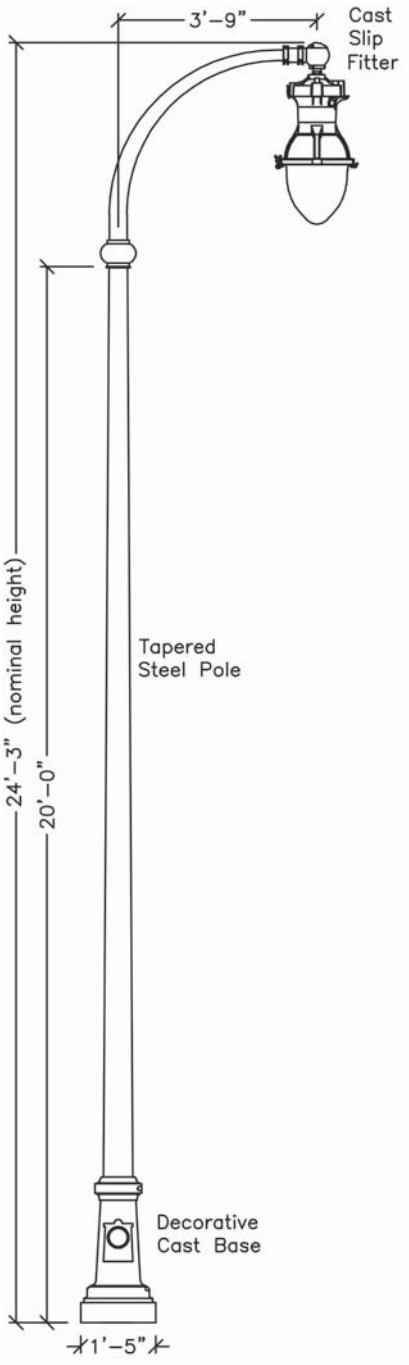
Street & Sidewalk Lighting
DECORATIVE LIGHT - PENINSULA



LUMINAIRE
Holophane Esplanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
or Spring City Columbia Series
Model: ALMCLU-LE080/EVX/X2-30-CR3-GR14-LACLB-FED-CU
Pendant mount, cast aluminum housing with stainless steel hardware. Dropped refractor shall be thermal resistant borosilicate glass. Internal reflector and prismatic diffuser shall provide an IES Type IV distribution pattern. LED 3000K color temperature.

BRACKET ARM
Holophane OUC Roadway Arm
Model: OUC 6063-T6
or Spring City Columbia Arm
Model: AARCLA-1S-51-53-TN2.38/7.00-CU
Aluminum crossarm with a post-top fitting for a 3 1/2“ by 8” tenon. Single Arm 45” Oriented 180 degrees.

SLIP FITTER
Holophane Boston Harbor Series
Model: BHLF-200-SCA/AS
2 3/8” O.D. with swivel cast fitter.

LIGHTING POLE
Holophane
Model: CM17CSB-CA-RAL6012
or Spring City Cambridge Series
Model: SSHSM-G11-7.00-15.00-TN3.50/8.00-CU
Smooth, tapered steel pole smooth shaft rated for a 90mph wind load with a 1.3 gust factor. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powdercoat paint.

DECORATIVE BASE
Holophane Cambridge Series
Model: CM17CSB
or Spring City Cambridge Series
Model: DWBCMB-17-CU
Decorative clamshell cast aluminum base. Hardware shall be stainless steel.

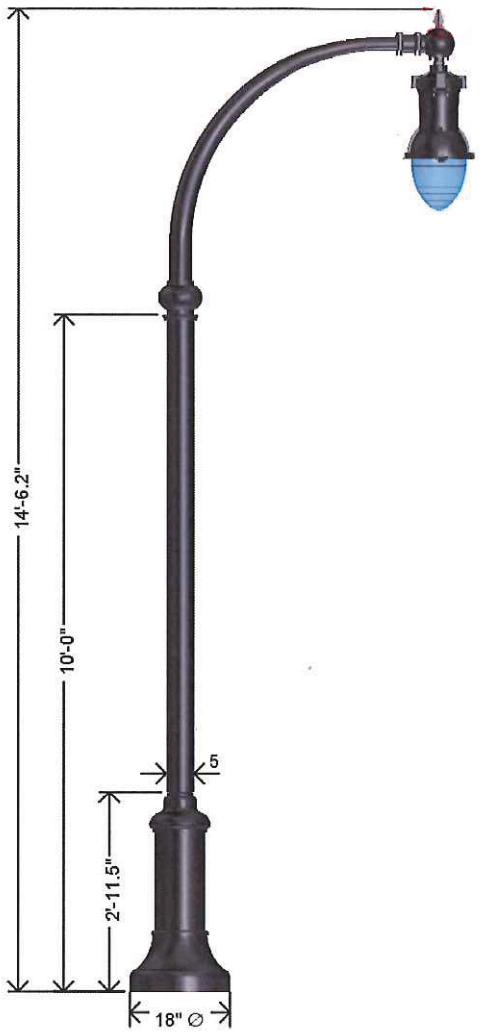
DIMENSIONS
Overall Height = 24’ 3”
Pole Height = 20‘ 0”
Bracket Arm = 3’ 9“
Base Diameter = 18”

FINISH
Black (standard)

APPLICATION
Street/Sidewalk light. Spacing: One side: 90’ - 110’ o.c.
Alt. sides: 175’ - 225’ on center
Place in furnishing zone overhang towards street; where fixture conflicts with overhead utilities, may be placed on back of sidewalk.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-7D
Revised Date:	**PENINSULA LARGE STREET**		

*Waiver required: This fixture to be implemented in special circumstances only. See 10.4 STANDARDS FOR DECORATIVE LIGHTING.



Anchorage/Orientation Plan

LUMINAIRE
Holophane Esplanade LED II
Model: ESPL2-P20-30L-AS-S-B-4-SS-P7
IES Type IV Distribution

Pendant mount, quick lock stem mount
Auto-sensing 50/60 hz (120-225V), 38 watts
LED 3000K color temperature.

BRACKET ARM
Holophane OUC Roadway Arm
Model: OUC 45/1-CA-BK

Aluminum crossarm with a post-top fitting for a 3 1/2" by 8" tenon.
Single Arm 45" Oriented 180 degrees.

SLIP FITTER
Holophane Boston Harbor Decorative Arm Fitter
Model: WLLF200S-CA-RAL6012

2 3/8" O.D. with swivel cast fitter.

LIGHTING POLE AND BASE
Holophane Rockford Harbor Aluminum Pole
Model: RHA-10-S5J-18-P15-ABG-BK

Pole is aluminum, smooth 5" diameter, .25 wall
Assembly meets wind load of 90 mph.

DIMENSIONS
Overall Height = 14' 6"
Pole Height = 10'0"
Pole Diameter = 5"
Base Diameter = 18"
Arm = 45"

FINISH
Black (standard)

APPLICATION
Sidewalk lighting only when MEDIUM STREET fixture cannot be accommodated.

Spacing:
One side: 60' - 80' on center
Alternating sides: 100' - 175' on center

Fixture shall be oriented to overhang sidewalk.

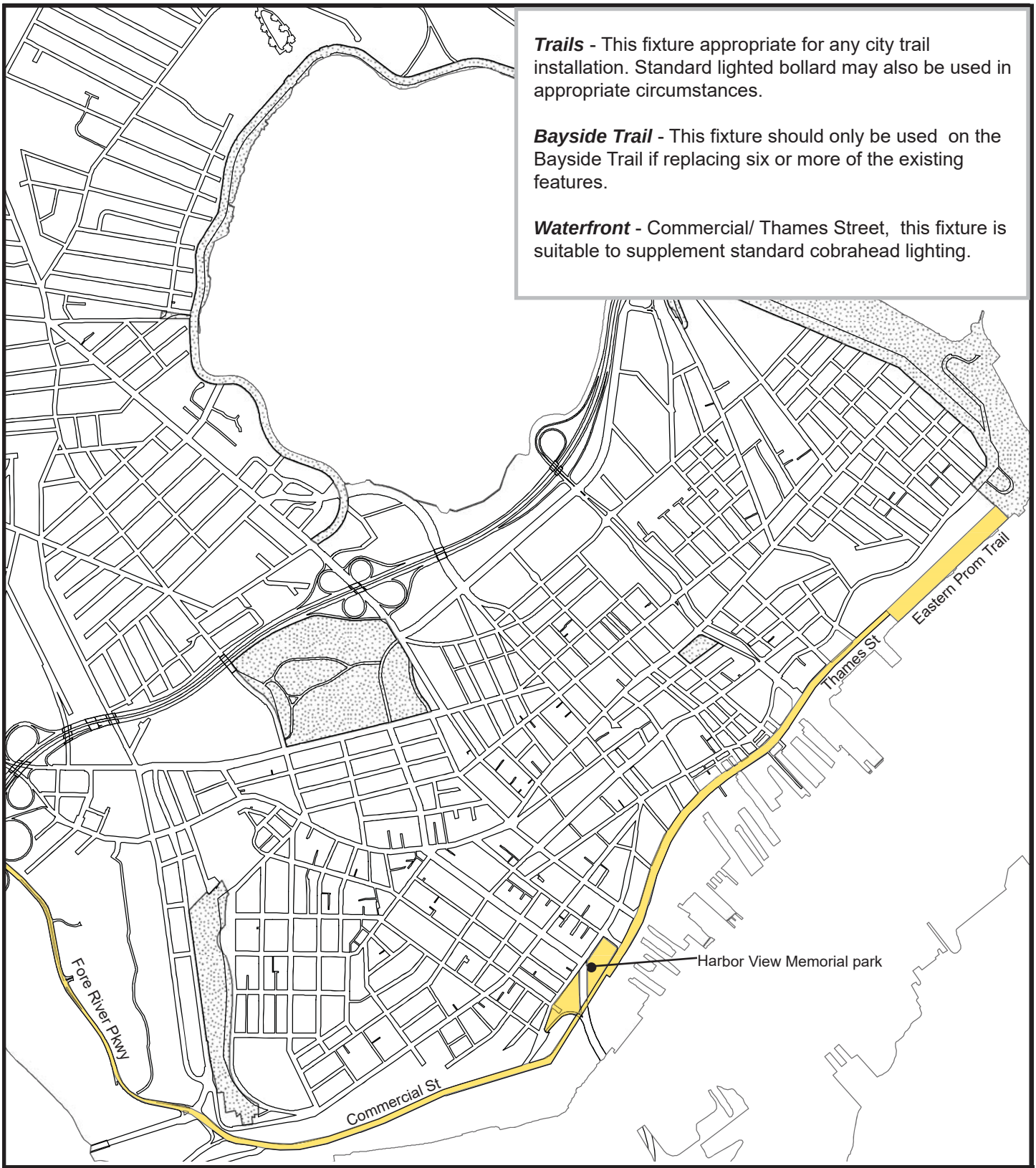
Place in furnishing zone unless space is limited. Placement on back of sidewalk or private property overhanging sidewalk may be accommodated where space is a constraint.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-7E
Revised Date:	**PENINSULA PED *waiver required**		

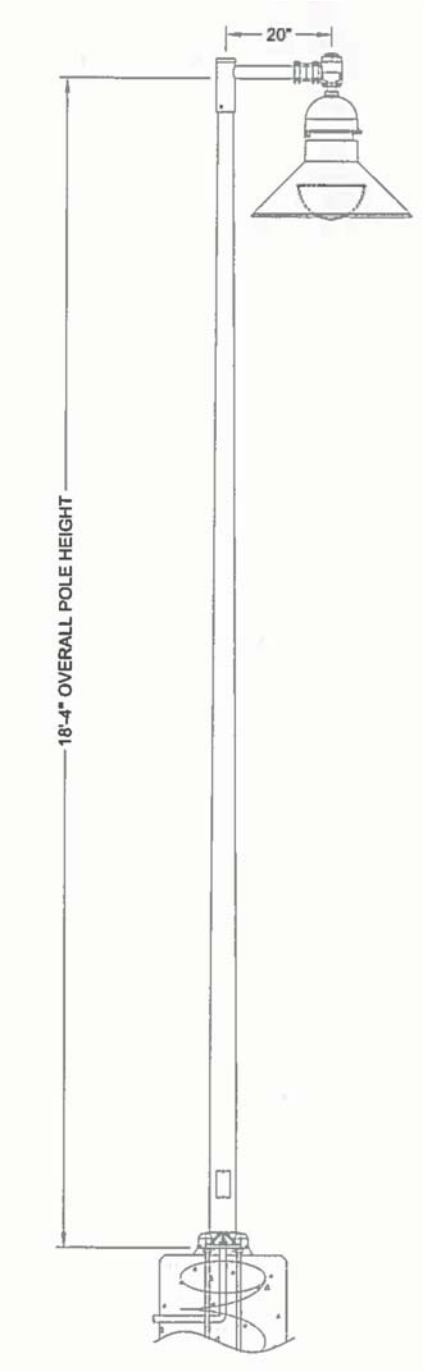
Trails - This fixture appropriate for any city trail installation. Standard lighted bollard may also be used in appropriate circumstances.

Bayside Trail - This fixture should only be used on the Bayside Trail if replacing six or more of the existing features.

Waterfront - Commercial/ Thames Street, this fixture is suitable to supplement standard cobrahead lighting.



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-8A
Revised Date:	**MAP: Decorative Light - TRAILS/ WATERFRONT**		



LUMINAIRE
Holophane GlasWerks LED Hallbrook Series
Model: GELB-050-3K-AS-4-B-3-P7E-DM

Pendant mount
IES Type IV Distribution
Thermal resistant prismatic glass lens held in a formed aluminum door frame.
50 watts
Universal Voltage (120-277V)
Dimming driver with 7-pin photocontrol receptacle
LED 3000K color temperature

BRACKET ARM
Aluminum crossarm with a post-top fitting for a 2-3/8“ by 6” tenon.

SLIP FITTER
Holophane Glasswerks Slip Fitter
Model SG20/1-BK

2-3/8” O.D. with swivel cast fitter.

LIGHTING POLE
Holophane
Model: RTA1850E-PL-ND-BK-4

Aluminum pole shaft rated for a 90 mph wind load with a 1.3 gust factor.

Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dipped galvanized prior to powder coat paint.

DIMENSIONS
Overall Height = 18’ 4”
Bracket Arm = 1’ 6“

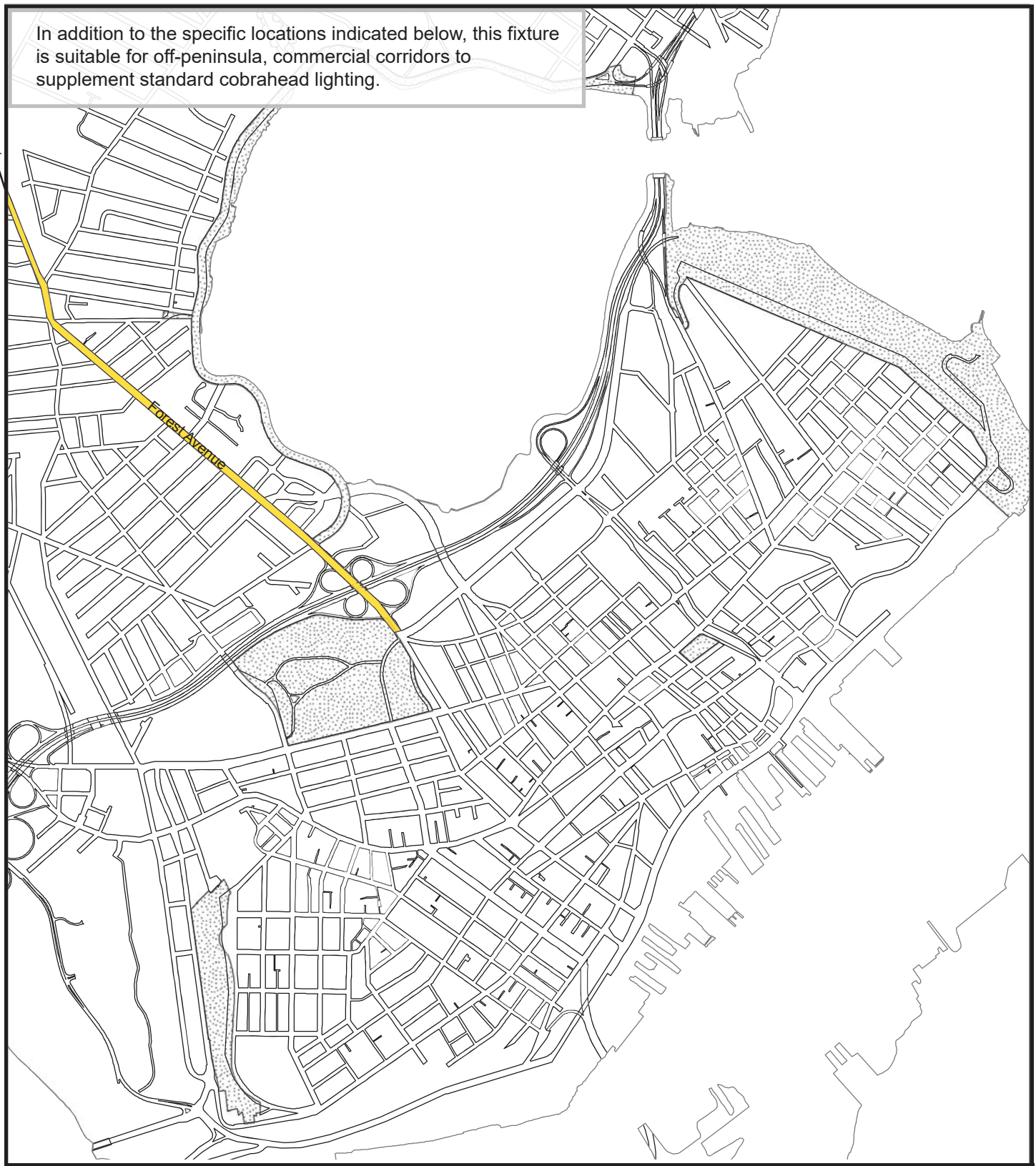
FINISH
Black (standard) - polyester powder coat

APPLICATION
Trails: Appropriate for any city trail installation.
Waterfront (Commercial/Thames St): Supplemental pedestrian lighting to standard cobrahead lighting.

Spacing:
One side: 90’ - 125’ on center
Alternating sides: 175’ - 225’ ft on center

Follow established pattern. Single arm oriented over trail or street; Double-arm used in medians or similar.

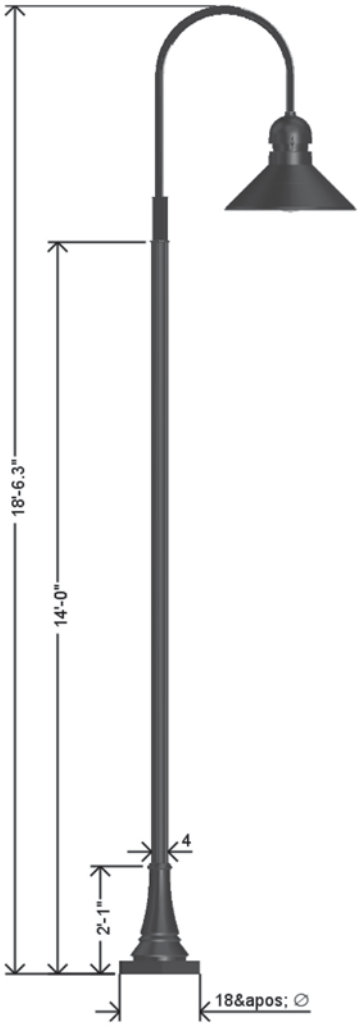
Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-8B
Revised Date:	**TRAILS / WATERFRONT (COMMERCIAL/THAMES STREET)**		



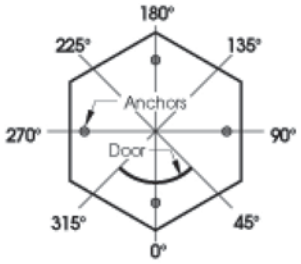
Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-9A
Revised Date:	**MAP: Decorative Light - OFF-PENINSULA**		

PORTLAND | me

Street & Sidewalk Lighting
DECORATIVE LIGHT - OFF-PENINSULA



Anchorage/Orientation Plan



Hand Hole is at 0 deg.

LUMINAIRE

Holophane Hallbrook Ext GalsWerks LED Bowl Glass
Model: GELB-050-3K-AS-H-3
IES Type III Distribution
Pendant mouting (1.5 NPT). Dropped refractor shall be thermal resistant borosilicate glass held in a formed aluminum door frame. Asymmetric bowl glass.
Auto-sensing voltage (120-277V)
50 watt, LED 3000K color temperature

BRACKET ARM

Holophane Bishops Crook Arm
Model : 1-BC-90R-15F-XX (for single arm 90 degree)

Tenon mounted, using a 1 1/2" NPT fitting for luminaire mounting. Arm shall be 1 1/2" sch. 80 aluminum pipe (6061-T6 alloy). Mounting hub for the arm shall be 3" sch. 40 x 10" long aluminum pipe (6061-T6 alloy). All hardward shall be stainless steel. The arm shall be heat-treated to a T6 condition after fabriction.

LIGHTING POLE + BASE

Holophane Princeton Aluminum Pole, Smooth Base
Model: PSA-14-F4J-18-P09-ABG-GH

One-piece construction, aluminum pole (heavy wall cast aluminum ASTM 356), smooth shaft 4" dia. rated for a 90mph wind load with a 1.3 gust factor with integral 18" hexagonal smooth base. All hardware shall be tamper resistant stainless steel. Provide four hot-dipped galvanized steel L-type anchor bolts. Lighting pole shall be hot dip galvanized prior to powder coat paint.

DIMENSIONS

Overall Height = 18' 6"
Pole Height = 14' 0"
Pole Diameter = 4"
Base Diameter = 18"

FINISH

Graphite (Standard) - powder coat paint finish

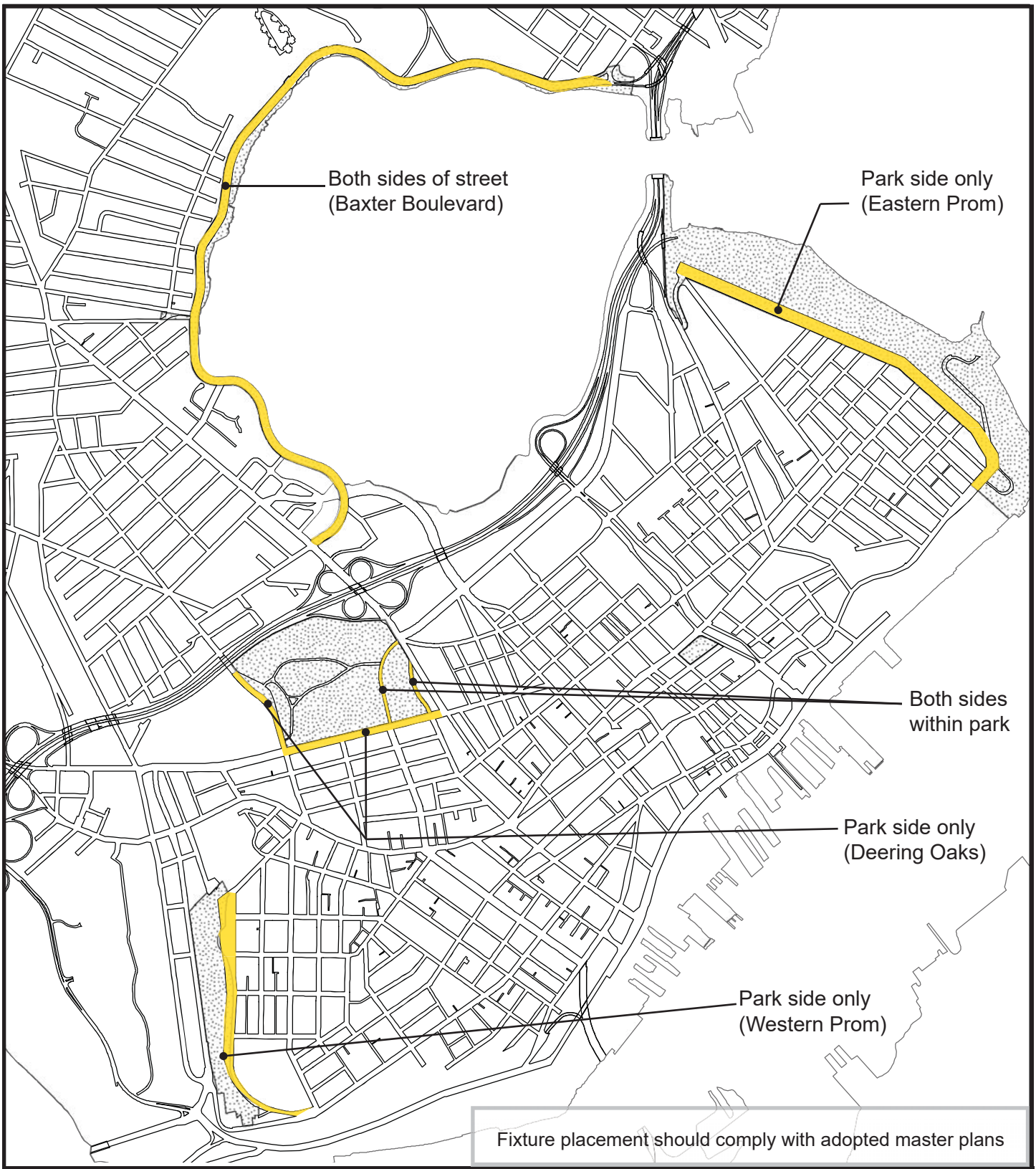
APPLICATION

Sidewalk lighting to supplement standard lighting off-peninsula.

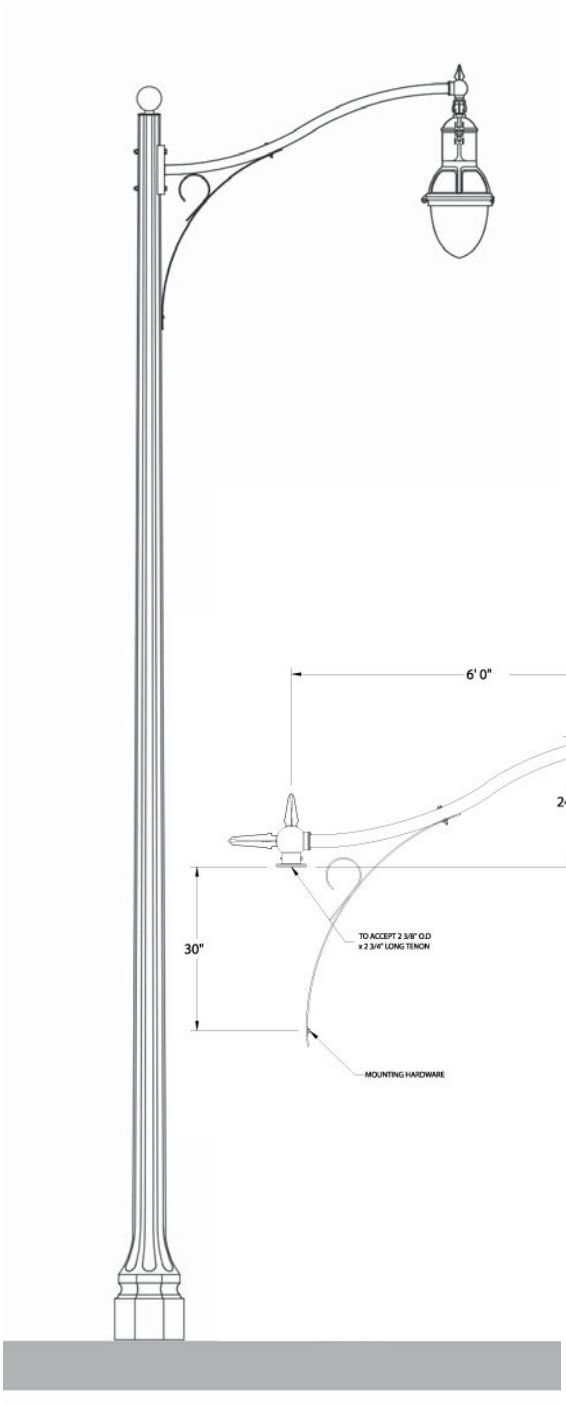
Spacing:
One side: 60' - 80' on center
Alternating sides: 100' - 175' on center

Fixture orientation should be consistent with established pattern. In some cases, a double-arm bracket parallel to the street may be appropriate.
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.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-9B
Revised Date:	**OFF-PENINSULA PED**		



Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-10A
Revised Date:	**MAP: Decorative Light - HISTORIC LANDSCAPE STREET**		



LUMINAIRE

Holophane Espalanade LED II
Model:
ESL2-P20S-30K-AS-CMC-TG3-S-P7-NL2X2-BHDF13-200CMC
or Spring City Columbia Series
Model: LMCLU-LE080/EVX/X2-30-CR3-GR14-LACLB-FED-CU

With Shield: Deering Oaks Park
Without Shield: All other locations

LED Auto-sensing 39 watt
Voltage (120 - 277V)
IES Type V Distribution
LED 3000K color temperature

BRACKET ARM

King Luminaire/StressCrete: Scroll Arm with Decorative Scroll
Model: KA30-T

Single arm with finials and decorative scroll.
Slip fitter 2 3/8" O.D. to accommodate various leveling devices. At pole, to accept 2 3/8" O.D. x 2 3/4" Long tenon.

LIGHTING POLE

King Luminaire/StressCrete: The Talisman - Concrete
Model: KTH20

The American Series - The Talisman, 8-fluted concrete
Footing details, tenon size, options per specific project

DIMENSIONS

Overall Height = 21'0"
Pole Height = 20' 0"
Pole Base Flare = 18"
Bracket Arm Length = 6' 0"

FINISH

Luminaire: Black (standard)
Pole: Eclipse Black, acrylic coating (standard)

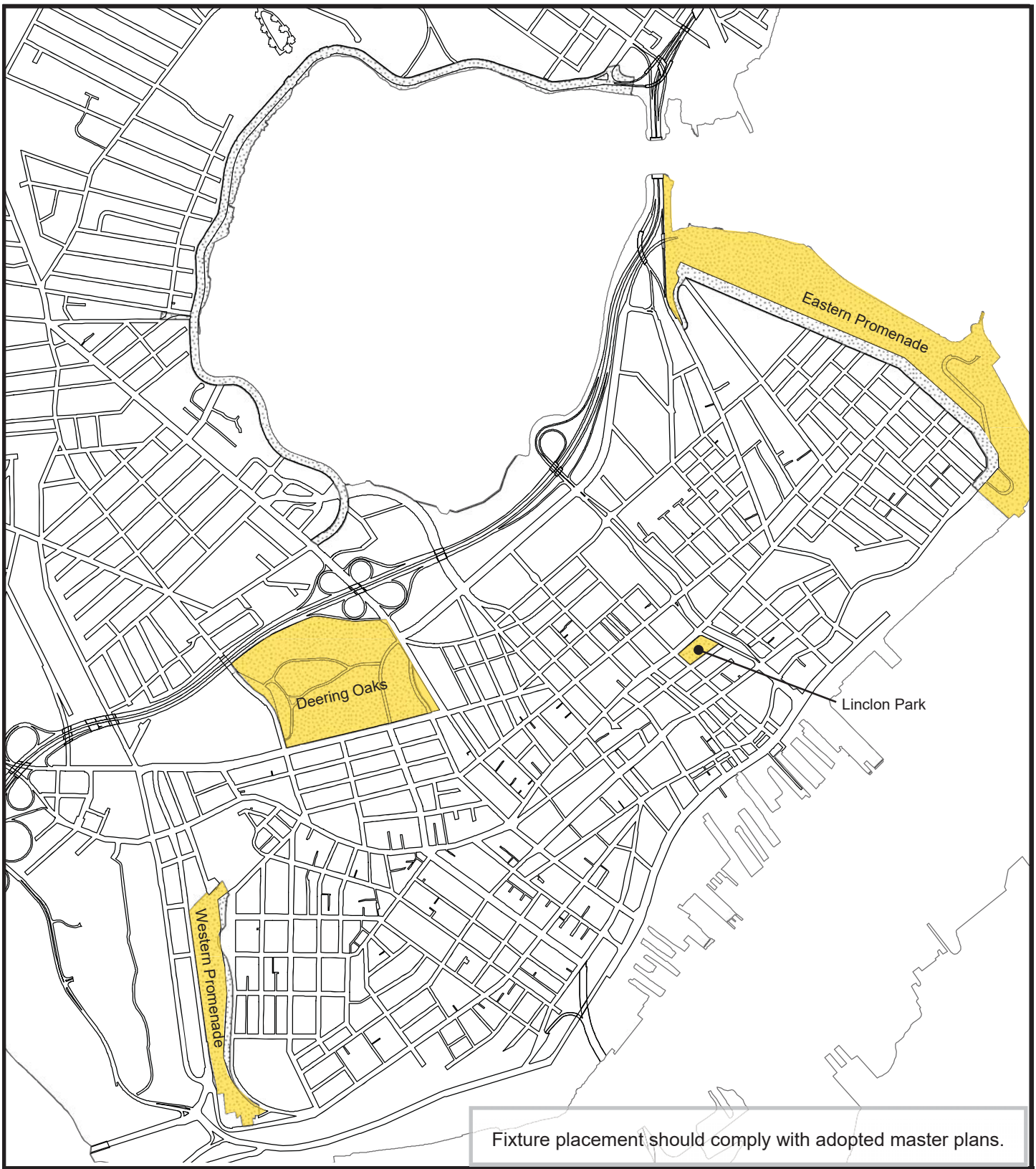
APPLICATION

Decorative street lighting for historic landscapes.

Spacing:
One side: 90' - 100' on center
Alt. sides: 175' - 225' on center

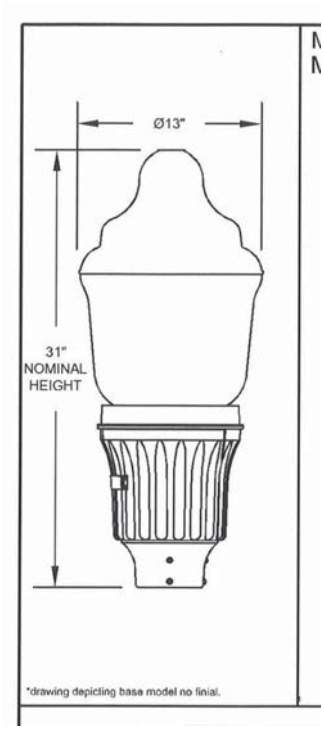
Fixture locations must comply with adopted Historic Master Plans.

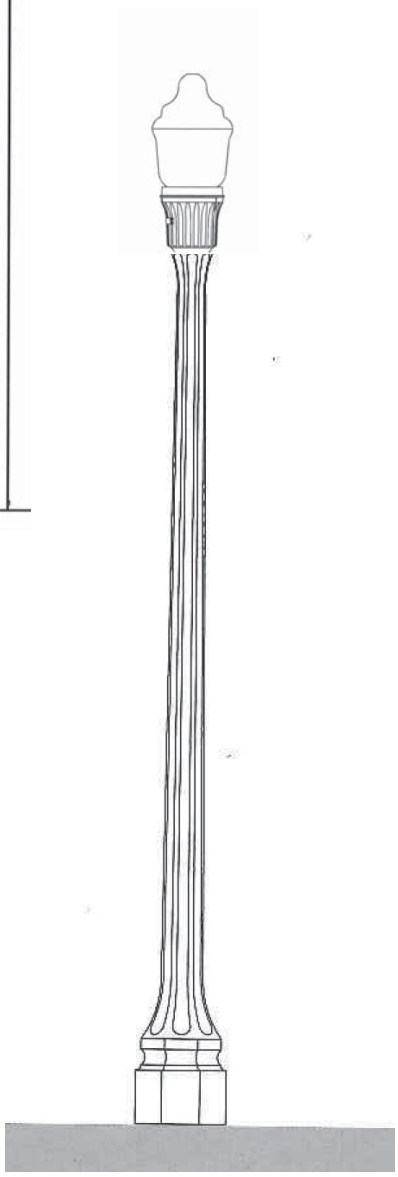
Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-10B
Revised Date:	**HISTORIC LANDSCAPE STREET**		



Fixture placement should comply with adopted master plans.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-11A
Revised Date:	**MAP: Decorative Light - HISTORIC LANDSCAPE PEDESTRIAN**		





LUMINAIRE

Holophane GranVille II LED
Model: GVD2-P20-30K-AS-M-BK-5-N-N-U

Prismatic Style: Glass Classic
Housing Size: Utility
No Trim or finial, Modern Housing
Slip fitter accommodates 2-7/8" to 3-1/8" dia. tenon

LED Auto-sensing 39 watt
Voltage (120 - 277V)
IES Type V Distribution
LED 3000K color temperature

LIGHTING POLE

King Luminaire/StressCrete: The Talisman - Concrete
Model: KT-12-E-11-DB-140 30/30-A

The American Series - The Talisman, 8-fluted concrete
Talisman Non-Flared Top 12'
Footing details, tenon size, options per specific project

DIMENSIONS

Overall Height = 14' 6"
Pole Height = 12' 0"

FINISH

Luminaire: Black (standard)
Pole: Eclipse Black, acrylic coating (standard)

APPLICATION

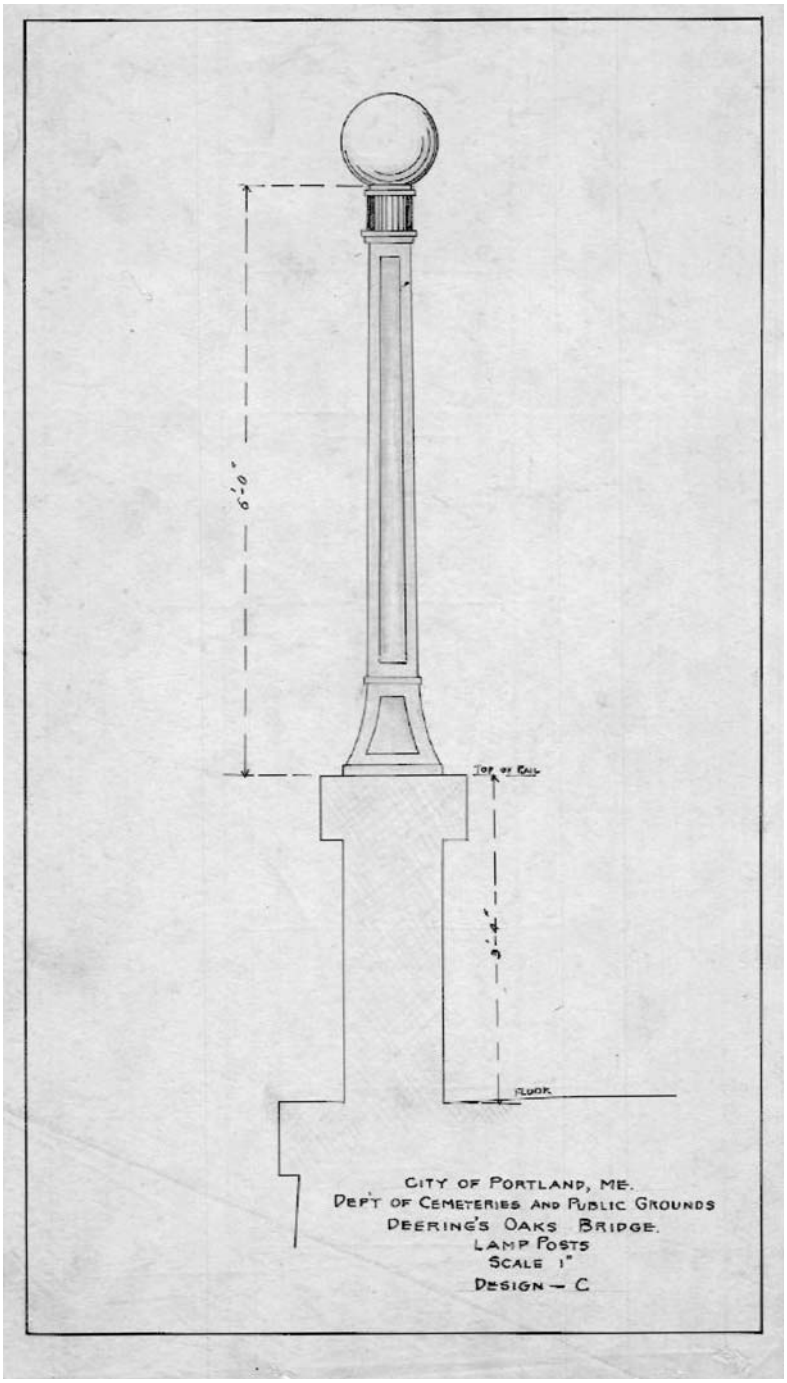
Decorative pedestrian lighting for historic landscapes.

Spacing: 60' - 80' on center

In some instances, the fixture will replace existing fixtures.

Fixture locations must comply with adopted Historic Master Plans.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-11B
Revised Date:	**HISTORIC LANDSCAPE PED**		



LUMINAIRE
Match existing and according to historic resources.

LAMP
LED 3000K color temperature

LIGHTING POLE
Match existing and according to historic resources.

DIMENSIONS
Match existing and as shown in image.

FINISH
Black: Match existing and according to historic resources.

APPLICATION
Match existing location and installation.

Date: **March, 2019**	**CITY OF PORTLAND, MAINE** TECHNICAL MANUAL	**MUNICIPAL STREET LIGHTING STANDARDS** SECTION 10	Figure: X-12
Revised Date: **Month Year**	**DEERING OAKS BRIDGE**		

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 Level II or Level III proposals **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 Level II or Level III developments 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.

11.3.1. **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.
-

11.4. 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.

11.5. Reserved.

11.6. 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.

15. SOLAR ENERGY GENERATION TECHNICAL STANDARDS

15.1 APPLICABILITY

15.1.1 All solar energy generation systems are subject to the standards set out in the Article 6 of the Land Use Code, whether permitted or conditional.

15.1.2 Roof mounted and accessory ground mounted solar energy systems as per Article 6 of the Land Use Code not subject to site plan review must comply with technical, safety and maintenance standards as per Building and Fire Code requirements and as determined by the Permitting and Inspections Department when a building permit is submitted. These solar energy systems must obtain a building permit but are not subject to the detailed Technical Standards in 15.2 below.

15.1.3 It should be noted that roof mounted systems potentially present a safety issue for the Fire Department in the event of a fire, and it is recommended that any roof mounted solar energy system be discussed with the Fire Department prior to design.

15.1.4 The technical standards in 15.2 below apply to any minor or major solar energy generation system that requires site plan approval (through the Planning Division) in accordance with Article 14, Site Plan, of the Land Use Code. These solar energy systems also require a Building Permit and other permits as required by Permitting and Inspections Department. The Permitting and Inspections Department may have additional submittal requirements for solar energy systems.

15.1.5 The following technical standards are referenced in Article 6 of the Land Use Codeand aim to complement this ordinance and the existing codes and site plan review standards. Together the aim is to ensure safe, effective and efficient installation of solar energy systems compatible with surrounding uses. Within this aim the overall intent is to encourage the installation of solar energy systems.

15.2 TECHNICAL STANDARDS

15.2.1 Site Layout: Wherever possible solar energy systems should be located on the side or rear (i.e. least visible) part of the site. This also applies to associated features such as lighting and infrastructure. Applicants shall take all

reasonable efforts to place utility connections underground, unless making use of existing lines, or as otherwise required by the utility. The proposed placement of new poles for electrical connections shall be included in the site plan and construction management plan.

15.2.2 Site Plan Review Standards: Proposals should address the specific requirements for solar energy systems found in Article 6, as well as the site plan review standards, listed in Article 14**.** It is recognized that some of the Site Plan standardsmay not be relevant, as determined by the Planning Division/Planning Board during the review. It is likely that the review of any solar energy system would focus on how the proposals avoid or minimize impacts on the following:

- Existing vegetation and other natural resources - location on brownfield sites and on areas that are already impervious are encouraged;
- Wetlands and areas subject to flooding - DEP approval may be required;
- Wildlife and wildlife habitats - information may be requested on resources, impacts and potential mitigation eg through specified maintenance regimes;
- Septic systems, leach fields (unless explicitly allowed by the relevant regulator);
- Existing topography - ensure adequate temporary and permanent erosion and sedimentation control;
- Water quality of the stormwater runoff;
- Airport flight paths (FAA approval may be required);
- Other specific or local site characteristics as referenced in ordinance standards.

15.2.3 Security: The siting and design of the solar energy installation shall ensure that unauthorized access is prevented, and shall be in conformance with all applicable electrical code requirements. Knox boxes at gates (or similar arrangements as approved during the review) shall be provided for emergency access. [DC1]

15.2.4 Screening: The ordinance specifies screening from nearby residential/institutional uses and public ways. The proposals should take advantage of existing topography and vegetation where possible to integrate the development (including fencing, infrastructure and connections to the grid) into the landscape, and introduce vegetated buffer areas. Fencing shall be wildlife friendly and as unobtrusive as possible, utilizing measures such as locating the fencing along topographical contours and screening with planting. The selection of new planting would be in accordance with the *Technical Standards* in Section 4 *Site Landscaping.*

15.2.5 Construction Impacts: Proposals should include information regarding the methods of construction and a Construction Management Plan may be

requested. Clearing of existing trees and vegetation shall be restricted to the minimum amount needed for construction access and to avoid shading of the solar development. Construction work should be performed in such a way that erosion and sedimentation is minimized, and measures should be taken to permanently stabilize disturbed areas of the site as soon as possible.

15.2.6 Lighting, signage and materials: Where lighting is necessary it should be at the lowest level to meet functional needs, activated by motion sensors, fully shielded and of cut off design to meet the *Site Lighting* standards in Section 12 of the *Technical Standards*. Similarly, signage should meet functional needs of safety/security and emergency contacts and not include advertising. Materials would ideally be of neutral colors and manufactured with a low "carbon footprint".

15.2.7 Stormwater Management: A new solar development will be required to comply with the *Technical Standards* in Section 5 *Portland Stormwater Management Standards* and Maine DEP Chapter 500 Stormwater Management.

15.3 SAFETY STANDARDS

15.3.1 Building Permit: All solar energy systems require a building permit prior to installation, whatever level of site plan review. All shall be installed by a qualified solar installer.

15.3.2 Certification: Solar energy systems shall be designed, erected and installed in accordance with all applicable codes, regulations and standards, with equipment approved under a certification program certified by the US Department of energy or similar. Experimental, homebuilt and prototype models would not be permitted.

15.3.3 Hazardous Materials: The city is concerned about the creation of hazardous waste in the future and requires a statement from the applicant regarding the content of toxic materials (eg cadmium) in the proposed system. Where the panels contain potentially toxic materials, the Operations and Maintenance Plan (for medium and large ground mounted or dual use systems - see below) shall address future disposal.

15.4 MAINTENANCE STANDARDS

15.4.1 Maintenance: Maintenance includes, but is not limited to: cleaning, mowing, painting, structural repairs, integrity of security measures, maintenance of site access adequate for emergency and maintenance services,

planned maintenance of fencing, stormwater systems and vegetation/ground cover, plans for cleaning panels and any specific mowing or other regimes to support the wildlife habitat value of the site.

15.4.2 Operations and Maintenance Plan: All minor and major solar energy systems, as defined in Article 6 of the Land Use Code are required to provide an *Operations and Maintenance Plan* that is prepared and stamped by a licensed Professional Engineer or other licensed Professional as appropriate. The *Plan* will vary depending on the site, the method of connecting to the grid, and the number and type of panels- but is expected to address the maintenance items listed in 15.4.1 and any operational time tables as relevant, and include the following:

- Clarification of the responsible party;
- Any maintenance items that are particularly important from a public safety perspective;
- An estimate of the life of the project
- What options/actions are anticipated when it has reached the end of its estimated useful life; and
- How the disposal of any toxic materials will be handled when the system is dismantled.

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.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Project Description

The Presumpscot Woods project is a proposed residential, condominium development consisting of the creation of 53 new dwelling units through a combination of duplex and triplex buildings supported by a private access way and associated utilities. The project is located off Hope Avenue, in Portland, Maine on Parcels 390/A001, 448/A001001, 449/A002. The applicant/owner, GenX Capital Partners, LLC (Owner), is proposing to develop this subdivision under the PRUD dimensional standards within the City's R-3 Zoning District.

The project site is approximately 13.7 acres in size and, although located in an urban residential neighborhood, it is currently forested and undeveloped. The land slopes range from gentle to steep on the outskirts of the property. There are small pockets of wetlands within the site and a narrow stream located in an eroded channel that divides the property. The site abuts the Falmouth Spur of the Maine Turnpike to the north and undeveloped, forested conservation lands to the east, which border the Presumpscot River.

Access to the site will be through an existing curb cut on Hope Ave. The Owner proposes a 20-foot wide, private access road with sidewalk on one side to traverse the property and provide vehicle, bicycle, and pedestrian access to each residential unit. A combination of garage space and driveway length provide adequate parking for the units, while maintaining clear roadway widths for emergency access. Additionally, three parking spaces are proposed in the northwest corner of the site to allow convenient access to open space areas and a short trail connection to the "Sebago to the Sea Trail" system.

Residential units will be presented in a combination of duplex and triplex buildings. The buildings will be modular structures. Each unit will be two-stories tall and include three (3) bedrooms, single-car garage, front porch, rear patio, and other such amenities. Underground power and communications conductors will service each unit along with public sewer and water services. It is expected that each unit will have individual propane tanks to provide fuel for heating, cooling, cooking, etc. Residential scale lighting will be provided by a combination of street-side light pole fixtures and residential light fixtures on the front porch of each unit.

Per the Green New Deal, the City of Portland requires that 25 percent of the 53 proposed housing units be offered as affordable housing units (AHUs), resulting in a total of 14 AHUs

for this project. The applicant is proposing to meet this requirement by constructing 8 AHUs and paying a compensation fee to offset the remaining 6 AHUs. The applicant is proposing to integrate the AHUs into the development as required by the regulations. The interior finishes of the AHUs are expected to be less expensive to construct than the market rate units and they will have 3-bedroom units, with single bay garage, front porch, back patio, etc., like the market rate units.

The Presumpscot Woods Subdivision requires review and approval through the City of Portland (City) Major Site Plan and Subdivision permitting process, as well as the Maine Department of Environmental Protection (MDEP) Site Location of Development Act (SLODA) and Natural Resources Protection Act (NRPA) permitting process. On behalf of the Owner, we have obtained approval of the NRPA permits from the MDEP and the City of Portland is reviewing this application for Site Plan, Subdivision, and SLODA requirements simultaneously. We look forward to continued meeting with City Staff and Planning Board as this project's review progresses. Please feel free to reach out to us with any questions or comments.

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

CITY OF PORTLAND
Planning & Urban Development Department

SUBDIVISION
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 of 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	**Subdivision Standards Assessment** (see Article 15.4 of the land use code) • Summary of compliance with subdivision review standards of the land use code
Yes	NA	**Existing and/or Proposed Easements or Covenants, applicable.** • Evidence of existing easements and any proposed easements
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

SUBDIVISION
SUPPLEMENTAL SUBMISSIONS CHECKLIST

Provide assessment of compliance with standards and include supplemental documentation, as applicable.
Please submit each document as a separate PDF file.

Yes (NA)	• 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.
Yes (NA)	• When the adequacy of the subdivision's load bearing capacity is in question, a geotechnical report with supporting data that includes the result of test borings shall be prepared by a professional engineer registered in the state and submitted.
(Yes) NA	• Price range of houses that will be built in the subdivision.
(Yes) NA	• Traffic impact analysis.
Yes (NA)	• High intensity soil survey, if required by the Planning Authority.
(Yes) NA	• Types and estimated quantities of solid waste to be generated by the development.
(Yes) NA	• A narrative describing all proposed buffer strips, their dimensions, and maintenance plans and responsibilities.
(Yes) NA	• 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.
(Yes) NA Yes NA	• 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.
(Yes) NA	• When conditions warrant, a program to control dust, erosion and sedimentation and/or vehicular traffic during construction.
Yes (NA)	• 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.

SUBDIVISION
DRAWINGS CHECKLIST

Please submit each document as a separate PDF file.
All drawings must be submitted in a 24 x 36 sheet size.

SUBDIVISION PLAT (at a scale not more than 1"=60', unless lots are more than one acre in size)

1. Date, north point, title and graphic scale.
2. Names, addresses and stamp or certification, if applicable, of registered professional engineer, subdivider, and owner
3. Vicinity sketch (may be shown on separate plan);
4. Names of adjacent property owners with parcels over 25,000 square feet or names of adjacent subdivision;
5. Location and designation of any zoning district boundaries affecting the subdivision;
6. 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;
7. Based on a recent survey by the subdivider, existing contours at two foot intervals or as otherwise required by the Public Works Authority. Existing structures which are to remain will shall be delineated;
8. Tract boundary lines and property lines of lots, with accurate dimensions and either bearings or deflection angles. All lots shall be numbered;
9. Names of proposed streets, width of rights of way, typical cross section reservation, and depth of construction materials;
10. Locations, widths and purposes of other rights of way or easements to be recorded;
11. All appropriate street geometry information, including point of curvature, point of tangency, tangent distance, radii and interior angle, in standard engineering format;
12. 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);
13. 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 stormwater or storm sewer overflow;
14. All potential wetlands within the proposed subdivision, regardless of the size of those wetlands;

15. 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.

16. 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;

17. 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);

18. 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);

19. 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);

20. Tree plan showing groups of existing, sizeable trees which the subdivider intends to preserve (may be shown on separate plan);

21. 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);

22. All future phases and sections of the subdivision proposed by the subdivider (may be shown on separate plan);

23. Proposed parks and school sites, or other public open space that the developer proposes to convey to the city;

24. Streets and right of way monuments and property line markers;

25. 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.

26. Where submission drawings are available in electronic form, the applicant shall submit any available electronic CAD files with final plans.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Existing or Proposed Easements or Covenants

The Presumpscot Woods project property is currently subject certain drainage easements and an access easement that are described within the property's deed and depicted on the Existing Conditions Plan. Both documents are included within other sections of the Major Site Plan application. It is expected that new easements will need to be created to support maintenance of proposed utilities.

MAINE REAL ESTATE TAX-Paid

DLN: 1002240198225

QUITCLAIM DEED

ESTELLE ESTATES, LLC, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine, for consideration paid, grants to 338 FALMOUTH FORESIDE PARTNERS LLC, a Maine limited liability company with its principal place of business in Falmouth, County of Cumberland and State of Maine, with a mailing address of 2 Town Landing Road, Falmouth, ME 04105, WITH QUITCLAIM COVENANT, in and to the land, buildings, improvements and all appurtenances thereof situated in the City of Portland, County of Cumberland and State of Maine bounded and described as follows:

PARCEL ONE

A certain lot or parcel of land located on the northeasterly side of Hope Avenue in the City of Portland, County of Cumberland, State of Maine, generally depicted as "Lot 24" on a certain plan entitled "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, recorded in the Cumberland County Registry of Deeds in Plan Book 206, Page 412, being more particularly bounded and described as follows:

Beginning at a point on the northwesterly side of Lot 1 as depicted on a plan of Presumpscot River Place III recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 650, said point of beginning lying N 31°28'15" E by said Lot 1 a distance of Three Hundred Forty-Six and 08/100 (346.08) feet from the northeasterly sideline of Hope Avenue as depicted on said plan of Presumpscot River Place III. Thence:

1) N 58°31'45" W a distance of One Hundred Fifty-Two and 96/100 (152.96) feet to a point.

2) S 75°51'37" W a distance of One Hundred Sixty-Four and 63/100 (164.63) feet to a point.

3) S 39°42'09" W a distance of One Hundred Seventeen and 91/100 (117.91) feet to a point.

4) S 58°31'45" E a distance of Twenty and 00/100 (20.00) feet to a point.

5) S 31°28'15" W a distance of Ninety-Nine and 50/100 (99.50) feet to a point on the northeasterly side of said Hope Avenue.

6) N 55°52'57" W by said Hope Avenue a distance of Ninety and 61/100 (90.61) feet to a point of curvature.

7) Northwesterly by said Hope Avenue following a curve to the left having a radius of Two Hundred Twenty-Five and 00/100 (225.00) feet an arc distance of One Hundred One and 64/100

(101.64) feet to a point and land now or formerly of the City of Portland as described in a deed recorded in said Registry in Book 17463, Page 276.

8) N 19°30'58" W by said land of City of Portland and Lot 1 as depicted on a plan entitled "Riverwalk Subdivision Plan" made by Titcomb Associates dated October 25, 2005, a distance of Eight Hundred Forty-Seven and 44/100 (847.44) feet to a point.

9) N 64°27'37" E by said land of City of Portland a distance of Five Hundred Forty-Four and 52/100 (544.52) feet to a point.

10) S 02°55'37" E by said land of City of Portland a distance of Seventy-Five and 57/100 (75.57) feet to a point.

11) S 16°16'41" E by said land of City of Portland a distance of Ninety-Seven and 28/100 (97.28) feet to a point.

12) S 21°57'26" E by said land of City of Portland a distance of Seventy-Five and 78/100 (75.78) feet to a point.

13) S 26°42'50" E by said land of City of Portland and land depicted as Land Proposed for Conveyance to City of Portland (11,714 s.f.) on said Riverwalk Subdivision Plan a distance of One Hundred Twenty and 38/100 (120.38) feet to a point.

14) N 67°31'46" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Fifty and 73/100 (50.73) feet to a point.

15) N 74°57'11" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Twenty-Seven and 25/100 (27.25) feet to a point.

16) N 82°42'53" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Thirty and 98/100 (30.98) feet to a point.

17) S 57°41'42" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of One Hundred Twenty-Nine and 99/100 (129.99) feet to a point and land depicted as Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) on said Riverwalk Subdivision Plan.

18) S 05°41'39" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of Fifty-Three and 28/100 (53.28) feet to a point.

19) S 12°34'45" W by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of One Hundred Twelve and 44/100 (112.44) feet to a point.

20) S 54°10'20" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of One Hundred Ten and 21/100 (110.21) feet to a point.

21) S 59°34'29" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of Twenty-Eight and 61/100 (28.61) feet to a point and land depicted as Land Proposed for Conveyance to City of Portland (46,012 s.f.).

22) S 14°07'58" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Forty-Seven and 20/100 (47.20) feet to a point.

23) S 20°34'09" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Sixty-Six and 74/100 (66.74) feet to a point.

24) S 01°32'31" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Seventy-Seven and 90/100 (77.90) feet to a point.

25) S 27°16'40" E by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Sixty and 84/100 (60.84) feet to a point.

26) S 55°18'28" E by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Eleven and 40/100 (11.40) feet to a point and the northwesterly side of Lot 1 as depicted on a plan entitled "Presumpscot River Place III" recorded in said Registry in Plan Book 202, Page 650.

27) S 31°28'15" W by said Lot 1 a distance of One Hundred Seventeen and 43/100 (117.43) feet to the point of beginning.

Bearings are based on true north.

The above described parcel is a portion of land now or formerly of Lloyd B. Wolf and Robert L. Adam as described in a deed recorded in the Cumberland County Registry of Deeds in Book 7058, Page 70.

Reference is herein made to Private & Special Laws of Maine, Second Regular Session of the 120th Legislature, Chapter 62, S.P. 499-L.D. 1586, An Act to Separate Territory from the Town of Falmouth and Annex it to the City of Portland, approved April 2, 2002.

The above described parcel is conveyed TOGETHER WITH, a certain easement located on the northerly side of but not adjacent to Hope Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

A thirty (30) foot wide strip of land, the centerline of which begins at a point lying N 19°30'58" W a distance of Thirty-Seven and 50/100 (37.50) feet from the northeasterly corner of the second parcel conveyed to the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 17463, Page 276, with said centerline continuing S 70°29'02''W to the easterly sideline of a road to be constructed by Grantor and referred to as "Road A" on preliminary concept plans for the development of Grantor's property, as such road is actually built.

The easement shall be appurtenant to Grantee's above described premises (Parcel One herein). The easement shall be for the purpose of providing a gravel emergency access road (public or private), as may be required by the City of Portland pursuant to Grantee's development of the dominant tenement. Grantor agrees to extend such easement rights to the general public, as necessary, by separate easement deed. In the event that Grantee is not required to construct such emergency access road, as a condition of site plan approval, subdivision approval or any conditional zone agreement that Grantee may enter into with the City of Portland to develop the dominant tenement, all rights of Grantee and his successors in and to the easement created hereby shall be promptly terminated, and Grantee shall record an instrument in the Cumberland County Registry of Deeds confirming the termination of such easement rights.

The above described parcel is conveyed subject to any and all easements and restrictions of record and includes all rights, easements, privileges and appurtenances pertaining thereto.

The above described parcel is conveyed subject to a portion of a certain culvert easement, benefiting the City of Portland, located on the northeasterly sideline of Hope Avenue in the City of Portland, County of Cumberland, State of Maine, shown as "City of Portland Culvert Easement" on the above referenced "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, and more particularly bounded and described as follows:

Beginning at a point on the northeasterly sideline of Hope Avenue, said point lying N 55°52'57" W by said Hope Avenue a distance of Two Hundred Sixty-Five and 28/100 (265.28) feet from the westerly corner of Lot 1 as depicted on a plan of Presumpscot River Place III recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 650. Thence:

1) N 55°52'57" W by said Hope Avenue a distance of Thirty-One and 95/100 (31.95) feet to a point.

2) N 06°46'58' W a distance of Eighty and 00/100 (80.00) feet to a point.

3) S 85°29'48" E a distance of Thirty- Five and 69/100 (35.69) feet to a point.

4) S 06°46'58" E a distance of Eighty and 18/100 (80.15) feet to a point.

5) S 31°28'15" W a distance of Seventeen and 51/100 (17.51) feet to a point and said Hope Avenue.

Bearings are based on true north.

The above described portion of the culvert easement contains 3,083 square feet. The above described culvert easement includes the right to construct, repair and perpetually maintain through, under, across and upon said easement parcel, culverts, pipes, ditches or the like, for conveying drainage water, and to lay, relay, repair, alter, enlarge, maintain and remove said drainage systems upon, across or under said easement parcel, with all necessary fixtures and appurtenances, to trim, cut down and remove bushes and trees growing on said easement parcel, to remove grass, vegetation and crops growing on said easement parcel and to excavate or fill said easement parcel,

all to such extent as in the judgment of the City of Portland is necessary for any of the above purposes, and to enter upon said easement parcel at any and all times for any of the foregoing purposes.

The above described parcel is conveyed subject to a certain drainage easement, benefiting the City of Portland, adjoining the above referenced culvert easement, shown as "City of Portland Drainage Easement" on the above referenced "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, being thirty and 00/100 (30.00) feet in width, beginning near the northeasterly corner of the above described culvert easement and continuing northeasterly across the above described parcel. The center of said drainage easement follows the center of the naturally occurring drainage course, which course may vary from time to time. The easement includes the right to construct, repair and perpetually maintain through, under, across and upon said easement parcel, culverts, pipes, ditches or the like, for conveying drainage water, and to lay, relay, repair, alter, enlarge, maintain and remove said drainage systems upon, across or under said easement parcel, with all necessary fixtures and appurtenances, to trim, cut down and remove bushes and trees growing on said easement parcel, to remove grass, vegetation and crops growing on said easement parcel and to excavate or fill said easement parcel, all to such extent as in the judgment of the City of Portland is necessary for any of the above purposes, and to enter upon said easement parcel at any and all times for any of the foregoing purposes.

The above described parcel is conveyed subject to a certain Portland Water District Easement, recorded in the Cumberland County Registry of Deeds in Book 2267, Page 257.

PARCEL TWO

A certain lot or parcel of land located in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at a point on a line of the remaining land now or formerly of Lloyd B. Wolf and Robert L. Adam as described in a deed recorded in the Cumberland County Registry of Deeds in Book 7058, Page 70, said point of beginning lying N 62° 51'18" W a distance of One Hundred Twenty-Nine and 32/100 (129.32) feet from the northerly corner of Lot 1 as depicted on the Presumpscot River Place Phase III- Subdivision Plan, dated December 4, 2001 recorded in said Registry in Plan Book 202, Page 650; Thence:

1) N 59°34'29" W by said remaining land of Adam and Wolf a distance of Twenty-Eight and 61/100 (28.61) feet to a point

2) N 54°10'20" W by said remaining land of Adam and Wolf a distance of One Hundred Ten and 21/100 (110.21) feet to a point.

3) N 12°34'45" E by said remaining land of Adam and Wolf a distance of a distance of One Hundred Twelve and 44/100 (112.44) feet to a point.

4) N 05°41'39" W by said remaining land of Adam and Wolf a distance of Fifty-Three and 28/100 (53.28) feet to a point.

5) S 57°41'42" E a distance of Twenty-One and 28/100 (21.28) feet to a point.

6) S 39°27'41" E a distance of Sixty-Six and 70/100 (66.70) feet to a point.

7) S 10°53'57' E a distance of One Hundred Eighty-Two and 18/100 (182.18) feet to the point of beginning.

Bearings are based on true north.

Being the same premises conveyed to Grantor and Grantee herein by the City of Portland, by deed of even or recent date herewith, to be recorded at the Cumberland County Registry of Deeds. The above described parcel is a portion of land formerly of the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 17463, Page 276. Reference is herein made to Private & Special Laws of Maine, Second Regular Session of the 120th Legislature, Chapter 62, S.P. 499-L.D. 1586, An Act to Separate Territory from the Town of Falmouth and Annex it to the City of Portland, approved April 2, 2002.

The above described parcel is conveyed subject to any and all easements and restrictions of record and includes all rights, easements, privileges and appurtenances pertaining thereto.

Meaning and intending to convey, and hereby conveying, all and the same premises described in the Deed of Sale by Personal Representative of the Estate of Robert Lincoln Adam to Estelle Estates, LLC dated November 19, 2018 and recorded in the Cumberland County Registry of Deeds in Book 35303, Page 331.

IN WITNESS WHEREOF, ESTELLE ESTATES, LLC has executed, acknowledged and delivered this Quitclaim Deed by and through Paul F. Driscoll, its Vice President, on this 17th day of June, 2022, hereunto duly authorized.

ESTELLE ESTATES, LLC

Witness

By: _____

Paul F. Driscoll
Its Vice President

[Acknowledgment Located on Following Page]

STATE OF MAINE
Cumberland, ss.

June 17, 2022

Personally appeared the above-named Paul F. Driscoll, Vice President of Estelle Estates, LLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Estelle Estates, LLC.

Before me,

Jamee McCormack

~~Notary Public~~/Attorney-at-Law

Jamee McCormack

Drew Olehowski

From: Mark McClure <mark@genxcp.com>
Sent: Wednesday, September 6, 2023 2:04 PM
To: Greg Shinberg
Cc: Jon Whitten, Jr.; Drew Olehowski
Subject: Re: Authorization letter for Shinberg Consulting

I hereby authorize Greg Shinberg as my designated agent for the approvals of Presumpscot Woods.

Thank you

Mark McClure
Managing Partner
GenX Capital Partners LLC
www.GenXCP.com
214-417-1218

From: Greg Shinberg <gls@shinbergconsulting.com>
Sent: Wednesday, September 6, 2023 1:55:38 PM
To: Mark McClure <mark@genxcp.com>
Cc: Jon Whitten, Jr. <jwhitten@haleyward.com>; Drew Olehowski <dolehowski@haleyward.com>
Subject: Authorization letter for Shinberg Consulting

Hi Mark,

Please send an email that designates Greg Shinberg of Shinberg Consulting as the authorized agent for local and state agencies for the approvals for Presumpscot Woods.

Greg Shinberg
Owner, Shinberg Consulting, LLC
gls@shinbergconsulting.com
Mail: PO Box 4424, Portland, ME 04101
Office: 181 State Street, Suite 303, Portland, ME 04101
Tel: (207) 772-7070
Cell: (207) 653-7510



Warning: The sender of this message could not be validated and may not be the actual sender.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all the privileges and appurtenances thereof to the said Central Maine Power Company, its successors and assigns, to its and their use and behoof forever. And I do covenant with the said Grantee, its successors and assigns, that I am lawfully seized in fee of the premises; that they are free of all incumbrances; that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my heirs, shall and will warrant and defend the same to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, I, the said Lester F. Smith

and I, Mildred L. Smith , wife of the said Lester F. Smith

joining in this deed as Grantor , and relinquishing and conveying my rights by descent and all other rights in the above described premises, have hereunto set our hand(s) and seal(s) this 28th day of November , in the year of our Lord one thousand nine hundred and fifty-five.

Signed, Sealed and Delivered
in presence of

Arline W. Smith
Helena C. Bommessitz

Lester F. Smith
Lester F. Smith
Mildred L. Smith
Mildred L. Smith

STATE OF FLORIDA
COUNTY OF PINELLAS ss. November 28, 1955.

Personally appeared the above named Lester F. Smith and Mildred L. Smith

and acknowledged the above instrument to be their free act and deed.

DOCUMENTARY 55 CENTS 55

NOTARY PUBLIC STATE OF FLORIDA AT LARGE

Notary Public, State of Florida at Large.
My Commission Expires September 1, 1958.

Before me,

Helena C. Bommessitz
~~Justice of the Peace~~
Notary Public

Information for Grantee's File. Do Not Record. Consideration
W. O. Check No. P. P. O.

REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE DEC 30 1955
Received at 9 H — M AM, and recorded in
BOOK 2267 PAGE 256 Robert L. Crane Register

KNOW ALL MEN BY THESE PRESENTS, That Philip L. Hamlin, of Portland in the County of Cumberland and State of Maine, in consideration of One Dollar ($1.00) and other valuable considerations paid by Portland Water District, a corporation organized and existing under the laws of the State of Maine and located at Portland in the said County of Cumberland and State of Maine, the receipt whereof I do hereby acknowledge, do hereby give, grant, bargain, sell and convey, unto the said Portland Water District, its successors and assigns forever, the following described property:

Hamlin to Portland Water District — War

The right perpetually to enter at any and all times upon three (3) certain strips of land situated partly in said Portland and partly in Falmouth in said County of Cumberland and State of Maine, being a part of the land conveyed to the Grantor by Harold L. Carter by deed dated May 8, 1946, recorded in Cumberland County Registry of Deeds in Book 1819, Page 249, to which deed reference is hereby made for a more particular description of said land, the first of said strips being fifty (50) feet in width and lying equally on either side of the following described center line, namely, twenty-five (25) feet in width on either side of said center line and its projection at both ends: Beginning at a point in the dividing line between said land

258

of the Grantor and land of Harold W. Stevens, said point being distant Westerly along said dividing line, twenty-five (25) feet from the Westerly sideline of a certain right-of-way conveyed by the Grantor to Central Maine Power Company by deed dated February 10, 1954, and recorded in said Registry of Deeds in Book 2167, Page 435; thence N. 38° W. parallel to and distant twenty-five (25) feet Westerly from the Westerly sideline of said Central Maine Power Company right-of-way and the Northwesterly extension thereof five hundred eighty-five (585) feet, more or less, to a stake (said stake being hereinafter referred to as Stake B); thence N. 21° 27' E. across the dividing line between the Town of Falmouth and the City of Portland and across said Central Maine Power Company right-of-way one thousand seventy-nine and seven tenths (1,079.7) feet, more or less, to an iron pipe; thence N. 5° 49' W. fifty (50) feet, more or less, to the Southerly side line of a certain lot or parcel of land conveyed by the Grantor to Maine Turnpike Authority by deed dated June 25, 1954, recorded in said Registry of Deeds in Book 2181, Page 423.

Also the right to enter upon a triangular strip adjacent to said first described strip and more particularly bounded and described as follows: Beginning in the Easterly side line of said first described strip at a point opposite Stake B hereinabove described; thence N. 21° 27' E. along the Easterly sideline of said first described strip across the dividing line between the Town of Falmouth and the City of Portland two hundred thirty-four (234) feet; thence S. 8° 16½' E. across said dividing line between the Town of Falmouth and the City of Portland four hundred six (406) feet, more or less, to the Easterly sideline of said first

described strip; thence N. 38° W. along the Easterly sideline of said first described strip two hundred thirty-four (234) feet to the point of beginning.

The second of said strips also being fifty (50) feet in width and lying equally on either side of the following described center line, namely, twenty-five (25) feet in width on either side of said center line and its projection at both ends: Beginning in the Northerly sideline of said Maine Turnpike Authority land at its point of intersection with the Northerly extension of the center line of the first described strip; thence continuing N. 5° 49' W. forty (40) feet, more or less, to an iron pipe, said iron pipe being distant twenty-five (25) feet Easterly from the Easterly sideline of land of Frederick R. Pride, et al.; thence N. 25° 01' E. parallel to and distant twenty-five (25) feet Easterly from the Easterly sideline of said Pride land five hundred (500) feet, more or less, to a stake (said stake being hereinafter referred to as Stake C).

The third of said strips also being fifty (50) feet in width and lying ten (10) feet on the Northwesterly side and forty (40) feet on the Southeasterly side of the following described center line and its projection at both ends: Beginning at a point in the Westerly sideline of the first described strip, said point being distant Northerly along the Westerly sideline of said first described strip one hundred forty (140) feet from the dividing line between said land of the Grantor and said land of Harold W. Stevens; thence Southwesterly parallel to and distant one hundred forty (140) feet Northwesterly from said Stevens land nine hundred fifty (950) feet, more or less, to Carter Street, so-called, as shown on Plan of Land of Philip E. Hamlin, dated March 25, 1953, made by Myron U. Lamb, recorded in Cumberland County Registry of Deeds in Plan Book 44, Page 37.

And to construct and perpetually maintain through and across said strips conduits or pipe lines for conveying water and to lay, relay, repair, maintain and remove water pipe or pipes upon or under said strips with all necessary fixtures and appurtenances together with the right at all times to make connections with said conduits or pipe lines to land adjoining said strips by means of pipes or services; to trim, cut down and remove bushes and trees and to remove grass and crops growing on said strips to such extent as in the judgment of the Grantee is necessary for any of the above purposes and to enter upon said strips at any and all times for any of the foregoing purposes; reserving to the Grantor, his heirs and assigns, the use and enjoyment of said strips for such purposes only as will in no way interfere with the perpetual use thereof by the Grantee, its successors and assigns, for the purposes above mentioned, provided that no building or any kind of permanent structure shall be erected on said strips by the Grantor, his heirs and

258

assigns, and that the Grantor, his heirs and assigns, shall not remove earth from said strips or place fill thereon without the written permission of the Grantee; provided further, however, that the Grantor, his heirs and assigns, shall have the right to lay out and construct a road or street over and along the third strip hereinabove described, and to make any customery use of said strip as a public street.
Together with the right perpetually to enter at any and all times for any of the foregoing purposes upon that portion of said Carter Street as shown on the above mentioned Plan, extending from the Southwesterly terminus of the third strip of land hereinabove described in a Southwesterly direction a distance of nine hundred (900) feet, more or less, to Summit Street.

Also hereby conveying a strip of land situated in said Falmouth and also being a portion of the land conveyed to the Grantor by Harold L. Carter by said deed dated May 8, 1946,

recorded in said Registry of Deeds in Book 1819, Page 249, said strip being fifty (50) feet in width and lying equally on either side of the following described center line, namely twenty-five (25) feet in width on either side of said center line and its projection at both ends: Beginning at Stake C hereinabove described; thence N. 25° 01' E. parallel to and distant twenty-five (25) feet Easterly from the Easterly sideline of said Pride land three hundred eighty-five (385) feet, more or less, to a stake on the Southerly bank of the Presumpscot River; thence continuing N. 25° 01' E. parallel to and distant twenty-five (25) feet Easterly from the Easterly sideline of said Pride land to the center of said Presumpscot River and land of Nathan S. Clifford, et al.

The above described courses are magnetic and as of the year 1955.

This conveyance is made subject to the easement conveyed by the Grantor to said Central Maine Power Company by the abovementioned deed dated February 10, 1954, recorded in Cumberland County Registry of Deeds in Book 2167, Page 435.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all privileges and appurtenances thereof to the said Portland Water District, its successors and assigns, to its and their use and behoof forever.

AND I do COVENANT with the said Grantee, its successors and assigns, that I am lawfully seized in fee of the premises; that they are free of all incombrances; that I have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that I and my Heirs, shall and will WARRANT AND DEFEND the same to the said Grantee, its successors and assigns, forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the said Philip E. Hamlin and Elizabeth G. Hamlin, wife of the said Philip E. Hamlin, joining in this deed as Grantor, and relinquishing and conveying her rights by descent and all other rights in the above described premises, have hereunto set their hands and seals this 30th day of December in the year of our Lord one thousand nine hundred and fifty-five.



Signed, Sealed and Delivered
in Presence of:

Edward J. Norris — Philip E. Hamlin [redacted]

to both — Elizabeth G. Hamlin [redacted]

260

- 4 -

260

STATE OF MAINE
CUMBERLAND, SS. December 30, 1955

Personally appeared the above named Philip E. Hamlin and acknowledged the above instrument to be his free act and deed.

Before me,
Edward J. Morris
Justice of the Peace

REGISTRY OF DEEDS
CUMBERLAND COUNTY MAINE
Received DEC 30 1955
at 4 H 36 M P M, and recorded
in BOOK 2267 PAGE 257
Attest: Robert W. Crane
Register

1200 7-53 2000

PERMIT OR EASEMENT FOR POLE LOCATIONS ON PRIVATE PROPERTY

Hinman to Central Maine Power Co

Permit

KNOW ALL MEN BY THESE PRESENTS, That Ethel C. Hinman

of West Newton in the County of Middlesex and State of Massachusetts, in consideration of One Dollar and other valuable consideration, paid by Central Maine Power Company, a Maine corporation of Augusta, Maine, the receipt whereof is hereby acknowledged, does hereby grant to the Central Maine Power Company, its successors and assigns, the right to set and maintain Two poles over and across my land situated in the Town of No. Bridgton County of Cumberland said State, together with fixtures and wires connecting to convey electricity to my residence and also the right to attach wires and appliances for guying from said poles where necessary to and into my land, the location of the poles to be as follows:

One pole Northwesterly from pole #6, as now staked in Central Maine Power Compwny's so called "Wells Line", and to be numbered #7. Also one pole Southeasterly from said pole #7 to be known as 7.1.

Also with the right to enter upon my said land for the purpose of trimming and cutting such tree or trees as may in the judgment of said Central Maine Power Company, its successors or assigns, interfere with or endanger said electric lines or their operation.

IN WITNESS THEREOF, the said Ethel C. Hinman and wife of the said joining in this right and easement as grantor and relinquishing and conveying her rights by descent and all other rights in the above described easement, have hereunto set her hand (s) and seal (s) this third day of September 1955.

Signed, Sealed and Delivered
in the presence of

O. E. Durgin

Ethel C Hinman

STATE OF MAINE,

Cumberland ss. September 3, 1955

Personally appeared the above named Ethel C. Hinman and acknowledged this instrument to be her free act and deed, before me,

O. E. Durgin
Justice of the Peace.

(Note: Use this form when one customer only is involved).

REGISTRY OF DEEDS, CUMBERLAND COUNTY, MAINE DEC 30 1955
Received at 9 H — M A M, and recorded in
BOOK 2267 PAGE 260 Robert W. Crane Register

PRESUMPSCOT WOODS CONDOMINIUM
Portland, Cumberland County, Maine

DECLARATION OF CONDOMINIUM

338 FALMOUTH FORESIDE PARTNERS LLC, a Maine limited liability company with a principal place of business located Falmouth, County of Cumberland and State of Maine (together with its successors and assigns, the "Declarant"), being the owner of that certain real property located at 0 Hope Avenue, Portland, Cumberland County, Maine, as more fully described hereinafter, by duly executing and recording this Declaration, does hereby submit said land, together with the buildings and improvements now or to be hereafter erected thereon, and all easements, rights and appurtenances belonging thereto, excepting and reserving such rights and interests reserved by and to the Declarant hereunder (the "Property"), to the provisions of Title 33 Maine Revised Statutes, Chapter 31, §§ 1601-101, *et seq.,* as now and as may be hereinafter amended (the "Condominium Act"), and does hereby declare and create, with respect to the Property, a condominium governed by and subject to the provisions of the Act. To that end, the Declarant does hereby declare and provide as follows:

1. Name of the Condominium; Defined Terms. The name of the condominium created shall be the PRESUMPSCOT WOODS CONDOMINIUM (the "Condominium"). Capitalized terms used herein, if not defined herein, shall have the meanings defined in the Act or in the Association's Bylaws.

2. Organization of Owners. The organization through which the Unit Owners will manage and regulate the Condominium is the PRESUMPSCOT WOODS OWNERS ASSOCIATION, a Maine non-profit corporation governed by Bylaws of near or even date and referenced herein (the "Association" and the "Bylaws," respectively). Said Bylaws are not incorporated into this Declaration and therefore may be amended pursuant to the terms of the Bylaws and without complying with the requirements for amending this Declaration by its terms or pursuant to the Act. Said Bylaws establish an association of which all Owners shall be members and in which such Owners shall have a membership interest for voting, assessment, and all other purposes in proportion to the percentage of Undivided Interest in the Common Elements to which they are entitled hereunder, pursuant to and in accordance with the provisions of the Act. The names of the original Declarant-appointed members of the Association's Executive Board are as follows:

_____, _____ and _____

The Declarant hereby reserves the right to appoint and control the Executive Board of the Association for a period of time, as follows: during the period from the date of the first conveyance of a Unit to a third party other than a successor Declarant until sixty (60) days after the

conveyance to third-party purchasers by the Declarant or successor Declarant of seventy-five percent (75%) of the Units that Declarant or successor Declarant is allowed to create pursuant to its reserved development rights, or if sooner, seven (7) years from the date of the first conveyance of a Unit to a third party other than the Declarant (the "Transition Date"), there shall be three (3) Board Members so appointed by the Declarant, its successors and assigns. Upon any vacancy existing in such Board, its or their successor(s) prior to the Transition Date shall be appointed solely by the Declarant, its successor and assigns. On or before the Transition Date, a special meeting of the Unit Owners shall be held for the purpose of electing five (5) Board Members, as described in the Bylaws; one of the five (5) member Board shall be appointed by the Declarant and the four (4) remaining Board members shall be at-large Board members appointed by vote of all the Unit Owner, all as more specifically set forth in the Bylaws.

3. Description of the Land; Plats and Plans. The Land portion of the Property comprising the Condominium (the "Land") is that certain parcel of land situated at 0 Hope Avenue, Portland, Cumberland County, Maine, being described on Schedule A attached hereto. The Land is subject to such rights, easements, restrictions and encumbrances recited in Schedule A; and the rights and easements established herein. The Land is additionally subject to such rights, interests and easements as have been herein reserved to the Declarant, INCLUDING WITHOUT LIMITATION DECLARANT'S DEVELOPMENT RIGHTS AND SPECIAL DECLARANT RIGHTS, all of which rights, interests and easements shall, in all instances, be exercisable by the Declarant and its successors or assigns. The Condominium is comprised of the Land and includes sixty (60) Units (the "Units") hereby created. Recorded herewith is a certain site plan or plat (the "Condominium Plat" or "Plat") entitled "_____" (__ Sheets) prepared by _____ last revised on _____, 2023, depicting the Land and the location and dimension of the improvements thereon. Also recorded herewith are certain plans (the "Condominium Plans" or "Plans") entitled "_____" (__ Sheets) prepared by _____ and dated _____, 2023, depicting the Units, their designated Unit numbers, horizontal Unit boundaries with reference to established datum, the location and dimensions of vertical Unit boundaries, Common Elements, and certain Limited Common Elements appurtenant to certain Units (such as parking spaces, balconies, and storage closets).

4. Description of the Buildings. As described above, the Condominium consists of sixty (60) residential townhouse units in twelve (12) two-story tri-plex buildings and twelve (12) two-story duplex buildings (each, a "Building", and collectively the "Buildings"). The Units are listed on Schedule B attached hereto, along with each Unit's appurtenant undivided percentage interest ("Undivided Interest") in the Common Elements of the Condominium.

5. Descriptions of the Units and Their Boundaries. Units in the Condominium are defined as those physical portions of the Condominium designated for separate ownership hereunder, or in any amendment hereto. The Units, their respective boundaries and the appurtenances thereof are as hereinafter delineated:

(a) Boundaries of Units. The boundaries of each Unit created under this Declaration are generally shown on the Condominium Plat and Plans, and shall consist of:

(1) *Horizontal Boundaries*: The general upper and lower horizontal boundaries of each Unit are generally the following boundaries extended to an intersection with the vertical (perimeter) boundaries:

i. Upper Horizontal Boundaries: The planes formed by the bottom sides of the roof rafters of the Unit's Building.

ii. Lower Horizontal Boundaries: The lower horizontal boundary of each Unit is the final graded physical surface of the earth, whether natural or disturbed, situated below the Unit's Building, approximately as shown on the Plat and Plans.

(2) *Vertical (perimeter) Boundaries*: The vertical boundaries of the Unit are generally the vertical planes at the interior edge of each exterior wall (including party walls) stud line, which includes the exterior back surfaces of the sheetrock of all walls bounding the unit, extending to intersections with each other and with the upper and lower boundaries. The vertical boundary lines also specifically include the exterior surface of doors, garage doors, windows, sliding glass doors, storm windows, and glass walls.

A Unit does not include: the earth and land underlying a Unit's lower horizontal boundary and any improvements therein from time to time; any pipes, ducts, cables, electrical and transmission wires and conduits, distribution popes and water and sewer utility lines which serve more than one Unit or the Common Elements (excepting equipment owned by public and municipal utilities) up to the valve, shut off or switch being a part of the Unit; the driveway leading to the Unit garage from the common road.

(b) Relocation and Subdivision. Relocation of boundaries between Units is permitted by amendment to the Declaration in compliance with the provisions of the Condominium Act. The subdivision of Units is not permitted.

(c) Easements. Each Unit and the Common Elements shall have an easement for lateral and subjacent support from the adjacent Unit or Units and the Common Elements, and shall have the benefit of the easement for encroachments established under Section 1602-114 of the Condominium Act. In addition, each Unit Owner has an unrestricted, perpetual right of ingress and egress to their Unit across the Common Elements, which automatically transfers with a transfer of title to the Unit. Any conveyance, encumbrance, judicial sale, or other transfer (whether voluntary or involuntary) of an interest in the Common Elements shall be void unless the Unit to which that Common Element interest is allocated is also transferred.

(d) Condominium Units Subject to Eligibility Restrictions. In accordance with Section 18.2 of Chapter 14 of the of the City of Portland's Code of Ordinances in effect as of this date (the "Portland Code"), Units

_____ shall be designated as a Workforce Housing Units for Sale, as that term is defined at Article 3 of the Portland Code (the "Workforce Units"). Therefore, the Workforce Units shall be (i) sold at a purchase price which is affordable to a household earning 80% or less of average median income ("AMI") for greater Portland; (ii) sold only to a household earning 80% or less of AMI or to another authorized owner as determined by the Portland Code; and (iii) these restrictions shall be recorded in the deed from Declarant conveying the Workforce Units and/or in other legally binding agreements, as may be required by the City of Portland, including one or more Affordable Housing Agreements, by and between the Declarant and the City of Portland, and executed if necessary by the Association, which shall be recorded in the Cumberland County Registry of Deeds. Declarant and the Association shall cooperate with the City of Portland's verification processes, and shall, together with any prospective buyer, provide the City with sufficient information to determine any prospective buyer's eligibility, as well as meet any additional requirements as put forth in the applicable Affordable Housing Agreements.

Responsibilities for the maintenance of the Unit and Common Elements are governed by Article 7 below.

6. Description of Common Elements and Limited Common Elements, Maintenance of Common Elements and Units.

(a) Description of the Common Elements. The common elements of the Condominium (the "Common Elements") consist of the entire Property described in Schedule A exclusive of the Units, all as hereinbefore described and defined (and exclusive of any and all rights, interests and/or easements reserved by the Declarant). Without limitation, the Common Elements include the open and guest parking spaces, bike racks, walkways, sidewalks, roadways, ponds, open spaces, snow storage areas, dumpsters, landscaping, stormwater drainage systems, shared mechanical and utility service lines, and mailboxes, all as shown on the Plat and Plans. The Common Elements shall be subject to the provisions hereof, and of the Bylaws, and the Rules and Regulations as may be promulgated thereunder with respect to the use and maintenance thereof. Notwithstanding the foregoing, the Common Elements shall exclude the exclusive rights, interests and easements reserved to the Declarant by law or by the Declarant in this Declaration.

(b) Limited Common Elements. As provided in Section 1602-102 of the Act:

If any chute, flue, duct, wire, conduit, bearing wall, bearing column or any other fixture lies partially within and partially outside the designated boundaries of a Unit, any portion thereof serving only that Unit is a Limited Common Element allocated solely to that Unit, and any portion thereof serving more than one Unit or any portion of the Common Elements is a part of the Common Elements; and

Any shutters, awnings, window boxes, doorsteps, and all exterior doors and windows or other fixtures designed to serve a single Unit, but located outside the Unit's boundaries, are Limited Common Elements allocated exclusively to that Unit.

Any electrical or mechanical system serving only one Unit shall be a Limited Common Element appurtenant to that Unit.

The Declarant hereby reserves the development right to allocate the exclusive right to use certain other Limited Common Elements to the owner(s) of certain Units, which Limited Common Elements shall be appurtenant to the Unit(s) to which they are allocated. Such Limited Common Elements may include, without limitation, the following: deck's appurtenant to some or all Units, ground floor patio areas outside the rear of some or all Units, the driveway leading from the Condominium's roadway to the garage entrance of each Unit, all as marked on the Plat and Plans. Such allocations by the Declarant of Limited Common Elements, if not established as described above, may be carried out in any Unit Deed or other recorded instrument from the Declarant. The Declarant may, in the future, allocate additional Limited Common Elements by Special Amendment to this Declaration, in Unit Deeds or other recorded instrument, and the Declarant hereby retains and reserves the exclusive right to so establish and allocate future Limited Common Elements.

(c) Outdoor Parking Area; Guest Parking.

The outdoor parking areas shall consist of twenty-seven (27) parking spaces (the "Outdoor Parking Spaces") as shown on the Plat and Plans. _____ (__) Outdoor Parking Spaces shall be assigned as Limited Common Elements to individual Units, with each parking space assigned to a Unit as shown on the Plat and Plans (the "LCE Parking Spaces"). LCE Parking Spaces may be transferred between Unit Owners pursuant to Section 1602-108(b) of the Act. _____ (__) parking spaces, as shown on the Plats and Plans shall be reserved as Common Elements for use by guests of the Unit Owners (the "Guest Parking").

(i) The Outdoor Parking Spaces shall be used only for the parking of registered and operational private automobiles, motorcycles, and noncommercial vans and trucks and recreational vehicles. No trucks, (except non-commercial pickup trucks), boats, trailers (whether capable of independent operation or attached to an automobile or other vehicle), commercial vehicles, and the like, may be parked in the Outdoor Parking Spaces except with the written consent of the Executive Board.

(ii) A Unit Owner may permit any Unit tenant, guest, invitee or licensee the right to use its assigned LCE Parking Spaces, but all parties using said Outdoor Parking Space shall comply with the provisions relating to such use and occupancy contained in this Declaration, the Condominium Bylaws, and the Rules and Regulations.

(iii) A Unit Owner who permits any Unit tenant, guest, invitee or licensee to use their LCE Parking Space shall be responsible for the compliance by such other user

with provisions of this Declaration, the Condominium Bylaws, and the Rules and Regulations, to the extent the same may be applicable.

(iv) In instances where vehicles using the Outdoor Parking Spaces and other facilities of the Condominium do not comply with this Declaration or the Rules and Regulations, the Executive Board is authorized to allow the towing of the offending vehicles at the expense of the owners of such vehicles.

(v) The Association may further regulate the use of the Outdoor Parking Spaces through the promulgation of Rules and Regulations, from time to time.

7. Maintenance and Repair of Units and Common Elements. Except as otherwise provided in the Act or this Declaration, the Association is responsible for carrying out the operation, maintenance, repair and replacement of the Common Elements, and each Unit Owner is responsible for the operation, maintenance, repair and replacement of his or her Unit and the fixtures, equipment, and appliances therein. Notwithstanding the foregoing, the following shall apply:

(a) The Association shall maintain, repair and replace any portion of a Unit that consists of exterior windows and doors, structural wall, exterior siding or cladding, or other structural element, exterior wall, or interior partition walls. As such, Unit Owners shall not modify, maintain, repair, replace or alter such elements in any manner.

(b) The cost of any maintenance, repair or replacement of any area or component of the Common Elements necessitated or arising from the act or omission of a Unit Owner (or his or her tenant, guest, invitee or licensee) may be assessed exclusively to such Unit Owner, including the cost of insurance deductibles incurred by the Association.

(c) If the Executive Board shall at any time, in its reasonable judgment, determine that any Unit may be in such need of maintenance or repair that the Common Elements may be adversely affected, or that the market value or reasonable enjoyment of one or more other Units may be adversely affected, or that the condition of a Unit or fixtures, furnishings, appliances or equipment therein may be or may become hazardous to any Unit or the occupants, the Executive Board may request in writing that the Unit Owner perform the needed maintenance, repair or replacement or to correct the hazardous condition, and in case such work shall not have been commenced within fifteen (15) days (or such reasonable shorter period in case of emergency as the Executive Board shall determine) of such request and thereafter diligently brought to completion, the Executive Board shall be entitled to have the work performed for the account of the Owner(s) of such Unit and to enter upon and have access to such Unit for that purpose. The cost of such work promptly shall be reimbursed by the Unit Owner to the Association and constitute a lien upon such Unit until paid and the Owner(s) of such Unit shall be personally liable therefore.

(d) The Association shall be responsible for engaging a private trash hauler to pick up trash generated by the Units, the cost of which service shall be a Common Expense.

(e) The Association shall maintain all components of the storm water drainage and management system serving the Property as provided in the "_____" given by Declarant for the benefit of the City of Portland dated _____, and recorded in the Cumberland County Registry of Deeds in Book _____, Page _____, the costs of which maintenance shall be a Common Expense.

8. Undivided Interests. Each Unit shall have an Undivided Interest in the Common Elements in the percentages set forth in Schedule B, which have been rounded to obtain a one hundred percent total for all Units. The Undivided Interests of Units have been determined by the calculating the relative floor areas of the Units. Declarant reserves the right to modify and adjust the Undivided Interests of the Units following the same methodology in connection with exercise by Declarant of its Development Rights pursuant to Section 13 of this Declaration.

9. Other Matters Relating to Condominium Association.

(a) Allocation of Undivided Interests. Each Unit's percentage of the Undivided Interests set forth herein have been, and will be, determined based upon each such Unit's floor area (as measured in square feet), in relation to the aggregate floor area of all Units. Such Undivided Interests shall be used in determining each Unit's Common Expense assessments, voting weight on Association matters for which Unit Owners have a right to vote, distribution of surplus assets, and certain other Association-related matters, all as described more fully in the Association's Bylaws and the Act.

(b) Common Expense Assessments.

(i) Assessments for Common Expenses shall be levied as provided in this Declaration and the relevant sections of the Act and the Association's Bylaws, the terms and provisions of which are incorporated into this Declaration by reference. Such assessments, as well as any late charges, interest, collection costs, attorneys' and paralegals' fees (whether a legal action is filed or not), service fees, charges and fines shall constitute, until paid in full, both the personal obligation of the Unit Owner and a lien against the Unit pursuant to Section 1603-116 of the Act.

(ii) If any Common Expense is caused by the negligence or misconduct of any Unit Owner, the Association may assess that expense exclusively against him or her, and his or her Unit.

(c) Executive Board's Power to Act on Behalf of Association. Except as expressly limited by the Act, this Declaration or the Association's Bylaws, the Executive Board shall be empowered to act on behalf of the Association as described in the Bylaws and Act, including (without limitation) the power and authority to assign its right to collect future Common Expense assessments and other income as security for loans to the Association, and the power to assess Common Expenses benefiting fewer than all the units exclusively against the units benefited.

(d) Notice of Matters Affecting the Condominium. Notice of matters relating to the Condominium shall be given to Unit Owners by the Executive Board by first class U.S. Mail,

postage prepaid, at the Unit (unless the Unit Owner has provided an alternate mailing address in writing to the Association), or by such other means as may be required by law. Notices relating to Condominium meetings shall be provided as set forth in the Condominium Bylaws.

10. Common Easements and Right of Access. To the fullest extent allowed by the Act, each Unit shall have an easement in common with the other Units to use all pipes, wires, ducts, flues, cables, conduits, utility lines, and other Common Elements located in any of the other Units or elsewhere in the Condominium and serving his or her Unit. Each Unit shall be subject to an easement in favor of the other Units to use the pipes, wires, ducts, flues, cables, conduits, utility lines, structural elements, and other Common Elements located in such Unit and serving other Units. The Executive Board, and any of them, any managing agent, and any other person authorized by the Executive Board or by the managing agent, shall have an easement and a right of access to each Unit at reasonable times and upon reasonable notice, except in emergencies, for the purpose of making inspections or for the purpose of correcting any conditions originating in any Unit or threatening another Unit or Common Element or adversely affecting the Common Elements, or for the purpose of obtaining access to, and performing inspections, installations, alterations or repairs on the mechanical, electrical or fire alarm systems and services, exterior walls or structural elements, or any Common Elements in or adjacent to any Unit or elsewhere in the Building(s), or for any other purpose permitted by this Declaration or the Bylaws. In case of an emergency, such right of entry shall be immediate, by any appropriate means, whether or not the Unit occupant is present at the time.

11. Encroachments. If any portion of the Common Elements now encroaches upon any Unit, or if any Unit now encroaches upon any other Unit or upon any portion of the Common Elements, or if any such encroachment shall occur hereafter as a result of (a) alteration or repair to the Common Elements made by the Declarant, or by or with the consent of the Executive Board, or (b) settling of all or any portion of the Building(s), or (c) repair or restoration of the Building(s) or any Unit after damage by fire or other casualty, or (d) condemnation or eminent domain proceedings or (e) immaterial deviations from the Floor Plans, a valid easement shall exist for such encroachment and for the maintenance of the same.

12. Intended Use and Restrictions on Use of the Buildings and Units.
The purposes for which the Buildings and the Units and Common Elements are intended to be used are as follows:

(a) The Units may be used only for residential purposes, subject, in all events, to the further restrictions set forth below in this Section 12, provided, however, that such Units may be used by the Declarant for other purposes pursuant to the provisions of Section 12 and Section 13 below. This restriction shall not be construed to prohibit Unit Owners from leasing their Units, so long as any such leases are in compliance with and adhere to the provisions of this Declaration, the Association's Bylaws, the Rules and Regulations and any pertinent City of Portland Ordinance, and any lessees do so occupy and use the leased premises in accordance with the provisions of the Declaration, the Association and the Rules and Regulations. The Units may also be used for "home office" purposes, so long as no commercial signage is used in connection therewith and no customers, clients or business associates visit the Condominium in connection with such home-office use.

(b) The Units and the Common Elements shall be subject to the restrictions that, unless otherwise permitted in writing duly executed by the Executive Board:

(i) The owner of a Unit may, at their sole cost and expense, if the rights of any other Unit Owner are not materially and adversely affected, and if the structural walls, supports and other structural aspects of the Building are not adversely affected, change or add to the interior partitioning thereof, by adding, modifying, removing or installing non-load bearing walls lying wholly within such Unit; provided, however, that the Executive Board may impose reasonable conditions on such work, and any and all work shall be done in a good and workmanlike manner, pursuant to a building permit validly issued therefor (if required by law). If the foregoing rights are to be exercised by the Owner of a Unit, the prior written approval by the Executive Board of the plans and specifications related thereto must be obtained, which approval shall not be unreasonably withheld, conditioned or delayed.

(ii) Except for up to two (2) dogs, cats, and non-exotic animals that live in an enclosure no larger than three (3) cubic feet (e.g., aquariums, terrariums, bird cages), no animals, reptiles, birds, or pets of any kind shall be raised, bred or kept in the Units or in the Common Elements without the prior written approval of the Executive Board, which approval will be required for each specific animal, reptile or pet. Unit Owners may not keep any poisonous or dangerous animals of any type in their Unit, or in the Common Elements. The Executive Board may impose additional reasonable limits and restrictions on the care of maintenance of pets by Unit Owners through the Rules and Regulations.

(iii) No Unit Owner shall alter his Unit in such a way as to cause unreasonable levels of sound, vibration, light or odors to be transmitted to other Units, the Common Elements or neighboring buildings.

(iv) If any governmental license or permit (other than a Certificate of Occupancy, or a license or permit applicable to the Building as a whole and required in order to render lawful the occupancy of the Building) shall be required for any particular improvement or construction in any particular Unit, and if failure to secure such license or permit would in any way affect any other Unit or the Owner thereof or the Association, the Owner of such particular Unit, at such Owner's expense, shall procure and maintain such license or permit, submit a copy of the same to inspection by the Executive Board, and comply with all terms and conditions thereof.

(v) A Unit Owner shall not place or cause to be placed in or on any of the Common Elements, other than a Limited Common Element, any furniture, packages, bicycles, carriages, baby strollers, or personal property of any nature whatsoever, provided, however, that the Unit Owners have the right to use any bicycle storage facilities, dumpster, trash compactors or trash barrels, if any, located on the Common Elements, but only for ordinary household trash.

(vi) All use and maintenance of the Units shall be conducted in a manner consistent with the reasonable comfort and convenience of the occupants of other Units.

(vii) The Common Elements shall be used only for the furnishing of the services and facilities for which they are reasonably suited and which are incident to the use and occupancy of Units or of the other premises entitled to the use or benefit thereof.

(viii) No nuisances shall be allowed on or in the Condominium, nor shall any use or practice be allowed which is a source of unreasonable annoyance to Unit Owners or which interferes with the reasonably peaceful possession or proper use of the Units by their occupants.

(ix) No Unit shall be rented or let except those pursuant to a written lease, in compliance with applicable Ordinances of the City of Portland, this Declaration, the Bylaws of the Association and the Rules and Regulations, which lease shall specifically provide that the tenant/lessee is subject to the terms of this Declaration, the Bylaws and the Rules and Regulations, and that the Executive Board is delegated the power to (but not the obligation) to evict the tenant/lessee for noncompliance, and a copy of said lease shall be delivered to the Executive Board of the Association.

(x) No immoral, improper, offensive, or unlawful use shall be made of the Condominium, or any part thereof, and all valid laws, zoning ordinances and regulations of all governmental bodies having jurisdiction thereof shall be observed by the Unit Owners and the Association. Violations of laws, orders, rules, regulations or requirements of any governmental agency having jurisdiction thereof, relating to any Unit shall be eliminated by and at the sole expense of the Unit Owner of said Unit and those relating to the Common Elements shall be eliminated by the Executive Board.

(xi) No pictures, advertisements, signs or posters of any kind shall be erected, posted or attached in or on the Units if visible from the exterior of the Units, except those approved in writing by the Executive Board, provided, however, this restriction shall not apply to pictures, advertisements, signs or posters utilized by the Declarant or its agents in selling or leasing the Units.

(xii) Except as allowed by the Rules and Regulations and applicable law with respect to television antennae and satellite dishes, no Unit Owner shall allow the installation of wiring for electrical or telecommunication use, an air conditioning unit or other machine or equipment which protrudes through the walls or the roof of the Buildings or is otherwise visible on the exterior of the Building.

(xiii) No activity shall be done or maintained in any Unit which will materially increase the rate of insurance on any Unit or the Common Elements or result in the cancellation of insurance thereof, provided, however. that any use or activity which will increase the rate of insurance maintained by the Executive Board for the Condominium or by any individual Unit Owner may be permitted by the Executive Board, in the reasonable discretion of the Executive Board, if the Unit Owner conducting such use or allowing such

use to be conducted agrees to conform to any special rules or regulations promulgated by the Executive Board with respect to such use and agrees to pay any and all additional costs associated therewith, including without limitation the increase in the insurance premiums paid by the Association on behalf of the Condominium as a result thereof.

(xiv) Portions of any Unit window treatments visible from the outside of the Building shall be generally white in color, and shall be of a material and style approved in writing by the Executive Board, such approval not to be unreasonably withheld, conditioned or delayed.

(c) Notwithstanding anything to the contrary contained herein, the Declarant may, until all of said Units have been sold by said Declarant, (a) lease Units which have not been sold for any duration but otherwise as per the leasing requirements set forth in this Declaration; or (b) use any Units owned by the Declarant as models for display, as offices and/or as storage areas or for any other uses which it deems necessary or desirable in connection with redecoration and construction in the Units or Common Elements, or the sale or leasing of units. Rental of the Workforce Units by Declarant, if any, shall be rented only subject to the applicable ordinance and regulation of the City of Portland.

13. Development Rights and Other Rights Reserved to the Declarant.

13.1 In addition to all other rights of Declarant reserved hereunder and pursuant to Declarant's right to amend this Declaration so as to develop, construct, and market the Units, Declarant reserves unto itself and its agents, servants, employees, contractors, workmen, work crews, successors and assigns the right and easement to use, occupy, and alter, for construction purposes, all areas of the Property, other than Units and Limited Common Elements already conveyed to third-party buyers, for all purposes necessary or desirable in order to develop, construct and/or manage the Property, and to market and sell the Units. The Declarant further reserves for itself and its successors and assigns the exclusive right to grant easements across any portion of the Property for the installation and use of utilities and for access to and operation of the developments on the Property and the right to grant easements to others to use the Property for access to other property.

Without limiting the generality of the foregoing and in furtherance thereof, the Declarant hereby reserves unto itself and its agents, servants, employees, independent contractors, workmen, work crews, successors and assigns, the following rights over all of the Property subject to this Declaration: the right of access, ingress, and egress over and upon the Property and the Common Elements of the Condominium, including that deemed by the Declarant to be necessary for marketing purposes and for the work of construction, reconstruction, rehabilitation, improvement, and other work in progress or contemplated by Declarant; the right to lay, maintain, repair and replace, construct, and install and connect (or connect with and make use of) all utilities, utility lines, poles, tanks, walls, ducts; conduits, and similar facilities to serve any or all of the buildings and/or Units and the Common Elements, and all conduits, ducts, plumbing, wiring, and other facilities for the furnishing of power, gas, light, master antenna, satellite antenna, cable television, water, air and all sewer and drainage pipes and fire alarms systems to serve any or all of the buildings and/or Units and the Common Elements and facilities; to pass

and repass by foot and vehicle over all driveways, roadways, accessways, and walkways, whether now existing or to be constructed in the future, for all purposes for which driveways, roadways, accessways, and walkways are commonly used, including the transportation of construction materials, equipment, and personnel for the purposes of construction; to construct buildings and improvements on the Property, and to engage in all activities necessary or appropriate to accomplish the same, including without limitation the exclusive right to grant to others including any public utility or authority, easements for the installation and maintenance of utilities; to store construction materials, equipment, and supplies in those portions of the Common Elements and Limited Common Elements; to restrict (for periods of not more than sixteen (16) hours at any time during any day) the use by owners of any Common Elements to facilitate construction or for purposes of safety (provided, of course, no Owner shall be denied at least one means of access to his or her Unit during such periods of restriction); to leave debris resulting from construction in the Common Elements and facilities, provided the same do not endanger safety; to reasonably interrupt for brief intervals of time, water, gas, electric, and other utilities and service provided by such utility lines, pipes, tanks, wells, wires, cables, conduits, and sewage and drainage lines in order to facilitate construction or in order to facilitate the installation of appliances; equipment, or fixtures in the buildings, Units or Common Elements under construction without liability for such interruption of service, provided however that the Declarant shall use reasonable efforts to minimize any such interruption of service; to park vehicles used in connection with the construction work or incident thereto in such a manner as to avoid disruption; and, in general, the right to do all things necessary or desirable in order to construct and complete all of the buildings and/or Units and the Common Elements and facilities in connection therewith.

The Declarant further reserves the exclusive right to use any office area, sitting area or storage area located in the Common Elements and not necessary to serve the Units already sold by the Declarant to third-party buyers, as well as any Unit owned by the Declarant, for storage or as a model, for display, as an office, for purposes of facilitating marketing and sales, as well as the right to park and use one or more vehicles or trailers, for as long as the Declarant owns any Units or holds any Development Rights or Special Declarant Rights. Any such areas exclusively used by the Declarant shall be located either in Unit(s) owned by the Declarant or in the Common Elements of the Building at the ground (i.e., terrace or parking garage area).
The Declarant further hereby expressly reserves the right and easement, for itself and its agents, employee, contractors, or invitees, to utilize any plaza and courtyard area, sidewalks, walkways, hallways, driveways, parking areas, and other Common Elements for suitable access located on the Land, in common with all other Unit Owners.

13.2 The rights and easements reserved by the Declarant in this Section 13 shall be in addition to and not in limitation of, the rights and easements allowed in the Act, reserved by the Declarant in other sections of this Declaration or the Schedules hereto, in the Bylaws, or in any prior-recorded instrument.

13.3 The rights and easements reserved by the Declarant for itself and its successors and assigns in this Declaration shall survive the sale of all of the Units by the Declarant, and are to be deemed to be fully transferable.

13.4 The Declarant, by deed or by separate assignment, shall be entitled to assign, sell, grant or mortgage, any and all of its interests, rights and easements owned by it or reserved herein and in the Bylaws, at any time, and from time to time, to any mortgage holder, person, trust, or entity as may be determined by Declarant. Each Executive Board member, as well as each Unit Owner and mortgagee of an individual Unit (which shall not include a mortgagee of Declarant whose consent is required by agreement), by acceptance and recordation of a deed or mortgage, shall be deemed to have thereby consented to any such assignment, sale, grant or mortgaging of the Declarant's said interests, rights and easements without the necessity of securing any further consent or execution of any further documents by such Executive Board member, Unit Owner or mortgagee (which shall not include a mortgagee of Declarant whose consent is required by agreement). The Executive Board and Owners, at Declarant's request, promptly shall execute whatever confirmatory instruments which Declarant deems appropriate or necessary in order to perfect, carry out, or effectuate the rights and easements reserved by the Declarant in this Declaration and in the Condominium Bylaws. The foregoing shall not apply to any mortgagee of the Declarant.

14. Title to Units. Title to Units may be taken in any form, including without limitation one or more corporations, companies, trusts or partnerships, or in the name of two (2) or more individuals, as tenants in common, joint tenants, or tenants by the entirety or in the name of a fiduciary.

15 Units Subject to Declaration and Association Bylaws. All present and future Owners, tenants, visitors, invitees, licensees and occupants of Units shall be subject to, and shall comply with, the provisions of this Declaration, the Bylaws, and the Rules and Regulations promulgated pursuant thereto, as they may be amended from time to time, and the instruments of record affecting title to the Property including, but not limited to, those instruments of record listed in the Schedules to this Declaration. The acceptance of a deed or conveyance of a Unit or the entering into lease or occupancy of any Unit shall constitute an agreement that the provisions of this Declaration, Bylaws, and the Rules and Regulations promulgated pursuant thereto, as they may be amended from time to time, and the said instruments of record affecting title to the Property, are accepted and ratified by such Owner, tenant, visitor, invitee, licensee or occupant, and all of such provisions shall be deemed and taken to be covenants running with the land and shall bind any person having at any time any interest or estate in such Unit, as though such provisions were recited and stipulated at length in each and every deed, conveyance, or lease thereof. A violation of the provisions of this Declaration, the Deed, the Bylaws, or the Rules and Regulations promulgated pursuant thereto by any tenant, occupant, licensee or invitee shall be deemed a substantial violation of the duties and obligations of an Owner, which shall entitle the Executive Board and any Owner the right to recovery of damages and/or injunctive relief.

16. Amendment of Declaration.

(a) Notwithstanding any contrary or inconsistent provision in this Declaration, for so long as Declarant owns one or more Units in the Condominium or holds any Development Rights or Special Declarant Rights, any amendment to the Declaration which affects a right reserved to the Declarant hereunder or imposes an additional obligation or duty upon the Declarant must be signed by the Declarant or its successors and assigns.

(b) Amendments to this Declaration are governed generally by Section 1602-117 of the Act, this Section 16, and Section 17 below. Except as may be required by the Act, and except as otherwise provided in Section 17 below or in Subsections A or C of this Section 16, this Declaration may be amended by the vote or agreement of Unit Owners representing 67% or more of the Undivided Interests in the Condominium.

(c) Notwithstanding the foregoing, this Declaration may also be amended by Special Amendment as follows: The Declarant, without the consent of any Unit Owner or mortgagee, may execute and record, as long as it owns any Units or holds any Development Rights or Special Declarant Rights, special amendments in order to (i) correct any errors and/or omissions in this Declaration, provided no such special amendment shall materially and adversely affect the rights of any Unit Owner or mortgagee; or (ii) to make this Declaration comply with the provisions of the Act, any other law, code, permit or approval, or the requirements or guidelines of the Federal National Mortgage Association ("FNMA"), the Federal Home Loan Mortgage Corporation ("FHLMC") or any other purchaser, insurer or guarantor of Unit mortgages. Special Amendments may also be executed and recorded as described above in connection with the combination, subdivision, and/or alteration of Units.

(d) Effective Date. Amendments to this Declaration shall be effective upon recording in the Registry of Deeds. As to General Amendments, the recorded version thereof need not include the signatures of Unit Owners agreeing thereto, but rather the recorded instrument need only be signed by an Officer of the Association, as long as such Officer certifies that the required consents described above have been obtained and will be retained with the Association's records for a period of at least six (6) years after recording.

17. Provisions Protecting Rights of Secured Lenders. Subject to the limitations set forth in Section 1602-119(a) of the Act, the following shall apply with respect to the protection of rights of holders of first mortgages on Units ("First Mortgagees") and "Eligible Mortgage Holders" (meaning First Mortgagees who have delivered written notice to the Association by prepaid certified U.S. Mail, return receipt requested, or by delivery in-hand securing a receipt therefore, which notice states the First Mortgagee's name and address, the Unit upon which it holds first mortgage, the Unit Owner's name and address, and that it holds a first mortgage on such Unit).

(a) Notwithstanding anything in this Declaration or in the Bylaws to the contrary, the following provisions shall apply for the protection of First Mortgagees, and shall be enforceable by any First Mortgagee:

(i) In the event that the Unit Owners shall amend this Declaration or the Bylaws to include therein any right of first refusal in connection with the sale of a Unit, such right of first refusal shall not impair the rights of a First Mortgagee to:

(a) Foreclose or take title to a Unit pursuant to the remedies provided in its mortgage; or

(b) Accept a deed (or assignment) in lieu of foreclosure in the event of default by a Unit Owner, or

(c) Sell or lease a Unit acquired by the First Mortgagee through the procedures described in subparagraphs (a) and (b) above.

(ii) As to any conveyance whereby a party who takes title to a Unit through either a deed in lieu of foreclosure or a foreclosure sale duly conducted by a First Mortgagee, such conveyance shall be exempt from any such right of first refusal adopted by the Unit Owners and incorporated in this Declaration or the Condominium Bylaws, and the ownership of the Unit by such party through deed in lieu of foreclosure shall be exempt from any leasing restrictions set forth therein but only for such party's period of ownership.

(b) Any First Mortgagee who obtains title to a Unit by foreclosure shall not be liable for such Unit's unpaid common expenses or other amounts which accrued prior to the acquisition of title to such Unit by such First Mortgagee, except to the extent that such common expenses and/or other amounts are entitled to priority over such First Mortgage under the Act. Liens for any and all Common Expenses, assessments and charges that may be levied by the Association shall be subordinate to the rights of any First Mortgagee pursuant to its mortgage to the extent permitted by applicable Maine law,

(c) A lien for Common Expenses assessments shall not be affected by any sale or transfer of a Unit, except that a sale or transfer pursuant to a foreclosure of a First Mortgage shall extinguish a subordinate lien for assessments which became payable prior to such sale or transfer. Any such sale or transfer pursuant to a foreclosure (1) shall not relieve the prior Unit Owner of a personal liability for any unpaid assessments or other sums owed to the Association, and (2) shall not relieve the purchaser or transferee from liability for, nor the Unit from the lien of, any assessments made thereafter.

(d) As provided in Section 1602-119 of the Act, the Association shall send reasonable prior written notice by prepaid U.S. Mail to Eligible Mortgage Holders of the consideration by the Association of any of the following proposed actions:

(i) The termination of the Condominium pursuant to Section 1602-118 of the Act;

(ii) A change in the percentage of Undivided Interest of a Unit, a change in the boundaries of a Unit, or a subdivision of a Unit, unless carried out by the Declarant pursuant to the terms of this Declaration;

(iii) The merger or consolidation of the Condominium with another condominium;

(iv) The conveyance or subjection to a security interest of any portion of the Common Elements;

(v) The proposed use of any proceeds of hazard insurance required to be maintained by the Association under Section 1603-113, subsection (a) of the Act for purposes other than the repair or restoration of the damaged property;

(vi) The adoption of any proposed Budget by the Executive Board and of the date of the scheduled Unit Owners' meeting to consider ratification thereof with a summary of the proposed Budget to accompany such notice; and

(vii) Any default in the performance or payment by a. Unit Owner of any obligation under the Condominium Declaration or Bylaws including, without limitation, default in the payment of common expense liabilities.

In the event of any proposed actions described in Subsection (d), paragraphs (i), (ii), (ii), (iv) or (v) immediately above, Eligible Mortgage Holders shall have the right (but not the obligation) in place of the Unit Owner to cast the votes allocated to that Unit or give or withhold any consent required of the Unit Owner for such action by delivering written notice to the Association, with a copy to the Unit Owner prior to or at the time of the taking of the proposed action, which notice shall be sent by prepaid certified United States mail, return receipt requested, or by delivery in-hand. Failure of the Eligible Mortgage Holder to so exercise such rights shall constitute a waiver thereof, and shall not preclude the Unit Owner from exercising such right. In the event of any default described in Subsection D, paragraph (7) above, the Eligible Mortgage Holder shall have the right but not the obligation to cure such default.

In addition, an Eligible Mortgage Holder, or its representative, shall have the right to attend Association and Executive Board meetings for the purposes of discussing the matters described in Subsection (d), paragraphs (i) to (vi) above.

(e) In addition to the statutory rights of Eligible Mortgage Holders summarized in Subsection (d) above, and subject in all events to the provisions of the Act and the exercise by Declarant of Development Rights or Special Declarant Rights, unless Unit Owners representing at least two-thirds (2/3) of the Undivided Interest hereunder (or such larger percentage as may be required by law) and at least two-thirds (2/3) of the First Mortgagees holding mortgages on the individual Units of the Condominium have given their prior written approval, neither the Owners nor the Executive Board shall be entitled to:

(i) By act or omission, seek to abandon or terminate the Condominium except in the event of substantial destruction of the Condominium premises by fire or other casualty or in the case of taking by condemnation or eminent domain;

(ii) Change the percentage of Undivided Interest or obligation of any individual Unit for the purpose of: (a) levying assessments or charges or allocating distributions of hazard insurance proceeds or condemnation awards, or (b) determining the voting interest of each Unit;

(iii) Partition any Unit (other than in connection with the subdivision of Units as permitted herein, which shall not require First Mortgagee consent);

(iv) By act or omission, seek to abandon, partition, subdivide, encumber, sell or transfer the Common Elements; provided, however, that the granting of easements for purposes not materially inconsistent with the intended use of the Common Elements by the Unit Owners and the exercise of other actions with respect to granting of special rights of use or Limited Common Elements contemplated herein or in the Condominium Bylaws shall not be deemed an action for which any prior approval of a First Mortgagee shall be required under this Subsection;

(v) Use hazard insurance proceeds for losses to any property of the Condominium (whether of Units or Common Elements) for other than the repair, replacement or reconstruction of such property of the Condominium, except as provided by statute; or

(vi) Terminate professional management and establish self-management of the Condominium.

(f) In no case shall any provision of the Declaration or the Bylaws give an Owner or any other party priority over any rights of a First Mortgagee pursuant to its mortgage in the case of a distribution to such Owner of insurance proceeds or condemnation awards for damages or losses to or a taking of such Unit and/or the Common Elements of the Condominium.

(g) In addition to the statutory rights of Eligible Mortgage Holders summarized in Subsection D above, First Mortgagees, upon request to the Executive Board, will be entitled to:

(i) Written notification from the Executive Board of any default by its borrower who is the Owner of a Unit with respect to any obligation of such borrower under this Declaration or the provisions of the Bylaws which is not cured within sixty (60) days;

(ii) Inspect the books and records of the Association at all reasonable times;

(iii) Receive an audited annual financial statement of the Condominium Association (at its expense) within ninety (90) days following the end of any fiscal year of the Association;

(iv) Receive written notice of all meetings of the Association and be permitted to designate a representative to attend all such meetings;

(v) Receive prompt written notification from the Executive Board of any damage by fire or other casualty to a material portion of the Condominium or the Unit upon which the First Mortgagee holds a mortgage or proposed taking by condemnation or eminent domain of said Unit or the Common Elements of the Condominium;

(vi) Receive written notice of any lapse, cancellation or material modification of any insurance policy maintained by the Association; and

(vii) Receive written notice of any action which requires the consent of a specified percentage of Eligible Mortgage Holders.

(h) No amendment of a material nature to this Declaration will be made unless such is agreed to by Eligible Mortgage Holders who represent at least fifty-one percent (51%) in number of the First Mortgages on the Units that are subject to mortgages held by Eligible Mortgage Holders. A change to any provisions governing the following shall be considered material, unless done in connection with the exercise of the Declarant's Development Rights or Special Declarant Rights:

(i) Voting;

(ii) Assessments, assessment liens or subordination of such liens;

(iii) Reserves for maintenance, repair and replacement of the common areas;

(iv) insurance;

(v) Rights to use of the Common Elements;

(vi) Responsibility for maintenance and repair of the several portions of Property;

(vii) Expansion or contraction of the Condominium or the addition, annexation or withdrawal of property to or from the Condominium;

(viii) Boundaries of any Unit;

(ix) The apportionment of Undivided Interests in the Common Elements;

(x) Convertibility of Units into Common Elements or of Common Elements into Units;

(xi) Leasing of Units;

(xii) Imposition of any right of first refusal or similar restriction on the right of a Unit Owner to sell, transfer, or otherwise convey his/her/their Unit estate; and

(xiii) Any provisions which are for the express benefit of First Mortgagees, Eligible Mortgage Holders or insurers or guarantors of first mortgages on Units.

The Declarant intends that the provisions of this Section 17 and all other provisions of this Declaration comply with the requirements of FHLMC and FNMA with respect to

condominium mortgage loans and, except as otherwise required by the provisions of Act, all questions with respect thereto shall be resolved consistent with that intention. In the event of any conflict between the approval requirements of FNMA, FHLMC, other sections of the Declaration and the Act with respect to any action or non-action to be taken or omitted by the Unit Owners or Executive Board, or with respect to any other matter, the greatest percentage requirement shall control. This Section 17 may be amended only with prior written approval of First Mortgagees representing 67% in number and Undivided Interest of the mortgaged Units in the Condominium and 67% in Undivided Interest of the Unit Owners in the Condominium.

Except as otherwise provided in the Act, any consent of an Eligible Mortgage Holder or First Mortgagee herein provided for shall be deemed given if such mortgagee fails to submit a response to any written proposal for an amendment within sixty (60) days after it received proper notice of the proposal, provided the notice was delivered by certified mail, return receipt requested.

18. Common Expenses.

Until such time as the Association makes a Common Expense assessment, the Declarant shall pay all Common Expenses, as provided in Section 1603-115(a) of the Act. Once a Common Expense assessment is made, Unit Owners shall be liable for Common Expenses as provided in this Declaration, as amended.

(a) Determination of Common Expenses and Fixing of Common Charges. The Executive Board shall prepare a budget (the "Budget") for the Condominium by establishing the Common Expenses expected to be incurred during the ensuing fiscal year, together with a reasonable provision for contingencies and reserves equal to at least ten percent (10%) of the total annual budget (with such exclusions from the calculation as are allowed under secondary mortgage market underwriting standards), and after taking into account any undistributed surplus from prior years (reserves excepted), shall determine the assessment to be made for such fiscal year (herein referred to as "Common Expenses"). The Common Expenses shall include, but in no way be limited to, all such amounts as the Board may deem proper for the operation, maintenance and repair of the Condominium, including, without limitation, the cost of all insurance premiums on all policies of insurance required to be or which have been obtained pursuant to the provisions of this Declaration and adequate reserves to pay for insurance deductibles in the event of a casualty loss, and an amount to make up for any deficit in the Common Expenses for any prior year. The Common Expenses may also include such amounts as may be required for the purchase or lease by the Executive Board, on behalf of all Owners of any Unit which is to be sold at foreclosure or other judicial sale, or otherwise. Unless otherwise determined by the Board, there shall be a single Association Budget each fiscal year which accounts for all of the Condominium expenses and services which benefit, or may benefit, the Units. Examples include electricity for exterior lighting and common areas, exterior maintenance, legal fees, sewer and water fees, landscaping and grounds maintenance, insurance premiums, snow removal, property management fees, operation, maintenance, repair, or replacement of the stormwater drainage system.

Assessments for expenses set forth in the Budget will be based upon each Unit's Undivided Interest in the Common Elements, or otherwise in accordance with benefits received therefrom, in the Executive Board's reasonable discretion, excluding the fees directly associated with the garage parking areas. The LCE Parking Fee shall be sufficient to pay for those expenses specific to the maintenance and operation of the LCE Parking Spaces and shall be allocated to the Units based on the assignment of the LCE Parking Spaces.

Upon adoption, the Executive Board shall then pursue ratification of the Budget at a Special Budgetary Meeting of Unit Owners as provided in Section 1603-103(c) of the Act, and then promptly render statements to the Unit Owners for their respective shares of such assessment, according to the formulas set forth above, and the amount shown on such statement shall, unless otherwise provided therein, be due and payable in equal monthly installments during the fiscal year to which it applies. In the event an annual assessment is not made as above required, an assessment shall be presumed to have been made in the amount of the last prior assessment. In the event that the Executive Board shall determine at any time during any fiscal year that the assessment so made is less than the Common Expenses actually incurred, or in the reasonable opinion of the Executive Board, likely to be incurred, or in the event that the Executive Board shall determine that it is advisable to establish a larger reserve or other fund for projected capital or other expenditures or otherwise, the Executive Board may make one or more supplemental assessments ("Special Assessments") and render such statements as they may deem necessary therefor in the manner aforesaid, and the amount shown in such statement shall be payable and take effect as aforesaid.

(b) Payment and Collection of Common Expenses. The Executive Board shall, so far as reasonably possible, provide for payment of the annual assessment of Common Expenses in monthly installments, in advance. The amount of each such assessment, together with late charges as may be reasonably imposed by the Executive Board, reasonable attorneys' fees (whether or not a legal action is filed), fines, and interest on the assessment at the rate of 18% per annum or as otherwise determined from time to time by the Executive Board, if not paid when due, shall constitute a lien on the Unit and shall be the personal obligation of the Owner.

(c) Default in Payment of Common Expenses. In the event of default by any Unit Owner in paying to the Association the Common Expenses attributable to his Unit, such Unit Owner shall be obligated to pay all expenses, including attorneys' and paralegals' fees (whether or not a legal action is filed), fines, late charges and interest imposed or incurred by the Association in any proceeding brought to collect such unpaid Common Expenses, irrespective of the amount so unpaid. The Executive Board shall have the right to attempt to recover such amounts in an action to recover the same brought against such Unit Owner, or by foreclosure of the statutory lien on such Unit, or in any proceeding wherein the Unit Owner seeks to avoid payment of the Common Expenses due.

(d) Working Capital Fund and Surplus Funds. The Declarant shall establish a working capital fund for the Association. Each Unit's share of the working capital fund shall be collected from the Unit Purchaser upon the initial transfer of the Unit's title from the Declarant to the Purchaser and it shall be transferred to the Association for deposit into a segregated working capital fund. The amount paid by the Unit Purchaser shall be equal to two (2) months of the Unit's

share of the Common Expenses as set forth in the then active Budget, and shall not be considered as advance payment of the normal common expense liability and no Unit Owner shall be entitled to refund of these monies by the Association upon a subsequent conveyance of his Unit or otherwise. Upon transfer of control of the Association to the Unit Owners pursuant to Section 2 above, the Declarant shall pay each unsold Unit's share of the working capital fund to the Association. When any such unsold Unit is sold, the declarant shall be entitled to reimbursement for that Unit's prepaid share. The working capital fund shall not be used for any purposes until after such transfer of control. Any amounts accumulated from assessments for Common Expenses in excess of the amount required for actual Common Expenses shall be added to the working capital fund.

19. Insurance. The Association shall obtain and maintain, to the extent reasonably available, the following insurance policies:

(a) Casualty Insurance. The Executive Board shall obtain and maintain, to the extent reasonably obtainable at reasonable costs and permitted by applicable law, so-called master policies of insurance providing fire-with-extended-coverage and so-called all risk coverage insurance, insuring the Condominium, including, without limitation, the Common Elements, all of the Units with all fixtures therein, all heating and cooling equipment and other service machinery, apparatus, equipment and installations comprising the Common Elements or Units, and also all such portions normally deemed to constitute part of the building and customarily covered by such insurance, but not including any personal property belonging to and owned by individual Unit Owners or tenants, in an amount equal to not less than one hundred percent (100%) of the full replacement value thereof, exclusive of foundations, land and other items normally excluded therefrom without deduction for depreciation, but subject to a reasonable deductible as the Executive Board may determine, and which shall include, if available, so-called Agreed Amount, Inflation Guard, Construction Code and Replacement Cost Endorsements. Any insurance deductible shall be deemed a Common Expense unless such amount may lawfully be allocated or assessed to one or more individual Unit Owner(s). In determining full replacement value, the Executive Board may reasonably rely upon the advice of the insurer or insurance agent. The name of the insured under such policy shall be stated in form, substance and effect similar to the following: "PRESUMPTSCOT WOODS OWNERS ASSOCIATION and its Unit Owners and mortgagees as their interests may appear." Such insurance shall name the Executive Board as Insurance Trustee(s) for the use and benefit of all Unit Owners and their mortgagees as their interests may appear, with losses payable to and adjusted by the Executive Board as Insurance Trustee(s) in accordance with the provisions of these Bylaws and the Act. The Executive Board may insure against such other hazards or risks of casualty as the Executive Board from time to time in its discretion shall determine to be appropriate, including, but not limited to, vandalism, malicious mischief, windstorm and water damage, earthquake, flood and machinery explosion or damage.

(b) Liability Insurance. The Executive Board shall obtain and maintain, to the extent reasonably obtainable at reasonable costs and/or applicable, master policies of insurance with respect to the Common Elements for the benefit and protection of the Association and all Unit Owners for: (i) comprehensive general liability insurance in such limits as the Board may, from time to time, determine but in no case less than $2,000,000/$1,000,000 in coverage, covering the

Association, the Executive Board, the Property Manager, if any, and each Unit Owner with respect to liability arising out of ownership, maintenance or repair of the Common Elements and structural and exterior wall portions of the Units, such insurance containing a "severability of interest" endorsement which shall preclude the insurer from denying the claim of a Unit Owner because of negligent acts of the Association, the Executive Board, the Unit Owner or other Unit Owners, and other provisions commonly referred to as a "Special Condominium Endorsement" or its equivalent; (ii) workmen's compensation and employee's liability insurance; (iii) boiler and machinery insurance in such limits as the Executive Board may, from time to time, determine; and (iv) such other liability insurance as the Executive Board may from time to time deem appropriate and desirable.

(c) Fidelity Coverage. The Executive Board shall obtain fidelity coverage against dishonest acts on the part of the Executive Board, the Property Manager, if any, employees or volunteers responsible for handling funds belonging to Association or administered by the Executive Board.

(d) Directors' and Officers' Liability Insurance. The Executive Board may obtain as a Common Expense, Directors' and Officers' Liability Insurance in such amounts and upon such terms as they deem appropriate.

(e) Executive Board as Insurance Trustee(s). The Executive Board (i) shall have exclusive authority to negotiate all losses as herein provided for, (ii) shall collect and receive all loss insurance proceeds, and (iii) shall hold, use, apply and disburse the same in accordance with the applicable provisions of the Declaration, these Bylaws and the Act for the benefit of the Owners and their respective mortgagees. With respect to losses which affect portions or elements covered by such insurance of more than one Unit and/or the Common Elements to different extents, the proceeds relating thereto shall be used, applied and disbursed by the Executive Board in their judgment in a fair and equitable manner, primarily based upon the relative losses.

(f) Additional Requirements. Insurance policies obtained pursuant to the above shall also provide that:

(i) Each Unit Owner is an insured person under the policy with respect to liability arising out of his ownership of an undivided interest in the Common Elements or membership in the Association;

(ii) The insurer waives its right to subrogation under the policy against any Unit Owner or members of his household;

(iii) No act or omission by any Unit Owner, unless acting within the scope of his authority on behalf of the Association, will void the policy or be a condition to recovery under the policy; and

(iv) If, at the time of a loss under the policy, there is other insurance in the name of a Unit Owner covering the same risk covered by the policy, the Association's policy provides primary insurance.

In the event that any insurance coverage described above is not reasonably available, the Association shall cause notice of that fact to be sent to all Unit Owners, as required by Section 1603-113(c) of the Act.

20. Rebuilding, Restoration and Condemnation.

(a) Casualty Loss. Except as provided in Section 1603-113(h) of the Act, and subject to such statutory provisions, in the event of damage to or destruction of the Condominium as a result of fire or any other casualty, the Executive Board, acting as Insurance Trustee(s) designated herein, shall promptly adjust and collect the loss and disburse the master policy insurance proceeds in appropriate progress payments with appropriate retainage, so as to facilitate and ensure the repair and restoration of the Unit or Units or Common Elements so damaged or destroyed.

The Executive Board may perform emergency work essential to the preservation and safety of the property or the safety of persons, or required to avoid the suspension of any essential service to the Condominium without having first adjusted the loss or obtained proceeds of insurance or otherwise having complied herewith.

The cost of repair or replacement in excess of insurance proceeds and reserves shall be a Common Expense. If there shall have been a repair or restoration pursuant to the foregoing and the amount of insurance proceeds shall have exceeded the cost of such repair or restoration, then the excess of such insurance proceeds, if any, shall be added to the Association's capital expense reserve account or shall be, at the option of the Executive Board, divided among the Owners in proportion to their respective Undivided Interests; provided, however, that no provision herein shall be deemed to give an Owner or any other party priority over any rights of the holder of a first mortgage (if any) on such Owner's Unit pursuant to such mortgage in the case of a distribution to such Owner of insurance proceeds for losses to Units and/or Common Elements. First Mortgagees of Units will be entitled to priority with respect to any insurance proceeds distributed to their mortgagors.

(b) Eminent Domain. In the event of a total or partial taking under the powers of eminent domain, the Owners shall be represented by the Condominium acting through the Executive Board. Eminent domain proceedings and awards shall be governed by Section 1601-107 of the Act.

21. Rules, Regulations, Restrictions and Requirements. The use and occupancy of the Condominium and each Unit shall be restricted to and shall be in accordance with the provisions of this Declaration, the Bylaws and such Rules and Regulations as the Executive Board may adopt, and all applicable laws, ordinances, rules, regulations and requirements of all governmental bodies having jurisdiction over the Condominium or the use and occupancy thereof.

The Executive Board shall have the right at any time and from time to time to adopt, amend and rescind Rules and Regulations governing the operation, appearance and use of the Common Elements and the occupancy of Units.

This Declaration, the Bylaws and the Rules and Regulations, as from time to time amended, may be enforced by the Executive Board, in its discretion. The Executive Board may eliminate any violation, and the cost and expense, including but not limited to attorneys' and paralegals' fees (whether or not a legal action is filed), of eliminating such violation may be chargeable to the Unit Owner who himself or whose family, servants, employees, agents, visitors, lessees, tenants, licensees, or pets are responsible for such violation. Otherwise, the cost of so eliminating a violation shall be a Common Expense. After notice and an opportunity to be heard, the Executive Board may also levy reasonable fines against the Owner for such violations if any such violation is not cured immediately, and such fine shall constitute a portion of such Unit Owner's Common Expense assessment and shall be payable by the Owner upon demand and enforceable by the same means as a Common Expense assessment. For each day a violation continues after notice it may be considered a separate violation, in the discretion of the Executive Board.

In enforcing this Declaration, the Bylaws or the Rules and Regulations, the Executive Board may proceed against the Owner, any tenant, occupant or licensee, or both as the Executive Board, in its sole discretion, may determine.

22. Unit Owner Responsibility. Except as may be otherwise specifically provided in this Declaration, a Unit Owner shall be fully responsible for the acts and omissions, feasance, malfeasance and misfeasance, and all other conduct of his family members, servants, agents, employees, invitees, lessees, tenants, licensees, guests, pets or others upon the property at the behest of the Unit Owner.

23. Enforcement of Charges, Fines, Obligations. Any charge, fine, interest, attorneys' or paralegals' fees or other financial obligation to, of or on any Unit Owner shall constitute a lien upon such Unit and be enforceable to the same manner and extent as for Common Expenses.

24. Attorneys' Fees and Costs. In such case as it is necessary for the Executive Board to engage the services of an attorney, or attorneys, for the purpose of enforcing (whether a legal action is filed or not) against an Owner, tenant, occupant, or other person bound thereby, any provision of the Declaration, the Bylaws, the Rules and Regulations, or obligations thereunder, and/or for the purpose of defending any action brought by such person(s), said Unit Owner, tenant, occupant or other such person shall be liable for, in addition to any other liability, the fees and costs of such attorneys and paralegals in so proceeding thereto, including the fees of all experts engaged in connection therewith. As to Unit Owners, the amount of such fines, fees, interest and costs and attorneys' and paralegals' fees shall constitute a lien upon the Unit enforceable to the same manner and extent as a lien for Common Expenses, and the Unit Owner shall be personally liable therefor.

25. Conflicting Provisions. If any provisions of this Declaration shall be invalid or shall conflict with the Act, as amended, or if any provision of this Declaration conflicts with any other provision thereof or with any provision of the Bylaws, then the following rules of construction shall be used:

(a) In the event of a conflict between the Declaration and said Act, as amended, the provisions of the Act shall control; and

(b) In the event of a conflict between this Declaration and the Bylaws, this Declaration shall control.

26. Invalidity. The invalidity of any provision of this Declaration shall not be deemed to impair or affect in any manner the validity, enforceability or effect of the remainder of this Declaration and, in such event, all of the other provisions of this Declaration shall continue in full force and effect as if such invalid provision had never been included herein.

27. Waiver. No provision contained in this Declaration shall be deemed to have been abrogated or waived by reason of any failure or delay in enforcing the same, irrespective of the number of violations or breaches which may occur.

28. Captions. The captions herein are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of this Declaration nor the intent of any provision hereof. Terms of gender shall be interchangeable, as shall be terms reflecting the singular and plural.

29. Declarant. The term declarant shall include the Declarant and its successors and assigns. Successors and assigns shall include, but not be limited to, those succeeding to the Declarant's interest by foreclosure, deed in lieu of foreclosure, deed, grant or assignment. Successors and assigns shall not include individual Unit Owners. This Declaration, the Bylaws and Rules and Regulations may not be amended to affect the rights of the Declarant and its mortgagee(s), successors and assigns without the written consent of the Declarant and its mortgagee(s), successors and assigns.

{*signature page follows*}

DRAFT

{*signature page to Condominium Declaration*}

IN WITNESS WHEREOF, 338 FALMOUTH FORESIDE PARTNERS LLC has executed, acknowledged and delivered this Declaration under seal on this ____ day of _____, 2023.

338 FALMOUTH FORESIDE PARTNERS LLC

_____ By:_____

Witness Mark McClure
Its Manager

STATE OF _____ _____ ____, 2023

_____, ss.

Personally appeared the above-named Mark McClure, Manager of 338 Falmouth Foreside Partners LLC, and acknowledged the foregoing Declaration to be his free act and deed in his said capacity and the free act and deed of Cumberland Foreside Partners LLC.

Before me,

_____

Notary Public / Attorney-at-Law

Print Name:_____

Commission expires: _____

DRAFT

SCHEDULE A
Legal Description

Certain lots or parcels of land together with any buildings, improvements and all appurtenances thereof situated in the City of Portland, County of Cumberland and State of Maine bounded and described as follows:

PARCEL ONE

A certain lot or parcel of land located on the northeasterly side of Hope Avenue in the City of Portland, County of Cumberland, State of Maine, generally depicted as "Lot 24" on a certain plan entitled "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, recorded in the Cumberland County Registry of Deeds in Plan Book 206, Page 412, being more particularly bounded and described as follows:

Beginning at a point on the northwesterly side of Lot 1 as depicted on a plan of Presumpscot River Place III recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 650, said point of beginning lying N 31º28'15" E by said Lot 1 a distance of Three Hundred Forty-Six and 08/100 (346.08) feet from the northeasterly sideline of Hope Avenue as depicted on said plan of Presumpscot River Place III. Thence:

1) N 58º31'45" W a distance of One Hundred Fifty-Two and 96/100 (152.96) feet to a point.

2) S 75º51'37" W a distance of One Hundred Sixty-Four and 63/100 (164.63) feet to a point.

3) S 39º42'09" W a distance of One Hundred Seventeen and 91/100 (117.91) feet to a point.

4) S 58º31'45" E a distance of Twenty and 00/100 (20.00) feet to a point.

5) S 31º28'15" W a distance of Ninety-Nine and 50/100 (99.50) feet to a point on the northeasterly side of said Hope Avenue.

6) N 55º52'57" W by said Hope Avenue a distance of Ninety and 61/100 (90.61) feet to a point of curvature.

7) Northwesterly by said Hope Avenue following a curve to the left having a radius of Two Hundred Twenty-Five and 00/100 (225.00) feet an arc distance of One Hundred One and 64/100 (101.64) feet to a point and land now or formerly of the City of Portland as described in a deed recorded in said Registry in Book 17463, Page 276.

8) N 19º30'58" W by said land of City of Portland and Lot 1 as depicted on a plan entitled "Riverwalk Subdivision Plan" made by Titcomb Associates dated October 25, 2005, a distance of Eight Hundred Forty-Seven and 44/100 (847.44) feet to a point.

9) N 64º27'37" E by said land of City of Portland a distance of Five Hundred Forty-Four and 52/100 (544.52) feet to a point.

10) S 02º55'37" E by said land of City of Portland a distance of Seventy-Five and 57/100 (75.57) feet to a point.

11) S 16º16'41" E by said land of City of Portland a distance of Ninety-Seven and 28/100 (97.28) feet to a point.

12) S 21º57'26" E by said land of City of Portland a distance of Seventy-Five and 78/100 (75.78) feet to a point.

13) S 26º42'50" E by said land of City of Portland and land depicted as Land Proposed for Conveyance to City of Portland (11,714 s.f.) on said Riverwalk Subdivision Plan a distance of One Hundred Twenty and 38/100 (120.38) feet to a point.

14) N 67º31'46" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Fifty and 73/100 (50.73) feet to a point.

15) N 74º57'11" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Twenty-Seven and 25/100 (27.25) feet to a point.

16) N 82º42'53" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Thirty and 98/100 (30.98) feet to a point.

17) S 57º41'42" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of One Hundred Twenty-Nine and 99/100 (129.99) feet to a point and land depicted as Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) on said Riverwalk Subdivision Plan.

18) S 05º41'39" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of Fifty-Three and 28/100 (53.28) feet to a point.

19) S 12º34'45" W by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of One Hundred Twelve and 44/100 (112.44) feet to a point.

20) S 54º10'20" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of One Hundred Ten and 21/100 (110.21) feet to a point.

21) S 59º34'29" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of Twenty-Eight and 61/100 (28.61) feet to a point and land depicted as Land Proposed for Conveyance to City of Portland (46,012 s.f.).

22) S 14º07'58" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Forty-Seven and 20/100 (47.20) feet to a point.

23) S 20º34'09" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Sixty-Six and 74/100 (66.74) feet to a point.

24) S 01º32'31" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Seventy-Seven and 90/100 (77.90) feet to a point.

25) S 27º16'40" E by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Sixty and 84/100 (60.84) feet to a point.

26) S 55º18'28" E by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Eleven and 40/100 (11.40) feet to a point and the northwesterly side of Lot 1 as depicted on a plan entitled "Presumpscot River Place III" recorded in said Registry in Plan Book 202, Page 650.

27) S 31º28'15" W by said Lot 1 a distance of One Hundred Seventeen and 43/100 (117.43) feet to the point of beginning.

Bearings are based on true north.

Reference is herein made to Private & Special Laws of Maine, Second Regular Session of the 120th Legislature, Chapter 62, S.P. 499-L.D. 1586, An Act to Separate Territory from the Town of Falmouth and Annex it to the City of Portland, approved April 2, 2002.

The above described parcel is conveyed TOGETHER WITH, a certain easement located on the northerly side of but not adjacent to Hope Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

A thirty (30) foot wide strip of land, the centerline of which begins at a point lying N 19º30'58" W a distance of Thirty-Seven and 50/100 (37.50) feet from the northeasterly corner of the second parcel conveyed to the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 17463, Page 276, with said centerline continuing S 70º29'02''W to the easterly sideline of a road to be constructed by Grantor and referred to as "Road A" on preliminary concept plans for the development of Grantor's property, as such road is actually built.

The easement shall be appurtenant to Declarant's above described premises (Parcel One herein). The easement shall be for the purpose of providing a gravel emergency access road (public or private), as may be required by the City of Portland pursuant to Grantee's development of the dominant tenement. Grantor agrees to extend such easement rights to the general public, as necessary, by separate easement deed. In the event that Grantee is not required to construct such emergency access road, as a condition of site plan approval, subdivision approval or any conditional zone agreement that Grantee may enter into with the City of Portland to develop the dominant tenement, all rights of Grantee and his successors in and to the easement created hereby shall be promptly terminated, and Grantee shall record an instrument in the Cumberland County Registry of Deeds confirming the termination of such easement rights.

The above-described parcel is conveyed subject to any and all easements and restrictions of record and includes all rights, easements, privileges and appurtenances pertaining thereto.

The above described parcel is conveyed subject to a portion of a certain culvert easement, benefiting the City of Portland, located on the northeasterly sideline of Hope Avenue in the City of Portland, County of Cumberland, State of Maine, shown as "City of Portland Culvert Easement" on the above referenced "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, and more particularly bounded and described as follows:

Beginning at a point on the northeasterly sideline of Hope Avenue, said point lying N 55º52'57" W by said Hope Avenue a distance of Two Hundred Sixty-Five and 28/100 (265.28) feet from the westerly corner of Lot 1 as depicted on a plan of Presumpscot River Place III recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 650. Thence:

1) N 55º52'57" W by said Hope Avenue a distance of Thirty-One and 95/100 (31.95) feet to a point.

2) N 06º46'58' W a distance of Eighty and 00/100 (80.00) feet to a point.

3) S 85º29'48" E a distance of Thirty- Five and 69/100 (35.69) feet to a point.

4) S 06º46'58" E a distance of Eighty and 18/100 (80.15) feet to a point.

5) S 31º28'15" W a distance of Seventeen and 51/100 (17.51) feet to a point and said Hope Avenue.

Bearings are based on true north.

The above-described portion of the culvert easement contains 3,083 square feet. The above described culvert easement includes the right to construct, repair and perpetually maintain through, under, across and upon said easement parcel, culverts, pipes, ditches or the like, for conveying drainage water, and to lay, relay, repair, alter, enlarge, maintain and remove said drainage systems upon, across or under said easement parcel, with all necessary fixtures and appurtenances, to trim, cut down and remove bushes and trees growing on said easement parcel, to remove grass, vegetation and crops growing on said easement parcel and to excavate or fill said easement parcel, all to such extent as in the judgment of the City of Portland is necessary for any of the above purposes, and to enter upon said easement parcel at any and all times for any of the foregoing purposes.

The above-described parcel is conveyed subject to a certain drainage easement, benefiting the City of Portland, adjoining the above referenced culvert easement, shown as "City of Portland Drainage Easement" on the above referenced "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, being thirty and 00/100 (30.00) feet in width, beginning near the northeasterly corner of the above described culvert easement

and continuing northeasterly across the above described parcel. The center of said drainage easement follows the center of the naturally occurring drainage course, which course may vary from time to time. The easement includes the right to construct, repair and perpetually maintain through, under, across and upon said easement parcel, culverts, pipes, ditches or the like, for conveying drainage water, and to lay, relay, repair, alter, enlarge, maintain and remove said drainage systems upon, across or under said easement parcel, with all necessary fixtures and appurtenances, to trim, cut down and remove bushes and trees growing on said easement parcel, to remove grass, vegetation and crops growing on said easement parcel and to excavate or fill said easement parcel, all to such extent as in the judgment of the City of Portland is necessary for any of the above purposes, and to enter upon said easement parcel at any and all times for any of the foregoing purposes.

The above-described parcel is conveyed subject to a certain Portland Water District Easement, recorded in the Cumberland County Registry of Deeds in Book 2267, Page 257.

PARCEL TWO

A certain lot or parcel of land located in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at a point on a line of the remaining land now or formerly of Lloyd B. Wolf and Robert L. Adam as described in a deed recorded in the Cumberland County Registry of Deeds in Book 7058, Page 70, said point of beginning lying N 62º 51'18" W a distance of One Hundred Twenty-Nine and 32/100 (129.32) feet from the northerly corner of Lot 1 as depicted on the Presumpscot River Place Phase III- Subdivision Plan, dated December 4, 2001 recorded in said Registry in Plan Book 202, Page 650; Thence:

1) N 59º34'29" W by said remaining land of Adam and Wolf a distance of Twenty-Eight and 61/100 (28.61) feet to a point

2) N 54º10'20" W by said remaining land of Adam and Wolf a distance of One Hundred Ten and 21/100 (110.21) feet to a point.

3) N 12º34'45" E by said remaining land of Adam and Wolf a distance of a distance of One Hundred Twelve and 44/100 (112.44) feet to a point.

4) N 05º41'39" W by said remaining land of Adam and Wolf a distance of Fifty-Three and 28/100 (53.28) feet to a point.

5) S 57º41'42" E a distance of Twenty-One and 28/100 (21.28) feet to a point.

6) S 39º27'41" E a distance of Sixty-Six and 70/100 (66.70) feet to a point.

7) S 10º53'57' E a distance of One Hundred Eighty-Two and 18/100 (182.18) feet to the point of beginning.

Bearings are based on true north.

The foregoing premises are further subject to the following:

1. Rights and easements granted to Central Maine Power Company by instruments dated February 10, 1954 and recorded in said Registry of Deeds in Book 2167, Pages 432 and 435.
2. Rights and easements granted to Central Maine Power Company and New England Telephone and Telegraph Company by instrument dated December 29, 1955 and recorded in Book 2276, Page 277.
3. Permanent Use Agreement by and between Central Maine Power Company and Robert Adam and Lloyd B. Wolf, dated September 24, 2002 and recorded in said Registry of Deeds in Book 18246, Page 96.
4. Rights and easements set forth in deed dated January 31, 1986 and recorded in said Registry of Deeds in Book 7058, Page 70, to the extent that they may apply.
5. General notes and other matters as shown on the Plan entitled "Plan of Property for Robert Adam, dated August 1978 and recorded in Plan Book 125, Pages 45 and 46.
6. Notes, easements, reservations, exceptions, covenants, conditions and other matters as set forth or depicted on the plan entitled "River Walk Subdivision Plan, dated October 25, 2005 and recorded in plan Book 206, Pages 412 and 413.
7. Restrictions, covenants and conditions as set forth in a Conditional Zone Agreement by and between Lloyd B. Wolf, Robert L. Adam and the City of Portland, dated July 11, 2005 and recorded in said Registry of Deeds in Book 22894, Page 133.
8. Terms and conditions of a Site Location Development Act, Findings of Fact and Order, dated September 16, 2005 and recorded in said Registry of Deeds in Book 23226, Page 170.
9. Rights and easements granted to the City of Portland by instruments dated April 5, 2006 and recorded in said Registry of Deeds in Book 23889, Pages 344, 346 and 349.
10. Rights and easements granted to Robert L. Adam, Lloyd B. Wolf and Golden Eye Corp. by instrument dated May 23, 2006 and recorded in said Registry of Deeds in Book 24046, Page 214.
11. Easement by and between Robert L. Adam, Lloyd B. Wolf, Golden Eye Corp. and the City of Portland, dated July 6, 2004 and recorded in said Registry of Deeds in Book 21610, Page 52.
12. Drainage easement by and between Housing Strategies, LLC and Lloyd B. Wolf and Robert L. Adam, dated October 7, 2005 and recorded in said Registry of Deeds in Book 23250, Page 170.
13. Mortgage from 338 Falmouth Foreside Partners LLC to Estelle Estates, LLC, dated June 16, 2022 and recorded in said Registry of Deeds in Book 39512, Page 48. **[verify still on]**
14. Mortgage from 338 Falmouth Foreside Partners LLC to Titan Funding, LLC, dated _____, 2023 and recorded in said Registry of Deeds in Book _____, Page ___.
15. **Any additional encumbrances added since 10/2023.**

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Meaning and intending to convey, and hereby conveying, all and the same premises described in the Quitclaim Deed from Estelle Estates, LLC to 338 Falmouth Foreside Partners LLC, dated June 17, 2022 and recorded in said Registry of Deeds in Book 39511, Page 313.

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SCHEDULE B
The Mark Condominium

Unit No.	Prorated Square Footage	Percentage Interest	No. of Votes	LCE Parking Space No.*
1			1	
2			1	
3			1	
4			1	
5			1	
6			1	
7			1	
8			1	
9			1	
10			1	
11			1	
12			1	
13			1	
14			1	
15			1	
16			1	
17			1	
18			1	
19			1	
20			1	
21			1	
22			1	
23			1	
24			1	
25			1	
26			1	
27			1	
28			1	
29			1	
30			1	

Continued on next page. . .

Unit No.	Prorated Square Footage	Percentage Interest	No. of Votes	LCE Parking Space No.*
31			1	
32			1	
33			1	
34			1	
35			1	
36			1	
37			1	
38			1	
39			1	
40			1	
41			1	
42			1	
43			1	
44			1	
45			1	
46			1	
47			1	
48			1	
49			1	
50			1	
51			1	
52			1	
53			1	
54			1	
55			1	
56			1	
57			1	
58			1	
59			1	
60			1	
TOTAL		100%	60	

* LCE Parking Spaces shall be added to this Schedule B upon allocation. Holders of LCE Parking Spaces shall be subject to the LCE Garage Parking Fee in addition to their portion of the general Common Expenses.

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BYLAWS
(DRAFT)

PRESUMPSCOT WOODS OWNERS ASSOCIATION

BYLAWS (DRAFT)

PRESUMPSCOT WOODS OWNERS ASSOCIATION

ARTICLE I
Introductory Provisions

1.1. Unit Ownership. The land located at 0 Hope Avenue, Portland, Cumberland County, Maine, known or to be known as Presumpscot Woods Condominium, together with all improvements constructed thereon, as described in the Declaration of Presumpscot Woods Condominium (the "Declaration") dated _____, _____, and recorded in the Cumberland County Registry of Deeds in Book _____, Page _____, has been submitted pursuant to the provisions of the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes of 1964, as amended (the "Act"), by said Declaration and declared as a condominium to be known as Presumpscot Woods Condominium (the "Condominium"). These Bylaws have been adopted as required by Section 1603-106 of the Act to govern the Unit Owners' Association of the Condominium (the "Association").

1.2. Name. The name of this Association is PRESUMPSCOT WOODS OWNERS ASSOCIATION.

1.3. Applicability of Bylaws. The provisions of these Bylaws are applicable to the Association and the Condominium and to the use and occupancy thereof. All present and future Unit owners, Mortgagees, lessees and occupants of the Units and their employees and any other persons who may use the facilities of the Condominium in any manner are subject to these Bylaws, the Declaration and to the Rules and Regulations established by the Executive Board as hereinafter set forth.

1.4. Office. The principal office of the Association and the Executive Board shall be located at_____, or at such other location as the Executive Board may designate from time to time.

1.5. Corporation Law. Except as otherwise expressly provided herein, in the Declaration, or in the Act, the Association shall be governed by the provisions of the Maine Nonprofit Corporation Act, Title 13-B of the Maine Revised Statutes of 1964, as amended (the "Nonprofit Corporation Act").

1.6. Nonprofit Status. The Association is not organized for profit and no property or profit thereof shall inure to the benefit of any person except in furtherance of the nonprofit-making purposes of the Association or in the course of acquiring, constructing or providing management, maintenance or care of the Condominium.

1.7. Declaration Controlling. The Declaration shall control and govern these Bylaws. In the event of any conflict or discrepancy between these Bylaws and the Declaration, the provisions of the Declaration shall control and govern.

1.8. Definitions. Capitalized terms used herein without definition shall have the meanings specified for such terms in said Declaration to which these Bylaws pertain or, if not defined therein, the meanings specified or used for such terms in the Act.

ARTICLE II
The Association

2.1. Composition. The Association has been organized prior to the date hereof as a nonprofit corporation pursuant to the Nonprofit Corporation Act. The Association shall consist of all of the Unit Owners acting as a group in accordance with the Act, the Declaration and these Bylaws. The membership of the Association shall consist of all the Unit Owners of the Condominium or, following any termination of the Condominium as provided in Section 1602-118 of the Act, of all former Unit Owners entitled to distributions of proceeds under said Section 1602-118, or their heirs, successors or assigns, but shall not include persons having an interest in a Unit solely as security for an obligation. The terms "member" and "Unit Owner" appearing in these Bylaws are interchangeable.

2.2. Nontransferability of Interests. Except as provided herein or in the Declaration, membership shall not be transferable. The membership of each Unit Owner shall terminate upon a sale, transfer or other disposition, other than by mortgage, of the ownership interest of such Unit Owner in the Property, accomplished in accordance with the provisions of the Declaration, and thereupon the membership and any interest in the Reserve and Capital Funds, as hereinafter defined, and other common funds shall automatically transfer to and be vested in the next Owner or Owner succeeding to such ownership interest.

2.3. Powers and Duties. Subject to the Declaration, the Association shall have the purposes, duties and powers to: (a) adopt and amend these Bylaws and Rules and Regulations for the operation of the Association and Condominium, provided that the initial Executive Board shall have the power to adopt these Bylaws; (b) adopt and amend budgets for revenues, expenditures and reserves and collect assessments for Common Expenses from Unit owners; (c) hire and terminate managing agents and other employees, agents and independent contractors; (d) institute, defend or intervene in litigation or administrative proceedings in its own name on behalf of itself or two or more Unit Owners on matters affecting the Condominium; (e) make contracts and incur liabilities relating to the purposes of the Association stated in these Bylaws and the Declaration; (f) regulate the use, maintenance, repair, replacement and modification of the Common Elements; (g) cause additional improvements to be made as a part of the Common Elements; (h) acquire, hold, encumber and convey in its own name any right, title or interest to real or personal property, provided that Common Elements may be conveyed or subjected to a security interest only pursuant to Section 1603-112 of the Act; (i) grant easements, leases, licenses and concessions through or over the Common Elements; (j) impose and receive any payments, fees or charges for the use, rental or operation of the Common Elements (other than Limited Common Elements) and for services provided to Unit Owners; (k) impose charges for late payment of assessments and, after notice and an opportunity to be heard, levy reasonable fines for violations of the Declaration and of these Bylaws and Rules and Regulations of the Association; (l) impose reasonable charges for the preparation and recordation of amendments to the Declaration, resale certificates required by Section 1604-108 and statements of unpaid

assessments; (m) provide for the indemnification of its officers and Executive Board and maintain directors' and officers' liability insurance; (n) assign its right to future income; (o) lease as lessee any real or personal property, accept assignments of leases of real or personal property, cause improvements to be made as a part of such leased property, regulate the use, maintenance and repair of such leased property, and impose and receive any payments, fees or charges for the use, rental or operation of such leased property; (p) exercise any other powers conferred to it by the Declaration; (q) exercise all other powers that may be exercised in the State of Maine by corporations organized pursuant to the Nonprofit Corporation Act, as the same or its equivalent may be amended or modified from time to time; and (r) exercise any other powers necessary and proper for the governance and operation of the Condominium by the Association.

The foregoing responsibilities shall be performed by the Executive Board or managing agent as more particularly set forth in these Bylaws.

2.4. Meeting of Members. Meetings of the membership shall be held at the principal office of the Association or at such other place as may be specified in the notice of the meeting.

2.5. Annual Meetings. The annual meetings of the members shall be held each year on a date no later than thirty (30) days, and no earlier than sixty (60) days, before the beginning of each fiscal year. In the event that the day for which an annual meeting is scheduled is a legal holiday, then the meeting shall be held on the first day thereafter which is not a legal holiday. At such meetings there shall be elected by ballot of the members an Executive Board in accordance with the provisions of Article III. The members shall also transact such other business as may properly come before them.

2.6. Special Meetings. The Secretary shall call a special meeting of the Association if so directed by resolution of the Executive Board or upon a petition signed and presented to the Secretary by Unit Owners of the Units to which are allocated not less than thirty percent (30%) of the Votes in the Association. The notice of any special meeting shall state the time, place and purpose thereof. Such meeting shall be held no earlier than ten (10) days and no later than forty-five (45) days after receipt by the President of said resolution or petition; provided, however, if the purpose includes the approval and ratification of a budget or further assessment pursuant to subparagraph 5.2.2, or Paragraphs 5.6 or 5.8., such meeting must be held within the time frames provided in subparagraph 5.2.2 for an annual budget and in Paragraph 5.8 for a revised budget or further assessment. No business shall be transacted at a special meeting, except as stated in the said notice, unless with the consent of no less than sixty-five (65%) percent of the Votes in the Association, subject, however, to the provisions of paragraph 2.12 hereof.

2.7. Notice of Meeting. It shall be the duty of the Secretary, or upon his failure or neglect then of any other officer, to give notice of each annual or special meeting, the time and place of the meeting, and the items on the agenda for that meeting, including the general nature of any proposed amendment to the Declaration or these Bylaws, any budget changes and any proposal to remove a member of the Executive Board or officer, to each member of record and to each Eligible Mortgage Holder as long as it is the record holder of a first Mortgage of a Unit.

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With respect to any annual or special meeting such notice shall be so mailed at least ten (10) days but no more than forty-five (45) days prior to the date so set for the meeting.

2.8. Quorum. The presence, either in person or by proxy, of the Owners of the Units to which are allocated at least sixty-six percent (66%) of the Votes in the Association shall be requisite for and shall constitute a quorum for the transaction of business at all meetings of members.

2.9. Adjournment of Meetings. If at any meeting of members a quorum shall not be in attendance, those members who are present may adjourn the meeting to a time not less than forty-eight (48) hours from the time at which the original meeting was called.

2.10. Votes in Association. The Votes in the Association allocated to each Unit are listed in Schedule B to the Declaration. The voting right of each member is equivalent to the Votes allocated to his Unit.

2.11. Voting. The Votes in the Association allocated to a Unit can only be cast as a unit and cannot be split. If a Unit is owned of record by one person, that Unit owner's right to cast all the Votes allocated to that Unit shall be established by the record title to the Unit, provided, however, that such person's spouse may cast the Votes allocated to such Unit if authorized to do so in a certificate executed by the Unit Owner and filed with the Secretary of the Association, which certificate shall be valid until revoked by a subsequent certificate similarly executed and filed with the Secretary of the Association. If ownership of a Unit is in more than one person, the person who shall be entitled to cast all the Votes allocated to that Unit shall be the person named in a certificate executed by all of the Owners of such Unit and filed with the Secretary of the Association. If ownership of a Unit is in a corporation, partnership, limited liability company, limited liability partnership, trust or estate, the officer or employee of that corporation, general partner of that partnership, member of that limited liability company, or partner of that limited liability partnership, trustee of that trust, or agent of that estate, entitled to cast for the corporation, partnership, limited liability company, limited liability partnership, trust or estate the Votes allocated to such Unit shall be designated in a certificate for that purpose executed by the president or a vice president of that corporation, and attested to by the secretary, assistant secretary or clerk of that corporation, executed by all the general partners of that partnership, executed by all the managing members or members with sufficient authority of that limited liability company, executed by the managing partner or partners with sufficient authority of that limited liability partnership, executed by all the trustees of that trust, or executed by either all the devises of that estate or by order of the probate court and filed with the Secretary of the Association. Such certificates of multiple owners, corporations, partnerships, limited liability companies, limited liability partnerships, trusts or estates shall be valid until revoked by a subsequent certificate similarly executed and filed with the Secretary of the Association. Wherever the vote, approval or disapproval of a Unit Owner is required by this Declaration or the Act, such vote, approval or disapproval shall be made only by the person who would be entitled pursuant to such certificate to cast at any meeting of the Association the Votes allocated to such Unit. If the person named or designated in said certificate for a particular Unit shall be absent from a meeting of the Association, no person may cast the Votes allocated to that Unit at the meeting although the presence at the meeting of a non-named or non-designated co-Owner or

member, officer, employee, agent or designee of such Owner shall be counted in determining whether a quorum is present. If a multiple Owner of a Unit that is not a corporation, partnership, limited liability company, limited liability partnership, trust or estate has failed to file said certificate with the Secretary of the Association and only one of the multiple Owners is present at a meeting of the Association, he shall be entitled to cast at the meeting all the Votes allocated to that Unit without establishing the concurrence of the absent Owners just as though that person were the sole Owner of the Unit. If a multiple Owner of a Unit that is not a corporation, partnership, limited liability company, limited liability partnership, trust or estate has failed to file said certificate with the Secretary and if more than one Owner of that Unit is present at the meeting, the Votes allocated to that Unit may be cast only in accordance with the agreement of a majority of the multiple Owners present at the meeting. Such majority agreement shall be conclusively presumed if any one of those multiple Owners shall cast the Votes allocated to the Unit without protest being promptly made to the person presiding over the meeting by any other Owners of that Unit. No Votes allocated to a Unit owned by the Association may be cast.

2.12. Vote Required. Unless by express provisions of the Act, these Bylaws or the Declaration a different vote is required, each question presented at a meeting of the Association shall be determined by the affirmative vote of Owners of Units to which are allocated no less than sixty-six percent (66%) of the Votes in the Association. Provided, however, that notwithstanding any provision to the contrary contained in these Bylaws or the Declaration, the affirmative vote of one hundred percent (100%) of all of the Unit Owners shall be required for the Association to act on any of the following matters: Termination of the Condominium pursuant to Section 1602-118 of the Act; merger or consolidation of the Condominium with another condominium; conveyance or subjection to a security interest of any portion of the Common Elements; use of any proceeds of insurance required to be maintained by the Association pursuant to the Declaration or any eminent domain awards or proceeds for purposes other than repair and restoration of the damaged Property in accordance with the Condominium Documents, the original elevation thereof and the original building plans and specifications therefor; and amendments to the Condominium Documents which govern or regulate (a) voting, (b) assessments, assessment liens or subordination of such liens, (c) reserves for replacement, repair and replacement of the Common Elements or Units, if applicable, (d) insurance or fidelity bonds, (e) responsibility for maintenance and repair of the Common Elements and the Units, (f) leasing of Units, (g) imposition of any right of first refusal or similar restriction on the right of a Unit Owner to sell, transfer, or otherwise convey or lease an owner's Unit.

2.13. Informal Action. Subject to the Declaration, any action required or permitted to be taken at any meeting of the members may be taken without a meeting if a written consent thereto is signed by all the members. The Secretary shall file such written consent with the records of the meetings of the members and such consent shall be treated as a unanimous vote of members for all purposes.

2.14. Proxies. A vote may be cast in person or by proxy. If a Unit is owned by more than one person, each Owner of the Unit may vote or register protest to the casting of Votes by the other Owners of the Unit through a duly executed proxy. Proxies shall be duly executed in writing and must be filed with the Secretary before the appointed time of the meeting. Such proxy shall be deemed revoked only upon actual receipt by the person presiding over the meeting

of written notice of revocation from the grantor(s) of the proxy. No proxy shall be valid for a period in excess of eleven (11) months after the execution thereof unless it specifies a shorter term. A proxy is void if it is not dated or purports to be revocable without notice.

2.15. Order of Business. The order of business at all meetings of the members shall be as follows:

(a) Roll call;
(b) Proof of notice of meeting;
(c) Reading of minutes of preceding meeting for approval of same;
(d) Reports of Executive Board or of officers or of the manager or managing agent;
(e) Reports of committees, if any;
(f) Fix number of members of Executive Board (when so required);
(g) Election of inspectors of election (when so required);
(h) Election of members of the Executive Board (when so required);
(i) Unfinished business;
(j) New business.

At all meetings of the Association or of the Executive Board, Robert's Rules of Order, as then amended, shall be followed, except in the event of conflict in which these Bylaws or the Declaration, as the case may be, shall prevail.

ARTICLE III
Executive Board

3.1. Number and Qualification. The affairs of the Association shall be governed by an Executive Board (sometimes referred to as the "Board of Directors") composed of a minimum three (3) natural persons, all of whom shall be Unit owners or spouses of Unit Owners or in the case of a Unit Owner which is a corporation, partnership, limited liability company, trust or estate, a designated agent thereof. The initial Executive Board shall be elected by the incorporator of the Association and shall serve until the earlier of (i) at least two (2) units have been sold, or (ii) the third annual meeting.

3.2. Election and Term of Office. Except as provided in Paragraph 3.1 regarding election of the initial Executive Board, the members of the Executive Board shall be elected as follows:

3.2.1. At the annual meetings of the Association the election of members of the Executive Board shall be held. The term of office of any Executive Board member to be elected (except as set forth in Paragraphs 3.6 and 3.7.) shall be fixed at three (3) years. The members of the Executive Board shall hold office until the earlier to occur of the election of their respective successors or their death, adjudication of incompetency, removal or resignation. Any Executive Board member may serve an unlimited number of terms to succeed himself or herself.

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3.2.2. Persons qualified to be members of the Executive Board may be nominated for election only as follows:

3.2.2.1. Any Unit Owner may submit to the Secretary at least three (3) days before the meeting at which the election is to be held a nominating petition signed by that Unit Owner and a statement that the person nominated is willing to serve on the Executive Board. The Secretary shall mail or hand deliver the submitted items to every Unit owner along with the notice of such meeting;

3.2.2.2. Nominations may be submitted from the floor at the meeting at which the election is held for each vacancy on the Executive Board.

3.3. Vote Required for Election to Executive Board. No person shall be elected to the Executive Board who does not receive the affirmative vote of Unit Owners holding in the aggregate no less than fifty percent (50%) of the Votes in the Association.

3.4. Powers and Duties. Subject to the provisions of the Declaration, the Executive Board shall have the powers and duties necessary for the administration of the affairs of the Association and shall have all powers and duties referred to in the Declaration and the statutes of the State of Maine pertaining to corporations without capital stock, as amended from time to time, and may do all such other acts and things provided from time to time by the Act to be done by an Executive Board or by the Unit Owners collectively except such acts or things as are by law or by these Bylaws or by the Declaration directed to be exercised and done by the Unit Owners individually. Subject to the provisions of the Declaration, the powers and duties of the Executive Board shall include but not be limited to the following:

3.4.1. The power and duty to determine the Common Expenses of the Condominium and the assessments to each Unit for the Common Expenses.

3.4.2. The power and duty to make assessments against Unit Owners to defray the costs and expenses of the Condominium, establish the means and methods of collecting such assessments from the Unit Owners and establish the period of the installment payment of annual assessments for Common Expenses.

3.4.3. The power and duty to provide for the operation, care, upkeep, maintenance and repair (structural or otherwise) of all of the Common Elements and the other Property and services of the Condominium.

3.4.4. The power and duty to designate, hire and dismiss the personnel necessary for the maintenance, operation, repair and replacement of the Common Elements and provide services for the Property and, where appropriate, provide for the compensation of such personnel and for the purchase of equipment, supplies and material to be used by such personnel in the performance of their duties.

3.4.5. The power and duty to collect the assessments for Common Expenses against the Unit Owners, deposit the proceeds thereof in any bank depositories or money

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market funds designated by the Executive Board and use the proceeds to carry out the administration of the Property.

3.4.6. The power to make and amend Rules and Regulations covering the details of the operation and use of the Property.

3.4.7. The power to open bank accounts on behalf of the Association and designate the signatories thereon.

3.4.8. The power and duty to make, or contract for the making of, repairs, additions and improvements to or alterations of the Property, and repairs to and restoration of the Property, in accordance with the Declaration, after damage or destruction by fire or other casualty, or as a result of condemnation or eminent domain proceedings.

3.4.9. The power to enforce by legal means the provisions of the Declaration, these Bylaws and the Rules and Regulations and duty and power to act on behalf of the Unit owners with respect to all matters arising out of any eminent domain proceeding.

3.4.10. The power and duty to obtain and carry insurance against casualties and liabilities, as provided in the Declaration, pay the premiums therefor and adjust and settle any claims thereunder.

3.4.11. The power and duty to pay the cost of all authorized services rendered to the Association and not billed to Unit Owners of individual Units.

3.4.12. The power to notify an Eligible Mortgage Holder of any default hereunder or under the Declaration by the Unit owner of the Unit subject to the Mortgage of such Holder, in the event such default continues for a period exceeding sixty (60) days.

3.4.13. The power to borrow money on behalf of the Condominium when required in connection with any one instance relating to the operation, care, upkeep, maintenance and repair (structural or otherwise) of the Common Elements.

3.4.14. The power to acquire, hold and dispose of Units and mortgage the same on behalf of the Unit Owners.

3.4.15. The power and duty to furnish statements as required by Section 1603-116(h) of the Act and certificates as required by Section 1604-108(b) of the Act.

3.4.16. The power to invest and reinvest funds of the Association and to take all actions necessary and proper in connection therewith, and for any year in which the Executive Board exercises this power to invest and reinvest funds of the Association, the Executive Board shall have the duty to invest the funds of the Association subject to any investment policy that the Executive Board may adopt which reflects the basic investment objectives of safety, liquidity and income return. At least annually, the

DRAFT

Executive Board shall disclose to the members a listing on an itemized basis as to amount, type and rate of return, of the instruments, funds, money market accounts, investments and accounts in which the funds of the Association are invested or deposited.

3.4.17. The power to do such other things and acts not inconsistent with the Act or the Declaration which the Executive Board may be authorized to do by a resolution of the Association.

3.5. Delegation of Powers: Managing. The Executive Board may employ for the Condominium a "Managing Agent" or "Manager" at a compensation established by the Executive Board. The Managing Agent shall perform such duties and services as the Executive Board shall delegate or authorize the Managing Agent to perform, including, but not limited to, all of the duties of the Executive Board and officers of the Association listed in the Act, the Declaration and these Bylaws; provided, however, where a Managing Agent does not have the power to act under the Act, the Declaration or these Bylaws, such duties shall be performed as advisory to the Executive Board. The Executive Board may delegate to the Managing Agent all of the powers granted to the Executive Board by the Act, the Declaration and these Bylaws other than the powers: (a) to adopt the annual budget and any amendment thereto or to assess any Common Expenses; (b) to adopt, repeal or amend Rules and Regulations of the Association; (c) to designate signatories on Association bank accounts; (d) to borrow money on behalf of the Association; (e) to invest and reinvest funds of the Association; (f) to acquire and mortgage Units.

Any employment contract between the Managing Agent and the Association must provide that it may be terminated with cause on no more than thirty (30) days' written notice and without cause on no more than ninety (90) days' written notice.

3.6. Removal or Resignation of Members of the Executive Board. At any regular or special meeting of the Association duly called, any one or more of the members of the Executive Board may be removed with or without cause by Unit Owners entitled to cast at least sixty-seven percent (67%) of all the Votes in the Association and a successor may then and there be elected to fill the vacancy thus created. Any Unit Owner proposing removal of a Board member shall give notice thereof to the Secretary. Any member whose removal has been proposed by a Unit Owner shall be given at least ten (10) days' notice by the Secretary of the time, place and purpose of the meeting and shall be given an opportunity to be heard at the meeting. A member of the Executive Board may resign at any time and shall be deemed to have resigned upon transfer of title to his Unit.

3.7. Vacancies. Vacancies in the Executive Board caused by any reason other than the removal of a member by a vote of the Unit Owners shall be filled by a vote of a majority of the remaining members at a special meeting of the Executive Board held for such purpose promptly after the occurrence of any such vacancy, even though the members present at such meeting may constitute less than a quorum. Each person so elected shall be a member of the Executive Board for the remainder of the term of the member being replaced and until a successor shall be elected at the next annual meeting of the Association at which such seat is to be filled upon expiration of

DRAFT

the term of his predecessor. In the case of multiple vacancies, the member receiving the greatest number of Votes shall be elected for the longest term.

3.8. Organizational Meeting. The first meeting of the Executive Board following each annual meeting of the Association shall be held within ten (10) days thereafter at such time and place as shall be fixed by the President (even if he is the outgoing President) at the meeting at which such Executive Board shall have been elected, and no notice shall be necessary to the newly elected members of the Executive Board in order legally to constitute such meeting, if a majority of the Executive Board members shall be Present at such meeting.

3.9. Regular Meetings. Regular meetings of the Executive Board may be held at such time and place as shall be determined from time to time by a majority of the members, but such meeting shall be held at least twice each fiscal year. Notice of regular meetings of the Executive Board shall be given to each member by the Secretary in the manner provided in the Declaration for service of notice upon Unit Owners, at least ten (10) business days prior to the day named for such meeting.

3.10. Special Meetings. Special meetings of the Executive Board may be called by the President on at least three (3) business days' notice by the Secretary to each member and Eligible Mortgage Holder, given by mail, telegraph or hand delivery, securing a receipt therefor, which notice shall state the time, place and purpose of the meeting. Special meetings of the Executive Board shall be called by the President or Secretary in like manner and on like notice on the written request of at least two (2) members of the Executive Board.

3.11. Waiver of Notice. Any member may at any time, in writing, waive notice of any meeting of the Executive Board, and such waiver shall be deemed equivalent to the giving of such notice. Attendance by a member of any meeting of the Executive Board shall constitute a waiver of notice by him of the time, place and purpose of such meeting unless the sole purpose of the member's attendance is to protest the holding of the meeting. If all members are present at any meeting of the Executive Board, no notice shall be required and any business may be transacted at such meeting.

3.12. Quorum of the Executive Board. At all meetings of the Executive Board, a majority of the members present shall constitute a quorum for the transaction of business, and the vote of a majority of the members present at the meeting at which a quorum is present shall constitute the decision of the Executive Board. If at any meeting of the Executive Board there shall be less than a quorum present, a majority of those present may adjourn the meeting from time to time. At any such adjourned meeting at which a quorum is present, any business, which might have been transacted at the meeting originally called, may be transacted without further notice. One or more members of the Executive Board may participate in and be counted for quorum purposes at any meeting by means of conference telephone or similar communication equipment by means of which all persons participating in the meeting can hear each other.

3.13. Compensation. No member of the Executive Board shall receive any compensation from the Association for acting as such, but may be reimbursed for any expenses incurred in the performance of his duties.

3.14. Conduct of Meetings. The President shall preside over all meetings of the Executive Board and the Secretary shall keep a minute book of the Executive Board meetings, recording therein all resolutions adopted by the Executive Board and a record of all transactions and proceedings occurring at such meetings. The then current edition of Robert's Rules of Order shall govern the conduct of the meetings of the Executive Board if and to the extent not in conflict with the Declaration, these Bylaws or the Act.

3.15. Voting. The act of a majority of the members of the Executive Board present at a meeting at which a quorum is present shall be deemed the act of the Executive Board.

3.16. Action Without Meeting. Any action by the Executive Board required or permitted to be taken at any meeting may be taken without a meeting if all of the members of the Executive Board shall individually or collectively consent in writing to such action. Any such written consent shall be filed with the minutes of the proceedings of the Executive Board.

3.17. Validity of Contracts with Interested Executive Board Members. No contract or other transaction between the Association and one or more of its Board of Director members or between the Association and any corporation, firm or association in which one or more of the Board of Director members are directors or officers, or are financially interested, shall be void or voidable because such Executive Board member or members are present at any meeting of the Executive Board which authorized or approved the contract or transaction or because his or their votes are counted, if the circumstances specified in either of the following subparagraphs exists:

3.17.1. The fact that a Board of Director member is also such a director or officer or has such financial interest is disclosed or known to the Executive Board and is noted in the minutes thereof, and the Executive Board authorizes, approves or ratifies the contract or transaction in good faith by a vote sufficient for the purpose without counting the vote or votes of such Executive Board member or members;

3.17.2. The contract or transaction is made in good faith and is not unconscionable to the Association at the time it is authorized, approved or ratified.

3.18. Inclusion of Interested Executive Board Members in the Quorum. Any Executive Board member holding such director or officer position or having such financial interest in another corporation, firm or association may be counted in determining the presence of a quorum at a meeting of the Executive Board or a committee thereof which authorizes, approves or ratifies a contract or transaction of the type described in Paragraph 3.17.

ARTICLE IV
Officers

4.1. Designation. The principal officers of the Association shall be the President, the Secretary and the Treasurer, all of whom shall be elected by the Executive Board. The President shall be a Unit Owner and a member of the Executive Board. Any other officers may, but need

not, be Unit Owners or members of the Executive Board. An officer other than the President may hold more than one office.

4.2. Election of Officers. The officers of the Association shall be elected annually by the Executive Board at the annual meeting of the Board and shall hold office at the pleasure of the Executive Board.

4.3. Removal and Replacement of Officers. Upon the affirmative vote of a majority of all members of the Executive Board, any officer may be removed, either with or without cause, and a successor may be elected at any meeting of the Executive Board called for such purpose.

4.4. President. The President shall be the chief executive officer of the Association, preside at all meetings of the Association and of the Executive Board and have all of the general powers and duties which are incident to the office of president of a nonprofit corporation organized under the laws of the State of Maine including without limitation the power to appoint committees from among the Unit Owners from time to time as the President may in his discretion decide is appropriate to assist in the conduct of the affairs of the Association. The President shall cease holding such office at such time he ceases to be a member of the Executive Board.

4.5. Secretary. The Secretary shall keep the minutes of all meetings of the Association and of the Executive Board, have charge of such books and papers as the Executive Board may direct, maintain a register setting forth the place to which all notices to Unit Owners and Eligible Mortgage Holders hereunder and pursuant to this Declaration shall be delivered and, in general, perform all the duties incident to the office of secretary of a nonprofit corporation organized under the laws of the State of Maine. The Secretary shall, within ten (10) days after receipt of request, provide any person, or cause to be provided to any person, entitled thereto at the expense of the person requesting the same a written statement or certification of the information required to be provided by the Association pursuant to Sections 1603-116(h) and 1604-108(b) of the Act.

4.6. Treasurer. The Treasurer shall have the responsibility for the safekeeping of Association funds and securities, be responsible for keeping full and accurate financial records and books of account showing all receipts and disbursements, and for the preparation of all required financial data, be responsible for providing to the Secretary the financial and budgetary information necessary for the Secretary to provide the certifications required by Paragraph 4.5 and be responsible for the deposit of all monies in the name of the Executive Board, the Association or the Managing Agent, in such depositories as may from time to time be designated by the Executive Board and, in general, perform all the duties incident to the office of treasurer of a nonprofit corporation organized under the laws of the State of Maine.

4.7. Execution of Documents. Except as provided in Paragraph 8.6, all agreements, contracts, deeds, leases, checks and other instruments of the Association for expenditures or obligations not in excess of, or authorized pursuant to, the budget approved by the members may be executed by any one officer of the Association or such other person or employee as the Executive Board may designate in writing.

4.8. Compensation of Officers. No officer who is also a member of the Executive Board shall receive any compensation from the Association for acting as such officer, but may be reimbursed for any out-of-pocket expenses incurred in performing his duties; provided, however, the Secretary and Treasurer may be compensated for their services if the Executive Board determines such compensation to be appropriate.

ARTICLE V
Operation of the Property

5.1. Fiscal Year. The fiscal year of the Association shall begin on such date as shall be established by the Executive Board, except for the first fiscal year of the Association, which shall begin at the date of incorporation of the Association. The commencement date of the fiscal year so established shall be subject to change by the Executive Board.

5.2. Preparation and Approval of Budget:

5.2.1. On or before ninety days (90) before the beginning of the fiscal year for which a Common Expense assessment is made, the Executive Board shall adopt an annual budget for the Association containing an estimate of the total amount of the Common Expenses considered necessary to pay the cost of maintenance, management, operation, repair and replacement of the Common Elements and those parts of the Units as to which it is the responsibility of the Association to maintain, repair and replace, and the cost of wages, materials, insurance premiums, services, supplies and other expenses that may be declared to be Common Expenses by the Act, the Condominium Documents or a resolution of the Association and which will be required during the ensuing fiscal year for the administration, operation, maintenance and repair of the Property and the rendering to the Unit Owners of all related services. The budget shall include such amounts as the Executive Board shall consider necessary to provide working capital, a general operating reserve fund for current Common Expenses, and a reserve fund for contingencies, replacements, capital improvements, and other items which cannot be expected to occur on a regular basis. The budget shall also reflect the separate assessment of Limited Common Expenses.

5.2.2. On or before the thirtieth (30) day after the adoption of an annual budget as provided in subparagraph 5.2.1 the Executive Board shall make such budget available for inspection during business hours by any Unit Owner or Mortgagee at the office of the Association and the Manager or Managing Agent, if any, and the Secretary shall provide to the Unit Owners and Eligible Mortgage Holders a summary of that budget in reasonably itemized form setting forth the separate amounts of the Common Expenses and Limited Common Expenses and shall set a date for a special meeting of the Unit Owners and Eligible Mortgage Holders to consider approval and ratification of such budget no less than fourteen (14) days nor more than thirty (30) days after mailing of such summary of budget accompanied by notice of the meeting to each Unit Owner and Eligible Mortgage Holder. The Executive Board shall endeavor to schedule the date for consideration of the budget to coincide with the date of the annual meeting of the Association. Unless at the meeting sixty-six percent (66%) in voting interest of all of the

Unit Owners reject the proposed budget, that budget is approved. In the event such budget shall be rejected at the meeting, the budget last ratified with respect to the period covered by the proposed budget shall be continued as the budget for the Condominium until such time as the Unit Owners approve and ratify a subsequent budget proposed by the Executive Board upon the same conditions as are provided in this subparagraph with respect to the original budget.

5.2.3. Subject to subparagraph 5.2.2, the budget adopted pursuant to this Paragraph shall constitute the basis for determining each Unit Owner's assessments for Common Expenses and Limited Common Expenses and shall automatically take effect at the beginning of the fiscal year for which it is adopted.

5.3. Assessment of Common Expenses. The total amount of the estimated funds for Common Expenses required from assessments for the operation of the Property as described in subparagraph 5.2.1 and set forth in the budget adopted by the Executive Board shall be assessed on an annual basis against each Unit Owner in proportion to his respective Common Expense Liability as provided in subparagraph 8.1.1 and Schedule B of the Declaration, except for Limited Common Expenses which shall be assessed against each Unit benefited as provided in subparagraph 8.1.2 of the Declaration.

5.4. End of Fiscal Year. Within ninety (90) days after the end of each fiscal year for which a Common Expense assessment was made, the Executive Board shall prepare and deliver to all Unit Owners and Eligible Mortgage Holders, and to each Mortgagee requesting in writing the same, an itemized accounting of the Common Expenses for such fiscal year actually incurred and paid, together with a tabulation of the amounts collected pursuant to the budget adopted by the Executive Board for such fiscal year, and showing the net amount over or short of the actual expenditures plus reserves. Any net shortage with regard to Common Expenses that are not Limited Common Expenses, after application of such reserves as the Executive Board may determine, shall be assessed promptly against the Unit Owners in accordance with their Common Expense Liabilities and shall be payable either (i) in full with payment of the next monthly assessment due, or (ii) in one or more monthly assessments, as the Executive Board may determine. Any net shortage with regard to Limited Common Expenses, after application of such reserve as the Executive Board may determine, shall be assessed promptly against the Unit Owners obligated to pay those Limited Common Expenses and if those Limited Common Expenses benefit more than a single Unit that Limited Common Expenses shall be assessed against the Owners of the Units benefited in accordance with their relative Common Expense Liabilities as between themselves, any and all of which Limited Common Expenses shall be payable either (i) in full with payment of the next monthly assessment or (ii) in one or more monthly assessments, as the Executive Board may determine.

5.5. Reserves. The Executive Board shall build up and maintain reasonable reserves for working capital including a general operating reserve fund for current Common Expenses (the "Working Capital Fund") and a reserve fund for contingencies, replacements, capital improvements, expenses of repair and replacement in the amount of the applicable deductible on property insurance carried by the Association, and other items which cannot be expected to occur on a regular basis (the "Reserve Fund"). However, nothing contained herein shall limit, preclude

DRAFT

or impair the establishment of additional funds by the Association so long as the amounts credited to, and debited from any such additional funds are earmarked for specified purposes authorized by the Condominium Documents. The Working Capital Fund, Reserve Fund and such other funds shall be conclusively deemed to be common funds of the Association and shall be deposited in a special account with a lending institution, the accounts of which are insured by an agency of the United States of America unless otherwise invested pursuant to subparagraphs 3.4.5 or 3.4.16. Neither the Executive Board nor the Treasurer shall commingle in the books and records of the Association any amounts deposited into the Reserve Fund, the Working Capital Fund or such other funds. Extraordinary expenditures not originally included in the annual budget, which may become necessary during the year shall be charged first against such reserves. If the reserves are deemed by the Executive Board to be inadequate for any reason, including nonpayment of any Unit Owner's assessment, the Executive Board may at any time levy a further assessment which, depending on whether the reserve is for the benefit of all the Units or fewer than all the Units, shall be assessed against all the Unit owners according to their respective Common Expense Liabilities or only against the Unit owners benefited according to their respective Common Expense Liabilities as between themselves, and which may be payable in a lump sum or in installments as the Board may determine.

5.6. Further Assessments. Subject to Paragraph 5.8, the Executive Board shall give notice to all Unit Owners and Eligible Mortgage Holders of any further assessments on Unit Owners for Common Expenses or Limited Common Expenses accompanied by a statement in writing giving the amount and reasons therefor, and such further assessment shall, unless otherwise specified in a notice, and subject to Paragraph 5.8, become effective, as provided in Paragraph 5.13, on the first day of the next month which begins more than ten (10) days after the delivery of such notice of further assessment. All Unit Owners so notified shall be obligated to pay the adjusted monthly amount at the times provided for in Paragraph 5.11. Such assessment shall be a lien as set forth in Paragraph 5.13.

5.7. Effect of Failure to Prepare or Adopt Budget. The failure or delay of the Executive Board to prepare or adopt a budget for any fiscal year shall not constitute a waiver or release in any manner of a Unit Owner's obligation to pay his allocable share of the Common Expenses as herein provided whenever the same shall be determined and, in the absence of any annual budget or adjusted budget, each Unit Owner shall continue to pay each monthly installment at the monthly rate established for the previous fiscal year until the new annual or adjusted budget shall have been adopted.

5.8. Rejection of Budget: Limitation on Expenditures. Subject to Paragraph 5.9, but anything else herein to the contrary notwithstanding, within thirty (30) days after adoption by the Executive Board of any revised budget for the Condominium (or adoption of a further assessment pursuant to Paragraph 5.6) the Executive Board shall provide a summary of that revised budget in a reasonably itemized form or, if appropriate, the notice of any further assessment pursuant to Paragraph 5.6, to each Unit Owner and Eligible Mortgage Holder. The Executive Board shall set a date for a meeting of the Unit Owners and Eligible Mortgage Holders to consider approval and ratification of such revised budget, or further assessment, no less than fourteen (14) days nor more than thirty (30) days after the mailing of said summary of budget or notice. Unless at that meeting sixty-six percent (66%) in voting interest of all of the Unit

Owners approve and ratify the revised budget, or further assessment, that budget or assessment is rejected. In the event such revised budget or assessment shall be rejected at the meeting, the budget last ratified with respect to the period covered by the proposed budget or revised budget, or further assessment shall be continued as the budget for the Condominium until such time as the Unit Owners approve and ratify a subsequent revised budget, or further assessment, proposed by the Executive Board upon the conditions as are provided with respect to the original review of the budget or further assessment.

5.9. Limitations on Borrowing; Emergency Expenditures. The power of the Executive Board to borrow money on behalf of the Association is subject to the requirement that the consent of the Owners of Units to which are allocated at least sixty-six percent (66%) of the Votes in the Association shall be required to borrow in any fiscal year any sum in excess of fifteen percent (15%) of the current annual operating budget. Any provision of limitation on expenditures contained in these Bylaws to the contrary notwithstanding, the Executive Board or the Manager may, on behalf of the Association and the Owners without prior notice or consent, expend any amount, or incur a contractual obligation in any amount, required to deal with emergency conditions which may involve a danger to life or property or may threaten the safety of the Condominium or the owners or occupants of Units or may threaten the suspension of any necessary service to the Condominium or may involve the immediate damage to or destruction of the Common Elements. Where such action was taken to respond to a situation created by the negligence, wrongful action, or omission of a Unit Owner (or its employees, agents, clients, visitors or guests) the expenditure, contractual obligation and expenses shall be charged as a Limited Common Expense to such Unit Owner.

5.10. Accounts: Audits. All sums collected by the Executive Board with respect to assessments against the Unit Owners or from any other source may be commingled in a single fund or held for each Unit Owner in accordance with his respective Common Expense Liability notwithstanding that the Reserve Fund, Working Capital Fund, and such other funds shall not and may not be commingled in the books and records of the Association and that unless otherwise invested pursuant to subparagraphs 3.4.5 or 3.4.16 such funds must be deposited with a lending institution, the accounts of which are insured by an agency of the United States of America. All books and records of the Association shall be kept under the direction of the Treasurer or the Manager and in accordance with customary accounting principles and practices. Any Eligible Mortgage Holder shall have the right to give written notice to the Association and cause the records and books of the Association to be audited and have an audited financial statement of the financial position of the Association prepared each at the expense of such Eligible Mortgage Holder.

5.11. Payment Obligations. Each Unit Owner shall pay to the Association or its authorized representative (1) on the first day of each month, or on such other date that the Association may determine in writing, one-twelfth (l/12th) of the Common Expenses including Limited Common Expenses, and revised Common Expenses including revised Limited Common Expenses, assessed on an annual basis against his Unit in the proportions required in Paragraph 8.1. of the Declaration and (2) all special assessments, any other sums duly levied against the Unit pursuant to the Declaration, these Bylaws or the Act, including Limited Common Expenses assessed against Unit Owners for maintenance, repair or replacement of a Limited Common

DRAFT

Element pursuant to Paragraph 8.4 of the Declaration, all interest thereon and charges for late payment thereof and legal fees and other costs of collection thereof, and fines, penalties and fees as provided by the Declaration, these Bylaws or the Act, on the first day of the next month which begins more than ten (10) days after delivery to the Unit Owner of notice of such special assessment or levy If for any reason the Association shall revise the annual budget of the Association in accordance with these Bylaws, whereby the Common Expenses or any component thereof may be increased, and subject to Paragraph 5.8, then commencing on the first day of the first month subsequent to the adoption of such revised budget each Unit Owner shall pay to the Association or its authorized representative such revised annual Common Expenses including Limited Common Expenses assessed against his Unit in the proportions required in Paragraph 8.1 of the Declaration.

5.12. Interest: Acceleration. In the event of a default by an Unit Owner in paying any sum assessed against his Unit which continues for a period in excess of thirty (30) days, interest shall be imposed on the principal amount unpaid from the date when due until paid at a rate of interest to be established annually by the Executive Board which shall not exceed the lower of the maximum interest rate allowed by law which may be charged by the Association at such time or eighteen percent (18%) per annum. If the Executive Board shall fail to set such rate, it shall be deemed to have been set at the rate of eighteen percent (18%) per annum. The Association shall have the right to establish and impose charges for late payment of assessments. In any case where an assessment against a Unit Owner is payable in installments, upon a default by such Unit Owner in the timely payment of any two consecutive installments, the maturity of the remaining total of the unpaid installments of such assessments may be accelerated at the option of the Executive Board, and the entire balance of the assessment may be declared due and payable in full by the service of notice to such effect upon the defaulting Unit Owner by the Executive Board or its representative.

5.13. Lien for Assessments. The total annual assessment levied against each Unit for Common Expenses including Limited Common Expenses, revised Common Expenses including revised Limited Common Expenses, or any special assessment, and any other sums duly levied against the Unit pursuant to the Declaration, these Bylaws or the Act, including Limited Common Expenses assessed against Unit Owners for maintenance, repair or replacement of a Limited Common Element pursuant to Paragraph 8.4 of the Declaration, all interest thereon and charges for late payment thereof and legal fees and other costs of collection thereof, and fines, penalties and fees as provided in the Declaration or these Bylaws shall, until fully paid, constitute a lien against the Unit in favor of the Association as provided in Section 1603-116 of the Act. Such lien shall, with respect to annual assessments and revised annual assessments, be effective on the first day of each fiscal year of the Association as to the full amount of the annual assessment or revised annual assessments, and, as to special assessments and other sums duly levied including Limited Common Expenses assessed against Unit Owners for maintenance, repair or replacement of a Limited Common Element pursuant to Paragraph 8.4 of the Declaration, interest, charges for late payments, legal fees, costs of collection, fines, penalties and fees as described in Paragraph 5.12, on the first day of the next month which begins more than ten (10) days after delivery to the Unit Owner of notice of such special assessment or levy. Such lien is prior to all other liens and encumbrances on a Unit except (a) liens and encumbrances recorded before the recordation of this Declaration, (b) a first Mortgage recorded

DRAFT

before or after the date which the assessment sought to be enforced becomes delinquent, and (c) liens for real estate taxes and other governmental assessments or charges against the Units; provided, however, that such lien is not subject to the provisions of 14 M.R.S.A. Section 4651 and 18-A M.R.S.A. Section 201, *et seq*., as they or their equivalents may be amended or modified from time to time.

5.14. Enforcement. The lien for assessments described in Paragraph 5.13 may be enforced and foreclosed by the Association in like manner as a mortgage on real estate as provided in Section 1603-116(a) of the Act or by any other means presently or hereafter provided by law or in equity. A suit to recover a money judgment for unpaid assessments, interest, penalties, and costs of collection may be maintained against the Unit Owner personally without foreclosing or waiving the lien securing such assessments and a foreclosure may be maintained notwithstanding the pendency of any suit to recover a money judgment. During the pendency of any such suit, the Unit Owner shall be required to pay a reasonable rental for the unit for any period prior to sale pursuant to any judgment or order of any Court having jurisdiction over such sale.

5.15. Exemption From Expenses by Waiver of Use of Common Elements or Unit Elements. Subject to Paragraph 15.5 of the Declaration, no Unit Owner may exempt himself from Common Expense Liability with respect to the payment of assessments for Common Expenses by waiver of the enjoyment of the right to use any of the Common Elements or by abandonment of his Unit or otherwise. Subject to Paragraph 15.5 of the Declaration, the obligation to pay assessments for Common Expenses is absolute and unconditional and shall not be subject to set-offs or counterclaims.

5.16. Collection of Assessments. The Executive Board or the Managing Agent, at the request of the Executive Board, shall take prompt action to collect any assessment for Common Expenses due from any Unit Owner which remains unpaid for more than thirty (30) days from the due date for payment thereof together with any interest thereon and charges for late payment as provided in Paragraphs 5.11 and 5.12.

5.17. Statement of Common Expense. The Association shall promptly provide to any Unit Owner, contract purchaser or Mortgagee so requesting the same in writing with a statement setting forth the amount of unpaid assessments currently levied against the Unit of such Unit Owner as provided in Section 1603-116(h) of the Act. The Association shall also promptly provide to any Unit Owner or contract purchaser so requesting the same with a certificate containing the information described in Section 1604-108(a) of the Act enabling such Unit Owner to comply with the provisions of Section 1604-108 of the Act. The Association shall have the right to impose a reasonable charge for the preparation of such statement or information to cover the costs of preparation thereof against the Unit Owner requesting the same.

5.18. Reallocation of Allocated Interests. If Common Expense Liabilities are reallocated for any reason, assessments for Common Expenses and any installments thereof not yet due shall be recalculated in accordance with the reallocation Common Expense Liabilities. Within thirty (30) days after the reallocation of the Common Expense Liabilities, the Executive Board shall revise the budget to reflect changes in Common Expenses and Limited Common Expenses

resulting from such reallocation of Common Expense Liabilities to reflect the proportionate liability of all the Units for such Common Expenses and Limited Common Expenses for the remainder of the fiscal year in which such events occur. The amount of assessments attributable to each Unit thereafter shall be the amount specified in the adjusted budget, until a new budget shall have been adopted by the Executive Board subject to the Condominium Documents.

5.19. Taxation.

5.19.1. Separate Taxation. If there is any Unit Owner other than the Declarant, each Unit and its Allocated Interests shall be deemed to be a separate tax parcel and shall be separately taxed and assessed by the City of Portland. Neither the Building, the Property nor any of the Common Elements shall be deemed to be or assessed as a separate tax parcel.

5.19.2. Units Not Yet Separately Assessed. In the event that for any year real estate taxes assessed by the City of Portland are not separately taxed and assessed to each separate Unit Owner but are taxed on the Property as a whole, then each Unit Owner shall pay his proportionate share thereof in accordance with his respective Common Expense Liabilities.

ARTICLE VI
Repair and Reconstruction After Fire or Other Casualty

6.1. When Repair and Reconstruction are Required. In the event of damage to or destruction of all or any part of the Property as a result of fire, other casualty or the exercise of the power of eminent domain, the Executive Board on behalf of the Association shall promptly arrange for and supervise the prompt repair, replacement and restoration thereof, including any damaged Units (including the unfinished floor slab or basement floor, as the case may be, roof and roof rafters, wall studs, joists, columns, studs or beams, and all exterior windows and doors; but not including the plaster or sheetrock forming the perimeter walls of the Units, any floorcovering (such as tile; wood flooring and carpeting) and any wallcovering (such as paint, wallpaper, paneling or tiles), furniture, fixtures (such as cabinets, built-in closets or bookshelves, vanities, lamps and chandeliers) furnishings, appliances or other personal property owned by Unit Owners) (the "Unit Owner Property") substantially in accordance with the Declaration, the Plat and Plans, these Bylaws, the original elevation thereof and the original plans and specifications therefor unless, subject to Paragraph 9.3 of the Declaration, (a) the Condominium is terminated, or (b) repair, replacement or restoration would be illegal under any state or local health, safety, land-use or environmental statute, code or ordinance, or (c) one hundred percent (100%) of the Unit Owners and at least sixty percent (60%) of the Eligible Mortgage Holders vote not to repair, restore or replace the damaged or destroyed Property, and such decision is approved by every Owner of a Unit or assigned or allocated Limited Common Element, which will not be repaired, replaced or restored, and by all Eligible Mortgage Holders of all Mortgages thereon. Each Unit owner shall supervise the repair, replacement and restoration of its Unit Owner Property.

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6.2. Procedure for Reconstruction and Repair. Subject to Paragraph 9.3 of the Declaration, if repair, replacement or restoration (of non-Unit Owner Property) shall be required pursuant to Paragraph 6.1:

6.2.1. Cost Estimates. The Executive Board shall promptly obtain reliable and detailed estimates of the cost of repairing and restoring such portion including any damaged Units (and the fixtures, service machinery and other apparatus, but not including any Unit Owner Property in the Unit) substantially in accordance with this Declaration, the Plat and Plans, the original elevation thereof and original building plans and specifications therefor unless other action is approved by one hundred percent (100%) in voting interest of the Unit Owners and at least sixty percent (60%) of the Eligible Mortgage Holders. Such costs may also include professional fees and premiums for such bonds as the Insurance Trustee may determine to be necessary.

6.2.2. Assessments. If the net proceeds of insurance, eminent domain awards, and any appropriate reserve for replacement funds, if any, are not sufficient to defray such estimated costs of reconstruction, repair, and replacement, or if upon completion of reconstruction and repair the funds for the payment of the costs thereof are insufficient, any such costs in excess of insurance proceeds, any eminent domain awards, and reserves shall be deemed a Common Expense and a special assessment therefor shall be levied by the Association.

6.2.3. Construction Fund and Disbursement. The proceeds of insurance collected on account of the casualty, any eminent domain awards, and any appropriate reserve for replacement funds, and the sums received by the Association from collections of assessments against Unit Owners pursuant to subparagraph 6.2.2 on account of any such casualty or taking, shall constitute a construction fund which shall be held in trust by the Insurance Trustee or Association as provided in Paragraph 14.3 of the Declaration and disbursed in payment of the costs of reconstruction and repair in the following manner:

6.2.3.1. If the estimated cost of reconstruction and repair is less than Fifty Thousand Dollars ($50,000), then the construction fund shall be disbursed in appropriate progress payments, or payment of such costs upon order of the Executive Board; provided, however, that upon request of sixty percent (60%) of the Eligible Mortgage Holders, such funds shall be disbursed pursuant to subparagraph 6.2.3.2.

6.2.3.2. If the estimated cost of reconstruction and repair is Fifty Thousand Dollars ($50,000.00) or more, then the construction fund shall be disbursed in payment of such costs upon approval of an architect qualified to practice in the State of Maine employed by the Association or Insurance Trustee or of such other qualified person acceptable to no less than sixty percent (60%) of the Eligible Mortgage Holders and to the Owners of the Units to which are allocated no less than sixty-six percent (66%) of the Votes in the Association (generically, the "Architect"), to supervise such work, payment to be made from time to time as the work progresses. The Architect shall be required to furnish a

certificate giving a brief description of the services and materials furnished by various contractors, subcontractors, materialmen, the Architect and other persons who have rendered services or furnished materials in connection with the work stating that: (a) the sums requested by them in payment are justly due and owing and that such sums do not exceed the value of the services and materials furnished; (b) there is no other outstanding indebtedness known to the Architect for the services and materials described; and (c) the cost as estimated by the Architect for the work remaining to be done subsequent to the date of such certificate does not exceed the amount of the construction fund remaining after payment of the sum so requested.

6.2.3.3. Common Elements. When the damage is to both Common Elements and Units, the insurance proceeds or eminent domain proceeds shall be applied first to the cost of repairing those portions of the Common Elements which enclose and service the Unit, then to the costs of repairing the other Common Elements and then to the costs of repairing the Units.

6.2.3.4. Distribution After Payment. The first monies disbursed in payment of the cost of reconstruction and repair shall be from any insurance proceeds or eminent domain awards and, if there is a balance in the construction fund after the payment of all of the costs of the reconstruction and repair for which the fund is established, such balance shall be distributed among all Unit Owners, Mortgage holders and lien holders, as their respective interests may appear, in proportion to their respective Common Element Interests or the Common Element Interests of the Units to which their respective Mortgages or liens are subject.

6.3. Damage or Destruction: No Repair or Replacement. If the entire Condominium is not repaired or replaced:

6.3.1. The insurance proceeds and any eminent domain awards attributable to the damaged Common Elements shall be used to restore the damaged area to a condition compatible with the remainder of the condominium as determined by the Executive Board or Architect;

6.3.2. The insurance proceeds and any eminent domain awards attributable to Units and Limited Common Elements which are not rebuilt shall be distributed to the Owners and Mortgagees of those Units as their insurable interests may appear and the Owners and Mortgagees of the Units to which those Limited Common Elements were assigned or allocated, as their insurable interests may appear; and

6.3.3. The remainder of the insurance proceeds and any eminent domain awards shall be distributed to all the Unit Owners and Mortgagees, as their insurable interest may appear, in proportion to their respective Common Element Interests or the Common Element Interests subject to their respective Mortgages.

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6.3.4. If the Unit Owners and their Mortgagees vote not to rebuild any Unit, that Unit's entire Allocated Interests shall be automatically reallocated upon said vote as if the Unit had been condemned under Section 1601-107(a) of the Act and the Association shall prepare, execute and record an amendment to the Declaration reflecting the reallocations. Notwithstanding any provision of this Article VI to the contrary, Section 1602-118 of the Act governs the distribution of insurance proceeds and any eminent domain awards if the Condominium is terminated.

6.4. Mortgagee Priority. No provision of the Condominium Documents shall be deemed or construed to give a Unit Owner, or any other person, priority over the rights of any Eligible Mortgage Holder pursuant to its Mortgage in the case of a distribution to Unit Owners of insurance proceeds or eminent domain awards for losses to or a taking of Units, Common Elements, or both.

ARTICLE VII
Records of Information

7.1. Title. Every Unit Owner shall promptly cause to be duly recorded the deed, assignment, or other conveyance to him of his Unit or other evidence of his title thereto and file such evidence of his title with the Executive Board through the Secretary or Manager. The Secretary shall maintain such information in the record of ownership of the Association.

7.2. Availability of Information. The Association shall make available to Unit owners, lenders and the holders, insurers and guarantors of the first Mortgage on any Unit, for inspection at the office of the Association or the Manager, if any, current copies of the Declaration, these Bylaws and the Rules and Regulations governing the Property and other books, records and financial statements of the Association. The Association shall also make available to Eligible Mortgage Holders, Unit Owners and prospective purchasers at the cost of the person requesting the same current copies of the Declaration, these Bylaws and the Rules and Regulations governing the Property. "Available" means available for inspection or receipt upon request, during normal business hours or under other reasonable circumstances.

ARTICLE VIII
Amendments

Subject to the provisions of Article 16 of the Declaration governing the amendment of the Declaration, and subject also to Article 17 of the Declaration governing the rights of Mortgagees, and subject to the other provisions of the Declaration including, but not limited to, Paragraphs 9.3 thereof, these Bylaws and of the Act, these Bylaws may be amended as follows:

8.1. Notice. Notice of the subject matter of a proposed amendment shall be included in the notice of any meeting of the Executive Board or Association in which a proposed amendment is considered, and shall be served upon all Unit Owners and Eligible Mortgage Holders.

8.2. Resolution. An amendment may be proposed by either the Executive Board or by Unit Owners holding in the aggregate no less than thirty percent (30%) of the Votes in the

Association. No resolution of the Executive Board adopting a proposed amendment or the proposed amendment itself shall be effective unless it has been adopted at a meeting of the Association duly called and held in accordance with these Bylaws by the affirmative vote of at least sixty-six percent (66%) in voting interest of all of the Unit Owners and then executed as Provided in Paragraph 8.5.

8.3. Agreement. In the alternative, an amendment may be made by an agreement signed by the record Owners of Units to which are allocated at least one hundred percent (100%) of the Votes in the Association, in which case such amendment shall become effective when signed by such Unit Owners.

8.4. Proviso. Provided, however, that except as otherwise permitted by the Act and provided in the Declaration, no amendment may increase the number of Units or change the boundaries of any Unit, the Allocated Interests allocated to a Unit, or the uses to which any Unit is restricted without the unanimous consent of the Unit owners and the consent of at least Sixty Percent (60%) of the Eligible Mortgage Holders.

8.5. Execution. A copy of each amendment shall be attached to or included with a certificate, certifying that the amendment was duly adopted, which certificate shall be executed by the President or Treasurer and attested by the Secretary. The amendment shall be effective when such certificate and copy of the amendment are executed and certified.

8.6. Amendments to Declaration; Designation of Officers. The President or Treasurer may be designated to prepare, execute and record, and the Secretary shall certify on behalf of the Association any amendments to the Declaration which have been approved under Article 16 and Article 17 of the Declaration.

ARTICLE IX
Standards and Control of Condominium

9.1. Establishment of Rules and Regulations. The Executive Board shall have the power to adopt, amend and enforce compliance with such reasonable Rules and Regulations relative to the operation, use and occupancy of the Units and the Common Elements consistent with the provisions of the Condominium Documents and the Act and the enactment and enforcement of such enforcement procedures and penalties for violations as they shall deem appropriate. Any such Rules and Regulations shall be adopted or amended from time to time by means of appropriate resolutions duly approved by the Executive Board in accordance with these Bylaws and the Declaration. The Executive Board shall have the right to establish various rules and procedures governing the operation and administration of the appeal and hearing process and the enforcement of the Condominium Documents and Rules and Regulations. A copy of all such policy guidelines, rules, procedures and regulations and copies of any amendments thereto shall be delivered or mailed to each Owner or occupant of a Unit promptly after the adoption thereof and shall become binding upon all Owners, their successors in title and assigns, and occupants.

9.2. Additions, Alterations or Improvements by the Executive Board. Whenever in the judgment of the Executive Board the Common Elements shall require additions, alterations or improvements costing in excess of Ten Thousand Dollars ($10,000.00) which are not included within the approved budget for the fiscal year(s) in which the additions, alterations or improvements will be made, the making of such additions, alterations or improvements requires a vote of one hundred percent (100%) of the Unit Owners, and the Executive Board shall assess all Unit Owners benefited for the cost thereof as a Common Expense (or Limited Common Expense). Any additions, alterations or improvements costing less than Ten Thousand Dollars ($10,000.00) may be made by the Executive Board without approval of the Unit Owners and the cost thereof shall constitute a Common Expense or Limited Common Expense, depending on the nature of the additions, alterations or improvements. Notwithstanding the foregoing, if, in the opinion of no less than two-thirds (2/3) of the members of the Executive Board, such additions, alterations or improvements are exclusively or substantially exclusively for the benefit of the Unit Owners requesting the same, such requesting Unit Owners shall be assessed therefor as a Limited Common Expense in such proportion as they jointly approve or, if they are unable to agree thereon, in such proportion as may be determined by the members of the Executive Board.

9.3. Additions, Alterations or Improvements by the Unit Owners. Subject to any applicable provisions of the Declaration, these Bylaws or rules or regulations of the Association, a Unit Owner may make nonstructural improvements and alterations to the interior of his Unit but no Unit Owner may make any improvements or alterations or do any work whatsoever which would impair the structural integrity or mechanical systems of the Building or of a Unit owned by another Unit Owner, lessen the support of any portion of the Condominium, or jeopardize the soundness or safety of the Property, or reduce the fire rating of any walls or violate any building fire codes. No Unit Owner shall alter any of the Common Element, or paint or otherwise change the appearance of the Common Elements (including the Limited Common Elements) or paint or otherwise change the exterior appearance of his Unit (including, but not limited to, the exterior surface of doors) or any other portion of the Condominium without the prior written approval of the Executive Board.

9.4. Residential Restriction; Prohibition on Short Term Rentals. All Units are restricted to residential use, which shall not preclude leasing or rental, subject, however, to the requirement that rentals or leases of any nature (including, without limitation, any rentals facilitated through any third-party/online services such as Airbnb, Homeaway.com or VRBO) shall comply with the provisions of these Bylaws, the Declaration, the Rules & Regulations of the Association and any applicable ordinance in the City of Portland Code of Ordinances.

ARTICLE X
Corporate Seal

10.1. Seal. The Association may have a seal in circular form having within its circumference the words:

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ARTICLE XI
Third Parties Protected

11.1. Protection of Third Parties. With respect to a third person dealing with a member of the Executive Board, an officer of the Association or the Managing Agent employed by the Executive Board pursuant to Paragraph 3.5 (each hereinafter collectively referred to as a "Representative") acting on behalf of the Executive Board of the Association, the third person is not bound to inquire whether the Representative has power to act in its purported capacity or is properly exercising the powers granted to the Representative. Such third person, without actual knowledge that the Representative is exceeding or improperly exercising its powers, is fully protected in dealing with the Representative as if it possessed and properly exercised the powers it purports to exercise.

ARTICLE XII
Miscellaneous

12.1. Remedies Cumulative. All rights, remedies and privileges granted to the Executive Board or a Unit Owner pursuant to any terms, provisions, covenants or conditions of the Condominium Documents shall be deemed to be cumulative, and the exercise of any one or more shall not be deemed to constitute an election of remedies nor shall it preclude the party thus exercising the same from exercising such other and additional rights, remedies, or privileges as may be granted to such party hereunder or by any instruments or documents incorporated herein by reference or at law or in equity.

12.2. Captions. The headings in these Bylaws are for purposes of reference only and shall not limit or otherwise affect the meaning hereof. Any tables of contents or indices attached to these Bylaws are for purposes of reference and convenience only and shall neither limit nor otherwise affect the meaning hereof nor be deemed as part of these Bylaws. References in these Bylaws to Articles, Paragraphs, subparagraphs and Schedules without references to the document in which they are contained are references to these Bylaws. Any Exhibits are attached to these Bylaws for purposes of identification only and shall not be deemed as part of these Bylaws.

12.3. Gender; Number; Etc. The use of the singular number in these Bylaws shall be deemed to include the plural, the plural the singular, and the use of any one gender shall be deemed applicable to all genders.

12.4. Severability. The invalidity of any provisions of these Bylaws shall not be deemed to impair or affect in any manner the validity, enforceability or effect of the remainder of these Bylaws, and in such event, all of the other provisions of these Bylaws shall continue in full force and effect as if such invalid provision had never been included herein.

-END-

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Presumpscot Woods
0 Hope Ave., Portland, Maine
Evidence of State and Federal Approvals

The Presumpscot Woods project is required to obtain approvals from the Maine Department of Environmental Protection (MDEP) and the US Army Corps of Engineers.

The required MDEP permitting will include a Site Location of Development Act (SLODA) permit, and Natural Resources Protection Act (NRPA) permits. Because the City of Portland has delegated review authority, they will review the project for SLODA requirements. An NRPA PBR permit for the proposed stream crossing and a Tier 1 Wetland Impact Permit have been approved by MDEP. The related NRPA permit applications are attached to this application packet for review.

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.SA. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: **(CHECK THE ONE THAT APPLIES)**	☐ **20 acre development** ☐ **Planning Permit** ☐ **Metallic Mining**	☐ **Marine Oil Terminal** ☐ **Structure** ☒ **Subdivision**	☐ **Major Amendment** ☐ **Minor Amendment**

1. Name of Applicant:	GENX CAPITAL PARTNERS, LLC	**6. Name of Agent: (if applicable)**	HALEY WARD, INC. (Attn: Jon Whitten Jr., PE)
2. Applicant's Mailing Address:	PO BOX 4424, PORTLAND, ME 04101	**7. Agent's Mailing Address:**	ONE MERCHANTS PLAZA SUITE 701 BANGOR, ME 04401
3. Applicant's Daytime Phone #:	207-772-7070	**8. Agent's Daytime Phone # :**	207-989-4824
4. Applicant's Fax #: (if available)	N/A	**9. Agent's Fax # :**	207-989-4881
5. Applicant's *e-mail address*: (license will be sent via e-mail)	gls@shinberg.com	**10. Agent's *e-mail address* (license will be sent via e-mail**	jwhitten@haleyward.com

PROJECT INFORMATION

11. Name of Development:	PRESUMPSCOT WOODS						
12. Map and Lot #'s:	**Map #:** 390/448/449	**Lot #:** A001/A001001/A002	**13. Deed Reference #'s:**		**Book #:** 39511	**Page #:** 313	
14. Location of Project City/Town:	PORTLAND	**15. County:**	CUMBERLAND	**16. UTM Northing**	4838090N	**17. UTM Easting**	190398966E
18. Brief Description of Project including total parcel size:	60-UNIT PLANNED RESIDENITAL UNIT DEVELOPMENT ON 13.07 ACRES OFF HOPE AVE. IN PORTLAND, ME.						

19. Type of Direct Watershed: **(Check all that apply)**	☐ Lake not most at risk	☒ **River, stream or brook**	☐ Coastal wetland
	☐ Lake most at risk	☐ Urban impaired stream	☐ Wellhead or public water
	☐ Lake most at risk, severely blooming	☒ **Freshwater wetland**	

19. Name of Waterbody Project Site drains to:	PRESUMPSCOT RIVER

21. Amount of Developed Area:	Total acres: **8.93** acres	Existing Developed area: **0 acres**	New Developed area: **8.93 acres**
22. Amount of Impervious Area:	Total acres: **4.05** acres	Existing Impervious: **0 acres**	New Impervious area: **4.05 acres**

23. Development started prior to obtaining a license?:	☐ Yes ☒ **No**				
24. Development or any portion of the site subject to enforcement action?	☐ **Yes** ☒ **No**	**If yes**, name of enforcement staff involved?			
25. Common scheme of development?:	☐ **Yes** ☒ No	**26. Title, Right or Interest:**	☒ **own** ☐ **lease**	☐ **purchase option** ☐ **written agreement**	
27. Natural Resources Protection Act permit required?:	☒ **Yes** ☐ **No**	**If yes:**	☒ **PBR**	☒ **Tier 1** ☐ **Tier 2**	☐ **Full Permit**
28. Existing DEP Permit number (if applicable):	N/A				
29. Names of DEP staff person(s) present at the pre-application meeting:	N/A				
30. Does agent have an interest in project? If yes, what is the interest?	☐ **Yes** ☒ **No**				

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following:

CERTIFICATIONS / SIGNATURES

"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 am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. 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.

Signed: _____ **Title** Agent **Date:** 04/06/2023

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** _____ **Date:** 04/06/2023

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: _____

Name (print): Jon H. Whitten, Jr., PE (ME#10414)

Date: 04/06/2023

Re/Cert/Lic No.: _____
Engineer X
Geologist _____
Soil Scientist _____
Land Surveyor _____
Site Evaluator _____
Active Member of the Maine Bar _____
Professional Landscape Architect _____
Other _____

*"I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #5 for the applicant and #10 for the agent)**. Do not sign if you elect to "opt out" or receive the decision via regular mail.***

Signed (Applicant) _____ ***Date:*** _____

and/or

Signed (Agent) _____ ***Date:*** ***04/06/2023***

Wetland and Stream Review

Date:	July 28, 2022
To:	Mark McClure (GenX Capital Partners, LLC)
From:	Meg Thurrell (Flycatcher LLC)
CC:	Richard Jordan (Flycatcher); Jon Whitten (Haley Ward); Ron Goddard and Greg Shinberg
Subject:	Hope Ave, Portland – Wetland and Stream Review Results

As requested by GenX Capital Partners, LLC, In July of 2022, Flycatcher LLC completed a wetland and stream review on a 13.7-acre parcel located on Hope Avenue in Portland, Maine (the Survey Area – Attachment 1). The Survey Area was previously delineated in 2017. Flycatcher determined that the previously delineated wetland boundaries were generally accurate, with the exception of a few small areas (some wetland area was added and some area was removed). Flycatcher also flagged and GPS-located two streams which were mentioned in the existing reporting but were not included in GIS information provided by GenX Capital's engineering consultant, Haley Ward.

A locus map and map of delineated natural resources are included herein as Attachment 1. Photographs of delineated resources are presented in Attachment 2. The 2017 wetland delineation report is included as Attachment 3.

SURVEY AREA

The Survey Area is located north of Hope Avenue, to the south of the Falmouth I-95 Spur and to the east of a Central Maine Power transmission line corridor. The surrounding area is mostly residential, interspersed with some forested lands. The Presumpscot River is located to the east of the Survey Area.

The Survey Area is primarily comprised of forested uplands interspersed with historically eroded valleys with wetland drainage features and streams. Surface drainage tends generally to the north and east, toward the Presumpscot River.

There is evidence of recreational and former logging trails throughout the Survey Area. Active trail features include bike/foot bridges. There is also evidence of former sand/gravel extractions, including apparent borrow pits and spoil piles along the northern and western edges of the Survey Area.

METHODS

Wetlands

It is our understanding that wetlands within the Survey Area were previously delineated in 2017 by TRC. Flycatcher was provided with GIS data of the previously delineated boundaries.

The US Army Corps of Engineers (USACE) and Maine Department of Environmental Protection (MDEP) require wetlands to be reviewed when delineations are greater than 5 years old. Flycatcher scientists reviewed the previously-mapped wetland boundaries based on the criteria and protocol provided in the 1987 USACE Wetland Delineation Manual and the Northcentral and Northeast Regional Supplement (Version 2.0). The manual and supplement provide a repeatable methodology to identify wetland areas and are the accepted wetland delineation methodology of the MDEP and the USACE. When wetlands were identified (or confirmed), the boundaries were marked with pink survey flagging labelled with the word "Wetland Delineation." Unmoved boundary flags were not re-located, new flags were geo-located as described below under "GPS Location".

Watercourses

Watercourse identification followed the NRPA definition of a "river, stream or brook" (Section 480-B). If a watercourse meeting the above definition was observed, blue survey flagging was hung along the centerline (for streams less than six feet in width) or along the top of the bank (for streams six feet or wider). The locations of each flag were geolocated as described below under "GPS Location."

GPS Location

Features (e.g., wetland boundaries) located during the site visit were geolocated using a mapping grade global positioning system ("GPS") unit (Juniper Systems' Geode GPS Antenna and ESRI's ArcGIS Collector software). The data were collected using real-time correction and standards specified by the manufacturer to achieve sub-meter accuracy. A shapefile of final results was provided to Haley Ward's Jon Whitten on July 21, 2022.

Agency Outreach

No outreach to natural resource agencies (e.g. MNAP, MDIFW, USFWS) was conducted as part of this survey.

FINDINGS

Wetlands

Flycatcher verified the presence of eight (8) wetlands on site, no new (previously unmapped) wetlands were observed. Most of the wetlands are forested pit and mound depressions (natural and unnatural) or riparian drainage wetlands associated with southern stream channels. The previous wetland delineations were found to be generally accurate, however Flycatcher scientists adjusted the boundary of wetlands in a few small areas as highlighted in Attachment 1.

Summary descriptions of wetlands are provided in Table 1. Photographs are included in Attachment 2.

The 2017 delineation report is included in Attachment 3. This report includes a representative USACE delineation form ("Wetland 5"); the data therein was confirmed (soils, hydrology and vegetation) as accurate during the 2022 review.

Watercourses

Two (2) perennial watercourses (MDEP streams) were identified within the Survey Area associated with and located within the boundaries of wetland W-FC-1. These watercourses were between 2 and 4 feet wide and had sand, gravel, and cobble bottoms. S-EGD-1 flowed east and was between 1 and 10 inches deep. S-EGD-2, a tributary to S-EGD-1, flowed northeast and was between 2 inches and 1.5 feet deep.

Table 1. Wetland Summary

Resource ID	*Dominant Covertype*	*Hydrology Indicators*	*Dominant Vegetation*	*Hydric Soil Indicators*	*Potential WoSS*[1]	*Description*
W-FC-1	PSS/ PEM	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Drainage Patterns (B10), Geomorphic Position (D2)	Green ash *(Fraxinus pennsylvanica),* red maple *(Acer rubrum),* Eastern hemlock *(Tsuga canadensis)*, American hornbeam *(Carpinus caroliniana),* maple-leaf arrow-wood *(Viburnum acerifolium),* sensitive fern *(Onoclea sensibilis),* wrinkle-leaf goldenrod *(Solidago rugosa),* cinnamon fern *(Osmundastrum cinnamomeum),* wrinkle-leaf goldenrod *(Solidago rugosa),* jack-in-the-pulpit *(Arisaema triphyllum),* spotted touch-me-not *(Impatiens capensis)*	Depleted Matrix (F3)	Yes – wetland within 25 ft of a stream is WoSS	Ravine riparian wetland to S-EGD-1
W-FC-2, 3, 4, & 6	PFO	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9)	Sensitive fern, cinnamon fen, fowl manna grass *(Glyceria striata),* eastern poison ivy *(Toxicodendron pubescens),* red maple	Depleted Matrix (F3)	No	Very small, isolated areas of ruts and depressions with groundwater discharge on seepy side slopes.
W-FC-5	PFO	Water Marks (B1), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Drainage Patterns (B10), Moss Trim Lines (B16)	White pine *(Pinus strobus),* red maple, red oak *(Quercus rubra),* green ash, glossy false buckthorn *(Frangula alnus),* fringed sedge *(Carex crinite)*, broadleaf meadowsweet *(Spiraea latifolia)*, sensitive fern *(Onoclea sensibilis),* fowl manna grass *(Glyceria striata),* Asian bittersweet *(Celastrus orbiculatus)*	Depleted Matrix (F3)	No	Eroded drainage on side lope; deeper rutted and ephemerally ponded area on the western edge of the property. Wetland ends where a large, natural drainage valley forms below a footbridge and recreational trail.
W-FC-9 & 10	PUBx	Water Marks (B1), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Moss Trim Lines (B16)	No vegetation in the basins	Depleted Matrix (F3)	No	Former sand/gravel borrow pits.

[1] MDEP NRPA Freshwater Wetlands of Special Significance. WoSS findings are based on review of on-site features; the Maine Department of Inland Fisheries and Wildlife (MDIFW) and Maine Natural Areas Program (MNAP) were not consulted regarding the potential presence of significant wildlife habitats or communities.

Thank you for the opportunity to assist you with natural resource review for this project. If you have questions regarding the results provided in this report, please do not hesitate to contact me or Rich Jordan (rich@flycatcherllc.com).

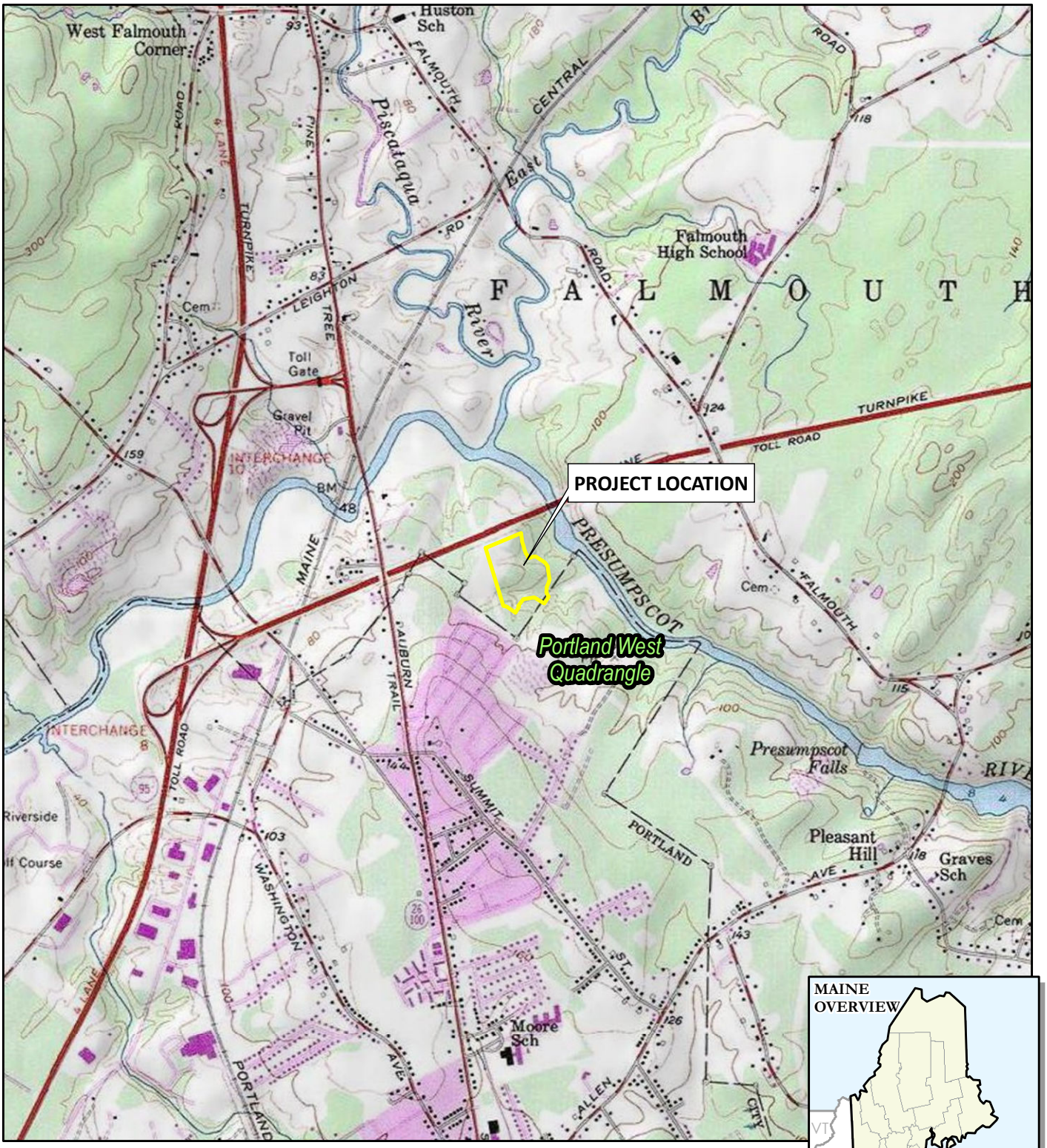
Sincerely,



Meg Thurrell, Environmental Scientist and Biologist
Flycatcher LLC

ATTACHMENT 1

2022 Locus Map and Map of Wetlands/Streams



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

1 " = 2,000 '
1:24,000

0 2,000 4,000 FEET

PROJECT:	**GENX CAPITAL PARTNERS, LLC** **HOPE AVENUE** **PORTLAND, CUMBERLAND COUNTY, MAINE**
LEGEND:	SURVEY AREA USGS 7.5-MINUTE QUADRANGLE BOUNDARY

DRAWN BY:	D. KENWORTHY
CHECKED BY:	R. JORDAN
MONTH:	JULY
YEAR:	2022
PROJ. NO.:	22W-1
CLIENT:	GENX

FIGURE 1

D:\Flycatcher\Projects\GenX\GenX_22W1_HopeAve_Delin_Fig1_USGS_8x11P.mxd -- Saved By: JAKEN on 7/20/2022, 15:18:19 PM

Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet (Foot US)
Map Rotation: 0

Plot Date: 7/21/2022, 06:00:59 AM by JAKEN -- LAYOUT: ANSI B(11"x17")
Path: D:\Flycatcher\Projects\GenX\GenX_22W1_HopeAve_Delin_Fig2_Resources_11X17L.mxd

Falmouth Spur
W-FC-10
W-FC-9
W-FC-6
W-FC-5
W-FC-4
W-FC-2
W-FC-3
S-EGD-1
W-FC-1
S-EGD-1
S-EGD-2
Hope Ave
70
Basket Ln
Basket Ln
Alice St
Hope Ln
199
1
1
1
Hope Av

LEGEND

- SURVEY AREA
- CULVERT
- DELINEATED PERENNIAL STREAM (CENTERLINE)
- DELINEATED WETLAND BOUNDARY
- DELINEATED WETLAND
- PREVIOUS WETLAND AREA REMOVED
- EXPANDED WETLAND AREA
- 2-FOOT CONTOUR LINE



NOTES:

1 BASEMAP IMAGERY FROM ESRI/NAIP "WORLD IMAGERY" SERVICE LAYER.
2 RESOURCE DELINEATIONS WERE CONDUCTED BY FLYCATCHER IN JULY 2022.

0 150 300
Feet
1 " = 150 '
1:1,800

PROJECT:
GENX CAPITAL PARTNERS, LLC
HOPE AVENUE
PORTLAND, CUMBERLAND COUNTY, MAINE

TITLE:
DELINEATED WETLAND AND WATERCOURSE MAP

DRAWN BY:	D. KENWORTHY	PROJ NO.:	22W-1
CHECKED BY:	R. JORDAN		**FIGURE 2**
MONTH:	JULY		
YEAR:	2022		

Flycatcher LAND + SCIENCE + PEOPLE
GenX Capital Partners

FILE NO.: GenX_22W1_HopeAve_Delin_Fig2_Resources_11X17L.mxd

ATTACHMENT 2

Representative Photographs



Wetland W-FC-1 and stream S-EGD-1, July 7, 2022.



Wetland W-FC-1 and stream S-EGD-2, July 7, 2022.



Wetland W-FC-3, July 16, 2022.



Wetland W-FC-4, July 16, 2022.



Wetland W-FC-5, July 16, 2022.



Wetland W-FC-6, July 16, 2022.



Wetland W-FC-9, July 16, 2022.



Wetland W-FC-10, July 16, 2022.

ATTACHMENT 3

TRC Wetland Report - 2017

TRC
6 Ashley Drive
Scarborough, ME 04074

Main 207-879-1930
Fax 207-879-9293

Memorandum

To: Doug Reynolds, Gorrill-Palmer

From: Stephenie Jordan, TRC

Subject: Natural Resource Survey – Hope Avenue, Portland, Maine

Date: November 1, 2017

CC: Rich Jordan (TRC)

Dear Doug,

Per your request, on October 17th and 23rd, 2017, TRC wetland scientists visited the property located off Hope Avenue in Portland, Maine. The purpose of this site visit was to review and revise, as necessary, delineated wetland and stream boundaries that were mapped several years ago on the property (old mapping conducted by another firm). The U.S. Army Corps of Engineers (USACE) and the Maine Department of Environmental Protection (MDEP) typically require a review of wetland delineations that are over five years old in the event that site conditions have changed or new standards have been developed that change the way we determine the extent of wetland boundaries. The previous delineation appears to have occurred over 10 years ago. Despite the length of time between mapping efforts, in general, TRC agreed with and confirmed many of the original wetland boundaries, however we found a few of the wetlands previously delineated currently do not have hydric soils or other criteria required to be identified as a jurisdictional wetland by the USACE and MDEP. These features were remapped or removed as appropriate. Other features were confirmed to be consistent with the original delineation. No new wetland areas were identified or added.

Property Description and Survey Area

The survey area borders an existing Central Maine Power transmission line corridor and Portland Water District mainline to the west and northwest, Hope Avenue to the south, the Falmouth I-95 Spur toll road to the north, and undeveloped forest land to the east (Attachment A - Resource Map). The Presumpscot River flows within the mature forest approximately 500 feet west of the survey area. The survey area consists of approximately 13 acres of undeveloped forest land that has historically been disturbed presumably by agricultural and forestry uses. Several depressions associated with historic ditching and borrow areas were observed on the property within the upland forest and rusty farm equipment can be found within the survey area.

Methodology

Prior to the site visit, TRC wetland delineators reviewed existing data sources including:

- United States Geological Survey (USGS) topographic mapping;
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping;
- Natural Resources Conservation Service (NRCS) medium-intensity soil survey mapping;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs);
- State of Maine Office of GIS (MEGIS) data; and
- Recent and historic aerial photography.

These data were used to assist in the identification of protected natural resources during the field surveys.

Wetlands: Wetland delineations were conducted in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (USACE 2012). This supplement follows criteria established in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, Technical Report T-87-1, 1987), but is region specific, giving the wetland delineator a better tool to apply to regional vegetation communities, indicators of hydrology and indicators of hydric soils when conducting a wetland boundary determination. This document provides a repeatable methodology to identify potential wetland areas within the project study area.

The study area was investigated on foot. When a location having the requisite three factors that constitute a wetland (i.e., hydrophytic vegetation, indicators of hydrology, and the presence of hydric soils) was encountered, the boundaries were flagged in the field and each flag was geo-located using a mapping grade global positioning system (GPS) unit (e.g. a Trimble GeoXH). The data were then post-processed using data collection and processing standards designed by the manufacturer to achieve sub-meter accuracy. These data are being provided to Gorrill Palmer as an ESRI Shapefile for use in project design and planning natural resource avoidance and minimization measures.

Streams: Watercourse identification followed the Maine Natural Resources Protection Act (NRPA) definition of a "River, stream or brook." Streams meeting this definition were flagged and geolocated as described above.

Non-Jurisdictional Drainages: As part of this survey, non-stream drainage areas were located and mapped as "non-jurisdictional drainages" (NJDs). Typical examples of NJDs include concentrated surface flow in uplands, natural or dug ditches, and drainage swales of natural or unnatural origin. The key difference between NJDs and regulated resources is a lack of stream characteristics or a combination of hydric soils, dominance of hydrophytic plants and evidence of hydrology. Furthermore, NJDs commonly lack a discernable streambed, contiguous defined stream banks, and/or evidence of mineral scour within the drainage path. Although non-regulated, these features often drain to protected resources or offsite, and they may be potential conduits for siltation or sedimentation during rain events. NJDs are important to note so that mitigation measures can be taken during construction to limit soil disturbance and prevent unintended impacts to adjacent resources.

Findings

Ten previously identified wetlands were reviewed and evaluated for the presence of the three factors that constitute a wetland. Based on the current site-specific conditions and the latest version of the USACE wetland delineation manual, not all of these features (either wholly or in part) exhibited indicators of hydrophytic vegetation, hydric soil, or wetland hydrology. All features identified on site are described in more detail below and numbered and displayed on the Resource Map in Attachment A.

Copies of the representative wetland/upland data forms, photographs, and GIS shapefiles showing the location of the review areas and delineated resources are also provided with this report. The unique identifiers noted on the data forms and photographs can be cross referenced against the data herein and the resource map to see where a particular resource is located.

All wetlands discussed herein are considered forested wetlands.

Review Area #1

This wetland feature is located in a valley that follows a perennial stream (a tributary to the Presumpscot River). The location of this previously flagged feature was confirmed as being unchanged from the prior delineation. The wetland and stream complex was reviewed, however, only a portion of the wetland near the site entrance from Hope Avenue was flagged in the field.

Review Areas #2, 3, 4, 6, and 10

All of these features were reviewed, confirmed and flagged as previously delineated.

Review Area #5

This wetland feature follows a slight pattern of microtopographic relief in the landscape and drains to the northeast via a non-jurisdictional (upland) drainage feature. Review area 5 appears to indicate both ditching and erosional features, and appears to be a relic of former agricultural use and impacts. The NJD pattern indicates that water flows from the wetland and to the northeast, eventually forming into a tributary (offsite) that drains to the Presumpscot River during storm events. The wetland was flagged in the field and the NJD feature GPS-located as shown on the Resource Map in Attachment A.

Review Areas #7 and 8

Although these two features had previously been identified as wetland in the previous (old) survey, they are lacking the indicators of hydrophytic vegetation and hydric soils described in current wetland delineation manuals. Both features are small localized depressions that are likely associated with historic ditching and excavation. Vegetation surrounding the depressions included red oak, red maple, and hemlock, all are tree species that can be found in upland areas. Signs of hydrology included moss trim lines and microtopographic relief but a closer examination of soils showed no indications of saturation during the growing season in the upper part of the soil. Based on this evidence, we concluded that these depressions do not hold water long enough to develop the anaerobic conditions that form hydric soils or favor the growth of hydrophytic vegetation and therefore, are not wetlands.

Review Area #9

This depressional feature is likely an old burrow pit. It is likely that portions of this area fill with storm and meltwater during certain times of the year, but it appears that the site drains rather quickly after filling. The southwestern portion of the previously delineated excavation area was evaluated closely and determined to lack hydrophytic vegetation and hydric soils. The wetland boundary was redelineated as shown on the Resource Map in Attachment A and flagged in the field.

If you have any questions regarding my assessments, or if you would like additional assistance with project permitting, please do not hesitate to contact me or Rich.

Respectfully submitted,



Stephenie Jordan

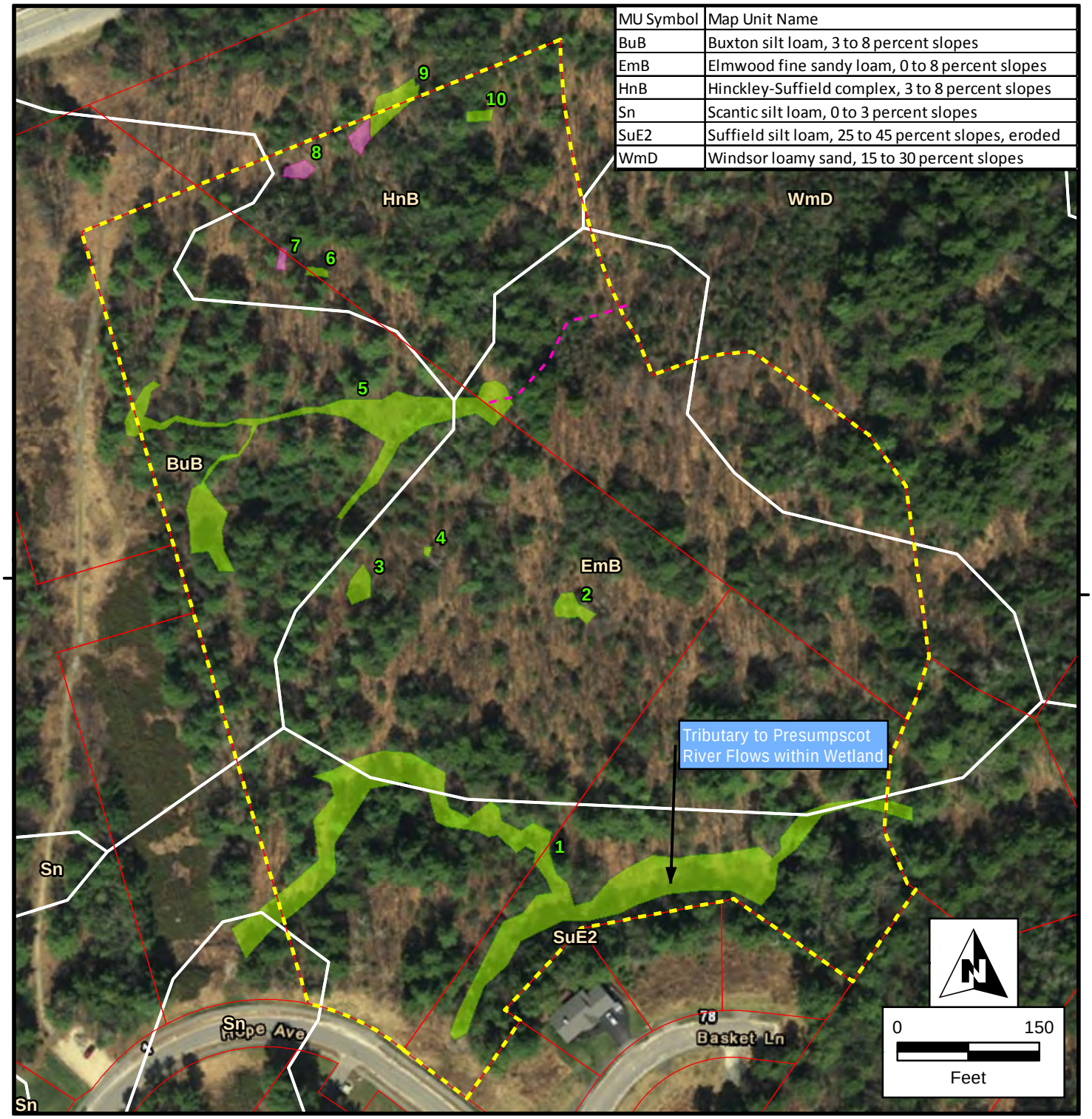
Wetland Scientist

Cell: 207-319-9801 Office: 207-274-2611

Email: sjordan@trcsolutions.com

ATTACHMENT A

Resource Mapping



MU Symbol	Map Unit Name
BuB	Buxton silt loam, 3 to 8 percent slopes
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes
HnB	Hinckley-Suffield complex, 3 to 8 percent slopes
Sn	Scantic silt loam, 0 to 3 percent slopes
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded
WmD	Windsor loamy sand, 15 to 30 percent slopes



- Parcel Boundaries
- Limit of Wetlands Survey
- Delineated Non-Jurisdictional Drainage
- Delineated Wetland
- Old Data Wetlands Reviewed and Removed
- NRCS Soils

Data Sources: ESRI, TRC, MEGIS, NRCS
Coordinate System: NAD 1983 UTM Zone 19N M

Hope Avenue

Portland, Maine

Resource Map

Aerial Location Figure

6 Ashley Drive
Scarborough, ME 04074
TRC

Created: 11/1/2017

V:\PROJECTS\AUGUSTA\Small_Projects\222955_Hope_Ave_Portland\Hope_Ave_Resource_Map.mxd

ATTACHMENT B

Photographic Log



Review Area #1: Water flowing in perennial stream within wetland, 10/18/2017.



Review Area #2: Looking southwest in wetland, 10/18/2017.



Review Area #3: Looking north in wetland, 10/18/2017. Review Area #4 is a small depressional feature located approximately 40 feet to the northeast of the wetland shown above.



Review Area #5: Looking east from wetland toward non-jurisdictional drainage, 10/18/2017.



Review Area #5: Looking west toward wetland, 10/18/2017.



Review Area #6: Looking west toward wetland, 10/18/2017.



Review Area #7: Looking northwest toward depression in upland forest (does not meet the criteria for a wetland), 10/18/2017.



Review Area #8: Looking northeast toward bowl-like depression that is likely an old burrow pit (does not meet the criteria for a wetland), 10/18/2017.



Review Area #9: Facing northeast in wetland, 10/18/2017.



Review Area #10: Facing west looking at wetland, 10/18/2017.

ATTACHMENT C

Representative Wetland Determination Data Form

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hope Ave City/County: Portland, Cumb. Co. Sampling Date: 10-23-17

Applicant/Owner: G.P. (client) State: ME Sampling Point: wet-5

Investigator(s): S. Jordan, R. Jordan Section, Township, Range: —

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): —

Subregion (LRR or MLRA): LRR Lat: 43° 43' 27.18" Long: 70° 17' 13.87" Datum: —

Soil Map Unit Name: Buxton Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Evidence of Drainage in channels heading east.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ✓ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Wet-5

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pin strobus *Aerial	*25	N	FACU
2. Ace rubrum	*25	N	FAC
3. Que rubra	*10	N	FACU
4. Fra pensylvanica	*10	N	FACW
5.			
6.			
7.			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. Rhamnus frangula	15	Y	FAC
2. Fra pensylvanicum	15	Y	FACW
3. Ace rubrum	10	Y	FAC
4.			
5.			
6.			
7.			
	40	= Total Cover	

Herb Stratum (Plot size: 5)			
1. Car crinita	10	Y	OBL
2. Ono sensibilis	5	N	FACW
3. Spi Latifolia	10	Y	FAC+
4. Gly striata	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1. Oriental bittersweet	5	N	UpL
2.			
3.			
4.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	1	x 2 =	2
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	6 (A)		12 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Wet-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	-	-	-	-	-	-	-	Duff
1-9	7.5YR 4/2	50	7.5YR 4/6	50	C	M	Silo	compact Bw
9-15+	10YR 4/1	90	7.5YR 6/8	10	C	M	Silo	compact Bc

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ____

Remarks:

No dark surface but depleted matrix

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hope Avenue City/County: Portland Cumb. Co Sampling Date: 10-23-17

Applicant/Owner: G.P. (client) State: ME Sampling Point: upl-5

Investigator(s): SJordan, RJordan Section, Township, Range: —

Landform (hillslope, terrace, etc.): fill pile Local relief (concave, convex, none): convex Slope (%): —

Subregion (LRR or MLRA): LRR Lat: 43° 43' 27.18" Long: 70° 17' 13.87" Datum: _____

Soil Map Unit Name: Buxton Silt Loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UpL

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pin strobus	30	Y	FACU
2. Que rubra	20	Y	FACU-
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. Fag grandifolia	15	Y	FACU
2. Rha frangula	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	

Herb Stratum (Plot size: 5)			
1. Aster spp	15	Y	Unk
2. Pin strobus	5	N	FACU
3. Lonicera spp	10	Y	Unk
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1. celas orbiculatus	<5	N	Upl
2.			
3.			
4.			
	<5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	4	x 4 =	16
UPL species	0	x 5 =	0
Column Totals:	5 (A)		19 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: UpL-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15+	2.5YR 5/4	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Disturbed fill pile, No redox, friable soils

Drew Olehowski

From: Drew Olehowski
Sent: Tuesday, August 29, 2023 9:57 AM
To: Settele, Rebecca
Subject: GenX Capital Partners LLC, Portland, ME
Attachments: MDIFWResponse_ERid5998_ERVerID7272-FINAL.pdf; 13773.001 MDIFW.pdf

Good morning, Becca,

In Fall of 2022, we reached out to your office regarding a project owned by GenX Capital Partners, to be located off Hope Avenue in Portland, ME. I have attached your original response letter. The City of Portland has provided comments on this project, one of which was to obtain an updated letter from your office on significant natural features in this area. I have attached a copy of our current site plan for use in your review. Please let me know if I can be of further assistance for your review of this project.

Thank you,

HALEY WARD
AN EMPLOYEE-OWNED COMPANY

Drew Olehowski, PE
Civil Engineer
t: 207.283.9151 m: 207.576.6488
a: 120 Main Street, Suite 132, Saco, ME 04072

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STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 17, 2022

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

Via email: dolehowski@haleyward.com

Re: Rare and exemplary botanical features in proximity to: #13773.001, GenX Capital Partners, Hope Avenue Subdivision, Portland, Maine

Dear Mr. Olehowski:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received May 16, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
Project: #13773.001, GenX Capital Partners, Hope Avenue Subdivision, Portland, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	E	S1	G4	1860-10	9	Rocky summits and outcrops (non-forested, upland),Dry
American Sea-blite						
	T	S2	G5	1932-09-12	5	Tidal wetland (non-forested, wetland)
Bottlebrush Grass						
	SC	S3	G5	1905-09-13	10	Hardwood to mixed forest (forest, upland)
Broad Beech Fern						
	SC	S2	G5	1872-08	15	Hardwood to mixed forest (forest, upland)
	SC	S2	G5	2016-09-04	28	Hardwood to mixed forest (forest, upland)
Clothed Sedge						
	E	S1	G5	2000-06-06	5	Dry barrens (partly forested, upland)
Columbia Water-meal						
	SC	S2	G5	2002-08-04	2	Open water (non-forested, wetland)
Ebony Spleenwort						
	SC	S2	G5	1910-06-06	10	Rocky summits and outcrops (non-forested,
Engelmann's Spikerush						
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested,
Enriched Northern Hardwoods						
		S3	GNR	2001-08-28	34	Hardwood to mixed forest (forest, upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed
Foxtail Bog-clubmoss						
	E	S1	G5	2017-08-22	1	

Great Blue Lobelia						
	PE	SX	G5	1905-09	3	Forested wetland,Non-tidal rivershore (non-forested,
Hollow Joe-pye Weed						
	SC	S2	G5?	2011-08-04	19	Open wetland, not coastal nor rivershore (non-forested,
	SC	S2	G5?	2014-06-18	24	Open wetland, not coastal nor rivershore (non-forested,
Horned Pondweed						
	SC	S2	G5	1913-09-13	9	Tidal wetland (non-forested, wetland)
MacGregor's Rye						
	SC	S2	G5	2019-08-20	13	
Marsh Milkwort						
	PE	SH	G5T4	1903-08-18	1	Dry barrens (partly forested, upland),Open wetland, not
Missouri Rockcress						
	T	S1	G5	1905-06-11	5	Rocky summits and outcrops (non-forested,
Mountain-laurel						
	SC	S2	G5	1985-08-01	13	Conifer forest (forest, upland),Hardwood to mixed forest
Mountain Honeysuckle						
	E	S2	G5	2007-07-30	10	Dry barrens (partly forested, upland),Hardwood to mixed
	E	S2	G5	2007-10-05	11	Dry barrens (partly forested, upland),Hardwood to mixed
	E	S2	G5	2018-06-02	14	Dry barrens (partly forested, upland),Hardwood to mixed
Pitch Pine Woodland						
		S3	G2	2005-12-08	28	Rocky summits and outcrops (non-forested, upland)
Pocket Swamp						
		S2	G5	2017-07-27	24	Forested wetland,Hardwood to mixed forest (forest,
Rattlesnake Hawkweed						
	E	S1	G5T4Q	1909-07	1	Dry barrens (partly forested, upland)
Salt-hay Saltmarsh						
		S3	G5	2020-07-02	68	Tidal wetland (non-forested, wetland)
Screwstem						
		S1	G5T3T5	2020-09-17	4	

Screwstem					
	S1	G5T3T5	2014-09-24	17	
Slender Knotweed					
PE	SH	G5	1902-09-07	1	Dry barrens (partly forested, upland)
Small Reed Grass					
SC	S3	G5	2011-08-28	18	Old field/roadside (non-forested, wetland or upland)
Smooth Winterberry Holly					
SC	S3	G5	2017-08-22	32	Forested wetland
Spotted Pondweed					
T	S1	G5	2016-06-22	3	Open water (non-forested, wetland)
Tidal Marsh Estuary Ecosystem					
	S3	GNR	2011-08-25	8	Tidal wetland (non-forested, wetland)
Upper Floodplain Hardwood Forest					
	S3	GNR	2012	20	Forested wetland
Upright Bindweed					
T	S2	G4G5	2007-06-28	5	Dry barrens (partly forested, upland),Old field/roadside
Variable Sedge					
E	S1	G3	2012-08-09	1	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	2017-08-22	4	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	2018-08-29	6	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	1911	8	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	1911-06-29	9	Dry barrens (partly forested, upland),Hardwood to mixed
Vasey's Pondweed					
SC	S2	G4	1901-08-04	7	Open water (non-forested, wetland)
Water-plantain Spearwort					
PE	SH	G4	1903-07-29	2	Open water (non-forested, wetland)
Wild Garlic					
SC	S2	G5	1918-07-16	6	Forested wetland,Hardwood to mixed forest (forest,
Wild Leek					

Wild Leek						
	SC	S3	G5	2018-05-02	55	Hardwood to mixed forest (forest, upland),Forested

Date Exported: 2022-05-17 09:08

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

August 2, 2022

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

RE: Information Request – GenX Capital Partners LLC Project, Portland

Dear Drew:

Per your request received on May 16, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *GenX Capital Partners LLC* project in Portland. Please note that as project details are lacking our comments should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Spotted Turtle - Occurrences of spotted turtle, a State Threatened species, have been documented within the vicinity of the proposed project. Spotted turtles are most frequently associated with small, acidic wetlands and vernal pools located in large, intact landscapes. Development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations for either of these species. Additionally, development projects that lead to significant increases in local traffic volume will likely lead to increased roadkill and possible extirpation of local populations.

Eastern Ribbon Snake - There is a potential for occurrences of Eastern ribbon snake, a state Species of Special Concern, within the project area. This rare species is a slender, semiaquatic snake often observed near the edges of emergent marshes, wet meadows, scrub-shrub wetlands, beaver impoundments, bogs, river and stream floodplains, and vegetated shorelines of ponds and lakes.

If habitats for either turtle or snake species are present in the project area, we recommend that they be avoided and adequately buffered with 250-foot intact, no cut buffers. Alternatively, the applicant can survey for spotted turtle and ribbon snakes to determine presence or absence in the project area. These surveys should be conducted by qualified biologists following MDIFW's most recent survey protocols.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide for full aquatic passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis. Undersized crossings may inhibit these functions and become a frequent maintenance problem that causes reoccurring damage to the resource. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in providing habitat connectivity for fish and other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,



Becca Settele
Wildlife Biologist

ArcGIS Web Map



4/18/2022, 12:36:57 PM

Streams

Waves Transects

Flood Zones 1986 Effective

AE

VE

500 Year

1:4,514

0 0.04 0.07 0.15 mi

0 0.05 0.1 0.2 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Web AppBuilder for ArcGIS
Maxar |

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

NATURAL RESOURCES PROTECTION ACT PERMIT-BY-RULE NOTIFICATION

TO THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

FOR PRESUMPSCOT WOODS

Portland, Maine

Applicant:

GenX Capital Partners LLC

2 Cotton Street | Portland, ME 04101



OCTOBER 2022

JN: 13773.001

Report Prepared By:

Haley Ward

One Merchants Plaza, Suite 701 | Bangor, Maine 04401

Corporate Office
One Merchants Plaza
Suite 701
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T: 207.989.4824
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HALEYWARD.COM

TABLE OF CONTENTS

APPLICATION
NARRATIVE
LOCATION MAP
PHOTOGRAPHIC LOG
GOOD STANDING RECORDS
GENX PARTNERS, LLC
SHINBERG CONSULTING, LLC

APPLICATION

DEPARTMENT OF ENVIRONMENTAL PROTECTION

PERMIT BY RULE NOTIFICATION FORM

(For use with DEP Regulation, Natural Resources Protection Act - Permit by Rule Standards, Chapter 305)

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	GENX CAPITAL PARTNERS	Name:	HALEY WARD INC., ATTN: JON WHITTEN, JR.
Mailing Address:	2 COTTON STREET	Mailing Address:	ONE MERCHANTS PLAZA, SUITE 701
Mailing Address:		Mailing Address:	
Town/State/Zip:	PORTLAND, ME 04101	Town/State/Zip:	BANGOR, ME 04401
Daytime Phone #:	Ext:	Daytime Phone #:	(207) 989-4824 Ext:
Email Address:	gls@shinbergconsulting.com	Email Address:	jwhitten@haleyward.com

PROJECT INFORMATION

Part of a larger project? (check 1):	☑ Yes ☐ No	After the Fact? (check 1):	☐ Yes ☑ No	Project involves work below mean low water? (check 1):	☑ Yes ☐ No	Name of waterbody:	UNNAMED STREAM
Project Town:	PORTLAND		Town Email Address:	jrather@portlandmaine.gov		Map and Lot Number:	390/A001
Brief Project Description:	PLANNED RESIDENTIAL UNIT DEVELOPMENT WITH 60 UNITS.						
Project Location & Brief Directions to Site:	FROM CANCO ROAD, TURN LEFT ONTO ME-26. FOLLOW FOR 0.6 MILES, THEN TURN RIGHT ONTO ALLEN AVE. FOLLOW FOR 0.5 MILES, THEN TURN LEFT ONTO SUMMIT STREET. FOLLOW FOR 0.7 MILES, THEN TURN RIGHT ONTO CURTIS ROAD.FOLLOW FOR 0.6 MILES, THEN TURN LEFT ONTO HOPE AVENUE. ENTRANCE TO SITE IS JUST AFTER BASKET LANE ON RIGHT.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work that meets the requirements for Permit-by-Rule (PBR) under DEP Rules, Chapter 305. I and my agent(s), if any, have read and will comply with all of the standards in the Sections checked below.

- ☐ **Sec. (2) Act. Adj. to Prot. Natural Res.**
- ☐ **Sec. (3) Intake Pipes**
- ☐ **Sec. (4) Replacement of Structures**
- ☐ **Sec. (6) Movement of Rocks or Veg.**
- ☐ **Sec. (7) Outfall Pipes**
- ☐ **Sec. (8) Shoreline Stabilization**
- ☐ **Sec. (9) Utility Crossing**
- ☑ **Sec. (10) Stream Crossing**
- ☐ **Sec. (11) State Transportation Facilities**
- ☐ **Sec. (12) Restoration of Natural Areas**
- ☐ **Sec. (13) F&W Creat./Water Qual. Improv.**
- ☐ **Sec. (15) Public Boat Ramps**
- ☐ **Sec. (16) Coastal Sand Dune Projects**
- ☐ **Sec. (17) Transfer/Permit Extension**
- ☐ **Sec. (18) Maintenance Dredging**
- ☐ **Sec. (19) Act. Near SVP Habitat**
- ☐ **Sec. (20) Act. Near Waterfowl/Bird Habitat**

NOTE: Municipal permits also *may* be required. Contact your local code enforcement office for information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS AND FEE

- ☑ ***Attach*** **all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.**
- ☑ ***Attach*** a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).
- ☑ ***Attach*** *Proof of Legal Name* if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's *registration information* (available at http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x). Individuals and municipalities are not required to provide any proof of identity.

FEE: Pay by credit card at the Payment Portal. The Permit-by-Rule fee may be found here https://www.maine.gov/dep/feeschedule.pdf and is currently $266.

- ☑ ***Attach*** **payment confirmation from the Payment Portal when filing this notification form.**

Signature & Certification:

- I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules**.**
- I understand that this PBR becomes effective 14 calendar days after receipt by the Department of this completed form, the required submissions, and fee, *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in Chapter 305 rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant (may be typed):		**Date:**	10/24/2022

***Keep a copy as a record of permit*.** Email this completed form with attachments to DEP at: DEP.PBRNotification@maine.gov. DEP will send a copy to the Town Office as evidence of DEP's receipt of notification. No further authorization will be issued by DEP after receipt of notice. A PBR is valid for two years, except Section 4, "Replacement of Structures," are valid for three years. **Work carried out in violation of the Natural Resources Protection Act or any provision in Chapter 305 is subject to enforcement.**

NARRATIVE

The Presumpscot Woods project is a proposed residential, condominium development consisting of the creation of 60 new dwelling units through a combination of duplex and triplex buildings supported by a private access way and associated utilities. The project is located off Hope Avenue, in Portland, Maine on Parcels 390/A001, 448/A001001, 449/A002. The applicant/owner, GenX Capital Partners, LLC (Owner), is proposing to develop this subdivision under the PRUD dimensional standards within the City's R-3 Zoning District.

The project site is approximately 13.7 acres in size and, although located in an urban residential neighborhood, it is currently forested and undeveloped. The land slopes range from gentle to steep on the outskirts of the property. There are small pockets of wetlands within the site and a narrow stream located in an eroded channel that divides the property. The site abuts the Falmouth Spur of the Maine Turnpike to the north and undeveloped, conservation lands to the east, which border the Presumpscot River.

There is one proposed stream crossing associated with this project. The stream was identified in a Natural Resource Survey conducted by Flycatcher LLC in July 2022.

The watershed of the stream to be crossed includes approximately 20 acres of residential area in North Deering. The stream is perennial and has a bankful width of approximately 4 feet at the proposed crossing location. The channel originates in the general location of the proposed crossing and is approximately 1,500 feet long, draining directly into the Presumpscot River.

A 4-sided concrete box culvert is proposed for the crossing. The crossing has been designed to meet the Army Corps of Engineers' Stream Smart guidelines. Construction will occur during the approved crossing construction work window (July 15 - October 1) during periods of low water and will adhere to all standards and conditions outlined under Section 10 of Chapter 305 – Permit by Rule Standards and the current Erosion and Sediment Control BMPS.

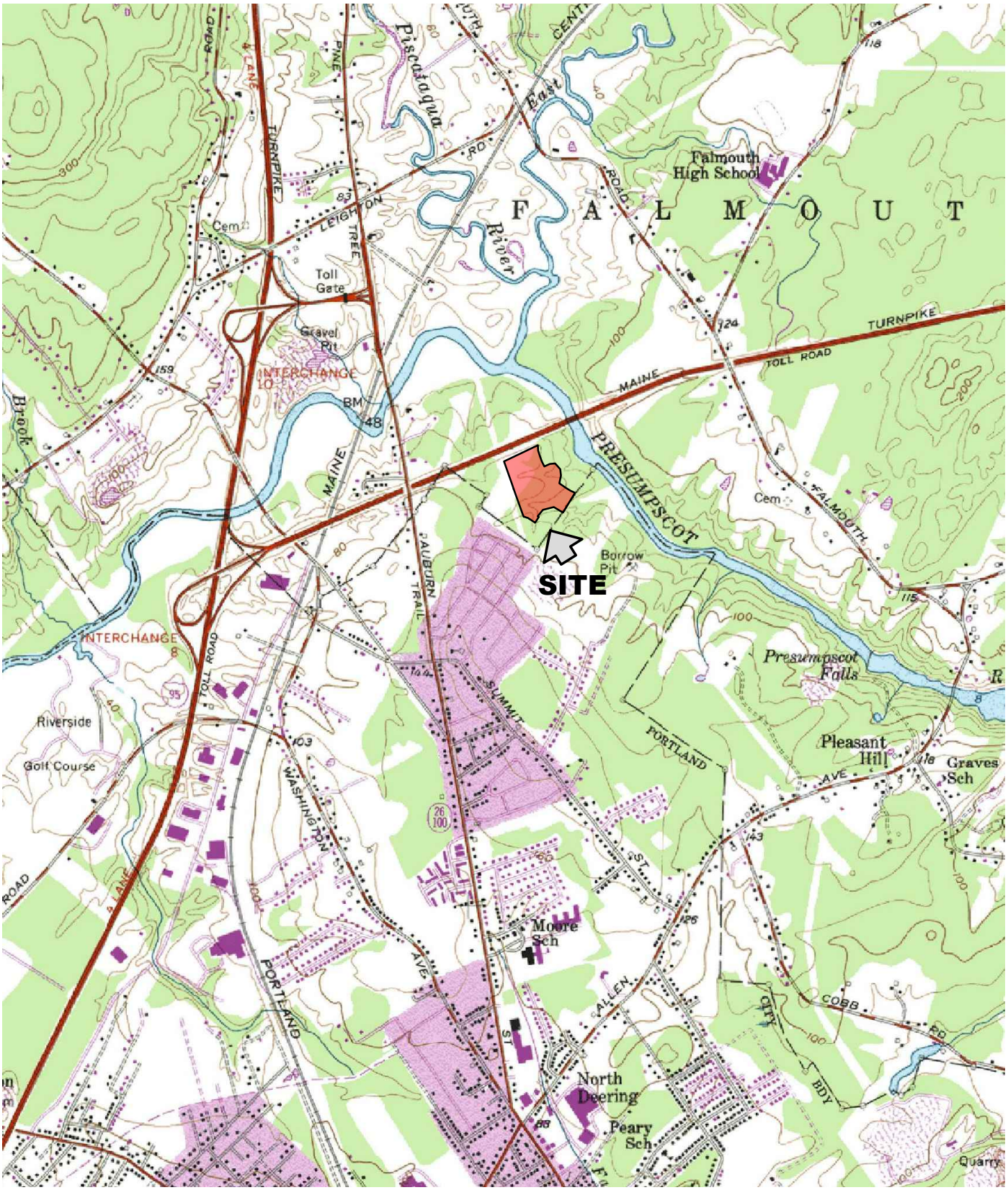
This Applicant is also seeking City of Portland Site Plan and Subdivision approval, a Maine Department of Environmental Protection (MDEP) Site Location of Development permit, and a MDEP NRPA Tier 1 permit for wetland alterations for this Site.

SITE LOCATION AND NATURAL RESOURCE PLAN

Refer to the attached Site Location Map which shows the location of the proposed stream crossing.

LOCATION MAP

Terrain Navigator.© Maptech 800-627-7236



SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
PORTLAND WEST
@ 1:24,000

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

HOPE AVENUE DEVELOPMENT
PORTLAND, MAINE
LOCATION MAP

05/02/2022
13773.001

Photo No. 1	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Approximate location of stream crossing, looking downstream.	
Photo By: DJO	



Photo No. 2	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Approximate location of stream crossing, looking upstream.	
Photo By: DJO	



Photo No. 3 **Photo Date:** August 2022 **Site Location:** Portland, Maine **Description:** Approximate location of stream crossing, looking downstream. **Photo By:** DJO	

Photo No. 4 **Photo Date:** August 2022 **Site Location:** Portland, Maine **Description:** Approximate location of stream crossing, looking downstream. **Photo By:** DJO	

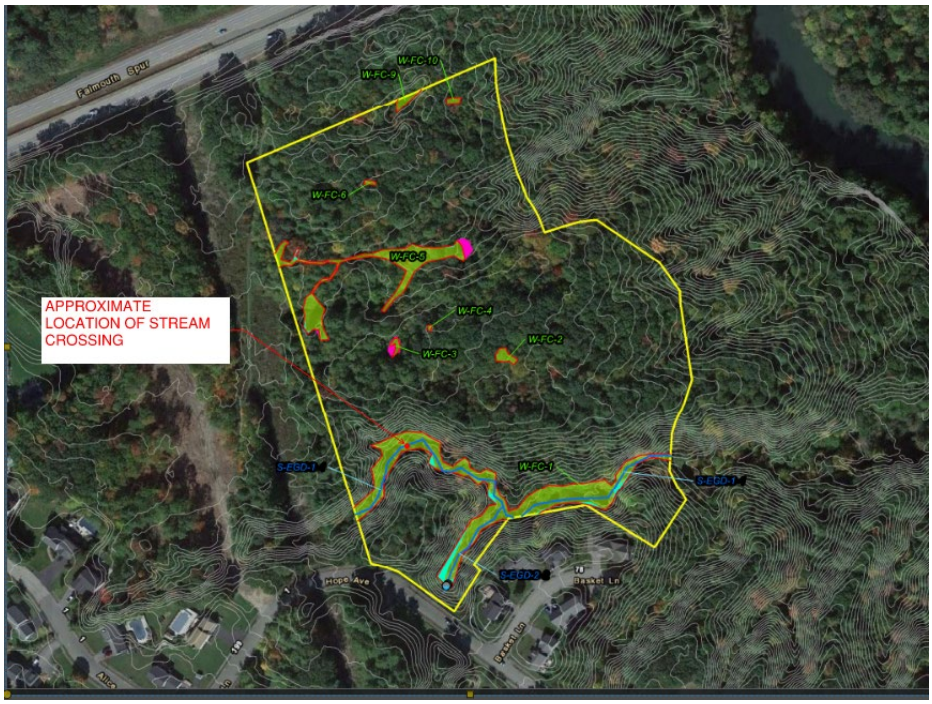
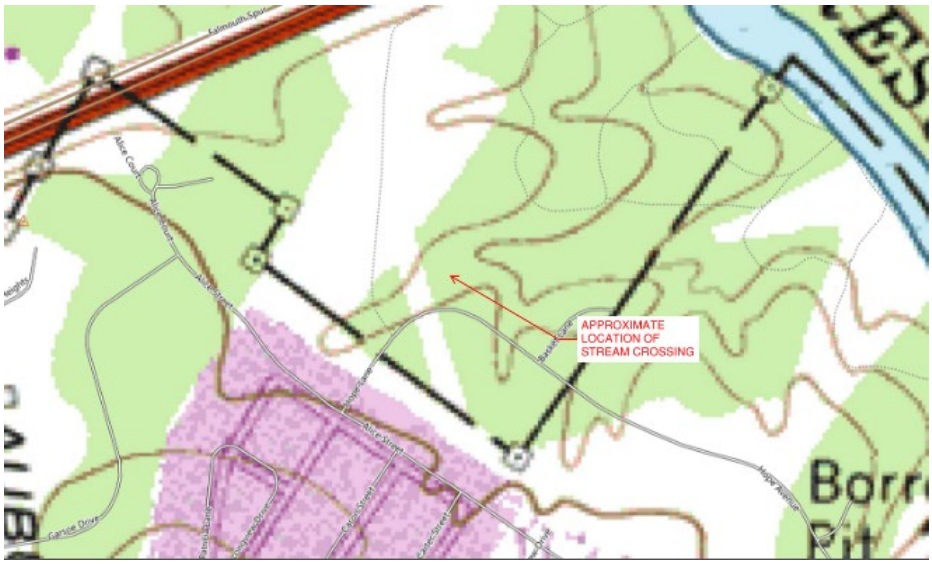
Photo No. 5	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Approximate location of stream crossing.	
Photo By: Google Earth	

Photo No. 6	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Approximate location of stream crossing.	
Photo By: TerrainNav	



GOOD STANDING RECORDS

GENX PARTNERS, LLC
SHINBERG CONSULTING, LLC

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Apr 18 2022 09:39:36. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
GENX CAPITAL PARTNERS LLC	20201169FC	LIMITED LIABILITY COMPANY (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
05/12/2020	N/A	FLORIDA

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

REGISTERED AGENTS INC
415 CONGRESS ST
STE 202A
PORTLAND, ME 04101

Back to previous screen | New Search

Click on a link to obtain additional information.

List of Filings	View list of filings
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Certificate of Existence (more info)	Short Form without amendments ($30.00)

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our Feedback page.

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MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Apr 18 2022 09:56:17. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
SHINBERG CONSULTING, LLC	20061216DC	LIMITED LIABILITY COMPANY (DOMESTIC)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
10/27/2005	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

GREG L. SHINBERG
PO BOX 4424
PORTLAND, ME 04101

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Click on a link to obtain additional information.

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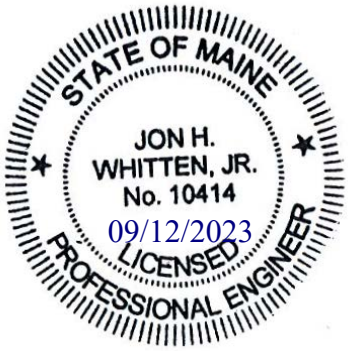
HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

NATURAL RESOURCES PROTECTION ACT
TIER 1 PERMIT APPLICATION

TO THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

FOR PRESUMPSCOT WOODS
Portland, Maine

Applicant:
GenX Capital Partners LLC
2 Cotton Street | Portland, Maine 04101



SEPTEMBER 2023
JN: 13773.001

Application Prepared By:
Haley Ward, Inc.
One Merchants Plaza, Suite 701 | Bangor, Maine 04401

Corporate Office
One Merchants Plaza
Suite 701
Bangor, ME 04401
T: 207.989.4824
F: 207.989.4881

HALEYWARD.COM

TABLE OF CONTENTS

APPLICATION

Agent Authorization

ATTACHMENTS

Attachment 1 Deed
Attachment 2 Location Map
Attachment 3 Project Description
Attachment 4 Good Standing Certificates
Attachment 5 Photographic Log
Attachment 6 Statement of Avoidance and Minimization
Attachment 7 State Agency Correspondences
Maine Historic Preservation Commission
Maine Department of Inland Fisheries and Wildlife
Maine Natural Areas Program
Attachment 8 Flycatcher LLC Report
Attachment 9 Plans
C001 – Erosion Control, Clearing Limits, Legend and Notes
C103 – Proposed Grading and Drainage Plan

APPLICATION

AGENT AUTHORIZATION

APPLICATION FOR A NATURAL RESOURCES PROTECTION ACT PERMIT

➔**PLEASE TYPE OR PRINT IN *BLACK INK ONLY***

1. Name of Applicant:	**GENX CAPITAL PARTNERS, LLC**	**5 Name of Agent: (if applicable)**	**HALEY WARD, INC. (ATTN: JON WHITTEN, JR., PE)**
2. Applicant's Mailing Address:	**2 COTTON STREET PORTLAND, MAINE 04101**	**6 Agent's Mailing Address:**	**ONE MERCHANTS PLAZA, SUITE 701 BANGOR, MAINE 04401**
3. Applicant's Daytime Phone #:	**207-772-7070**	**7 Agent's Daytime Phone #:**	**207-989-4824**
4 Applicant's Email Address Required from *either* applicant or agent:	**gls@shinbergconsulting.com**	**8. Agent's Email Address:**	jwhitten@haleyward.com

9. Location of Activity: (Nearest Road, Street, Rt.#)	**HOPE AVENUE**	**10. Town:**	**PORTLAND**	**11. County:**	**CUMBERLAND**

12A. Significant Groundwater well? ❑ Yes **OR** ☒ No

12. Type of Resource: (Check all that apply)	❑ River, stream or brook ❑ Great Pond ❑ Coastal Wetland ☒ **Freshwater Wetland** ❒ Wetland Special Significance ❑ Significant Wildlife Habitat ❑ Fragile Mountain	**13. Name of Resource:**	**UNNAMED WETLANDS**
		14. Amount of Impact: (Sq.Ft.)	**Fill: 6,595 sf** **Dredging/Veg Removal/Other: 3,942 SF (HYDROLOGY ALTERATION)**

15. Type of Wetland: (Check all that apply)	☒ **Forested** ❑ Scrub Shrub ❑ Emergent ❑ Wet Meadow ❑ Peatland ❑ Open Water ❑ Other_____	**FOR FRESHWATER WETLANDS**		
		Tier 1	*Tier 2*	*Tier 3*
		❑ 0 - 4,999 sq ft. ❑ 5,000-9,999 sq ft ☒ 10,000-14,999 sq ft.	❑ 15,000 – 43,560 sq.ft.	❑ > 43,560 sq. ft. or ❑ smaller than 43,560 sq ft., not eligible for Tier 1

16. Brief Activity Description	**PLANNED RESIDENTIAL UNIT DEVELOPMENT WITH 60 UNITS.**

17. Size of Lot or Parcel:	❑ square feet, or ☒ **13.7 acres**	UTM Northing: **4838090N**	UTM Easting: **190398966E**

18. Title, Right or Interest:	☒ **own**	❑ lease	❑ purchase option	❑ written agreement	
19. Deed Reference Numbers:	Book#: **39511** Page: **311**	**20. Map and Lot Numbers:**	Map #: **390**	Lot #: **A001**	
21. DEP Staff Previously Contacted:	**N/A**	**22. Part of a larger project:**	❑ Yes ☒ **No**	**After-the-Fact:**	❑ Yes ☒ **No**

23. Resubmission of Application?	❑ Yes➔ ☒ **No**	**If yes, previous application #**	**N/A**	**Previous project manager:**	**N/A**
24. Written Notice of Violation?	❑ Yes ➔ ☒ **No**	**If yes, name of DEP enforcement staff involved:**	**N/A**	**25. Previous Wetland Alteration:**	❑ Yes ☒ **No**

26. Detailed Directions to the Project Site:	**FROM CANCO ROAD, TURN LEFT ONTO ME-26. FOLLOW FOR 0.6 MILES, THEN TURN RIGHT ONTO ALLEN AVE. FOLLOW FOR 0.5 MILES, THEN TURN LEFT ONTO SUMMIT STREET. FOLLOW FOR 0.7 MILES, THEN TURN RIGHT ONTO CURTIS ROAD. FOLLOW FOR 0.6 MILES, THEN TURN LEFT ONTO HOPE AVENUE. ENTRANCE TO SITE IS JUST AFTER BASKET LANE INTERSECTION, ON RIGHT.**

27. **TIER 1**	**TIER 2/3 AND INDIVIDUAL PERMITS**	
☒ Title, right or interest documentation ☒ Topographic Map ☒ Narrative Project Description ☒ Plan or Drawing (8 1/2" x 11") ☒ Photos of Area ☒ Statement of Avoidance & Minimization ☒ Statement/Copy of cover letter to MHPC	❒ Title, right or interest documentation ❒ Topographic Map ❒ Copy of Public Notice/Public Information Meeting Documentation ❒ Wetlands Delineation Report (Attachment 1) that contains the Information listed under Site Conditions ❒ Alternatives Analysis (Attachment 2) including description of how wetland impacts were Avoided/Minimized	❒ Erosion Control/Construction Plan ❒ Functional Assessment (Attachment 3),if required ❒ Compensation Plan (Attachment 4), if required ❒ Appendix A and others, if required ❒ Statement/Copy of cover letter to MHPC ❒ Description of Previously Mined Peatland, if required

28. FEES, Amount Enclosed:	**$150.00**

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following:

DEP SIGNATORY REQUIREMENT

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor a permit be issued.

CORPS SIGNATORY REQUIREMENT

USC Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry shall be fines not more than $10,000 or imprisoned not more than five years or both. I authorize the Corps to enter the property that is subject to this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

DEP SIGNATORY REQUIREMENT

"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 that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #4 for the applicant and #8 for the agent)."



_____ Date: 09/12/2023

SIGNATURE OF AGENT/APPLICANT

NOTE: Any changes in activity plans must be submitted to the DEP and the Corps in writing and must be approved by both agencies prior to implementation. Failure to do so may result in enforcement action and/or the removal of the unapproved changes to the activity.

Drew Olehowski

From: Mark McClure <mark@genxcp.com>
Sent: Wednesday, September 6, 2023 2:04 PM
To: Greg Shinberg
Cc: Jon Whitten, Jr.; Drew Olehowski
Subject: Re: Authorization letter for Shinberg Consulting

I hereby authorize Greg Shinberg as my designated agent for the approvals of Presumpscot Woods.

Thank you

Mark McClure
Managing Partner
GenX Capital Partners LLC
www.GenXCP.com
214-417-1218

From: Greg Shinberg <gls@shinbergconsulting.com>
Sent: Wednesday, September 6, 2023 1:55:38 PM
To: Mark McClure <mark@genxcp.com>
Cc: Jon Whitten, Jr. <jwhitten@haleyward.com>; Drew Olehowski <dolehowski@haleyward.com>
Subject: Authorization letter for Shinberg Consulting

Hi Mark,

Please send an email that designates Greg Shinberg of Shinberg Consulting as the authorized agent for local and state agencies for the approvals for Presumpscot Woods.

Greg Shinberg
Owner, Shinberg Consulting, LLC
gls@shinbergconsulting.com
Mail: PO Box 4424, Portland, ME 04101
Office: 181 State Street, Suite 303, Portland, ME 04101
Tel: (207) 772-7070
Cell: (207) 653-7510



Warning: The sender of this message could not be validated and may not be the actual sender.

ATTACHMENT 1

DEED

MAINE REAL ESTATE TAX-Paid

DLN: 1002240198225

QUITCLAIM DEED

ESTELLE ESTATES, LLC, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine, for consideration paid, grants to 338 FALMOUTH FORESIDE PARTNERS LLC, a Maine limited liability company with its principal place of business in Falmouth, County of Cumberland and State of Maine, with a mailing address of 2 Town Landing Road, Falmouth, ME 04105, WITH QUITCLAIM COVENANT, in and to the land, buildings, improvements and all appurtenances thereof situated in the City of Portland, County of Cumberland and State of Maine bounded and described as follows:

PARCEL ONE

A certain lot or parcel of land located on the northeasterly side of Hope Avenue in the City of Portland, County of Cumberland, State of Maine, generally depicted as "Lot 24" on a certain plan entitled "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, recorded in the Cumberland County Registry of Deeds in Plan Book 206, Page 412, being more particularly bounded and described as follows:

Beginning at a point on the northwesterly side of Lot 1 as depicted on a plan of Presumpscot River Place III recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 650, said point of beginning lying N 31°28'15" E by said Lot 1 a distance of Three Hundred Forty-Six and 08/100 (346.08) feet from the northeasterly sideline of Hope Avenue as depicted on said plan of Presumpscot River Place III. Thence:

1) N 58°31'45" W a distance of One Hundred Fifty-Two and 96/100 (152.96) feet to a point.

2) S 75°51'37" W a distance of One Hundred Sixty-Four and 63/100 (164.63) feet to a point.

3) S 39°42'09" W a distance of One Hundred Seventeen and 91/100 (117.91) feet to a point.

4) S 58°31'45" E a distance of Twenty and 00/100 (20.00) feet to a point.

5) S 31°28'15" W a distance of Ninety-Nine and 50/100 (99.50) feet to a point on the northeasterly side of said Hope Avenue.

6) N 55°52'57" W by said Hope Avenue a distance of Ninety and 61/100 (90.61) feet to a point of curvature.

7) Northwesterly by said Hope Avenue following a curve to the left having a radius of Two Hundred Twenty-Five and 00/100 (225.00) feet an arc distance of One Hundred One and 64/100

(101.64) feet to a point and land now or formerly of the City of Portland as described in a deed recorded in said Registry in Book 17463, Page 276.

8) N 19°30'58" W by said land of City of Portland and Lot 1 as depicted on a plan entitled "Riverwalk Subdivision Plan" made by Titcomb Associates dated October 25, 2005, a distance of Eight Hundred Forty-Seven and 44/100 (847.44) feet to a point.

9) N 64°27'37" E by said land of City of Portland a distance of Five Hundred Forty-Four and 52/100 (544.52) feet to a point.

10) S 02°55'37" E by said land of City of Portland a distance of Seventy-Five and 57/100 (75.57) feet to a point.

11) S 16°16'41" E by said land of City of Portland a distance of Ninety-Seven and 28/100 (97.28) feet to a point.

12) S 21°57'26" E by said land of City of Portland a distance of Seventy-Five and 78/100 (75.78) feet to a point.

13) S 26°42'50" E by said land of City of Portland and land depicted as Land Proposed for Conveyance to City of Portland (11,714 s.f.) on said Riverwalk Subdivision Plan a distance of One Hundred Twenty and 38/100 (120.38) feet to a point.

14) N 67°31'46" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Fifty and 73/100 (50.73) feet to a point.

15) N 74°57'11" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Twenty-Seven and 25/100 (27.25) feet to a point.

16) N 82°42'53" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of Thirty and 98/100 (30.98) feet to a point.

17) S 57°41'42" E by said Land Proposed for Conveyance to City of Portland (11,714 s.f.) a distance of One Hundred Twenty-Nine and 99/100 (129.99) feet to a point and land depicted as Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) on said Riverwalk Subdivision Plan.

18) S 05°41'39" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of Fifty-Three and 28/100 (53.28) feet to a point.

19) S 12°34'45" W by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of One Hundred Twelve and 44/100 (112.44) feet to a point.

20) S 54°10'20" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of One Hundred Ten and 21/100 (110.21) feet to a point.

21) S 59°34'29" E by said Land Proposed for Conveyance to Adam-Wolf (13,787 s.f.) a distance of Twenty-Eight and 61/100 (28.61) feet to a point and land depicted as Land Proposed for Conveyance to City of Portland (46,012 s.f.).

22) S 14°07'58" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Forty-Seven and 20/100 (47.20) feet to a point.

23) S 20°34'09" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Sixty-Six and 74/100 (66.74) feet to a point.

24) S 01°32'31" W by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Seventy-Seven and 90/100 (77.90) feet to a point.

25) S 27°16'40" E by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Sixty and 84/100 (60.84) feet to a point.

26) S 55°18'28" E by said Land Proposed for Conveyance to City of Portland (46,012 s.f.) a distance of Eleven and 40/100 (11.40) feet to a point and the northwesterly side of Lot 1 as depicted on a plan entitled "Presumpscot River Place III" recorded in said Registry in Plan Book 202, Page 650.

27) S 31°28'15" W by said Lot 1 a distance of One Hundred Seventeen and 43/100 (117.43) feet to the point of beginning.

Bearings are based on true north.

The above described parcel is a portion of land now or formerly of Lloyd B. Wolf and Robert L. Adam as described in a deed recorded in the Cumberland County Registry of Deeds in Book 7058, Page 70.

Reference is herein made to Private & Special Laws of Maine, Second Regular Session of the 120th Legislature, Chapter 62, S.P. 499-L.D. 1586, An Act to Separate Territory from the Town of Falmouth and Annex it to the City of Portland, approved April 2, 2002.

The above described parcel is conveyed TOGETHER WITH, a certain easement located on the northerly side of but not adjacent to Hope Avenue in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

A thirty (30) foot wide strip of land, the centerline of which begins at a point lying N 19°30'58" W a distance of Thirty-Seven and 50/100 (37.50) feet from the northeasterly corner of the second parcel conveyed to the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 17463, Page 276, with said centerline continuing S 70°29'02''W to the easterly sideline of a road to be constructed by Grantor and referred to as "Road A" on preliminary concept plans for the development of Grantor's property, as such road is actually built.

The easement shall be appurtenant to Grantee's above described premises (Parcel One herein). The easement shall be for the purpose of providing a gravel emergency access road (public or private), as may be required by the City of Portland pursuant to Grantee's development of the dominant tenement. Grantor agrees to extend such easement rights to the general public, as necessary, by separate easement deed. In the event that Grantee is not required to construct such emergency access road, as a condition of site plan approval, subdivision approval or any conditional zone agreement that Grantee may enter into with the City of Portland to develop the dominant tenement, all rights of Grantee and his successors in and to the easement created hereby shall be promptly terminated, and Grantee shall record an instrument in the Cumberland County Registry of Deeds confirming the termination of such easement rights.

The above described parcel is conveyed subject to any and all easements and restrictions of record and includes all rights, easements, privileges and appurtenances pertaining thereto.

The above described parcel is conveyed subject to a portion of a certain culvert easement, benefiting the City of Portland, located on the northeasterly sideline of Hope Avenue in the City of Portland, County of Cumberland, State of Maine, shown as "City of Portland Culvert Easement" on the above referenced "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, and more particularly bounded and described as follows:

Beginning at a point on the northeasterly sideline of Hope Avenue, said point lying N 55°52'57" W by said Hope Avenue a distance of Two Hundred Sixty-Five and 28/100 (265.28) feet from the westerly corner of Lot 1 as depicted on a plan of Presumpscot River Place III recorded in the Cumberland County Registry of Deeds in Plan Book 202, Page 650. Thence:

1) N 55°52'57" W by said Hope Avenue a distance of Thirty-One and 95/100 (31.95) feet to a point.

2) N 06°46'58' W a distance of Eighty and 00/100 (80.00) feet to a point.

3) S 85°29'48" E a distance of Thirty- Five and 69/100 (35.69) feet to a point.

4) S 06°46'58" E a distance of Eighty and 18/100 (80.15) feet to a point.

5) S 31°28'15" W a distance of Seventeen and 51/100 (17.51) feet to a point and said Hope Avenue.

Bearings are based on true north.

The above described portion of the culvert easement contains 3,083 square feet. The above described culvert easement includes the right to construct, repair and perpetually maintain through, under, across and upon said easement parcel, culverts, pipes, ditches or the like, for conveying drainage water, and to lay, relay, repair, alter, enlarge, maintain and remove said drainage systems upon, across or under said easement parcel, with all necessary fixtures and appurtenances, to trim, cut down and remove bushes and trees growing on said easement parcel, to remove grass, vegetation and crops growing on said easement parcel and to excavate or fill said easement parcel,

all to such extent as in the judgment of the City of Portland is necessary for any of the above purposes, and to enter upon said easement parcel at any and all times for any of the foregoing purposes.

The above described parcel is conveyed subject to a certain drainage easement, benefiting the City of Portland, adjoining the above referenced culvert easement, shown as "City of Portland Drainage Easement" on the above referenced "Riverwalk Subdivision Plan" prepared by Titcomb Associates, Sheet 1 of 2, dated October 25, 2005, being thirty and 00/100 (30.00) feet in width, beginning near the northeasterly corner of the above described culvert easement and continuing northeasterly across the above described parcel. The center of said drainage easement follows the center of the naturally occurring drainage course, which course may vary from time to time. The easement includes the right to construct, repair and perpetually maintain through, under, across and upon said easement parcel, culverts, pipes, ditches or the like, for conveying drainage water, and to lay, relay, repair, alter, enlarge, maintain and remove said drainage systems upon, across or under said easement parcel, with all necessary fixtures and appurtenances, to trim, cut down and remove bushes and trees growing on said easement parcel, to remove grass, vegetation and crops growing on said easement parcel and to excavate or fill said easement parcel, all to such extent as in the judgment of the City of Portland is necessary for any of the above purposes, and to enter upon said easement parcel at any and all times for any of the foregoing purposes.

The above described parcel is conveyed subject to a certain Portland Water District Easement, recorded in the Cumberland County Registry of Deeds in Book 2267, Page 257.

PARCEL TWO

A certain lot or parcel of land located in the City of Portland, County of Cumberland, State of Maine, bounded and described as follows:

Beginning at a point on a line of the remaining land now or formerly of Lloyd B. Wolf and Robert L. Adam as described in a deed recorded in the Cumberland County Registry of Deeds in Book 7058, Page 70, said point of beginning lying N 62° 51'18" W a distance of One Hundred Twenty-Nine and 32/100 (129.32) feet from the northerly corner of Lot 1 as depicted on the Presumpscot River Place Phase III- Subdivision Plan, dated December 4, 2001 recorded in said Registry in Plan Book 202, Page 650; Thence:

1) N 59°34'29" W by said remaining land of Adam and Wolf a distance of Twenty-Eight and 61/100 (28.61) feet to a point

2) N 54°10'20" W by said remaining land of Adam and Wolf a distance of One Hundred Ten and 21/100 (110.21) feet to a point.

3) N 12°34'45" E by said remaining land of Adam and Wolf a distance of a distance of One Hundred Twelve and 44/100 (112.44) feet to a point.

4) N 05°41'39" W by said remaining land of Adam and Wolf a distance of Fifty-Three and 28/100 (53.28) feet to a point.

5) S 57°41'42" E a distance of Twenty-One and 28/100 (21.28) feet to a point.

6) S 39°27'41" E a distance of Sixty-Six and 70/100 (66.70) feet to a point.

7) S 10°53'57' E a distance of One Hundred Eighty-Two and 18/100 (182.18) feet to the point of beginning.

Bearings are based on true north.

Being the same premises conveyed to Grantor and Grantee herein by the City of Portland, by deed of even or recent date herewith, to be recorded at the Cumberland County Registry of Deeds. The above described parcel is a portion of land formerly of the City of Portland as described in a deed recorded in the Cumberland County Registry of Deeds in Book 17463, Page 276. Reference is herein made to Private & Special Laws of Maine, Second Regular Session of the 120th Legislature, Chapter 62, S.P. 499-L.D. 1586, An Act to Separate Territory from the Town of Falmouth and Annex it to the City of Portland, approved April 2, 2002.

The above described parcel is conveyed subject to any and all easements and restrictions of record and includes all rights, easements, privileges and appurtenances pertaining thereto.

Meaning and intending to convey, and hereby conveying, all and the same premises described in the Deed of Sale by Personal Representative of the Estate of Robert Lincoln Adam to Estelle Estates, LLC dated November 19, 2018 and recorded in the Cumberland County Registry of Deeds in Book 35303, Page 331.

IN WITNESS WHEREOF, ESTELLE ESTATES, LLC has executed, acknowledged and delivered this Quitclaim Deed by and through Paul F. Driscoll, its Vice President, on this 17th day of June, 2022, hereunto duly authorized.

ESTELLE ESTATES, LLC

Witness

By: _____

Paul F. Driscoll
Its Vice President

[Acknowledgment Located on Following Page]

STATE OF MAINE
Cumberland, ss.

June 17, 2022

Personally appeared the above-named Paul F. Driscoll, Vice President of Estelle Estates, LLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Estelle Estates, LLC.

Before me,

Jamee McCormack

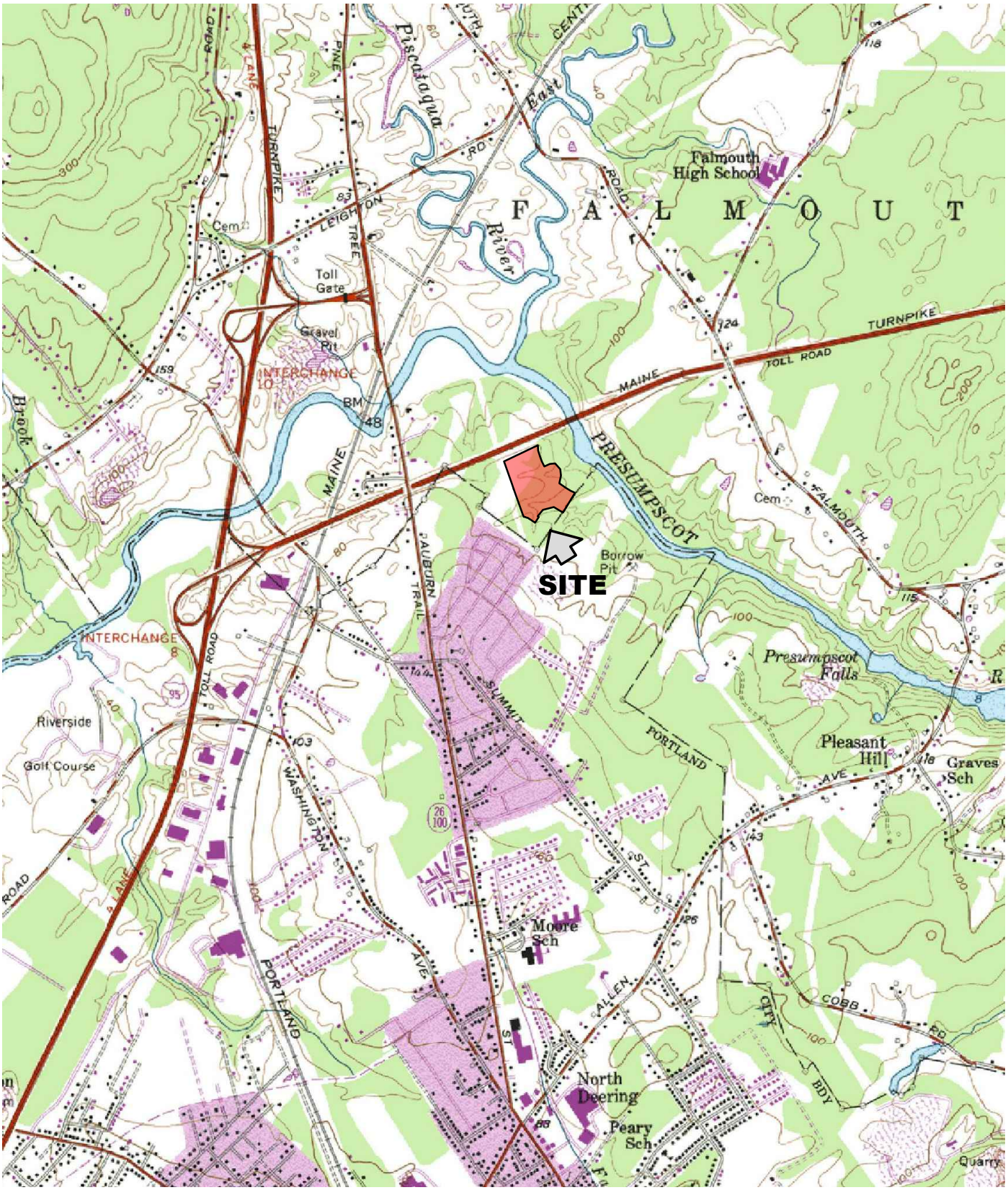
~~Notary Public~~/Attorney-at-Law

Jamee McCormack

ATTACHMENT 2

LOCATION MAP

Terrain Navigator.© Maptech 800-627-7236



SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
PORTLAND WEST
@ 1:24,000

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

HOPE AVENUE DEVELOPMENT
PORTLAND, MAINE

LOCATION MAP

05/02/2022
13773.001

ATTACHMENT 3

PROJECT DESCRIPTION

PROJECT DESCRIPTION

The Presumpscot Woods project is a proposed residential, condominium development consisting of the creation of 60 new dwelling units through a combination of duplex and triplex buildings supported by a private access way and associated utilities. The project is located off Hope Avenue, in Portland, Maine on Parcels 390/A001, 448/A001001, 449/A002. The applicant/owner, GenX Capital Partners, LLC (Owner), is proposing to develop this subdivision under the PRUD dimensional standards within the City's R-3 Zoning District.

The project site is approximately 13.7 acres in size and, although located in an urban residential neighborhood, it is currently forested and undeveloped. The land slopes range from gentle to steep, on the outskirts of the property. There are small pockets of wetlands within the site and a narrow stream located in an eroded channel that divides the property. The site abuts the Falmouth Spur of the Maine Turnpike to the north and undeveloped, conservation lands to the east, which border the Presumpscot River.

Site Overview

The areas proposed for the development (herein referred to as the Site) consists of surrounding undeveloped woodland. The Site vicinity is dominated by undeveloped land and residential development. Residential structures adjoin the Site to the southeast and southwest. An overhead utility transmission corridor runs parallel to the west side of the Site.

The overall topography of the Site is gently sloping to the northeast towards wetlands and streams which drain to the Presumpscot River, which is located approximately 400 feet northeast of the Site

Protected Natural Resources

On July 28, 2022, Flycatcher, LLC completed a Natural Resource Survey on the Site. The natural resource survey included wetlands, a stream, and an appropriately timed vernal pool survey. A copy of this survey report has been provided which includes locations, descriptions, and photos of all identified natural resources.

Protected Species and Consultation

Based on on-line review of State protected habitats and the consultation letter received from Maine Department of Inland Fisheries and Wildlife, no Significant Wildlife Habitats are mapped on the Site.

The Maine Natural Areas Program (MNAP) indicates that there are no rare botanical features documented specifically within the Project area. MNAP notes that this lack of data may indicate minimal survey efforts, rather than confirm the absence of rare botanical features.

Proposed Project

Proposed wetland impacts have been shown on the provided drawings and in the table below. All proposed impacts are to wetlands not of special significance, except for those associated with the stream crossing which have been permitted under a separate Permit by Rule. One section of wetland ,W-FC-5, will not be dredged or filled, however, there will be new stormwater runoff inflows and outlets which are expected to alter the hydrologic function of the system and will therefore be considered impacted for the purposes of this application.

WETLAND ID	TERMPORARY IMPACT, SF	MDEP DIRECT IMPACT , SF	ACOE DIRECT IMPACT , SF
W-FC-1	0	435*	3,277
W-FC-2	0	0	0
W-FC-3	0	345	328
W-FC-4	0	0	0
W-FC-5	0	5,070 (Direct) 3,942 (Indirect)	5,070 (Direct) 3,942 (Indirect)
W-FC-6	0	197	197
W-FC-9	0	545	545
W-FC-10	0	0	0
TOTAL IMPACT	**0**	**10,537**	**13,457**

* Impacts from stream crossing permitted through a NRPA PBR.

ATTACHMENT 4

GOOD STANDING CERTIFICATES

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Apr 18 2022 09:39:36. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
GENX CAPITAL PARTNERS LLC	20201169FC	LIMITED LIABILITY COMPANY (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
05/12/2020	N/A	FLORIDA

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

REGISTERED AGENTS INC
415 CONGRESS ST
STE 202A
PORTLAND, ME 04101

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You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.

If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Bureau's Reporting and Information Section at 207-624-7752 or e-mail or visit

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Apr 18 2022 09:56:17. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
SHINBERG CONSULTING, LLC	20061216DC	LIMITED LIABILITY COMPANY (DOMESTIC)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
10/27/2005	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

GREG L. SHINBERG
PO BOX 4424
PORTLAND, ME 04101

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ATTACHMENT 5

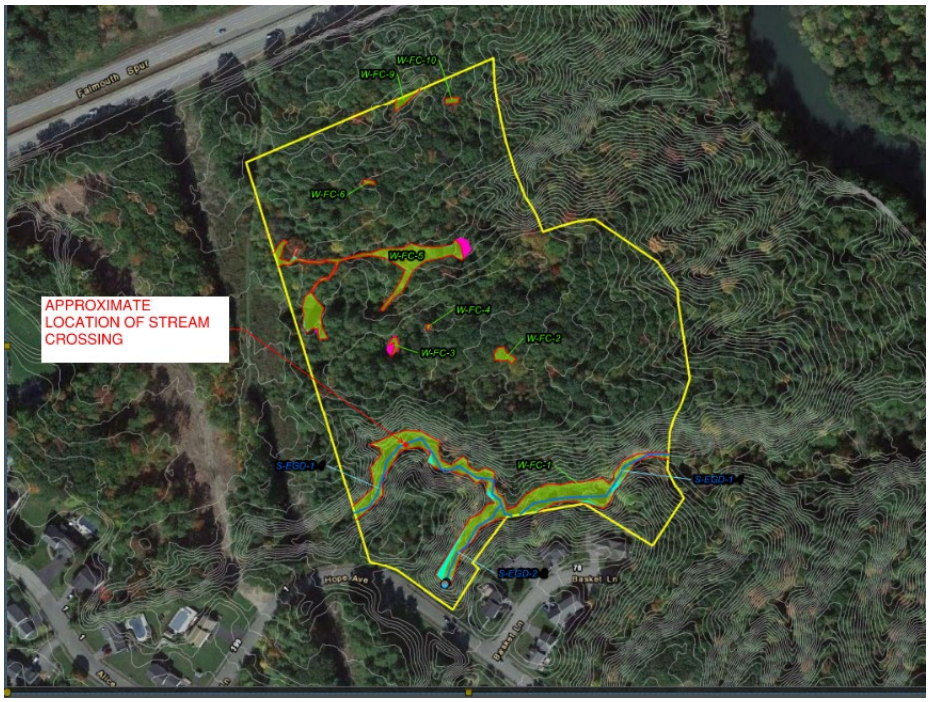
PHOTOGRAPHIC LOG

Photo No. 1	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Approximate location of stream crossing, looking downstream.	
Photo By: DJO	

Photo No. 2	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Approximate location of stream crossing, looking upstream.	
Photo By: DJO	

Photo No. 3 **Photo Date:** August 2022 **Site Location:** Portland, Maine **Description:** Approximate location of stream crossing, looking downstream. **Photo By:** DJO	

Photo No. 4 **Photo Date:** August 2022 **Site Location:** Portland, Maine **Description:** Approximate location of stream crossing, looking downstream. **Photo By:** DJO	

Photo No. 5	
Photo Date: August 2022	
Site Location: Portland, Maine	
Description: Natural Resource Mapping from Flycatcher, LLC report	
Photo By: Flycatcher Report	

Additional photographs can be seen in the provided Flycatcher LLC Natural Resources Report.

ATTACHMENT 6

STATEMENT OF AVOIDANCE AND MINIMIZATION

AVOIDANCE AND MINIMIZATION

The Applicant, GenX Capital Partners, has reduced natural resource impacts to the greatest extent practicable while still accomplishing the goals of this development.

Avoidance: Site layout took into account wetland avoidance. The majority of the proposed development has been placed in upland areas. The layout has been oriented so that the larger wetlands would be at the center, undeveloped portion of the lot. The majority of the proposed building footprints are in upland areas. The roadway is also in upland areas except for where a stream crossing was required to access the site, and for where the road loops on itself to provide site connectivity. There is only one stream crossing proposed for the development, minimizing impacts to the stream, and to wetlands adjacent to the stream. The Site was walked to select lot locations that required less earthwork and reduced the area of impact.

Minimization: Where impacts are proposed, these wetland impacts have been minimized. It was required that grade was raised for the proposed roadways and building finish floor elevations, which resulted in a small amount of impact from the side slopes. These slopes were kept as steep as possible while still providing a practical road base/building foundation, without the need for additional reinforcement. At the stream crossing, the elevation of the road was kept as low as possible to reduce the need for extensive side slopes. These slopes are 1:1 to prevent encroachment onto adjacent wetlands.

Under the Maine Natural Resources Protection Act, the project is required to avoid and minimize disturbance to natural resources and to ensure that no unreasonable impact will occur. The proposed project has been designed to avoid and minimize impacts to natural resources to the greatest practicable extent.

ATTACHMENT 7

STATE AGENCY CORRESPONDENCES

Maine Historic Preservation Commission
Maine Department of Inland Fisheries And Wildlife
Maine Natural Areas Program

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

RECEIVED
MAY 16 2022
By 0782-22

May 16, 2022

Maine Historic Preservation Commission
Attn: Ms. Megan Rideout
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065
Megan.M.Rideout@maine.gov

RECEIVED
MAY 27 2022
AND SCANNED

Re: GenX Capital Partners, LLC | Hope Avenue Subdivision | Portland, ME

Dear Ms. Rideout:

GenX Capital Partners, LLC is currently preparing Local and State permit applications for the construction of an approximately 10-acre residential development in Portland, Maine. The project site is to be located on a 14-acre property that is mostly wooded and undeveloped. The parcel is located in North Deering, just south of the Falmouth Spur Road. The proposed project will include approximately 60 duplexes and a private road.

Per permitting requirements, we are submitting this request to your office to determine if any historical sites of concern are located within the project area. The development will be screened on all sides by a vegetated buffer, and buildings in the surrounding neighborhood were constructed within the last 50 years; therefore, a photolog of nearby structures has not been provided. Any response can be forwarded to our office located at 1 Merchants Plaza, Suite 701, Bangor, ME 04401 or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, P.E.
Civil Engineer

DJO/cmg
Enc.

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

5/23/22
Date

One Merchants Plaza, Suite 701, Bangor, ME 04401
T: 207.989.4824 | HALEYWARD.COM

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

August 2, 2022

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

RE: Information Request – GenX Capital Partners LLC Project, Portland

Dear Drew:

Per your request received on May 16, 2022, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *GenX Capital Partners LLC* project in Portland. Please note that as project details are lacking our comments should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Spotted Turtle - Occurrences of spotted turtle, a State Threatened species, have been documented within the vicinity of the proposed project. Spotted turtles are most frequently associated with small, acidic wetlands and vernal pools located in large, intact landscapes. Development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations for either of these species. Additionally, development projects that lead to significant increases in local traffic volume will likely lead to increased roadkill and possible extirpation of local populations.

Eastern Ribbon Snake - There is a potential for occurrences of Eastern ribbon snake, a state Species of Special Concern, within the project area. This rare species is a slender, semiaquatic snake often observed near the edges of emergent marshes, wet meadows, scrub-shrub wetlands, beaver impoundments, bogs, river and stream floodplains, and vegetated shorelines of ponds and lakes.

If habitats for either turtle or snake species are present in the project area, we recommend that they be avoided and adequately buffered with 250-foot intact, no cut buffers. Alternatively, the applicant can survey for spotted turtle and ribbon snakes to determine presence or absence in the project area. These surveys should be conducted by qualified biologists following MDIFW's most recent survey protocols.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide for full aquatic passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis. Undersized crossings may inhibit these functions and become a frequent maintenance problem that causes reoccurring damage to the resource. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in providing habitat connectivity for fish and other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,



Becca Settele
Wildlife Biologist

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

May 17, 2022

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

Via email: dolehowski@haleyward.com

Re: Rare and exemplary botanical features in proximity to: #13773.001, GenX Capital Partners, Hope Avenue Subdivision, Portland, Maine

Dear Mr. Olehowski:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received May 16, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING

maine DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
Project: #13773.001, GenX Capital Partners, Hope Avenue Subdivision, Portland, ME

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	E	S1	G4	1860-10	9	Rocky summits and outcrops (non-forested, upland),Dry
American Sea-blite						
	T	S2	G5	1932-09-12	5	Tidal wetland (non-forested, wetland)
Bottlebrush Grass						
	SC	S3	G5	1905-09-13	10	Hardwood to mixed forest (forest, upland)
Broad Beech Fern						
	SC	S2	G5	1872-08	15	Hardwood to mixed forest (forest, upland)
	SC	S2	G5	2016-09-04	28	Hardwood to mixed forest (forest, upland)
Clothed Sedge						
	E	S1	G5	2000-06-06	5	Dry barrens (partly forested, upland)
Columbia Water-meal						
	SC	S2	G5	2002-08-04	2	Open water (non-forested, wetland)
Ebony Spleenwort						
	SC	S2	G5	1910-06-06	10	Rocky summits and outcrops (non-forested,
Engelmann's Spikerush						
	PE	SH	G4G5	1916-08-31	2	Open wetland, not coastal nor rivershore (non-forested,
Enriched Northern Hardwoods						
		S3	GNR	2001-08-28	34	Hardwood to mixed forest (forest, upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1902-09-02	13	Dry barrens (partly forested, upland),Hardwood to mixed
Foxtail Bog-clubmoss						
	E	S1	G5	2017-08-22	1	

Great Blue Lobelia						
	PE	SX	G5	1905-09	3	Forested wetland,Non-tidal rivershore (non-forested,
Hollow Joe-pye Weed						
	SC	S2	G5?	2011-08-04	19	Open wetland, not coastal nor rivershore (non-forested,
	SC	S2	G5?	2014-06-18	24	Open wetland, not coastal nor rivershore (non-forested,
Horned Pondweed						
	SC	S2	G5	1913-09-13	9	Tidal wetland (non-forested, wetland)
MacGregor's Rye						
	SC	S2	G5	2019-08-20	13	
Marsh Milkwort						
	PE	SH	G5T4	1903-08-18	1	Dry barrens (partly forested, upland),Open wetland, not
Missouri Rockcress						
	T	S1	G5	1905-06-11	5	Rocky summits and outcrops (non-forested,
Mountain-laurel						
	SC	S2	G5	1985-08-01	13	Conifer forest (forest, upland),Hardwood to mixed forest
Mountain Honeysuckle						
	E	S2	G5	2007-07-30	10	Dry barrens (partly forested, upland),Hardwood to mixed
	E	S2	G5	2007-10-05	11	Dry barrens (partly forested, upland),Hardwood to mixed
	E	S2	G5	2018-06-02	14	Dry barrens (partly forested, upland),Hardwood to mixed
Pitch Pine Woodland						
		S3	G2	2005-12-08	28	Rocky summits and outcrops (non-forested, upland)
Pocket Swamp						
		S2	G5	2017-07-27	24	Forested wetland,Hardwood to mixed forest (forest,
Rattlesnake Hawkweed						
	E	S1	G5T4Q	1909-07	1	Dry barrens (partly forested, upland)
Salt-hay Saltmarsh						
		S3	G5	2020-07-02	68	Tidal wetland (non-forested, wetland)
Screwstem						
		S1	G5T3T5	2020-09-17	4	

Screwstem					
	S1	G5T3T5	2014-09-24	17	
Slender Knotweed					
PE	SH	G5	1902-09-07	1	Dry barrens (partly forested, upland)
Small Reed Grass					
SC	S3	G5	2011-08-28	18	Old field/roadside (non-forested, wetland or upland)
Smooth Winterberry Holly					
SC	S3	G5	2017-08-22	32	Forested wetland
Spotted Pondweed					
T	S1	G5	2016-06-22	3	Open water (non-forested, wetland)
Tidal Marsh Estuary Ecosystem					
	S3	GNR	2011-08-25	8	Tidal wetland (non-forested, wetland)
Upper Floodplain Hardwood Forest					
	S3	GNR	2012	20	Forested wetland
Upright Bindweed					
T	S2	G4G5	2007-06-28	5	Dry barrens (partly forested, upland),Old field/roadside
Variable Sedge					
E	S1	G3	2012-08-09	1	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	2017-08-22	4	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	2018-08-29	6	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	1911	8	Dry barrens (partly forested, upland),Hardwood to mixed
E	S1	G3	1911-06-29	9	Dry barrens (partly forested, upland),Hardwood to mixed
Vasey's Pondweed					
SC	S2	G4	1901-08-04	7	Open water (non-forested, wetland)
Water-plantain Spearwort					
PE	SH	G4	1903-07-29	2	Open water (non-forested, wetland)
Wild Garlic					
SC	S2	G5	1918-07-16	6	Forested wetland,Hardwood to mixed forest (forest,
Wild Leek					

Wild Leek						
	SC	S3	G5	2018-05-02	55	Hardwood to mixed forest (forest, upland),Forested

Date Exported: 2022-05-17 09:08

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 **G1**	**Critically Imperiled** – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 **G2**	**Imperiled** – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 **G3**	**Vulnerable** – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 **G4**	**Apparently Secure** – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 **G5**	**Secure** – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX **GX**	**Presumed Extinct** – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH **GH**	**Possibly Extinct** – Known from only historical occurrences but still some hope of rediscovery.
S#S# **G#G#**	**Range Rank** – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU **GU**	**Unrankable** – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR **SNR**	**Unranked** – Global or subnational conservation status not yet assessed.
SNA **GNA**	**Not Applicable** – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems.
Qualifier	**Definition**
S#? **G#?**	**Inexact Numeric Rank** – Denotes inexact numeric rank.
Q	**Questionable taxonomy that may reduce conservation priority** – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	**Infraspecific Taxon (trinomial)** – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	**Endangered** – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	**Threatened** – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	**Special Concern** – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	**Potentially Extirpated** – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	**Excellent** – Excellent estimated viability/ecological integrity.
B	**Good** – Good estimated viability/ecological integrity.
C	**Fair** – Fair estimated viability/ecological integrity.
D	**Poor** – Poor estimated viability/ecological integrity.
E	**Extant** – Verified extant, but viability/ecological integrity not assessed.
H	**Historical** – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	**Extirpated** – Documented loss of population/destruction of habitat.
U	**Unrankable** – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	**Not Ranked** – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
http://www.maine.gov/dacf/mnap

ATTACHMENT 8

FLYCATCHER LLC REPORT

Wetland and Stream Review

Date:	July 28, 2022
To:	Mark McClure (GenX Capital Partners, LLC)
From:	Meg Thurrell (Flycatcher LLC)
CC:	Richard Jordan (Flycatcher); Jon Whitten (Haley Ward); Ron Goddard and Greg Shinberg
Subject:	Hope Ave, Portland – Wetland and Stream Review Results

As requested by GenX Capital Partners, LLC, In July of 2022, Flycatcher LLC completed a wetland and stream review on a 13.7-acre parcel located on Hope Avenue in Portland, Maine (the Survey Area – Attachment 1). The Survey Area was previously delineated in 2017. Flycatcher determined that the previously delineated wetland boundaries were generally accurate, with the exception of a few small areas (some wetland area was added and some area was removed). Flycatcher also flagged and GPS-located two streams which were mentioned in the existing reporting but were not included in GIS information provided by GenX Capital's engineering consultant, Haley Ward.

A locus map and map of delineated natural resources are included herein as Attachment 1. Photographs of delineated resources are presented in Attachment 2. The 2017 wetland delineation report is included as Attachment 3.

SURVEY AREA

The Survey Area is located north of Hope Avenue, to the south of the Falmouth I-95 Spur and to the east of a Central Maine Power transmission line corridor. The surrounding area is mostly residential, interspersed with some forested lands. The Presumpscot River is located to the east of the Survey Area.

The Survey Area is primarily comprised of forested uplands interspersed with historically eroded valleys with wetland drainage features and streams. Surface drainage tends generally to the north and east, toward the Presumpscot River.

There is evidence of recreational and former logging trails throughout the Survey Area. Active trail features include bike/foot bridges. There is also evidence of former sand/gravel extractions, including apparent borrow pits and spoil piles along the northern and western edges of the Survey Area.

METHODS

Wetlands

It is our understanding that wetlands within the Survey Area were previously delineated in 2017 by TRC. Flycatcher was provided with GIS data of the previously delineated boundaries.

The US Army Corps of Engineers (USACE) and Maine Department of Environmental Protection (MDEP) require wetlands to be reviewed when delineations are greater than 5 years old. Flycatcher scientists reviewed the previously-mapped wetland boundaries based on the criteria and protocol provided in the 1987 USACE Wetland Delineation Manual and the Northcentral and Northeast Regional Supplement (Version 2.0). The manual and supplement provide a repeatable methodology to identify wetland areas and are the accepted wetland delineation methodology of the MDEP and the USACE. When wetlands were identified (or confirmed), the boundaries were marked with pink survey flagging labelled with the word "Wetland Delineation." Unmoved boundary flags were not re-located, new flags were geo-located as described below under "GPS Location".

Watercourses

Watercourse identification followed the NRPA definition of a "river, stream or brook" (Section 480-B). If a watercourse meeting the above definition was observed, blue survey flagging was hung along the centerline (for streams less than six feet in width) or along the top of the bank (for streams six feet or wider). The locations of each flag were geolocated as described below under "GPS Location."

GPS Location

Features (e.g., wetland boundaries) located during the site visit were geolocated using a mapping grade global positioning system ("GPS") unit (Juniper Systems' Geode GPS Antenna and ESRI's ArcGIS Collector software). The data were collected using real-time correction and standards specified by the manufacturer to achieve sub-meter accuracy. A shapefile of final results was provided to Haley Ward's Jon Whitten on July 21, 2022.

Agency Outreach

No outreach to natural resource agencies (e.g. MNAP, MDIFW, USFWS) was conducted as part of this survey.

FINDINGS

Wetlands

Flycatcher verified the presence of eight (8) wetlands on site, no new (previously unmapped) wetlands were observed. Most of the wetlands are forested pit and mound depressions (natural and unnatural) or riparian drainage wetlands associated with southern stream channels. The previous wetland delineations were found to be generally accurate, however Flycatcher scientists adjusted the boundary of wetlands in a few small areas as highlighted in Attachment 1.

Summary descriptions of wetlands are provided in Table 1. Photographs are included in Attachment 2.

The 2017 delineation report is included in Attachment 3. This report includes a representative USACE delineation form ("Wetland 5"); the data therein was confirmed (soils, hydrology and vegetation) as accurate during the 2022 review.

Watercourses

Two (2) perennial watercourses (MDEP streams) were identified within the Survey Area associated with and located within the boundaries of wetland W-FC-1. These watercourses were between 2 and 4 feet wide and had sand, gravel, and cobble bottoms. S-EGD-1 flowed east and was between 1 and 10 inches deep. S-EGD-2, a tributary to S-EGD-1, flowed northeast and was between 2 inches and 1.5 feet deep.

Table 1. Wetland Summary

Resource ID	*Dominant Covertype*	*Hydrology Indicators*	*Dominant Vegetation*	*Hydric Soil Indicators*	*Potential WoSS*[1]	*Description*
W-FC-1	PSS/ PEM	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), Drainage Patterns (B10), Geomorphic Position (D2)	Green ash *(Fraxinus pennsylvanica),* red maple *(Acer rubrum),* Eastern hemlock *(Tsuga canadensis)*, American hornbeam *(Carpinus caroliniana),* maple-leaf arrow-wood *(Viburnum acerifolium),* sensitive fern *(Onoclea sensibilis),* wrinkle-leaf goldenrod *(Solidago rugosa),* cinnamon fern *(Osmundastrum cinnamomeum),* wrinkle-leaf goldenrod *(Solidago rugosa),* jack-in-the-pulpit *(Arisaema triphyllum),* spotted touch-me-not *(Impatiens capensis)*	Depleted Matrix (F3)	Yes – wetland within 25 ft of a stream is WoSS	Ravine riparian wetland to S-EGD-1
W-FC-2, 3, 4, & 6	PFO	High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9)	Sensitive fern, cinnamon fen, fowl manna grass *(Glyceria striata),* eastern poison ivy *(Toxicodendron pubescens),* red maple	Depleted Matrix (F3)	No	Very small, isolated areas of ruts and depressions with groundwater discharge on seepy side slopes.
W-FC-5	PFO	Water Marks (B1), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Drainage Patterns (B10), Moss Trim Lines (B16)	White pine *(Pinus strobus),* red maple, red oak *(Quercus rubra),* green ash, glossy false buckthorn *(Frangula alnus),* fringed sedge *(Carex crinite)*, broadleaf meadowsweet *(Spiraea latifolia)*, sensitive fern *(Onoclea sensibilis),* fowl manna grass *(Glyceria striata),* Asian bittersweet *(Celastrus orbiculatus)*	Depleted Matrix (F3)	No	Eroded drainage on side lope; deeper rutted and ephemerally ponded area on the western edge of the property. Wetland ends where a large, natural drainage valley forms below a footbridge and recreational trail.
W-FC-9 & 10	PUBx	Water Marks (B1), Sparsely Vegetated Concave Surface (B8), Water-Stained Leaves (B9), Moss Trim Lines (B16)	No vegetation in the basins	Depleted Matrix (F3)	No	Former sand/gravel borrow pits.

[1] MDEP NRPA Freshwater Wetlands of Special Significance. WoSS findings are based on review of on-site features; the Maine Department of Inland Fisheries and Wildlife (MDIFW) and Maine Natural Areas Program (MNAP) were not consulted regarding the potential presence of significant wildlife habitats or communities.

Thank you for the opportunity to assist you with natural resource review for this project. If you have questions regarding the results provided in this report, please do not hesitate to contact me or Rich Jordan (rich@flycatcherllc.com).

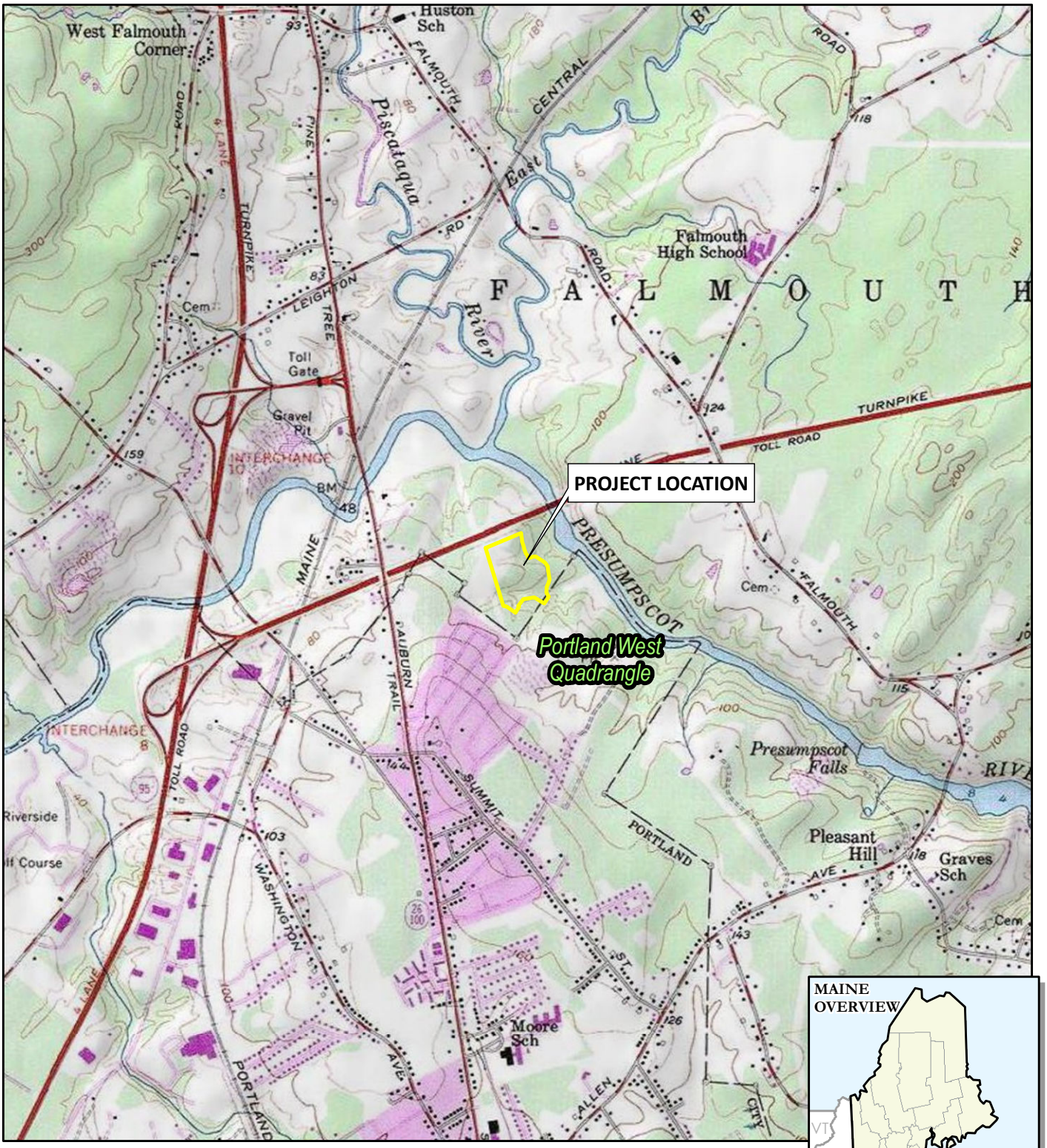
Sincerely,



Meg Thurrell, Environmental Scientist and Biologist
Flycatcher LLC

ATTACHMENT 1

2022 Locus Map and Map of Wetlands/Streams



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

1 " = 2,000 '
1:24,000

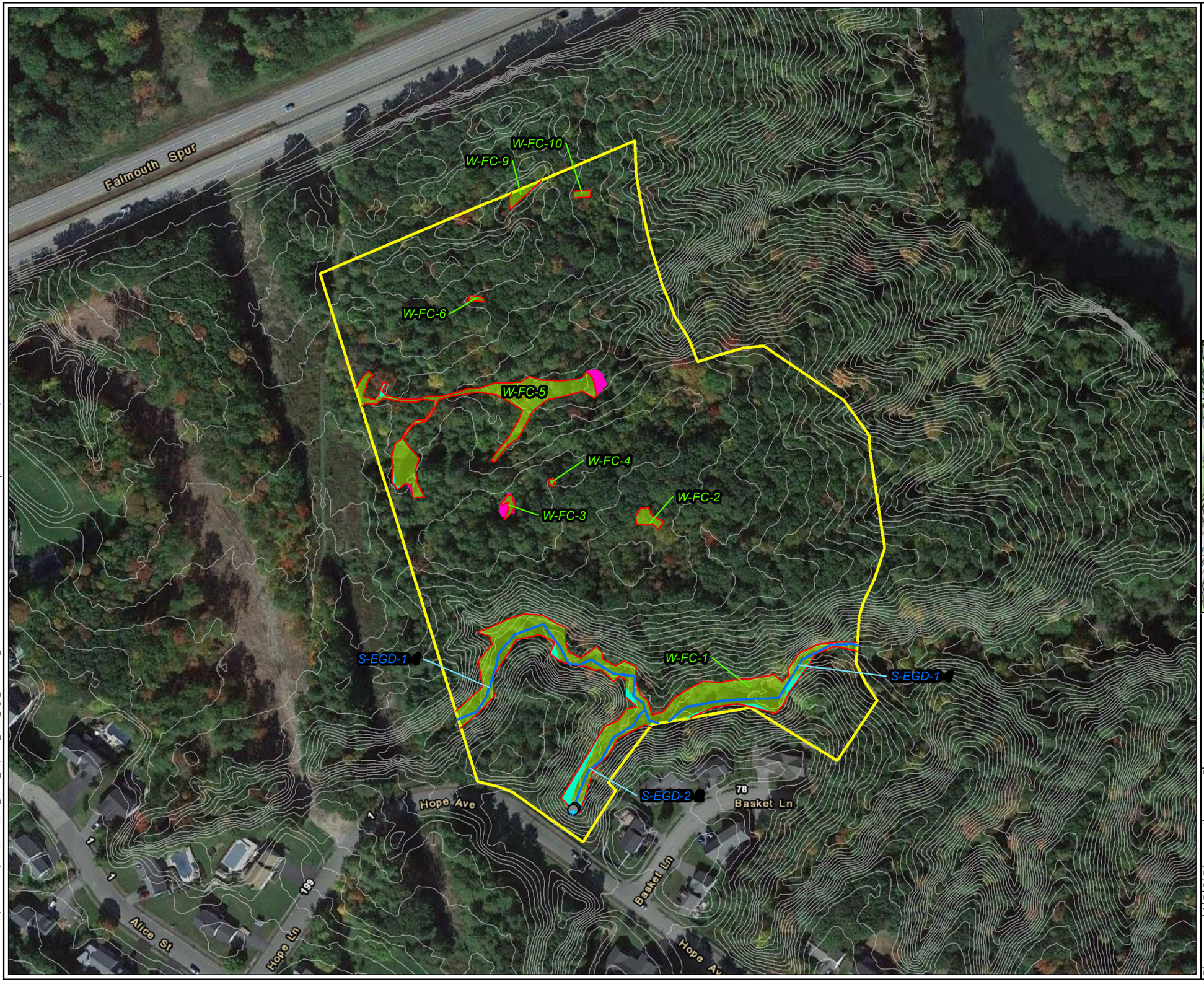
0 2,000 4,000 FEET

PROJECT:	GENX CAPITAL PARTNERS, LLC HOPE AVENUE PORTLAND, CUMBERLAND COUNTY, MAINE
LEGEND:	SURVEY AREA USGS 7.5-MINUTE QUADRANGLE BOUNDARY

DRAWN BY:	D. KENWORTHY
CHECKED BY:	R. JORDAN
MONTH:	JULY
YEAR:	2022
PROJ. NO.:	22W-1
CLIENT:	GENX

FIGURE 1

D:\Flycatcher\Projects\GenX\GenX_22W1_HopeAve_Delin_Fig1_USGS_8x11P.mxd -- Saved By: JAKEN on 7/20/2022, 15:18:19 PM



LEGEND

- SURVEY AREA
- CULVERT
- DELINEATED PERENNIAL STREAM (CENTERLINE)
- DELINEATED WETLAND BOUNDARY
- DELINEATED WETLAND
- PREVIOUS WETLAND AREA REMOVED
- EXPANDED WETLAND AREA
- 2-FOOT CONTOUR LINE



NOTES:

1 BASEMAP IMAGERY FROM ESRI/NAIP "WORLD IMAGERY" SERVICE LAYER.
2 RESOURCE DELINEATIONS WERE CONDUCTED BY FLYCATCHER IN JULY 2022.

0 150 300
Feet
1 " = 150 '
1:1,800

PROJECT:
GENX CAPITAL PARTNERS, LLC
HOPE AVENUE
PORTLAND, CUMBERLAND COUNTY, MAINE

TITLE:
DELINEATED WETLAND AND WATERCOURSE MAP

DRAWN BY:	D. KENWORTHY	PROJ NO.:	22W-1
CHECKED BY:	R. JORDAN		**FIGURE 2**
MONTH:	JULY		
YEAR:	2022		

Flycatcher LAND + SCIENCE + PEOPLE
GenX Capital Partners

FILE NO.: GenX_22W1_HopeAve_Delin_Fig2_Resources_11X17L.mxd

Plot Date: 7/21/2022, 06:00:59 AM by JAKEN -- LAYOUT: ANSI B(11"x17")
Path: D:\Flycatcher\Projects\GenX\GenX_22W1_HopeAve_Delin_Fig2_Resources_11X17L.mxd
Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet (Foot US)
Map Rotation: 0

ATTACHMENT 2

Representative Photographs



Wetland W-FC-1 and stream S-EGD-1, July 7, 2022.



Wetland W-FC-1 and stream S-EGD-2, July 7, 2022.



Wetland W-FC-3, July 16, 2022.



Wetland W-FC-4, July 16, 2022.



Wetland W-FC-5, July 16, 2022.



Wetland W-FC-6, July 16, 2022.



Wetland W-FC-9, July 16, 2022.



Wetland W-FC-10, July 16, 2022.

ATTACHMENT 3

TRC Wetland Report - 2017

TRC
6 Ashley Drive
Scarborough, ME 04074

Main 207-879-1930
Fax 207-879-9293

Memorandum

To: Doug Reynolds, Gorrill-Palmer

From: Stephenie Jordan, TRC

Subject: Natural Resource Survey – Hope Avenue, Portland, Maine

Date: November 1, 2017

CC: Rich Jordan (TRC)

Dear Doug,

Per your request, on October 17th and 23rd, 2017, TRC wetland scientists visited the property located off Hope Avenue in Portland, Maine. The purpose of this site visit was to review and revise, as necessary, delineated wetland and stream boundaries that were mapped several years ago on the property (old mapping conducted by another firm). The U.S. Army Corps of Engineers (USACE) and the Maine Department of Environmental Protection (MDEP) typically require a review of wetland delineations that are over five years old in the event that site conditions have changed or new standards have been developed that change the way we determine the extent of wetland boundaries. The previous delineation appears to have occurred over 10 years ago. Despite the length of time between mapping efforts, in general, TRC agreed with and confirmed many of the original wetland boundaries, however we found a few of the wetlands previously delineated currently do not have hydric soils or other criteria required to be identified as a jurisdictional wetland by the USACE and MDEP. These features were remapped or removed as appropriate. Other features were confirmed to be consistent with the original delineation. No new wetland areas were identified or added.

Property Description and Survey Area

The survey area borders an existing Central Maine Power transmission line corridor and Portland Water District mainline to the west and northwest, Hope Avenue to the south, the Falmouth I-95 Spur toll road to the north, and undeveloped forest land to the east (Attachment A - Resource Map). The Presumpscot River flows within the mature forest approximately 500 feet west of the survey area. The survey area consists of approximately 13 acres of undeveloped forest land that has historically been disturbed presumably by agricultural and forestry uses. Several depressions associated with historic ditching and borrow areas were observed on the property within the upland forest and rusty farm equipment can be found within the survey area.

Methodology

Prior to the site visit, TRC wetland delineators reviewed existing data sources including:

- United States Geological Survey (USGS) topographic mapping;
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping;
- Natural Resources Conservation Service (NRCS) medium-intensity soil survey mapping;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs);
- State of Maine Office of GIS (MEGIS) data; and
- Recent and historic aerial photography.

These data were used to assist in the identification of protected natural resources during the field surveys.

Wetlands: Wetland delineations were conducted in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (USACE 2012). This supplement follows criteria established in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, Technical Report T-87-1, 1987), but is region specific, giving the wetland delineator a better tool to apply to regional vegetation communities, indicators of hydrology and indicators of hydric soils when conducting a wetland boundary determination. This document provides a repeatable methodology to identify potential wetland areas within the project study area.

The study area was investigated on foot. When a location having the requisite three factors that constitute a wetland (i.e., hydrophytic vegetation, indicators of hydrology, and the presence of hydric soils) was encountered, the boundaries were flagged in the field and each flag was geo-located using a mapping grade global positioning system (GPS) unit (e.g. a Trimble GeoXH). The data were then post-processed using data collection and processing standards designed by the manufacturer to achieve sub-meter accuracy. These data are being provided to Gorrill Palmer as an ESRI Shapefile for use in project design and planning natural resource avoidance and minimization measures.

Streams: Watercourse identification followed the Maine Natural Resources Protection Act (NRPA) definition of a "River, stream or brook." Streams meeting this definition were flagged and geolocated as described above.

Non-Jurisdictional Drainages: As part of this survey, non-stream drainage areas were located and mapped as "non-jurisdictional drainages" (NJDs). Typical examples of NJDs include concentrated surface flow in uplands, natural or dug ditches, and drainage swales of natural or unnatural origin. The key difference between NJDs and regulated resources is a lack of stream characteristics or a combination of hydric soils, dominance of hydrophytic plants and evidence of hydrology. Furthermore, NJDs commonly lack a discernable streambed, contiguous defined stream banks, and/or evidence of mineral scour within the drainage path. Although non-regulated, these features often drain to protected resources or offsite, and they may be potential conduits for siltation or sedimentation during rain events. NJDs are important to note so that mitigation measures can be taken during construction to limit soil disturbance and prevent unintended impacts to adjacent resources.

Findings

Ten previously identified wetlands were reviewed and evaluated for the presence of the three factors that constitute a wetland. Based on the current site-specific conditions and the latest version of the USACE wetland delineation manual, not all of these features (either wholly or in part) exhibited indicators of hydrophytic vegetation, hydric soil, or wetland hydrology. All features identified on site are described in more detail below and numbered and displayed on the Resource Map in Attachment A.

Copies of the representative wetland/upland data forms, photographs, and GIS shapefiles showing the location of the review areas and delineated resources are also provided with this report. The unique identifiers noted on the data forms and photographs can be cross referenced against the data herein and the resource map to see where a particular resource is located.

All wetlands discussed herein are considered forested wetlands.

Review Area #1

This wetland feature is located in a valley that follows a perennial stream (a tributary to the Presumpscot River). The location of this previously flagged feature was confirmed as being unchanged from the prior delineation. The wetland and stream complex was reviewed, however, only a portion of the wetland near the site entrance from Hope Avenue was flagged in the field.

Review Areas #2, 3, 4, 6, and 10

All of these features were reviewed, confirmed and flagged as previously delineated.

Review Area #5

This wetland feature follows a slight pattern of microtopographic relief in the landscape and drains to the northeast via a non-jurisdictional (upland) drainage feature. Review area 5 appears to indicate both ditching and erosional features, and appears to be a relic of former agricultural use and impacts. The NJD pattern indicates that water flows from the wetland and to the northeast, eventually forming into a tributary (offsite) that drains to the Presumpscot River during storm events. The wetland was flagged in the field and the NJD feature GPS-located as shown on the Resource Map in Attachment A.

Review Areas #7 and 8

Although these two features had previously been identified as wetland in the previous (old) survey, they are lacking the indicators of hydrophytic vegetation and hydric soils described in current wetland delineation manuals. Both features are small localized depressions that are likely associated with historic ditching and excavation. Vegetation surrounding the depressions included red oak, red maple, and hemlock, all are tree species that can be found in upland areas. Signs of hydrology included moss trim lines and microtopographic relief but a closer examination of soils showed no indications of saturation during the growing season in the upper part of the soil. Based on this evidence, we concluded that these depressions do not hold water long enough to develop the anaerobic conditions that form hydric soils or favor the growth of hydrophytic vegetation and therefore, are not wetlands.

Review Area #9

This depressional feature is likely an old burrow pit. It is likely that portions of this area fill with storm and meltwater during certain times of the year, but it appears that the site drains rather quickly after filling. The southwestern portion of the previously delineated excavation area was evaluated closely and determined to lack hydrophytic vegetation and hydric soils. The wetland boundary was redelineated as shown on the Resource Map in Attachment A and flagged in the field.

If you have any questions regarding my assessments, or if you would like additional assistance with project permitting, please do not hesitate to contact me or Rich.

Respectfully submitted,



Stephenie Jordan

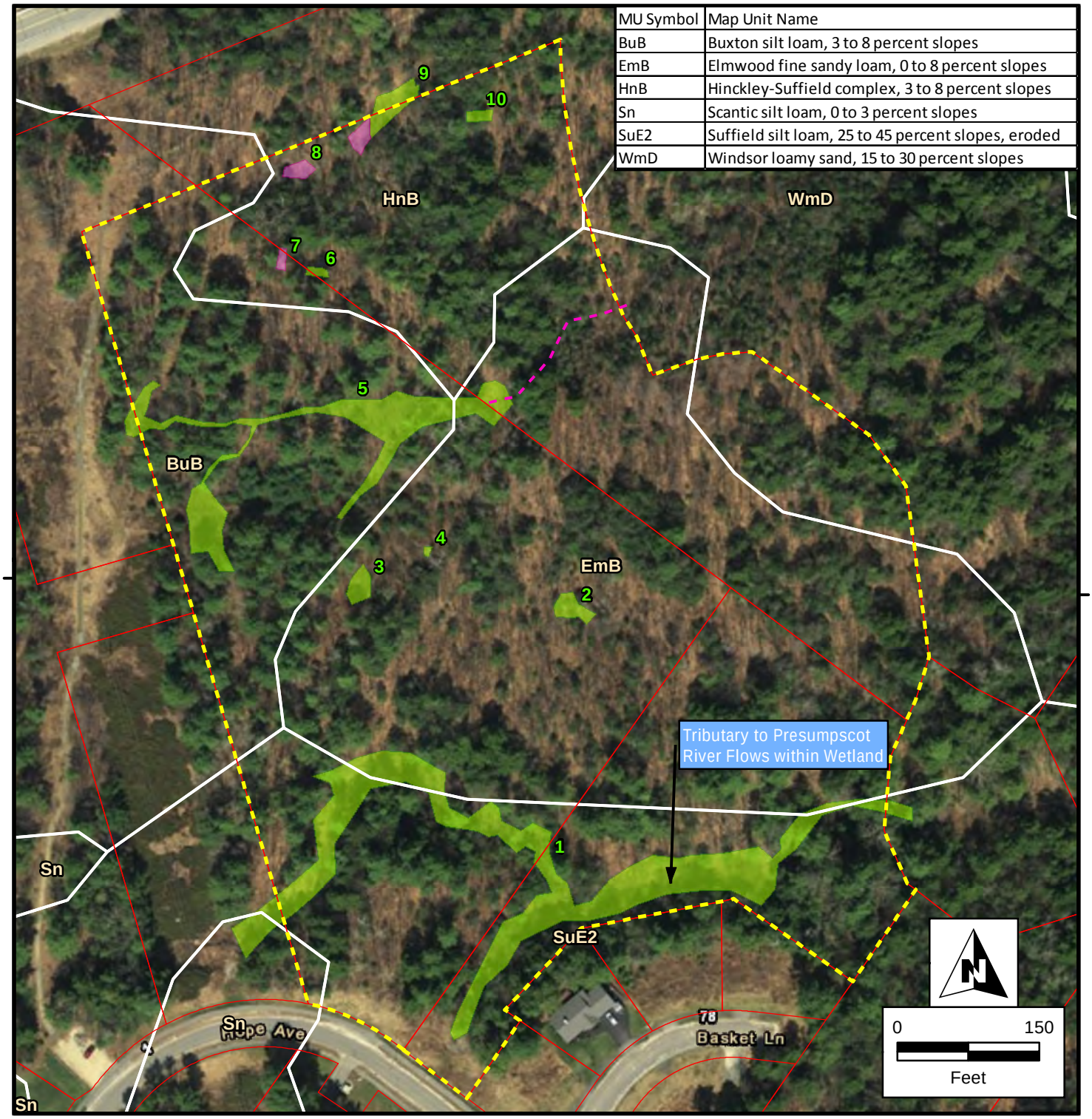
Wetland Scientist

Cell: 207-319-9801 Office: 207-274-2611

Email: sjordan@trcsolutions.com

ATTACHMENT A

Resource Mapping



MU Symbol	Map Unit Name
BuB	Buxton silt loam, 3 to 8 percent slopes
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes
HnB	Hinckley-Suffield complex, 3 to 8 percent slopes
Sn	Scantic silt loam, 0 to 3 percent slopes
SuE2	Suffield silt loam, 25 to 45 percent slopes, eroded
WmD	Windsor loamy sand, 15 to 30 percent slopes



- Parcel Boundaries
- Limit of Wetlands Survey
- Delineated Non-Jurisdictional Drainage
- Delineated Wetland
- Old Data Wetlands Reviewed and Removed
- NRCS Soils

Data Sources: ESRI, TRC, MEGIS, NRCS
Coordinate System: NAD 1983 UTM Zone 19N M

Hope Avenue

Portland, Maine

Resource Map

Aerial Location Figure

6 Ashley Drive
Scarborough, ME 04074
TRC

Created: 11/1/2017

V:\PROJECTS\AUGUSTA\Small_Projects\222955_Hope_Ave_Portland\Hope_Ave_Resource_Map.mxd

ATTACHMENT B

Photographic Log



Review Area #1: Water flowing in perennial stream within wetland, 10/18/2017.



Review Area #2: Looking southwest in wetland, 10/18/2017.



Review Area #3: Looking north in wetland, 10/18/2017. Review Area #4 is a small depressional feature located approximately 40 feet to the northeast of the wetland shown above.



Review Area #5: Looking east from wetland toward non-jurisdictional drainage, 10/18/2017.



Review Area #5: Looking west toward wetland, 10/18/2017.



Review Area #6: Looking west toward wetland, 10/18/2017.



Review Area #7: Looking northwest toward depression in upland forest (does not meet the criteria for a wetland), 10/18/2017.



Review Area #8: Looking northeast toward bowl-like depression that is likely an old burrow pit (does not meet the criteria for a wetland), 10/18/2017.



Review Area #9: Facing northeast in wetland, 10/18/2017.



Review Area #10: Facing west looking at wetland, 10/18/2017.

ATTACHMENT C

Representative Wetland Determination Data Form

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hope Ave City/County: Portland, Cumb. Co. Sampling Date: 10-23-17

Applicant/Owner: G.P. (client) State: ME Sampling Point: wet-5

Investigator(s): S. Jordan, R. Jordan Section, Township, Range: —

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): —

Subregion (LRR or MLRA): LRR Lat: 43° 43' 27.18" Long: 70° 17' 13.87" Datum: —

Soil Map Unit Name: Buxton Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks: (Explain alternative procedures here or in a separate report.)

Evidence of Drainage in channels heading east.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Sparsely Vegetated Concave Surface (B8)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ✓ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): ____

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Wet-5

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pin strobus *Aerial	*25	N	FACU
2. Ace rubrum	*25	N	FAC
3. Que rubra	*10	N	FACU
4. Fra pensylvanica	*10	N	FACW
5.			
6.			
7.			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. Rhamnus frangula	15	Y	FAC
2. Fra pensylvanicum	15	Y	FACW
3. Ace rubrum	10	Y	FAC
4.			
5.			
6.			
7.			
	40	= Total Cover	

Herb Stratum (Plot size: 5)			
1. Car crinita	10	Y	OBL
2. Ono sensibilis	5	N	FACW
3. Spi Latifolia	10	Y	FAC+
4. Gly striata	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1. Oriental bittersweet	5	N	UpL
2.			
3.			
4.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	1	x 1 =	1
FACW species	1	x 2 =	2
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	6 (A)		12 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ✓ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Wet-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	-	-	-	-	-	-	-	Duff
1-9	7.5YR 4/2	50	7.5YR 7/8	50	C	M	Silo	compact Bw
9-15+	10YR 4/1	90	7.5YR 6/8	10	C	M	Silo	compact Bc

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ____

Remarks:

No dark surface but depleted matrix

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hope Avenue City/County: Portland Cumb. Co Sampling Date: 10-23-17

Applicant/Owner: G.P. (client) State: ME Sampling Point: upl-5

Investigator(s): SJordan, RJordan Section, Township, Range: —

Landform (hillslope, terrace, etc.): fill pile Local relief (concave, convex, none): convex Slope (%): —

Subregion (LRR or MLRA): LRR Lat: 43° 43' 27.18" Long: 70° 17' 13.87" Datum: _____

Soil Map Unit Name: Buxton Silt Loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
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- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: UpL

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pin strobus	30	Y	FACU
2. Que rubra	20	Y	FACU-
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15)			
1. Fag grandifolia	15	Y	FACU
2. Rha frangula	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	

Herb Stratum (Plot size: 5)			
1. Aster spp	15	Y	Unk
2. Pin strobus	5	N	FACU
3. Lonicera spp	10	Y	Unk
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	

Woody Vine Stratum (Plot size: 30)			
1. celas orbiculatus	<5	N	Upl
2.			
3.			
4.			
	<5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	4	x 4 =	16
UPL species	0	x 5 =	0
Column Totals:	5 (A)		19 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

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Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: UpL-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15+	2.5YR 5/4	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
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- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
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Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
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- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

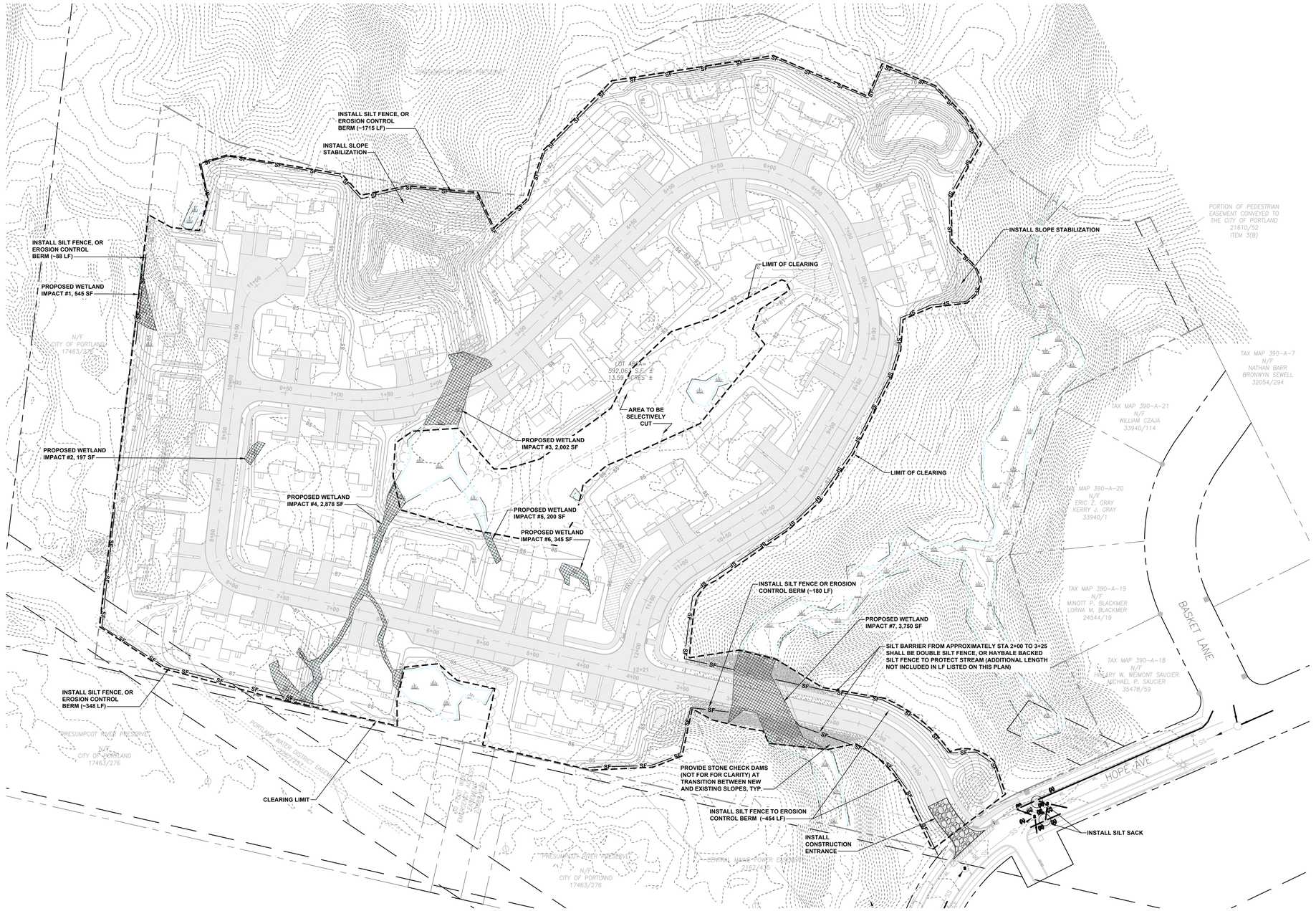
Remarks:

Disturbed fill pile, No redox, friable soils

ATTACHMENT 9

PLANS

C001 – Erosion Control, Clearing Limits, Legend and Notes
C103 – Proposed Grading and Drainage Plan



PARCEL INFORMATION

MAP / LOT:	390/A001, 448/A001001, 449/A002
LOT AREA:	13.59 ACRES
ZONE OR DISTRICT:	R-3 PRUD
FLOOD ZONE:	ZONE C (MINIMAL HAZARD)
WATER:	MUNICIPAL
SEWER:	MUNICIPAL

SITE DEVELOPMENT DATA

EXISTING IMPERVIOUS SF / AC:	0	0.00
NEW IMPERVIOUS SF/AC:	176,147	4.04
TOTAL IMPERVIOUS SF / AC:	176,147	4.04
TOTAL DEVELOPED SF / AC:	388,727	8.92
LOT COVERAGE ALLOWED/ PROVIDED:	35%	30%
WETLAND IMPACTS SF / AC:	9,917	0.23

DESIGN STANDARDS

R.O.W. WIDTH:	50'
TRAVELED WAY WIDTH:	20'
MINIMUM GRADE:	0.5%
MAXIMUM GRADE:	8%
ROADWAY CROWN:	3% LOCAL / 2% OTHER
MAX GRADE @ INT.	3% FOR 100'
SIGHT DISTANCE:	200' (BASED ON 25 MPH)
PARKING REQUIRED	1 PER DWELLING / UNIT
PARKING PROVIDED	(2) 1 GARAGE / 1 DRIVEWAY
BUILDING HEIGHT:	35 FT
MINIMUM FRONT SETBACK:	25 FT
MINIMUM REAR SETBACK:	25 FT
MINIMUM SIDE SETBACK:	25 FT
MINIMUM FRONTAGE:	50 FT
MINIMUM LOT WIDTH:	65 FT

PROJECT INFORMATION

APPLICANT:	GENX CAPITAL PARTNERS, LLC 2 COTTON STREET PORTLAND, MAINE 04101
ENGINEER:	HALEY WARD ATTN: JON WHITTEN, JR., PE 120 MAIN STREET SUITE 132 SACO, MAINE 04072

GRAPHIC SCALE

50 0 25 50 100 150

(IN FEET)
1 inch = 50 ft.

ABBREVIATIONS

@	AT	GAL	GALLON	PERF	PERFORATED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	GALV	GALVANIZED	PSF	POUNDS PER SQUARE FOOT
APPROX;±	APPROXIMATELY	GPH	GALLONS PER HOUR	PSI	POUNDS PER SQUARE INCH
		GPM	GALLONS PER MINUTE	PVC	POLYVINYL CHLORIDE
BLDG	BUILDING			PL	PROPERTY LINE
		HDPE	HIGH DENSITY POLYETHYLENE	POH	PROPOSED OVERHEAD ELECTRIC
CL	CENTERLINE			PUGE	PROPOSED UNDERGROUND ELECTRIC
CB	CATCH BASIN				
		ID	INSIDE DIAMETER	R	RADIUS
CLR	CLEAR	IN.	INCHES		
CMP	CORRUGATED METAL PIPE	INT.	INTERSECTION	S	SLOPE
CO	CLEANOUT	INV.	INVERT	SCL	STORMWATER COLLECTION LINE
CPE	CORRUGATED POLYETHYLENE			SCS	STORMWATER COLLECTION SYSTEM
		MAX.	MAXIMUM	SDR	STANDARD DIMENSION RATIO
		MDOT	MAINE DEPT. OF TRANSPORTATION	SE	SOUTHEAST
DI	DUCTILE IRON	MH	MANHOLE	SHT	SHEET
DIA.	DIAMETER	MIN	MINIMUM	SQ	SQUARE
				SS	STAINLESS STEEL
E	EASTING	N	NORTHING	SY	SQUARE YARD
EL	ELEVATION	NE	NORTHEAST		
EFM	EXISTING FORCE MAIN	N.T.S.	NOT TO SCALE	TBM	TEMPORARY BENCH MARK
EPS	EXTRUDED POLYSTYRENE	NWT	NON WOVEN GEOTEXTILE	TOC	TOP OF CONCRETE
				TYP	TYPICAL
FM	FORCEMAIN	OD	OUTSIDE DIAMETER		
		O.C.	ON CENTER		
		OH	OVERHEAD		
		OZ	OUNCES		

LEGEND:

DESCRIPTION	EXISTING	PROPOSED
BENCHMARK		
SURVEY STATION		
MANHOLE		
UTILITY POLE		
SIGN		
CATCH BASIN		
HYDRANT		
WATER VALVE		
GATE VALVE		
PROPERTY LINE		NA
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
CENTERLINE		
MAJOR FOOT CONTOUR	100	100
MINOR FOOT CONTOUR	98	98
TREE LINE		

DESCRIPTION	EXISTING	PROPOSED
WATERLINE	W	W
STORM DRAIN	SD	SD
FORCE MAIN		FM
SANITARY SEWER	SS	SS
UNDERGROUND UTILITIES	UGE	UGU
SEDIMENT CONTROL BARRIER	NA	SF
CHAIN LINK FENCE	NA	X
WETLAND BOUNDARY		
STREAM		
PAVED SURFACE		
RIP RAP	NA	
WETLAND IMPACT	NA	
SNOW STORAGE		
WETLAND		

SOURCE NOTES:

1. EXISTING CONDITIONS IS BASED UPON BOUNDARY AND TOPOGRAPHIC SURVEY AT HOPE LAND MADE FOR GENX CAPITAL PARTNERS, 2 COTTON STREET, PORTLAND, ME 04101, BY OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS, DATED SEPTEMBER 12, 2022.
2. THIS SURVEY IS ORIENTED TO THE MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83).
3. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. THERE MAY BE ADDITIONAL UNDERGROUND WIRES, CABLES, UTILITIES, AND/OR STRUCTURES NOT SHOWN ON THIS PLAN. THE LOCATIONS SHOWN HEREON ARE BASED UPON SURFACE FEATURES VISIBLE AT THE TIME OF THE SURVEY. NO EXCAVATIONS WERE MADE DURING THE COURSE OF THIS SURVEY TO VERIFY AND/OR LOCATE ANY UNDERGROUND STRUCTURES.
5. THE EXISTING TOPOGRAPHY IS A COMBINATION OF SURVEY PERFORMED BY OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS AND STATE OF MAINE LIDAR.
6. PROPOSED LAYOUT IS BASED UPON BUILDING FLOOR PLANS FOR PRESUMPSCOT WOODS, PREPARED BY A. MALTESE DESIGN, DATED 07.08.22.
7. NATURAL RESOURCE DATA WAS PROVIDED IN DWG. AND PDF. FORMAT FOR PROJECT GENX CAPITAL PARTNERS, LLC, HOPE AVENUE, PORTLAND, CUMBERLAND COUNTY, MAINE, DELINEATED WETLAND AND WATERCOURSE MAP, PREPARED BY FLYCATCHER, AND DATED JULY 2022.

REV.	DATE	DESCRIPTION	BY	CHK

DRAWING ISSUE STATUS:

ISSUED FOR PERMITTING 4/6/2023
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

EROSION CONTROL, CLEARING LIMITS, LEGEND AND NOTES

STATE OF MAINE
JON H. WHITTEN, JR.
No. 10414
04 DAY 2023
LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.09.29	1"=50'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ	DSB/BLQ	JHW

PROJECT No. 13773.001

DRAWING No. **C001** REV.

FILE LOCATION: P:\13773-BW\BERG_CONSULTING\00-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\13773.001-C-SN.DWG, 2023.04.06, 11:47 AM

GENERAL NOTES:

1. DRIP EDGE FILTERS SHALL BE DAYLIGHTED WITH 6" SOLID HDPE PIPE WITH RODENT SCREEN TO REAR OF BUILDINGS, TYP.
2. FOUNDATION DRAINS SHALL BE TIED INTO THE NEAREST CATCH BASIN (BASEMENTS SHALL REQUIRE SUMP PUMPS).
3. CONTRACTOR SHALL USE MEANS AND METHODS NECESSARY TO ENSURE CONSTRUCTION VEHICLES AND ACTIVITIES DO NOT EXTEND BEYOND THE PROPERTY BOUNDARY.

PROPOSED RIP RAP SPILLWAY
OUTLET: 76.65
BIOCELL A REFER TO DETAIL ON SHEET C504
PROPOSED 15" HDPE SD L: 14 LF / S: 0.007
OUTLET: 74.65
BIOCELL B REFER TO DETAIL ON SHEET C504
PROPOSED 15" HDPE SD L: 115 LF / S: 0.029
PROPOSED 2:1 RIP RAP SLOPE AND SPILLWAY
PROPOSED 4" HDPE PIPE L: 75 LF / S: 0.005
PROPOSED 6" HDPE PIPE L: 40 LF / S: 0.005
WETPOND A OUTLET STRUCTURE REFER TO DETAIL AND TABLE ON SHEET C505
PROPOSED 2:1 RIP RAP SLOPE AND SPILLWAY
WETPOND B
PROPOSED OUTLET PROTECTION
WETPOND B OUTLET STRUCTURE REFER TO DETAIL AND TABLE ON SHEET C505
PROPOSED 24" HDPE L: 43 LF / S: 0.002 INV. IN: 74.00 INV. OUT: 74.08
PROPOSED 15" HDPE L: 69 LF / S: 0.005 INV. IN: 84.08 INV. OUT: 83.74
WETPOND A
PROPOSED 24" HDPE SD L: 15 LF / S: 0.020
PROPOSED 15" HDPE SD L: 143 LF / S: 0.011
PROPOSED BANK STABILIZATION
PROPOSED 12" HDPE L: 34 LF / S: 0.010 INV. IN: 76.45 INV. OUT: 75.85
100' PERENNIAL STREAM SETBACK
PROPOSED 15" HDPE SD L: 32 LF / S: 0.015
PROPOSED 15" HDPE SD L: 15 LF / S: 0.007
PROPOSED 15" HDPE SD L: 110 LF / S: 0.013
PROPOSED 15" HDPE SD L: 70 LF / S: 0.005
PROPOSED 15" HDPE SD L: 128 LF / S: 0.032
PROPOSED 18" HDPE L: 67 LF / S: 0.005 INV. IN: 76.50 INV. OUT: 76.15
PROPOSED 24" HDPE SD L: 93 LF / S: 0.005
PROPOSED 15" HDPE SD L: 24 LF / S: 0.006
PROPOSED 15" HDPE SD L: 14 LF / S: 0.007
PROPOSED 15" HDPE SD L: 14 LF / S: 0.007
PROPOSED 15" HDPE L: 63 LF / S: 0.006 INV. IN: 83.15 INV. OUT: 82.77
PROPOSED 18" HDPE SD L: 92 LF / S: 0.005
PROPOSED 15" HDPE SD L: 51 LF / S: 0.005
PROPOSED 15" HDPE SD L: 58 LF / S: 0.005
PROPOSED 15" HDPE SD L: 38 LF / S: 0.006
PROPOSED 15" HDPE SD L: 24 LF / S: 0.006
PROPOSED 15" HDPE L: 15 LF / S: 0.157 INV. IN: 83.80 INV. OUT: 81.45
PROPOSED CONCRETE BOX CULVERT 6' H x 6' W x 72' L
PROPOSED 15" HDPE SD L: 14 LF / S: 0.007
PROPOSED 15" HDPE SD L: 17 LF / S: 0.005
OUTLET: 79.65
RIP RAP SPILLWAY AND 2:1 SLOPE
PROPOSED GUSF 1 SOIL GROUP: C FILTER SIZE: 10'x20' REFER TO DETAIL AND TABLE ON SHEET C505
PROPOSED GUSF 2 SOIL GROUP: C FILTER SIZE: 10'x20' REFER TO DETAIL AND TABLE ON SHEET C505
OUTLET: 72.88
PROPOSED RIP RAP SPILLWAY
PROPOSED 15" HDPE SD L: 27 LF / S: 0.002
PROPOSED 15" HDPE SD L: 14 LF / S: 0.005
PROPOSED 15" HDPE SD L: 24 LF / S: 0.006
CB-01 CB-02 CB-03 CB-04 CB-05 CB-06 CB-07 CB-08 CB-09 CB-10 CB-11 CB-12 CB-13 CB-14 CB-15 CB-16 CB-17 CB-18 CB-19 CB-20 CB-21 CB-22 CB-23 CB-24 CB-25 CB-26 CB-27
SMH-18 SMH-19 SMH-20
HOPE AVE
BAY

GRAPHIC SCALE

40 0 20 40 80 120
(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS
ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE
PROPOSED GRADING AND DRAINAGE PLAN

DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ	DSB	JHW

PROJECT No. 13773.001

DRAWING No. **C103** REV. **2**

FILE LOCATION: P:\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-HWW\SI-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-GR.DWG, 2023.08.29, 4:06 PM

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

GENX CAPITAL PARTNERS, LLC	) NATURAL RESOURCES PROTECTION ACT
Portland, Cumberland County	) FRESHWATER WETLAND ALTERATION
DWELLING UNITS AND ACCESS WAY	) WATER QUALITY CERTIFICATION
L-30483-TC-B-N (approval)	) FINDINGS OF FACT AND ORDER

Project Description: The applicant proposes to fill 10,537 square feet of forested wetlands. The applicant proposes to construct 60 new dwelling units through a combination of duplex and triplex buildings along with a private access way and associated utilities, as shown on a plan titled "Presumpscot Woods Subdivision, Erosion Control, Clearing Limits, Legend and Notes," prepared by Haley Ward, and dated September 29, 2022. The applicant has avoided and minimized wetland impacts to the greatest extent practicable by locating most of the development in the upland areas, orienting the development layout so that the larger wetland areas are at the center, undeveloped portion of the lot, and constructing the side slopes of fill areas as steeply as possible. According to the Department's Geographic Information System (GIS), there are no mapped essential or significant wildlife habitats associated with the project site. The proposed project is located off Hope Avenue in the City of Portland.

Permit for: [X] Tier 1

DEP Decision: [X] Approved [ ] Denied (see attached letter)

Please note: A U. S. Army Corps of Engineers permit may also be required for your project. The Corps typically accepts a copy of your Maine DEP NRPA application, but you are responsible for submittal to the Corps. We encourage you to contact them directly at cenae-r-me@usace.army.mil or (207) 623-8367 to discuss their application process. Please note that no regulated work within Corps jurisdiction may be started until you receive a Corps permit.

Standard Conditions:

1) If construction or operation of the activity is not begun within four (4) years from the date signed, this permit shall lapse and the applicant shall reapply to the Department for a new permit. This permit is transferable only with prior approval from the Department. If the activity is associated with a larger project, starting any aspect of that project constitutes start of construction.
2) The project shall be completed according to the plans in the application. Any change in the project plans must be reviewed and approved by the Department.
3) Properly installed erosion control measures shall be installed prior to beginning the project, and all disturbed soil should be stabilized immediately upon project completion.
4) A copy of this approval will be sent to the City of Portland. Department approval of your activity does not supersede or substitute the need for any necessary local approvals.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 15th DAY OF DECEMBER, 2023.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

Carr/L30483BN/ATS #91576

FILED
December 15th, 2023
State of Maine
Board of Environmental Protection

Natural Resources Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCES PROTECTION ACT, 38 M.R.S. § 480-A ET SEQ., UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised September 2016

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: August 2021 **Contact: (207) 314-1458**

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner.

Except as provided below, there are two methods available to an aggrieved person seeking to appeal a licensing decision made by the DEP Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review Organization and Powers, 38 M.R.S. §§ 341-D(4) and 346; the Maine Administrative Procedure Act, 5 M.R.S. § 11001; and the DEP's *Rule Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Not more than 30 days following the filing of a license decision by the Commissioner with the Board, an aggrieved person may appeal to the Board for review of the Commissioner's decision. The filing of an appeal with the Board, in care of the Board Clerk, is complete when the Board receives the submission by the close of business on the due date (5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board, as determined by the received time stamp on the document or electronic mail). Appeals filed after 5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board will be dismissed as untimely, absent a showing of good cause.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
ruth.a.burke@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee; and if a hearing was held on the application, (3) any intervenors in that hearing proceeding. **Please contact the DEP at 207-287-7688 with questions or for contact information regarding a specific licensing decision.**

REQUIRED APPEAL CONTENTS

A complete appeal must contain the following information at the time the appeal is submitted.

1. *Aggrieved status*. The appeal must explain how the appellant has standing to bring the appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error*. The appeal must identify the specific findings of fact, conclusions of law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing criteria that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license to changes in specific license conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for hearing must be filed as part of the notice of appeal, and it must include an offer of proof regarding the testimony and other evidence that would be presented at the hearing. The offer of proof must consist of a statement of the substance of the evidence, its relevance to the issues on appeal, and whether any witnesses would testify. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed supplemental evidence must be submitted with the appeal. The Board may allow new or additional evidence to be considered in an appeal only under limited circumstances. The proposed supplemental evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Requirements for supplemental evidence are set forth in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made accessible by the DEP. Upon request, the DEP will make application materials available to review and photocopy during normal working hours. There may be a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing the appeal.* DEP staff will provide this information upon request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a licensee may proceed with a project pending the outcome of an appeal, but the licensee runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of an appeal, and it will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials admitted by the Board as supplementary evidence, any materials admitted in response to the appeal, relevant excerpts from the DEP's administrative record for the application, and the DEP staff's recommendation, in the form of a proposed Board Order, will be provided to Board members. The appellant, the licensee, and parties of record are notified in advance of the date set for the Board's consideration of an appeal or request for a hearing. The appellant and the licensee will have an opportunity to address the Board at the Board meeting. The Board will decide whether to hold a hearing on appeal when one is requested before deciding the merits of the appeal. The Board's decision on appeal may be to affirm all or part, affirm with conditions, order a hearing to be held as expeditiously as possible, reverse all or part of the decision of the Commissioner, or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the licensee, and parties of record of its decision on appeal.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board Clerk at 207-287-2811 or the Board Executive Analyst at 207-314-1458 bill.hinkel@maine.gov, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal. The DEP provides this information sheet for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

ZONING ANALYSIS Relevant Zone(s) R-3 PRUD

All Projects: **REFER TO PRUD REQUIRMENTS TABLE, BELOW**

	Required	Proposed
Lot Size	PRUD	
Area Per Dwelling Unit	PRUD	
Minimum Street Frontage	PRUD	
Front Yard Minimum	PRUD	
Front Yard Maximum	PRUD	
Rear Yard	PRUD	
Yard Right	PRUD	
Yard Left	PRUD	
Side Street Setback	PRUD	
Step Back	N/A	
Maximum Lot Coverage	35%	29.8%
Minimum Lot Coverage	N/A	
Maximum Height	PRUD	
Open Space	PRUD	
Maximum Impervious Area	N/A	
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	1 SPC/UNIT	2.5 SPC/UNIT
Loading Bays	N/A	
Other 1	N/A	
Other 2	N/A	
Other 3	N/A	

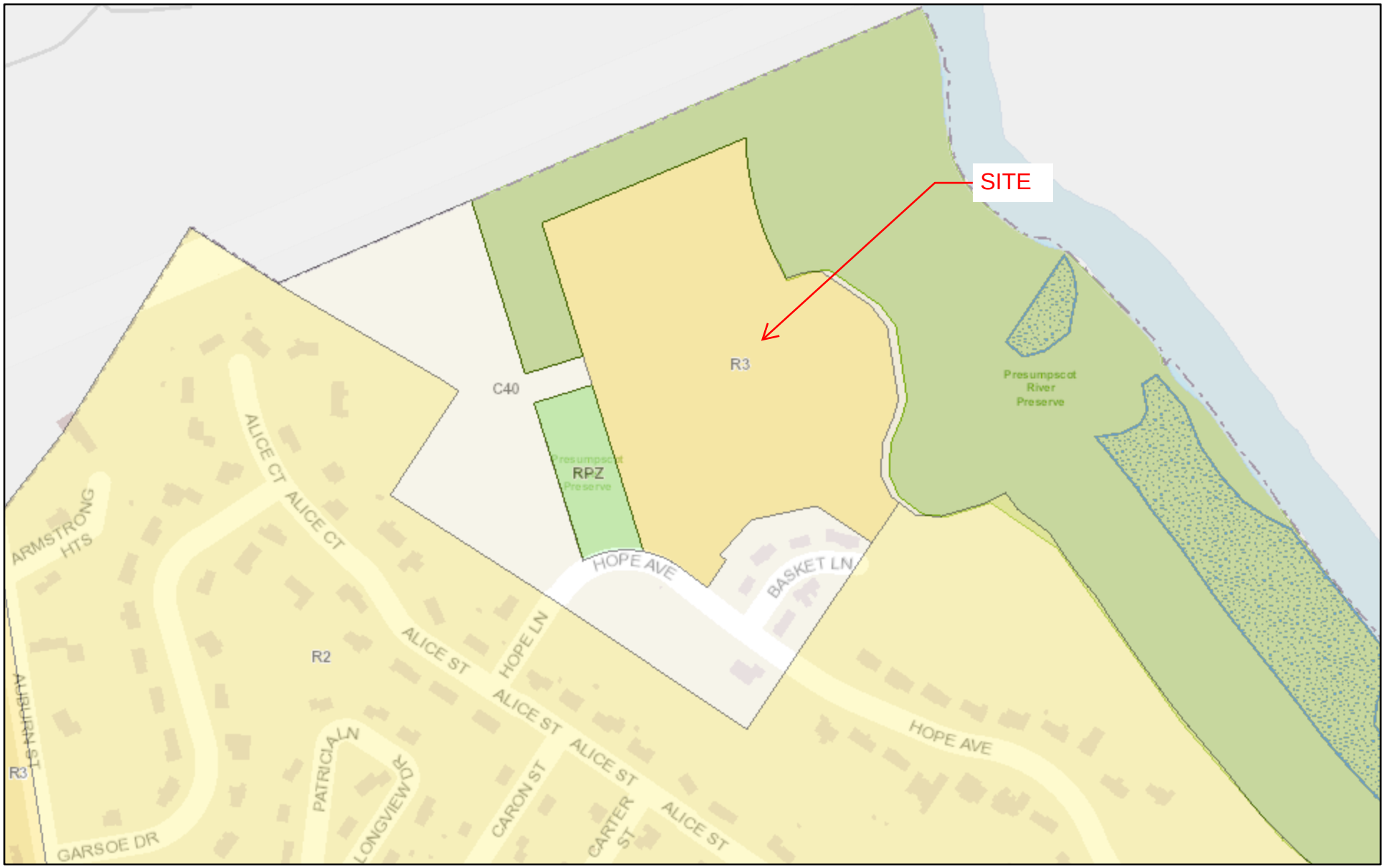
Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size	3 AC	13.7 AC
Minimum Lot Area per Dwelling	6500 SF	~9900 SF
Maximum # Units per Building	6	3
Maximum Building Length	140'	110'
Maximum Accessory Building Length	N/A	N/A
Minimum Setbacks	25'	25'
Minimum Building Separation	16'	16'
Minimum Open Space	300 SF/UNIT	900 +

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):			

ArcGIS Web Map



5/2/2022, 9:15:00 AM

1:4,080

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

City of Portland, DPS

Zoning

- IR-1 Island Residential
- IR-2 Island Residential
- IR-3 Island Residential
- I-B Island Business
- I-TS Island Transfer Station
- R1 Residential
- R2 Residential
- R3 Residential
- R4 Residential
- R5 Residential
- R-5A Residential
- R6 Residential
- R-6A Residential

ArcGIS Web AppBuilder

City of Portland, DPS |

Presumpscot Woods
0 Hope Ave., Portland, Maine
Waiver Requests

The following waivers are requested for the Presumpscot Woods development:

1. **City of Portland Technical Manual Standard 8.2.1 – 100' perennial stream buffer**
   The Applicant requests a waiver for the 100' perennial stream setback as required by Section 8.2.1 of the City of Portland's Technical Manual. This project maintains a 75' buffer as required by the Maine Department of Environmental Protection. Disturbance within the 100' setback is minimal, consisting of approximately 1,000 square feet of roadway/sidewalk, and approximately 2,700 square feet of lawn/structure. This minor encroachment is necessary in order to preserve the wooded/wetland areas in the center of the development. The majority of disturbed areas within the encroachment will be internally drained to stormwater management systems, and those that aren't will be adequately addressed with erosion control best management practices.

GenX Capital Partners

Property Location: O Hope Lane, Portland, ME

Subject: Level III Site Plan Application

Date: September 26, 2022

General Application Documents: Financial Capability

The following are key members of the development team:

1) Shinberg Consulting, Portland, Maine
2) Haley Ward Engineering, Saco, Maine
3) Owen Haskell Surveyors, Falmouth, Maine
4) RS Leonard Landscape Architecture, Portland, Maine
5) John Q. Adams, P.E. Barton & Loguidice, Inc. Transportation Engineer, Scarborough, Maine
6) GenX Capital Partners, LLC, Portland, ME

GenX Capital Partners, LLC has developed and also financed more than $500 million in commercial real estate projects over the past 6 years throughout the U.S.

Current and Past Successful development projects

Cottages at Pine Meadow, Saco, Maine- 32 home "Over 55" subdivision that is now 90% SOLD OUT- $10+ million development

1179 Shore Rd, Cape Elizabeth, Maine- $1.7MM

3 Caydens Way, Cape Elizabeth, Maine- $1.3 MM

Carr Woods, 18 Home Subdivision, Cape Elizabeth, Maine- $22 million Pre-Approved development- Town has approved GenX/Mark McClure's technical and financial capability

The Mark, Cumberland Foreside, Maine- 45 unit FULLY APPROVED condo development. GenX has capitalized the initial $4MM in soft and acquisition costs with lender and equity financing. Bank financing term sheets in place. Town of Cumberland has approved GenX-McClure's financial capacity for this $21 million development

53 Waites Landing, Falmouth, ME $2.2MM

2 Town Landing, Falmouth ME $2.4MM

GenX Capital Partners has also financed more than 15 projects thus far in Maine for clients to the tune of $20+ million for 2022

www.GenXCP.com
www.GenX-Lending.com

GenX Capital Partners

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www.GenXCP.com
www.GenX-Lending.com

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Wed May 04 2022 13:40:06. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
GENX CAPITAL PARTNERS LLC	20201169FC	LIMITED LIABILITY COMPANY (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
05/12/2020	N/A	FLORIDA

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

REGISTERED AGENTS INC
415 CONGRESS ST
STE 202A
PORTLAND, ME 04101

Back to previous screen | New Search

Click on a link to obtain additional information.

List of Filings	View list of filings
Obtain additional information:	
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our Feedback page.

© Department of the Secretary of State

181 State Street, PO Box 4424, Portland, Maine 04101
(207) 772-7070 Office | info@shinbergconsulting.com

Property Location: O Hope Lane, Portland, ME

Subject: Level III Site Plan Application

Date: September 26, 2022

General Application Documents: Technical Capability

The following are key members of the development team:

1) Shinberg Consulting, Portland, Maine
2) Haley Ward Engineering, Saco, Maine
3) Owen Haskell Surveyors, Falmouth, Maine
4) RS Leonard Landscape Architecture, Portland, Maine
5) John Q. Adams, P.E. Barton & Loguidice, Inc. Transportation Engineer, Scarborough, Maine

Haley Ward has worked with the LA, Surveyor and Engineers on several projects.

Shinberg Consulting has provided Owners Representative services to private and public entities since 2004.

We have acted as the Owners Representative services in addition to part ownership for projects located at 135 Sheridan St. and 645 Congress St.

Some of the notable projects that Shinberg Consulting has provided Owners Representative Services include:

- The Intermed Building
- Hyatt Hotel Old Port
- The Press Hotel
- 63 Marginal Way
- 280 Fore St.
- The Mina Building
- 50 Portland Pier
- 154 Clark St. for Shalom House
- Randall Place for The Opportunity Alliance
- 135 Sheridan Street
- 645 Congress Street
- Ocean House Common in Cape Elizabeth
- Two Lights Dental and apartments Cape Elizabeth
- 192 Western Avenue in South Portland

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

Jon H. Whitten, Jr., PE

Senior Project Manager

jwhitten@haleyward.com | 207.989.4824



Jon H. Whitten, Jr. has over 25 years of civil engineering experience related to site development design, permitting, and project management. Design experience includes site layout, roadways, public and private utility infrastructure, stormwater management systems, and erosion control features for municipal, commercial, and residential projects. Jon continues to further expand his professional engineering, project management, and business management skills by working on a wide range of projects, both in type and size, for a variety of clients throughout Maine. He is well versed in guiding these projects through design and the Local, State and Federal zoning, natural resources, and regulatory permitting processes. Additionally, Jon has worked on; Gravel and Rock Extractions, Solid Waste Facilities, Recreation Trails, Construction Administration/Observation, Post Construction Stormwater Inspections, etc.

PROFESSIONAL HISTORY

2019 – Present
Haley Ward, Inc.
Senior Project Manager

2015 – 2019
Plymouth Engineering Inc.
Senior Project Manager

2006 – 2015
Terradyn Consultants, LLC
Principal / Project Manager

1996 – 2006
Sebago Technics, Inc.
Project Manager / Project Engineer

CORE EXPERTISE:
Site Design and Permitting
Utilities and Roads Construction Administration/Oversight
Environmental Permitting

EDUCATION:
B.S. Civil Engineering, University of Maine, Orono

REGISTRATIONS:
Professional Engineer, State of Maine (#10414)

AFFILIATIONS:
American Society of Civil Engineers
National Society of Professional Engineers

PROJECT EXPERIENCE

Whole Oceans Aquaculture Facility | Bucksport, Maine

Jon served as Haley Ward's Engineering Design Project Manager for the proposed Whole Oceans Aquaculture Facility, a large, state of the art, Land Based Aquaculture Facility, on the site of the old Verso Paper Mill in Bucksport, Maine. The project includes the development of approximately 22-Acres of new buildings and a myriad of support system components on a 104-Acre site. Haley Ward played an important role as a member of the Whole Oceans Design Team, which was a collaboration of several consultants from the United States and Canada. Haley Ward, Inc., recently, successfully prepared and coordinated the submittal, review, and approval of an Amended Site Location of Development Act (SLODA) Permit from the Maine Department of Environmental Protection and a Town of Bucksport Land Use Permit. Haley Ward looks forward to assisting in moving this project into the construction phase soon.

Center for Professional Mariner Development Campus – Maine Maritime Academy | Bucksport, Maine

As Project Manager, Jon worked with Maine Maritime Academy (MMA) staff to develop a Master Plan for their Center for Professional Mariner Development Campus on approximately 4.5 acres of the old Verso Paper Mill property in Bucksport, Maine. After securing the Amended Site Location of Development Act Permit from the Maine Department of Environmental Protection and a Land Use Permit from the Town of Bucksport for the Master Plan; Jon again acted as Project Manager to develop construction plans for a fire training building. This required the coordination of our Civil and Structural Engineering groups, as well as our Architectural group. Jon was also responsible for oversight of a team to manage the construction bidding process and to assist MMA with technical support throughout construction.

Route 15 Business Park – Town of Orrington | Orrington, Maine

Jon worked with the Town of Orrington for approximately two years to develop and finalize a 35-Lot Business Park off Route 15 in Orrington, Maine. As the Project Manager, Jon managed a team of professionals (both in-house and sub-consultants) to work with the Town's Selectmen's Economic Advisory Committee to develop a Master Plan for the project and then to finalize the design and secure Land Use Permits, Natural Resource Permits, and a Traffic Movement Permit. The project included the design of approximately 6,000 feet of roadway, stormwater management for all future development, a roadway/railroad crossing, protection of an archaeological find, and a new entrance on Route 15.

Deer Park Village | Milford, Maine
As the Project Manager, Jon has worked closely with the owner/applicant and a local wetland scientist to manage the Site Location of Development Act Permit, Natural Resources Protection Act Permit, and Town of Milford Land Use Permit for this proposed 146-unit, 55 and older residential community. The project includes new roadways, dwellings, water, sewer, power, and communications utilities, stormwater management, etc. Due to it being adjacent to the Penobscot River, an archaeological study was required, and Jon was able to manage a bid process to hire a company to perform that work. Extensive coordination with the Maine Department of Environmental Protection, the Town of Milford, Maine Department of Inland Fisheries & Wildlife, and the City of Old Town was required as well.

Dearborn Precision Tubular Products, Inc. | Fryeburg, Maine
Jon managed the campus planning and design, site grading, stormwater management and permitting for a large expansion of an existing site. The site included 22-acres of impervious area on a 76-acre parcel of land. Stormwater management features included catch basin and pipe system, dry swales, and large infiltration basins. Jon worked closely with the owner, a Construction Manager as Constructor, and other professional consultants to obtain a Site Location of Development Permit from MDEP for this project.

Town of Baldwin | Baldwin, Maine
Jon served as Project Manager and Project Engineer for the stormwater modeling of over 200 acres of mountainous terrain to establish flow characteristics and flood levels at two problematic culvert crossings on Brown Road in Baldwin, Maine. The re-design of the culvert crossings included the installation of new, larger pipes as well as new vertical alignment for approximately 700 linear feet of roadway. Jon coordinated with the Federal Emergency Management Agency (FEMA) and MDEP throughout the project design and construction observation for this project.

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

Drew Olehowski, PE

Project Engineer

dolehowski@haleyward.com | 207.989.4824



Drew Olehowski has five years of experience providing civil engineering design to residential and commercial clients. As a Project Engineer, Drew contributes to the design, permitting, bidding, and construction administration for a wide array of projects such as: sites, roadways, and stormwater management/erosion control systems. Drew is experienced in working with local, state, and federal agencies to obtain required permitting, including: local planning board approval; Site Location of Development; Stormwater Permit by Rule; Stormwater Permit; and the Natural Resources Protection Act.

PROFESSIONAL HISTORY

2017 – Present
Haley Ward, Inc.
Civil Engineer

Summer 2016
United States Geological Survey
Student Trainee

Summer 2015
Maine Department of Transportation, Environmental Unit
Internship

CORE EXPERTISE:
Site Design and Permitting
Utility/Roadway Design
Environmental Permitting
Hydrology/ Water Resources
Construction Inspection and Administration

EDUCATION:
Master of Engineering, Environmental Engineering (2017) Rensselaer Polytechnic Institute, Troy, New York
B.S. Environmental Engineering (2017), Rensselaer Polytechnic Institute, Troy, New York

REGISTRATION:
Maine PE License (#16372) exp 12/31/23

LPA Certified through 12/31/23

PROJECT EXPERIENCE

Atlantic Salmon Stream Crossings | Various Maine Locations
Drew was responsible for the design and construction administration and inspection of stream crossings throughout Maine. These projects consisted of the implementation of crossings that meet the requirement of maintaining the natural migratory route for the endangered Atlantic Salmon. Drew's tasks for these projects included stream surveys for fish passage assessment and culvert design, as well as basic regression hydrology for culvert and bridge sizing. His responsibilities also included general task planning and management, field work, data reduction, analysis, and construction inspection and reporting.

Sylvan Road Drainage Improvements | Mount Desert Island, Maine
Drew was responsible for the construction inspection and administration of the Sylvan City Drainage project in Northeast Harbor, Maine during the Summer of 2018. This project consisted of the implementation of a full stormwater management system for a residential neighborhood. Tasks for this role included documentation of all daily construction activities, establishing communication with the project owner, residents, and project engineer while resolving any issues that would arise amongst the above parties. Drew was also accountable for various construction administration items, including change orders, submittals, and cost/quantity estimates.

Rumford Downtown Infrastructure Improvements | Rumford, Maine
Drew provided construction inspection and administration of the Rumford Downtown Infrastructure Improvements project in Rumford, Maine from April 2020 to July 2020. This project consisted of a complete rebuild of all utilities (sewer, water, drainage, underground electric), roadways, and sidewalks in the downtown area. Tasks for this role included documentation of daily construction activities (work tasks completed, material quantities stored/installed, photologs,) establishing communication with the project owner, residents, and project engineer while resolving any issues that would arise amongst the above parties. Drew was also in charge of various construction administration items, including change orders, submittals, and cost/quantity estimates.

SWEB Wind Farm | Clifton, Maine
Drew prepared the design and permitting of a 163-acre wind farm in Clifton, Maine. The project design included access road and tower site layout, and stormwater management. Drew was also responsible for preparing the project's Maine Department of Environmental Protection Site Location of Development permit application.

Solar Farm Design and Permitting | Various Maine Locations
Drew was responsible for the design and permitting of several Solar Farm projects throughout Maine, including in Saco, Augusta, Topsham, Surry, Winthrop, and Turner. Project designs focused on stormwater management, access road layout, solar panel layout, and natural resource protection. Drew was also responsible for preparing permit applications for these solar projects, including local Site Plan Review, and Maine Department of Environmental Protection Stormwater Permit-by-rule, Site Location of Development, and Natural Resources Protection Act Permit-by-rule applications.

T2R9 Training Site | T2R9, Maine
Drew was responsible for the design of a roadway in one of Maine's unorganized territories (T2R9). This project consisted of the design of a one-mile-long roadway that provided accessibility to a Department of Defense training site. The road design included horizontal and vertical alignment in an undeveloped area and was required to meet the needs of both the client and various natural resource protection agencies.

Gushee Private Way | Gorham, Maine
Drew served as the Project Manager and Project Engineer for a Private Drive project in Gorham, Maine. This project consisted of a 1000-foot-long roadway for an individual client. The road design included horizontal and vertical alignment in an undeveloped area and was required to meet the needs of both the client and the municipality. This project included extensive collaboration with the Town of Gorham, as it required a local Site Plan Application and Planning Board Approval.

Salmons Processing Facility | Prospect, Maine
Drew served at the Project Engineer for the design and permitting of a quarry material processing facility in Prospect, Maine that is approximately 50-acres in size. This project required obtaining Site Location of Development, Natural Resource Protection Act Tier 1 and Tier 3, and local Site Plan permits. Project design included a 4,300-foot access road, and a 50-acre site to support a mineral processing facility and storage areas. The design included a variety stormwater management and erosion control systems.

Emerald River of Maine| Lewiston, Maine
Drew was responsible for the design and permitting of a commercial recreational marijuana facility in Lewiston, Maine. This project including creating a site design and obtaining a Development Review Permit from the City of Lewiston.

February 13, 2025

City of Portland Planning Board
City Hall
389 Congress Street
Portland, ME 04101

Re: 0 Hope Avenue, Portland, Maine
Financing Through Titan Funding LLC
54 Townhouse Homes and Project Infrastructure

Ladies and Gentlemen:

This will confirm as follows:

1. The anticipated aggregate cost of constructing the infrastructure of Presumpscot Woods Subdivision Project, including the cost of constructing the residential dwelling units, is $22 million; and

2. Titan Funding, LLC, a direct lender, has opened a $25 million line of credit for the construction of the subdivision infrastructure and the dwelling units proposed by 338 Falmouth Foreside Partners LLC in the site plan for the Presumpscot Woods Subdivision Project located at 0 Hope Avenue in Portland, Maine.

If you have any questions concerning this letter, please do not hesitate to contact me. Thanks very much.

Very truly yours,



Edwards Piazza
President, Titan Funding, LLC

Presumpscot Woods
0 Hope Ave., Portland, Maine
Consistency with City Master Plans

The Presumpscot Woods project is not associated with any active City Master Plans.

The Portland Water and Sewer districts have been contacted to determine if off-site infrastructure is capable of serving this development. Refer to the applicable sections of this application for more information on proposed sewer and water systems. Easements will be provided for these systems as necessary. There are no other easements proposed at this time.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Public Safety and Fire Prevention

To the best of our knowledge, the Presumpscot Woods project has been designed to meet all public safety and fire prevention standards.

The development is a residential neighborhood that is generally open and allows for natural surveillance. A combination on on-street lighting and residential scale lighting on each unit is proposed to provide adequate lighting to promote safe use of the access ways and sidewalks.

The proposed access ways have been designed to have a 20-foot-wide paved surface and turning radii adequate for typical maneuvering and turning around of emergency vehicles. Each unit has a single bay garage and space for an additional vehicle in a driveway to minimize the need to park on the street. Additionally, on-street parking spaces are proposed to further ensure that the minimum 20-foot-wide clear space is maintained throughout the subdivision.

Buildings are spaced with the required separation distances listed in the City of Portland Technical Manual and will adhere to fire protection requirements as part of their design and construction. The buildings will include sprinkler systems, as required.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Availability and Adequacy of Public Utilities

The Presumpscot Woods project is proposing to utilize public sewer, water, and electric utilities.

Public water will be supplied from the existing main on Hope Avenue. The location of the proposed main and services are shown on the Proposed Utilities plan. A letter of Ability to serve has been requested from the Portland Water District and is currently pending review.

Wastewater generated by this development will be disposed of using the public system on Hope Avenue. Correspondence with City staff providing further detail on this topic has been provided with this application..

Stormwater runoff will be treated and detained appropriately on-site. Treated runoff will outlet to existing drainage features on the site and allowed to flow to the Presumpscot River as it does today, in the pre-development condition. Minimal runoff is proposed to be directed to Hope Ave. or any City maintained drainage components.

The development proposes to connect to power and communications infrastructure from Hope Avenue. All power and communications infrastructure are proposed to be installed underground.

Solid Waste will be disposed of using individual receptacles for each unit. A letter of ability to serve from Casella Waste has been provided.

Drew Olehowski

From: Reed Allen <rhallen@portlandmaine.gov>
Sent: Wednesday, August 16, 2023 3:45 PM
To: Drew Olehowski; Greg Shinberg
Cc: Jon Whitten, Jr.; Benjamin Pearson; Bradley Roland; jrp@portlandmaine.gov; mgrooms@portlandmaine.gov; Charles Tetelman; William C. Boornazian
Subject: Re: Hope Ave Sewer Alternatives Report 1

Greg and Drew,

Thank you for providing your initial alternatives analysis to meet the development needs in this limited capacity area. We have reviewed all the options presented in conjunction with the future proposed flow rates and existing conditions. Note we do not assume a different capacity approval for peak flows vs average daily flows and those conditions need to be associated with our infrastructure to have adequate design capacity. We have not provided a response to each alternative and are choosing to provide key points which lead into a recommendation for the developers review.

We have determined that:

- The 8" gravity sewer pipe connecting discharge flows from the Hope Avenue pump station to the gravity sewer system in Alice Street has adequate capacity to accept the proposed flows.
- The Curtis road pump station upgrades in 2019 included a maximum design capacity of 420 gpm which is enough to convey the future flow rates proposed. The station has had to be turned down due to electrical overloads and may be considered planned maintenance to correct issues to meet future conditions. The existing conditions of this station at the proposed flow rates are still under review at this time.
- The Curtis road Forcemain has adequate capacity for existing and future flows.
- The Hope Avenue pump station was taken over from a previous development and has stated design capacity in some documentation that's considered large enough for additional flows although the City has never seen this capability nor has it been required to handle such additional proposed flows. The associated type of equipment, age and current conditions would be a best fit for run to failure for equipment replacement and therefore is not scheduled to be upgraded or replaced at this time.
- The functionality, operation and maintenance of a proposed 24,000 gallon wet/well storage and pumping station shown on the proposed site plans is not understood or recommended. It would appear this system could have many unknown failures conditions, odors, and long-term maintenance issues. Proper sewer capacity requirements need to assume normal conditions which assume peak hours, so it is also unnecessary to construct such an equalization and pumping system.

Based on these conditions, the proposed flow rates, and taking into consideration efficient use of funds to meet the sewer capacity requirements the most appropriate actions would be as follows:

- Eliminate the storage / pumping system proposed on the development site and connect the development by gravity to the Hope Avenue collection system.
- Upgrade the Hope Avenue pump station to meet a condition of 150 gpm per pump. We note that original design conditions proposed these values so efforts are likely to be focused on in-kind replacement of existing equipment. This may include additional maintenance of the Forcemain such as “pigging” the line to assure the system will have adequate capacity upon completion of the development. Details of needs would be determined further along in the planning process.
- The Curtis road pump station may warrant future upgrades but it the interest of time and likely less significant in nature we feel comfortable moving past this at the current response.

We're happy to meet and discuss these design considerations ahead of your September planning board workshop.

Thank you,
Reed

Reed Allen, EI
Water Resources Engineer
He/Him

City of Portland Public Works
212 Canco Rd, Suite B
Portland, Maine 04103
Tel: (207) 874-8828
rhallen@portlandmaine.gov



On Thu, Aug 10, 2023 at 11:02 AM William C. Boornazian <wboornazian@portlandmaine.gov> wrote:

Drew,

In progress, we had to verify some more existing conditions. You can expect our response early next week at the latest.

Regards,

-Bill

On Thu, Aug 10, 2023 at 7:58 AM Drew Olehowski <dolehowski@haleyward.com> wrote:

Good morning, Bill,

I wanted to check in on the status of your review of the Hope Avenue Sewer Alternatives Report. Do you still expect to provide preliminary comments this week?

Thank you,

Drew Olehowski, PE
Civil Engineer
t: 207.283.9151

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Drew Olehowski

From: Dumont, Katherine <Katherine.Dumont@cmpco.com>
Sent: Friday, August 25, 2023 8:46 AM
To: Drew Olehowski; Jon Whitten, Jr.
Subject: CMP Three Phase Service Process and Ability to Serve Letter - Hope Avenue Portland Me Notification # TBD
Attachments: Easement_Information_Worksheet.doc; Standard Easement Sample.pdf; blank W9.pdf; August 2022 EDET.xlsx

You don't often get email from katherine.dumont@cmpco.com. Learn why this is important

Drew Olehowski
Haley Ward Inc-Civil Engineer
203 Anderson St #2
Portland, ME 04101

RE: Hope Avenue
60 Unit Development
Letter of Ability to Serve Request

SAP TBD
Project Description:

The development area is approximately acres in size and is currently undeveloped. The proposed project will include a mixed residential development with a network of roadways and walkways, landscaped areas, trails, and stormwater maintenance facilities.
The proposed mixed residential development is expected to provide 60 units subdivision. The existing site is located off Alice St.

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 will 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.
- 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 on line.

As you may be aware, there are global supply chain issues impacting the utility industry. CMP is closely monitoring and managing their inventory in order 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

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.

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

Please do not hesitate to contact me with any questions regarding your project.

Kind Regards,
Kathy

Central Maine Power
An Avangrid company

Katherine Dumont
Energy Service Specialist

162 Canco Rd
Portland, ME 04103

207-242-5744
katherine.dumont@cmpco.com

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Drew Olehowski

From: AMaP MEANS <means@pwd.org>
Sent: Friday, August 18, 2023 10:42 AM
To: Drew Olehowski
Subject: RE: Presumpscot Woods - Ability to Serve - Proj # 525533

Good morning,

The plans were received. I have forwarded them on for review, you should hear back soon with next steps.

Have a great weekend,

Kathryn Rodriguez

MEANS Group
Main Extensions and New Services
Portland Water District
225 Douglass Street
Portland, ME 04104-3553
P:(207)774-5961 Ext. 3199
F:(207)761-8307
MEANS@pwd.org

From: Drew Olehowski <dolehowski@haleyward.com>
Sent: Friday, August 18, 2023 9:45 AM
To: AMaP MEANS <means@pwd.org>
Subject: RE: Presumpscot Woods - Ability to Serve - Proj # 525533

ATTENTION: This email did NOT originate from Portland Water District. This email is from an external source outside of the District. Exercise EXTREME caution when opening external attachments or links from unknown senders.

Please see attached.

Drew Olehowski, PE
Civil Engineer
t: 207.283.9151

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From: AMaP MEANS <means@pwd.org>
Sent: Friday, August 18, 2023 9:36 AM
To: Drew Olehowski <dolehowski@haleyward.com>
Subject: RE: Presumpscot Woods - Ability to Serve - Proj # 525533

Good morning,

I have not received any other emails than this one.

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103

Date: 11.6.2023

Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 0 HOPE AVENUE

Chart Block Lot Number: 448-A001001

Proposed Use: 60 UNIT MULTI-FAMILY
Previous Use: UNDEVELOPED
Existing Sanitary Flows: 0 GPD
Existing Process Flows: 0 GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.
HOPE AVENUE PUMP STATION

Site Category		
	Commercial *(see part 4 below)*	
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	X
	Other *(specify)*	

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: CHARLES TETLEMAN Phone: 207-874-8724
Owner/Developer Name: GENX CAPITAL PARTNERS
Owner/Developer Address: PO BOX 4424, PORTLAND, ME 04101
Phone: 214-417-1218 Fax: E-mail:
Engineering Consultant Name: HALEY WARD, INC. ATTN: JON WHITTEN, JR.
Engineering Consultant Address: 120 MAIN STREET, #132, SACO, ME 04072
Phone: 207-989-4824 Fax: E-mail: jwhitten@haleyward.com

Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review.

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 16,200 GPD
Peaking Factor/ Peak Times: 5
Specify the source of design guidelines: *(i.e.* X *"Handbook of Subsurface Wastewater Disposal in Maine," "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, __ Other (specify)*

Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet.

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: NOT APPLICABLE

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet.

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: NOT APPLICABLE GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

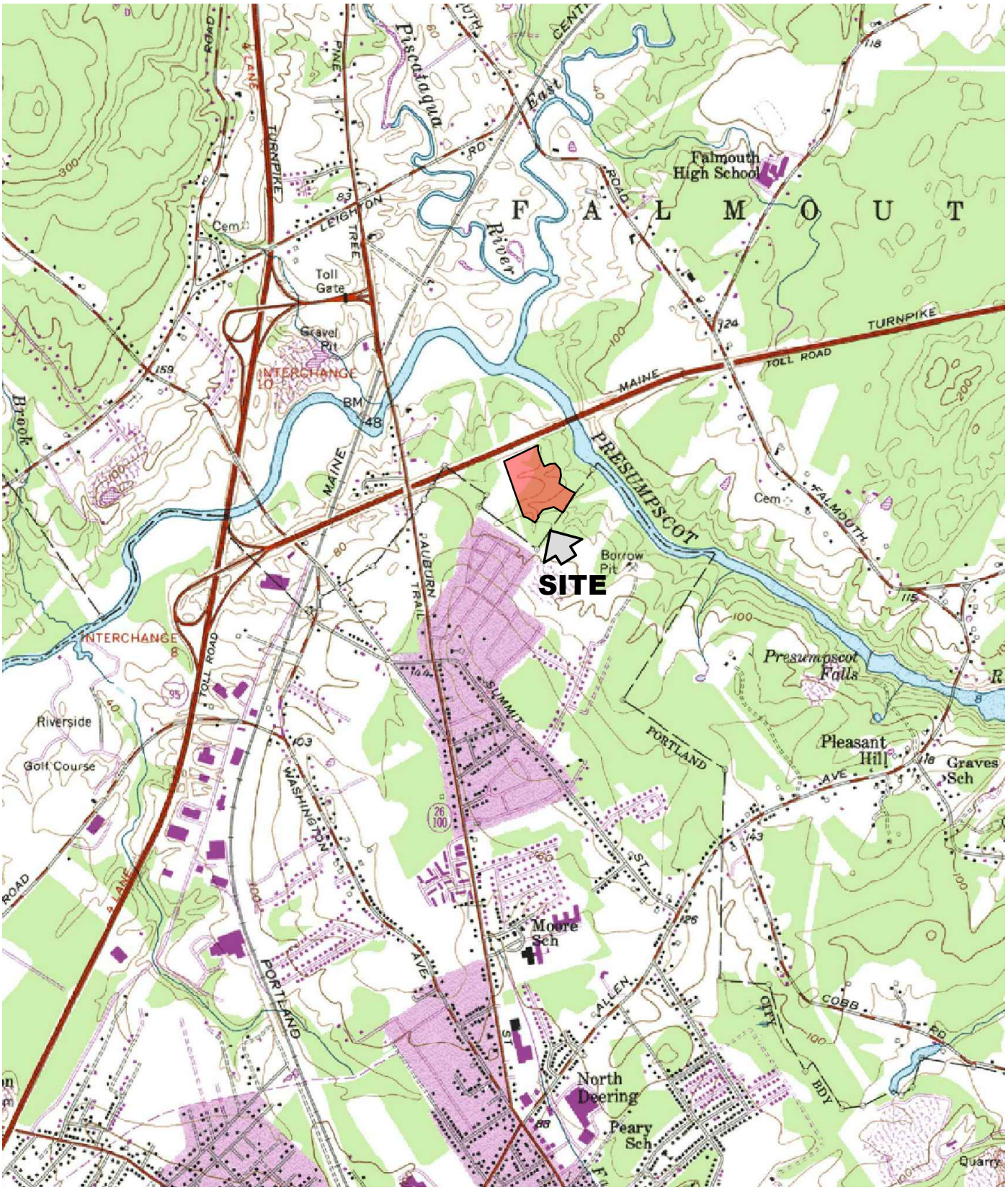
OSHA Standard Industrial Code (SIC): *(http://www.osha.gov/oshstats/sicser.html)*

Peaking Factor/Peak Process Times: _____

Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps.

Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided, or attached, as a separate sheet.

Terrain Navigator.© Maptech 800-627-7236



SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
PORTLAND WEST
@ 1:24,000

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

HOPE AVENUE DEVELOPMENT
PORTLAND, MAINE

LOCATION MAP

05/02/2022
13773.001

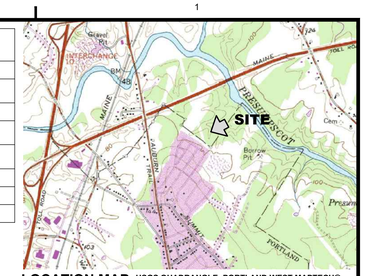
GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

PRUD LAND AREA CALCULATION

TOTAL LAND AREA	592,063 SF
WETLAND & WATERCOURSE AREA	42,951.25 SF
AREA WITH SLOPE >25%	139,230 SF
AREA OF SPECIAL FLOOD HAZARD	N/A
TOTAL NET AREA FOR DEVELOPMENT	409,882 SF
NUMBER OF UNITS	60 UNITS
RESULTING NET AREA/UNIT	6,831 SF
REQUIRED NET AREA/UNIT	6,500 SF



LOCATION MAP
SCALE: 1"=2000'

USGS QUADRANGLE: PORTLAND WEST MAPTECH®
USGS TOPOGRAPHIC SERIES™.
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

PARCEL INFORMATION

MAP / LOT:	390/A001, 448/A001001, 449/A002	
LOT AREA:	13.59	ACRES
ZONE OR DISTRICT:	R-3 PRUD	
FLOOD ZONE:	ZONE C (MINIMAL HAZARD)	
WATER:	MUNICIPAL	
SEWER:	MUNICIPAL	

SITE DEVELOPMENT DATA

EXISTING IMPERVIOUS SF / AC:	0	0.00
NEW IMPERVIOUS SF/AC:	176,147	4.04
TOTAL IMPERVIOUS SF / AC:	176,147	4.04
TOTAL DEVELOPED SF / AC:	388,727	8.92
LOT COVERAGE ALLOWED/ PROVIDED:	35%	30%
NEW ROADWAY AND PARKING SF / AC	52,171	1.20
WETLAND IMPACTS SF / AC:	9,916	0.23

DESIGN STANDARDS

	REQUIRED	*PROPOSED*
R.O.W. WIDTH:	50'	N/A
TRAVELED WAY WIDTH:	20'	20'
MINIMUM GRADE:	0.5%	1%
MAXIMUM GRADE:	8%	4%
ROADWAY CROWN:	3% LOCAL / 2% OTHER	2%
MAX GRADE @ INT:	3% FOR 100'	2.46%
BUILDING HEIGHT:	35 FT	25
MINIMUM FRONT SETBACK:	25 FT	340
MINIMUM REAR SETBACK:	25 FT	25
MINIMUM SIDE SETBACK:	25 FT	25
MINIMUM FRONTAGE:	50 FT	191.39
MINIMUM LOT WIDTH:	65 FT	191.39
PARKING REQUIRED	1 PER DWELLING / UNIT	
PARKING PROVIDED	(2) 1 GARAGE / 1 DRIVEWAY	
OPEN SPACE (ACTIVE & PASSIVE) (PRUD W/ WORKFORCE HOUSING)	18,000 SF	43,700 SF

RECORD OWNER:
GENX CAPITAL PARTNERS, LLC
2 COTTON STREET
PORTLAND, MAINE 04101

THIS IS TO CERTIFY THAT AFTER REVIEWING THE SITE PLAN SUBMISSION INFORMATION FOR THE PROJECT SHOWN ON THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN THE CITY OF PORTLAND'S CODE OF ORDINANCES AND IN ACCORDANCE WITH THE APPLICATION REQUIREMENTS, THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THIS PLAN ALONG WITH ITS ADDITIONAL SUBMISSION INFORMATION (IF APPLICABLE) HAS MET ALL THE CRITERIA SET FORTH AND THEREFORE THE SITE PLAN IS APPROVED.

APPROVED BY THE CITY OF PORTLAND PLANNING BOARD ON: _____

CONDITIONS: _____

PLANNING BOARD SIGNED ON: _____

REV.	DATE	DESCRIPTION	BY	CHK.
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS
ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

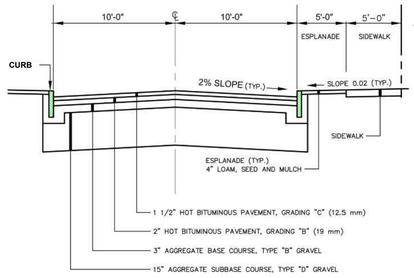
TITLE
PROPOSED SITE PLAN

DATE: 2022.08.29	SCALE: 1"=40'
DRAWN BY: BLQ	DESIGNED BY: BLQ
CHECKED BY: JHW	
PROJECT No.: 13773.001	
DRAWING No.: C102	REV.: 3

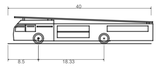
STATE OF MAINE
CUMBERLAND, SS.
REGISTRY OF DEEDS
RECEIVED AND FILED

20 _____
_____ **h** **m** **M.**
Attest _____ **Register**

RECORDED AS MAP FILE: _____

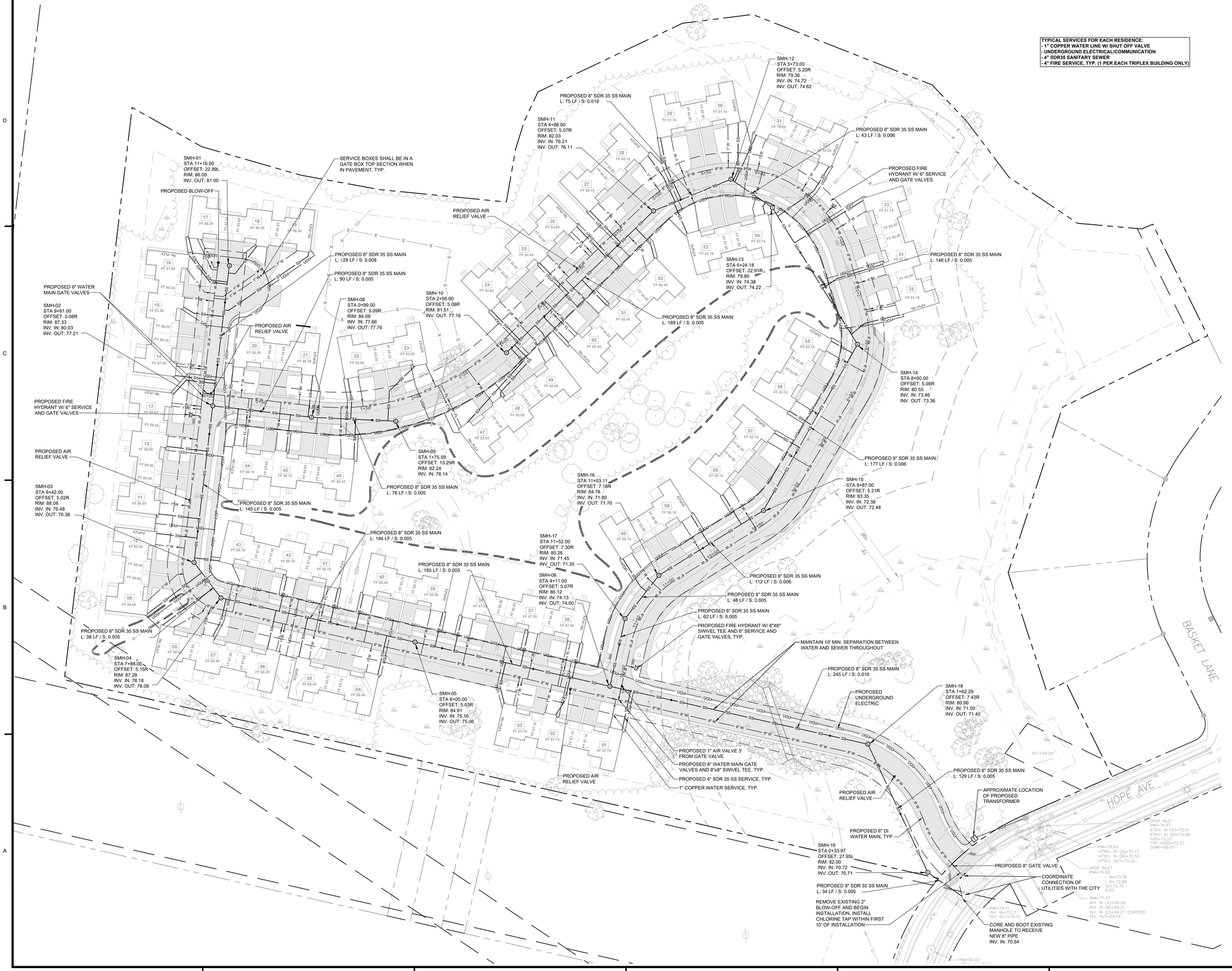


LOCAL STREET CROSS SECTION
NOT TO SCALE



Ladder Truck	
Overall Length	40.000ft
Overall Width	8.330ft
Overall Body Height	7.514ft
Min Body Ground Clearance	0.764ft
Max Track Width	8.330ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-HAWG\CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-SP.DWG, 2023.10.27, 2:17 PM



TYPICAL SERVICES FOR EACH RESIDENCE:
- **1" COPPER WATER LINE W/ SHUT OFF VALVE**
- **UNDERGROUND ELECTRICAL/COMMUNICATION**
- **4" SDR35 SANITARY SEWER**
- **4" FIRE SERVICE, TYP. (1 PER EACH TRIPLEX BUILDING ONLY)**

UTILITY NOTES:

1. ALL STORM INFRASTRUCTURE SHALL RECEIVE (1) LAYER OF RIGID STYROFOAM INSULATION BETWEEN CROSSINGS, (2) LAYERS AT CROSSING WHERE PIPE DAYLIGHTS.
2. (1) RESTRAINT JOINT GASKET SHALL BE INSTALLED BEFORE AND AFTER ALL BENDS, IN ADDITION TO T-BLOCKS.
3. ALL HYDRANTS SHALL BE SUPPLIED WITH 8"x6" SWIVEL TEES AND GATE VALVES. FACE OF CURB TO FACE OF 4" PORT SHALL BE 3'.
4. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO THE MAIN AT WHICH THEY ARE CONNECTING TO.
5. CURBSTOPS SHALL BE LOCATED 2.5' FROM FACE OF CURB, UNLESS OTHERWISE SHOWN ON PLAN DUE TO CONFLICTS.
6. THE PROPOSED WATER MAIN SHALL HAVE A MINIMUM OF 5.5' OF COVER.
7. A 40' WIDE EASEMENT BENEFITING THE PORTLAND WATER DISTRICT HAS BEEN PROVIDED AND IS NOTED ON THE SITE PLAN.

WATER MAIN SEPARATION:

THE FOLLOWING MINIMUM SEPARATIONS FROM WATER MAINS SHALL BE OBSERVED AT ALL TIMES UNLESS DIRECTED OTHERWISE BY PWD PERSONNEL:

HORIZONTAL
SANITARY SEWERS: 10'
STORM DRAINS: 3' FACE TO FACE, 2' AT CONTACT POINTS FOR CB'S AND DMH'S
GAS MAINS: 6' FACE TO FACE
UNDERGROUND ELECTRIC/COMM: 6' FACE TO FACE
UTILITY POLES: 6' FACE TO FACE

VERTICAL
SANITARY SEWERS: 12" OVER AND UNDER
STORM DRAINS: 6" OVER AND UNDER
ALL OTHER CROSSINGS: 12" MINIMUM

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

UTILITIES PLAN

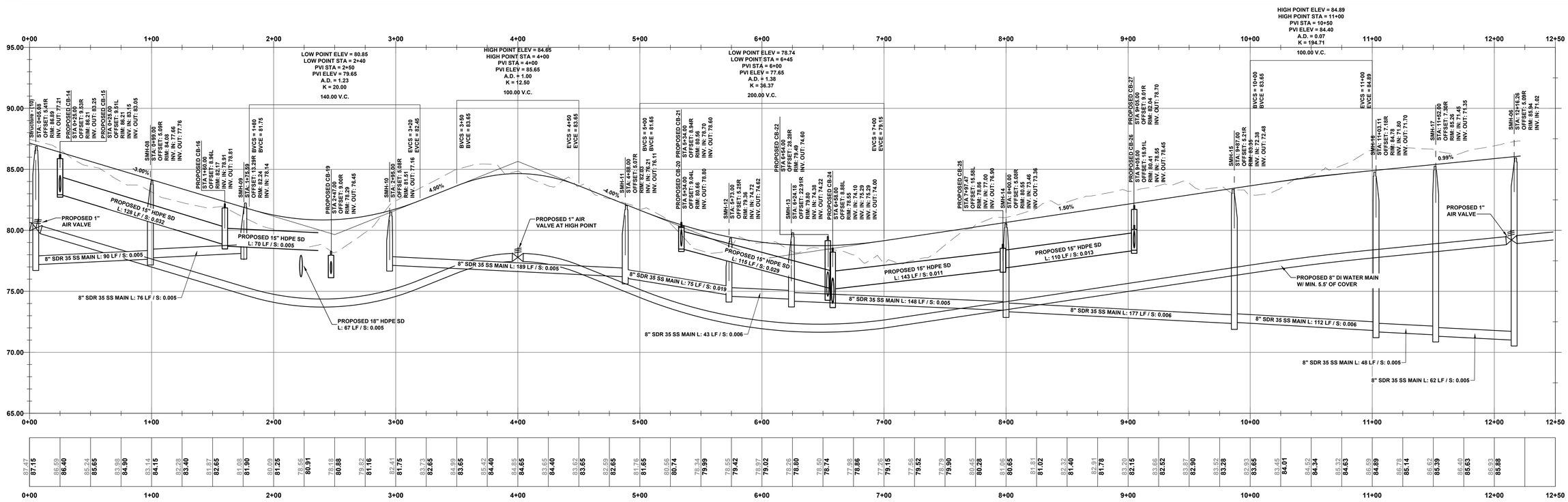
DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ	DJO/BLQ	JHW

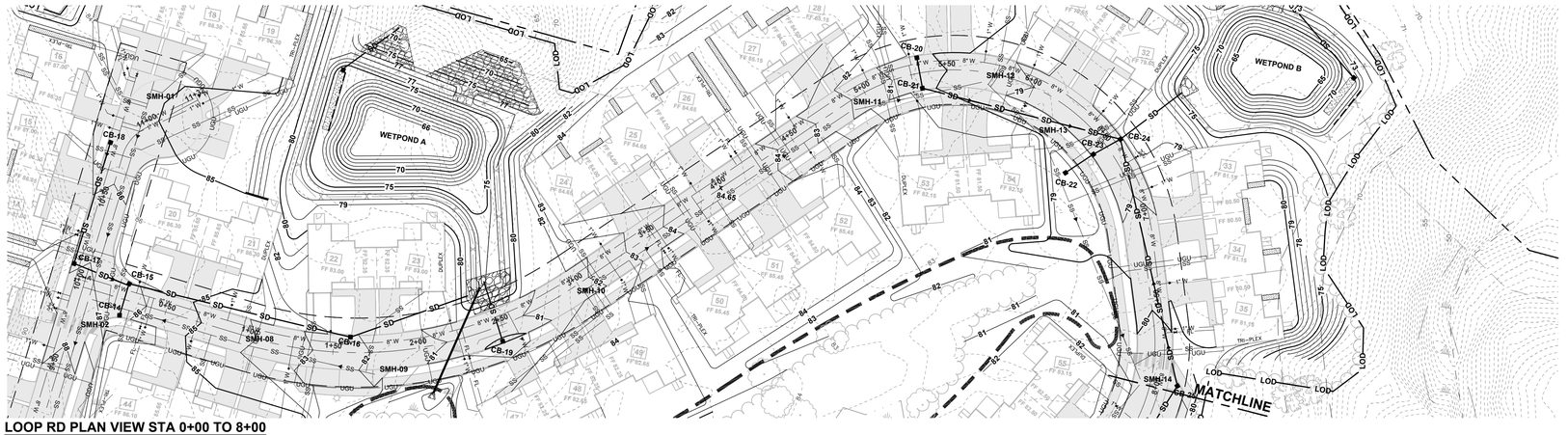
PROJECT No. 13773.001

DRAWING No. **C104** REV. **3**

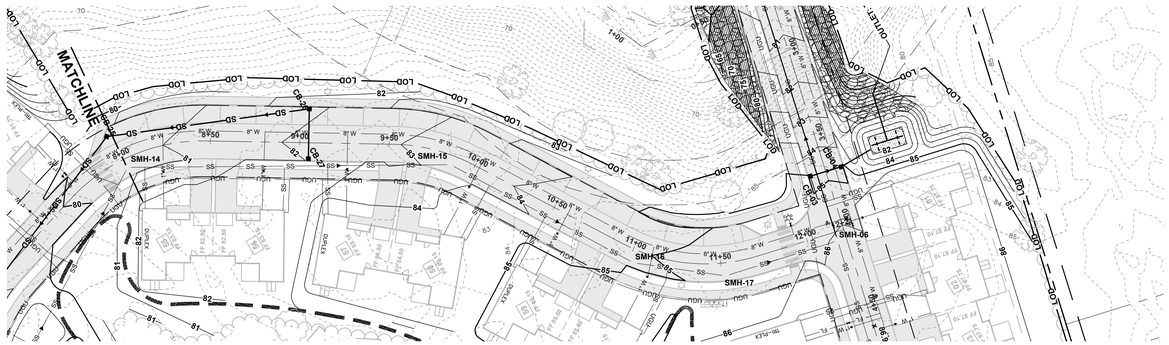
FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\00-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\13773.001-CUT.DWG, 2023.10.27, 2:21 PM



PROFILE VIEW OF CL-LOOP - STA 0+00 TO 12+50
SCALE: H: 1"=40' / V: 1"=4'



LOOP RD PLAN VIEW STA 0+00 TO 8+00
SCALE: 1"=40



LOOP RD PLAN VIEW STA 8+00 TO 11+09
SCALE: 1"=40

GRAPHIC SCALE
40 0 20 40 80 120
(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS
ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

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Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE
LOOP RD PLAN AND PROFILE

DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ	BLQ	JHW

PROJECT No. 13773.001

DRAWING No. **C202** REV. **3**

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DISIGN_DWGS\13773.001-C-GR.DWG, 2023.10.27, 2:25 PM

Presumpscot Woods
0 Hope Ave., Portland, Maine
Upgrades and Cleaning of Existing Hope Ave. Wastewater Pump Station Infrastructure

In order to establish capacity for the City of Portland to take wastewater flow from the proposed Hope Ave. Subdivision project, the applicant must upgrade the existing wastewater pump station on Hope Avenue. Cleaning (Pigging) and camera inspection of the existing forcemain pipe between the pump station and Alice Street is required as well. This represents approximately 570 linear feet of pipe cleaning/inspection.

Per correspondence with City staff, the existing Hope Avene pump station is a Duplex Gorman-Rupp T3A3S-B package station with 5 HP motors and a fiberglass reinforced plastic enclosure. The design capacity for the pump station is 150 gpm at 38.2 TDH. The City notes, however, that the pumps have been observed to operate at between approximately 60 and 90 gpm.

The existing pumps will be removed and replaced with new Gorman-Rupp pumps capable of handling between 150 and 180 gpm. Specifications for these pumps have been provided. An 6-foot by 6-foot exterior housing system will also be included that will provide improved access to the inner workings and controls of the pump station system. This will eliminate the existing need to lift the housing off with a crane to gain access for routine maintenance tasks. The City has also requested the installation of a clean-out structure for the existing forcemain pipe, near the existing pump station. These upgrades are expected to occur within the existing site limits of the pump station site and will not result in significant changes to the existing site layout or appearance.

The Applicant will coordinate with the City's Department of Public Works for the cleaning/inspection of the portion of existing force main to be utilized for this development. This work will include cleaning (pigging) and CCTV of the existing force main that discharges from the Hope Avenue pump station into the gravity Sewer System on Alice Street.

In order to perform this work, sewer flows will need to temporarily bypass the forcemain pipe. An alternating pump truck system is proposed for this bypass system. One pump truck will intercept flows in the existing wet well and will then drive to the Curtis station to empty. The second pump truck will the intercept flows from the wetwell until it requires emptying. They will alternate during the cleaning/inspection process. Based on the 33 houses, assuming three bedrooms each, that would be less than 10,000 gallons/day. This truck method will be more cost effective than trying to install a temporary bypass along the ground. This method will likely need two trucks alternating. The work will be scheduled during periods of low flow (after 9:00 AM and before 4:00-5:00 PM,) if possible.

A Construction Control Plan will be prepared by the Applicant, or their assigned Contractor/Agent, and submitted to the City's Public Works Department (PWD) at least one (1) month prior to commencement of cleaning and/or inspection services. The required elements of the Construction Control Plan are to be defined by the PWD and are expected to include: limits of work area, hours of operation, duration of services, positioning of the pump trucks and other vehicles and equipment needed to perform these duties, a traffic control plan, a public notification process, etc.

From: Don Deems
To: Matt Dickson
Subject: RE: Hope Ave Pump Station, Portland ME
Date: Wednesday, October 4, 2023 2:34:08 PM
Attachments: image001.png
image003.png
image004.png
image005.png
image006.png
G.R.A.S.P. T3C60SC-B__F_Self_Priming_1696437714.pdf

Yes the 5hp still looks good. See attached

From: Matt Dickson <mdickson@haleyward.com>
Sent: Wednesday, October 4, 2023 2:19 PM
To: Don Deems <ddeems@hayespump.com>
Cc: Ian Lane <ilane@hayespump.com>; Robert Jordan <rjordan@hayespump.com>
Subject: RE: Hope Ave Pump Station, Portland ME

Thank you Don,

Just wanted to check that the 5 HP pumps are good for 180 GPM at 38 Ft, the existing ones are rated for 150 GPM, and they want to increase the max capacity a bit.

Matt Dickson, PE
Senior Project Manager
t: 978.648.6025 d:978.786.9710
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From: Don Deems <ddeems@hayespump.com>
Sent: Wednesday, October 4, 2023 1:49 PM
To: Matt Dickson <mdickson@haleyward.com>
Cc: Ian Lane <ilane@hayespump.com>; Robert Jordan <rjordan@hayespump.com>
Subject: RE: Hope Ave Pump Station, Portland ME

Matt,

Budget pricing:

6x6 Tall with T3, 5hp pumps is $90,000.00
6x6 standard T3, 5hp pumps is $85,000.00

This is assuming standard pump controls and accessories.

Thank you,

Don Deems
Outside Sales Engineer
Hayes Pump, Inc.
Phone: 978-831-3109
Cell: 781-844-1920
ddeems@hayespump.com

Flow solutions since 1898
HAYES PUMP, INC.
66 Old Powder Mill Rd.
West Concord, MA 01742
Main: (978) 369-8800
Fax: (978) 369-8461
www.hayespump.com

From: Matt Dickson <mdickson@haleyward.com>
Sent: Wednesday, October 4, 2023 11:49 AM
To: Don Deems <ddeems@hayespump.com>
Subject: RE: Hope Ave Pump Station, Portland ME

Don,

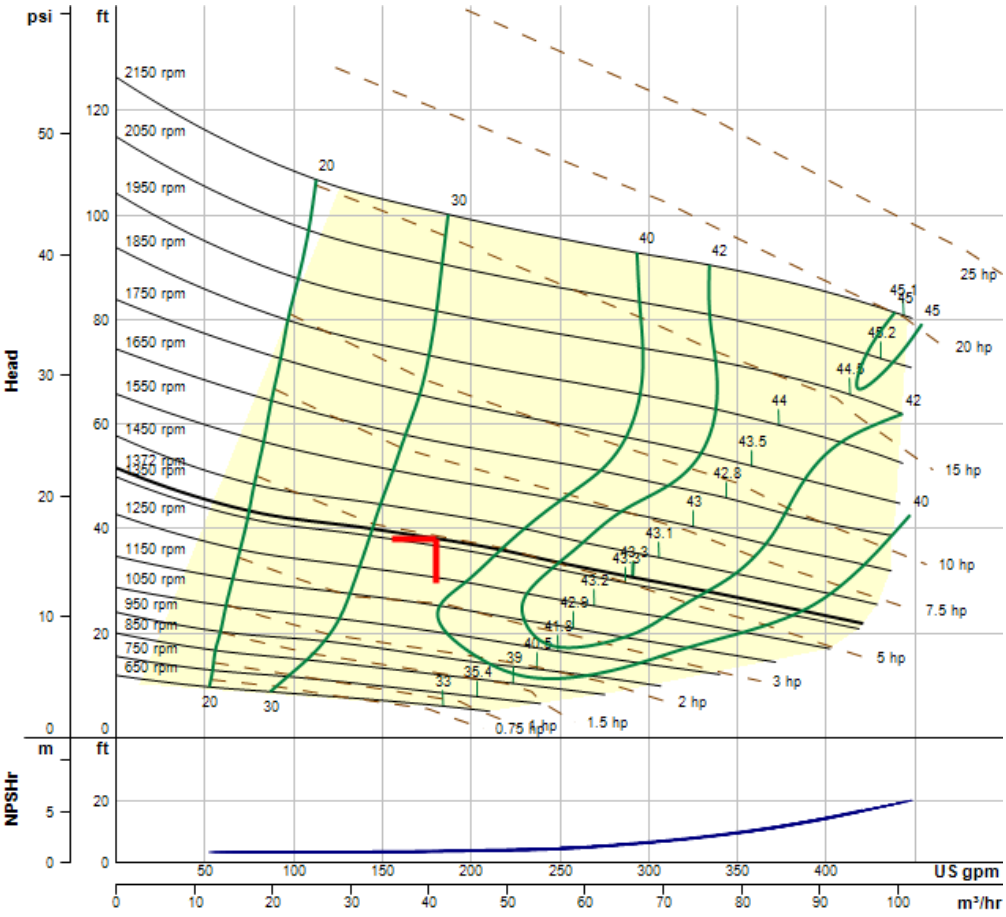
I was just reviewing the requirements and they want to increase the flowrate up to 180 GPM. The existing station is 150 GPM at 38.2 Ft of head.
I assume that won't change the overall size of the station. It would be good to stay with the 6x6 and I think upgrading to the tall station is a good choice.

Budget pricing for both options would be appreciated.

T3C60SC-B /F Self Priming



Suction	3" (80 mm)
Discharge	3" (80 mm)
Solids Handling	2.50" (64 mm)
Casing	Cast Iron
Impeller/Rotor	Ductile Iron
Seal Material	Silicon Carbide
Flange	ANSI Spool
Drive Type	Basic
Unit Weight	456 lbs



Curve Info		
Type	T-SERIES	
Curve	T3CSC-B-4	
Impeller	11406	
Speed	1372 rpm	
Diameter	8.75 in	
Data Point		
Flow	180	US gpm
Head	38	ft
NPSHr	3.72	ft
Efficiency	35	%
Power	4.89	hp

This curve is provided for preliminary selection only. Please consult factory before making final pump or motor selections. Not NSF certified.

Thank you,

Matt Dickson, PE
Senior Project Manager
t: 978.648.6025 d:978.786.9710
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From: Don Deems <ddeems@hayespump.com>
Sent: Wednesday, October 4, 2023 11:34 AM
To: Matt Dickson <mdickson@haleyward.com>
Subject: RE: Hope Ave Pump Station, Portland ME

From: Matt Dickson <mdickson@haleyward.com>
Sent: Wednesday, August 30, 2023 11:25 AM
To: Don Deems <ddeems@hayespump.com>
Cc: Jon Whitten, Jr. <jwhitten@haleyward.com>; Drew Olehowski <dolehowski@haleyward.com>
Subject: Hope Ave Pump Station, Portland ME

Don,

As we discussed, we have a potential project in Portland ME, The Hope Ave Pump Station and would like to evaluate some alternative for replacing the existing Gorman Rupp package station.

The existing Hope Ave pump station is a Duplex Gorman-Rupp T3A3S-B package station with 5 HP motors and a fiberglass reinforced plastic enclosure. Attached are the 2006 record drawings for the station, the pump nameplate, motor nameplate, and the pump spec sheet. The design capacity for the pump station was 150 gpm at 38.2 TDH however they are only seeing it run between approximately 60 and 90 gpm.

We have been asked to provide preliminary design and pricing for a similar package pump station that will perform at the desired design minimum pump rate of 150 gpm and not exceeding 180 gpm. The existing enclosure requires a service crane to lift the roof and open the access panels. They would like improved access to the mechanical equipment in the new design.

Please review this and call me to discuss what options may be available.

I've copied Jon and Drew form our Saco office since they will be involved with this project.

Thank you,

HALEY WARD
AN EMPLOYEE-OWNED COMPANY

Matt Dickson, PE
Senior Project Manager
t: 978.648.6025 m: 508.395.1157
a: 63 Great Road, Suite 200, Maynard, Massachusetts 01754



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RELIASOURCE®

Your Single Source for Total Lift Station Reliability.

GORMAN-RUPP PUMPS

The Pump People®



THE MUNICIPAL MARKET'S MOST RELIABLE LIFT STATION. GUARANTEED.

For decades, municipalities have trusted Gorman-Rupp for the most reliable heavy-duty sewage pumps in the industry. But even the world's best pump can't operate alone.

Effective wastewater handling requires lift stations with valves, controls, pipes and pumps that all work together to meet your sewage handling needs. If any one of these components fails, it can put your operation–and your investment–at risk.

Gorman-Rupp created the ReliaSource® line of packaged, fully customizable, above- and below-ground lift stations to eliminate costly service interruptions caused by inferior parts. Every component of a ReliaSource lift station–from the pumps, to the NEMA-rated controls, to the corrosion- and weather-resistant fiberglass enclosures–is 100% Gorman-Rupp custom-engineered, manufactured and assembled. With Gorman-Rupp quality inside and out, ReliaSource lift stations outlast and outperform any other lift station on the market, delivering trouble-free performance you can rely on. Guaranteed.



ReliaSource Above-Ground Submersible Valve Package (ASVP)

A 99% CUSTOMER SATISFACTION RATING BEGINS WITH 100% GORMAN-RUPP QUALITY.

There's more than one reason why ReliaSource® customers are completely satisfied with their lift stations. From specifying the right equipment, to custom-engineering and design, through testing and installation, Gorman-Rupp is your single source for complete lift station satisfaction.

Specification

Our highly trained distribution team works hand-in-hand with both municipalities and consulting engineers to understand your wastewater and solids-handling challenges and analyze your total system requirements. Our distributors can help recommend and specify the best ReliaSource® lift station for the job.



Custom Engineering and Design

Our experienced engineers custom-design your ReliaSource lift station to your specifications. We precision-match pumps, motors, controls, valves, pipes and accessories for maximum compatibility and maximum performance.



Factory-Built

Every component of a ReliaSource lift station is 100% manufactured by Gorman-Rupp in our state-of-the-art facilities, taking advantage of the latest technologies and innovations. Each lift station is fully assembled in-house by our experts.

Testing

Every ReliaSource lift station is rigorously tested using a wide range of testing options based on customer specifications and guided by Hydraulic Institute testing standards. By testing the complete unit under your unique operating requirements, we ensure your equipment performs exactly as it should.



Integrinex™ Liquid Level Controls

The performance of any pumping system is dependent on the reliability of the pump controls. All ReliaSource lift stations come equipped with Integrinex™ liquid level controls. Our expert electrical engineers help you design an efficient pumping system that includes the best, precisely matched controls in the industry.

Installation

ReliaSource lift stations are shipped complete from the factory, ready for professional installation. Just add power and connect piping for years of reliable lift station performance.

RELIASOURCE® DELIVERS DECADES OF PERFORMANCE AND PASSES THE EYE TEST.

Gorman-Rupp is committed to meeting your sewage and wastewater handling requirements. And we now offer a variety of visually-pleasing exterior enclosure solutions.

Modular Above-Ground Enclosure Options

The ReliaSource® modular above-ground lift station represents the long-lasting performance, quality and convenience of the ReliaSource brand...both inside and out. Fully customizable and available in a variety of sizes, the modular lift station offers multiple brick enclosure (in addition to the standard enclosures) options including:


Contempo Baked Clay


Contempo Spiced Brick


Old Chicago Antique Brick


Old Chicago Baked Clay


Old Chicago Dusky Evening


Old Chicago Merlot Brick


Old Chicago Mocha


Old Chicago Spiced Brick

Standard Enclosure Options

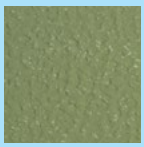
Gorman-Rupp ReliaSource lift station enclosures are manufactured with durable fiberglass for flexural strength and corrosion, mold, mildew and UV resistance. All enclosure options provide a superior barrier to caustic or acidic atmospheres and offer vandal-resistant security. Enclosures come standard with R12 insulation (optional to R20).


Green


Beige


Gray


White


Premium Green


Premium Beige


Premium Gray

ReliaSource® Vinyl Wrapped Solutions

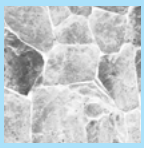
Gorman-Rupp's 8x9, 6x6, 6x6T and Above-Ground Submersible Valve Package (ASVP) ReliaSource lift stations are now available with your choice of standard 3M™ vinyl wraps to help your station blend in to the surrounding environment. Each station's wrap is applied directly to the enclosure surface using a pressure-activated adhesive that stands up to the elements. Custom, high resolution artwork can be submitted for unique applications. Consult factory for details.


Red Brick


White Brick


Weathered Red Brick


Stone Wall


Abstract Stone


Cypress Shrub


Forest Camo



RELIASOURCE® LIFT STATION MODELS AND FEATURES

Every ReliaSource® lift station is engineered to accommodate an extensive selection of heavy-duty, solids-handling Gorman-Rupp self-priming or submersible pumps.

All ReliaSource® packaged lift stations come standard with a five-year warranty.



ReliaSource® Modular Above-Ground Lift Station

Accommodates Gorman-Rupp T Series® *(2" pump size only)*, Super T Series®, Ultra V Series® or 10 Series® self-priming centrifugal, heavy duty solids-handling pumps.

Specifications:

- Pump Size: 2" (50 mm)*, 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm), 10" (250 mm), 12" (300 mm)
- Max. Capacity: 5200 GPM (328.1 lps)
- Max. Solids: 3" (76.2 mm)
- Max. Head: 320' (97.5 m)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 150 HP



ReliaSource® 8x9 Above-Ground Lift Station

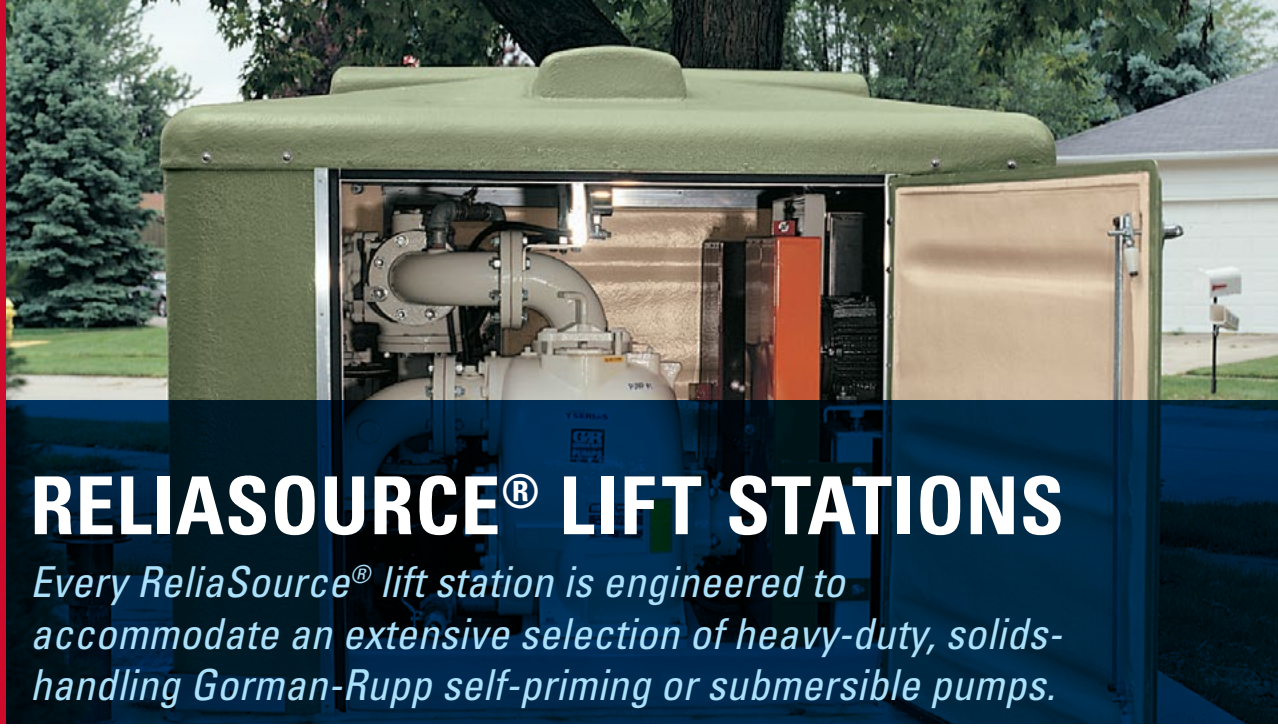
Accommodates Gorman-Rupp Super T Series® or Ultra V Series® self-priming centrifugal, heavy duty solids-handling pumps

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm)
- Max. Capacity: 2600 GPM (164.0 lps)
- Max. Head: 160' (48.8 m)
- Max. Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 60 HP



Several ReliaSource® lift stations are available with custom vinyl wraps to blend in with the surrounding environment.



RELIASOURCE® LIFT STATIONS

Every ReliaSource® lift station is engineered to accommodate an extensive selection of heavy-duty, solids-handling Gorman-Rupp self-priming or submersible pumps.

Above- and below-ground stations feature robust NEMA controls, corrosion-, weather-, and vandal-resistant fiberglass enclosures, and easy access for maintenance and service. Every ReliaSource® lift station is fully customizable, and your knowledgeable Gorman-Rupp distributor can help specify the right equipment for your job.



ReliaSource® 8x12 Above-Ground Lift Station

Accommodates Gorman-Rupp Super T Series®, Ultra V Series® or VS Series self-priming centrifugal, heavy duty solids-handling pumps.

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm)
- Max Capacity: 2600 GPM (164.0 lps)
- Max Head: 320' (97.5 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 100 HP



ReliaSource® 6x6T Above-Ground Lift Station

Accommodates two Gorman-Rupp Super T Series® or Ultra V Series® self-priming pumps.

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm)
- Max Capacity: 1475 GPM (93.1 lps)
- Max Head: 160' (48.8 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 5 HP to 50 HP



ReliaSource® 6x6 Above-Ground Lift Station

Accommodates two Gorman-Rupp T Series® *(2" pump size only)*, Super T Series® or Ultra V Series® self-priming pumps.

Specifications:

- Pump Size: 2" (50 mm), 3" (75 mm), 4" (100 mm), 6" (150 mm)
- Max Capacity: 1300 GPM (82.0 lps)
- Max Head: 150' (45.7 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 25 HP



ReliaSource® Above-Ground Submersible Valve Package (ASVP)

Available with SF Series® slide rail-mounted submersible pumps.

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm)
- Max Capacity: 1600 GPM (100.9 lps)
- Max Head: 155' (47.2 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 104°F (40°C)
- Motor – Voltage: 208 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 3 HP to 50 HP



ReliaSource® 7x10 Above-Ground Lift Station

Accommodates two Gorman-Rupp Super T Series® or Ultra V Series® self-priming pumps.

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm)
- Max Capacity: 2500 GPM (157.7 lps)
- Max Head: 160' (48.8 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 50 HP



ReliaSource® Auto-Start Lift Station

Accommodates Gorman-Rupp Super T Series®, Ultra V Series®, or VS Series self-priming centrifugal, heavy duty solids-handling pumps.

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm), 10" (250 mm)
- Max Capacity: 3400 GPM (214.5 lps)
- Max Head: 320' (97.5 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 3 HP to 150 HP



ReliaSource® Base-Mounted Lift Station

Accommodates Gorman-Rupp T Series® *(2" pump size only)*, Super T Series®, Ultra V Series® or VS Series self-priming centrifugal, heavy duty solids-handling pumps.

Specifications:

- Pump Size: 2" (50 mm), 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm), 10" (250 mm)
- Max Capacity: 3400 GPM (214.5 lps)
- Max Head: 320' (97.5 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 150 HP



ReliaSource® Below-Ground Lift Station

Accommodates Gorman-Rupp Super T Series® or Ultra V Series® self-priming pumps in duplex or triplex configurations.

Specifications:

- Pump Size: 3" (75 mm), 4" (100 mm), 6" (150 mm), 8" (200 mm), 10" (250 mm)
- Max Capacity: 3300 GPM (208.2 lps)
- Max Head: 128' (39.0 m)
- Max Solids: 3" (76.2 mm)
- Max Temperature: 160°F (71°C)
- Motor – Voltage: 200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P
- Motor – Cycles: 60 Hz
- Horsepower: 2 HP to 75 HP
- Station Sizes: 7'6" (2.3 m) & 10' (3.1 m)

RELY ON THE LIFT STATION EXPERTS SINCE 1967

Make ReliaSource® your single source for lift station satisfaction today.



★ Manufacturing Facilities
● Distribution Centers

Gorman-Rupp USA
Mansfield, Ohio, USA

Gorman-Rupp Canada
St. Thomas, Ontario, Canada

Gorman-Rupp Europe
Culemborg, Netherlands

Gorman-Rupp Belgium
Namur, Belgium

Gorman-Rupp Africa
Cape Town, South Africa
Durban, South Africa
Johannesburg, South Africa (Headquarters)

Distribution Centers
Dubai, United Arab Emirates
Grand Prairie, Texas, USA
Culemborg, Netherlands

Engineering and manufacturing superiority has been the hallmark of Gorman-Rupp since our inception in 1933. Today we bring our products to life in some of the most efficient, modern and state-of-the-art manufacturing facilities in the world. Over the past decades, Gorman-Rupp has manufactured more than 13,000 pump stations, and our world-class team of distributors has worked closely with thousands of municipalities around the world. We have the proven expertise and the resources to specify, manufacture, test and service your complete packaged lift station, and to ensure reliable solids-handling performance for the long haul.

ISO 9001:2015 REGISTERED COMPANY GORMAN-RUPP PUMPS USA

ISO 14001:2015 REGISTERED COMPANY GORMAN-RUPP PUMPS USA

GORMAN-RUPP PUMPS
P.O. BOX 1217
MANSFIELD, OHIO 44901-1217 | USA
TEL: 419.755.1011 | FAX: 419.755.1251

GRPUMPS.COM

GORMAN-RUPP PUMPS
The Pump People®

AV-06510_REV092018

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RELIASOURCE® 6X6T ABOVE-GROUND LIFT STATIONS

A reliable lift station with extra height for additional options.

The newest addition to the Gorman-Rupp line of fully customizable, pre-engineered packaged pumping systems, the ReliaSource® 6x6T Above-Ground Lift Station gives you three feet of additional height and a plethora of additional benefits and options. Like the traditional 6x6 Above-Ground Pumping Station, the 6x6T combines quality construction and convenience and comes ready for immediate installation. And with the taller configuration, you get more sophisticated controls, increased hydraulic capabilities, more horsepower, and easier access for routine maintenance. Choose the 6x6T above-ground model, and choose the ultimate in heavy-solids handling, convenience and reliable performance.

ReliaSource stands for lift stations you can rely on. Guaranteed.

ReliaSource lift stations include above- and below-ground pumping stations that are 100% custom-engineered, manufactured, assembled and pretested by the experts at Gorman-Rupp in our state-of-the-art facilities. That means when you choose a ReliaSource lift station to meet your sewage and solids-handling needs, you choose the ultimate in reliability, long-lasting performance and guaranteed value.

Gorman-Rupp developed the ReliaSource line of complete packaged lift stations to eliminate costly service interruptions that result from inferior lift station components. By putting the Gorman-Rupp name on the entire lift station, from the pumps, to the enclosures, controls and valves, we can custom-engineer a quality pumping system from the ground up. We can deliver it to your location, ready for immediate installation. We can simplify your parts and service needs. And we can

guarantee your investment for the long haul with the industry's best warranty.

Gorman-Rupp has manufactured more than 16,000 pump stations over the last 50 years and our world class team of distributors has worked closely with thousands of municipalities around the world, making us the proven experts in developing, specifying and servicing complete packaged lift stations. If you want a lift station that performs as it should and meets your sewage and solids-handling requirements year after year, make ReliaSource your single source for lift station satisfaction today.



Specifications

Size	3" (80 mm), 4" (100 mm), 6" (150 mm)
Max Capacity	1475 GPM (93 lps)
Max Head	160' (49 m)
Max Solids	3" (76 mm)
Motor - Voltage	200 V 3P, 230 V 1P, 230 V 3P, 460 V 3P

Motor - Cycles	60 Hz
Horsepower	5 HP to 50 HP

FEATURES

Pumps

- Accommodates two Gorman-Rupp Super T Series® or Ultra V Series® self-priming centrifugal, heavy duty solids-handling pumps
- Specifically designed for sewage and industrial waste water handling applications
- Heavy-duty construction and easy-to-service design
- Range of motor sizes to meet your unique requirements
- Increased hydraulic capabilities with capacities to 1475 GPM, pressure to 160' TDH, and motors to 50 HP

Enclosure

- Durable fiberglass construction resists corrosion, mildew, fungus, mold and UV rays
- Provides a superior barrier to caustic or acidic atmospheres
- Two removable side door panels provide convenient access to pumps and motors
- Split opening doors to both pump suction and controls, with bottom half opening to the side and the upper, gas-shocked, hinged door lifting overhead
- Upper door doubles as awning, providing protection from the elements during maintenance
- Vandal-resistant design for added security

Controls

- Custom engineered, NEMA-rated automatic controls to operate pump function and warning systems
- Choose from a variety of standard and more sophisticated controls, such as Reduced Voltage Solid State (RVSS) Starters and Variable Frequency Drives (VFDs)
- Clearly marked field connections for fast and efficient electrical hook-up

- Available U.L. and C.S.A. listed

Warranty

- Industry-leading, 60-month warranty
- Covers the entire packaged system--enclosure, pumps, valves and controls

RESOURCES

ReliaSource Brochure
Integrinex Control Kit Flyer



PROJECT TITLE: **PRESUMPSCOT WOODS SUBDIVISION HOPE AVENUE, PORTLAND, MAINE**	DWG: **FIGURE 1**	BY: BLQ	HALEY WARD ENGINEERING | ENVIRONMENTAL | SURVEYING
		DATE: 2023.11.15	
SHEET TITLE: **FORCEMAIN CLEANING FIGURE**	JN: 13773.001	APPROVED BY:	
	SCALE: N.T.S.	CHECKED BY:	

Presumpscot Woods
0 Hope Ave., Portland, Maine
Massing, Ventilations, and Wind Impact

The proposed buildings will 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 site is surrounded by dense wooded areas, and so the construction of these buildings will not block wind from abutting properties.

The proposed project site will conform in use and appearance to the surrounding neighborhood. The development is not expected to minimize the value or utility to neighboring structures under different ownership.

The development will include residential buildings with their own individual HVAC systems. These systems will not negatively impact abutting properties or public spaces.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Shadow

The Presumpscot Woods project has been designed to avoid adverse impacts of shadows. Proposed buildings are similar in height to those of the surrounding neighborhood and will not create any shadowing on abutting properties. The proposed open space for the development is located at the center of the lot away from proposed buildings, where shadowing will not be an issue.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Snow and Ice Loading

The Presumpscot Woods project has been designed to avoid adverse impacts of snow and ice loading. The proposed structures are not adjacent to any public ways where falling snow and ice would present a danger. Designated snow storage areas are shown on the Proposed Site Plan.

Presumpscot Woods
0 Hope Ave., Portland, Maine
View Corridors

The Presumpscot Woods project will not obstruct any public view corridors identified in the *Downtown Vision View Corridor Protection Plan*.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Historic Areas

The Presumpscot Woods project is not located within the City's Historic District. The Maine Historic Preservation Commission was contacted, and they did not identify any sensitive areas on the site; a copy of their response has been provided.

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

RECEIVED
MAY 16 2022
By 0782-22

May 16, 2022

Maine Historic Preservation Commission
Attn: Ms. Megan Rideout
55 Capitol Street
65 State House Station
Augusta, ME 04333-0065
Megan.M.Rideout@maine.gov

RECEIVED
MAY 27 2022
AND SCANNED

Re: GenX Capital Partners, LLC | Hope Avenue Subdivision | Portland, ME

Dear Ms. Rideout:

GenX Capital Partners, LLC is currently preparing Local and State permit applications for the construction of an approximately 10-acre residential development in Portland, Maine. The project site is to be located on a 14-acre property that is mostly wooded and undeveloped. The parcel is located in North Deering, just south of the Falmouth Spur Road. The proposed project will include approximately 60 duplexes and a private road.

Per permitting requirements, we are submitting this request to your office to determine if any historical sites of concern are located within the project area. The development will be screened on all sides by a vegetated buffer, and buildings in the surrounding neighborhood were constructed within the last 50 years; therefore, a photolog of nearby structures has not been provided. Any response can be forwarded to our office located at 1 Merchants Plaza, Suite 701, Bangor, ME 04401 or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, P.E.
Civil Engineer

DJO/cmg
Enc.

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

5/23/22
Date

One Merchants Plaza, Suite 701, Bangor, ME 04401
T: 207.989.4824 | HALEYWARD.COM

Presumpscot Woods
0 Hope Ave., Portland, Maine
Exterior Lighting

The Presumpscot Woods project proposes street lighting to provide a safe means of vehicular and pedestrian access throughout the development. The proposed street lighting has been designed in accordance with the City of Portland Technical Manual, Section 10 – Municipal Street Lighting. Locations of proposed lighting fixtures can be seen on Sheets C102. A photometric layout has been provided (Sheet C105.) This exterior lighting layout only includes street lighting; individual lights will be used for the individual units but were not shown on this plan. A copy of the cutsheet for the proposed street lighting fixtures has been included.

EVOLVE

EPTT Town & Country

LED Post Top



Project Name _____

Date _____ Type _____

Notes _____

The **Evolve**® LED Post Top Town & Country (EPTT) offers energy efficiency and quality of light in a classic look and style. The advanced LED optical system provides improved horizontal and vertical uniformity, reduced glare and improved lighting control.

CONSTRUCTION

Housing:	Die-cast aluminum housing with traditional lantern design. Cupola compatible with C136.41-2010 PE's, Shorting Caps and LightGrid Nodes
Refractors:	Acrylic, Polycarbonate, None/Open
Lens:	Impact resistant UV resistant polymer
Paint:	Corrosion resistant polyester powder paint, minimum 2.0 mil thickness Standard = Black, Dark Bronze (RAL & custom colors available)
Weight:	14 - 18 lbs (6.2 - 8 kg)

OPTICAL SYSTEM

Lumens:	1,930-8,530
Distribution:	Symmetric Asymmetric
CCT:	2700K, 3000K, 4000K, 5000K
CRI (Min):	≥70

ELECTRICAL

Input Voltage:	120-277V
Input Frequency:	50/60Hz
Power Factor:	≥ 90% at rated watts
Total Harmonic Distortion:	≤ 20% at rated watts

SURGE PROTECTION*

Standard	Optional
☐ 10kV/5kA	☐ Secondary 10kV/5kA (R Option)

*Per ANSI C136.2-2015

LUMEN MAINTENANCE

Projected Lxx per IES TM-21-11 at 25°C

Distribution	LXX(10K) @ Hours		
	25,000 HR	50,000 HR	60,000 HR
02, 03	L99	L99	L98
04, 05, 06, 07	L96	L91	L89

Note: Projected Lxx based on LM80 (≥ 10,000 hour testing). Accepted Industry tolerances apply to initial luminous flux and lumen maintenance measurements.

AMBIENT TEMPERATURE FACTOR

Ambient Temp (°C)	Initial Flux Factor	Ambient Temp (°C)	Initial Flux Factor
10	1.02	30	0.99
20	1.01	40	0.98
25	1.00	50	0.97

RATINGS

Operating Temperature:	-40°C to 50°C (Optical Code 02-06) -40°C to 40°C (Optical Code 07)
Vibration:	3G per ANSI C136.31-2010
LM-79:	Testing in accordance with IES Standards

CONTROLS

Dimming:	Standard - 0-10V	☐
	Optional - DALI (Option U)	☐
Sensors:	Photo Electric Sensors (PE) available LightGrid Compatible	

WARRANTY

☐ 5 Year (Standard) ☐ 10 Year (Optional)

UL 1598 WET LOCATIONS · IP65 Optical · CONTROLS ENABLED

Not all product variations listed on this page are DLC qualified. Visit www.designlights.org/search to confirm qualifications.

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EPTT Town & Country

LED Post top

Catalog Logic

Project Name _____

Date _____ Type _____

Notes _____

EPTT 02

_ _ _ _ __ _ __ _ _ __ _ _ ____ ___

PROD. ID	GEN	VOLTAGE	OPTIC CODE	DISTRIBUTION	REFRACTOR	CCT	CONTROLS PER ANSI C136.41	MOUNTING	COLOR	OPTIONS
E = Evole	02	0 = 120-277	02	A = Symmetric	A = Acrylic	27 = 2700K[1]	A = ANSI C136.41 7-Pin PE Receptacle[2]	P = Pole Mounted	BLCK = Black	L = Tool-Less Entry
P = Post Top			03	B = Asymmetric	P = Polycarbonate	30 = 3000K[1]	D = ANSI C136.41 7-Pin PE Receptacle w/ Shorting Cap		DKBZ = Dark Bronze	P06 = Prewire with 6 ft of 14/3 Cable
TT = Town & Country Traditional			04		N = None[1]	40 = 4000K	E = ANSI C136.41 7-Pin PE Receptacle w/ non Dimming PE			R = Secondary 10kV/5kA
			05			50 = 5000K				U = DALI Programmable[2]
			06							Y = Coastal Finish[3]
			07							XXX = Special Options

[1] Select for IDA Approved Units

[2] Compatiable with LightGrid Nodes

[3] Recommended for installations within 750 feet of coast. Lead time varies, check with factory.

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EVOLVE

EPTT Town & Country

LED Post top

Spec Tables

Project Name _____

Date _____ Type _____

Notes _____

LUMEN OUTPUT	DIST. CODE	DESCRIPTION	REFRACTOR CODE	TYPICAL INITIAL LUMENS			WATTAGE	BUG RATINGS		
				2700K	3000K	4000K/5000K	120-277V	2700K	3000K	4000K/5000K
02	A	Symmetric	A	2600	2810	2930	25	B1-U3-G2	B1-U3-G2	B1-U3-G2
03	A	Symmetric	A	3070	3310	3450	29	B2-U3-G2	B2-U3-G2	B2-U3-G2
04	A	Symmetric	A	4230	4560	4760	41	B2-U3-G2	B2-U3-G2	B2-U3-G2
05	A	Symmetric	A	5150	5560	5790	50	B2-U3-G3	B2-U3-G3	B2-U4-G3
06	A	Symmetric	A	5710	6160	6410	56	B2-U4-G3	B2-U4-G3	B3-U4-G3
07	A	Symmetric	A	6960	7500	7820	72	B3-U4-G3	B3-U4-G3	B3-U4-G3
02	B	Asymmetric	A	2430	2630	2730	25	B1-U3-G2	B1-U3-G2	B1-U3-G2
03	B	Asymmetric	A	2870	3100	3220	29	B1-U3-G2	B1-U3-G2	B1-U3-G2
04	B	Asymmetric	A	3950	4270	4440	41	B1-U3-G3	B1-U3-G3	B1-U3-G3
05	B	Asymmetric	A	4810	5190	5410	50	B1-U4-G3	B2-U4-G3	B2-U4-G3
06	B	Asymmetric	A	5330	5750	5990	56	B2-U4-G3	B2-U4-G3	B2-U4-G3
07	B	Asymmetric	A	6500	7010	7300	72	B2-U4-G3	B2-U4-G3	B2-U4-G3
02	A	Symmetric	P	2770	2230	2330	25	B1-U3-G1	B1-U3-G1	B1-U3-G1
03	A	Symmetric	P	2440	2630	2740	29	B1-U3-G1	B1-U3-G2	B1-U3-G2
04	A	Symmetric	P	3370	3630	3780	41	B2-U3-G2	B2-U3-G2	B2-U3-G2
05	A	Symmetric	P	4100	4420	4600	50	B2-U3-G2	B2-U4-G2	B2-U4-G2
06	A	Symmetric	P	4540	4900	5100	56	B2-U4-G2	B2-U4-G2	B2-U4-G2
07	A	Symmetric	P	5530	5970	6220	72	B2-U4-G3	B2-U4-G3	B3-U4-G3
02	B	Asymmetric	P	1930	2090	2170	25	B1-U3-G2	B1-U3-G1	B1-U3-G2
03	B	Asymmetric	P	2280	2460	2560	29	B1-U3-G2	B1-U3-G2	B1-U3-G2
04	B	Asymmetric	P	3140	3390	3530	41	B1-U3-G2	B1-U3-G2	B1-U3-G2
05	B	Asymmetric	P	3830	4130	4300	50	B1-U3-G2	B1-U4-G3	B1-U4-G3
06	B	Asymmetric	P	4240	4580	4770	56	B1-U4-G3	B1-U4-G3	B2-U4-G3
07	B	Asymmetric	P	5170	5580	5810	72	B2-U4-G3	B2-U4-G3	B2-U4-G3
02	A	Symmetric	N	2840	3070	3190	25	B2-U0-G1	B2-U0-G1	B2-U0-G1
03	A	Symmetric	N	3350	3620	3770	29	B2-U0-G1	B2-U0-G1	B2-U0-G1
04	A	Symmetric	N	4620	4980	5190	41	B2-U0-G1	B3-U0-G1	B3-U0-G1
05	A	Symmetric	N	5620	6070	6320	50	B3-U0-G1	B3-U0-G1	B3-U0-G1
06	A	Symmetric	N	6230	6720	7000	56	B3-U0-G1	B3-U0-G1	B3-U0-G1
07	A	Symmetric	N	7590	8190	8530	72	B3-U0-G1	B3-U0-G1	B3-U0-G1
02	B	Asymmetric	N	2660	2870	2980	25	B1-U0-G1	B1-U0-G1	B1-U0-G1
03	B	Asymmetric	N	3130	3380	3520	29	B1-U0-G1	B1-U0-G1	B1-U0-G1
04	B	Asymmetric	N	4320	4660	4850	41	B1-U0-G1	B1-U0-G1	B1-U0-G2
05	B	Asymmetric	N	5250	5670	5900	50	B1-U0-G2	B1-U0-G2	B1-U0-G2
06	B	Asymmetric	N	5820	6280	6540	56	B1-U0-G2	B1-U0-G2	B2-U0-G2
07	B	Asymmetric	N	7090	7650	7970	72	B2-U0-G2	B2-U0-G2	B2-U0-G2

For additional information on EPTT IES files, please click the following link: **EPTT IES Files**

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EPTT Town & Country

LED Post top

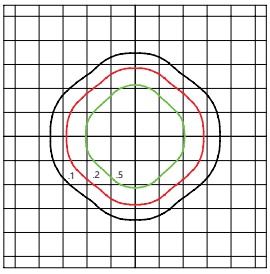
Photometric Plots

Project Name _____

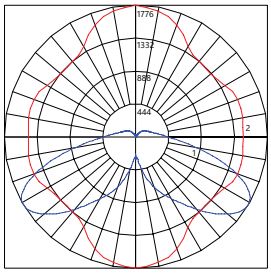
Date _____ Type _____

Notes _____

EPTT
Symmetric (Acrylic Refractor)
7,820 Lumens
5,000K
EPTT02 _07AA50_-120-277V.IES

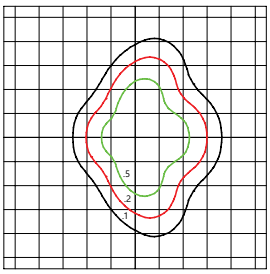


- Grid Distance in Units of Mounting Height at 16'
- Initial Footcandle Values at Grade

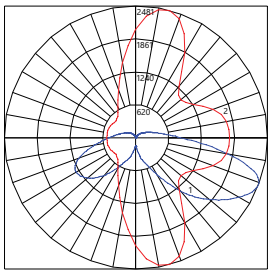


— Vertical plane through horizontal angle of Max. Cd at 90°
— Horizontal cone through vertical angle of Max. Cd at 58°

EPTT
Asymmetric (Acrylic Refractor)
7,300 Lumens
5,000K
EPTT02 _07BA50_-120-277V.IES

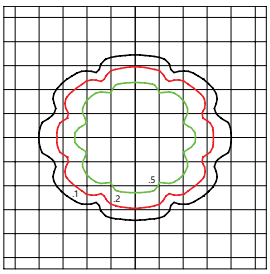


- Grid Distance in Units of Mounting Height at 16'
- Initial Footcandle Values at Grade

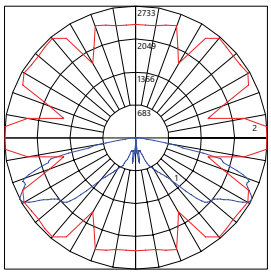


— Vertical plane through horizontal angle of Max. Cd at 75°
— Horizontal cone through vertical angle of Max. Cd at 69°

EPTT
Symmetric (No Refractor)
8,530 Lumens
5,000K
EPTT02 _07AN50_-120-277V.IES

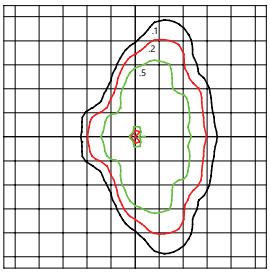


- Grid Distance in Units of Mounting Height at 16'
- Initial Footcandle Values at Grade

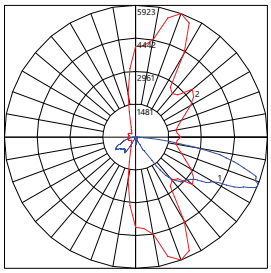


— Vertical plane through horizontal angle of Max. Cd at 5°
— Horizontal cone through vertical angle of Max. Cd at 62°

EPTT
Asymmetric (No Refractor)
7,970 Lumens
5,000K
EPTT02 _07BN50_-120-277V.IES

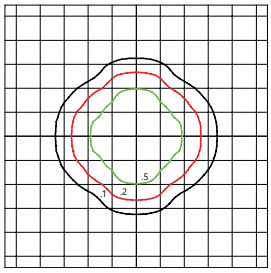


- Grid Distance in Units of Mounting Height at 16'
- Initial Footcandle Values at Grade

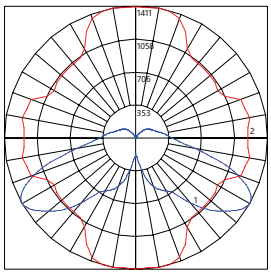


— Vertical plane through horizontal angle of Max. Cd at 70°
— Horizontal cone through vertical angle of Max. Cd at 68°

EPTT
Symmetric (Poly Refractor)
6,220 Lumens
5,000K
EPTT02 _07AP50_-120-277V.IES

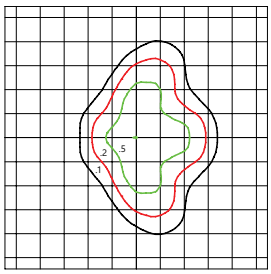


- Grid Distance in Units of Mounting Height at 16'
- Initial Footcandle Values at Grade

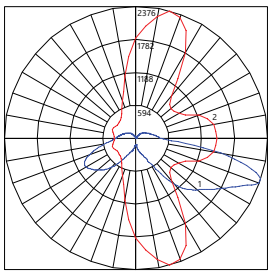


— Vertical plane through horizontal angle of Max. Cd at 80°
— Horizontal cone through vertical angle of Max. Cd at 60°

EPTT
Asymmetric (Poly Refractor)
8,810 Lumens
5,000K
EPTT02 _07BP50_-120-277V.IES



- Grid Distance in Units of Mounting Height at 16'
- Initial Footcandle Values at Grade



— Vertical plane through horizontal angle of Max. Cd at 75°
— Horizontal cone through vertical angle of Max. Cd at 71°

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EPTT Town & Country

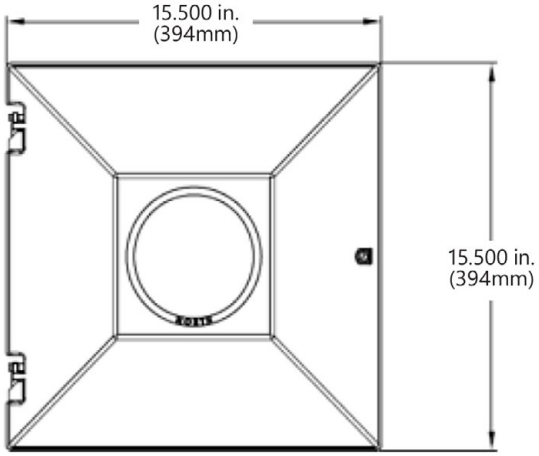
LED Post top

Mounting & Accessories

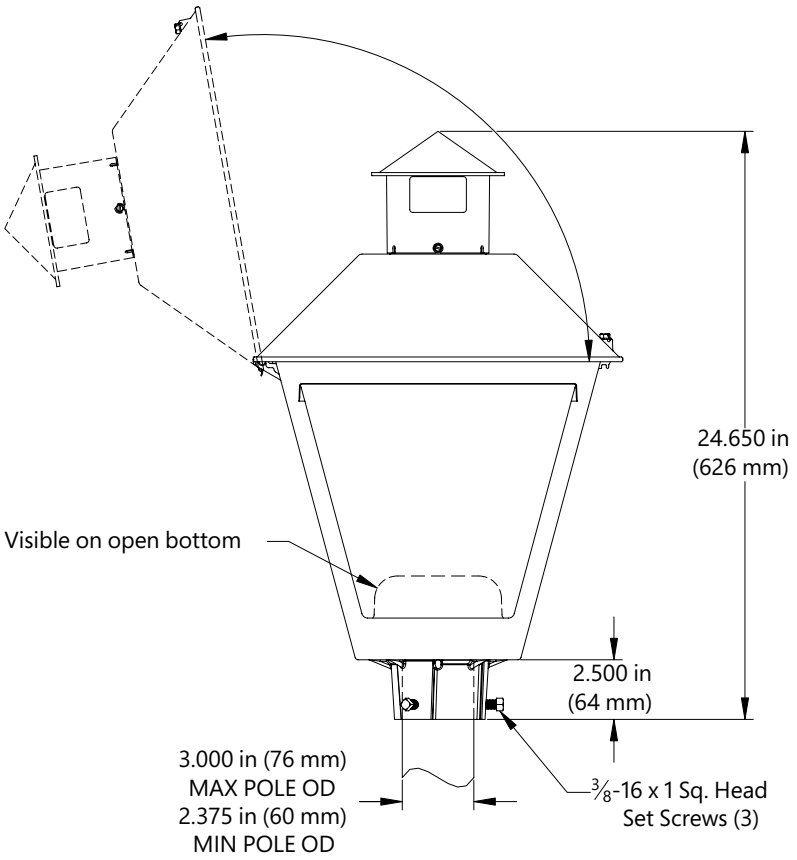
Project Name _____

Date _____ Type _____

Notes _____



TOP VIEW



SIDE VIEW

MOUNTING

- Mounts to 2-3/8 to 3-inch (60-76mm) OD vertical tenon
- Suggested Mounting Height = 8-18 ft. (2.5 - 5.5M)

EFFECTIVE PROJECTED AREA

- 1.6 sq. ft. max (0.15 sq M max)

WEIGHT

- 14 lbs (6.2 kgs) - 18 lbs (8 kgs)

EPTT HOUSE SIDE SHIELDS

Part Number	Description
LSPX-TT	Perforated Shield for Open Sided or Refractor Designs
LSSX-TT	Solid "Black" Shield for Open Sided or Refractor Designs
LR-TC	Ladder Rest - Black

NETWORK LIGHTING CONTROLS



Current's **LightGrid**™ Outdoor Lighting Control System is designed for Street and Roadway Applications. It enables remote monitoring, control, and asset management of a single fixture or a group of fixtures through a web enabled Central Management System.

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Presumpscot Woods
0 Hope Ave., Portland, Maine
Noise and Vibration

The Presumpscot Woods project is a residential development; therefore, it is expected to conform with the nature of the surrounding area and is not expected to generate noise or vibrations that will significantly, negatively impact surrounding areas.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Signage and Wayfinding

Signage and Wayfinding for the Presumpscot Woods development will consist of a main identifying sign at the site entrance on Hope Avenue, and traffic signage throughout the site. Individual buildings are residential in use and will not require signage. The proposed site-sign and traffic signage will adhere to the standards identified in the Land Use Code.

Presumpscot Woods
0 Hope Ave., Portland, Maine
Zoning Related Standards

The Presumpscot Woods project is a Planned Residential Unit Development (PRUD) within the R-3 residential zone. The proposed buildings are similar in size, scale and use to the existing residential neighborhoods in the area. Please review the attached building plans and renderings for further building design information. We have also attached a Zoning Analysis Table that summarizes the zoning requirements for the site and how our design complies with those requirements.

CONSTRUCTION MANAGEMENT PLAN NARRATIVE
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

Construction Management Principles

This Construction Management Plan depicts the overall planning, coordination and control of construction activities related to Presumpscot Woods, a new 53-unit, residential subdivision to include construction of new buildings, private roadways, utility systems, and stormwater maintenance system. The project is located at 0 Hope Avenue, Portland, Maine. The goal of this Construction Management Plan is to support a safe construction site and protect public safety. Impacts of the proposed construction activities shall be minimized in their duration and magnitude to the surrounding area.

Development Review of Construction Management Plan

This Construction Management Plan shall be reviewed and approved by the City of Portland Planning Authority and the Portland Department of Public Works.

Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

Prior to the start of construction, the contractor and the applicant shall provide the City of Portland performance guarantees as stated in the Planning Authority approval and shall meet the requirements of Section 15-530, Development Review Fees and Post Approval Requirements and Section 14-532, General Requirements and Enforcement of Portland's Land Use Code.

A preconstruction meeting shall be coordinated by the contractor with the City of Portland staff to review this Construction Management Plan, approval requirements and to establish communication contacts for the contractor and the owner.

Contractor shall obtain a Street Opening Permit from the City of Portland prior to the start of any construction in Hope Avenue.

Blasting is not anticipated for this site and building construction. If ledge is encountered during construction and blasting is necessary, then the contractor shall prepare a blasting plan in accordance with the City of Portland Technical Manual and applicable State and Federal regulations.

Contractor shall employ the best practices, as applicable, of Chapter 33 Safeguards during Construction, from the International Building Code.

Construction Schedule

Contractor shall submit a construction schedule to the City of Portland at the preconstruction meeting. Hours of construction shall occur Monday through Friday between 7:00 am and 7:00 pm. If a construction activity is required to be conducted outside these hours, then the contractor shall notify the City and provide a written explanation of the activity and state the reasons for work outside the allowable window. The contractor shall receive written approval from the City prior to construction activities outside the allowable window. An exception shall be made for an emergency activity necessary by an unforeseen event.

Contractor to submit a Fire Safety Program at the preconstruction meeting. The Fire Safety Program shall include:

- Good Housekeeping
- On-site security
- Installation of new fire protection systems as construction progresses
- Preservation of existing systems during demolition
- Organization and training of an on-site fire brigade
- Development of a pre-fire plan with the local fire department
- Rapid communication
- Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations

Contractor shall provide temporary lighting where necessary. Temporary lighting shall be full cut-off fixtures.

Security and Public Safety

The project site is over 13 acres of undeveloped forested land and access to the property is limited to an existing curb cut on Hope Ave. and a few walking/biking trails that have been cut into and through the property by others over the years. The project is adjacent to conservation lands and a portion of the "Sebago to the Sea Trail" system. Temporary construction fencing and erosion control silt barriers will generally restrict the access of pedestrians and bicyclists onto the construction site. The Contractor shall install temporary construction fencing and signage restricting access at all existing walking/biking trail connections on the property. A fenced/gated construction entrance will be established at the existing curb-cut on Hope Ave. The gate will be secured during non-working hours and equipped with a "Knox" box as required by the City. This will be the only vehicular access point to the property.

All construction work shall be conducted in accordance with OSHA, City of Portland, and/or State of Maine safety regulations. The Contractor shall also supply a Fire Access/Safety Plan and project incident response process to be reviewed by the City of Portland prior to implementation.

Construction Permitting and Traffic Control

Construction Activity in Public Streets: 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 & area are outlined in that Chapter. Rules and Regulations for Excavation Activity are available through the Street Opening Clerk at the Department of Public Works. At no time can construction activity including delivery vehicles close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.

Construction traffic shall be restricted to the new access driveway during construction. Contractor to maintain adequate access during construction for emergency vehicles to the site.

Sewer, Water, Stormdrain, and Power and Communications utilities will be connected to existing utility systems within Hope Avenue's right-of-way. Additionally, an upgrade of the City's Sewer Lift Station, located across Hope Avenue from the site, will require access from Hope Ave. and temporary traffic control for certain steps of the process.

Site Management Controls

Contractor to implement Site Management Controls as outlined below:

1. Regular trash and debris removal at the end of each work day. Contractor shall not allow construction debris to migrate from the site into neighboring sites or onto public ways.
2. Contractor shall maintain a construction entrance/exist for all construction vehicles and shall provide street sweeping on adjacent public ways.
3. Dust controls- The construction shall comply with Portland's requirements under Section 25-129 on Noise, dust and debris
4. Noise: The construction shall comply with Portland's requirements under Section 17- 18 of the City Code and Section 25-129 on Noise, dust and debris.
5. Rodent Control will be provided, if applicable, by a professional exterminator and consistent with Chapter 22 of the City Code.
6. Snow Removal: Pursuant to Section 25-173 Contractors to ensure a safe means of travel within the active work zone.

Erosion Control and Preservation of Trees

Contractor shall install all erosion and sedimentation controls as depicted on the approved erosion and sedimentation control plan prior to the pre-construction meeting for inspection by the City. The contractor shall regularly inspect the control measures, no less than weekly and after significant storm events, and maintain any installed temporary or permanent stormwater management systems in working order. The contractor shall document all inspection activities and corrective actions and be prepared to provide

these documents for inspection by the City, Maine Department of Environmental Protection or the U.S. Environmental Protection Agency upon request.

Contractor shall maintain all tree and landscaping preservation measures as depicted on the site and landscape plans within the area of construction.

The storage of materials shall not be located under/near trees.

Construction Staging Area

Construction staging shall initially be the area within and adjacent to the proposed entrance road, within the project limits. A stream crossing will be constructed in the initial part of the construction sequence to allow access to the largest part of the project. Once adequate access over the stream is established, staging areas will be established within cleared portions of the larger portion of the project site. area in front of the proposed building as shown on the Construction Management Site Plan. All construction deliveries shall be by the new access drive from Hope Ave. Contractor shall Identify any offsite staging, storage or delivery truck holding areas at the preconstruction meeting.

Parking During Construction

Parking of construction, delivery, and contractor employee vehicles shall be located on site at all times, unless otherwise authorized by the City of Portland.

Special Measures as Necessary

No special measures are foreseen at this time.

PREMIUM
series

Clopay®

America's Favorite Garage Doors®



Model 9200, Short Elegant Panel with Optional Colonial 509 Window Design

intellicore®
insulation technology

Premium Series garage doors featuring Intellicore® insulation technology represent the ultimate smart choice for homeowners. Clopay's Intellicore® insulation is a proprietary polyurethane foam that is injected into our Premium Series doors, expanding to fill the entire structure. The result is a door with incredible strength and durability. Its dense insulation also produces a quieter door, and with one of the industry's leading R-values of 18.4, it provides year-round comfort and improved energy efficiency.



WARMER
Energy efficiency provides year-round comfort

QUIETER
Dense insulation reduces noise by up to 16 decibels

STRONGER
Enhanced strength resists everyday wear and tear

PREMIUM series

Improve your home's appearance and energy efficiency with a Clopay Premium Series insulated garage door. Available with Intellicore® polyurethane insulation or bonded polystyrene insulation in 2" or 1-3/8" thicknesses, Premium Series models offer exceptional insulating R-values, strength and security, as well as quiet operation and a beautiful appearance. Choose from two panel styles, multiple color options and a wide range of window options to create a door that fits your budget and enhances your home's curb appeal.

3-LAYER CONSTRUCTION

- Weathertight tongue-and-groove section joints help seal out wind, rain and snow.
- Replaceable vinyl bottom weatherseal in a rust-resistant aluminum retainer helps seal out the elements.
- 2" thick polystyrene and all Intellicore® insulation filled doors come standard with 10-ball nylon rollers and heavy-duty 14 gauge steel hinges.
- Clopay's Safe-T-Bracket® helps prevent serious injury that could occur if the bottom bracket were removed with the garage door closed and under tension.
- Prepainted white end stiles and interior steel backing create a clean, finished appearance.
- Inside/outside step plates and grip handles make doors easy and safe to operate.
- 2" thick polystyrene and all Intellicore® insulation filled doors comply with 2015 IECC air infiltration requirement of 0.40 cfm/ft² or less (IECC, Section C402.5.2).

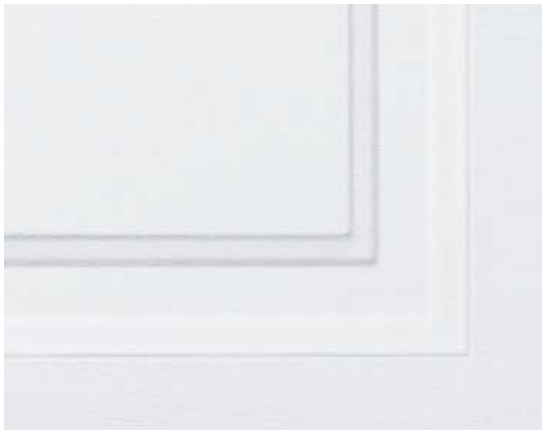


2"	1-3/8"	2"	1-3/8"
Polyurethane Models		Bonded Polystyrene Models	
27 GAUGE STEEL†	27 GAUGE STEEL†	27 GAUGE STEEL†	26 GAUGE STEEL
9200 short panel 9203 long panel	9130 short panel 9133 long panel	4300 short panel 4310 long panel	4050 short panel 4053 long panel
2" POLYURETHANE	1 3/8" POLYURETHANE	2" POLYSTYRENE	1 3/8" POLYSTYRENE
EFFICIENCY 18.4 R-VALUE*	EFFICIENCY 12.9 R-VALUE*	EFFICIENCY 9.0 R-VALUE*	EFFICIENCY 6.5 R-VALUE*

*Calculated door section R-value is in accordance with DASMA TDS-163.
† Models with Ultra-Grain® finish and Black paint options are 25 gauge steel.

Model 9203, Long Elegant Panel with Optional Charleston 608 Window Design

DETAIL



Deep panel edging and natural embossed woodgrain texture improve appearance close-up and from the curb.

STYLE



Elegant Short
Complements homes with traditional styling. Models 9200, 9130, 4300 and 4050.

Elegant Long
Ideal for ranch style homes. Models 9203, 9133, 4310 and 4053.

Doors range from 6' to 16' high and 6'2" to 20' wide. Consult your Clopay Dealer for size options.
WindCode® Doors are available to meet most regional wind load requirements.
Consult your local dealer for specific information.



Model 4050, Short Elegant Panel with Optional Colonial 509 Window Design

COLORS

Standard White

Glacier White*†

Almond

Desert Tan

Sandtone

Bronze

Chocolate

Mocha Brown*

Hunter Green

Gray

Charcoal*

Black*‡

- Exterior steel on standard color doors has a natural woodgrain texture.
- Doors can be painted to match the home's exterior using a high-quality latex exterior paint. Do not use oil-based paint.

Due to the printing process, colors may vary. See your Clopay Dealer for color samples.

**Not available on Models 4050 and 4053.*
†Popular in select markets, Glacier White is a brighter white.
‡Additional charges apply.

CUSTOM PAINT OPTION

COLOR BLAST®

Color Blast® finish offers more than 1,500 Sherwin-Williams® color options to complement your home. Clopay's durable two-part paint system has been thoroughly tested and is backed by a five-year warranty.

ULTRA-GRAIN® FINISH OPTION



Classic Medium Finish



Classic Cherry Finish



Classic Walnut Finish

Due to the printing process, colors may vary.
Not available on Models 4050 or 4053.
Additional charges apply.

- Painted steel surface simulates a real stained door without the need of staining and the ongoing maintenance of wood.
- Woodgrain runs horizontal on stiles and vertical on panels for an authentic, natural look.
- Available in Medium, Cherry or Walnut Classic finishes that complement Clopay Entry Doors, shutters and other exterior stained wood products.
- Exterior steel surface on an Ultra-Grain® finish door has a stucco texture to create a more natural woodgrain appearance.

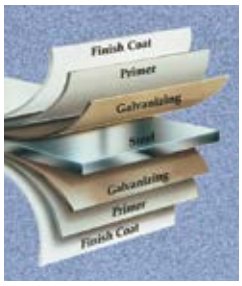


Model 4300, Short Elegant Panel;
Shown in Ultra-Grain® Classic Cherry Finish



Model 9200, Short Elegant Panel with Plain Short Windows; Shown in Ultra-Grain® Classic Cherry Finish

RUST-PREVENTION SYSTEM



Steel skins are protected through a tough, layered coating system, including a hot-dipped galvanized layer, a protective metal oxide pretreatment and a baked-on primer and top coat.

GREATER ENERGY EFFICIENCY



Thermal break* separates the interior from the exterior skin to improve energy efficiency and comfort.

**Thermal break is not present on Models 4050 and 4053.*

ENVIRONMENTAL ASSURANCE

Clopay doors are compliant with environmental laws and regulations. Clopay doors do not contain HFCs. All Clopay doors are compliant with:

- California SB 1013
- Washington HB 1112 – Hydrofluorocarbon Greenhouse Gas Emissions
- Canadian regulations amending the ozone-depleting substances and halocarbon alternatives regulations

WARRANTIES

PAINT SYSTEM	WINDOWS	HARDWARE
LIMITED LIFE WARRANTY	LIMITED 10 YR WARRANTY	LIMITED 3 YR WARRANTY

WINDOW OPTIONS

Our windows add natural light to your garage while adding curb appeal to your home. All Clopay window frames are UV-protected and are color matched to our prefinished door colors. Window frames screw in from the inside for easy glass replacement or to change designs.

ARCHITECTURAL SERIES WINDOWS

These windows are from Clopay's Architectural Series, featuring a larger viewing area and are available on select models and heights. Short windows are 19-1/2" × 16" and long windows are 42" × 16".

Available on These Models

9200* 9133
9203 4300*
9130* 4310



Windows are available single pane or insulated in clear, frosted, seeded, obscure and rain designs.



DECORATIVE INSERT SERIES WINDOWS

UV-protected cellular plastic insert designs snap into either the inside or outside of the window frame for easy cleaning or to change designs. Windows are offered in single strength, double strength, acrylic, obscure or insulated glass. Short windows are 19-1/2" × 12" and long windows are 40-1/2" × 12".

Available on These Models

9200* 4300*
9203 4310
9130* 4050*
9133 4053



Windows are available single pane or insulated in clear, frosted, obscure and rain designs. Clear acrylic also available.



Short windows not available on long panel doors.
** Panel emboss may not align with windows due to size difference. Some size limitations apply.*
† Shown with clear glass. Acrylic and obscure glass optional.
‡ Sunset windows not available on Ultra-Grain® finish doors.
Additional charges for optional glass apply.
Acrylic windows require special cleaning. Never use products that contain ammonia or petroleum products to clean acrylic. Please visit clopaydoor.com/acrylic for complete details.

Visit **clopaydoor.com** or call 1-800-2CLOPAY (800-225-6729) for more information on Clopay, America's Favorite Garage Doors. Follow us on MADE IN USA

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RSDR-PREM3LAYERSS-13_REV0420

Westchester Specifications

Floor System

- 2 x 10 floor joist 16" on center as required by span with double rim joist. Steel joist hangers where required.
- Solid wood bridging installed at center spans. Double Metal Bridging on all 15' and 16' wide units.
- 3/4 Nominal (23/32) Tongue and groove plywood sturdi-floor glued and fastened.
- Wall to wall carpet with 3/8" pad and tack strip. Shipped loose for field installation.

Exterior

- 2 x 6 studding 16" on center.
- R-21 Batt type wall insulation.
- 1/2" Nominal (15/32) rated plywood sheathing, exposure #1, glued and fastened.
- Andersen® Tilt Wash® 400 Series double-hung vinyl clad windows with High Performance™ insulating glass, removable grilles and full screens. Extended window sill included.
- Andersen® vinyl clad wood framed sliding glass patio door with tempered double glass and screen.
- Insulated Thermatru® "smooth star" fiberglass exterior doors.
- Wireless chime for two doors.
- Low maintenance Certainteed® "Mainstreet" solid vinyl siding with lifetime non-prorated transferable warranty.
- Air infiltration barrier installed on all exterior insulated walls.
- 5/12 Roof Pitch with dimensional fiberglass/ asphalt self sealing shingles with limited lifetime warranty and aluminum drip edge.
- 5/8" Nominal (19/32) rated plywood roof sheathing, exposure #1.
- Full length attic shingle-over ridge ventilating system.
- Ice and water shield installed under shingles 6' up on all eave overhangs.
- R-38 ceiling insulation, foam baffles and eves.
- Low maintenance ventilating soffit and fascia system.

Interior

- Full 8' ceiling height.
- 2 x 4 studding 16" on center.
- 1/2" drywall on walls and 5/8" on ceilings with smooth finish.
- All interior drywall surfaces primed with white latex no voc paint with smooth finish.
- All interior openings are cased in pine.
- Six panel hardboard hollow core interior doors painted white with triple brushed nickel hinges and lever hardware.
- Painted colonial wood interior trim with extended window sills.
- Pre-finished ventilated closet shelving.
- First floor stairwell walls insulated.

Kitchen

- Oak or hardwood frame cabinetry with recessed panel doors. Choice of colors.
- All kitchen designs incorporate lazy susan and angled wall cabinets.
- Self edge high pressure laminate counter top with 4" backsplash.
- Double bowl stainless steel sink with Delta single lever faucet and pull-out spray.
- Recessed light over kitchen sink.
- Lighted ventless range hood with choice of colors.

Bathrooms

- Oak or hardwood frame cabinetry with recessed panel doors. Choice of colors.
- Self edge high pressure laminate vanity top with 4" backsplash and china basin.
- Dual handle Delta® vanity faucet.
- Mirror with lights above and recess mirrored medicine cabinet.
- Bath fan/light combination
- Elongated vitreous china water closet.
- One piece smooth finish fiberglass tub/ shower unit with choice of color.
- All shower valves incorporate pressure balancing valve to prevent "shower shock".
- Towel bar, towel ring and paper-holder to match faucet finish.

Electrical/Plumbing

- PEX water lines.
- Hot water baseboard heat.
- Washer and dryer hook up available.
- 200 Amp service panel with circuit breakers shipped loose for field installation.
- Ground fault protected receptacles provided in kitchen, bath and exterior locations as required by code. Arc Fault receptacles are used in all bedrooms.
- Smoke detector/alarm system with built-in battery back up provided as required by code.
- Carbon monoxide detectors.
- Lighting fixtures provided at kitchen, dining, bath, walk in closet, hall, entry foyer, exterior door locations and basement stairwells.

Code Compliance Policy

Westchester Modular Homes are built in accordance with state specific adopted codes including residential, building, mechanical, plumbing, and electrical codes. In order to assure code compliance it is the builder's responsibility to notify Westchester Modular Homes prior to order placement of any additional provisions that may be required by any authorities having jurisdiction.

Specifications and suppliers are subject to change without notice.

Westchester Modular Homes, Inc. is a wholesale manufacturer of modular components that sells its products to residential builders from whom you buy your new home. Westchester Modular Homes, Inc. is independent of the builders that use its products and services, and is only responsible for manufacturing and servicing according to the terms and conditions of the contract and warranty it has with the builder of your new home.

Westchester Modular Homes, Inc.

AN EMPLOYEE OWNED COMPANY

30 Reagans Mill Road • Wingdale, NY 12594

800-832-3888 • 845-832-9400

WestchesterModular.com

Featuring High-Quality Andersen Products

Andersen Windows

ENERGY STAR PARTNER

Upgrades to Standard Westchester Specifications as Indicated on Purchase Order – Both Units

- Floor Section
  - Install 12 x 12 Ceramic Tile in All Bathrooms, Laundry areas
  - Install Hardwood Floors onsite in LR/DR/LR/Study/Entry
  - Carpets installed in Bedrooms 2 and 3, 2nd floor Hall and Stairs to second floor
- Walls
  - Upgraded to Zip Sheathing ILO Plywood
- Roofs
  - Upgraded to R-49 Ceiling Insulation
  - Upgraded to 7/12 Pitch Roof
- Electric
  - Added Additional Lighting (Recess, ceiling, etc) above Standard Minimum requirements
- Interior
  - Upgrade Interior Doors to Solid Masonite
  - Upgrade Trim from Standard
- Kitchen
  - Upgrade Cabinets to Marlin – Hardwood Painted with Deluxe Construction
  - Upgrade Countertop to Quartz/Granit in Standard Unit (Smaller Unit to remain Formica)
  - Upgrade Sink / Faucet in Standard Unit (installed onsite) – Smaller Unit to be standard
- All Bathrooms
  - Upgrade Cabinets to Marlin – Hardwood Painted w
  - Upgrade toilet to Comfort Height

Presumpscot Woods
0 Hope Ave., Portland, Maine
Solid Waste

Solid waste to be generated by this development will include construction waste and municipal household waste.

Construction Waste

Solid waste generated by this development will include vegetative waste from the clearing required for the project, as well as general construction debris from the development of the project features.

This project will require approximately 10 acres of clearing of an undeveloped area. Using a conservative estimate of 80 tons of wood waste per acre, (https://www.forest2market.com/blog/how-many-tons-of-wood-are-on-an-acre-of-land), this project will generate approximately 800 tons of woods waste. Vegetative waste will either be sold or mulched and used as erosion control on site.

The project will develop approximately 85,000 square feet of residential building area, and it is estimated that a new construction project yields 3.9 lbs of construction waste per square foot of building area (https://www.buildings.com/department/article/10192921/diverting-construction-waste); therefore, this project will generate approximately 331,500lbs, or 165 tons of building construction waste. This waste will be disposed of by the contractor at a local transfer station – see the attached letter from Pine Tree Waste.

Municipal Solid Waste

After construction is completed, this development will generate a consistent stream of residential household waste. It is estimated that 4 lbs of waste is generated per dwelling unit per day (https://www2.calrecycle.ca.gov/wastecharacterization/general/rates) For this 60-unit development, there will be 240 lbs of waste generated per day, or 0.84 tons per week. Household waste will be collected by the city from the individual buildings on a weekly basis - see the attached letter from the Public Works Dept.

May 17, 2022

Haley Ward
120 Main St Suite 132
Saco ME 04072
Attn: Drew Olehowski

Re: Capabilities Statement – GenX Capital Partners Development, Portland, ME

Dear Mr. Daniels,

This letter is to confirm that Casella Waste Services located in Hermon, ME has the capabilities to pick up, truck, and dispose of all volumes of Construction and Demolition Debris generated by the proposed construction at the GenX Capital Partners Development Project located in Portland, ME. These materials can be disposed of at the Juniper Ridge Secured Landfill Facility located in West Old Town, ME.

Casella Waste Services can transport all anticipated volumes of non-hazardous MSW (Municipal Solid Waste) to the Penobscot Energy Recovery Corporation facility located in Orrington, ME. (Anticipate 600#/Wk) We are also prepared to handle all amounts of Wood products that may be generated from this development at Re-Energy located in Lewiston, ME, as well as Carboard Recycling at Casella Recycling, located in Scarborough, ME.

This letter is not a quote for services. Rather it is a statement of capabilities. The sole purpose of this letter is to communicate the willingness and capabilities that Casella Waste Services has towards providing these services as requested.

Please feel free to contact me with any future requests. I can be reached at (207) 310-0509.

Sincerely,

Adam Graham

Adam Graham
Accounts Manager
Casella Waste Services

Barton & Loguidice

Traffic Assessment

Date: September 29, 2022

To: **Greg Shinberg, Shinberg Consulting, LLC.**

From: Jacob Sirois
Engineer 1
Barton & Loguidice, LLC.

John Q. Adams, P.E., PTOE
Associate, Senior Transportation Engineer
Barton & Loguidice, LLC.

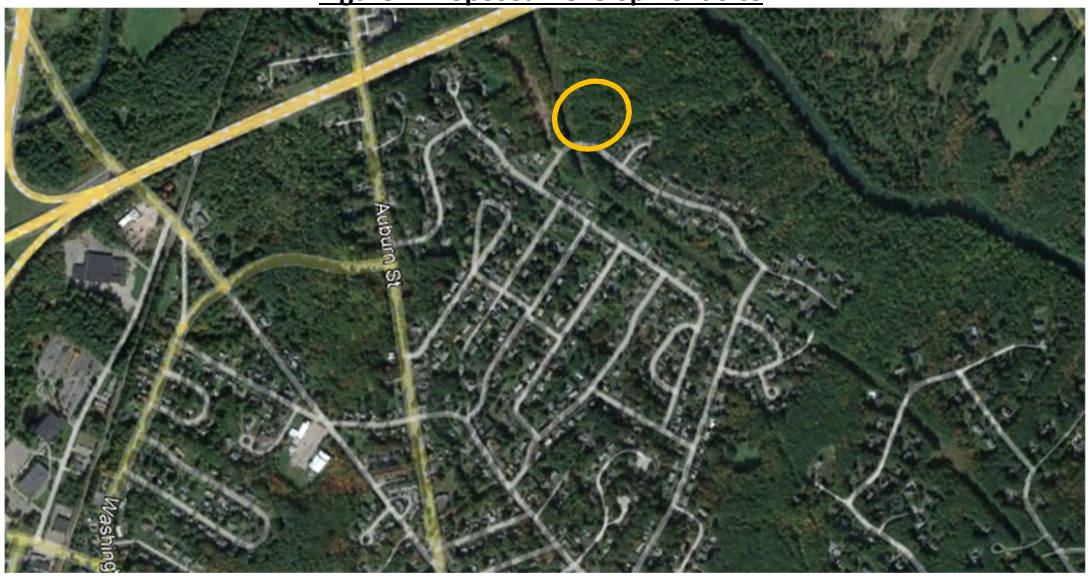
Re: **Hope Avenue Residential Subdivision**
Hope Avenue, Portland, Maine

Introduction

A 60-unit residential duplex subdivision is proposed on Hope Avenue in the City of Portland (refer to Figure 1 below for project location. The site will be accessed via a single 20-foot wide full-access entrance located on the northern side of Hope Avenue, approximately 150-feet north of the intersection of Hope Avenue and Alice Street. The residential units will be provided access via an internal 20-ft. wide circulating roadway that runs bi-directionally throughout the site.

The purpose of this traffic assessment is to evaluate and measure the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of MaineDOT's latest road safety data and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the proposed intersection with Hope Lane.

Figure 1 Proposed Development Site



Site Trip Generation

Daily and peak hour trip generation was determined for the proposed development based upon trip tables presented in the 11th edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**

MANUAL". The ITE publication provides numerous land use categories and the average volume of trips generated by each category.

Site trip estimates for the Hope Avenue Residential Subdivision are based upon LUC #215 – Single-Family Attached Housing; which is described in the ITE publication as: *any single-family housing unit that shares a wall with an adjoining unit*. Calculation of the total number of trips generated per each corresponding time period are summarized below in Table 1.1.

Table 1.1
ITE Trip Generation Calculations

Land Use	Single-Family Attachedd Housing - LUC 215					
Time Period	Dwelling Units	Avg. Trip Generation Rate Trips/Dwelling Units	Trips Generated	Distribution Entering / Exiting	Enter	Exit
Weekday	60	7.20	432	50% / 50%	216	216
AM Weekday Peak Hour (Street)	60	0.48	29	31% / 69%	9	20
PM Weekday Peak Hour (Street)	60	0.57	35	57% / 43%	20	15
AM Weekday Peak Hour (Generator)	60	0.55	33	25% / 75%	8	25
PM Weekday Peak Hour (Generator)	60	0.61	37	62% / 38%	23	14

As presented in the preceding table, this development will generally be a low trip generator; generating a maximum of 33 Weekday AM peak hour trips and 37 Weekday PM peak hour trips during the sites peak hours. During the peak hour of the adjacent street, the trips generated by the proposed development are slightly lower, with 29 trips during the AM peak hour and 35 trips during the PM peak hour. During the typical weekday, there will be a total of 432 daily trips.

Vehicle Sight Distance

The City of Portland's Entrance and Driveway Rules require the following sight distances for roadways:

Sight Distance Standards

Speed Limit	Sight Distance
25 mph	**200 feet**
30 mph	250 feet
35 mph	305 feet
40 mph	360 feet
45 mph	425 feet
50 mph	495 feet

The section of Hope Avenue fronting the proposed residential development is presently unposted and assumed to be 25mph, which requires a sight distance of 200-feet. The City of Portland's Regulations require sight distance to be measured in accordance with the following procedures: *"Sight distance is measured to and from the point on the centerline of the proposed access that is located 10-feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."* Our field measurements looking both left and right from the proposed site driveway entrance directionally onto Hope Avenue indicate existing sight distances are in excess of the requirements based on a posted speed limit of 25mph. Looking to the left from the site entrance we measured a sight distance of **240-feet**, and a measurement in excess of **300-feet** was recorded to right. An increase of sight distance, looking

to the right, can be achieved by minor clearing of trees on Lot# 448 B001, located on the southern side of Hope Avenue, and shown below in the following image which has the site driveway entrance circled.

Potential Clearing Zone



Existing Road Safety Conditions

The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2019 through 2021) crash data for network of roadways between Hope Avenue and Auburn Street (refer to the map titled "*Hope Avenue, Portland*" for the roads included in the safety analysis). Their report is presented as follows:

2019 -2021 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. Auburn Street @ Washington Avenue Extension	1	0.26
2. Auburn Street @ Clayton Street	2	0.54
3. Auburn Street @ Summit Street	2	0.61
4. Auburn Street @ Garsoe Drive	1	0.26
5. Summit Street @ Frost Hill Road and Jackson Street	1	0.92
6. Summit Street @ Hillside Road	1	1.03
7. Alice Street @ Garsoe Drive	1	1.47
8. Auburn Street btw. Summit Park Avenue and Jackson Street	4	0.92
9. Auburn Street btw. Jackson Street and Clayton Street	2	0.42
10. Summit Street btw. Clayton Street and Hillside Road	1	0.67
11. Summit Street btw. Abby Lane and Carter Street	1	0.63
12. Curtis Street btw. Wendy Way and Summit Street	1	0.10
13. Longview Drive btw. Patricia Lane	1	2.94
14. Jackson Street btw. Summit Street and Kenneth Street	1	1.47

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents in a three-year period***
- ***A Critical Rate Factor greater than 1.00***

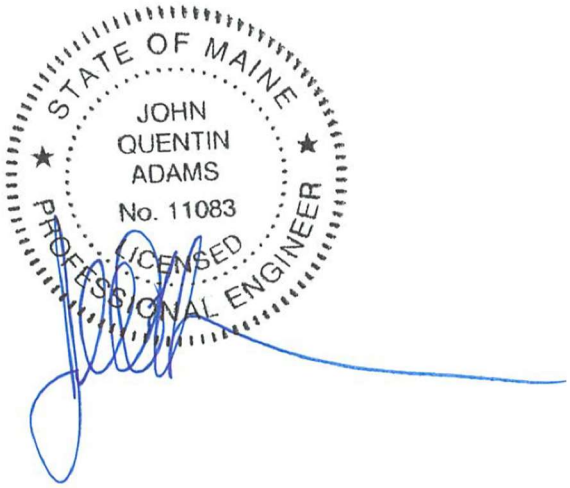
As the data presented in the chart shows, there are no identified high crash locations within the defined study area.

On-site Parking

The project is proposing 135 total parking spaces. The intent is for each of the 60 units to be provided with one space in their garage and one outdoor space in their driveway. In addition, the site will be provided with 15 on-street spaces for guests, see enclosed preliminary site plan. The required width for the on-street spaces will be designed in addition to the proposed roadway width of 20 feet so that parked vehicles on-street will not stop or restrict emergency vehicles from efficiently and safely accessing the site.

Summary

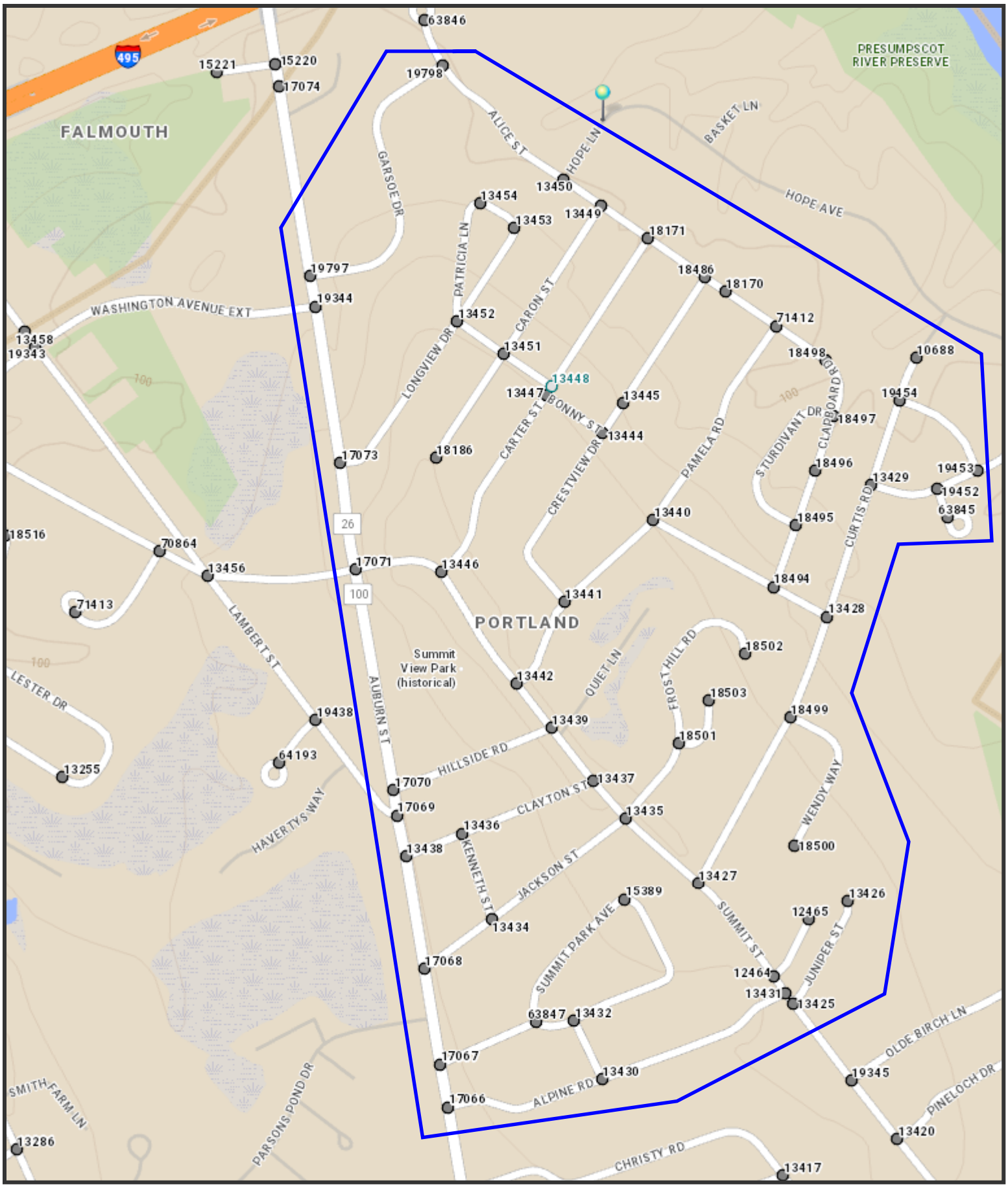
1. The expected trip generation for the proposed development is estimated to be 432 weekday daily trips. The project generates a total of 33 trips during the weekday AM peak hour and 37 trips during the weekday PM. Overall, the project will be a low volume trip generator and will be well below the minimum MaineDOT threshold of 100 new peak hour trips ends that would require a Traffic Movement Permit.
2. A review of MaineDOT crash data available for the latest 3-yeaar period (2019-2021) for the section of Hope Avenue at Alice Street, and the section of Curtis Road between Hope Avenue and Summit Street was reviewed. Our review indicated that there were no high crash locations within the defined study area.
3. Vehicle sight distance field measurements looking both left and right from the proposed site driveway entrance directionally onto Hope Avenue indicate existing sight distances are in excess of the requirements based on a posted speed of 25mph. Looking to the left from the site entrance, we measured a sight distance in excess of 300-feet, and a measurement of 240-feet was recorded to the right.



John Q. Adams, PE, PTOE, Date: 09/29/2022

APPENDIX

HOPE AVENUE, PORTLAND



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.1 Miles

1 inch = 0.14 miles

Date: 9/1/2022
Time: 3:45:14 PM

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
Hope Ave. Area

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: **0026X**	Start Node: **17066**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **19797**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560689**	Start Node: **13425**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **17071**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560178**	Start Node: **13427**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **10688**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560851**	Start Node: **18498**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **19798**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560819**	Start Node: **13428**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13440**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560819**	Start Node: **13440**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13442**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560838**	Start Node: **13440**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **71412**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561166**	Start Node: **18494**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18498**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560011**	Start Node: **17066**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13431**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561241**	Start Node: **19797**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **19798**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560116**	Start Node: **13446**	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
Hope Ave. Area

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

	End Node: **18171**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560172**	Start Node: **13441**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18486**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560114**	Start Node: **13449**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18186**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560455**	Start Node: **17073**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13453**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561114**	Start Node: **13452**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13453**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560562**	Start Node: **13448**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13451**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560562**	Start Node: **13451**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13452**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560066**	Start Node: **13444**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13447**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561177**	Start Node: **18495**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18497**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561203**	Start Node: **13429**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **19453**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561215**	Start Node: **19454**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **19453**	End Offset: **0**	☑ **Exclude Last 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
Hope Ave. Area

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: **0561217**	Start Node: **19452**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **63845**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560372**	Start Node: **13439**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **17070**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560138**	Start Node: **13438**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13437**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560400**	Start Node: **17068**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13435**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560415**	Start Node: **13434**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13436**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0560688**	Start Node: **17067**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13432**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561120**	Start Node: **13430**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13432**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561120**	Start Node: **13432**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **63847**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0561167**	Start Node: **13435**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18502**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0561169**	Start Node: **18501**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18503**	End Offset: **0**	☐ **Exclude Last 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
Hope Ave. Area

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: **0561179**	Start Node: **18499**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **18500**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560695**	Start Node: **12464**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **12465**	End Offset: **0**	☐ **Exclude Last Node**
Route: **0560409**	Start Node: **13425**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **13426**	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
17066	0026X - 4.16	Int of ALPINE RD, AUBURN ST	2	0	0	0	0	0	0	0.0	3.621	0.00	0.34	0.00
												Statewide Crash Rate:	0.12	
17067	0026X - 4.20	Int of AUBURN ST SUMMIT PARK AV	2	0	0	0	0	0	0	0.0	3.633	0.00	0.34	0.00
												Statewide Crash Rate:	0.12	
17070	0026X - 4.43	Int of AUBURN ST HILLSIDE RD	2	0	0	0	0	0	0	0.0	2.708	0.00	0.37	0.00
												Statewide Crash Rate:	0.12	
19344	0026X - 4.83	Int of AUBURN ST WASHINGTON AV EXT	2	1	0	1	0	0	0	100.0	3.836	0.09	0.34	0.00
												Statewide Crash Rate:	0.12	
13438	0026X - 4.37	Int of AUBURN ST CLAYTON ST	2	2	0	0	0	0	2	0.0	3.588	0.19	0.35	0.00
												Statewide Crash Rate:	0.12	
17069	0026X - 4.41	Int of AUBURN ST LAMBERT ST	2	0	0	0	0	0	0	0.0	3.643	0.00	0.34	0.00
												Statewide Crash Rate:	0.12	
17071	0026X - 4.61	Int of AUBURN ST SUMMIT ST	2	2	0	0	1	1	0	100.0	3.006	0.22	0.36	0.00
												Statewide Crash Rate:	0.12	
19797	0026X - 4.86	Int of AUBURN ST GARSOE DR	2	1	0	0	1	0	0	100.0	3.764	0.09	0.34	0.00
												Statewide Crash Rate:	0.12	
17073	0026X - 4.70	Int of AUBURN ST LONGVIEW RD	2	0	0	0	0	0	0	0.0	2.993	0.00	0.36	0.00
												Statewide Crash Rate:	0.12	
17068	0026X - 4.28	Int of AUBURN ST JACKSON ST	2	0	0	0	0	0	0	0.0	3.627	0.00	0.34	0.00
												Statewide Crash Rate:	0.12	
13425	0560689 - 0.47	Int of JUNIPER ST SUMMIT ST	2	0	0	0	0	0	0	0.0	1.121	0.00	0.46	0.00
												Statewide Crash Rate:	0.12	
13431	0560689 - 0.48	0503845 POR,SUMMIT ST,ALPINE RD.	2	0	0	0	0	0	0	0.0	1.106	0.00	0.46	0.00
												Statewide Crash Rate:	0.12	
12464	0560689 - 0.50	0502876 POR,SUMMIT ST,TALBOT ST	2	0	0	0	0	0	0	0.0	1.150	0.00	0.46	0.00
												Statewide Crash Rate:	0.12	
13427	0560689 - 0.60	Int of CURTIS RD SUMMIT ST	2	0	0	0	0	0	0	0.0	1.161	0.00	0.45	0.00
												Statewide Crash Rate:	0.12	
13435	0560689 - 0.68	Int of FROST HILL RD JACKSON ST SUMMIT ST	2	1	0	0	0	0	1	0.0	0.718	0.46	0.50	0.00
												Statewide Crash Rate:	0.12	
13437	0560689 - 0.72	Int of CLAYTON ST SUMMIT ST	2	0	0	0	0	0	0	0.0	0.618	0.00	0.51	0.00
												Statewide Crash Rate:	0.12	
13439	0560689 - 0.78	Int of HILLSIDE RD SUMMIT ST	2	1	0	0	0	1	0	100.0	0.646	0.52	0.50	1.03
												Statewide Crash Rate:	0.12	
13442	0560689 - 0.83	Int of ABBY LN SUMMIT ST	2	0	0	0	0	0	0	0.0	0.602	0.00	0.51	0.00
												Statewide Crash Rate:	0.12	
13446	0560689 - 0.94	Int of CARTER ST SUMMIT ST	2	0	0	0	0	0	0	0.0	0.381	0.00	0.52	0.00
												Statewide Crash Rate:	0.12	
18499	0560178 - 0.16	Int of CURTIS RD WENDY WY	2	0	0	0	0	0	0	0.0	0.421	0.00	0.52	0.00
												Statewide Crash Rate:	0.12	
13428	0560178 - 0.25	Int of ABBY LN CURTIS RD	2	0	0	0	0	0	0	0.0	0.335	0.00	0.51	0.00
												Statewide Crash Rate:	0.12	
13429	0560178 - 0.36	Int of CURTIS RD OVERSET RD	2	0	0	0	0	0	0	0.0	0.200	0.00	0.44	0.00
												Statewide Crash Rate:	0.12	

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
19454	0560178 - 0.43	Int of CURTIS RD WHALE BOAT RD	2	0	0	0	0	0	0	0.0	0.110	0.00	0.16	0.00
												Statewide Crash Rate:	0.12	
10688	0560178 - 0.47	End of CURTIS RD	2	0	0	0	0	0	0	0.0	0.043	0.00	-1.30	0.00
												Statewide Crash Rate:	0.12	
18498	0560851 - 0	Int of ALICE ST CLAPBOARD RD	2	0	0	0	0	0	0	0.0	0.040	0.00	-1.45	0.00
												Statewide Crash Rate:	0.12	
71412	0560851 - 0.05	Int of ALICE ST PAMELA DR	2	0	0	0	0	0	0	0.0	0.054	0.00	-0.74	0.00
												Statewide Crash Rate:	0.12	
18170	0560851 - 0.10	Non Int ALICE ST	2	0	0	0	0	0	0	0.0	0.049	0.00	-0.97	0.00
												Statewide Crash Rate:	0.12	
18486	0560851 - 0.12	0508906 POR,ALICE ST,CRESTVIEW ST	2	0	0	0	0	0	0	0.0	0.075	0.00	-0.22	0.00
												Statewide Crash Rate:	0.12	
18171	0560851 - 0.18	Int of ALICE ST CARTER ST	2	0	0	0	0	0	0	0.0	0.042	0.00	-1.34	0.00
												Statewide Crash Rate:	0.12	
13449	0560851 - 0.23	Int of ALICE ST CARON ST	2	0	0	0	0	0	0	0.0	0.039	0.00	-1.58	0.00
												Statewide Crash Rate:	0.12	
13450	0560851 - 0.27	Non Int ALICE ST	2	0	0	0	0	0	0	0.0	0.029	0.00	-2.57	0.00
												Statewide Crash Rate:	0.12	
19798	0560851 - 0.41	Int of ALICE CT ALICE ST GARSOE DR	2	1	0	0	0	0	1	0.0	0.070	4.76	-0.31	0.00
												Statewide Crash Rate:	0.12	
18494	0560819 - 0.05	0508914 POR,ABBY LA,CLAPBOARD RD.	2	0	0	0	0	0	0	0.0	0.145	0.00	0.32	0.00
												Statewide Crash Rate:	0.12	
13440	0560819 - 0.16	Int of ABBY LN PAMELA DR	2	0	0	0	0	0	0	0.0	0.073	0.00	-0.26	0.00
												Statewide Crash Rate:	0.12	
13441	0560819 - 0.26	Int of ABBY LN CRESTVIEW DR	2	0	0	0	0	0	0	0.0	0.228	0.00	0.47	0.00
												Statewide Crash Rate:	0.12	
18495	0561166 - 0.05	Int of CLAPBOARD RD STURDIVANT DR	2	0	0	0	0	0	0	0.0	0.110	0.00	0.16	0.00
												Statewide Crash Rate:	0.12	
18496	0561166 - 0.10	0508916 POR,CLAPBOARD RD,.10 BK.ABBY	2	0	0	0	0	0	0	0.0	0.047	0.00	-1.06	0.00
												Statewide Crash Rate:	0.12	
18497	0561166 - 0.15	Int of CLAPBOARD RD STURDIVANT DR	2	0	0	0	0	0	0	0.0	0.064	0.00	-0.45	0.00
												Statewide Crash Rate:	0.12	
13430	0560011 - 0.13	0503844 POR,ALPINE RD,UNN 62	2	0	0	0	0	0	0	0.0	0.081	0.00	-0.13	0.00
												Statewide Crash Rate:	0.12	
P13447	0560116 - 0.17	Int of BONNY ST CARTER ST	2	0	0	0	0	0	0	0.0	0.100	0.00	0.09	0.00
												Statewide Crash Rate:	0.12	
A13448	0560116 - 0.18	Int of CARTER ST PANORAMIC VIEW ST	2	0	0	0	0	0	0	0.0	0.000	0.00	0.00	0.00
												Statewide Crash Rate:	0.12	
13444	0560172 - 0.17	Int of BONNY ST CRESTVIEW DR	2	0	0	0	0	0	0	0.0	0.124	0.00	0.24	0.00
												Statewide Crash Rate:	0.12	
13445	0560172 - 0.20	0503859 POR,CRESTVIEW DR,.12 AHD ALICE	2	0	0	0	0	0	0	0.0	0.080	0.00	-0.15	0.00
												Statewide Crash Rate:	0.12	
13451	0560114 - 0.15	Int of CARON ST PANORAMIC VIEW ST	2	0	0	0	0	0	0	0.0	0.069	0.00	-0.33	0.00
												Statewide Crash Rate:	0.12	

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
18186	0560114 - 0.25	0508605 POR,CARON ST,END	2	0	0	0	0	0	0	0.0	0.014	0.00	-7.52	0.00
												Statewide Crash Rate:	0.12	
13452	0560455 - 0.16	Int of LONGVIEW RD PANORAMIC VIEW ST PATRICIA LN	2	0	0	0	0	0	0	0.0	0.085	0.00	-0.07	0.00
												Statewide Crash Rate:	0.12	
13453	0560455 - 0.25	0503867 POR,PATRICIA LA,LONGVIEW RD.	2	0	0	0	0	0	0	0.0	0.019	0.00	-4.99	0.00
												Statewide Crash Rate:	0.12	
13454	0561114 - 0.10	0503868 POR,PATRICIA LA,.10 BK.60562	2	0	0	0	0	0	0	0.0	0.017	0.00	-5.58	0.00
												Statewide Crash Rate:	0.12	
19452	0561203 - 0.06	Int of OVERSET RD, WHITEHEAD CIR	2	0	0	0	0	0	0	0.0	0.075	0.00	-0.22	0.00
												Statewide Crash Rate:	0.12	
19453	0561203 - 0.10	Int of OVERSET RD WHALE BOAT RD	2	0	0	0	0	0	0	0.0	0.053	0.00	-0.80	0.00
												Statewide Crash Rate:	0.12	
63845	0561217 - 0.03	Loop of WHITEHEAD CIR	2	0	0	0	0	0	0	0.0	0.030	0.00	-2.45	0.00
												Statewide Crash Rate:	0.12	
63845	0561217 - 0.08	Loop of WHITEHEAD CIR	2	0	0	0	0	0	0	0.0	0.030	0.00	-2.45	0.00
												Statewide Crash Rate:	0.12	
13436	0560138 - 0.05	Int of CLAYTON ST KENNETH ST	2	0	0	0	0	0	0	0.0	0.053	0.00	-0.77	0.00
												Statewide Crash Rate:	0.12	
13434	0560400 - 0.07	Int of JACKSON ST KENNETH ST	2	0	0	0	0	0	0	0.0	0.122	0.00	0.23	0.00
												Statewide Crash Rate:	0.12	
63847	0560688 - 0.09	Non Int SUMMIT PARK AV	2	0	0	0	0	0	0	0.0	0.136	0.00	0.29	0.00
												Statewide Crash Rate:	0.12	
15389	0560688 - 0.22	Non Int SUMMIT PARK AV	2	0	0	0	0	0	0	0.0	0.052	0.00	-0.83	0.00
												Statewide Crash Rate:	0.12	
13432	0560688 - 0.38	Int of SUMMIT PARK AV UNNAMED 62	2	0	0	0	0	0	0	0.0	0.103	0.00	0.11	0.00
												Statewide Crash Rate:	0.12	
18501	0561167 - 0.08	Int of FROST HILL RD OLD BARN LN	2	0	0	0	0	0	0	0.0	0.075	0.00	-0.22	0.00
												Statewide Crash Rate:	0.12	
18502	0561167 - 0.24	0508922 POR,FROST HILL RD,END	2	0	0	0	0	0	0	0.0	0.026	0.00	-3.04	0.00
												Statewide Crash Rate:	0.12	
18503	0561169 - 0.05	0508923 POR,OLD BARN LA,END	2	0	0	0	0	0	0	0.0	0.007	0.00	-16.20	0.00
												Statewide Crash Rate:	0.12	
18500	0561179 - 0.14	End of WENDY WY	2	0	0	0	0	0	0	0.0	0.023	0.00	-3.82	0.00
												Statewide Crash Rate:	0.12	
12465	0560695 - 0.06	0502877 POR,TALBOT ST, END	2	0	0	0	0	0	0	0.0	0.012	0.00	-9.38	0.00
												Statewide Crash Rate:	0.12	
13426	0560409 - 0.10	End of JUNIPER ST	2	0	0	0	0	0	0	0.0	0.018	0.00	-5.27	0.00
												Statewide Crash Rate:	0.12	
Study Years:	3.00	**NODE TOTALS:**		9	0	1	2	2	4	55.6	45.500	0.07	0.19	0.34

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
17066	17067	3106528	0 - 0.04	0026X - 4.16	0.04	2	0	0	0	0	0	0	0.0	0.00143	0.00	608.38	0.00
Int of ALPINE RD, AUBURN ST				ST RTE 26											Statewide Crash Rate: 187.10		
17067	17068	3122276	0 - 0.08	0026X - 4.20	0.08	2	4	0	0	0	0	4	0.0	0.00286	466.46	509.30	0.00
Int of AUBURN ST SUMMIT PARK AV				ST RTE 26											Statewide Crash Rate: 187.10		
13438	17068	3130462	0 - 0.09	0026X - 4.28	0.09	2	2	0	0	0	1	1	50.0	0.00321	207.89	494.37	0.00
Int of AUBURN ST CLAYTON ST				ST RTE 26											Statewide Crash Rate: 187.10		
13438	17069	3106258	0 - 0.04	0026X - 4.37	0.04	2	0	0	0	0	0	0	0.0	0.00143	0.00	609.02	0.00
Int of AUBURN ST CLAYTON ST				ST RTE 26											Statewide Crash Rate: 187.10		
17069	17070	3123986	0 - 0.02	0026X - 4.41	0.02	2	0	0	0	0	0	0	0.0	0.00053	0.00	756.09	0.00
Int of AUBURN ST LAMBERT ST				ST RTE 26											Statewide Crash Rate: 187.10		
17070	17071	3130499	0 - 0.18	0026X - 4.43	0.18	2	0	0	0	0	0	0	0.0	0.00483	0.00	445.32	0.00
Int of AUBURN ST HILLSIDE RD				ST RTE 26											Statewide Crash Rate: 187.10		
17071	17073	3938275	0 - 0.09	0026X - 4.61	0.09	2	0	0	0	0	0	0	0.0	0.00263	0.00	520.33	0.00
Int of AUBURN ST SUMMIT ST				ST RTE 26											Statewide Crash Rate: 187.10		
17073	19344	192822	0 - 0.13	0026X - 4.70	0.13	2	0	0	0	0	0	0	0.0	0.00387	0.00	470.91	0.00
Int of AUBURN ST LONGVIEW RD				ST RTE 26											Statewide Crash Rate: 187.10		
19344	19797	3118714	0 - 0.03	0026X - 4.83	0.03	2	0	0	0	0	0	0	0.0	0.00110	0.00	648.88	0.00
Int of AUBURN ST WASHINGTON AV EXT				ST RTE 26											Statewide Crash Rate: 187.10		
13425	13431	188172	0 - 0.01	0560689 - 0.47	0.01	2	0	0	0	0	0	0	0.0	0.00011	0.00	1493.47	0.00
Int of JUNIPER ST SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
12464	13431	186821	0 - 0.02	0560689 - 0.48	0.02	2	0	0	0	0	0	0	0.0	0.00021	0.00	1480.08	0.00
0502876 POR,SUMMIT ST,TALBOT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
12464	13427	186820	0 - 0.10	0560689 - 0.50	0.10	2	0	0	0	0	0	0	0.0	0.00122	0.00	1013.16	0.00
0502876 POR,SUMMIT ST,TALBOT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13427	13435	188174	0 - 0.08	0560689 - 0.60	0.08	2	0	0	0	0	0	0	0.0	0.00053	0.00	1249.83	0.00
Int of CURTIS RD SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13435	13437	188190	0 - 0.04	0560689 - 0.68	0.04	2	0	0	0	0	0	0	0.0	0.00024	0.00	1459.76	0.00
Int of FROST HILL RD JACKSON ST SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13437	13439	188194	0 - 0.06	0560689 - 0.72	0.06	2	1	0	0	0	0	0	0.0	0.00037	910.87	1353.11	0.00
Int of CLAYTON ST SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13439	13442	5095097	0 - 0.05	0560689 - 0.78	0.05	2	0	0	0	0	0	0	0.0	0.00030	0.00	1404.28	0.00
Int of HILLSIDE RD SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13442	13446	188204	0 - 0.11	0560689 - 0.83	0.11	2	1	0	0	1	0	0	100.0	0.00040	832.72	1328.27	0.00
Int of ABBY LN SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13446	17071	5084411	0 - 0.07	0560689 - 0.94	0.07	2	0	0	0	0	0	0	0.0	0.00021	0.00	1478.21	0.00
Int of CARTER ST SUMMIT ST				RD INV 05 60689											Statewide Crash Rate: 351.32		
13427	18499	5080637	0 - 0.16	0560178 - 0	0.16	2	1	0	0	0	0	1	0.0	0.00071	467.08	1161.28	0.00
Int of CURTIS RD SUMMIT ST				RD INV 05 60178											Statewide Crash Rate: 351.32		
13428	18499	188178	0 - 0.09	0560178 - 0.16	0.09	2	0	0	0	0	0	0	0.0	0.00032	0.00	1392.58	0.00
Int of ABBY LN CURTIS RD				RD INV 05 60178											Statewide Crash Rate: 351.32		

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
13428	13429	5084409	0 - 0.11	0560178 - 0.25	0.11	2	0	0	0	0	0	0	0.0	0.00024	0.00	1458.95	0.00
Int of ABBY LN CURTIS RD				RD INV 05 60178											Statewide Crash Rate: 351.32		
13429	19454	188180	0 - 0.07	0560178 - 0.36	0.07	2	0	0	0	0	0	0	0.0	0.00007	0.00	1336.05	0.00
Int of CURTIS RD OVERSET RD				RD INV 05 60178											Statewide Crash Rate: 351.32		
10688	19454	5095093	0 - 0.04	0560178 - 0.43	0.04	2	0	0	0	0	0	0	0.0	0.00003	0.00	231.45	0.00
End of CURTIS RD				RD INV 05 60178											Statewide Crash Rate: 351.32		
71412	18498	5095160	0 - 0.05	0560851 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-950.49	0.00
Int of ALICE ST PAMELA DR				RD INV 05 60851											Statewide Crash Rate: 351.32		
18170	71412	5095159	0 - 0.05	0560851 - 0.05	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-856.95	0.00
Non Int ALICE ST				RD INV 05 60851											Statewide Crash Rate: 351.32		
18170	18486	193763	0 - 0.02	0560851 - 0.10	0.02	2	0	0	0	0	0	0	0.0	0.00001	0.00	-7868.46	0.00
Non Int ALICE ST				RD INV 05 60851											Statewide Crash Rate: 351.32		
18171	18486	193765	0 - 0.06	0560851 - 0.12	0.06	2	0	0	0	0	0	0	0.0	0.00001	0.00	-4792.46	0.00
Int of ALICE ST CARTER ST				RD INV 05 60851											Statewide Crash Rate: 351.32		
13449	18171	5095153	0 - 0.05	0560851 - 0.18	0.05	2	0	0	0	0	0	0	0.0	0.00001	0.00	-10215.50	0.00
Int of ALICE ST CARON ST				RD INV 05 60851											Statewide Crash Rate: 351.32		
13449	13450	188213	0 - 0.04	0560851 - 0.23	0.04	2	0	0	0	0	0	0	0.0	0.00001	0.00	-8795.41	0.00
Int of ALICE ST CARON ST				RD INV 05 60851											Statewide Crash Rate: 351.32		
13450	19798	5087298	0 - 0.14	0560851 - 0.27	0.14	2	0	0	0	0	0	0	0.0	0.00005	0.00	962.43	0.00
Non Int ALICE ST				RD INV 05 60851											Statewide Crash Rate: 351.32		
13428	18494	188177	0 - 0.05	0560819 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00005	0.00	1021.10	0.00
Int of ABBY LN CURTIS RD				RD INV 05 60819											Statewide Crash Rate: 351.32		
13440	18494	188201	0 - 0.11	0560819 - 0.05	0.11	2	0	0	0	0	0	0	0.0	0.00006	0.00	1234.92	0.00
Int of ABBY LN PAMELA DR				RD INV 05 60819											Statewide Crash Rate: 351.32		
13440	13441	188199	0 - 0.10	0560819 - 0.16	0.10	2	0	0	0	0	0	0	0.0	0.00008	0.00	1349.53	0.00
Int of ABBY LN PAMELA DR				RD INV 05 60819											Statewide Crash Rate: 351.32		
13441	13442	188202	0 - 0.08	0560819 - 0.26	0.08	2	0	0	0	0	0	0	0.0	0.00019	0.00	1495.81	0.00
Int of ABBY LN CRESTVIEW DR				RD INV 05 60819											Statewide Crash Rate: 351.32		
13440	71412	5095156	0 - 0.19	0560838 - 0	0.19	2	0	0	0	0	0	0	0.0	0.00002	0.00	-976.30	0.00
Int of ABBY LN PAMELA DR				RD INV 05 60838											Statewide Crash Rate: 351.32		
18494	18495	194000	0 - 0.05	0561166 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00006	0.00	1217.38	0.00
0508914 POR,ABBY LA,CLAPBOARD RD.				RD INV 05 61166											Statewide Crash Rate: 351.32		
18495	18496	194001	0 - 0.05	0561166 - 0.05	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-1015.72	0.00
Int of CLAPBOARD RD STURDIVANT DR				RD INV 05 61166											Statewide Crash Rate: 351.32		
18496	18497	194003	0 - 0.05	0561166 - 0.10	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-1015.72	0.00
0508916 POR,CLAPBOARD RD,.10 BK.ABBY				RD INV 05 61166											Statewide Crash Rate: 351.32		
18497	18498	5095094	0 - 0.05	0561166 - 0.15	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-2843.86	0.00
Int of CLAPBOARD RD STURDIVANT DR				RD INV 05 61166											Statewide Crash Rate: 351.32		
13430	17066	188183	0 - 0.13	0560011 - 0	0.13	2	0	0	0	0	0	0	0.0	0.00009	0.00	1455.01	0.00
0503844 POR,ALPINE RD,UNN 62				RD INV 05 60011											Statewide Crash Rate: 351.32		

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
13430	13431	188181	0 - 0.17	0560011 - 0.13	0.17	2	0	0	0	0	0	0	0.0	0.00010	0.00	1464.82	0.00
0503844 POR,ALPINE RD,UNN 62				RD INV 05 60011											Statewide Crash Rate: 351.32		
19797	19798	195401	0 - 0.26	0561241 - 0	0.26	2	0	0	0	0	0	0	0.0	0.00023	0.00	1462.68	0.00
Int of AUBURN ST GARSOE DR				RD INV 05 61241											Statewide Crash Rate: 351.32		
13446	13447	188208	0 - 0.17	0560116 - 0	0.17	2	0	0	0	0	0	0	0.0	0.00016	0.00	1514.73	0.00
Int of CARTER ST SUMMIT ST				RD INV 05 60116											Statewide Crash Rate: 351.32		
13447	13448	188210	0 - 0.01	0560116 - 0.17	0.01	2	0	0	0	0	0	0	0.0	0.00001	0.00	-	0.00
Int of BONNY ST CARTER ST				RD INV 05 60116											Statewide Crash Rate: 351.32	10785.99	
13448	18171	188212	0 - 0.15	0560116 - 0.18	0.15	2	0	0	0	0	0	0	0.0	0.00007	0.00	1291.62	0.00
Int of CARTER ST PANORAMIC VIEW ST				RD INV 05 60116											Statewide Crash Rate: 351.32		
13441	13444	5084404	0 - 0.17	0560172 - 0	0.17	2	0	0	0	0	0	0	0.0	0.00024	0.00	1454.05	0.00
Int of ABBY LN CRESTVIEW DR				RD INV 05 60172											Statewide Crash Rate: 351.32		
13444	13445	188205	0 - 0.03	0560172 - 0.17	0.03	2	0	0	0	0	0	0	0.0	0.00002	0.00	-925.05	0.00
Int of BONNY ST CRESTVIEW DR				RD INV 05 60172											Statewide Crash Rate: 351.32		
13445	18486	188207	0 - 0.12	0560172 - 0.20	0.12	2	0	0	0	0	0	0	0.0	0.00010	0.00	1458.63	0.00
0503859 POR,CRESTVIEW DR,.12 AHD ALICE				RD INV 05 60172											Statewide Crash Rate: 351.32		
13449	13451	188214	0 - 0.15	0560114 - 0	0.15	2	0	0	0	0	0	0	0.0	0.00006	0.00	1118.53	0.00
Int of ALICE ST CARON ST				RD INV 05 60114											Statewide Crash Rate: 351.32		
13451	18186	188218	0 - 0.10	0560114 - 0.15	0.10	2	0	0	0	0	0	0	0.0	0.00003	0.00	-364.08	0.00
Int of CARON ST PANORAMIC VIEW ST				RD INV 05 60114											Statewide Crash Rate: 351.32		
13452	17073	188221	0 - 0.16	0560455 - 0	0.16	2	0	0	0	0	0	0	0.0	0.00013	0.00	1514.30	0.00
Int of LONGVIEW RD PANORAMIC VIEW ST PATRICIA LN				RD INV 05 60455											Statewide Crash Rate: 351.32		
13452	13453	188219	0 - 0.09	0560455 - 0.16	0.09	2	0	0	0	0	0	0	0.0	0.00003	0.00	-598.80	0.00
Int of LONGVIEW RD PANORAMIC VIEW ST PATRICIA LN				RD INV 05 60455											Statewide Crash Rate: 351.32		
13452	13454	188220	0 - 0.10	0561114 - 0	0.10	2	0	0	0	0	0	0	0.0	0.00003	0.00	-603.99	0.00
Int of LONGVIEW RD PANORAMIC VIEW ST PATRICIA LN				RD INV 05 61114											Statewide Crash Rate: 351.32		
13453	13454	188222	0 - 0.04	0561114 - 0.10	0.04	2	1	0	0	0	0	0	0.0	0.00000	95129.38	-	0.00
0503867 POR,PATRICIA LA,LONGVIEW RD.				RD INV 05 61114											Statewide Crash Rate: 351.32	32321.31	
13448	13451	5084406	0 - 0.05	0560562 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-2085.47	0.00
Int of CARTER ST PANORAMIC VIEW ST				RD INV 05 60562											Statewide Crash Rate: 351.32		
13451	13452	188217	0 - 0.05	0560562 - 0.05	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-2566.86	0.00
Int of CARON ST PANORAMIC VIEW ST				RD INV 05 60562											Statewide Crash Rate: 351.32		
13444	13447	5084405	0 - 0.06	0560066 - 0	0.06	2	0	0	0	0	0	0	0.0	0.00002	0.00	-3507.00	0.00
Int of BONNY ST CRESTVIEW DR				RD INV 05 60066											Statewide Crash Rate: 351.32		
18495	18497	5084408	0 - 0.15	0561177 - 0	0.15	2	0	0	0	0	0	0	0.0	0.00007	0.00	1319.16	0.00
Int of CLAPBOARD RD STURDIVANT DR				RD INV 05 61177											Statewide Crash Rate: 351.32		
13429	19452	188179	0 - 0.06	0561203 - 0	0.06	2	0	0	0	0	0	0	0.0	0.00005	0.00	901.52	0.00
Int of CURTIS RD OVERSET RD				RD INV 05 61203											Statewide Crash Rate: 351.32		

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
19452	19453	195141	0 - 0.04	0561203 - 0.06	0.04	2	0	0	0	0	0	0	0.0	0.00002	0.00	-1748.14	0.00
Int of OVERSET RD, WHITEHEAD CIR				RD INV 05 61203											Statewide Crash Rate: 351.32		
19453	19454	195143	0 - 0.09	0561215 - 0	0.09	2	0	0	0	0	0	0	0.0	0.00003	0.00	-422.78	0.00
Int of OVERSET RD WHALE BOAT RD				RD INV 05 61215											Statewide Crash Rate: 351.32		
19452	63845	2672710	0 - 0.03	0561217 - 0	0.03	2	0	0	0	0	0	0	0.0	0.00001	0.00	-15963.47	0.00
Int of OVERSET RD, WHITEHEAD CIR				RD INV 05 61217											Statewide Crash Rate: 351.32		
63845	63845	2672712	0 - 0.05	0561217 - 0.03	0.05	2	0	0	0	0	0	0	0.0	0.00001	0.00	-7454.27	0.00
Loop of WHITEHEAD CIR				RD INV 05 61217											Statewide Crash Rate: 351.32		
13439	17070	5080633	0 - 0.14	0560372 - 0	0.14	2	0	0	0	0	0	0	0.0	0.00011	0.00	1496.36	0.00
Int of HILLSIDE RD SUMMIT ST				RD INV 05 60372											Statewide Crash Rate: 351.32		
13436	13438	5080634	0 - 0.05	0560138 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-768.23	0.00
Int of CLAYTON ST KENNETH ST				RD INV 05 60138											Statewide Crash Rate: 351.32		
13436	13437	5080632	0 - 0.12	0560138 - 0.05	0.12	2	0	0	0	0	0	0	0.0	0.00004	0.00	758.25	0.00
Int of CLAYTON ST KENNETH ST				RD INV 05 60138											Statewide Crash Rate: 351.32		
13434	17068	5080631	0 - 0.07	0560400 - 0	0.07	2	0	0	0	0	0	0	0.0	0.00008	0.00	1397.33	0.00
Int of JACKSON ST KENNETH ST				RD INV 05 60400											Statewide Crash Rate: 351.32		
13434	13435	188187	0 - 0.14	0560400 - 0.07	0.14	2	1	0	0	0	0	1	0.0	0.00015	2233.96	1516.44	1.47
Int of JACKSON ST KENNETH ST				RD INV 05 60400											Statewide Crash Rate: 351.32		
13434	13436	188188	0 - 0.07	0560415 - 0	0.07	2	0	0	0	0	0	0	0.0	0.00001	0.00	-3788.09	0.00
Int of JACKSON ST KENNETH ST				RD INV 05 60415											Statewide Crash Rate: 351.32		
63847	17067	5080630	0 - 0.09	0560688 - 0	0.09	2	0	0	0	0	0	0	0.0	0.00010	0.00	1479.51	0.00
Non Int SUMMIT PARK AV				RD INV 05 60688											Statewide Crash Rate: 351.32		
63847	15389	2672735	0 - 0.13	0560688 - 0.09	0.13	2	0	0	0	0	0	0	0.0	0.00006	0.00	1127.42	0.00
Non Int SUMMIT PARK AV				RD INV 05 60688											Statewide Crash Rate: 351.32		
13432	15389	5080629	0 - 0.16	0560688 - 0.22	0.16	2	0	0	0	0	0	0	0.0	0.00010	0.00	1459.60	0.00
Int of SUMMIT PARK AV UNNAMED 62				RD INV 05 60688											Statewide Crash Rate: 351.32		
13430	13432	188182	0 - 0.05	0561120 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00002	0.00	-3231.28	0.00
0503844 POR,ALPINE RD,UNN 62				RD INV 05 61120											Statewide Crash Rate: 351.32		
13432	63847	2672733	0 - 0.03	0561120 - 0.05	0.03	2	0	0	0	0	0	0	0.0	0.00003	0.00	250.13	0.00
Int of SUMMIT PARK AV UNNAMED 62				RD INV 05 61120											Statewide Crash Rate: 351.32		
13435	18501	5080635	0 - 0.08	0561167 - 0	0.08	2	0	0	0	0	0	0	0.0	0.00007	0.00	1253.71	0.00
Int of FROST HILL RD JACKSON ST SUMMIT ST				RD INV 05 61167											Statewide Crash Rate: 351.32		
18501	18502	194006	0 - 0.16	0561167 - 0.08	0.16	2	0	0	0	0	0	0	0.0	0.00008	0.00	1409.29	0.00
Int of FROST HILL RD OLD BARN LN				RD INV 05 61167											Statewide Crash Rate: 351.32		
18501	18503	194007	0 - 0.05	0561169 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00001	0.00	-11731.96	0.00
Int of FROST HILL RD OLD BARN LN				RD INV 05 61169											Statewide Crash Rate: 351.32		
18499	18500	5080636	0 - 0.14	0561179 - 0	0.14	2	0	0	0	0	0	0	0.0	0.00006	0.00	1223.01	0.00
Int of CURTIS RD WENDY WY				RD INV 05 61179											Statewide Crash Rate: 351.32		

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
12464	12465	186819	0 - 0.06	0560695 - 0	0.06	2	0	0	0	0	0	0	0.0	0.00001	0.00	-4093.82	0.00
0502876 POR,SUMMIT ST,TALBOT ST				RD INV 05 60695											Statewide Crash Rate: 351.32		
13425	13426	5080638	0 - 0.10	0560409 - 0	0.10	2	0	0	0	0	0	0	0.0	0.00004	0.00	376.37	0.00
Int of JUNIPER ST	SUMMIT ST			RD INV 05 60409											Statewide Crash Rate: 351.32		
Study Years:	3.00			**Section Totals:**	6.92		11	0	0	1	1	7	18.2	0.03004	122.05	356.73	0.34
				Grand Totals:	6.92		20	0	1	3	3	11	35.0	0.03004	221.91	471.25	0.47

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
17066	17067	3106528	0 - 0.04	0026X - 4.16	0	0	0	0	0	0				
17067	17068	3122276	0 - 0.08	0026X - 4.20	4	0	0	0	0	4	2019-1418	01/13/2019	4.24	PD
											2021-17141	07/06/2021	4.24	PD
											2021-24573	09/16/2021	4.25	PD
											2021-34736	12/10/2021	4.27	PD
13438	17068	3130462	0 - 0.09	0026X - 4.28	2	0	0	0	1	1	2019-50246	04/27/2019	4.29	C
											2021-25703	09/25/2021	4.32	PD
13438	17069	3106258	0 - 0.04	0026X - 4.37	0	0	0	0	0	0				
17069	17070	3123986	0 - 0.02	0026X - 4.41	0	0	0	0	0	0				
17070	17071	3130499	0 - 0.18	0026X - 4.43	0	0	0	0	0	0				
17071	17073	3938275	0 - 0.09	0026X - 4.61	0	0	0	0	0	0				
17073	19344	192822	0 - 0.13	0026X - 4.70	0	0	0	0	0	0				
19344	19797	3118714	0 - 0.03	0026X - 4.83	0	0	0	0	0	0				
13425	13431	188172	0 - 0.01	0560689 - 0.47	0	0	0	0	0	0				
12464	13431	186821	0 - 0.02	0560689 - 0.48	0	0	0	0	0	0				
12464	13427	186820	0 - 0.10	0560689 - 0.50	0	0	0	0	0	0				
13427	13435	188174	0 - 0.08	0560689 - 0.60	0	0	0	0	0	0				
13435	13437	188190	0 - 0.04	0560689 - 0.68	0	0	0	0	0	0				
13437	13439	188194	0 - 0.06	0560689 - 0.72	1	0	0	0	0	0	2021-26097	09/29/2021	0.73	
13439	13442	5095097	0 - 0.05	0560689 - 0.78	0	0	0	0	0	0				
13442	13446	188204	0 - 0.11	0560689 - 0.83	1	0	0	1	0	0	2021-13280	05/30/2021	0.85	B
13446	17071	5084411	0 - 0.07	0560689 - 0.94	0	0	0	0	0	0				
13427	18499	5080637	0 - 0.16	0560178 - 0	1	0	0	0	0	1	2019-3097	01/25/2019	0.05	PD
13428	18499	188178	0 - 0.09	0560178 - 0.16	0	0	0	0	0	0				
13428	13429	5084409	0 - 0.11	0560178 - 0.25	0	0	0	0	0	0				
13429	19454	188180	0 - 0.07	0560178 - 0.36	0	0	0	0	0	0				
10688	19454	5095093	0 - 0.04	0560178 - 0.43	0	0	0	0	0	0				
71412	18498	5095160	0 - 0.05	0560851 - 0	0	0	0	0	0	0				
18170	71412	5095159	0 - 0.05	0560851 - 0.05	0	0	0	0	0	0				
18170	18486	193763	0 - 0.02	0560851 - 0.10	0	0	0	0	0	0				
18171	18486	193765	0 - 0.06	0560851 - 0.12	0	0	0	0	0	0				
13449	18171	5095153	0 - 0.05	0560851 - 0.18	0	0	0	0	0	0				
13449	13450	188213	0 - 0.04	0560851 - 0.23	0	0	0	0	0	0				
13450	19798	5087298	0 - 0.14	0560851 - 0.27	0	0	0	0	0	0				
13428	18494	188177	0 - 0.05	0560819 - 0	0	0	0	0	0	0				
13440	18494	188201	0 - 0.11	0560819 - 0.05	0	0	0	0	0	0				
13440	13441	188199	0 - 0.10	0560819 - 0.16	0	0	0	0	0	0				
13441	13442	188202	0 - 0.08	0560819 - 0.26	0	0	0	0	0	0				
13440	71412	5095156	0 - 0.19	0560838 - 0	0	0	0	0	0	0				

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
18494	18495	194000	0 - 0.05	0561166 - 0	0	0	0	0	0	0				
18495	18496	194001	0 - 0.05	0561166 - 0.05	0	0	0	0	0	0				
18496	18497	194003	0 - 0.05	0561166 - 0.10	0	0	0	0	0	0				
18497	18498	5095094	0 - 0.05	0561166 - 0.15	0	0	0	0	0	0				
13430	17066	188183	0 - 0.13	0560011 - 0	0	0	0	0	0	0				
13430	13431	188181	0 - 0.17	0560011 - 0.13	0	0	0	0	0	0				
19797	19798	195401	0 - 0.26	0561241 - 0	0	0	0	0	0	0				
13446	13447	188208	0 - 0.17	0560116 - 0	0	0	0	0	0	0				
13447	13448	188210	0 - 0.01	0560116 - 0.17	0	0	0	0	0	0				
13448	18171	188212	0 - 0.15	0560116 - 0.18	0	0	0	0	0	0				
13441	13444	5084404	0 - 0.17	0560172 - 0	0	0	0	0	0	0				
13444	13445	188205	0 - 0.03	0560172 - 0.17	0	0	0	0	0	0				
13445	18486	188207	0 - 0.12	0560172 - 0.20	0	0	0	0	0	0				
13449	13451	188214	0 - 0.15	0560114 - 0	0	0	0	0	0	0				
13451	18186	188218	0 - 0.10	0560114 - 0.15	0	0	0	0	0	0				
13452	17073	188221	0 - 0.16	0560455 - 0	0	0	0	0	0	0				
13452	13453	188219	0 - 0.09	0560455 - 0.16	0	0	0	0	0	0				
13452	13454	188220	0 - 0.10	0561114 - 0	0	0	0	0	0	0				
13453	13454	188222	0 - 0.04	0561114 - 0.10	1	0	0	0	0	0	2020-30449	12/06/2020	0.13	
13448	13451	5084406	0 - 0.05	0560562 - 0	0	0	0	0	0	0				
13451	13452	188217	0 - 0.05	0560562 - 0.05	0	0	0	0	0	0				
13444	13447	5084405	0 - 0.06	0560066 - 0	0	0	0	0	0	0				
18495	18497	5084408	0 - 0.15	0561177 - 0	0	0	0	0	0	0				
13429	19452	188179	0 - 0.06	0561203 - 0	0	0	0	0	0	0				
19452	19453	195141	0 - 0.04	0561203 - 0.06	0	0	0	0	0	0				
19453	19454	195143	0 - 0.09	0561215 - 0	0	0	0	0	0	0				
19452	63845	2672710	0 - 0.03	0561217 - 0	0	0	0	0	0	0				
63845	63845	2672712	0 - 0.05	0561217 - 0.03	0	0	0	0	0	0				
13439	17070	5080633	0 - 0.14	0560372 - 0	0	0	0	0	0	0				
13436	13438	5080634	0 - 0.05	0560138 - 0	0	0	0	0	0	0				
13436	13437	5080632	0 - 0.12	0560138 - 0.05	0	0	0	0	0	0				
13434	17068	5080631	0 - 0.07	0560400 - 0	0	0	0	0	0	0				
13434	13435	188187	0 - 0.14	0560400 - 0.07	1	0	0	0	0	1	2021-16139	06/28/2021	0.14	PD
13434	13436	188188	0 - 0.07	0560415 - 0	0	0	0	0	0	0				
63847	17067	5080630	0 - 0.09	0560688 - 0	0	0	0	0	0	0				
63847	15389	2672735	0 - 0.13	0560688 - 0.09	0	0	0	0	0	0				
13432	15389	5080629	0 - 0.16	0560688 - 0.22	0	0	0	0	0	0				
13430	13432	188182	0 - 0.05	0561120 - 0	0	0	0	0	0	0				
13432	63847	2672733	0 - 0.03	0561120 - 0.05	0	0	0	0	0	0				
13435	18501	5080635	0 - 0.08	0561167 - 0	0	0	0	0	0	0				

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
18501	18502	194006	0 - 0.16	0561167 - 0.08	0	0	0	0	0	0				
18501	18503	194007	0 - 0.05	0561169 - 0	0	0	0	0	0	0				
18499	18500	5080636	0 - 0.14	0561179 - 0	0	0	0	0	0	0				
12464	12465	186819	0 - 0.06	0560695 - 0	0	0	0	0	0	0				
13425	13426	5080638	0 - 0.10	0560409 - 0	0	0	0	0	0	0				
				Totals:	11	0	0	1	1	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	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3
MONDAY	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
THURSDAY	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4
FRIDAY	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	4
Totals	0	0	0	0	0	0	0	2	1	0	2	2	4	1	0	3	2	0	1	0	0	1	0	1	0	**20**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	19
2-(Sport) Utility Vehicle	6
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	0
5-Pickup	8
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	1
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)	2
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	0
24-Witness	2
25-Other	2
26-Construction	0
27-Farm Vehicle	0
Total	**41**

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	1	14	2	1	0	0	18
Ran Off Roadway	3	0	0	0	0	0	3
Failed to Yield Right-of-Way	6	0	0	0	0	0	6
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	0	0	0	0	0	0	0
Improper Turn	2	0	0	0	0	0	2
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	3	0	0	0	0	0	3
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
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	0	0	0	0	0	0
Other Contributing Action	1	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0
Total	**18**	**14**	**2**	**1**	**0**	**0**	**35**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	16	14	2	1	0	0	33
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	1	0	0	0	0	0	1
Total	**18**	**14**	**2**	**1**	**0**	**0**	**35**

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	4	0	0	0	0	4
20-24	7	0	0	0	0	7
25-29	4	0	0	0	0	4
30-39	6	0	0	0	0	6
40-49	8	0	0	0	0	8
50-59	3	0	0	0	0	3
60-69	5	0	0	0	0	5
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	2	0	0	0	0	2
Total	**39**	**0**	**0**	**0**	**0**	**39**

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.)	2
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**	**37**
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	35		
14-Parked Motor Vehicle	0		
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		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	1	1
B	3	3
C	3	4
PD	11	0
Total	**18**	**8**

Road Character

Road Grade	Total
1-Level	16
2-On Grade	2
3-Top of Hill	1
4-Bottom of Hill	1
5-Other	0
Total	**20**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	1
5-Stop Signs - Other	5
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	13
14-Other	1
Total	**20**

Light

Light Condition	Total
1-Daylight	15
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	4
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**20**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	3	0	1	4
FEBRUARY	0	1	0	1
MARCH	0	0	0	0
APRIL	2	0	0	2
MAY	0	1	1	2
JUNE	1	0	1	2
JULY	0	0	1	1
AUGUST	0	0	0	0
SEPTEMBER	0	0	3	3
OCTOBER	0	0	0	0
NOVEMBER	0	1	1	2
DECEMBER	1	1	1	3
Total	**7**	**4**	**9**	**20**

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	4	2	0	2	0	1	0	0	0	0	0	0	0	0	9
Head-on - Sideswipe	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Intersection Movement	0	0	5	0	0	1	0	0	0	0	0	0	0	0	6
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	1	0	1	1	0	1	0	0	0	0	0	0	0	0	4
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	**6**	**2**	**6**	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**

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	2	0	0	0	0	0	0	0	0	0	0	2
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	6	1	0	0	0	0	0	0	0	0	2	9
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	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	2	0	0	0	0	0	0	0	0	0	2	4
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	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	2	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
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	1	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
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	**12**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**20**

Barton & Loguidice

Traffic Assessment –Speed Study

Date: 8/25/2023

To: Jon Whitten, Jr., P.E., Project Manager
Haley Ward

From: Jacob Sirois, E.I.
Engineer 1
Barton & Loguidice, LLC.

John Q. Adams, P.E., PTOE
Associate, Senior Transportation Engineer
Barton & Loguidice, LLC.

Re: **Speed Study, Hope Avenue Residential Multi-Family Subdivision**
Hope Avenue, Portland, Maine

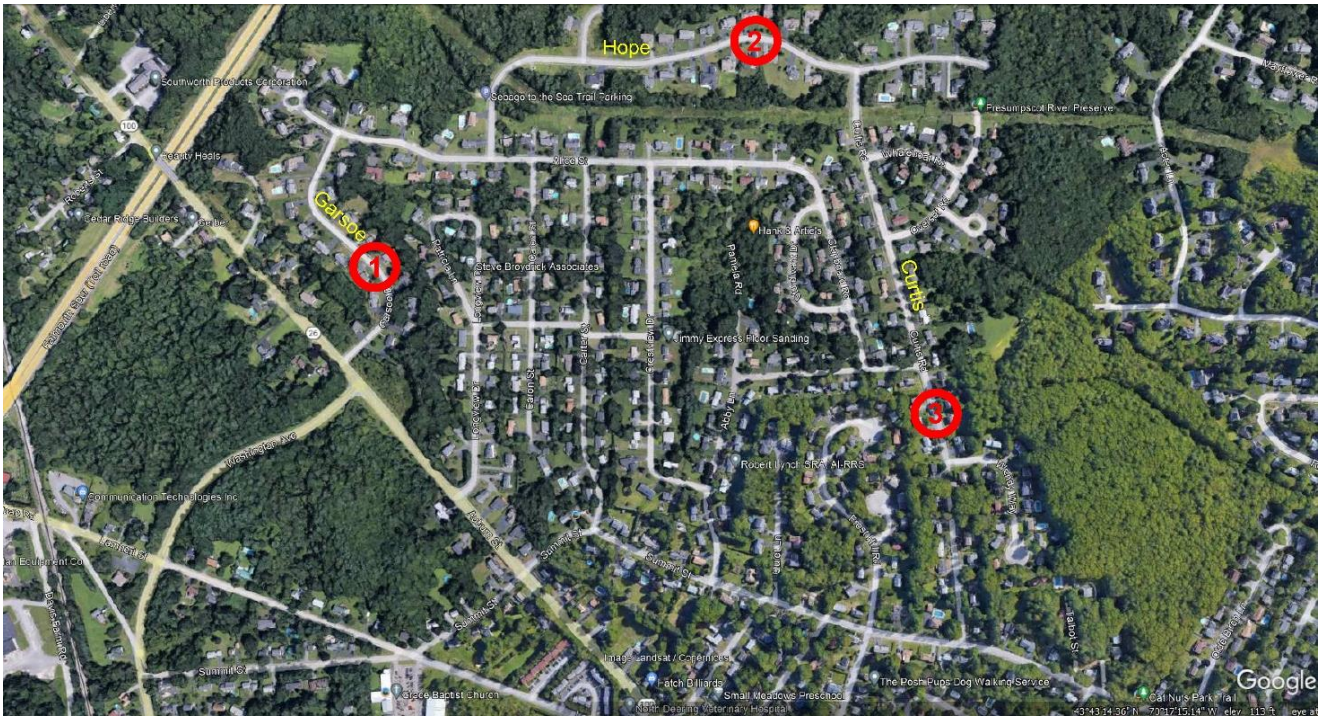
Introduction

The purpose of this memo is to respond to comments from the City of Portland staff and neighborhood citizens pertaining to potential concerns with traffic speeds along Garsoe Drive, Hope Avenue, and Curtis Street, and the potential need for traffic calming measures. To respond to these comments, we have reviewed the existing conditions for the subject roads and performed speed studies on each.

Speed Study

The speed study was completed on July 27, 2023 with speed data collected at the three locations shown below. These included; 1. Garsoe Drive, 2. Hope Avenue, and 3. Curtis Street. The data was completed in the afternoon generally within the weekday peak commuter hours so that more data could be collected. The speed study data and results were compiled by James Tasse, PhD, Assistant Director, Bicycle Coalition of Maine.

Figure 1 Proposed Development Site



Garsoe Drive

Garsoe Drive is a residential street with single family homes along both sides. The roadway is approximately 24 ft. wide, with a cross-section generally comprised of a curbed roadway, esplanades and sidewalk on both sides of the road with street lights and street trees. Based on our observations, the context of this roadway provides traffic calming and prevailing speeds were generally at or below the posted speed limit of 25 mph. The results of the speed data collected is shown in Table 1 below.

Table 1 - Garsoe Drive Speed Data Results

Speed Limit	Northbound	Southbound
Average	17.7	21.0
85th Percentile	20.5	25.8

The data indicates that both the Average and 85th Percentile Speeds were generally at or below the posted speed limit of 25mph. In the northbound direction the average speed was 17.7 mph and 85th was 20.5 mph, and the southbound average speed was 21.0 mph and the 85th was 25.8 mph. Based on these results motorists were generally adhering to or driving below the posted speed limit.

Hope Avenue

Hope Avenue is a residential street with single family home along both sides. The roadway is approximately 24 ft. wide, with a cross-section generally comprised of a curbed roadway, esplanades and sidewalk on both sides of the road with street lights and street trees. The context of this roadway provides traffic calming and generally does not seem to encourage higher speeds above the posted speed limit of 25 mph. The results of the speed data collected is shown in Table 2 below.

Table 2 - Hope Ave Speed Data Results

Speed Limit	Eastbound	Westbound
Average	17.5	22.0
85th Percentile	17.9	27.6

The data indicates that both the Average and 85th Percentile Speeds were generally near or below the posted speed limit of 25 mph. In the eastbound direction the average speed was 17.5 mph and the 85th was 17.9 mph, and the westbound average speed was 22.0 mph and the 85th was 27.6 mph. Based on these results motorists were generally adhering to or driving below the posted speed limit.

Curtis Street

Curtis Street is a residential street with single family homes along both sides and a posted speed of 25 mph. The roadway is wider than either Hope Avenue or Garsoe Drive, but does have on-street parking which takes up some of the roadway width. Based on our observations, the roadway has three different widths as you traverse from Summit Street northerly to Hope Avenue, a distance of about 2,800 ft. See descriptions below:

Southerly Section (Summit Street to Abby Street) - roadway approximately 28 ft. wide, no curbing, but esplanades, sidewalks, and street trees on both sides, with on-street parking. There is an all-way stop at the intersection of Abby Street and Curtis Street, which tends to slow traffic.

Middle Section (Abby Street to south of Overset Street) – roadway approximately 36-37 ft. wide, no curbing, but esplanades, sidewalks, and street trees, with on-street parking.

Northerly Section (Overset Street to Hope Ave) – roadway approximately 32 ft. wide, curbed roadway with esplanades, sidewalks, street trees, street lights on both sides of street, with on-street parking.

The context of this roadway provides some traffic calming and has prevailing speeds near the posted speed limit of 25 mph. The results of the speed data collected is shown in Table 2 below.

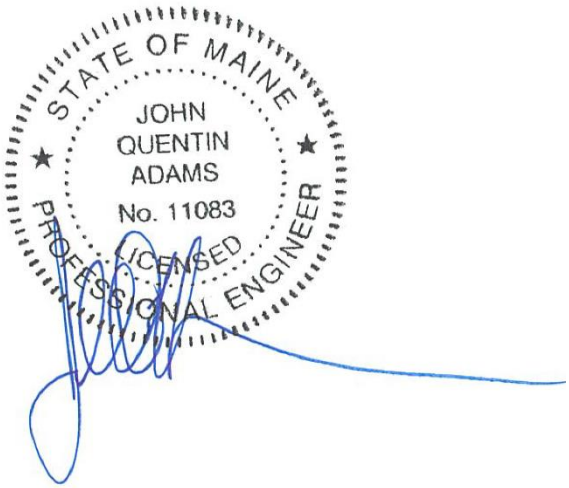
Table 3 – Curtis Street Speed Study Results

Speed Limit	Northbound	Southbound
Average	24.6	24.0
85th Percentile	27.0	28.5

The data indicates that both the Average and 85th Percentile Speeds were generally near or below the posted speed limit of 25mph. In the northbound direction the average speed was 24.6 mph and 85th was 27.0 mph, and in the southbound direction the average was 24.0 mph and 85th was 28.6 mph. Based on these results motorists were generally driving at or near the posted speed limit.

Summary

The speed data collected on Garsoe Drive, Hope Avenue and Curtis Street indicates that there does not seem to be a significant issue with motorists driving at excessive speeds. Generally, the average speeds recorded on the three roads were below the posted speed limit of 25 mph, and the recorded 85th percentile speeds were below or only 2 to 3 miles above the speed limit. It is typical of many speed studies to see average speeds that are 5 mph over the posted speed limit and 85th percentile speeds that are 10 to 15 mph over the speed limit. Based on the results of this speed study, it does not appear that additional traffic calming elements are required at this time.



John Q. Adams, PE, PTOE, Date: 08/25/2023

APPENDIX

Speed Study Data for Garsoe Dr, Hope Ave, and Curtis St

Study done by:	Street		Speed Limit	Location Description
JTasse	**Garsoe Dr,** on straight section		**25**	similar to Hope, narrow, 25' curved
DATE	between curves as marked on map			
7/27/23	NORTHBOUND	SOUTHBOUND		very few cars observed
Time	15	20		
5:30-6	20	15		4 Different residents mentioned a speed problem on Summit,
	13	25		
	18	18		
	15	27		
	25			
	18			

Study done by:	Street	City/Town	Speed Limit	Location Description
J Tasse	**Hope Ave**	**Portland**	**25**	
DATE				
7/27/23	East BOUND	West BOUND		very few vehicles observed on street
Time	17	14		much narrower street (25'?) curved
4:55-5:30	18	30		
		22		
				residents thanked me for doing speed study;

Study done by:	Street		Speed Limit	Location Description
JTasse	**Curtis St,** just north of Wendy Lane.		**25**	Wide residential street 30+ feet?
DATE				
7/27/23	NORTHBOUND	SOUTHBOUND		
Time	26	22		
4:15-4:50	29	23		
	21	24		
	24	23	3 residents thanked me for doing speed study; claimed	
	24	23		
	27	17		
	27	25		
	27	22		
	27	23		
	24	30		
	23	24		
	26	19		
	30	29		
	24	29		
	20	24		
	18	27		
	22			
	24			
	24			
	23			
	28			
	23			
	25			
	25			
	23			
	25			
	25			
	25			
	25			

Location : Summit Road
Location : West of Curtis Road
City/State: Portland, ME

Accurate Counts
978-664-2565

Site Code: 13773001

Direction: WB,

10/8/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	0	1	0	0	0	1	1	1	0	0	0	0	4
7:00	0	0	1	1	3	3	4	4	1	0	0	0	0	1	18
8:00	0	0	2	4	1	4	17	13	4	1	0	0	1	0	47
9:00	0	0	3	0	8	6	14	11	2	0	0	0	0	1	45
10:00	0	0	3	0	4	4	7	5	2	1	1	0	0	0	27
11:00	0	0	3	3	0	6	7	4	4	1	0	0	0	0	28
12:00 PM	0	0	0	2	2	2	10	9	3	1	0	0	0	0	29
1:00	0	0	5	2	0	6	13	5	4	2	1	0	0	0	38
2:00	0	0	1	0	4	9	13	10	0	1	0	0	0	0	38
3:00	0	0	2	3	6	11	16	5	4	0	0	0	0	0	47
4:00	0	0	6	3	10	11	20	16	7	0	0	0	0	0	73
5:00	0	0	9	3	4	7	32	34	8	2	1	0	0	0	100
6:00	0	0	30	5	8	14	11	16	4	2	0	0	0	0	90
7:00	0	0	2	2	6	9	5	8	5	2	0	0	0	0	39
8:00	0	0	0	2	2	8	5	3	0	0	0	0	0	0	20
9:00	0	0	1	1	1	6	4	4	0	0	0	0	0	0	17
10:00	0	0	0	0	2	3	1	3	1	0	0	0	0	0	10
11:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	69	32	61	111	180	152	51	14	3	0	1	2	676

Percentile	15th	50th	85th	95th
Speed	11	18	22	25

Mean Speed (Average)	18.7
10 MPH Pace Speed	16-25
Number in Pace	468
Percent in Pace	69.0%
Number > 18 MPH	403
Percent > 18 MPH	59.6%

Location : Summit Road
Location : West of Curtis Road
City/State: Portland, ME

Accurate Counts
978-664-2565

Site Code: 13773001

Direction: WB,

10/9/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	3	1	1	0	0	1	0	0	0	6
7:00	0	0	3	0	1	4	1	2	1	1	0	0	0	0	13
8:00	0	0	3	2	2	2	16	14	3	1	0	0	0	0	43
9:00	0	0	3	0	3	9	16	13	9	1	0	0	0	0	54
10:00	0	0	2	0	2	5	6	5	2	2	0	0	0	0	24
11:00	0	0	1	1	0	4	3	9	9	1	0	0	0	0	28
12:00 PM	0	0	7	2	3	6	7	5	1	1	0	0	1	0	33
1:00	0	0	4	2	3	4	5	3	2	0	0	0	0	0	23
2:00	0	0	3	1	2	6	5	9	2	1	0	0	0	0	29
3:00	0	0	1	4	4	9	16	10	4	1	0	0	0	0	49
4:00	0	0	6	1	3	6	19	15	10	3	1	0	0	1	65
5:00	0	0	8	2	4	11	15	22	11	1	0	1	0	0	75
6:00	0	0	4	2	7	5	22	24	10	2	1	0	0	0	77
7:00	0	0	2	1	3	8	13	9	1	0	0	0	0	0	37
8:00	0	0	0	0	2	6	6	8	0	1	0	0	0	0	23
9:00	0	0	1	0	2	3	3	1	1	0	0	0	0	0	11
10:00	0	0	3	1	0	4	4	3	1	0	0	0	0	0	16
11:00	0	0	1	0	2	2	1	0	1	0	0	0	0	0	7
	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
Total	0	0	52	20	43	98	160	154	69	16	3	1	1	1	618

Percentile	15th	50th	85th	95th	
Speed	13	19	23	25	
Mean Speed (Average)	19.5				
10 MPH Pace Speed	16-25				
Number in Pace	436				
Percent in Pace	72.0%				
Number > 18 MPH	405				
Percent > 18 MPH	65.5%				

Grand Total	0	0	121	52	104	209	340	306	120	30	6	1	2	3	1294
Stats	Percentile		15th	50th	85th	95th									
	Speed		12	18	23	25									
	Mean Speed (Average)		19.1												
	10 MPH Pace Speed		16-25												
	Number in Pace		908												
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1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	0	1	0	0	0	1	1	1	0	0	0	0	4
7:00	0	0	1	1	3	3	4	4	1	0	0	0	0	1	18
8:00	0	0	2	4	1	4	17	13	4	1	0	0	1	0	47
9:00	0	0	3	0	8	6	14	11	2	0	0	0	0	1	45
10:00	0	0	3	0	4	4	7	5	2	1	1	0	0	0	27
11:00	0	0	3	3	0	6	7	4	4	1	0	0	0	0	28
12:00 PM	0	0	0	2	2	2	10	9	3	1	0	0	0	0	29
1:00	0	0	5	2	0	6	13	5	4	2	1	0	0	0	38
2:00	0	0	1	0	4	9	13	10	0	1	0	0	0	0	38
3:00	0	0	2	3	6	11	16	5	4	0	0	0	0	0	47
4:00	0	0	6	3	10	11	20	16	7	0	0	0	0	0	73
5:00	0	0	9	3	4	7	32	34	8	2	1	0	0	0	100
6:00	0	0	30	5	8	14	11	16	4	2	0	0	0	0	90
7:00	0	0	2	2	6	9	5	8	5	2	0	0	0	0	39
8:00	0	0	0	2	2	8	5	3	0	0	0	0	0	0	20
9:00	0	0	1	1	1	6	4	4	0	0	0	0	0	0	17
10:00	0	0	0	0	2	3	1	3	1	0	0	0	0	0	10
11:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	69	32	61	111	180	152	51	14	3	0	1	2	676

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1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	3	1	1	0	0	1	0	0	0	6
7:00	0	0	3	0	1	4	1	2	1	1	0	0	0	0	13
8:00	0	0	3	2	2	2	16	14	3	1	0	0	0	0	43
9:00	0	0	3	0	3	9	16	13	9	1	0	0	0	0	54
10:00	0	0	2	0	2	5	6	5	2	2	0	0	0	0	24
11:00	0	0	1	1	0	4	3	9	9	1	0	0	0	0	28
12:00 PM	0	0	7	2	3	6	7	5	1	1	0	0	1	0	33
1:00	0	0	4	2	3	4	5	3	2	0	0	0	0	0	23
2:00	0	0	3	1	2	6	5	9	2	1	0	0	0	0	29
3:00	0	0	1	4	4	9	16	10	4	1	0	0	0	0	49
4:00	0	0	6	1	3	6	19	15	10	3	1	0	0	1	65
5:00	0	0	8	2	4	11	15	22	11	1	0	1	0	0	75
6:00	0	0	4	2	7	5	22	24	10	2	1	0	0	0	77
7:00	0	0	2	1	3	8	13	9	1	0	0	0	0	0	37
8:00	0	0	0	0	2	6	6	8	0	1	0	0	0	0	23
9:00	0	0	1	0	2	3	3	1	1	0	0	0	0	0	11
10:00	0	0	3	1	0	4	4	3	1	0	0	0	0	0	16
11:00	0	0	1	0	2	2	1	0	1	0	0	0	0	0	7
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1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6:00	0	0	0	1	0	0	0	1	1	1	0	0	0	0	4
7:00	0	0	1	1	3	3	4	4	1	0	0	0	0	1	18
8:00	0	0	2	4	1	4	17	13	4	1	0	0	1	0	47
9:00	0	0	3	0	8	6	14	11	2	0	0	0	0	1	45
10:00	0	0	3	0	4	4	7	5	2	1	1	0	0	0	27
11:00	0	0	3	3	0	6	7	4	4	1	0	0	0	0	28
12:00 PM	0	0	0	2	2	2	10	9	3	1	0	0	0	0	29
1:00	0	0	5	2	0	6	13	5	4	2	1	0	0	0	38
2:00	0	0	1	0	4	9	13	10	0	1	0	0	0	0	38
3:00	0	0	2	3	6	11	16	5	4	0	0	0	0	0	47
4:00	0	0	6	3	10	11	20	16	7	0	0	0	0	0	73
5:00	0	0	9	3	4	7	32	34	8	2	1	0	0	0	100
6:00	0	0	30	5	8	14	11	16	4	2	0	0	0	0	90
7:00	0	0	2	2	6	9	5	8	5	2	0	0	0	0	39
8:00	0	0	0	2	2	8	5	3	0	0	0	0	0	0	20
9:00	0	0	1	1	1	6	4	4	0	0	0	0	0	0	17
10:00	0	0	0	0	2	3	1	3	1	0	0	0	0	0	10
11:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	69	32	61	111	180	152	51	14	3	0	1	2	676

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10/9/2024 Time	0 - 3 MPH	> 3 - 6 MPH	> 6 - 9 MPH	> 9 - 12 MPH	> 12 - 15 MPH	> 15 - 18 MPH	> 18 - 21 MPH	> 21 - 24 MPH	> 24 - 27 MPH	> 27 - 30 MPH	> 30 - 33 MPH	> 33 - 36 MPH	> 36 - 39 MPH	> 39 MPH	Total
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	3	1	1	0	0	1	0	0	0	6
7:00	0	0	3	0	1	4	1	2	1	1	0	0	0	0	13
8:00	0	0	3	2	2	2	16	14	3	1	0	0	0	0	43
9:00	0	0	3	0	3	9	16	13	9	1	0	0	0	0	54
10:00	0	0	2	0	2	5	6	5	2	2	0	0	0	0	24
11:00	0	0	1	1	0	4	3	9	9	1	0	0	0	0	28
12:00 PM	0	0	7	2	3	6	7	5	1	1	0	0	1	0	33
1:00	0	0	4	2	3	4	5	3	2	0	0	0	0	0	23
2:00	0	0	3	1	2	6	5	9	2	1	0	0	0	0	29
3:00	0	0	1	4	4	9	16	10	4	1	0	0	0	0	49
4:00	0	0	6	1	3	6	19	15	10	3	1	0	0	1	65
5:00	0	0	8	2	4	11	15	22	11	1	0	1	0	0	75
6:00	0	0	4	2	7	5	22	24	10	2	1	0	0	0	77
7:00	0	0	2	1	3	8	13	9	1	0	0	0	0	0	37
8:00	0	0	0	0	2	6	6	8	0	1	0	0	0	0	23
9:00	0	0	1	0	2	3	3	1	1	0	0	0	0	0	11
10:00	0	0	3	1	0	4	4	3	1	0	0	0	0	0	16
11:00	0	0	1	0	2	2	1	0	1	0	0	0	0	0	7
	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
Total	0	0	52	20	43	98	160	154	69	16	3	1	1	1	618

	Percentile	15th	50th	85th	95th
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Stats	Percentile	15th	50th	85th	95th
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	Percent in Pace	70.0%			
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	Percent > 18 MPH	62.4%			

PHOTO EXHIBIT FOR ADA FACILITY COMPLIANCE

Photo No. 1 **Photo Date:** 10/24/23 **Site Location:** Entrance to Garsoe Drive from Auburn Street **Description:** The tipdowns to the intersection do not contain detectable pads, and are in excess of 10% slope. **Photo By:** Andrew Godfrey, EIT	

Photo No. 2 **Photo Date:** 10/24/23 **Site Location:** Garsoe Drive **Description:** Looking down the 6-7% slope hill at the beginning of Garsoe Drive. **Photo By:** Andrew Godfrey, EIT	

PHOTO EXHIBIT FOR ADA FACILITY COMPLIANCE

Photo No. 3 **Photo Date:** 10/24/23 **Site Location:** End of Garsoe Drive **Description:** Looking up the 8-9% grade hill on Garsoe Drive **Photo By:** Andrew Godfrey, EIT	

Photo No. 4 **Photo Date:** 10/24/23 **Site Location:** Intersection of Alice Street and Hope Lane **Description:** A typical tipdown at an intersection in excess of 10% grade. **Photo By:** Andrew Godfrey, EIT	

Presumpscot Woods
0 Hope Ave., Portland, Maine
Soils Report

A medium-intensity soils report has been provided for this development, (see attached.) According to the USDA Soils Map of the project area, soils are mainly sandy loams and are not anticipated to have a negative impact on the structural integrity of the project, or the ability to manage stormwater runoff.

A Class B high-intensity soils survey was performed for this site in Summer 2024. The results of this survey do not suggest any soils-related limitations on the development.

REPORT

23-1728 S

February 14, 2024

Explorations and Geotechnical Engineering Services

Proposed Road Embankment
Presumpscot Woods Subdivision
"0" Hope Avenue
Portland, Maine

Prepared For:
GenX Capital Partners
Attention: Mark McClure
2 Cotton Street
Portland, ME 04101

Prepared By:
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039
T: 207-657-2866

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Scope and Purpose 1
1.2 Site and Proposed Construction 1
2.0 EXPLORATION AND TESTING 2
2.1 Explorations 2
2.2 Testing 2
3.0 SUBSURFACE CONDITIONS 3
3.1 Soil and Bedrock 3
3.2 Groundwater 4
4.0 EVALUATION AND RECOMMENDATIONS 4
4.1 General Findings 4
4.2 Global Stability and Slope Considerations 5
4.3 Site and Subgrade Preparation 5
4.4 Excavation and Dewatering 6
4.5 Foundations 7
4.6 Fill, Backfill and Compaction 8
4.7 Weather Considerations 9
4.8 Design Review and Construction Testing 9
5.0 CLOSURE 10

Appendix A Limitations
Appendix B Figures
Appendix C Exploration Logs & Key

23-1728 S

February 14, 2024

GenX Capital Partners
Attention: Mark McClure
2 Cotton Street
Portland, ME 04101

Subject: Explorations and Geotechnical Engineering Services
Proposed Road Embankment
Presumpscot Woods Subdivision
"0" Hope Avenue
Portland, Maine

Dear Mark:

In accordance with our Proposal, dated December 19, 2023, we have performed subsurface explorations for the subject project. This report summarizes our findings and geotechnical recommendations and its contents are subject to the limitations set forth in Appendix A.

1.0 INTRODUCTION

1.1 Scope and Purpose

The purpose of our services was to obtain subsurface information at the site in order to develop geotechnical recommendations relative to foundations and earthwork associated with the proposed construction. Our scope of services included test boring and probe explorations, a geotechnical analysis of the subsurface findings, and preparation of this report.

1.2 Site and Proposed Construction

The site is located at "0" Hope Avenue, west of Basket Lane, in Portland, Maine and is comprised of an undeveloped wooded parcel. Existing terrain includes relatively flat and level uplands separated by an erosional gully which is up to about 25 feet deep and conveys an unnamed streamflow. Some gravel and cobbles are visible in the existing

stream channel. Existing grades at the subject site range from about elevation 60 to 85 feet (project datum).

We understand development plans include a new housing subdivision which will be accessed from a proposed roadway crossing the existing erosional gully, requiring a new fill embankment up to about 20 feet high. The fill embankment is currently proposed with 1H:1V side slopes. A 6-foot high, 6-foot wide, 72-foot long concrete box culvert is proposed to convey existing streamflow beneath the proposed embankment.

Proposed and existing site features are shown on the "Exploration Location Plan" attached in Appendix B.

2.0 EXPLORATION AND TESTING

2.1 Explorations

Three test borings (B-1 through B-3) and one auger probe (P-1) were made at the site on January 29, 2024 by Northern Test Boring, Inc. of Gorham, Maine working under subcontract to S. W. Cole Engineering, Inc. (S.W.COLE). The exploration locations were selected by S.W.COLE in conjunction with Shinberg Consulting (Owner's Representative) and located by S.W.COLE using a mapping grade GPS. The approximate exploration locations are shown on the "Exploration Location Plan" attached in Appendix B. Logs of the explorations and a key to the notes and symbols used on the logs are attached in Appendix C. The elevations shown on the logs were estimated based on topographic information shown on the "Exploration Location Plan".

2.2 Testing

The test borings were drilled using hollow-stem augers and the probe was drilled using solid-stem augers. The soils were sampled at 2-to-5-foot intervals in the borings using a split spoon sampler and Standard Penetration Testing (SPT) methods. Pocket Penetrometer Tests (PPT) were performed where stiffer cohesive soils were encountered. SPT blow counts and PPT results are shown on the logs. Soil samples obtained from the explorations were returned to our laboratory for further visual classification.

3.0 SUBSURFACE CONDITIONS

3.1 Soil and Bedrock

Underlying a surficial layer of forest duff and topsoil, the test borings encountered a subsurface profile generally consisting of glaciomarine sands, silts, and clays, overlying glacial outwash and refusal surfaces. An alluvial deposit of sand and silt with organics was encountered in boring B-1 at the bottom of the gully. The principal soils encountered at the explorations are summarized below. Not all of the strata were encountered at each exploration; refer to the attached logs for more detailed subsurface information.

Alluvial Deposits: Below a thin layer of topsoil and forest duff, boring B-1 at the bottom of the gully, encountered an alluvial deposit of loose sand and silt with organics.

Glaciomarine Deposits: Underlying surficial layers of forest duff and topsoil, and alluvial deposits, the borings encountered glaciomarine soils.

In higher elevations at the top of the gully (B-2 and B-3), these glaciomarine soils generally consisted of an upper “crust” of stiff brown silty clay and medium dense silty sand. At boring B-3, the upper “crust” transitioned to a layer of softer gray silty clay below a depth of about 15.5 feet below ground surface (bgs). Boring B-3 was terminated in the softer gray silty clay at a depth of 17 feet.

In lower elevations at the bottom of the gully (B-1), these glaciomarine soils consisted of layered, loose silt and fine sand and soft gray silty clay with frequent sand seams and layers extending to a depth of about 4 feet bgs.

Glacial Outwash Deposits: Underlying the glaciomarine deposits, where penetrated, the borings encountered up to about 2 feet of glacial outwash deposits consisting of loose to medium dense silty sand with varying portions of gravel.

Refusal Surfaces: Underlying the glacial outwash, borings B-1 and B-2 encountered refusal surfaces (probable bedrock) at depths of about 6 and 21 feet bgs. Auger probe P-1 encountered a refusal surface at a depth of about 6 feet bgs.

3.2 Groundwater

The soils encountered at the test borings were generally moist to wet from the ground surface. Saturated soils were encountered below a depth of about 2 feet bgs in boring B-1, made towards the bottom of the gully. Saturated soils were encountered below depths of about 15 feet bgs in borings B-2 and B-3, made towards the top of the gully. Groundwater likely becomes perched on the relatively impervious silty clay and outwash encountered in the test borings. Long term groundwater information is not available. It should be anticipated that groundwater levels will fluctuate, particularly in response to the stream level, periods of snowmelt and precipitation, as well as changes in site use.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

Based on the subsurface findings, the proposed construction appears feasible from a geotechnical standpoint. The principle geotechnical considerations include:

- Test boring B-1, made towards the bottom of the gully, encountered surficial organics and relatively soft alluvial and glaciomarine sediments (loose silt and sand and soft gray silty clay) overlying glacial outwash and a relatively shallow refusal surface (probable bedrock). The organics and sediments are compressible and should be removed from beneath the proposed embankment and box culvert, to expose undisturbed glacial outwash or sound intact bedrock prior to placing new embankment fill and culvert bedding materials, as discussed herein.

- In our opinion, proposed 1H:1V embankment slopes are unstable against failure and sloughing. We recommend consideration be given to flattening slopes to 2H:1V or flatter. Slopes steeper than 2H:1V will need to be designed as reinforced slopes with engineered face treatments and internal geotextile reinforcement.

- Based on the subsurface findings and provided the recommendations for subgrade preparation and side slope inclinations of 2H:1V or flatter as presented herein are followed, the proposed embankment should be adequately stable against a deep rotational global failure.

- Depending on the final design elevations, some bedrock removal may be required for installation of the proposed box culvert.

- Subgrades at the site will consist of sensitive silts and clays. Earthwork and grading activities should occur during drier, non-freezing weather of Spring, Summer and Fall. Rubber tired construction equipment should not operate directly on the native soils. Excavation of bearing surfaces should be completed with a smooth-edged bucket to lessen subgrade disturbance.

4.2 Global Stability and Slope Considerations

Provided the organics, alluvial deposits, and glaciomarine sediments (loose sands and silts and soft gray silty clay) are removed and replaced from beneath the proposed embankment and box culvert. In our opinion, proposed 1H:1V embankment sideslopes are unstable against failure and sloughing. We recommend consideration be given to flattening embankment sideslopes to 2H:1V or flatter. Sideslopes steeper than 2H:1V will need to be designed as reinforced slopes with engineered face treatments and internal geotextile reinforcement.

The proposed embankment slopes, regardless of slope inclination, will be susceptible to surface erosion, slumping, and sloughing especially during precipitation and freeze/thaw events. Vegetation should be established as soon as practicable over the slopes. Synthetic erosion control mesh may be required to reinforce the surface soils until vegetation is established.

4.3 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 as possible should remain outside the construction areas to lessen the potential for erosion and site disturbance.

As discussed, boring B-1 made towards the bottom of the gully encountered surficial organics overlying alluvial and glaciomarine sediments (loose sands and silts and soft silty clay), overlying glacial outwash and a relatively shallow refusal surface (probable bedrock). We recommend the organics and alluvial and glaciomarine sediments be completely removed from beneath the proposed fill embankment and culvert to expose

undisturbed glacial outwash or sound intact bedrock. The limits of removal should extend at least 1 foot beyond the proposed toe of slope for each foot of overexcavation. Overexcavations should be backfilled with compacted Structural Fill.

Following removal and replacement of the unsuitable soils, the proposed embankment may be constructed with compacted Granular Borrow (for permanent embankment side slopes of 2H:1V or flatter). Embankment sideslopes steeper than 2H:1V will need to be designed as reinforced slopes with engineered face treatments and internal geotextile reinforcement.

The embankment should be constructed as level lifts that are laterally overbuilt to facilitate proper compaction. The final slope faces should be constructed by cutting back into the compacted core to final dimensions and elevations. We recommend benching into the native ground surface of the gully sidewall at 2-foot intervals during placement of embankment fills.

We recommend final excavation to subgrade for the proposed box culvert be made with a smooth-edged bucket. Loose and weathered bedrock, if encountered, should be removed from beneath the box culvert. We recommend at least 12 inches of compacted Crushed Stone wrapped in non-woven geotextile, such as Mirafi 180N or equivalent, be provided beneath the proposed box culvert.

4.4 Excavation and Dewatering

Excavation work will generally encounter surficial organics overlying alluvial deposits and glaciomarine sands, silts, and clays, overlying glacial outwash and refusal surfaces (probable bedrock). 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. Rubber tired construction equipment should not operate directly on the native soils when wet. Low ground pressure tracked equipment may be needed and temporary haul roads overlying geotextile fabric may be necessary. Final cuts to subgrade should be performed with a smooth-edged bucket to help reduce strength loss from soil disturbance.

Based on the subsurface findings and depending on final finish grades, we anticipate bedrock removal may be required for installation of the proposed box culvert. We

recommend bedrock be removed by hydraulic hoe-ramming in lieu of blasting. Pre-construction surveys should be completed on surrounding structures, water supply wells and infrastructure prior to commencing blasting activities.

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.

Temporary stream diversion will be required during construction. Sumping and pumping dewatering techniques should be adequate to control groundwater in shallow 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. 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.

4.5 Foundations

We recommend the proposed box culvert be supported on at least 12-inches of compacted Crushed Stone fully wrapped in non-woven geotextile fabric, such as Mirafi 180N, bearing undisturbed glacial outwash soils or sound, intact bedrock, or compacted Structural Fill overlying undisturbed glacial outwash soils. We recommend the following geotechnical parameters for design consideration:

Geotechnical Parameters for Proposed Box Culvert	
Design Frost Depth (100 year AFI)	4.5 feet
Net Allowable Soil Bearing Pressure	3.0 ksf
Base Friction Factor	0.35
Total Unit Weight of Backfill	125 pcf
At-Rest Lateral Earth Pressure Coefficient	0.5
Internal Friction Angle of Backfill	30°
Seismic Soil Site Class	C (ASCE-7)
Estimated Total Settlement	1-inch
Differential Settlement	½-inch

4.6 Fill, Backfill and Compaction

We recommend the following fill and backfill materials: recycled products must also be tested in accordance with applicable environmental regulations and approved by a qualified environmental consultant.

Common Borrow: Fill to raise grades in landscape areas should be non-organic compactable earth meeting the requirements of 2020 MaineDOT Standard Specification 703.18 Common Borrow.

Granular Borrow: Fill to construct fill embankments with final slope inclinations of 2H:1V or flatter may consist of sand or silty sand meeting the requirements of 2020 MaineDOT Standard Specification 703.19 Granular Borrow. Granular Borrow for Underwater Backfill will be required over wet subgrades.

Structural Fill: Backfill for the box culvert and backfill for overexcavations should be clean, non-frost susceptible sand and gravel meeting the gradation requirements for Structural Fill as given below:

Structural Fill	
Sieve Size	**Percent Finer by Weight**
4 inch	100
3 inch	90 to 100
¼ inch	25 to 90
No. 40	0 to 30
No. 200	0 to 6

Crushed Stone: Crushed Stone, used beneath the box culvert foundation should be washed ¾-inch crushed stone meeting the requirements of 2020 MaineDOT Standard Specification 703.13 Crushed Stone ¾-Inch.

Reuse of Site Soils: The site soils are unsuitable for proposed fill embankment and roadway construction but may be suitable for reuse as Common Borrow in landscape areas, provided they are free of organics and are at a compactable moisture content at the time of reuse.

Placement and Compaction: Fill should be placed in horizontal lifts and compacted such that the desired density is achieved throughout the lift thickness with 3 to 5 passes of the compaction equipment. Loose lift thicknesses for grading, fill and backfill activities should not exceed 12 inches. We recommend that fill and backfill be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557. Crushed Stone should be compacted with 3 to 5 passes of a vibratory plate compactor having a static weight of at least 500 pounds.

4.7 Weather Considerations

Construction activity should be limited during wet and freezing weather and the site soils may require drying or thawing before construction activities may continue. The contractor should anticipate the need for water to temper fills in order to facilitate compaction during dry weather. If construction takes place during cold weather, subgrades and foundations must be protected during freezing conditions. Concrete and fill must not be placed on frozen soil; and once placed, the concrete and soil beneath the structure must be protected from freezing.

4.8 Design Review and Construction Testing

S.W.COLE should be retained to review the construction documents prior to bidding to determine that our earthwork and foundation recommendations have been properly interpreted and implemented.

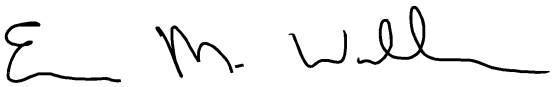
A construction materials testing and quality assurance program should be implemented during construction to observe compliance with the design concepts, plans, and specifications. S.W.COLE is available to observe earthwork activities, the preparation of foundation bearing surfaces and pavement subgrades, as well as to provide testing inspection services for soils, concrete and asphalt construction materials.

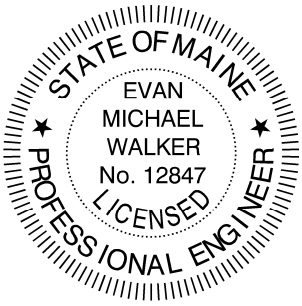
5.0 CLOSURE

It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the construction phase of the project.

Sincerely,

S. W. Cole Engineering, Inc.





Evan M. Walker, P.E.
Senior Geotechnical Engineer

EMW:tjb

APPENDIX A

Limitations

This report has been prepared for the exclusive use of GenX Capital Partners for specific application to the proposed Access Road Embankment associated with the Presumpscot Woods Subdivision at 0 Hope Avenue in Portland, Maine. S. W. Cole Engineering, Inc. (S.W.COLE) has endeavored to conduct our services in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

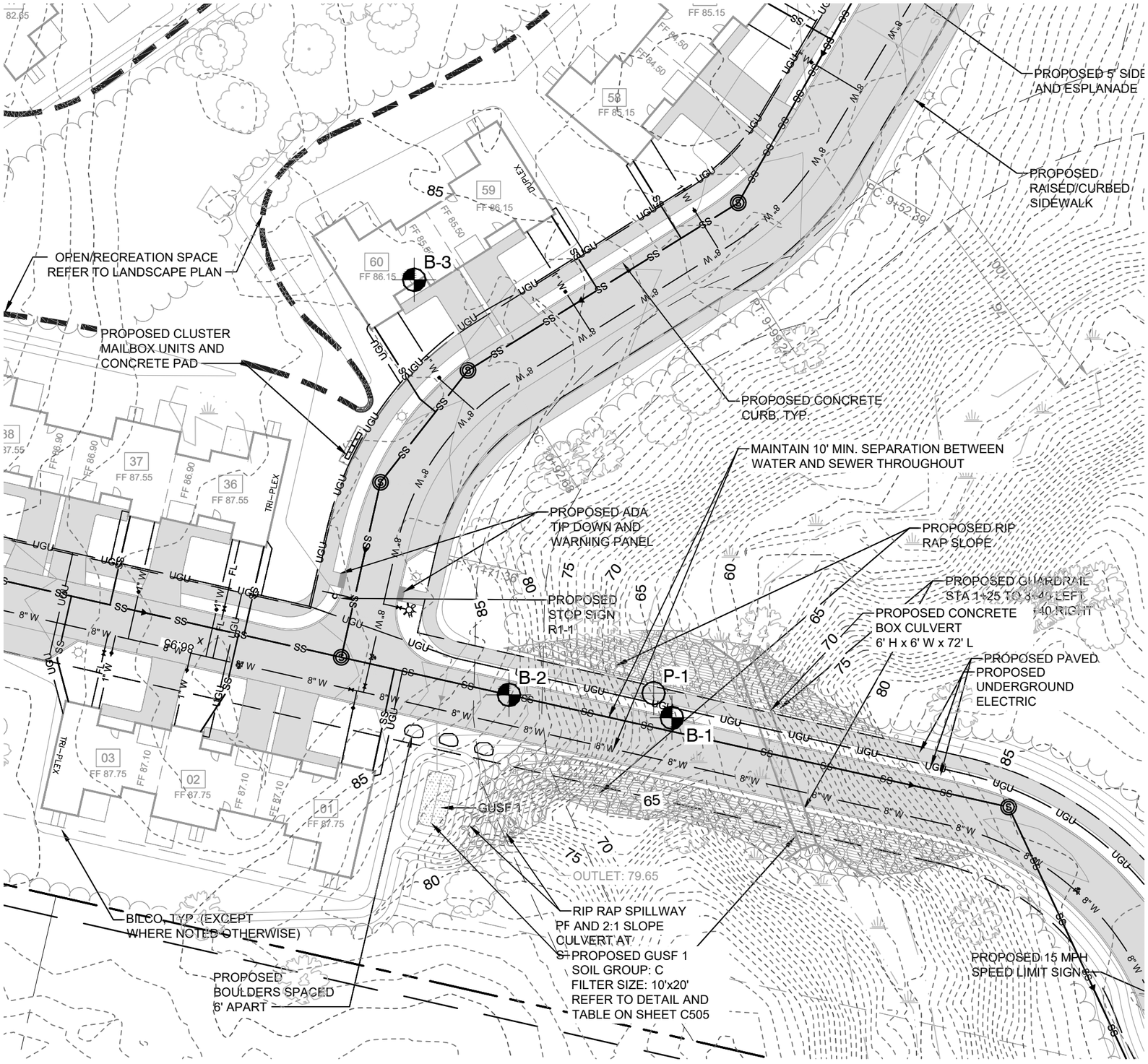
Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S.W.COLE's scope of services has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE.

APPENDIX B

Figures



LEGEND:

- APPROXIMATE BORING LOCATION
- APPROXIMATE PROBE LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=40' SCALE PLAN OF THE SITE TITLED "UTILITIES PLAN," PREPARED BY HALEY WARD, DATED 8/29/2022, REVISED 10/27/2023.
2. THE EXPLORATIONS WERE LOCATED IN THE FIELD BY S. W. COLE ENGINEERING, INC. USING A MAPPING GRADE GNSS GPS RECEIVER.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

0 40 80 Feet

S.W.COLE ENGINEERING, INC.

GENX CAPITAL PARTNERS

EXPLORATION LOCATION PLAN

PROPOSED ROADWAY EMBANKMENT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

Job No.:	23-1728	Scale:	1" = 40'
Date :	02/14/2024	Sheet:	1

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APPENDIX C

Exploration Logs and Key

BORING LOG

BORING NO.:	**B-1**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 65' +/- **TOTAL DEPTH (FT):** 5.8 **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Mike Nadeau **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** 2 1/4 in / 5 5/8 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 2 ft Soils Wet from Surface, Saturated Below 2' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0-2	24/15	1-1-2-1			0.4 Forest Duff / Topsoil Loose, gray, SILT AND FINE SAND, with silty seams, trace organics	▽	
			2D		2-4	24/16	1-1/12"-4			2.0 Soft, gray, silty CLAY, with frequent sand seams and layers		
										3.6 Loose to medium dense, gray, silty SAND AND GRAVEL		
60	5		3D	☒	5-5.3	4/4	50/4"			5.3 Probable Weathered Bedrock		

Refusal at 5.8 feet
Probable Bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-1**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

BORING LOG

BORING NO.:	**B-2**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 83' +/- | **TOTAL DEPTH (FT):** 20.7 | **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. | **DRILLER:** Mike Nadeau | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 15 ft Soils Moist to Wet from Surface, Saturated Below 15' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_U = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0-2	24/18	1/12"-2-3			0.3 Forest Duff / Topsoil Loose, brown, clayey SILT, with roots and organics 1.5 Very stiff to stiff, brown, silty CLAY		
80												
	5		2D		5-7	24/22	4-6-10-19	q_P=7-9 ksf				
75												
	10		3D		10-12	24/24	4-3-4-4	q_P=2-6 ksf				
70												
	15		4D		15-17	24/18	5-7-6-4	q_P=1.5-2 ksf			▽	
										16.0 Medium dense, gray-brown to gray, silty fine SAND		
65												
	20		5D		20-20.8	9/5	2-50/3"			20.0 Loose, gray, silty SAND, some gravel 20.5 Probable Weathered Bedrock Refusal at 20.7 feet Probable Bedrock		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-2**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

BORING LOG

BORING NO.:	**B-3**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 86' +/- **TOTAL DEPTH (FT):** 17.0 **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Mike Nadeau **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** 2 1/4 in / 5 5/8 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 15 ft Soils Moist to Wet from Surface, Saturated Below 15' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_U = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
85			1D		0-2	24/18	1/12"-1-5			0.3 Forest Duff / Topsoil Loose, dark brown, clayey SILT, with roots and organics 1.5 Loose, brown, clayey SILT, some fine sand, with roots 3.0 Very stiff to stiff, brown, silty CLAY, with occasional sand seams		
80	5		2D		5-7	24/22	4-6-10-12	q_P=9 ksf				
75	10		3D		10-12	24/24	3-4-6-7	q_P=4-5 ksf				
70	15		4D		15-17	24/24	2-2-3-3	q_P=0.5-1 ksf		15.5 Medium, gray, silty CLAY	▽	

Bottom of Exploration at 17.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-3**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

BORING LOG

BORING NO.:	**P-1**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 66' +/- **TOTAL DEPTH (FT):** 5.6 **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Mike Nadeau **DRILLING METHOD:** Solid Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** N/A / 4 1/2 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
65										No Sampling - Auger Probe		
	5									Refusal at 5.6 feet Probable Bedrock		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **P-1**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

KEY TO NOTES & SYMBOLS

Test Boring and Test Pit Explorations

Stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
"Y"	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16" thickness
Seam:	1/16" to 1/2" thickness
Layer:	½" to 12" thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

REPORT

23-1728.1 S

December 10, 2024

Geotechnical Engineering Services

Proposed Access Road Embankment
Presumpscot Woods Subdivision
"0" Hope Avenue
Portland, Maine

Prepared For:
Estelle Estates, LLC
Attention: Peter Bouchard
183 Jackson Ridge
Monticello, GA 31064

Prepared By:
S. W. Cole Engineering, Inc.
286 Portland Road
Gray, ME 04039
T: 207-657-2866

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Scope and Purpose 1
1.2 Site and Proposed Construction 1
2.0 EXPLORATION AND TESTING 2
2.1 Explorations 2
2.2 Testing 2
3.0 SUBSURFACE CONDITIONS 3
3.1 Soil and Bedrock 3
3.2 Groundwater 4
4.0 EVALUATION AND RECOMMENDATIONS 4
4.1 General Findings 4
4.2 Global Stability and Slope Considerations 4
4.3 Site and Subgrade Preparation 5
4.4 Excavation and Dewatering 6
4.5 Foundations 7
4.6 Fill, Backfill and Compaction 8
4.7 Weather Considerations 9
4.8 Design Review and Construction Testing 9
5.0 CLOSURE 10

Appendix A Limitations
Appendix B Figures
Appendix C Exploration Logs & Key
Appendix D Computations

23-1728.1 S

December 10, 2024

Estelle Estates, LLC
Attn: Peter Bouchard
183 Jackson Ridge
Monticello, GA 31064

Subject: Geotechnical Engineering Services
Proposed Access Road Embankment
Presumpscot Woods Subdivision
"0" Hope Avenue
Portland, Maine

Dear Peter:

In accordance with our Proposal, dated December 6, 2024, we have performed geotechnical design of the roadway embankment planned for access to the proposed residential subdivision. This report summarizes our findings and geotechnical recommendations and its contents are subject to the limitations set forth in Appendix A.

1.0 INTRODUCTION

1.1 Scope and Purpose

The purpose of our services was to provide geotechnical design of the roadway embankment planned for access to the proposed residential subdivision. Our scope of services included review of prior explorations for the access roadway, a geotechnical evaluation of the subsurface findings as they relate to global stability of the proposed access roadway embankment, and preparation of this report.

1.2 Site and Proposed Construction

The site is located at "0" Hope Avenue, west of Basket Lane, in Portland, Maine and is comprised of an undeveloped wooded parcel. Existing terrain includes relatively flat and level uplands separated by an erosional gully which is up to about 25 feet deep and conveys an unnamed streamflow. Some gravel and cobbles are visible in the existing

stream channel. Existing grades at the subject site range from about elevation 60 to 85 feet (project datum).

We understand development plans include a new housing subdivision which will be accessed from a proposed roadway crossing the existing erosional gully, requiring a new fill embankment up to about 20 feet high. The fill embankment is currently proposed with 1H:1V side slopes. A 6-foot high, 6-foot wide, 72-foot-long concrete box culvert is proposed to convey existing streamflow beneath the proposed embankment.

Proposed and existing site features are shown on the "Exploration Location Plan" attached in Appendix B.

2.0 EXPLORATION AND TESTING

2.1 Explorations

Three test borings (B-1 through B-3) and one auger probe (P-1) were made at the site on January 29, 2024 by Northern Test Boring, Inc. of Gorham, Maine working under subcontract to S. W. Cole Engineering, Inc. (S.W.COLE). The exploration locations were selected by S.W.COLE in conjunction with the Owner's Representative and located by S.W.COLE using a mapping grade GPS. The approximate exploration locations are shown on the "Exploration Location Plan" attached in Appendix B. Logs of the explorations and a key to the notes and symbols used on the logs are attached in Appendix C. The elevations shown on the logs were estimated based on topographic information shown on the "Exploration Location Plan".

2.2 Testing

The test borings were drilled using hollow-stem augers and the probe was drilled using solid-stem augers. The soils were sampled at 2-to-5-foot intervals in the borings using a split spoon sampler and Standard Penetration Testing (SPT) methods. Pocket Penetrometer Tests (PPT) were performed where stiffer cohesive soils were encountered. SPT blow counts and PPT results are shown on the logs.

3.0 SUBSURFACE CONDITIONS

3.1 Soil and Bedrock

Underlying a surficial layer of forest duff and topsoil, the test borings encountered a subsurface profile generally consisting of glaciomarine sands, silts, and clays, overlying glacial outwash and refusal surfaces. An alluvial deposit of sand and silt with organics was encountered in boring B-1 at the bottom of the gully. The principal soils encountered at the explorations are summarized below. Not all of the strata were encountered at each exploration; refer to the attached logs for more detailed subsurface information.

Alluvial Deposits: Below a thin layer of topsoil and forest duff, boring B-1 at the bottom of the gully, encountered an alluvial deposit of loose sand and silt with organics.

Glaciomarine Deposits: Underlying surficial layers of forest duff and topsoil, and alluvial deposits, the borings encountered glaciomarine soils.

In higher elevations at the top of the gully (B-2 and B-3), these glaciomarine soils generally consisted of an upper “crust” of stiff brown silty clay and medium dense silty sand. At boring B-3, the upper “crust” transitioned to a layer of softer gray silty clay at a depth of about 15.5 feet below ground surface (bgs). Boring B-3 was terminated in the softer gray silty clay at a depth of 17 feet.

In lower elevations at the bottom of the gully (B-1), these glaciomarine soils consisted of layered, loose silt and fine sand and soft gray silty clay with frequent sand seams and layers extending to a depth of about 4 feet bgs.

Glacial Outwash Deposits: Underlying the glaciomarine deposits, where penetrated, the borings encountered up to about 2 feet of glacial outwash deposits consisting of loose to medium dense silty sand with varying portions of gravel.

Refusal Surfaces: Underlying the glacial outwash, borings B-1 and B-2 encountered refusal surfaces (probable bedrock) at depths of about 6 and 21 feet bgs. Auger probe P-1 encountered a refusal surface at a depth of about 6 feet bgs.

3.2 Groundwater

The soils encountered in the test borings were generally moist to wet from the ground surface. Saturated soils were encountered below a depth of about 2 feet bgs in boring B-1, made near the bottom of the gully. Saturated soils were encountered below depths of about 15 feet bgs in borings B-2 and B-3, made near the top of the gully. Groundwater likely becomes perched on the relatively impervious glaciomarine deposits encountered in the test borings. Long term groundwater information is not available. It should be anticipated that groundwater levels will fluctuate, particularly in response to the stream level, periods of snowmelt and precipitation, as well as changes in site use.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

Based on the subsurface findings and our understanding of existing site conditions, we have performed a global stability evaluation of the proposed 1H:1V embankment sideslopes. Based on our evaluation, the proposed 1H:1V embankment sideslopes have an inadequate safety factor against global stability. As such, we have evaluated alternative options of a geo-grid reinforced embankment with 1H:1V riprap covered sideslope, as well as an unreinforced embankment with 1.5H:1V riprap covered sideslopes without geo-grid support. Both embankment alternative were modelled with a core consisting of compacted MaineDOT Type D Crushed Gravel.

Our analysis involved the removal of the organics and compressible clay sediments from beneath the proposed embankment footprint to expose undisturbed glacial outwash or sound intact bedrock. Based on our analysis and removal of unsuitable bearing soils, these options appear feasible and achieve adequate global stability safety factors for slopes supporting roadways for static and seismic loading conditions.

4.2 Global Stability and Slope Considerations

We performed global stability analyses of the proposed unreinforced embankment with 1H:1V sideslopes and the two alternatives as previously mentioned. The stability evaluations were made using a two-dimensional stability model and RocScience SLIDE2 software. Our global stability analysis utilized a method of slices assuming moment equilibrium, and was based on: 1) our current understanding of site conditions; 2) subsurface information obtained at the explorations; 3) and proposed and existing site

grades shown on the "Exploration Location Plan" in Appendix B. Safety factors of 1.3 or greater are considered acceptable for slopes supporting roadways for long-term static conditions and safety factors of 1.1 are considered acceptable for seismic loading conditions.

Based on our analysis, the proposed unreinforced embankment with 1H:1V rip-rap faced sideslopes is unstable against failure and sloughing. We understand design constraints limit the ability to flatten embankment sideslopes to 2H:1V or flatter. Consequently, we evaluated two alternatives:

> Geo-grid Reinforced Embankment with 1H:1V Rip-Rap Faced Sideslopes: We performed global stability analysis of the proposed access roadway embankment reinforced with TenCate Miragrid 3XT geo-grid extended between the two rip-rap faced sideslopes. The geo-grid was placed in three layers above the proposed box culvert at elevations 72.0, 75.0, and 78.0 feet considering the 6' H by 6' W box culvert with a maximum top elevation of approximately 68 to 69 feet.
>
> Unreinforced Embankment with 1.5H:1V Rip-Rap Faced Sideslopes: Additionally, we performed global stability analysis of the proposed access roadway embankment without geo-grid reinforcement and 1.5H:1V rip-rap faced sideslopes.

In both cases, our analysis assumed the organics, alluvial deposits, and glaciomarine sediments (loose sands and silts and soft gray silty clay) were removed from beneath the embankment at the bottom of the gully and replaced with compacted MDOT Type D Subbase Aggregate. Our analysis also assumed the core of the embankment material consisting of compacted MaineDOT Type D Subbase Gravel (Crushed Gravel) with an internal friction angle of at least 34 degrees.

Our global stability analysis for both alternatives indicates a factor of safety above 1.3 for long-term static conditions and factor of safety above 1.1 for seismic loading conditions; slope model outputs are graphically provided in Appendix D.

4.3 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 as possible should remain outside the construction areas to lessen the potential for erosion and site disturbance.

As discussed, boring B-1 made towards the bottom of the gully encountered surficial organics overlying alluvial and glaciomarine sediments (loose sands and silts and soft silty clay), overlying glacial outwash and a relatively shallow refusal surface (probable bedrock). We recommend the organics and alluvial and glaciomarine sediments be completely removed from beneath the proposed fill embankment and culvert at the bottom of the gully to expose undisturbed glacial outwash or sound intact bedrock. The limits of removal should extend at least 1 foot beyond the proposed toe of the embankment sideslopes for each foot of over excavation. Overexcavations should be backfilled with compacted MaineDOT Type D Subbase Aggregate.

Following removal and replacement of the unsuitable soils, the proposed embankment may be constructed with compacted MaineDOT Type D gravel. Geo-grid reinforcements must be installed according to the manufacturers recommendations no higher than elevations presented herein. We recommend a geotextile fabric be installed between the embankment core and rip-rap facing materials.

The embankment should be constructed as level lifts that are laterally overbuilt to facilitate proper compaction. The final slope angle of the embankment core should be constructed by cutting back into the compacted core before installing the geotextile separation fabric and rip-rap facing. We recommend keying into the gully sidewalls by benching into the native ground surface at 2-foot intervals during placement of embankment fills.

We recommend final excavation to subgrade for the proposed box culvert be made with a smooth-edged bucket. Loose and weathered bedrock, if encountered, should be removed from beneath the box culvert. We recommend at least 12 inches of compacted Crushed Stone wrapped in non-woven geotextile, such as Mirafi 180N or equivalent, be provided beneath the proposed box culvert.

4.4 Excavation and Dewatering

Excavation work will generally encounter surficial organics overlying alluvial deposits and glaciomarine sands, silts, and clays, overlying glacial outwash and refusal surfaces (probable bedrock). 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. Rubber tired construction equipment should not operate directly on the native soils when wet. Low ground pressure tracked equipment may be needed and temporary haul roads overlying geotextile fabric may be necessary. Final cuts to subgrade should be performed with a smooth-edged bucket to help reduce strength loss from soil disturbance.

Based on the subsurface findings and depending on final finish grades, we anticipate bedrock removal may be required for installation of the proposed box culvert. We recommend bedrock be removed by hydraulic hoe-ramming in lieu of blasting. Pre-construction surveys should be completed on surrounding structures, water supply wells and infrastructure prior to commencing blasting activities.

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.

Temporary stream diversion will be required during construction. Sumping and pumping dewatering techniques should be adequate to control groundwater in shallow 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. 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.

4.5 Foundations

We recommend the proposed box culvert be supported on at least 12-inches of compacted Crushed Stone fully wrapped in non-woven geotextile fabric, such as Mirafi 180N, bearing undisturbed glacial outwash soils or sound, intact bedrock, or compacted Structural Fill overlying undisturbed glacial outwash soils. We recommend the following geotechnical parameters for design consideration:

Geotechnical Parameters for Proposed Box Culvert	
Design Frost Depth (100 year AFI)	4.5 feet
Net Allowable Soil Bearing Pressure	3.0 ksf
Base Friction Factor	0.35
Total Unit Weight of Backfill	125 pcf
At-Rest Lateral Earth Pressure Coefficient	0.5
Internal Friction Angle of Backfill	30°
Seismic Soil Site Class	C (ASCE-7)
Estimated Total Settlement	1-inch
Differential Settlement	½-inch

4.6 Fill, Backfill and Compaction

We recommend the following fill and backfill materials: recycled products must also be tested in accordance with applicable environmental regulations and approved by a qualified environmental consultant.

Crushed Stone: Crushed Stone, used beneath the box culvert foundation should be washed ¾-inch crushed stone meeting the requirements of 2020 MaineDOT Standard Specification 703.13 Crushed Stone ¾-Inch.

Crushed Gravel: Embankment core fill, backfill for overexcavations following removal of unsuitable materials, and backfill for the box culvert should be crushed sand and gravel meeting the requirements of 2020 MaineDOT Standard Specification 703.06 Type D Subbase Aggregate.

Rip-Rap Facing: Rip-Rap to face the embankment sideslopes should consist of angular and rough, sound, crushed bedrock meeting the requirements of MaineDOT 703.26 Plain and Hand Placed Riprap.

Reuse of Site Soils: The site soils are unsuitable for proposed fill embankment and roadway construction but may be suitable for reuse as Common Borrow in landscape areas, provided they are free of organics and are at a compactable moisture content at the time of reuse.

Placement and Compaction: Fill should be placed in horizontal lifts and compacted such that the desired density is achieved throughout the lift thickness with 3 to 5 passes of the compaction equipment. Loose lift thicknesses for grading, fill and backfill activities should

not exceed 12 inches. We recommend that fill and backfill be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557. Crushed Stone should be compacted with 3 to 5 passes of a vibratory plate compactor having a static weight of at least 500 pounds.

4.7 Weather Considerations

Construction activity should be limited during wet and freezing weather and the site soils may require drying or thawing before construction activities may continue. The contractor should anticipate the need for water to temper fills in order to facilitate compaction during dry weather. If construction takes place during cold weather, subgrades and foundations must be protected during freezing conditions. Concrete and fill must not be placed on frozen soil; and once placed, the concrete and soil beneath the structure must be protected from freezing.

4.8 Design Review and Construction Testing

S.W.COLE should be retained to review the construction documents prior to bidding to determine that our earthwork, geo-grid reinforcement and foundation recommendations have been properly interpreted and implemented.

A construction materials testing and quality assurance program should be implemented during construction to observe compliance with the design concepts, plans, and specifications. S.W.COLE is available to observe earthwork activities, the preparation of foundation bearing surfaces, installation of geo-grid reinforcement, the preparation of pavement subgrades, as well as to provide testing and inspection services for soils, geo-grid, concrete and asphalt construction materials.

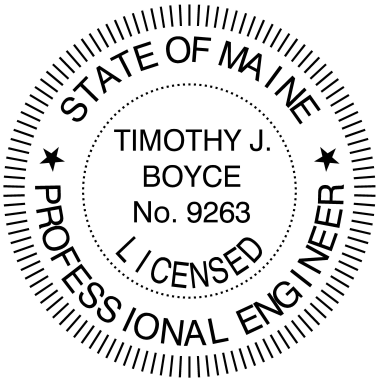
5.0 CLOSURE

It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you during the construction phase of the project.

Sincerely,

S. W. Cole Engineering, Inc.

Emma J. Dennis, E.I.
Staff Geotechnical Engineer



Timothy J. Boyce, P.E.
Principal Geotechnical Engineer

EJD:tjb

APPENDIX A

Limitations

This report has been prepared for the exclusive use of Estelle Estates, LLC for specific application to the proposed Access Road Embankment associated with the Presumpscot Woods Subdivision at 0 Hope Avenue in Portland, Maine. S. W. Cole Engineering, Inc. (S.W.COLE) has endeavored to conduct our services in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

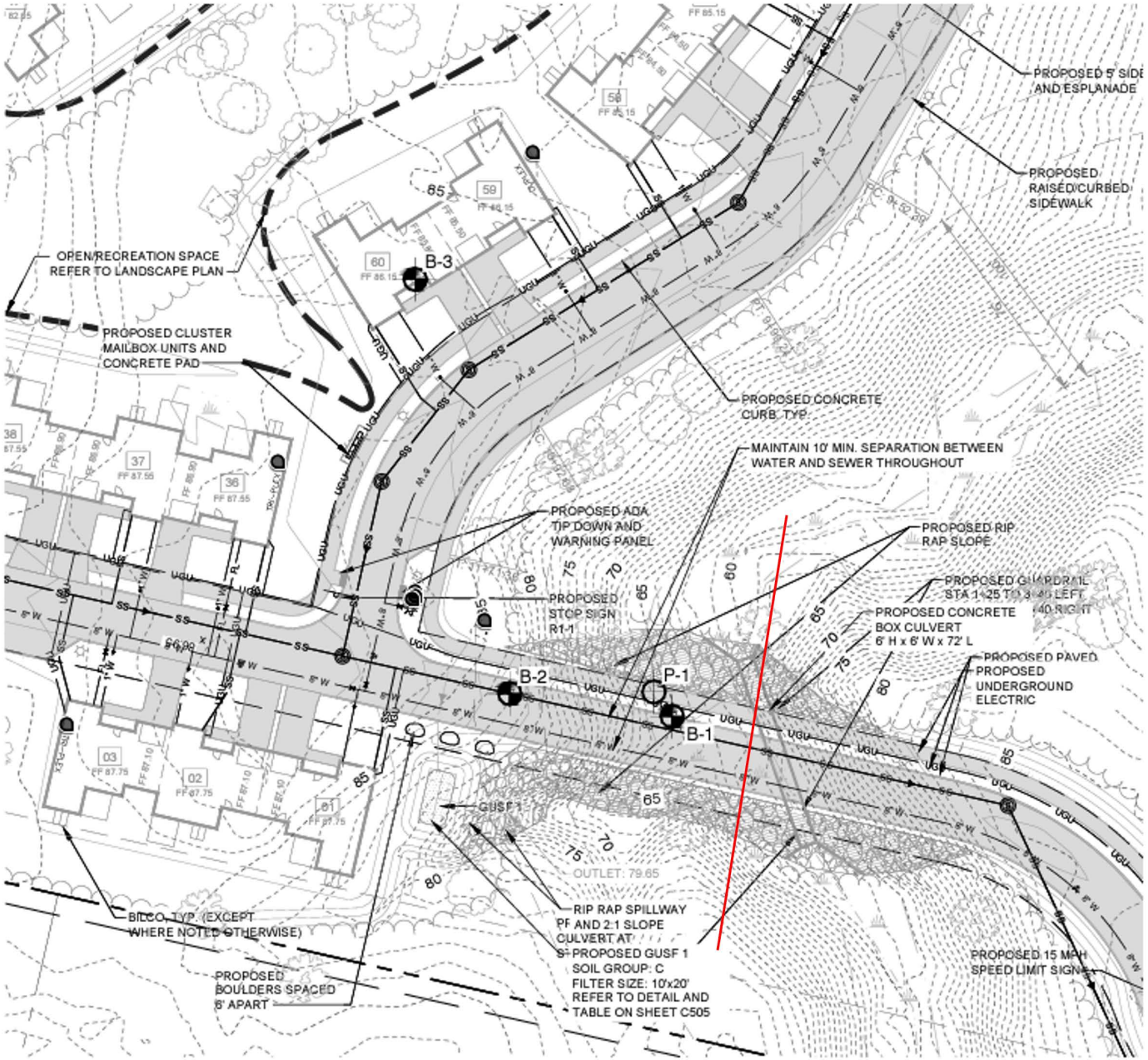
Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S.W.COLE's scope of services has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE.

APPENDIX B

Figures



LEGEND:

APPROXIMATE BORING LOCATION

APPROXIMATE PROBE LOCATION

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=40' SCALE PLAN OF THE SITE TITLED "UTILITIES PLAN," PREPARED BY HALEY WARD, DATED 8/29/2022, REVISED 10/27/2023.
2. THE EXPLORATIONS WERE LOCATED IN THE FIELD BY S. W. COLE ENGINEERING, INC. USING A MAPPING GRADE GNSS GPS RECEIVER.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S. W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

0 40 80 Feet

S.W.COLE ENGINEERING, INC.

ESTELLE ESTATES, LLC

EXPLORATION LOCATION PLAN

PROPOSED ROADWAY EMBANKMENT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

Job No.:	23-1728.1	Scale:	1" = 40'
Date :	12/10/2024	Sheet:	1

I:\2023\23-1728\CAD\Drawings\23-1728 ELP.dwg, 2/14/2024 2:52:49 PM, CEM, S. W. Cole Engineering, Inc.

APPENDIX C

Exploration Logs and Key

BORING LOG

BORING NO.:	**B-1**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 65' +/- **TOTAL DEPTH (FT):** 5.8 **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Mike Nadeau **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** 2 1/4 in / 5 5/8 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 2 ft Soils Wet from Surface, Saturated Below 2' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0-2	24/15	1-1-2-1			0.4 Forest Duff / Topsoil Loose, gray, SILT AND FINE SAND, with silty seams, trace organics	▽	
			2D		2-4	24/16	1-1/12"-4			2.0 Soft, gray, silty CLAY, with frequent sand seams and layers		
										3.6 Loose to medium dense, gray, silty SAND AND GRAVEL		
60	5		3D	☒	5-5.3	4/4	50/4"			5.3 Probable Weathered Bedrock		

Refusal at 5.8 feet
Probable Bedrock

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-1**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

BORING LOG

BORING NO.:	**B-2**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan | **ELEVATION (FT):** 83' +/- | **TOTAL DEPTH (FT):** 20.7 | **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. | **DRILLER:** Mike Nadeau | **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 | **AUGER ID/OD:** 2 1/4 in / 5 5/8 in | **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic | **HAMMER WEIGHT (lbs):** 140 | **CASING ID/OD:** N/A /N/A | **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: | **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 15 ft Soils Moist to Wet from Surface, Saturated Below 15' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_U = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
			1D		0-2	24/18	1/12"-2-3			0.3 Forest Duff / Topsoil Loose, brown, clayey SILT, with roots and organics 1.5 Very stiff to stiff, brown, silty CLAY		
80												
	5		2D		5-7	24/22	4-6-10-19	q_P=7-9 ksf				
75												
	10		3D		10-12	24/24	4-3-4-4	q_P=2-6 ksf				
70												
	15		4D		15-17	24/18	5-7-6-4	q_P=1.5-2 ksf			▽	
										16.0 Medium dense, gray-brown to gray, silty fine SAND		
65												
	20		5D		20-20.8	9/5	2-50/3"			20.0 Loose, gray, silty SAND, some gravel 20.5 Probable Weathered Bedrock Refusal at 20.7 feet Probable Bedrock		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-2**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

BORING LOG

BORING NO.:	**B-3**
SHEET:	1 of 1
PROJECT NO.	23-1728
DATE START:	1/29/2024
DATE FINISH:	1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 86' +/- **TOTAL DEPTH (FT):** 17.0 **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Mike Nadeau **DRILLING METHOD:** Hollow Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** 2 1/4 in / 5 5/8 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft): ▽ 15 ft Soils Moist to Wet from Surface, Saturated Below 15' +/-
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_U = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_2O Depth	Remarks
85			1D		0-2	24/18	1/12"-1-5			0.3 Forest Duff / Topsoil Loose, dark brown, clayey SILT, with roots and organics 1.5 Loose, brown, clayey SILT, some fine sand, with roots 3.0 Very stiff to stiff, brown, silty CLAY, with occasional sand seams		
80	5		2D		5-7	24/22	4-6-10-12	q_P=9 ksf				
75	10		3D		10-12	24/24	3-4-6-7	q_P=4-5 ksf				
70	15		4D		15-17	24/24	2-2-3-3	q_P=0.5-1 ksf		15.5 Medium, gray, silty CLAY	▽	

Bottom of Exploration at 17.0 feet

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: **B-3**

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

BORING LOG

BORING NO.: P-1
SHEET: 1 of 1
PROJECT NO. 23-1728
DATE START: 1/29/2024
DATE FINISH: 1/29/2024

CLIENT: GenX Capital Partners
PROJECT: Proposed Presumpscot Woods Subdivision Road Embankment
LOCATION: 0 Hope Avenue, Portland, ME

Drilling Information

LOCATION: See Exploration Location Plan **ELEVATION (FT):** 66' +/- **TOTAL DEPTH (FT):** 5.6 **LOGGED BY:** Evan Walker
DRILLING CO.: Northern Test Boring, Inc. **DRILLER:** Mike Nadeau **DRILLING METHOD:** Solid Stem Auger
RIG TYPE: Track Mounted Diedrich D-50 **AUGER ID/OD:** N/A / 4 1/2 in **SAMPLER:** Standard Split-Spoon
HAMMER TYPE: Automatic **HAMMER WEIGHT (lbs):** 140 **CASING ID/OD:** N/A /N/A **CORE BARREL:** N/A
HAMMER CORRECTION FACTOR: **HAMMER DROP (inch):** 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

KEY TO NOTES AND SYMBOLS:
Water Level: ▽ At time of Drilling; ▼ At Completion of Drilling; ▼ After Drilling
D = Split Spoon Sample; U = Thin Walled Tube Sample; R = Rock Core Sample; V = Field Vane Shear
Pen. = Penetration Length; Rec. = Recovery Length; bpf = Blows per Foot; mpf = Minute per Foot
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; PID = Photoionization Detector
S_v = Field Vane Shear Strength, kips/sq.ft.; q_u = Unconfined Compressive Strength, kips/sq.ft.; Ø = Friction Angle (Estimated); N/A = Not Applicable

Elev. (ft)	Depth (ft)	Casing Pen. (bpf)	SAMPLE INFORMATION: Sample No.	Type	Depth (ft)	Pen./ Rec. (in)	Blow Count or RQD	Field / Lab Test Data	Graphic Log	Sample Description & Classification	H_20 Depth	Remarks
65										No Sampling - Auger Probe		
	5									Refusal at 5.6 feet Probable Bedrock		

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

BORING NO.: P-1

BORING / WELL 10-12-2022 23-1728.GPJ SWCE TEMPLATE.GDT 2/14/24

KEY TO NOTES & SYMBOLS

Test Boring and Test Pit Explorations

Stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - laboratory test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. – pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight

Description of Proportions:

Trace:	0 to 5%
Some:	5 to 12%
"Y"	12 to 35%
And	35+%
With	Undifferentiated

Description of Stratified Soils

Parting:	0 to 1/16" thickness
Seam:	1/16" to 1/2" thickness
Layer:	½" to 12" thickness
Varved:	Alternating seams or layers
Occasional:	one or less per foot of thickness
Frequent:	more than one per foot of thickness

REFUSAL: **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

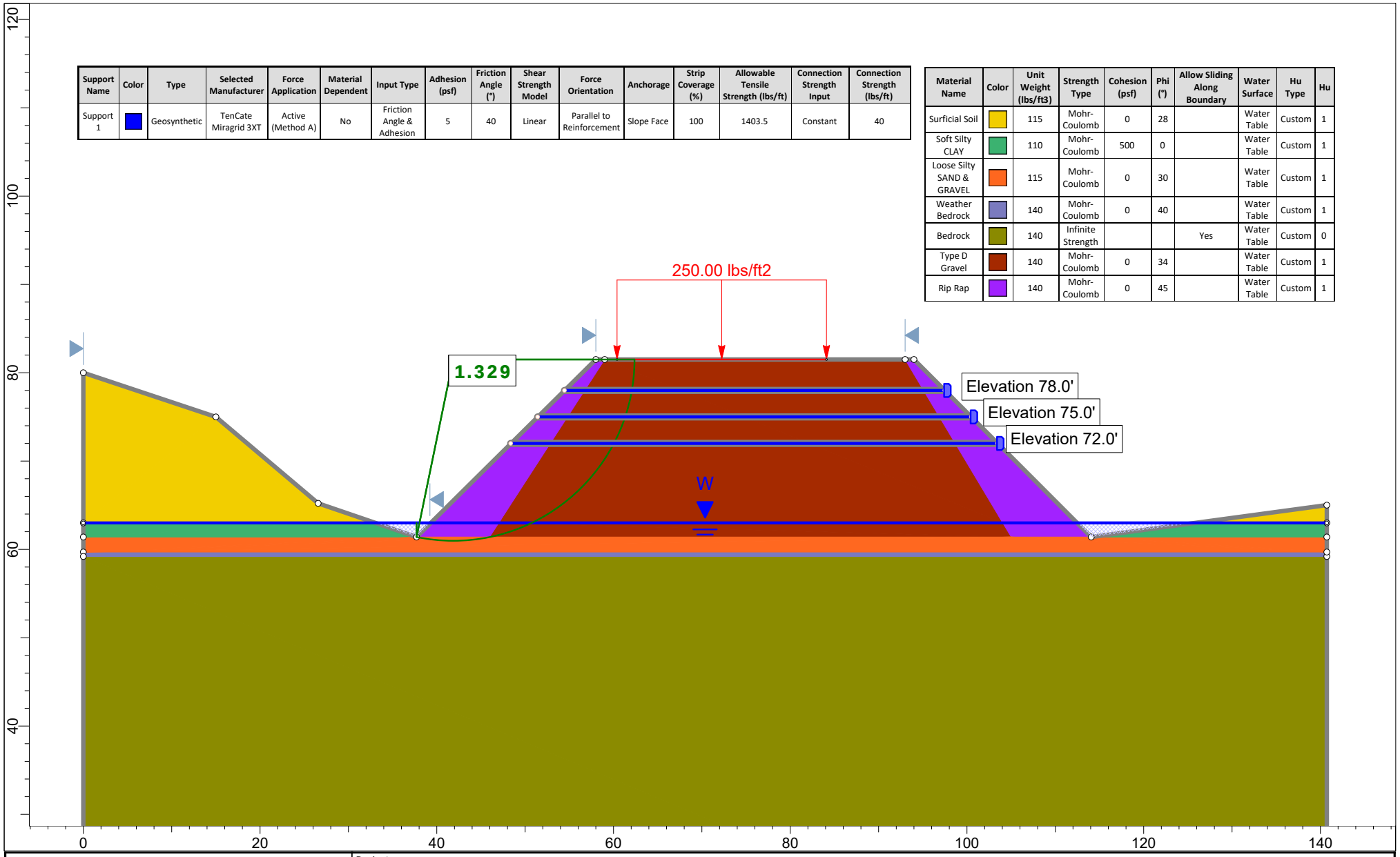
Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

APPENDIX D

Computations

Support Name	Color	Type	Selected Manufacturer	Force Application	Material Dependent	Input Type	Adhesion (psf)	Friction Angle (°)	Shear Strength Model	Force Orientation	Anchorage	Strip Coverage (%)	Allowable Tensile Strength (lbs/ft)	Connection Strength Input	Connection Strength (lbs/ft)
Support 1		Geosynthetic	TenCate Miragrid 3XT	Active (Method A)	No	Friction Angle & Adhesion	5	40	Linear	Parallel to Reinforcement	Slope Face	100	1403.5	Constant	40

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
Surficial Soil		115	Mohr-Coulomb	0	28		Water Table	Custom	1
Soft Silty CLAY		110	Mohr-Coulomb	500	0		Water Table	Custom	1
Loose Silty SAND & GRAVEL		115	Mohr-Coulomb	0	30		Water Table	Custom	1
Weather Bedrock		140	Mohr-Coulomb	0	40		Water Table	Custom	1
Bedrock		140	Infinite Strength			Yes	Water Table	Custom	0
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1



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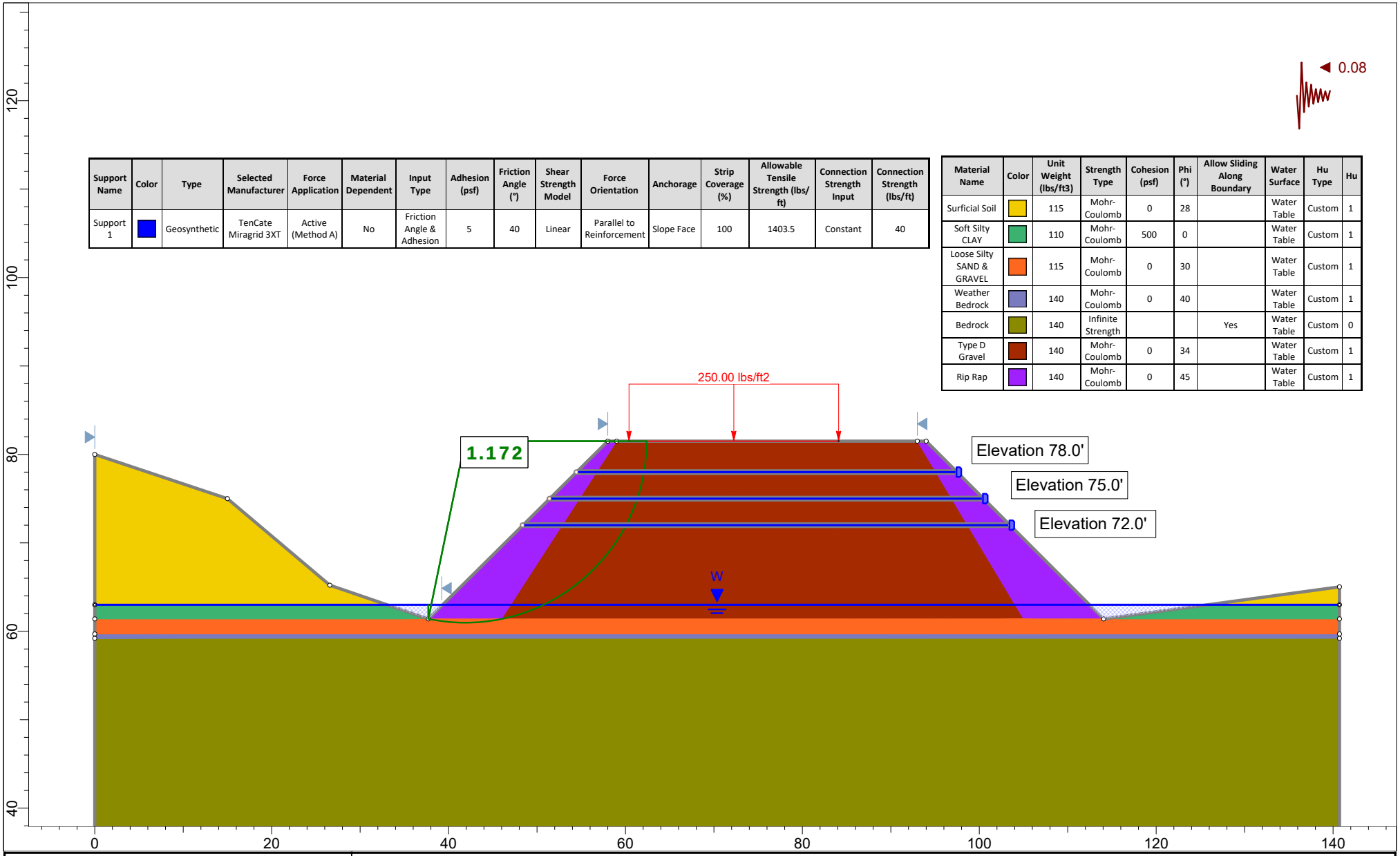
SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
Group	1:1 Left w/ Geo-grid	Scenario	Master Scenario
Drawn By	Emma Dennis, E.I.T	Company	S.W. Cole Engineering, Inc.
Date	12/3/2024, 3:58:13 PM	File Name	23-1728.1 Slope Analysis.slmd

Support Name	Color	Type	Selected Manufacturer	Force Application	Material Dependent	Input Type	Adhesion (psf)	Friction Angle (°)	Shear Strength Model	Force Orientation	Anchorage	Strip Coverage (%)	Allowable Tensile Strength (lbs/ft)	Connection Strength Input	Connection Strength (lbs/ft)
Support 1		Geosynthetic	TenCate Miragrid 3XT	Active (Method A)	No	Friction Angle & Adhesion	5	40	Linear	Parallel to Reinforcement	Slope Face	100	1403.5	Constant	40

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
Surficial Soil		115	Mohr-Coulomb	0	28		Water Table	Custom	1
Soft Silty CLAY		110	Mohr-Coulomb	500	0		Water Table	Custom	1
Loose Silty SAND & GRAVEL		115	Mohr-Coulomb	0	30		Water Table	Custom	1
Weather Bedrock		140	Mohr-Coulomb	0	40		Water Table	Custom	1
Bedrock		140	Infinite Strength			Yes	Water Table	Custom	0
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1



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SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
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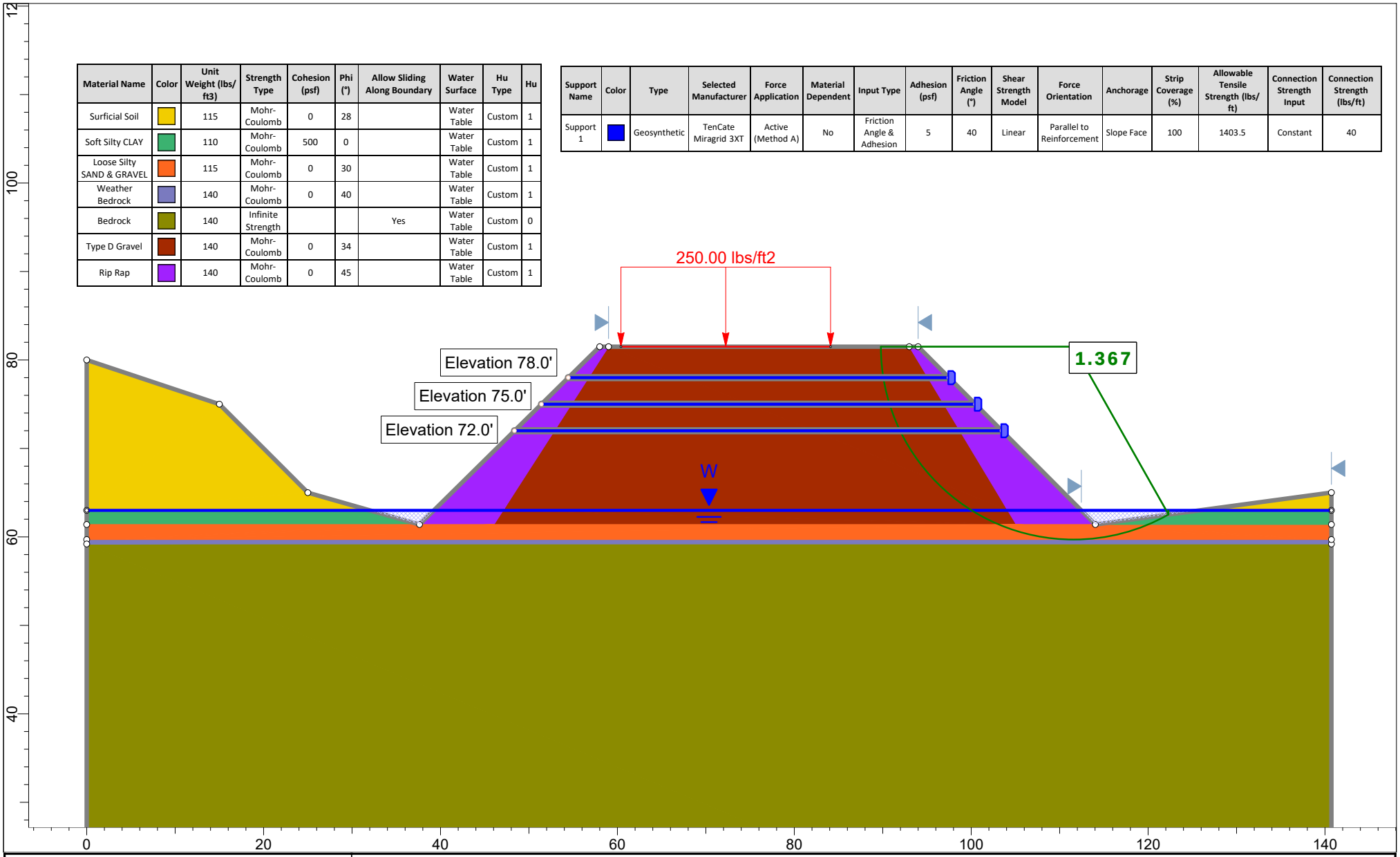
Date	12/3/2024, 3:58:13 PM	File Name	23-1728.1 Slope Analysis.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
Surficial Soil		115	Mohr-Coulomb	0	28		Water Table	Custom	1
Soft Silty CLAY		110	Mohr-Coulomb	500	0		Water Table	Custom	1
Loose Silty SAND & GRAVEL		115	Mohr-Coulomb	0	30		Water Table	Custom	1
Weather Bedrock		140	Mohr-Coulomb	0	40		Water Table	Custom	1
Bedrock		140	Infinite Strength			Yes	Water Table	Custom	0
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1

Support Name	Color	Type	Selected Manufacturer	Force Application	Material Dependent	Input Type	Adhesion (psf)	Friction Angle (°)	Shear Strength Model	Force Orientation	Anchorage	Strip Coverage (%)	Allowable Tensile Strength (lbs/ft)	Connection Strength Input	Connection Strength (lbs/ft)
Support 1		Geosynthetic	TenCate Miragrid 3XT	Active (Method A)	No	Friction Angle & Adhesion	5	40	Linear	Parallel to Reinforcement	Slope Face	100	1403.5	Constant	40



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SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
Group	1:1 Right w/ Geo-grid	*Scenario*	Master Scenario
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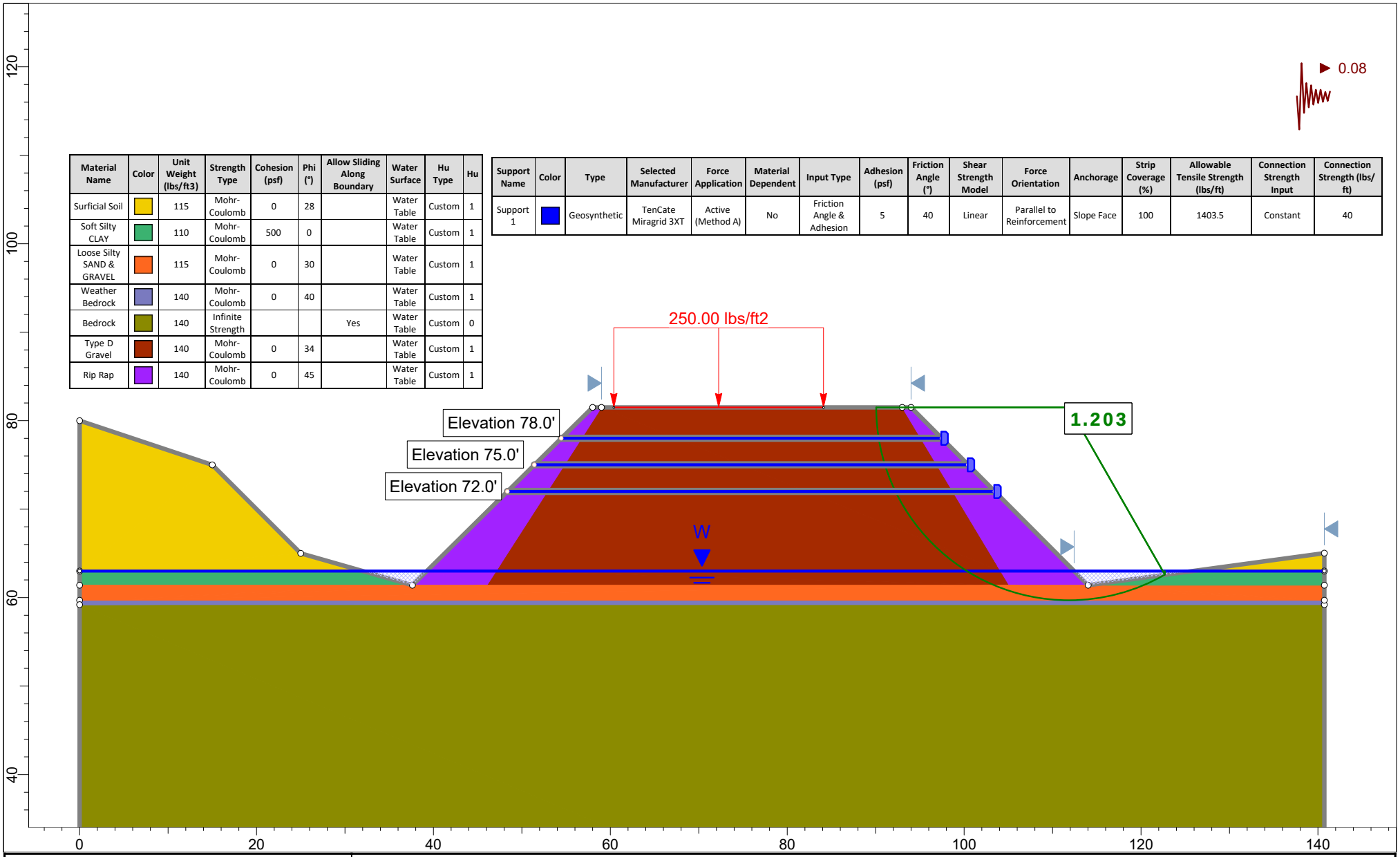
Date	12/3/2024, 3:58:13 PM	*File Name*	23-1728.1 Slope Analysis.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
Surficial Soil		115	Mohr-Coulomb	0	28		Water Table	Custom	1
Soft Silty CLAY		110	Mohr-Coulomb	500	0		Water Table	Custom	1
Loose Silty SAND & GRAVEL		115	Mohr-Coulomb	0	30		Water Table	Custom	1
Weather Bedrock		140	Mohr-Coulomb	0	40		Water Table	Custom	1
Bedrock		140	Infinite Strength			Yes	Water Table	Custom	0
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1

Support Name	Color	Type	Selected Manufacturer	Force Application	Material Dependent	Input Type	Adhesion (psf)	Friction Angle (°)	Shear Strength Model	Force Orientation	Anchorage	Strip Coverage (%)	Allowable Tensile Strength (lbs/ft)	Connection Strength Input	Connection Strength (lbs/ft)
Support 1		Geosynthetic	TenCate Miragrid 3XT	Active (Method A)	No	Friction Angle & Adhesion	5	40	Linear	Parallel to Reinforcement	Slope Face	100	1403.5	Constant	40



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SLIDEINTERPRET 9.031

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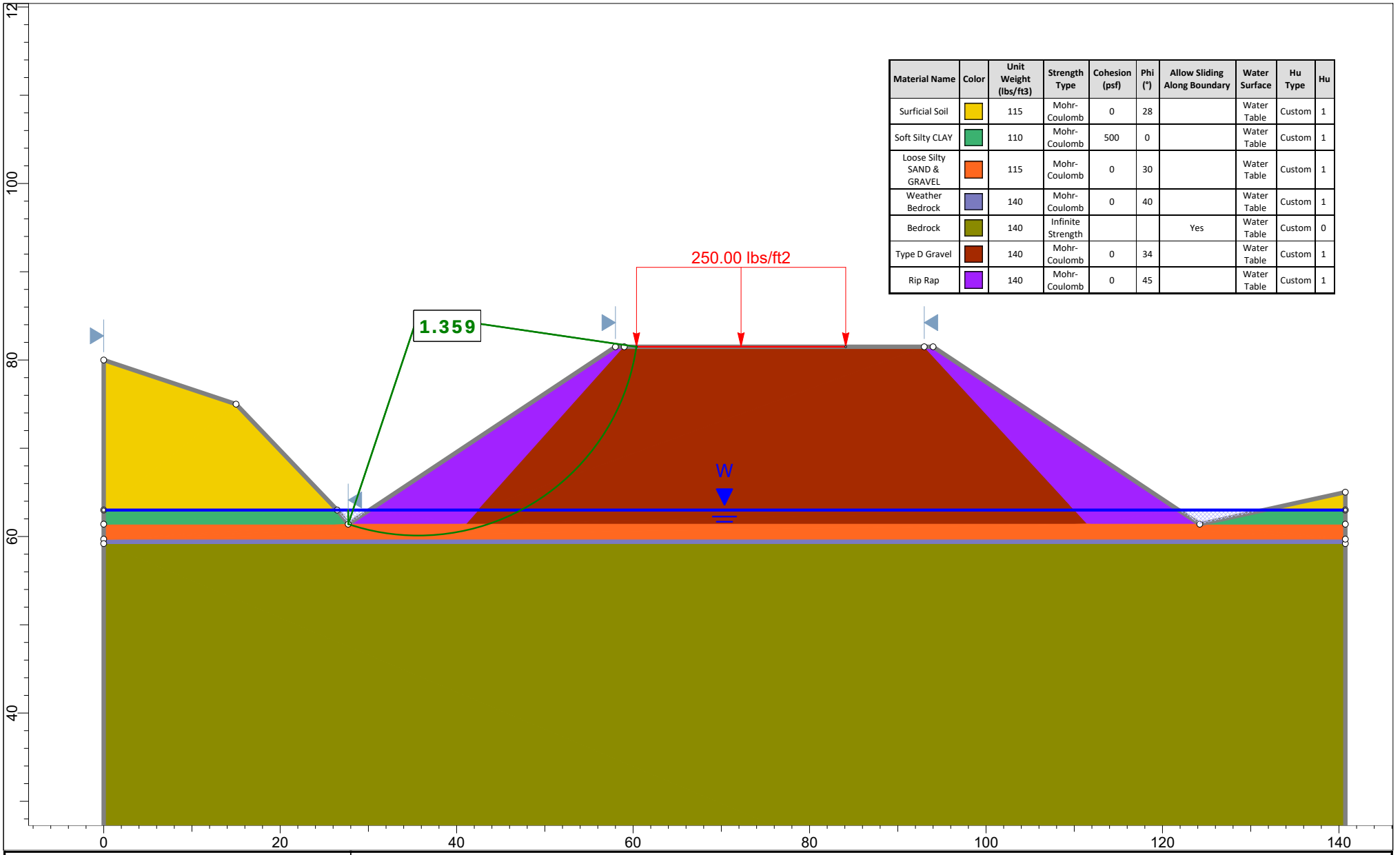

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
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Soft Silty CLAY		110	Mohr-Coulomb	500	0		Water Table	Custom	1
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Weather Bedrock		140	Mohr-Coulomb	0	40		Water Table	Custom	1
Bedrock		140	Infinite Strength			Yes	Water Table	Custom	0
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1

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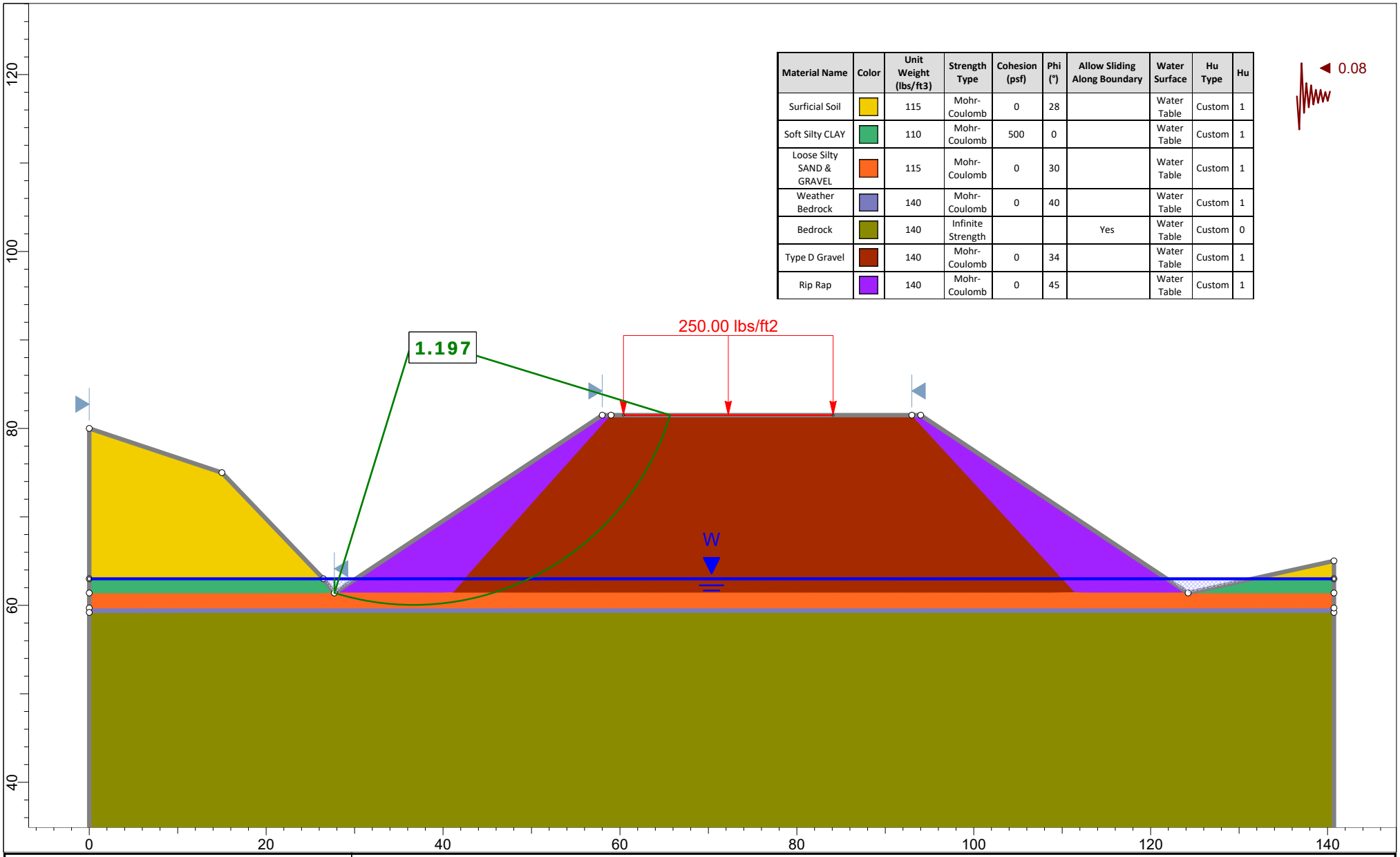
SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
Group	1.5:1 Left	*Scenario*	Master Scenario
Drawn By	Emma Dennis, E.I.T	*Company*	S.W. Cole Engineering, Inc.
Date	12/3/2024, 3:58:13 PM	*File Name*	23-1728.1 Slope Analysis.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
Surficial Soil		115	Mohr-Coulomb	0	28		Water Table	Custom	1
Soft Silty CLAY		110	Mohr-Coulomb	500	0		Water Table	Custom	1
Loose Silty SAND & GRAVEL		115	Mohr-Coulomb	0	30		Water Table	Custom	1
Weather Bedrock		140	Mohr-Coulomb	0	40		Water Table	Custom	1
Bedrock		140	Infinite Strength			Yes	Water Table	Custom	0
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1



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SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
Group	Seismic - 1.5:1 Left	Scenario	Master Scenario
Drawn By	Emma Dennis, E.I.T	Company	S.W. Cole Engineering, Inc.
Date	12/3/2024, 3:58:13 PM	File Name	23-1728.1 Slope Analysis.slmd

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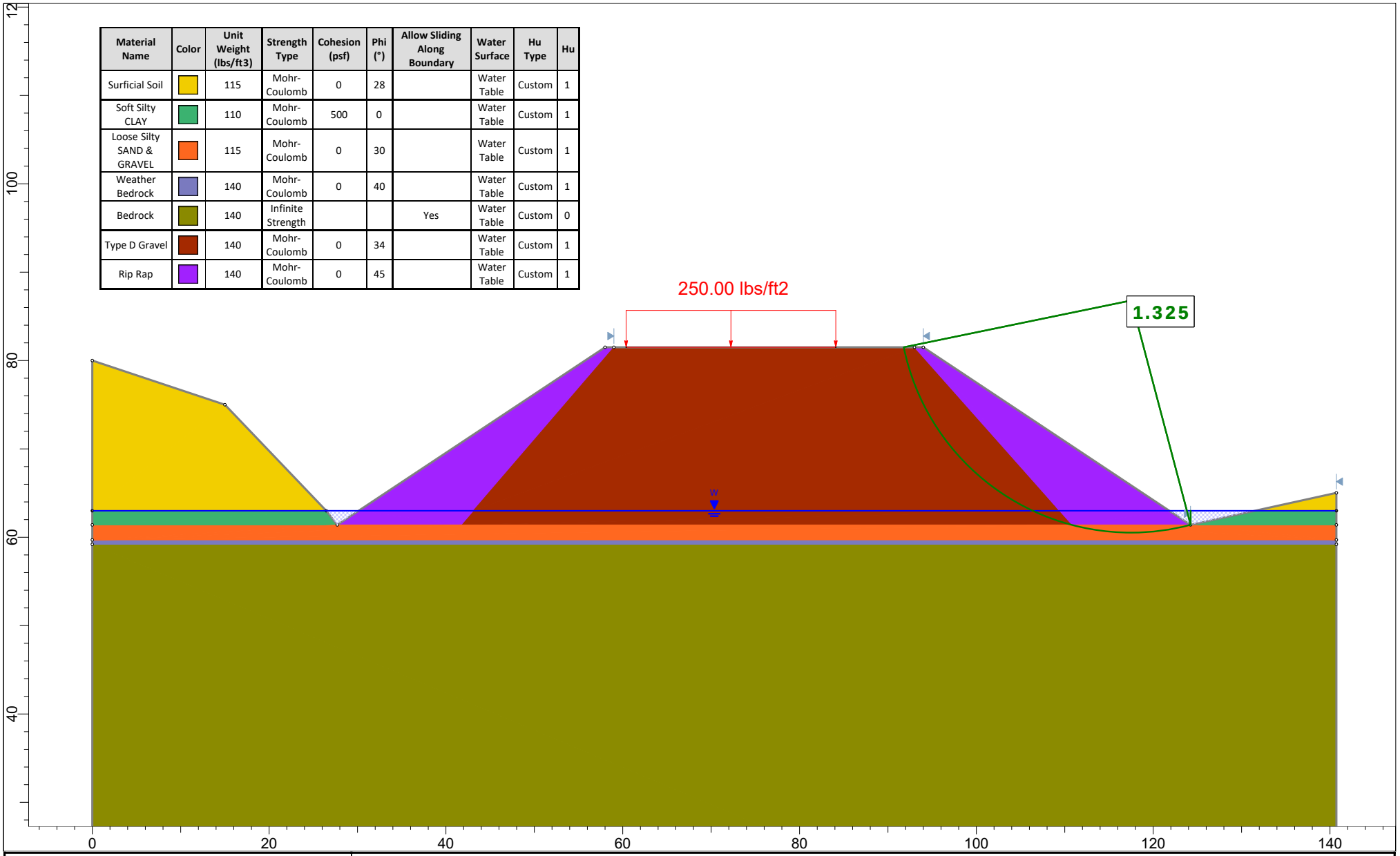

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SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
Group	1.5:1 Right	*Scenario*	Master Scenario
Drawn By	Emma Dennis, E.I.T	*Company*	S.W. Cole Engineering, Inc.
Date	12/3/2024, 3:58:13 PM	*File Name*	23-1728.1 Slope Analysis.slmd

Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu
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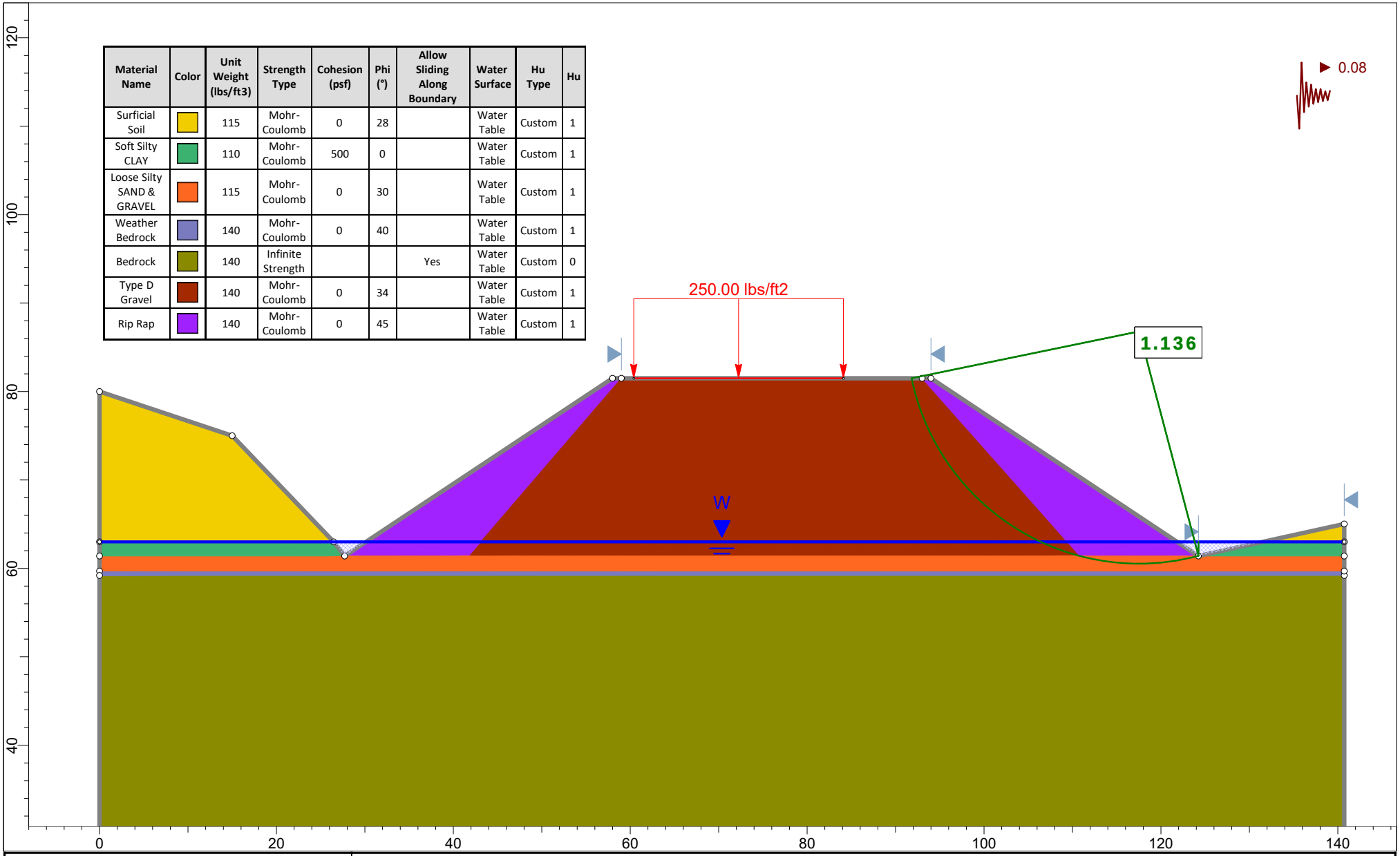
Type D Gravel		140	Mohr-Coulomb	0	34		Water Table	Custom	1
Rip Rap		140	Mohr-Coulomb	0	45		Water Table	Custom	1



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SLIDEINTERPRET 9.031

Project	Slide2 - An Interactive Slope Stability Program		
Group	Seismic - 1.5:1 Right	Scenario	Master Scenario
Drawn By	Emma Dennis, E.I.T	Company	S.W. Cole Engineering, Inc.
Date	12/3/2024, 3:58:13 PM	File Name	23-1728.1 Slope Analysis.slmd

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

CLASS B – HIGH INTENSITY SOIL SURVEY

Presumpscot Woods Subdivision
0 Hope Avenue
Portland, Maine

FOR

Shinberg Consulting, LLC
181 State Street
Portland, ME 04101

August 8, 2024
JN: 13773.001

Report Prepared By:
Haley Ward, Inc.
One Merchants Plaza, Suite 701 | Bangor, Maine 04401

Corporate Office
One Merchants Plaza
Suite 701
Bangor, ME 04401
T: 207.989.4824
F: 207.989.4881

HALEYWARD.COM

TABLE OF CONTENTS

1.0 | INTRODUCTION **1**

2.0 | PURPOSE **1**

3.0 | METHODOLOGY **1**

3.1 Soil Survey Standards Class B – High Intensity Soil Survey 1

3.2 Field Methodology 2

4.0 | SITE DESCRIPTION **2**

4.1 Soil Characteristics 2

4.2 Soil and Map Unit Descriptions 3

5.0 | FINDINGS **4**

APPENDICES

Appendix A Class B High Intensity Soil Survey Map

Appendix B Soil Conditions Summary Table and Test Pit Logs

Appendix C Soils Map Unit Descriptions

Appendix D Glossary of Soil Science Terms

CLASS B – HIGH INTENSITY SOIL SURVEY
Presumpscot Woods Subdivision, Portland, Maine

1.0 | INTRODUCTION

Haley Ward, Inc. (Haley Ward) has completed a Class B – High Intensity Soil Survey for the proposed Presumpscot Woods Subdivision (the Project) located at 0 Hope Avenue (the Site) in Portland, Maine. The Site is the location of a proposed residential subdivision on the parcel identified by the City of Portland as Parcel ID 448 A001001. The following report describes the observations and findings of this Soil Survey on the Project area which consists of an approximately 13.8-acre parcel described above.

2.0 | PURPOSE

The purpose of our work was to identify, describe, and map the major soil types in the Project area in support of a proposed residential subdivision. This report and associated plans will be used to supplement other information required by regulatory agencies in their review of this project. The information provided in this report should also assist in evaluating the suitability of the Project area for the proposed project and indicate the relative suitability of the soils for the proposed improvements, including residential building locations and engineered stormwater control features. If limitations related to soils exist, measures to overcome these are reviewed in this report.

3.0 | METHODOLOGY

As required by the City of Portland, a Class B – High Intensity Soil Survey was completed for the Project area. This soil survey, report, and attached plans were completed in accordance with the Maine Association of Professional Soil Scientists (MAPSS) Mapping Standards. As defined in these Standards, the standards associated with this soil survey are as follows.

3.1 Soil Survey Standards Class B – High Intensity Soil Survey

1. Map units may contain dissimilar limiting individual inclusions larger than one acre. Dissimilar limiting inclusions may total more than one acre in the aggregate if not contiguous.
2. Scale of one-inch equals 200 feet or larger.
3. Ground control – base line and test pits for which detailed data are recorded and located to sub-meter accuracy under the direction of a qualified professional.
4. Base map with five-foot contour intervals.

This soil survey is a compilation of on-site investigations performed on the Project area and soil survey data published by the USDA – Natural Resource Conservation Service (NRCS) for Cumberland County.

3.2 Field Methodology

Prior to the field work completed on the site, Haley Ward reviewed available information about the Project area. This data included Project area surveys, wetland data, and online publicly available data such as wetland data through the US Fish and Wildlife Service's National Wetlands Inventory Mapping, soils mapping information available through the NRCS, and surficial geology information available from the Maine Geological Survey.

Field work for the soil survey was completed on June 19 and 20, 2024. In total, 16 test pits were dug and described. Twelve test pits were dug with an excavator and four test pits were dug by hand in areas inaccessible to the excavator.

Test pit locations were selected based upon observed changes in relief, vegetation, and landform as well as based on location of proposed improvements. Soil properties such as texture, structure, color, consistence, and coarse fragment content were described when they could be observed within a test pit. Test pit characteristics such as depth to restrictive horizon(s), depth to seasonal high-water table, depth of rooting, and depth to bedrock were described for each test pit, if observed. Soils were correlated to the nearest match soil series established by the NRCS in the National Cooperative Soil Survey. In addition, the Field Indicators of Hydric Soils in the United States published by the National Technical Committee for Hydric Soils (NTCHS) was used for guidance on hydric soils.

Test pit locations and other site features were located using a sub-meter capable GPS unit and are shown on the Soil Survey Plan which is included in **Appendix B**. A Soil Conditions Summary Table and Test Pit Logs are included in **Appendix C**.

4.0 | SITE DESCRIPTION

The Project is located north of Hope Avenue in Portland, Maine (see Site location inset in **Appendix A**). The Project area is an approximately 13.8-acre, undeveloped wooded terrace along the top and shoulder slopes of a moderate, linear, slope to the Presumpscot River.

According to surficial geology data available from the Maine Geological survey, surficial materials in the Project area consist of the Presumpscot Formation which is described as consisting of silt, clay, and minor sand deposited on the sea floor during the late-glacial marine submergence. Within the Project area the landscape consists of a relatively flat terrace with steep slopes off the project area to the east leading to the Presumpscot River. Also within the Project area is a steep slope to an unnamed tributary to the Presumpscot River.

4.1 Soil Characteristics

The soils observed on-site are generally deep, fine-loamy soils that are formed from the glacimarine sediments deposits of the Presumpscot Formation. These soils are the Buxton-

Lamoine-Scantic catena and the Nicholville-Roundabout catena. The Lamoine series soil is the somewhat poorly drained soil that dominates the soil observed in test pits on the Project area. The related Scantic soil, which is poorly drained, is the hydric soil observed and mapped in the wetlands on the Project area. Moderately well drained Buxton soils were observed as well, on east-facing hillslopes on the eastern boundary of the Project area. The closely related Nicolville and Roundabout soil series were also observed and described on the Project area. These soils have a higher silt content than the related Buxton-Lamoine-Scantic catena. They are deep (greater than 60 inches to bedrock), silt loam textured at the surface, and transition to silty clay loam, sometimes with thin layers of sand, in the substratum. These series are made up of fine-grained material which tend to percolate slowly. Complexes of Lamoine-Buxton and Lamoine-Roundabout were mapped where the areas of each soil occurred such that they could not be separated at the scale of mapping.

One area of Elmwood soils was mapped in the northern portion of the Project area. As contrasted with the soils described above, the Elmwood series has sandy-textured soils in the upper horizons, then transitions to silt loam in the substratum. Elmwood soils are deep and moderately well drained.

As compared with the USDA-NRCS Cumberland County soil map for the project area, which mapped the Project area as dominated by Elmwood, Windsor, Hinckley-Suffield complex and Suffield series soils, Haley Ward observed soils that are generally finer textured and more poorly drained than the series mapped by USDA-NRCS. However, the soils observed and mapped on the Project area by Haley Ward are similar in parent material, texture and general properties as those mapped by USDA-NRCS. The remaining soils mapped by USDA-NRCS are Elmwood, Scantic, and Lamoine series soils, which were observed and mapped on the Project area.

4.2 Soil and Map Unit Descriptions

A Class B – High Intensity Soil Survey Plan is included in **Appendix A**, and illustrates our interpretation of the type, location, and extent of the soils observed on the Project area. Each map unit symbol consists of three letters (e.g., LaB). The first two letters represent the soil series (described above) and phase which is a differential commonly based on surface texture, stoniness, drainage, or similar characteristics that affect the use and management of the soil. The third letter in the map unit symbol indicates the surface slope of the area within the map unit (e.g., B slope – 3 to 8 percent slopes). The area within the map unit delineation defines an area that is estimated to be the same soil type. There may be small areas of slightly differing soils, called inclusions, which exist within the map unit delineated. As defined by MAPSS for a Class B soil survey, these map units may contain dissimilar limiting individual inclusions larger than one-acre. Descriptions of each map unit are included in **Appendix C**. Map unit descriptions include a description of a typical soil description, as well as information on physical properties and related interpretations. The physical properties and interpretations are from the USDA-NRCS. A soils glossary is included in **Appendix D**.

5.0 | FINDINGS

Based on the proposed development and the soils that we mapped on-site, the soils on-site are generally suitable for the proposed development. Limitations exist in the Buxton, Lamoine, Scantic soils series as related to fine textured soils percolating slowly resulting in a relatively high seasonal high-water table. These soils have high potential for frost action and a relatively high seasonal water table. These limitations are a consideration for the design and construction of roads, underground utilities, foundations, and drainage structures.

Limiting conditions are associated with the hydric soil, Scantic, and associated wetlands. These areas have been reviewed and mapped as wetlands where the regulatory criteria have been met. Where limitations associated with wetlands and hydric soils are present, these limitations were mitigated by avoidance and minimization. Where these areas could not be avoided, the applicable permitting has been completed and limitations are overcome with proper design based on the soil's conditions. Additional limiting factors related to soils, such as indications of shallow bedrock, were not identified during our field work. Additional discussion of use and management considerations associated with these soils series is described in **Appendix D**.

The scope of this work has been limited to the development of a Class B – High Intensity and Soil Survey in general accordance with the standards established by the Maine Association of Professional Soil Scientists. This report has been prepared for Shinberg Consulting, LLC for specific application to the proposed residential subdivision in Portland, Maine. The conclusions and recommendations presented in this report are based on our interpretations of the data obtained from the explorations and are in part based upon the proposed development.

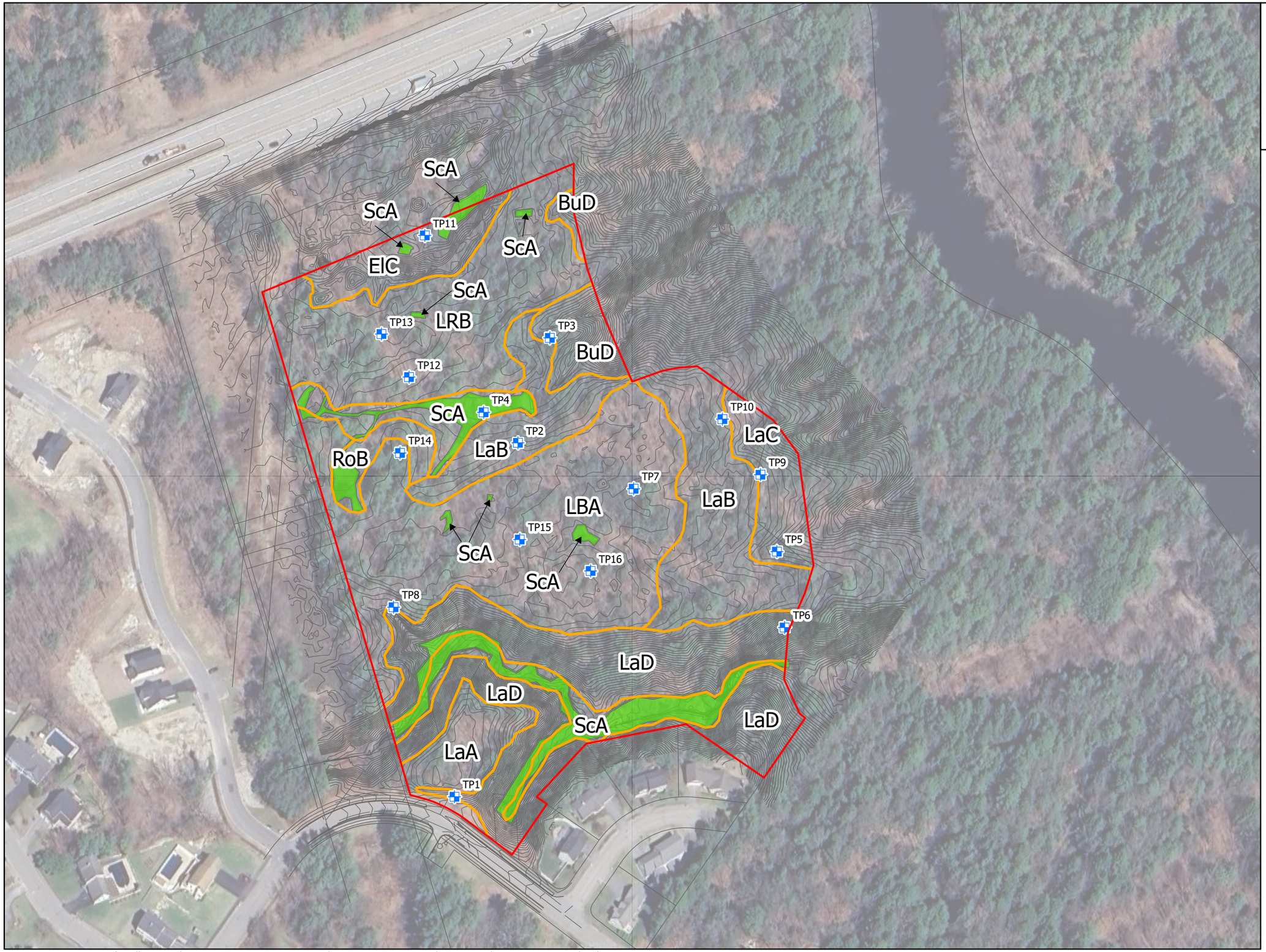
The accompanying soil profile descriptions, soil survey map, and this report were completed in accordance with the standards for a Class B – High Intensity Soil Survey adopted by the Maine Associations of Professional Soil Scientists (February 2004, revised March 2009), as amended, and prepared by Johanna E. Szillery, L.S.S. #494.

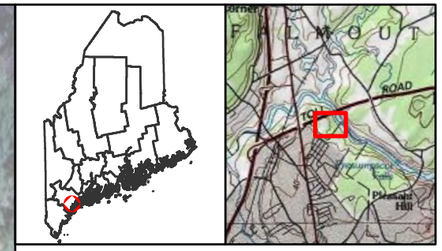


Johanna E. Szillery, L.S.S. #494, Senior Project Scientist

APPENDIX A

CLASS B – HIGH INTENSITY SOIL SURVEY MAP





Legend

- Site Boundary
- Test Pits
- Soil Map Unit Boundary
- Wetland
- Contours_1ft

CLASS B – HIGH INTENSITY SOIL SURVEY
SOIL SURVEY LEGEND
HOPE AVE, PORTLAND, MAINE

MAP UNIT SYMBOL	MAP UNIT NAME
BuD	Buxton silt loam, 15 to 35 percent slopes
EIC	Elmwood sandy loam, 3 to 15 percent slopes
LBA	Lamoine-Buxton Complex, 0 to 3 percent slopes
LaB	Lamoine Silt Loam, 3 to 8 percent slopes
LaC	Lamoine Silt Loam, 8 to 15 percent slopes
LaD	Lamoine Silt Loam, 25 to 45 percent slopes
LRB	Lamoine-Roundabout Complex, 0 to 8 percent slopes
RoB	Roundabout Silt Loam, 3 to 8 percent slopes
ScA	Scantic Silt Loam, 0 to 3 percent slopes

1.This soil survey plan and the map unit delineations meet the Maine Association of Professional Soil Scientists' (MAPSS) Guidelines for a Class B – High Intensity Soil Survey as described in the publication entitled Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping (February 2004, Rev March 2009).

2.Test pit locations, control points, and other features were located using a sub-meter GPS.

3.This map should be used and interpreted with the accompanying Soil Survey Report, titled "Class B – Medium High Intensity Soil Survey, Presumpscot Woods Subdivision, 0 Hope Avenue, Portland, Maine" by Johanna Szillery, LSS #494, and dated August 8, 2024.

4. Natural resource survey depicted on this plan was provided by Flycatcher, LLC based on field surveys completed in July 2022

0 75 150
Feet
1 inch equals 150 feet

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
1 Merchants Plaza, Suite 701
Bangor, ME 04401
WWW.HALEYWARD.COM 207-989-4824

CLIENT	SHINBERG CONSULTING
PROJECT	HOPE AVENUE DUPLEXES
TITLE	CLASS B-SOIL SURVEY MAP
DATE	8/8/2024
PROJECT No.	13773.001
DRAWN BY	KOVERTURF
SCALE	1" = 150 '

© OpenStreetMap (and) contributors, CC-BY-SA, Copyright:© 2013 National Geographic Society, i-cubed

APPENDIX B

SOIL CONDITIONS SUMMARY TABLE AND TEST PIT LOGS

FORM E Rev. 7/21

SOIL CONDITIONS SUMMARY TABLE

SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Hope Ave Duplexes	Shinberg Consulting	Portland, Maine

Lot No.	Exploration Symbol (TP 1, B 2, etc.)	✘ if at SSWD Field	Description of subsurface materials by: ● Soil profile/condition (if by S.E.), ● Soil series name (if by S.S.), or by ● Geologic unit (if by C.G.)	Depths to (inches): Redoximorphic Features	Bedrock	Hydraulically Restrictive Layer	Limit of Exploration	Ground Surface Slope (%)	Ground Surface Elevation
	TP1	☐	Lamoine Silt Loam	13	-	13	100		
	TP2	☐	Lamoine Silt Loam	14	-	14	25		
	TP3	☐	Buxton Silt Loam	20	120	30	120		
	TP4	☐	Scantic Mucky Silt Loam	4	-	18	25		
	TP5	☐	Lamoine Silt Loam	15	-	15	100		
	TP6	☐	Lamoine Silt Loam	13	-	23	60		
	TP7	☐	Nicholville Silt Loam	18	-	18	84		
	TP8	☐	Lamoine Silt Loam	14	-	20	72		
	TP9	☐	Buxton Silt Loam	16	-	24	78		
	TP10	☐	Lamoine Silt Loam	14	-	22	72		
	TP11	☐	Elmwood Sandy Loam	17	-	32	34		
	TP12	☐	Lamoine Silt Loam	13	-	10	58		
	TP13	☐	Roundabout Silt Loam	11	-	22	68		
	TP14	☐	Roundabout Silt Loam	12	-	26	70		
	TP15	☐	Lamoine Silt Loam	14	-	14	48		
	TP16	☐	Buxton Fine Sandy Loam	20	-	20	24		
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
		☐							
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		☐							
		☐							
		☐							

INVESTIGATOR INFORMATION AND SIGNATURE

Johanna Szillery
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Johanna S Szillery
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☐ Site Evaluator
☒ Soil Scientist
☐ Geologist
☐ Professional Engineer

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Date

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Hope Ave | Applicant Name: Stinson Consulting | Project Location (municipality): Portland

TP1

Exploration Symbol # TP1 ☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

100 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	2.5Y4/4	sil o	sbk→ gran	fr	ø
A2	2.5Y5/4	↓	↓		
	5Y4/2	sicl o	prz	firm	ped face
C1	↓	↓	↓	↓	5Y 2.5/1
C2			massive	firm (saturated)	none

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 18 " Depth ☒ Groundwater ☒ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

TP2

Exploration Symbol # TP2 ☒ Test Pit ☐ Boring ☐ Probe

1 " Organic horizon thickness Ground surface elev. _____

25 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR4/6	sil o	gran	vfr	none
Bw	10YR5/3	↓	↓	fr	
BC	2.5Y 5/1	sicl o	sbk→ gran	firm	10YR 5/6

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 14 " Depth ☒ Groundwater ☒ Restrictive Laye ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

TP3

Exploration Symbol # TP3 ☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

126 " Depth: ☐ of exploration, or ☒ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR 3/2	sil o	gran	vfr	ø
Bw	2.5Y 4/2	↓	sbk→ gran	↓	
Bw2	2.5Y 4/2	↓	sbk	fr	10YR 3/4
BC	2.5Y 3/2	sicl o	mass	firm	2.5Y 4/3
	2.5Y 4/3 + fine sand	↓	↓	↓	10YR 4/4
	bedrock @ 126"				

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Buxton Silt Loam

Limiting Factor: 20 " Depth ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

TP4

Exploration Symbol # TP4 ☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

25 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	2.5Y 3/2	m. sil o	sbk	fr	none
B	5Y 5/2	sil o	sbk	fr	10YR 4/6
	↓	↓	↓	↓	↓
BC	2.5Y 4/2	sicl o	sbk	firm	2.5Y 5/1 10YR 4/4

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60

Soil Details ▶▶

Soil Series/Phase Name: Scantic Mucky Silt Loam

Limiting Factor: 4 " Depth ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☐ SPD ☒ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☐ No ☒ Yes

Hydrologic Soil Group: _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

Johanna Szilley
Signature

Johanna Szilley
Name Printed

7/31/2024
Date

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Hope Ave | Applicant Name: Shinberg Consulting | Project Location (municipality): Portland Maine

Exploration Symbol # TP5 — ☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

100 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR2/2	silo	gran	vfr	
Bw1	2.5Y4/4	↓	↓	↓	none
Bw2	↓	↓	abk pbk	fr	↓
BC	5Y5/2	silo	abk	firm	2.5Y 4/4
C	5Y4/2	sicl o	massive → lg abk	↓	10YR 4/4

Depth below mineral soil horizon (inches)

Soil Details ▶▶

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 15 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Exploration Symbol # TP6 — ☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

60 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR3/2	silo	gran	vfr	none
Bw1	10YR4/2	↓	↓	↓	
Bw2	2.5Y5/3	↓	abk	fr	10YR 3/6
BC	2.5Y4/2 w/ 2.5Y 4/4	sicl o	massive	firm	10YR 2/2

Depth below mineral soil horizon (inches)

Soil Details ▶▶

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 13 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Hope Ave | Applicant Name: Stinebury Consulting | Project Location (municipality): Portland

Exploration Symbol # TP7 — ☒ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

84 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Bs	10YR 4/6	silo	gran	vfr	ø
Bw	2.5Y 4/4	↓	abk → gran	fr	↓
BC	2.5Y 4/3	↓	platy	firm	2.5Y 5/2
C	2.5Y 4/2	↓	massive	firm	10YR 3/4
		↓	↓	↓	2.5Y 5/2

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150

Soil Details

Soil Series/Phase Name: Nicholville Silt Loam

Limiting Factor: 18 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Exploration Symbol # TP8 — ☒ Test Pit ☐ Boring ☐ Probe

1 " Organic horizon thickness Ground surface elev. _____

72 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Bw	2.5Y 5/3	silo	gran	vfr	ø
Bw2	2.5Y 4/2	↓	platy	fr	↓
					2.5Y 6/2
BC	5Y 4/2	silo	massive	firm	10YR 4/4

Depth below mineral soil horizon (inches): 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150

Soil Details

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 14 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

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SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Hope Ave | Applicant Name: Stinburg Consulting | Project Location (municipality): Portland

Exploration Symbol # TP9 — ☒ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness — Ground surface elev. _____

78 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Bhs	10YR 3/4	silo	gran	v fr	ø
Bs	10YR 3/6				
BW	2.5Y 4/4		abk		
BC				fr	10YR 3/4
	5Y 4/2	sicl o		firm	
C			massive		10YR 4/4
					assumed

Soil Series/Phase Name: Buxton Silt Loam

Limiting Factor: 16 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Exploration Symbol # TP10 — ☒ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness — Ground surface elev. _____

72 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Bhs					
Bs		silt loam		friable	none
BW					
BC					
					mottled
C				firm	

same as TP9

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 14 " Depth — ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

Johanna Szillery — Signature

Johanna Szillery — Name Printed

7/31/2024 — Date

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Hope Ave | Applicant Name: Shinberg Consulting | Project Location (municipality): Portland

Exploration Symbol # TP 11

☒ Test Pit ☐ Boring ☐ Probe

8 " Organic horizon thickness Ground surface elev. _____

34 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Bhs	7.5YR 3/2	SL	grain		
BS	10YR 4/4	fine sand	sg	friable	none
BC	2.5Y 5/6	↓	↓	↓	7.5YR 5/6
C	2.5Y 5/3	sand			
2C	2.5Y 4/2	sicLo		firm	10YR 4/6

Depth below mineral soil horizon *(inches)*

Soil Details

Soil Series/Phase Name: Elmwood Sandy Loam

Limiting Factor: 17 " Depth ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Exploration Symbol # TP 12

☐ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

58 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR 3/2	SiLo	gra	VFr	none
B	2.5Y 4/3	↓	↓	↓	↓
BC	5Y 4/2	SiCLo	Massive	firm	10YR 4/4

Depth below mineral soil horizon *(inches)*

Soil Details

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 13 " Depth ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Hope Ave | Applicant Name: Stinbury Consulting | Project Location (municipality):

Exploration Symbol # TP13 ☒ Test Pit ☐ Boring ☐ Probe

0 " Organic horizon thickness Ground surface elev. _____

68 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	2.5Y 3/2	SiL	GR	Fr	none
Bw	2.5Y 4/2		SAB weak PL		10YR 3/3
			Massive	Firm	
	2.5Y 4/4	LS			none
BC1	5Y 4/2	SiL			10YR 4/4
BC2	2.5Y 4/4	LS			5Y 4/2

Depth below mineral soil horizon (inches)

Soil Details

Soil Series/Phase Name: Roundabout Silt Loam

Limiting Factor: 14 " Depth ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Exploration Symbol # TP14 ☒ Test Pit ☐ Boring ☐ Probe

1 " Organic horizon thickness Ground surface elev. _____

70 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	2.5Y 4/3	SiL	GR	Fr	none
Bw			AB	firming	10YR 4/4
BC	10YR 4/4	S	Massive	Firm	2.5Y 6/3
Several narrow (≤1") SiL lenses below 30"		2.5Y 4/2		w/	10YR 3/4

Any Rock Fragments

Depth below mineral soil horizon (inches)

Soil Details

Soil Series/Phase Name: Roundabout Silt Loam

Limiting Factor: 12 " Depth ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

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Date

494
SS License No.

STATE OF MAINE ★ JOHANNA E. SZILLERY ★ affix professional seal ★ SOIL SCIENTIST

FORM F (SS2) Rev. 7/21

SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name:	Applicant Name:	Project Location (municipality):
Hope Ave	Stinburg Consulting	

Exploration Symbol # TP 15

☒ Test Pit ☐ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

48 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR 3/3	SiL	GR	FR	none
BW	2.5Y 5/3	SiL			
BC	5Y 4/2	SiCL	Massive	Firm	10YR 4/4

Soil Series/Phase Name: Lamoine Silt Loam

Limiting Factor: 14 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☐ MWD ☒ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Exploration Symbol # TP 16

☐ Test Pit ☒ Boring ☐ Probe

2 " Organic horizon thickness Ground surface elev. _____

24 " Depth: ☒ of exploration, or ☐ to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
A	10YR 3/2	FSL	GR		10YR 3/3
E	2.5Y 5/2				
Bh	10YR 4/4	SiL			10YR 4/6
			Massive?		
BW	2.5Y 5/2				2.5Y 6/2
BC	2.5Y 3/2	SiCL			10YR 4/4
					2.5Y 6/2

Redox Features ↓

hand Auger Boring

Soil Series/Phase Name: Buxton Fine Sandy Loam

Limiting Factor: 20 " Depth — ☒ Groundwater ☐ Restrictive Layer ☐ Bedrock

Drainage Class: ☐ ED ☐ SED ☐ WD ☒ MWD ☐ SPD ☐ PD ☐ VPD

Slope: _____ Percent

Hydric Soil: ☒ No ☐ Yes

Hydrologic Soil Group: _____

Depth below mineral soil horizon *(inches)*

Soil Details ▶▶

SOIL SCIENTIST INFORMATION AND SIGNATURE

Johanna Szillery
Signature

Johanna Szillery
Name Printed

7/31/2024
Date

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APPENDIX C

SOILS MAP UNIT DESCRIPTIONS

CLASS B – HIGH INTENSITY SOIL SURVEY
SOIL SURVEY LEGEND
HOPE AVE, PORTLAND, MAINE

MAP UNIT SYMBOL	MAP UNIT NAME
BuD	Buxton silt loam, 15 to 35 percent slopes
ElC	Elmwood sandy loam, 3 to 15 percent slopes
LBA	Lamoine-Buxton Complex, 0 to 3 percent slopes
LaB	Lamoine Silt Loam, 3 to 8 percent slopes
LaC	Lamoine Silt Loam, 8 to 15 percent slopes
LaD	Lamoine Silt Loam, 25 to 45 percent slopes
LRB	Lamoine-Roundabout Complex, 0 to 8 percent slopes
RoB	Roundabout Silt Loam, 3 to 8 percent slopes
ScA	Scantic Silt Loam, 0 to 3 percent slopes

Buxton Silt Loam, 15 to 35 percent slopes (BuD)
Buxton (frigid Aquic Dystric Eutrudepts)

SETTING

Parent Material: Glaciomarine deposits
Landform: River valleys, marine terraces.
Position in Landscape: Backslopes and sideslopes.
Slope gradient ranges: 15 to 35 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP3.

Surface Layer: The surface did not have any buildup of decomposed organic matter.

Subsurface: Approximately 10 inches of very friable, granular, very dark brown silt loam.

Subsoil Layer: Very friable to friable, subangular blocky, mottled, dark grayish brown silt loam.

Substratum: Firm, massive, mottled, brown silt loam.

At approximately 60 inches, firm, massive, olive brown fine sand.

Bedrock began 120 inches below mineral soil surface.

Drainage Class: Moderately well drained, seasonal high water table 17 to 24 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: C/D

Saturated Hydraulic Conductivity: 2.3918 micro m/sec

Depth to Bedrock: Greater than 80 inches.

Potential for Frost Action: Moderate

Erosion Factor (Kf): 0.37

Buxton Silt Loam, 15 to 35 percent slopes (BuD)

INCLUSIONS WITHIN MAP UNIT

Similar: Lamoine, Nicholville
Dissimilar: Scantic

USE AND MANAGEMENT

Buxton soils are limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads.

Slopes over 15%, may be limited by steepness. Limitations due to steepness can be mitigated by grading and excavation.

Elmwood Sandy Loam, 3 to 15 percent slopes (ElC)
Elmwood (frigid Aquic Dystric Eutrudepts)

SETTING

Parent Material: Loamy outwash material over clayey marine or lacusterine
Landform: Plains, outwash plains, and deltas
Position in Landscape: Terrace
Slope gradient ranges: 3 to 15 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP11.

Surface Layer: Approximately 4 inches of friable, angular blocky, dark brown sandy loam.

Subsurface: Approximately 16 inches of friable, single grain, dark yellowish brown to light olive brown fine sand.

Subsoil Layer: Friable, single grain, mottled, dark yellowish brown to olive brown sand.

Substratum: Firm, single grain, mottled, dark grayish brown silt clay loam.

Drainage Class: Moderately well drained, seasonal high water table 18 to 36 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: B

Saturated Hydraulic Conductivity: 12.2974 micro m/sec

Depth to Bedrock: Greater than 80 inches.

Potential for Frost Action: High

Erosion Factor (Kf): 0.20

Elmwood Sandy Loam, 3 to 15 percent slopes (ElC)

INCLUSIONS WITHIN MAP UNIT

Similar: Buxton, Nicholville
Dissimilar:

USE AND MANAGEMENT

Elmwood soils are limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads, and avoidance of soils with high seasonal water table.

Lamoine Silt Loam, 3 to 8 percent slopes (LaB)
frigid Aeric Epiaquepts

SETTING

Parent Material: Glaciomarine deposits
Landform: Coastal lowlands and river valleys.
Position in Landscape: Backslopes and footslopes.
Slope gradient ranges: 3 to 8 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP10.

Surface Layer: Approximately 3 inches of friable, granular, dark yellowish brown silt loam.

Subsurface: Approximately 11 inches of friable, granular to angular blocky, dark yellowish brown to olive brown silt loam.

Subsoil Layer: Friable, angular blocky, mottled, olive brown silt loam.

Substratum: Firm, massive, mottled, olive gray silty clay loam.

Drainage Class: Somewhat poorly drained, seasonal high water table 6 to 17 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: C/D

Saturated Hydraulic Conductivity: 4.5868 micro m/sec

Depth to Bedrock: Greater than 80 inches.

Potential for Frost Action: High

Erosion Factor (Kf): 0.37

Lamoine Silt Loam, 3 to 8 percent slopes (LaB)

INCLUSIONS WITHIN MAP UNIT

Similar:	Nicholville, Roundabout, Buxton
Dissimilar:	Scantic

USE AND MANAGEMENT

Lamoine soils are limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads.

Lamoine Silt Loam, 8 to 15 percent slopes (LaC)
frigid Aeric Epiaquepts

SETTING

Parent Material: Glaciomarine deposits
Landform: Coastal lowlands and river valleys.
Position in Landscape: Backslopes and footslopes.
Slope gradient ranges: 8-15 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP5.

Surface Layer: Approximately 3 inches of very friable, granular, very dark brown silt loam.

Subsurface: Approximately 12 inches of friable, angular blocky, olive brown silt loam.

Subsoil Layer: Firm, angular blocky, mottled, olive gray silt loam.

Substratum: Firm, massive, mottled, olive gray silty clay loam.

Drainage Class: Somewhat poorly drained, seasonal high water table 6 to 17 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: C/D

Saturated Hydraulic Conductivity: 4.5868 micro m/sec

Depth to Bedrock: Greater than 80 inches.

Potential for Frost Action: High

Erosion Factor (Kf): 0.37

Lamoine Silt Loam, 8 to 15 percent slopes (LaC)

INCLUSIONS WITHIN MAP UNIT

Similar:	Buxton, Nicholville, Roundabout
Dissimilar:	Scantic

USE AND MANAGEMENT

Lamoine soils are limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads.

Lamoine Silt Loam, 25 to 45 percent slopes (LaD)
frigid Aeric Epiaquepts

SETTING

Parent Material: Glaciomarine deposits
Landform: Coastal lowlands and river valleys.
Position in Landscape: Backslopes and footslopes.
Slope gradient ranges: 25-45 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP6.

Surface Layer: Approximately 4 inches of very friable, granular, very dark brown silt loam.

Subsurface: Approximately 9 inches of very friable, angular blocky, dark yellowish brown silt loam.

Subsoil Layer: Firm, angular blocky, mottled, light olive brown silt loam.

Substratum: Firm, massive, mottled, dark grayish brown silty clay loam.

Drainage Class: Somewhat poorly drained, seasonal high water table 6 to 17 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: C/D

Saturated Hydraulic Conductivity: 4.5868 micro m/sec

Depth to Bedrock: Greater than 80 inches.

Potential for Frost Action: High

Erosion Factor (Kf): 0.37

Lamoine Silt Loam, 25 to 45 percent slopes (LaD)

INCLUSIONS WITHIN MAP UNIT

Similar: Buxton, Nicholville
Dissimilar:

USE AND MANAGEMENT

Lamoine soils are limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads.

Slopes over 15%, may be limited by steepness. Limitations due to steepness can be mitigated by grading and excavation.

Lamoine – Buxton Complex, 0 to 3 percent slopes (LBA)

SETTING

Parent Material: Glaciomarine deposits
Landform: Coastal lowlands and river valleys.
Position in Landscape: Backslopes and footslopes.
Slope gradient ranges: 0 to 3 percent slopes

General: Map unit contains 20% moderately well drained Buxton and 80% somewhat poorly drained Lamoine that cannot be differentiated at the current map scale.

COMPOSITION AND SOIL CHARACTERISTICS

Lamoine Part (frigid Aeric Epiaquepts)

Typical Profile Description: Typical profile was described for this soil at TP8.
Surface Layer: Approximately 11 inches of decomposed organic material.
Subsurface: Approximately 10 inches of very friable, granular, light olive brown silt loam.
Subsoil Layer: Friable, platy, mottled, dark grayish b rown silt loam.
Substratum: Firm, massive, mottled, olive gray silty clay loam.
Drainage Class: Somewhat poorly drained, seasonal high water table 6 to 17 inches below the mineral soil surface. No potential for ponding or flooding.
Hydrologic Group: C/D
Saturated Hydraulic Conductivity: 4.5868 micro m/sec
Depth to Bedrock: Greater than 80 inches.
Potential for Frost Action: High
Erosion Factor (Kf): 0.37

Buxton Part (frigid Aquic Dystric Eutrudepts)
Typical Profile Description: Typical profile was described for this soil at TP3.
Surface Layer: The surface did not have any buildup of decomposed organic matter.
Subsurface: Approximately 10 inches of very friable, granular, very dark brown silt loam.
Subsoil Layer: Very friable to friable, subangular blocky, mottled, dark grayish brown silt loam.
Substratum: Firm, massive, mottled, brown silt loam.
At approximately 60 inches, firm, massive, olive brown fine sand.
Bedrock began 120 inches below mineral soil surface.
Drainage Class: Moderately well drained, seasonal high water table 17 to 24 inches below the mineral soil surface. No potential for ponding or flooding.
Hydrologic Group: C/D
Saturated Hydraulic Conductivity: 2.3918 micro m/sec
Depth to Bedrock: Greater than 80 inches.
Potential for Frost Action: Moderate
Erosion Factor (Kf): 0.37

Lamoine – Buxton Complex, 0 to 3 percent slopes (LBA)

INCLUSIONS WITHIN MAP UNIT

Similar: Nicholville, Roundabout
Dissimilar:

USE AND MANAGEMENT

This soil complex is limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads.

Lamoine-Roundabout Complex, 0 to 8 percent slopes (LRB)

SETTING

Parent Material: Glaciomarine deposits
Landform: Coastal lowlands and river valleys.
Position in Landscape: Backslopes and footslopes.
Slope gradient ranges: 0 to 8 percent slopes

General: This map unit is composed of a complex of 75% somewhat poorly drained Lamoine and 25% somewhat poorly drained Roundabout soils that cannot be differentiated at the current map scale. The Roundabout found in this map unit is located higher on the plateau with Lamoine occurring on steeper slopes.

COMPOSITION AND SOIL CHARACTERISTICS

Lamoine Part (frigid Aeric Epiaquepts)

Typical Profile Description: Typical profile was described for this soil at TP5.
Surface Layer: Approximately 3 inches of very friable, granular, very dark brown silt loam.
Subsurface: Approximately 12 inches of friable, angular blocky, olive brown silt loam.
Subsoil Layer: Firm, angular blocky, mottled, olive gray silt loam.
Substratum: Firm, massive, mottled, olive gray silty clay loam.
Drainage Class: Somewhat poorly drained, seasonal high water table 6 to 17 inches below the mineral soil surface. No potential for ponding or flooding.
Hydrologic Group: C/D
Saturated Hydraulic Conductivity: 4.5868 micro m/sec
Depth to Bedrock: Greater than 80 inches.
Potential for Frost Action: High
Erosion Factor (Kf): 0.37

Lamoine Roundabout Complex, 0 to 8 percent slopes (LRB)

Roundabout Part (frigid Aeric Epiaquepts)

Typical Profile Description: Typical profile was described for this soil at TP14.
Surface Layer: The surface did not have any buildup of decomposed organic matter.
Subsurface: Approximately 12 inches of friable, granular, olive brown silt loam.
Subsoil Layer: Very firming friable, angular blocky, mottled, olive brown silt loam.
Substratum: Firm, massive, mottled, dark yellowish brown silt loam.
Drainage Class: Somewhat poorly drained, seasonal high water table at 12 inches below the mineral soil surface. No potential for ponding or flooding.
Hydrologic Group: B/D
Saturated Hydraulic Conductivity: 5.93 micro m/sec.
Depth to Bedrock: Very deep, greater than 60 inches of mineral soil over bedrock.
Potential for Frost Action: High
Erosion Factor (Kf): .43 in the surface; .49 in the subsurface, .64 in the subsoil and substratum

INCLUSIONS WITHIN MAP UNIT

Similar: Nicholville, Buxton
Dissimilar:

USE AND MANAGEMENT

These soils are primarily limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads.

Roundabout Silt Loam, 3 to 8 percent slopes (RoB)
frigid Aeric Epiaquepts

SETTING

Parent Material: Glaciomarine and Glaciolacustrine Deposits
Landform: Lake and marine plains
Position in Landscape: Linear slope
Slope gradient ranges: 3 to 8 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP14.

Surface Layer: The surface did not have any buildup of decomposed organic matter.

Subsurface: Approximately 12 inches of friable, granular, olive brown silt loam.

Subsoil Layer: Very firming friable, angular blocky, mottled, olive brown silt loam.

Substratum: Firm, massive, mottled, dark yellowish brown silt loam.

Drainage Class: Somewhat poorly drained, seasonal high water table at 12 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: B/D

Saturated Hydraulic Conductivity: 5.93 micro m/sec.

Depth to Bedrock: Very deep, greater than 60 inches of mineral soil over bedrock.

Potential for Frost Action: High

Erosion Factor (Kf): .43 in the surface; .49 in the subsurface, .64 in the subsoil and substratum

Buxton Silt Loam, 3 to 8 percent slopes (BuD)

INCLUSIONS WITHIN MAP UNIT

Similar: Lamoine
Dissimilar: Scantic

USE AND MANAGEMENT

Roundabout soils are limited by a high seasonal water table and fine particle size which reduces hydraulic conductivity. Slow drainage impacts the frost properties and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material, diversion of water from structures and roads, and avoidance of soils with high seasonal water table.

Scantic Silt Loam, 0 to 3 percent slopes (ScA)
frigid Typic Epiaquepts

SETTING

Parent Material: Glaciomarine deposits
Landform: River valleys, marine terraces
Position in Landscape: Plains, terraces, depressions.
Slope gradient ranges: 0 to 3 percent slopes

COMPOSITION AND SOIL CHARACTERISTICS

Typical Profile Description: Typical profile was described for this soil at TP4.

Surface Layer: Approximately 4 inches of friable, angular blocky, mottled brown silt loam.

Subsurface: Approximately 14 inches of friable, angular blocky, mottled olive gray silt loam.

Subsoil Layer: Firm, angular blocky, mottled olive gray silty clay loam.

Drainage Class: Poorly drained, seasonal high water table 0 to 12 inches below the mineral soil surface. No potential for ponding or flooding.

Hydrologic Group: D

Saturated Hydraulic Conductivity: 2.3215 micro m/sec

Depth to Bedrock: Greater than 80 inches.

Potential for Frost Action: High

Erosion Factor (Kf): 0.28

Scantic Silt Loam, 0 to 3 percent slopes (ScA)

INCLUSIONS WITHIN MAP UNIT

Similar:
Dissimilar: Lamoine, Roundabout

USE AND MANAGEMENT

Scantic soils are limited by a high seasonal water table and fine subsoil which limits permeability. This impacts the hydraulic conductivity of this soil, and related water and frost properties, and potential uses for roads, shallow excavations, and structures with basements. Limitations due to a high seasonal water table can be mitigated by excavation and fill with a free-draining material and diversion of water from structures and roads, and avoidance of soils with high seasonal water table.

Scantic soils are hydric and make up one component of a jurisdictional wetland. Federal and State permitting may be required for impacts to areas in this map unit, if these area are mapped as jurisdictional wetlands.

APPENDIX D

GLOSSARY OF SOIL SCIENCE TERMS

GLOSSARY OF SOIL SCIENCE TERMS

The following terms relate to the practice of soil science and classification of soils. These definitions are separated into terms which are used to describe a soil or soil profile, terms which relate to the practice of soils mapping, and terms which are interpreted based on the properties of a soil.

SOIL MAPPING TERMS

These terms relate to the soils survey map and the soils and landforms that are depicted on this map.

Association and Complex – Two or more dissimilar soils that occur in a regularly repeating pattern on the landscape. At the scale of mapping shown, these dissimilar soils could not be separated. (USDA, *Soil Survey Manual*)

Consociation – A delineated polygon which is dominated by one soil type or series and similar soils. (USDA, *Soil Survey Manual*)

Dissimilar soil – Soil inclusions within a mapped polygon which are different from the named map unit. The characteristics, properties, and use and management of a dissimilar soil are different enough that there are important differences between these soils for the purpose of the soil survey. (USDA, *Soil Survey Manual*; MAPSS, *Guidelines*)

Inclusion – Components within a delineated polygon that are not identified by the polygon name. These inclusions may be similar soils or dissimilar soils. Inclusions of dissimilar soil shall not exceed 25 percent of the map unit area, based on MAPSS Standards. (USDA, *Soil Survey Manual*; MAPSS, *Guidelines*)

Map Unit – An area that is defined and named the same in terms of its soil components and is named for the dominant soil component. Each map unit differs in some way from a differently named map unit. (USDA, *Soil Survey Manual*)

Map Unit Purity – Within a delineated polygon, the amount of the polygon that is made up of the named soil relative to the amount of polygon made up of inclusions, for which the polygon is not named. (USDA, *Soil Survey Manual*). MAPSS *Guidelines* indicate that 75% of a delineated map unit should be the named or similar soils; dissimilar soils shall not exceed 25% of a delineated map unit.

Phase – A subset of a soil series which can be significant for use and management. Phases may be differentiated for different classes of surface stoniness and slopes. (USDA, *Soil Survey Manual*)

Series – A group of soils that share similar defining characteristics. This is the most homogenous category of soil taxonomy: a given soil series has a relatively narrow range of properties. (USDA, *Soil Survey Manual*)

Similar Soil – Soil inclusions within a mapped polygon which are different from the named map unit; however, the properties, management, and interpretations of the similar soil are such that no important differences exist for the purpose of the soil survey. (USDA, *Soil Survey Manual*; MAPSS, *Guidelines*)

Taxajunct/Variant – A group of soils that have properties outside the range of any established soil series. These differences are small so that major interpretations are not affected. (USDA, *Soil Survey Manual*)

SOIL PROPERTIES TERMS

Consistence – As used in soil surveys, consistence is the resistance of a soil sample to crushing or penetration and is described as loose, friable, firm, and rigid. As used generally in soils, consistence also includes the plasticity, toughness, or stickiness of a puddled soil, and the behavior of a soil under compression. This property is based on the cohesion and adhesion of soil particles. (USDA, *Soil Survey Manual;* Brady and Weil, *The Nature and Properties of Soils*)

Depth classes – classes of soil depth to bedrock. In Maine, soils are categorized into five depth classes: (MAPSS, *Guidelines*)

1. Very shallow: Less than 10 inches of soil above bedrock.
2. Shallow: 10 to less than 20 inches of soil above bedrock.
3. Moderately deep: 20 to less than 40 inches of soil above bedrock.
4. Deep: 40 to less than 60 inches of soil above bedrock.
5. Very Deep: Greater than 60 inches of soil above bedrock.

Drainage classes – the frequency and duration of wet periods within the soil profile. The USDA defines seven drainage classes based on the length that the soil is inundated by water during the growing season, the depth to free water, and the restriction of plant growth. Maine USDA and soil scientists have correlated these seven drainage classes into observations of the seasonal high-water table in soils: (USDA, *Soil Survey Manual;* MAPSS, *Guidelines*)

1. Very poorly drained: Seasonal high-water table at or near the surface.
2. Poorly drained: Seasonal high-water table at or near the surface.
3. Somewhat poorly drained: Seasonal high-water table (redoximorphic features) less than 16 inches below the soil surface.
4. Moderately well drained: Seasonal high-water table (redoximorphic features) 16 to less than 40 inches below the surface.
5. Well drained: Seasonal high-water table (redoximorphic features) 40 inches or more below the surface.
6. Somewhat excessively drained: Soil depth is 10 to 20 inches to bedrock with specific textural properties; or soil depth is 20 inches or greater to bedrock with specific textural properties.
7. Excessively drained: Soil depth is 10 inches to bedrock; or specific textural properties.

Redoximorphic features – changes in soil color which are attributed to soil wetness. These features may be "concentrations" of color or "depletions" of color. Redoximorphic features are evidence of the seasonal high-water table. This was formerly called "mottling" or "redoximorphic mottling" (USDA, *Soil Survey Manual*).

Seasonal High-Water Table – a zone of saturation which occurs within the soil profile during the wettest part of the year. The depth of this zone is described at the highest average depth (i.e., closest to the surface) in the soil profile (USDA, *Soil Survey Manual*).

Structure – The arrangement of primary soil particles (sand, silt, and clay) into secondary units. These units are characterized by size, shape, and degree of distinctiveness. Common soil structure types include granular, angular and subangular blocky, platy, prismatic, single grain, and massive. (USDA, *Soil Survey Manual;* Brady and Weil, *The Nature and Properties of Soils*)

Texture – the relative proportion, by weight, of sand, silt, and clay in a soil. The soil textural class is a grouping of soils based on the relative proportions of sand, silt, and clay in a soil. Soils within a textural class have similar physical properties. Soil textural classes are, from coarse to fine: sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay. (USDA, *Soil Survey Manual;* Brady and Weil, *The Nature and Properties of Soils*)

DESCRIPTIVE SOIL PROFILE OR SOIL CHARACTERISTIC TERMS

Erodibility factor (K factor) – a relative index of the susceptibility of bare, cultivated soil to particle detachment and transport by rainfall.

Hydraulic conductivity (saturated) (Ksat) - the factor relating soil water flow rate to the hydraulic gradient. Ksat is the reciprocal of the resistance of soil to water movement. (USDA, *Soil Survey Manual*)

Hydrologic soil group – groups of soils that have similar runoff potential under similar climatic and land cover conditions. In Maine, soils are place into one of four hydrologic groups: A, B, C, and D. These groups are described as follows:

A. Soils with low runoff potential when thoroughly wet. Water is transmitted freely throughout the soil. These soils tend to have less than 10% clay and more than 90% sand or gravel.

B. These soils have moderately low runoff potential when thoroughly wet, with unimpeded water transmission. These soils are typically 10-20% clay or silt and 50-90% sand.

C. Soils with a moderately high runoff potential when thoroughly wet. Water transmission is somewhat restricted in this soil. These soils are typically 20-40% clay or silt and less than 50% sand.

D. These soils have a high runoff potential when thoroughly wet, with restricted or very restricted water transmission. These soils are 40% or greater clay or silt, and less than 50% sand. (USDA, *National Engineering Handbook*)

LIMITATIONS

Permeability – the ease with which gases, liquids, or plant roots penetrate through a mass or layer of soil. (Brady and Weil, *The Nature and Properties of Soils*)

Soil Potential Ratings – classes that indicate the relative quality of a soil for a particular use as compared with other soils in a given area. The purpose of this rating system is to identify the relative suitability of soils for a given use for planning purposes. These ratings are developed at the Federal (USDA) level, and range from very high potential, high potential, medium potential, low potential, to very low potential. (USDA, *National Soil Survey Handbook*)

REFERENCES

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STORMWATER MANAGEMENT REPORT
Revised January 2025

A. NARRATIVE

The intent of this Stormwater Management Plan is to comply with the requirements of the City of Portland Land Use Ordinance, the City of Portland Technical Manual, and the Maine Department of Environmental Protection (MDEP) Chapter 500 regulations. This report was prepared to specifically meet the requirements of the MDEP Chapter 500 standards, and so terminology relevant to those standards have been used (i.e. Basic Standards, General Standards, etc.)

This project involves the creation of a Planned Residential Unit Development in Portland, Maine. This permit application will account for the development of 53 residential units, open space, and a private road. This project includes the creation of approximately 3.57 acres (155,301 square feet) of new impervious surface, 5.43 acres (236,581 square feet) of landscaped area, and 9.00 acres (391,882 square feet) of total developed area. Based on the Chapter 500 rules, the Basic Standards, General Standards, and Flooding Standards apply to this project. As a result, it will be required to treat 95% of the impervious area and 80% of the developed area. We are proposing to utilize grass underdrained soil filters, bioretention cells, wet ponds, and roof dripline filters to provide stormwater management for this project.

Basic Standard Submission: Information is provided as required for the Basic Standard Submission in **Section 14.0-Basic Standards (Erosion Control Plan.)**

Phosphorous Standard Submission: This development is not located within a lake watershed; this standard does not apply.

Urban Impaired Stream Standard Submission: This development is not located within an urban impaired stream watershed; this standard does not apply.

General Standards Submission: The following information is provided as required in the General Standard Submission.

1. Narrative: Please refer to the introductory paragraph above for a description of the proposed development.
2. Drainage Plans: A set of Hydrology Plans and Proposed Site Plans are provided in within this Application. These plans include watershed boundaries and locations of the stormwater management features.
3. Calculations: This project will include various filters which have been designed in accordance with Chapters 4 and 7 of the MDEP Stormwater BMP Technical Design Manual, Volume III. Sizing calculations can be seen in Section 12A.
4. Details, Designs, and Specifications: Please refer to the plans for stormwater management details, designs, and specifications.

Flooding Standard Submission: The following information is provided as required in the Flooding Standard Submission.

1. Control of Peak Flows: The project is required to meet Flooding Standards in accordance with Chapter 500 requirements. The Pre- and Post-Development Hydrology models and narrative are located in Section 12B.

2. Details, Design, and Specifications: The model runoff calculations are performed using a HydroCAD 10.0 model. Sizing of the required stormwater treatment methods are included in Section 12A.

SECTION 12A

STORMWATER QUALITY CONTROL NARRATIVE
MDEP CHAPTER 500 GENERAL STANDARDS

The Hope Avenue Subdivision project is primarily being developed to provide housing opportunities in Portland, Maine. In total, the project will develop approximately 9 acres of undeveloped wooded area.

The project consists of residential duplexes/triplexes with attached garages and landscaped open space. This project includes the creation of approximately 3.57 acres (155,301 square feet) of new impervious surface, 5.43 acres (236,581 square feet) of landscaped area, and 9.00 acres (391,882 square feet) of total developed area.

Based on Maine Department of Environmental Protection stormwater standards, the required treatment is 95% of the impervious surface and 80% of the developed area resulting from the impervious surface, landscaped surface, and stormwater conveyance provisions created by the development.

The project is proposing grassed underdrain soil filters, bioretention cells, wet ponds, and roof dripline filters to meet stormwater quality standards. The systems will be located at various locations within the Site to maximize the treatment of runoff and provide the necessary treatment areas. The locations of these treatment devices are shown on the Proposed Site Plan.

The following tables summarize the impervious and developed area created by the project, as well as the treatment structure, area treated, and relationship with the total developed and impervious areas for the project.

PROJECT DEVELOPMENT AREA

PROJECT AREA	IMPERVIOUS AREA	DEVELOPED AREA
Total Proposed Development Area	155,301 SF (3.57 acres)	391,882 SF (9.00 acres)

STORMWATER TREATMENT SYSTEMS

TREATMENT METHOD	AREA TREATED	
	IMPERVIOUS AREA	DEVELOPED AREA
Grassed Underdrained Soil Filter A	3,759 SF	6,231 SF
Grassed Underdrained Soil Filter B	2,655 SF	6,712 SF
Bioretention Cell A	1,027 SF	2,921 SF
Bioretention Cell B	1,018 SF	2,696 SF
Wetpond A	80,621 SF	183,284 SF
Wetpond B	49,211 SF	105,049 SF
Roof Drip Edge Filters	10,096 SF	10,096 SF
TOTAL	**148,387 SF**	**316,989 SF**
PERCENT OF TOTAL AREA TREATED	**95.55%**	**80.88%**

As can be seen in the table above, we are proposing to treat **95.55%** of the Impervious Area and **80.88%** of the Developed Area from the site portion of the project. This exceeds the standards required by Chapter 500.

BMP DESCRIPTIONS AND SIZING CALCULATIONS

The proposed stormwater quality control devices have been designed in accordance with the standards outlined in Stormwater Management for Maine, Volume II BMP Manual, January 2006 and revised May 2016. Construction and maintenance will be done according to the standards outlined in this manual.

Descriptions of the treatment types follow.

1. Grassed Underdrain Soil Filter A

Description:
The proposed soil filter will treat developed area FROM Subcatchment 11. This filter is located on Type C, upland soils and will outlet into natural drainage pathways. A test pit was taken at the proposed filter location.

Calculations:
This filter was sized using Chapter 7.1 of the MDEP Stormwater BMP Technical Design Manual, Volume III.

Required Filter Area:

5% (imperious area) + 2% (landscaped area)
= 0.05(3,759 SF) + 0.02 (2,472 SF)
= 238 SF (Proposed filter is 240 SF)

Required Treatment Volume:

1-inch*(impervious area) + 0.4-inches*(Landscaped Area)
= (1/12*3,759SF) +(0.4/12*2,472 SF)
= 397 CF (Proposed filter is 546 CF @ 18-inches of impoundment depth)

Drain time

$$\Delta t = \frac{A_F}{3600 \cdot A_O}\sqrt{\frac{2H}{G}}$$

Where Δt = Drain time (hrs),
AF = Filter Area (sf) = 240 sf,
A_O = Area of the 2" ball valve opening (sf) = 0.001 sf (5% open) H = Storage Height (ft) = 3.50 ft (1.5 ft CPV, 2.0 ft soil filter) and G = Acceleration due to gravity (32.2 ft/s^2).

$$\Delta t = \frac{240}{3600 \cdot 0.001}\sqrt{\frac{2 \cdot 3.5}{32.2}} = 28 \text{ hours}$$

2. Grassed Underdrain Soil Filter B

Description:

The proposed soil filter will treat developed area from Subcatchment 12. This filter is located on Type C, upland soils and will outlet into natural drainage pathways. A test pit was taken at the proposed filter location.

Calculations:

This filter was sized using Chapter 7.1 of the MDEP Stormwater BMP Technical Design Manual, Volume III.

Required Filter Area:

5% (imperious area) + 2% (landscaped area)
= 0.05(2,655 SF) + 0.02 (4,057 SF)
= 213 SF (Proposed filter is 220 SF)

Required Treatment Volume:

1-inch*(impervious area) + 0.4-inches*(Landscaped Area)
= (1/12*2,629 SF) +(0.4/12*4,083 SF)
= 355 CF (Proposed filter is 512 CF @ 18-inches of impoundment depth)

Drain time

$$\Delta t = \frac{AF}{3600 \cdot Ao}\sqrt{\frac{2H}{G}}$$

Where Δt = Drain time (hrs),
AF = Filter Area (sf) = 220 sf,
Ao = Area of the 2" ball valve opening (sf) = 0.001 sf (5% open)
H = Storage Height (ft) = 3.5 ft (1.5 ft CPV, 2.0 ft soil filter)
and G = Acceleration due to gravity (32.2 ft/s^2).

$$\Delta t = \frac{220}{3600 \cdot 0.001}\sqrt{\frac{3.50}{32.2}} = 26 \text{ hours}$$

3. Bioretention Cell A

Description:

The proposed soil filter will treat developed area from Subcatchment 7. This filter is located on Type D, upland soils and will outlet into natural drainage pathways. A test pit was taken at the proposed filter location.

Calculations:

This filter was sized using Chapter 7.1 of the MDEP Stormwater BMP Technical Design Manual, Volume III.

Required Filter Area:

7% (imperious area) + 3% (landscaped area)
= 0.07(1,027 SF) + 0.03 (1,894 SF)
= 128 SF (Proposed filter is 140 SF)

Required Treatment Volume:

1-inch*(impervious area) + 0.4-inches*(Landscaped Area)
= (1/12*1,027 SF) +(0.4/12*1,894 SF)
= 145 CF (Proposed filter is 151 CF @ 6-inches of impoundment depth)

Drain time

$$\Delta t = \frac{A_F}{3600 \cdot A_O}\sqrt{\frac{2H}{G}}$$

Where Δt = Drain time (hrs),
AF = Filter Area (sf) = 140 sf,
Ao = Area of the outlet orifice (sf) = 0.0003 sf (0.25-inch diameter) H = Storage Height (ft) = 3.50 ft (1.5 ft CPV, 2.0 ft soil filter)
and G = Acceleration due to gravity (32.2 ft/s^2).

$$\Delta t = \frac{140}{3600 \cdot 0.0003}\sqrt{\frac{2 \cdot 3.50}{32.2}} = 46 \text{ hours}$$

4. Bioretention Cell B

Description:

The proposed soil filter will treat developed area from Parcels 8. This filter is located on Type C, upland soils and will outlet into natural drainage pathways. A test pit was taken at the proposed filter location.

Calculations:

This filter was sized using Chapter 7.1 of the MDEP Stormwater BMP Technical Design Manual, Volume III.

Required Filter Area:

7% (imperious area) + 3% (landscaped area)
= 0.07(854 SF) + 0.03 (1,517 SF)
= 105 SF (Proposed filter is 116 SF)

Required Treatment Volume:

1-inch*(impervious area) + 0.4-inches*(Landscaped Area)
= (1/12*854 SF) +(0.4/12*1517 SF)
= 121 CF (Proposed filter is 142 CF @ 6-inches of impoundment depth)

Drain time

$$\Delta t = \frac{AF}{3600 \cdot A_O}\sqrt{\frac{2H}{G}}$$

Where Δt = Drain time (hrs),
AF = Filter Area (sf) = 116 sf,
Ao = Area of the 2" ball valve opening (sf) = 0.001 sf (5% open) H = Storage Height (ft) = 3.50 ft (1.5 ft CPV, 2.0 ft soil filter) and G = Acceleration due to gravity (32.2 ft/s^2).

$$\Delta t = \frac{116}{3600 \cdot 0.001}\sqrt{\frac{2 \cdot 3.50}{32.2}} = 26 \text{ hours}$$

Wet Pond A

Description:

This pond has been designed to provide flood control as well as water quality treatment. The wet pond is designed to store 22,308 cubic feet with a mean depth of 4.71 feet. An outlet structure will be constructed to promote plug flow through the pond and maximize settlement of pollutants. Calculating the size required for the mean depth is provided below. A test pit was taken at the proposed wet pond location.

Calculations:

Required Permanent Pool Volume:
(2" x Impervious Area) + (0.8" x Landscaped Area) = (2" x 80,621 SF) + (0.8" x 132,505 SF)
= 22,270 CF
Provided: 23,308 CF @ elevation 73.85'.

Required Channel Protection Volume:
(1" x Impervious Area) + (0.4" x Landscaped Area) = (1" x 80,621 SF) + (0.4" x 132,505 SF)
= 11,135 CF
Provided: 11,135 CF @ elevation 75.80'.

Wetpond Mean Depth
= Storage divided by surface area 1' below Permanent Pool Elevation
= 18,203 CF/3,860 SF = 4.71'

Gravel Trench Length
3 x Channel Protection Volume/1000 = 3 x 11,135 CF / 1000 = 33.405 (35' Provided)

Drain time

$$\Delta t = \frac{A_F}{3600 \cdot A_O}\sqrt{\frac{2H}{G}}$$

Where Δt = Drain time (hrs),
AF = Filter Area (sf) = 265 sf,
AO = Area of the 2" ball valve opening (sf) = 0.001 sf (5% open) H = Storage Height (ft) = 4.46 ft (1.96 ft CPV, 2.5 ft soil filter) and G = Acceleration due to gravity (32.2 ft/s^2).

$$\Delta t = \frac{280}{3600 \cdot 0.001}\sqrt{\frac{2 \cdot 4.46}{32.2}} = 37 \text{ hours}$$

Outlet Level Spreader

The primary outlet for Wetpond A is a 24-inch HDPE culvert. This culvert will discharge to a level spreader, converting runoff to sheet flow prior to reaching the property boundary. This level spreader was sized according to design criteria within the Maine DEP ESC Manual for Designers and Engineers. Per this manual, the level spreader length should be 1 foot per 0.25 cfs for the 10-year storm event. Per the provided HydroCAD results, the primary outfall will be 1.16 cfs for the 10-year storm event, requiring a level spreader of length 4.64 feet. A 10' level spreader has been provided to account for larger storm events.

5. Wet Pond B

Description:
This pond has been designed to provide flood control as well as water quality treatment. The wet pond is designed to store 12,519 cubic feet of water with a mean depth of 3.83 feet. An outlet structure will be constructed to promote plug flow through the pond and maximize settlement of pollutants. Calculating the size required for the mean depth is provided below. A test pit was taken at the proposed wet pond location.

Calculations:

Required Permanent Pool Volume:
(2" x Impervious Area) + (0.8" x Landscaped Area) = (2" x 49,211 SF) + (0.8" x 64,691 SF)
= 12,514CF
Provided: 12,519 CF @ elevation 72.80'.

Required Channel Protection Volume:
(1" x Impervious Area) + (0.4" x Landscaped Area) = (1" x 49,211 SF) + (0.4" x 64,691 SF)
= 6,257 CF
Provided: 6,257 CF @ elevation 74.59'.

Wetpond Mean Depth
= Storage divided by surface area 1' below Permanent Pool Elevation
= 9,551 CF/2,488SF = 3.83'.

Gravel Trench Length
3 x Channel Protection Volume/1000 = 3 x 6,257 CF / 1000 = 18,771 (25' Provided)
Drain time

$$\Delta t = \frac{A_F}{3600 \cdot A_O}\sqrt{\frac{2H}{G}}$$

Where Δt = Drain time (hrs),
AF = Filter Area (sf) = 200 sf,
Ao = Area of the 2" ball valve opening (sf) = 0.001 sf (5%

open) H = Storage Height (ft) = 4.13 ft (1.63 ft CPV, 2.5 ft soil filter) and G = Acceleration due to gravity (32.2 ft/s^2).

$$\Delta t = \frac{200}{3600 \cdot 0.001} \sqrt{\frac{2 \cdot 4.13}{32.2}} = 25 \text{ hours}$$

Outlet Level Spreader

The primary outlet for Wetpond B is a 24-inch HDPE culvert. This culvert will discharge to a level spreader, converting runoff to sheet flow prior to reaching the property boundary. This level spreader was sized according to design criteria within the Maine DEP ESC Manual for Designers and Engineers. Per this manual, the level spreader length should be 1 foot per 0.25 cfs for the 10-year storm event. Per the provided HydroCAD results, the primary outfall will be 0.73 cfs for the 10-year storm event, requiring a level spreader of length 2.92 feet. A 10' level spreader has been provided to account for larger storm events.

6. Roof Dripline Filters

Roof dripline filters will be utilized to treat runoff from the backside of several of the proposed building roofs. The filter widths were determined as follows:

Volume from 1" of runoff from typical roof area: 80 CF
Typical length of filter: 45 LF
Stone Reservoir Layer: 12" thick

Stone Reservoir Voids: 40%
Stone Reservoir volume required: 80CF/0.4 = 200 CF
Filter Width Required: 200CF/12" depth/45'length = 4.5'
Filter Width Provided: 4.5'

The proposed stormwater quality control devices have been designed in accordance with the standards outlined in Stormwater Management for Maine, Volume II BMP Manual, January 2006, and revised May 2016. Construction and maintenance will be done according to the standards outlined in this manual.

SECTION 12B

STORMWATER PEAK RUNOFF CONTROL NARRATIVE
MDEP CHAPTER 500 FLOODING STANDARDS

As previously stated, the project is required to meet the flooding standard under Chapter 500 Section 4.E(2)(a). To meet the flooding standard, HydroCAD calculations were performed to compare pre-development and post-development conditions. Curve numbers and peak runoff flows were calculated using HydroCAD.

The pre-development site is undeveloped woodland with some trails, wetlands, and a stream. Soils on the site per the USDA web soil survey are classified as Elmwood fine sandy loam (Hydrologic Soil Group B,) Hinckley Suffield complex (Hydrologic Soil Group A,) Suffield silt loam (Hydrologic Soil Group C,) and Windsor loamy sand (Hydrologic Soil Group A.) The southern and eastern portions of the Site drain to the south and east to a stream which drains to the Presumpscot River. The northern and western portions drain to the north, also to the Presumpscot River. The post-development site was broken into 41 subareas encompassing the same footprint as pre-development. Most of the developed site areas are collected in underdrain soil filters, wet ponds, and roof drip edge filters located at various locations around the development. These filters release runoff as controlled flow to natural drainage pathways

Summation Points were chosen in similar areas between pre-development and post-development to compare peak flow runoff for the 2-year, 10-year, and 25-year storm events. Summation Points 1 and 2 are located north of the site and compare the runoff flowing to the Presumpscot River. Summation points 3, and 4 are located east of the site and are a comparison of the runoff flowing to an unnamed tributary stream to the river.

Based on results of the HydroCAD, it is expected that stormwater runoff from the site will be similar or lessened in post-development conditions as in pre-development conditions. Overall, it is expected that runoff from the site will be similar to post-development conditions and a similar stormwater runoff will be realized. A comparison of each of the watershed areas in both Pre- and Post-Development is organized in the table below.

		2-Year (cfs)	10-Year (cfs)	25-Year (cfs)	25-Year Net Change (cfs)
Summation Point 1	Pre	0.02	0.68	1.76	**+0.96**
	Post	0.29	1.38	2.72	
Summation Point 2	Pre	0.70	3.48	6.69	**-3.20**
	Post	0.52	1.35	3.49	
Summation Point 3	Pre	1.60	4.20	6.62	**-4.42**
	Post	0.59	1.27	2.20	
Summation Point 4	Pre	2.57	7.56	12.34	**+0.03**
	Post	2.81	7.31	12.37	

As can be seen in the table above, the majority of the summation points will see similar or decreased post development peak flow rates as a result of the provided stormwater detention. For Summation Point 1, there will be an increase of 0.96 CFS for the 25-year storm event. Summation Point 1 is a wetland located on undeveloped, forested property that is unlikely to be developed due to its wetland cover type and proximity to the highway and the conservation area. Surface runoff in this area flows over approximately 1,000 feet of forested, conservation land, eventually entering the Presumpscot River. This model does not include the additional storage capacity likely available for the wetland summation point. Given these conditions, a 0.96 CFS increase in the 25-year, 24-hour storm event can be considered insignificant. For Summation Point 4, there is a 0.03 cfs increase for the 25-year event. Summation Point 4 represents an existing stream that runs through conservation land to the Presumpscot River. There are no downstream properties that would be impacted by this increase, and it is our opinion that the stream has the capacity to handle a <1 CFS increase. Based on the results of our stormwater management design and calculations we conclude that this project will not have significant negative impacts on adjacent and downstream areas.

Prepared by:
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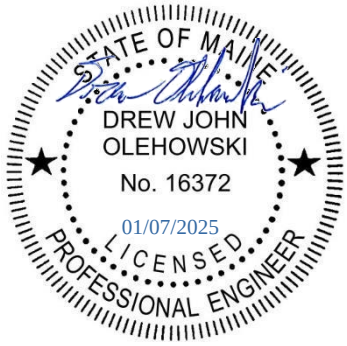
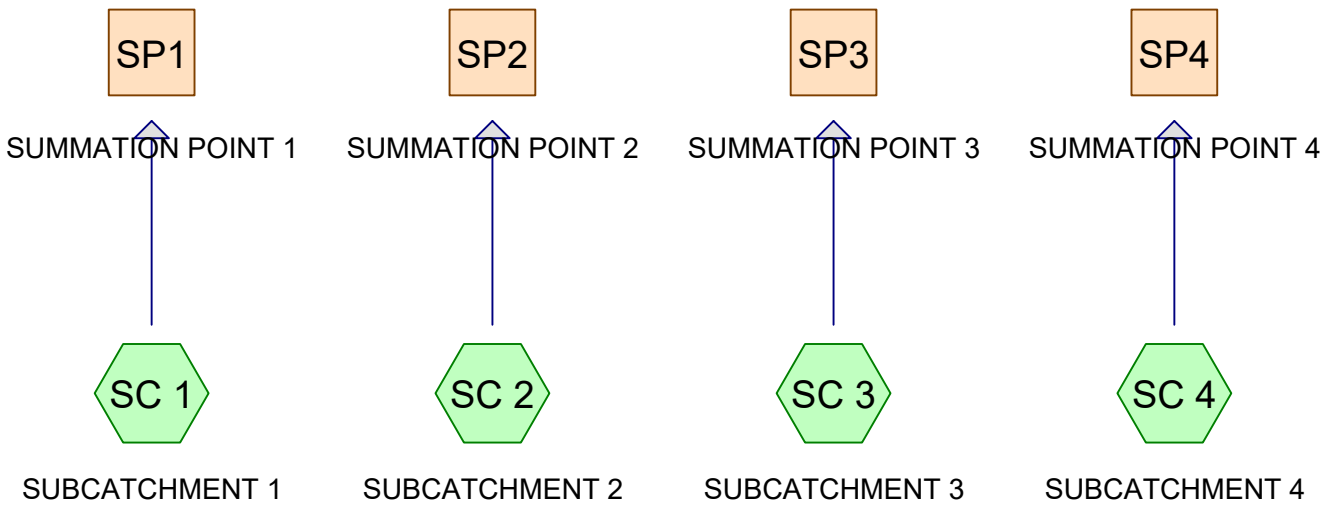
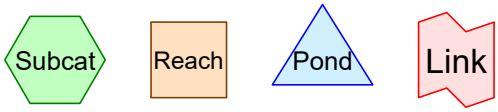
Drew Olehowski, PE
Project Engineer

DJO/jhw/tal







Routing Diagram for 12.23.24 Pre Development
Prepared by Haley Ward, Printed 1/7/2025
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC 1: SUBCATCHMENT1 Runoff Area=62,407 sf 0.00% Impervious Runoff Depth>0.08"
Flow Length=90' Tc=12.0 min CN=50 Runoff=0.02 cfs 0.010 af

Subcatchment SC 2: SUBCATCHMENT2 Runoff Area=283,058 sf 0.00% Impervious Runoff Depth>0.25"
Flow Length=860' Tc=40.1 min CN=58 Runoff=0.70 cfs 0.136 af

Subcatchment SC 3: SUBCATCHMENT3 Runoff Area=140,971 sf 0.00% Impervious Runoff Depth>0.63"
Flow Length=590' Tc=32.8 min CN=69 Runoff=1.60 cfs 0.171 af

Subcatchment SC 4: SUBCATCHMENT4 Runoff Area=246,518 sf 1.18% Impervious Runoff Depth>0.51"
Flow Length=880' Tc=24.7 min CN=66 Runoff=2.57 cfs 0.243 af

Reach SP1: SUMMATION POINT 1 Inflow=0.02 cfs 0.010 af
Outflow=0.02 cfs 0.010 af

Reach SP2: SUMMATION POINT 2 Inflow=0.70 cfs 0.136 af
Outflow=0.70 cfs 0.136 af

Reach SP3: SUMMATION POINT 3 Inflow=1.60 cfs 0.171 af
Outflow=1.60 cfs 0.171 af

Reach SP4: SUMMATION POINT 4 Inflow=2.57 cfs 0.243 af
Outflow=2.57 cfs 0.243 af

Total Runoff Area = 16.826 ac Runoff Volume = 0.559 af Average Runoff Depth = 0.40"
99.60% Pervious = 16.760 ac 0.40% Impervious = 0.067 ac

Summary for Subcatchment SC 1: SUBCATCHMENT 1

Runoff = 0.02 cfs @ 12.51 hrs, Volume= 0.010 af, Depth> 0.08"
Routed to Reach SP1 : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

Area (sf)	CN	Description
35,464	30	Woods, Good, HSG A
26,943	77	Woods, Good, HSG D
62,407	50	Weighted Average
62,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.3	40	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	90	Total			

Summary for Subcatchment SC 2: SUBCATCHMENT 2

Runoff = 0.70 cfs @ 12.54 hrs, Volume= 0.136 af, Depth> 0.25"
Routed to Reach SP2 : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

Area (sf)	CN	Description
147,450	77	Woods, Good, HSG D
94,281	30	Woods, Good, HSG A
41,327	55	Woods, Good, HSG B
283,058	58	Weighted Average
283,058		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.8	75	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.3	270	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.3	310	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	75	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	80	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.1	860	Total			

Summary for Subcatchment SC 3: SUBCATCHMENT 3

Runoff = 1.60 cfs @ 12.32 hrs, Volume= 0.171 af, Depth> 0.63"
Routed to Reach SP3 : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

Area (sf)	CN	Description
24,756	30	Woods, Good, HSG A
116,215	77	Woods, Good, HSG D
140,971	69	Weighted Average
140,971		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.4	400	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	140	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.8	590	Total			

Summary for Subcatchment SC 4: SUBCATCHMENT 4

Runoff = 2.57 cfs @ 12.22 hrs, Volume= 0.243 af, Depth> 0.51"
Routed to Reach SP4 : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	87,432	55	Woods, Good, HSG B
	131,039	70	Woods, Good, HSG C
	23,356	77	Woods, Good, HSG D
*	2,906	98	IMPERVIOUS
	1,328	74	>75% Grass cover, Good, HSG C
	457	80	>75% Grass cover, Good, HSG D
	246,518	66	Weighted Average
	243,612		98.82% Pervious Area
	2,906		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.2	70	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.1750	2.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	520	0.0300	10.39	166.29	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
0.2	150	0.0700	15.88	254.01	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
24.7	880	Total			

Summary for Reach SP1: SUMMATION POINT 1

Inflow Area = 1.433 ac, 0.00% Impervious, Inflow Depth > 0.08" for 2 YEAR event
Inflow = 0.02 cfs @ 12.51 hrs, Volume= 0.010 af
Outflow = 0.02 cfs @ 12.51 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: SUMMATION POINT 2

Inflow Area = 6.498 ac, 0.00% Impervious, Inflow Depth > 0.25" for 2 YEAR event
Inflow = 0.70 cfs @ 12.54 hrs, Volume= 0.136 af
Outflow = 0.70 cfs @ 12.54 hrs, Volume= 0.136 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP3: SUMMATION POINT 3

Inflow Area = 3.236 ac, 0.00% Impervious, Inflow Depth > 0.63" for 2 YEAR event
Inflow = 1.60 cfs @ 12.32 hrs, Volume= 0.171 af
Outflow = 1.60 cfs @ 12.32 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP4: SUMMATION POINT 4

Inflow Area = 5.659 ac, 1.18% Impervious, Inflow Depth > 0.51" for 2 YEAR event
Inflow = 2.57 cfs @ 12.22 hrs, Volume= 0.243 af
Outflow = 2.57 cfs @ 12.22 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC 1: SUBCATCHMENT1 Runoff Area=62,407 sf 0.00% Impervious Runoff Depth>0.45"
Flow Length=90' Tc=12.0 min CN=50 Runoff=0.68 cfs 0.054 af

Subcatchment SC 2: SUBCATCHMENT2 Runoff Area=283,058 sf 0.00% Impervious Runoff Depth>0.83"
Flow Length=860' Tc=40.1 min CN=58 Runoff=3.48 cfs 0.447 af

Subcatchment SC 3: SUBCATCHMENT3 Runoff Area=140,971 sf 0.00% Impervious Runoff Depth>1.50"
Flow Length=590' Tc=32.8 min CN=69 Runoff=4.20 cfs 0.404 af

Subcatchment SC 4: SUBCATCHMENT4 Runoff Area=246,518 sf 1.18% Impervious Runoff Depth>1.31"
Flow Length=880' Tc=24.7 min CN=66 Runoff=7.56 cfs 0.616 af

Reach SP1: SUMMATION POINT 1 Inflow=0.68 cfs 0.054 af
Outflow=0.68 cfs 0.054 af

Reach SP2: SUMMATION POINT 2 Inflow=3.48 cfs 0.447 af
Outflow=3.48 cfs 0.447 af

Reach SP3: SUMMATION POINT 3 Inflow=4.20 cfs 0.404 af
Outflow=4.20 cfs 0.404 af

Reach SP4: SUMMATION POINT 4 Inflow=7.56 cfs 0.616 af
Outflow=7.56 cfs 0.616 af

Total Runoff Area = 16.826 ac Runoff Volume = 1.521 af Average Runoff Depth = 1.08"
99.60% Pervious = 16.760 ac 0.40% Impervious = 0.067 ac

Summary for Subcatchment SC 1: SUBCATCHMENT 1

Runoff = 0.68 cfs @ 12.08 hrs, Volume= 0.054 af, Depth> 0.45"
Routed to Reach SP1 : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

Area (sf)	CN	Description
35,464	30	Woods, Good, HSG A
26,943	77	Woods, Good, HSG D
62,407	50	Weighted Average
62,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.3	40	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	90	Total			

Summary for Subcatchment SC 2: SUBCATCHMENT 2

Runoff = 3.48 cfs @ 12.44 hrs, Volume= 0.447 af, Depth> 0.83"
Routed to Reach SP2 : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

Area (sf)	CN	Description
147,450	77	Woods, Good, HSG D
94,281	30	Woods, Good, HSG A
41,327	55	Woods, Good, HSG B
283,058	58	Weighted Average
283,058		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.8	75	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.3	270	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.3	310	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	75	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	80	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.1	860	Total			

Summary for Subcatchment SC 3: SUBCATCHMENT 3

Runoff = 4.20 cfs @ 12.30 hrs, Volume= 0.404 af, Depth> 1.50"
Routed to Reach SP3 : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

Area (sf)	CN	Description
24,756	30	Woods, Good, HSG A
116,215	77	Woods, Good, HSG D
140,971	69	Weighted Average
140,971		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.4	400	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	140	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.8	590	Total			

Summary for Subcatchment SC 4: SUBCATCHMENT 4

Runoff = 7.56 cfs @ 12.20 hrs, Volume= 0.616 af, Depth> 1.31"
Routed to Reach SP4 : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	87,432	55	Woods, Good, HSG B
	131,039	70	Woods, Good, HSG C
	23,356	77	Woods, Good, HSG D
*	2,906	98	IMPERVIOUS
	1,328	74	>75% Grass cover, Good, HSG C
	457	80	>75% Grass cover, Good, HSG D
	246,518	66	Weighted Average
	243,612		98.82% Pervious Area
	2,906		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.2	70	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.1750	2.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	520	0.0300	10.39	166.29	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
0.2	150	0.0700	15.88	254.01	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
24.7	880	Total			

Summary for Reach SP1: SUMMATION POINT 1

Inflow Area = 1.433 ac, 0.00% Impervious, Inflow Depth > 0.45" for 10 YEAR event
Inflow = 0.68 cfs @ 12.08 hrs, Volume= 0.054 af
Outflow = 0.68 cfs @ 12.08 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: SUMMATION POINT 2

Inflow Area = 6.498 ac, 0.00% Impervious, Inflow Depth > 0.83" for 10 YEAR event
Inflow = 3.48 cfs @ 12.44 hrs, Volume= 0.447 af
Outflow = 3.48 cfs @ 12.44 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP3: SUMMATION POINT 3

Inflow Area = 3.236 ac, 0.00% Impervious, Inflow Depth > 1.50" for 10 YEAR event
Inflow = 4.20 cfs @ 12.30 hrs, Volume= 0.404 af
Outflow = 4.20 cfs @ 12.30 hrs, Volume= 0.404 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP4: SUMMATION POINT 4

Inflow Area = 5.659 ac, 1.18% Impervious, Inflow Depth > 1.31" for 10 YEAR event
Inflow = 7.56 cfs @ 12.20 hrs, Volume= 0.616 af
Outflow = 7.56 cfs @ 12.20 hrs, Volume= 0.616 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment SC 1: SUBCATCHMENT1 Runoff Area=62,407 sf 0.00% Impervious Runoff Depth>0.91"
Flow Length=90' Tc=12.0 min CN=50 Runoff=1.76 cfs 0.109 af

Subcatchment SC 2: SUBCATCHMENT2 Runoff Area=283,058 sf 0.00% Impervious Runoff Depth>1.44"
Flow Length=860' Tc=40.1 min CN=58 Runoff=6.69 cfs 0.779 af

Subcatchment SC 3: SUBCATCHMENT3 Runoff Area=140,971 sf 0.00% Impervious Runoff Depth>2.32"
Flow Length=590' Tc=32.8 min CN=69 Runoff=6.62 cfs 0.624 af

Subcatchment SC 4: SUBCATCHMENT4 Runoff Area=246,518 sf 1.18% Impervious Runoff Depth>2.07"
Flow Length=880' Tc=24.7 min CN=66 Runoff=12.34 cfs 0.977 af

Reach SP1: SUMMATION POINT 1 Inflow=1.76 cfs 0.109 af
Outflow=1.76 cfs 0.109 af

Reach SP2: SUMMATION POINT 2 Inflow=6.69 cfs 0.779 af
Outflow=6.69 cfs 0.779 af

Reach SP3: SUMMATION POINT 3 Inflow=6.62 cfs 0.624 af
Outflow=6.62 cfs 0.624 af

Reach SP4: SUMMATION POINT 4 Inflow=12.34 cfs 0.977 af
Outflow=12.34 cfs 0.977 af

Total Runoff Area = 16.826 ac Runoff Volume = 2.489 af Average Runoff Depth = 1.78"
99.60% Pervious = 16.760 ac 0.40% Impervious = 0.067 ac

Summary for Subcatchment SC 1: SUBCATCHMENT 1

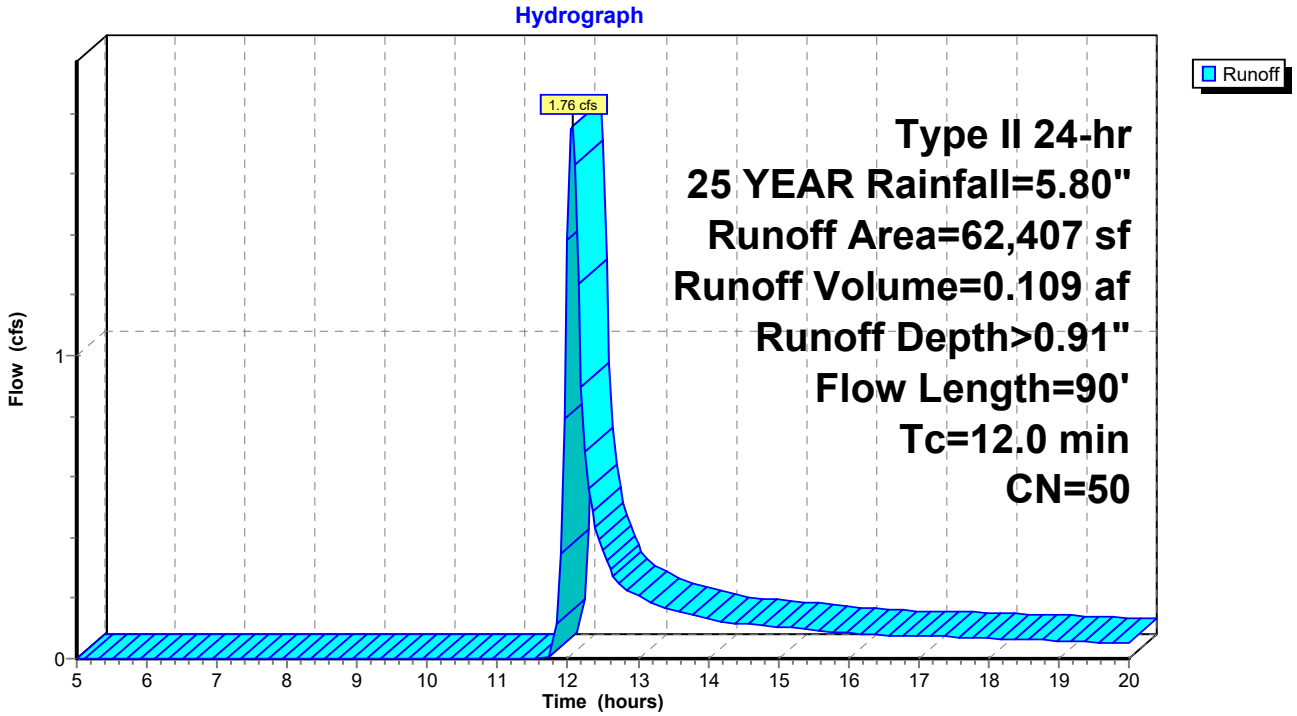
Runoff = 1.76 cfs @ 12.06 hrs, Volume= 0.109 af, Depth> 0.91"
Routed to Reach SP1 : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
35,464	30	Woods, Good, HSG A
26,943	77	Woods, Good, HSG D
62,407	50	Weighted Average
62,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.3	40	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	90	Total			

Subcatchment SC 1: SUBCATCHMENT 1



Summary for Subcatchment SC 2: SUBCATCHMENT 2

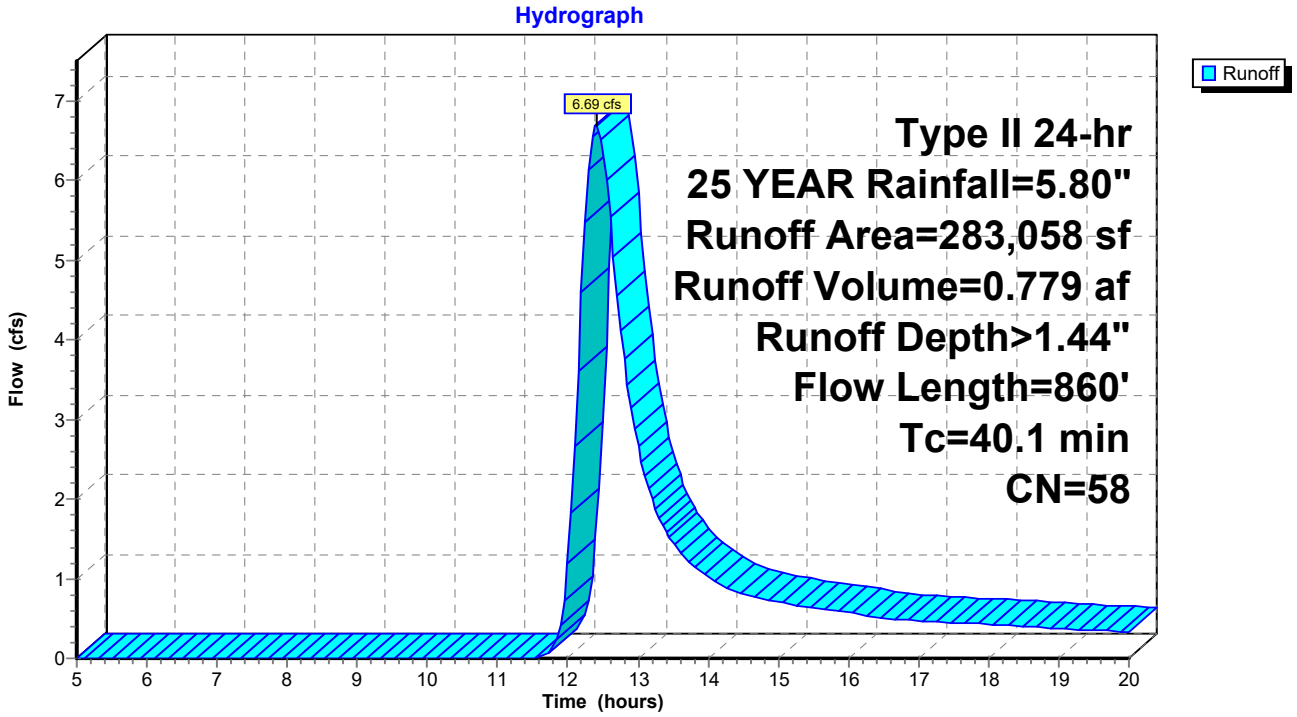
Runoff = 6.69 cfs @ 12.41 hrs, Volume= 0.779 af, Depth> 1.44"
Routed to Reach SP2 : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
147,450	77	Woods, Good, HSG D
94,281	30	Woods, Good, HSG A
41,327	55	Woods, Good, HSG B
283,058	58	Weighted Average
283,058		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.8	75	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.3	270	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.3	310	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	75	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.6	80	0.1900	2.18		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.1	860	Total			

Subcatchment SC 2: SUBCATCHMENT 2



Summary for Subcatchment SC 3: SUBCATCHMENT 3

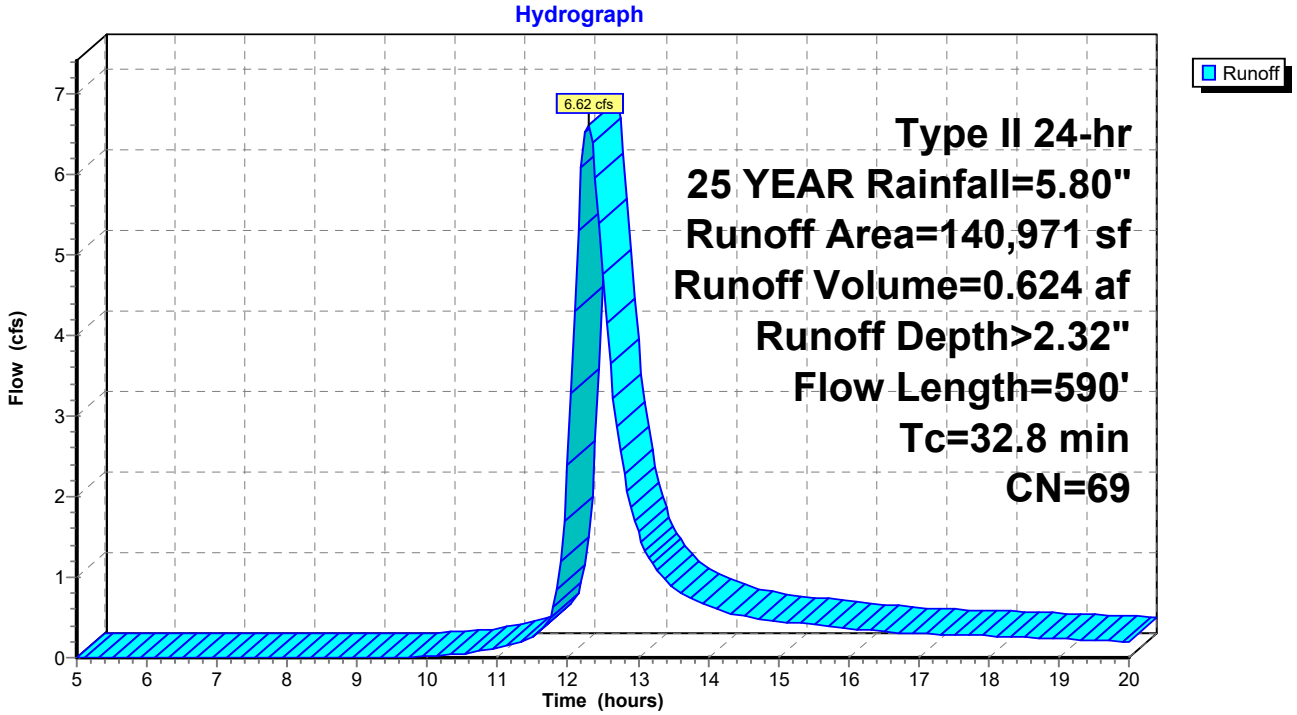
Runoff = 6.62 cfs @ 12.29 hrs, Volume= 0.624 af, Depth> 2.32"
Routed to Reach SP3 : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

Area (sf)	CN	Description
24,756	30	Woods, Good, HSG A
116,215	77	Woods, Good, HSG D
140,971	69	Weighted Average
140,971		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
9.4	400	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	140	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
32.8	590	Total			

Subcatchment SC 3: SUBCATCHMENT 3



Summary for Subcatchment SC 4: SUBCATCHMENT 4

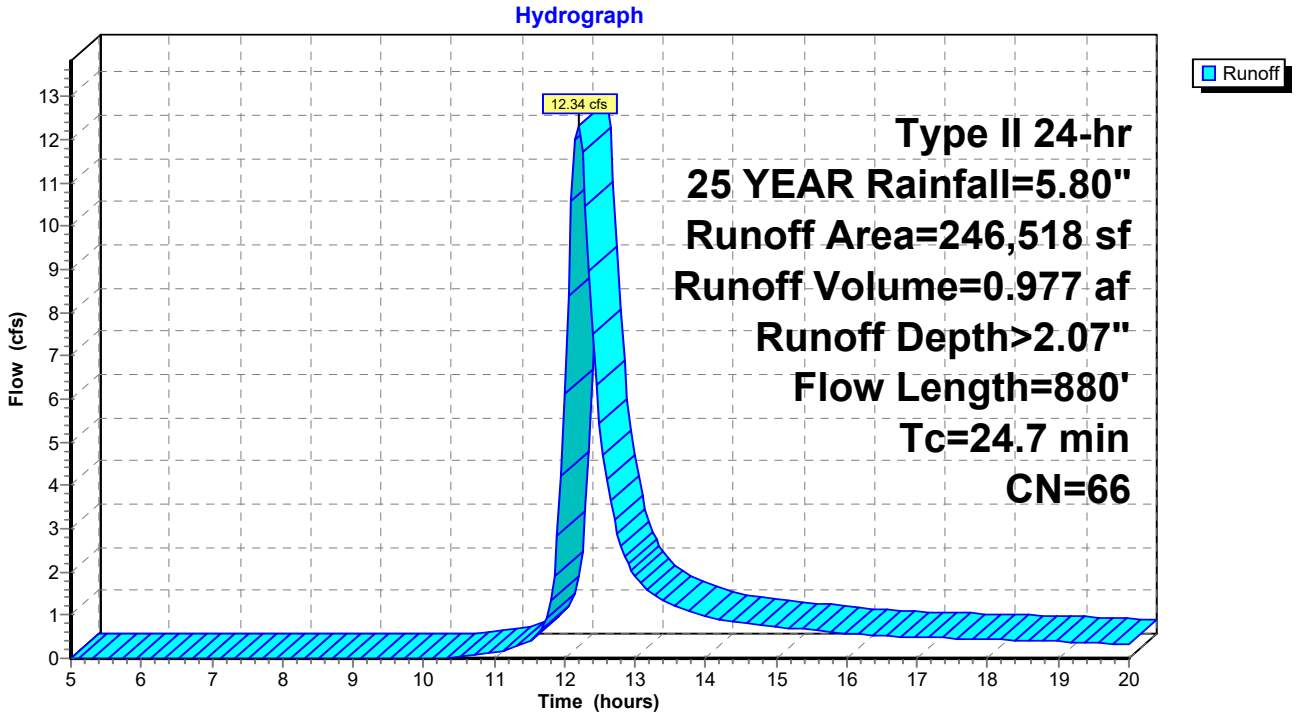
Runoff = 12.34 cfs @ 12.19 hrs, Volume= 0.977 af, Depth> 2.07"
Routed to Reach SP4 : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	87,432	55	Woods, Good, HSG B
	131,039	70	Woods, Good, HSG C
	23,356	77	Woods, Good, HSG D
*	2,906	98	IMPERVIOUS
	1,328	74	>75% Grass cover, Good, HSG C
	457	80	>75% Grass cover, Good, HSG D
	246,518	66	Weighted Average
	243,612		98.82% Pervious Area
	2,906		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.2	70	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.1750	2.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	520	0.0300	10.39	166.29	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
0.2	150	0.0700	15.88	254.01	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
24.7	880	Total			

Subcatchment SC 4: SUBCATCHMENT 4

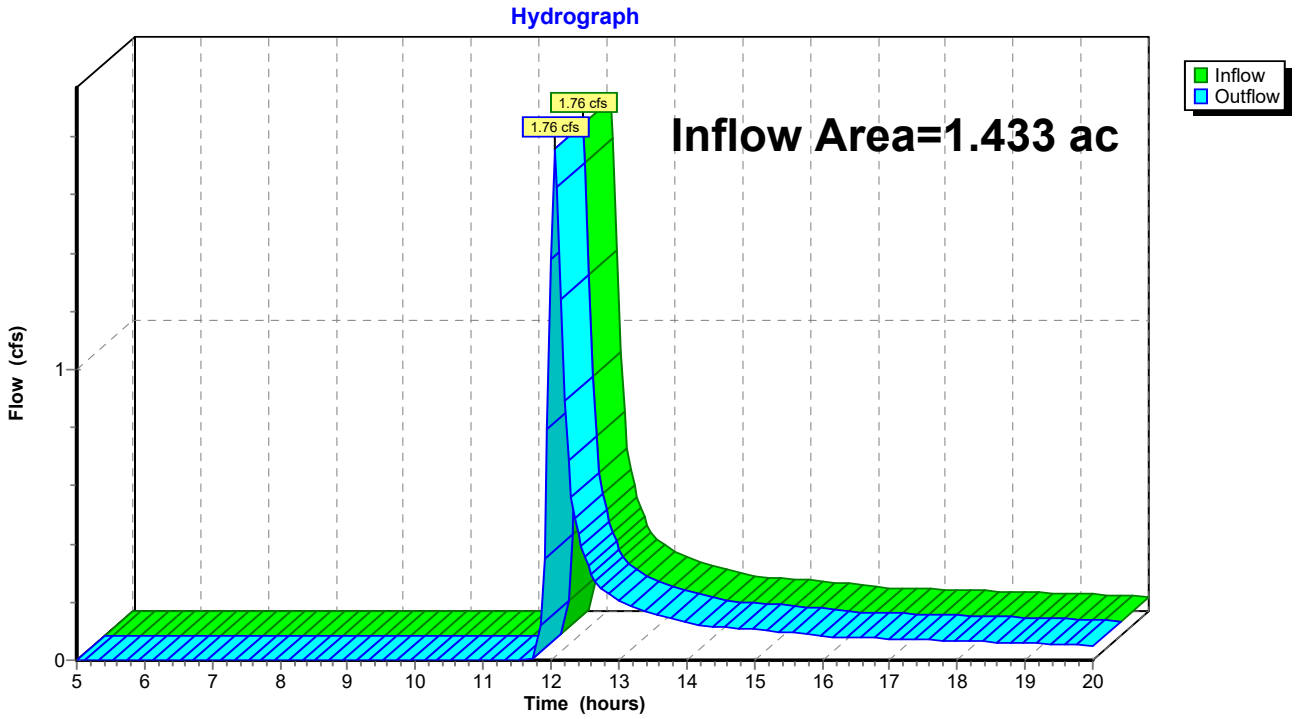


Summary for Reach SP1: SUMMATION POINT 1

Inflow Area = 1.433 ac, 0.00% Impervious, Inflow Depth > 0.91" for 25 YEAR event
Inflow = 1.76 cfs @ 12.06 hrs, Volume= 0.109 af
Outflow = 1.76 cfs @ 12.06 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SUMMATION POINT 1

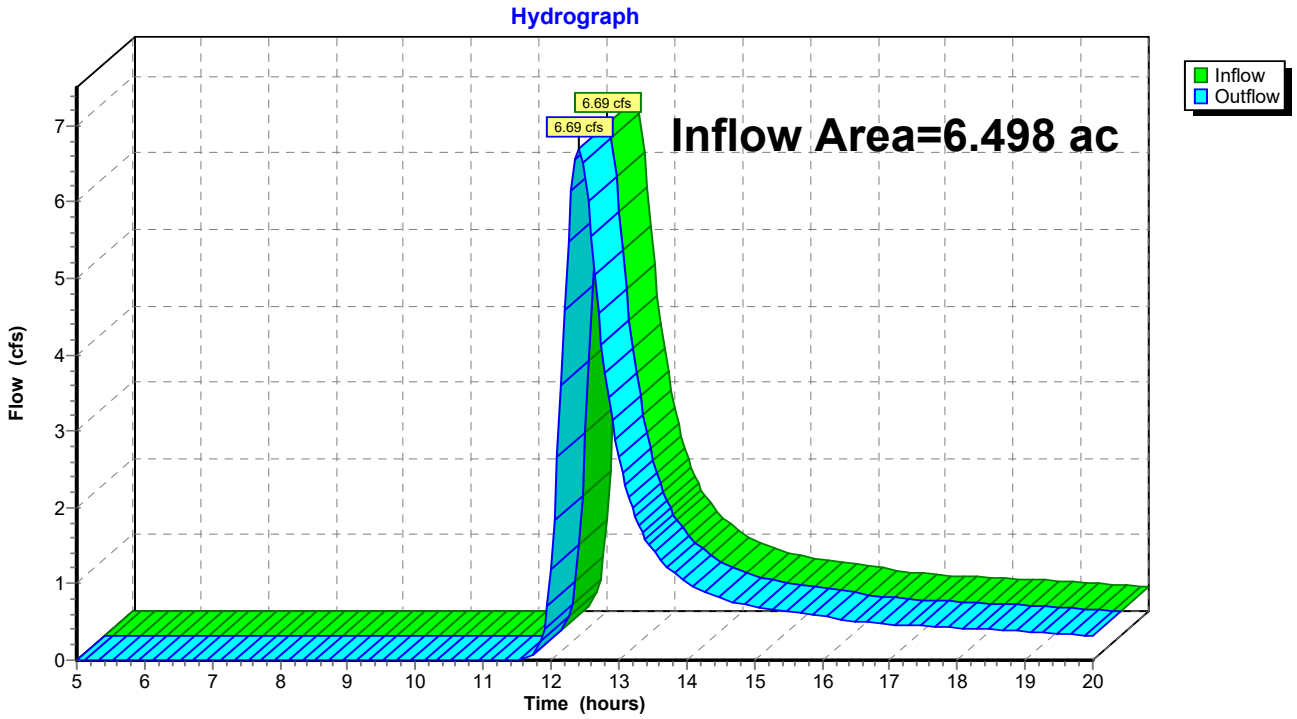


Summary for Reach SP2: SUMMATION POINT 2

Inflow Area = 6.498 ac, 0.00% Impervious, Inflow Depth > 1.44" for 25 YEAR event
Inflow = 6.69 cfs @ 12.41 hrs, Volume= 0.779 af
Outflow = 6.69 cfs @ 12.41 hrs, Volume= 0.779 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: SUMMATION POINT 2

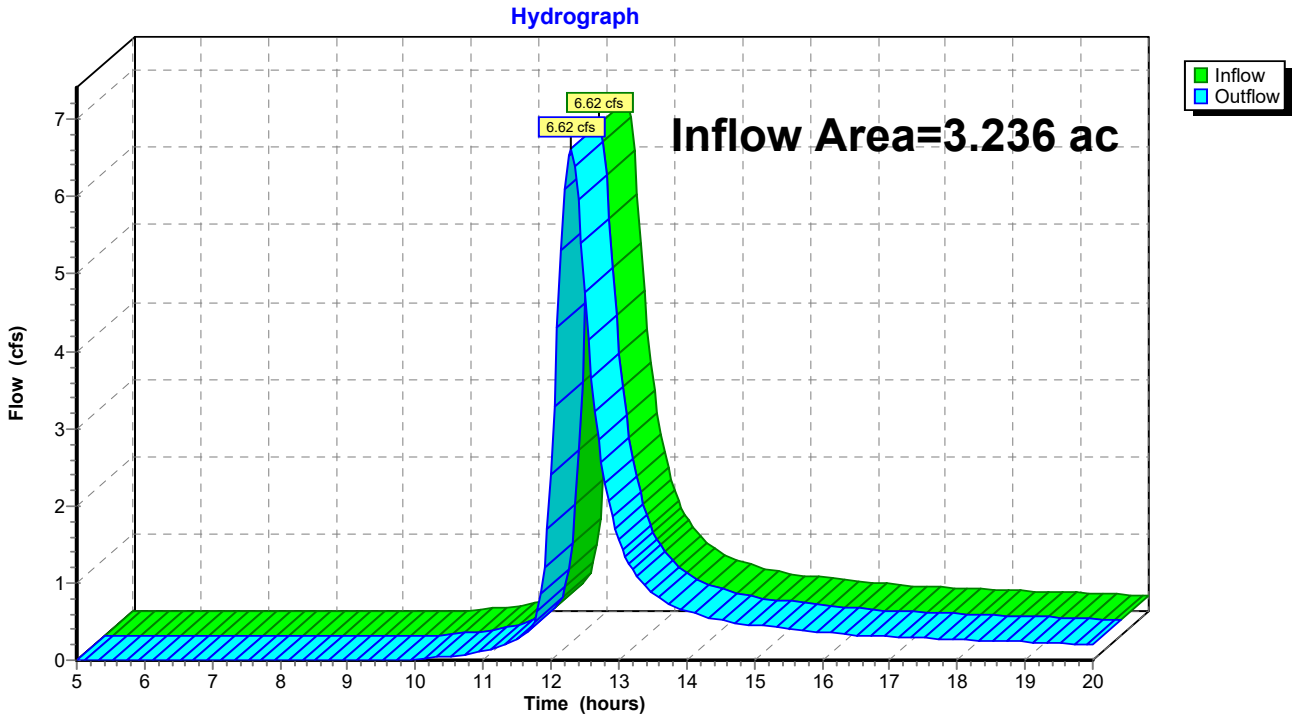


Summary for Reach SP3: SUMMATION POINT 3

Inflow Area = 3.236 ac, 0.00% Impervious, Inflow Depth > 2.32" for 25 YEAR event
Inflow = 6.62 cfs @ 12.29 hrs, Volume= 0.624 af
Outflow = 6.62 cfs @ 12.29 hrs, Volume= 0.624 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP3: SUMMATION POINT 3

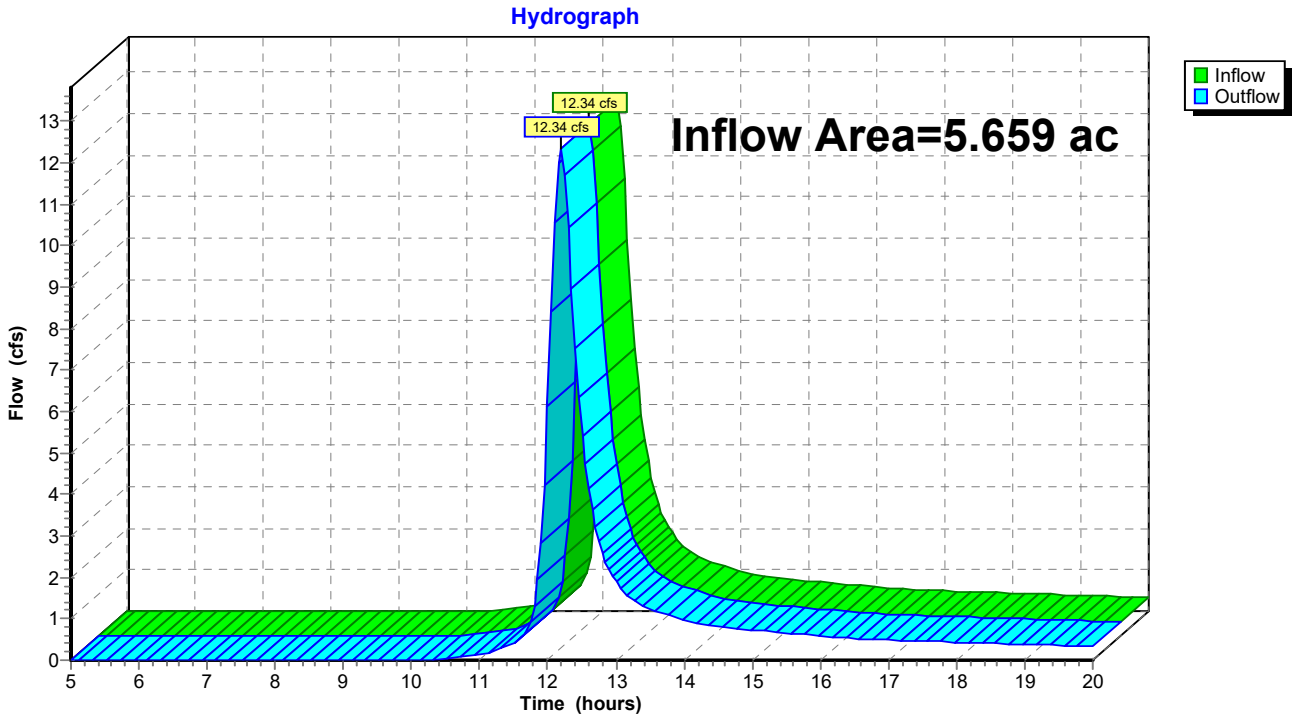


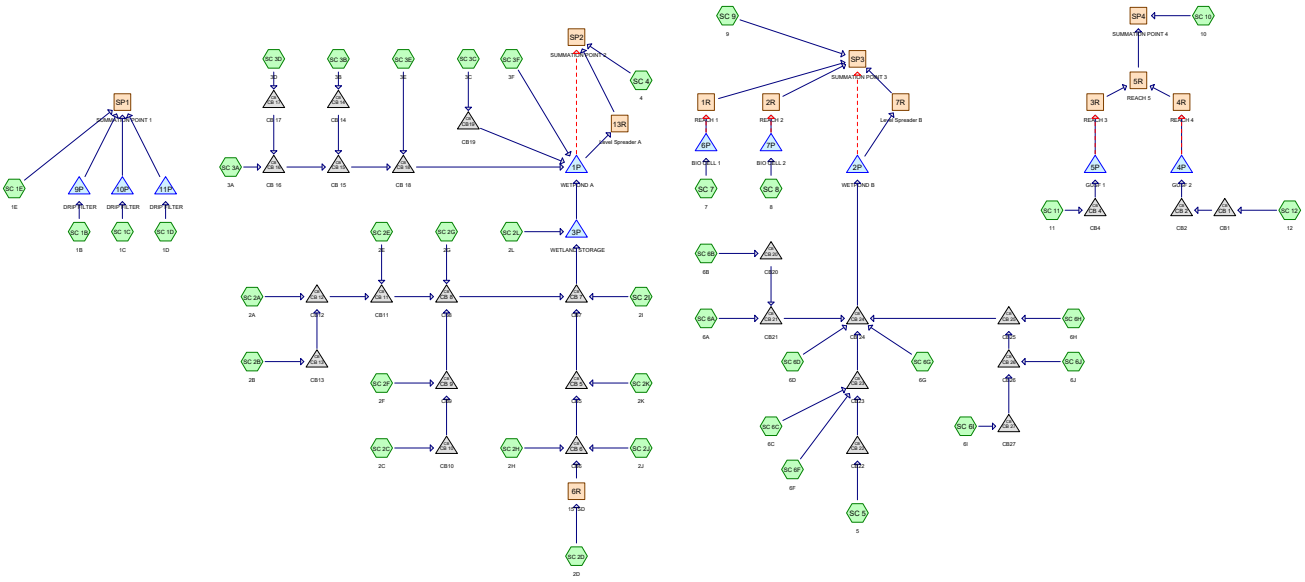
Summary for Reach SP4: SUMMATION POINT 4

Inflow Area = 5.659 ac, 1.18% Impervious, Inflow Depth > 2.07" for 25 YEAR event
Inflow = 12.34 cfs @ 12.19 hrs, Volume= 0.977 af
Outflow = 12.34 cfs @ 12.19 hrs, Volume= 0.977 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP4: SUMMATION POINT 4





Subcat Reach Pond Link

Routing Diagram for 12.23.24 Post Development
Prepared by Haley Ward, Printed 1/9/2025
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentSC 10: 10 Runoff Area=215,464 sf 4.67% Impervious Runoff Depth>0.59"
Flow Length=975' Tc=26.3 min CN=68 Runoff=2.61 cfs 0.245 af

SubcatchmentSC 11: 11 Runoff Area=6,231 sf 60.33% Impervious Runoff Depth>2.02"
Tc=5.0 min CN=91 Runoff=0.54 cfs 0.024 af

SubcatchmentSC 12: 12 Runoff Area=6,712 sf 39.56% Impervious Runoff Depth>1.47"
Tc=5.0 min CN=84 Runoff=0.44 cfs 0.019 af

SubcatchmentSC 1B: 1B Runoff Area=1,959 sf 80.50% Impervious Runoff Depth>2.02"
Tc=5.0 min CN=91 Runoff=0.17 cfs 0.008 af

SubcatchmentSC 1C: 1C Runoff Area=1,765 sf 83.91% Impervious Runoff Depth>1.85"
Tc=5.0 min CN=89 Runoff=0.14 cfs 0.006 af

SubcatchmentSC 1D: 1D Runoff Area=597 sf 72.86% Impervious Runoff Depth>1.34"
Tc=5.0 min CN=82 Runoff=0.04 cfs 0.002 af

SubcatchmentSC 1E: 1E Runoff Area=62,510 sf 0.51% Impervious Runoff Depth>0.14"
Flow Length=90' Tc=12.0 min CN=53 Runoff=0.08 cfs 0.016 af

SubcatchmentSC 2A: 2A Runoff Area=4,578 sf 37.75% Impervious Runoff Depth>1.09"
Tc=5.0 min CN=78 Runoff=0.23 cfs 0.010 af

SubcatchmentSC 2B: 2B Runoff Area=18,437 sf 11.33% Impervious Runoff Depth>1.27"
Flow Length=100' Slope=0.0400 '/' Tc=17.3 min CN=81 Runoff=0.70 cfs 0.045 af

SubcatchmentSC 2C: 2C Runoff Area=17,204 sf 13.75% Impervious Runoff Depth>1.33"
Flow Length=150' Slope=0.0400 '/' Tc=18.2 min CN=82 Runoff=0.67 cfs 0.044 af

SubcatchmentSC 2D: 2D Runoff Area=25,268 sf 8.16% Impervious Runoff Depth>1.21"
Flow Length=160' Tc=16.7 min CN=80 Runoff=0.93 cfs 0.058 af

SubcatchmentSC 2E: 2E Runoff Area=1,696 sf 75.18% Impervious Runoff Depth>1.69"
Tc=5.0 min CN=87 Runoff=0.13 cfs 0.005 af

SubcatchmentSC 2F: 2F Runoff Area=4,269 sf 85.38% Impervious Runoff Depth>2.39"
Tc=5.0 min CN=95 Runoff=0.41 cfs 0.020 af

SubcatchmentSC 2G: 2G Runoff Area=4,911 sf 85.20% Impervious Runoff Depth>2.39"
Tc=5.0 min CN=95 Runoff=0.47 cfs 0.022 af

SubcatchmentSC 2H: 2H Runoff Area=2,966 sf 89.38% Impervious Runoff Depth>2.48"
Tc=5.0 min CN=96 Runoff=0.29 cfs 0.014 af

SubcatchmentSC 2I: 2I Runoff Area=3,665 sf 87.04% Impervious Runoff Depth>2.48"
Tc=5.0 min CN=96 Runoff=0.36 cfs 0.017 af

SubcatchmentSC 2J: 2J Runoff Area=3,930 sf 66.13% Impervious Runoff Depth>2.11"
Tc=5.0 min CN=92 Runoff=0.35 cfs 0.016 af

SubcatchmentSC 2K: 2K Runoff Area=6,095 sf 79.97% Impervious Runoff Depth>2.30"
Tc=5.0 min CN=94 Runoff=0.57 cfs 0.027 af

SubcatchmentSC 2L: 2L Runoff Area=46,782 sf 22.31% Impervious Runoff Depth>1.27"
Flow Length=240' Tc=9.4 min CN=81 Runoff=2.32 cfs 0.114 af

SubcatchmentSC 3A: 3A Runoff Area=5,497 sf 76.46% Impervious Runoff Depth>1.47"
Tc=5.0 min CN=84 Runoff=0.36 cfs 0.016 af

SubcatchmentSC 3B: 3B Runoff Area=2,003 sf 77.88% Impervious Runoff Depth>1.55"
Tc=5.0 min CN=85 Runoff=0.14 cfs 0.006 af

SubcatchmentSC 3C: 3C Runoff Area=19,289 sf 68.36% Impervious Runoff Depth>1.62"
Flow Length=297' Tc=8.3 min CN=86 Runoff=1.25 cfs 0.060 af

SubcatchmentSC 3D: 3D Runoff Area=3,763 sf 76.08% Impervious Runoff Depth>1.47"
Tc=5.0 min CN=84 Runoff=0.25 cfs 0.011 af

SubcatchmentSC 3E: 3E Runoff Area=3,080 sf 95.91% Impervious Runoff Depth>2.48"
Tc=5.0 min CN=96 Runoff=0.30 cfs 0.015 af

SubcatchmentSC 3F: 3F Runoff Area=39,693 sf 37.18% Impervious Runoff Depth>0.52"
Tc=5.0 min CN=66 Runoff=0.88 cfs 0.040 af

SubcatchmentSC 4: 4 Runoff Area=63,911 sf 5.70% Impervious Runoff Depth>0.01"
Flow Length=130' Slope=0.1000 '/' Tc=11.8 min CN=43 Runoff=0.00 cfs 0.001 af

SubcatchmentSC 5: 5 Runoff Area=61,579 sf 24.75% Impervious Runoff Depth>0.64"
Flow Length=492' Tc=8.3 min CN=69 Runoff=1.54 cfs 0.076 af

SubcatchmentSC 6A: 6A Runoff Area=4,510 sf 77.38% Impervious Runoff Depth>1.94"
Tc=5.0 min CN=90 Runoff=0.37 cfs 0.017 af

SubcatchmentSC 6B: 6B Runoff Area=6,028 sf 59.72% Impervious Runoff Depth>1.41"
Tc=5.0 min CN=83 Runoff=0.38 cfs 0.016 af

SubcatchmentSC 6C: 6C Runoff Area=4,709 sf 74.47% Impervious Runoff Depth>1.85"
Tc=5.0 min CN=89 Runoff=0.38 cfs 0.017 af

SubcatchmentSC 6D: 6D Runoff Area=7,764 sf 61.15% Impervious Runoff Depth>1.47"
Tc=5.0 min CN=84 Runoff=0.51 cfs 0.022 af

SubcatchmentSC 6F: 6F Runoff Area=6,532 sf 74.76% Impervious Runoff Depth>1.85"
Tc=5.0 min CN=89 Runoff=0.52 cfs 0.023 af

SubcatchmentSC 6G: 6G Runoff Area=8,171 sf 17.93% Impervious Runoff Depth>0.60"
Tc=5.0 min CN=68 Runoff=0.21 cfs 0.009 af

SubcatchmentSC 6H: 6H Runoff Area=1,110 sf 100.00% Impervious Runoff Depth>2.65"
Tc=5.0 min CN=98 Runoff=0.11 cfs 0.006 af

SubcatchmentSC 6I: 6I Runoff Area=10,155 sf 78.92% Impervious Runoff Depth>1.94"
Tc=5.0 min CN=90 Runoff=0.84 cfs 0.038 af

SubcatchmentSC 6J: 6J Runoff Area=3,344 sf 94.29% Impervious Runoff Depth>2.48"
Tc=5.0 min CN=96 Runoff=0.33 cfs 0.016 af

SubcatchmentSC 7: 7 Runoff Area=2,921 sf 35.16% Impervious Runoff Depth>0.38"
Tc=5.0 min CN=62 Runoff=0.04 cfs 0.002 af

SubcatchmentSC 8: 8 Runoff Area=2,696 sf 37.76% Impervious Runoff Depth>0.48"
Tc=5.0 min CN=65 Runoff=0.05 cfs 0.002 af

SubcatchmentSC 9: 9 Runoff Area=41,160 sf 7.19% Impervious Runoff Depth>0.07"
Tc=5.0 min CN=49 Runoff=0.01 cfs 0.005 af

Reach 1R: REACH 1 Inflow=0.04 cfs 0.002 af
Outflow=0.04 cfs 0.002 af

Reach 2R: REACH 2 Inflow=0.06 cfs 0.002 af
Outflow=0.06 cfs 0.002 af

Reach 3R: REACH 3 Avg. Flow Depth=0.02' Max Vel=1.19 fps Inflow=0.10 cfs 0.024 af
n=0.025 L=425.0' S=0.0300 '/' Capacity=538.48 cfs Outflow=0.10 cfs 0.024 af

Reach 4R: REACH 4 Avg. Flow Depth=0.02' Max Vel=1.19 fps Inflow=0.10 cfs 0.019 af
n=0.025 L=250.0' S=0.0300 '/' Capacity=538.48 cfs Outflow=0.10 cfs 0.019 af

Reach 5R: REACH 5 Avg. Flow Depth=0.05' Max Vel=1.02 fps Inflow=0.20 cfs 0.043 af
n=0.035 L=360.0' S=0.0300 '/' Capacity=384.63 cfs Outflow=0.20 cfs 0.043 af

Reach 6R: 15" SD Avg. Flow Depth=0.38' Max Vel=2.92 fps Inflow=0.93 cfs 0.058 af
15.0" Round Pipe n=0.013 L=38.0' S=0.0050 '/' Capacity=4.57 cfs Outflow=0.92 cfs 0.058 af

Reach 7R: Level Spreader B Avg. Flow Depth=0.12' Max Vel=0.23 fps Inflow=0.50 cfs 0.238 af
n=0.240 L=20.0' S=0.0250 '/' Capacity=63.37 cfs Outflow=0.50 cfs 0.237 af

Reach 13R: Level Spreader A Avg. Flow Depth=0.12' Max Vel=0.24 fps Inflow=0.52 cfs 0.251 af
n=0.240 L=20.0' S=0.0250 '/' Capacity=63.37 cfs Outflow=0.52 cfs 0.250 af

Reach SP1: SUMMATION POINT 1 Inflow=0.29 cfs 0.032 af
Outflow=0.29 cfs 0.032 af

Reach SP2: SUMMATION POINT 2 Inflow=0.52 cfs 0.250 af
Outflow=0.52 cfs 0.250 af

Reach SP3: SUMMATION POINT 3 Inflow=0.59 cfs 0.246 af
Outflow=0.59 cfs 0.246 af

Reach SP4: SUMMATION POINT 4 Inflow=2.81 cfs 0.287 af
Outflow=2.81 cfs 0.287 af

Pond 1P: WETPOND A Peak Elev=76.25' Storage=36,515 cf Inflow=7.16 cfs 0.536 af
Primary=0.52 cfs 0.251 af Secondary=0.00 cfs 0.000 af Outflow=0.52 cfs 0.251 af

Pond 2P: WETPOND B Peak Elev=74.02' Storage=16,568 cf Inflow=4.93 cfs 0.239 af
Primary=0.50 cfs 0.238 af Secondary=0.00 cfs 0.000 af Outflow=0.50 cfs 0.238 af

Pond 3P: WETLAND STORAGE Peak Elev=80.14' Storage=2,185 cf Inflow=6.34 cfs 0.392 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0050 '/' Outflow=4.77 cfs 0.391 af

Pond 4P: GUSF 2 Peak Elev=76.07' Storage=220 cf Inflow=0.44 cfs 0.019 af
Primary=0.10 cfs 0.019 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.019 af

Pond 5P: GUSF 1 Peak Elev=83.01' Storage=312 cf Inflow=0.54 cfs 0.024 af
Primary=0.10 cfs 0.024 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.024 af

Pond 6P: BIO CELL 1 Peak Elev=78.51' Storage=0 cf Inflow=0.04 cfs 0.002 af
Primary=0.04 cfs 0.002 af Secondary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.002 af

Pond 7P: BIO CELL 2 Peak Elev=77.01' Storage=25 cf Inflow=0.05 cfs 0.002 af
Primary=0.06 cfs 0.002 af Secondary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.002 af

Pond 9P: DRIP FILTER Peak Elev=0.68' Storage=55 cf Inflow=0.17 cfs 0.008 af
Outflow=0.15 cfs 0.008 af

Pond 10P: DRIP FILTER Peak Elev=0.61' Storage=49 cf Inflow=0.14 cfs 0.006 af
Outflow=0.09 cfs 0.006 af

Pond 11P: DRIP FILTER Peak Elev=0.01' Storage=1 cf Inflow=0.04 cfs 0.002 af
Outflow=0.04 cfs 0.002 af

Pond CB 1: CB1 Peak Elev=77.13' Inflow=0.44 cfs 0.019 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.44 cfs 0.019 af

Pond CB 10: CB10 Peak Elev=82.71' Inflow=0.67 cfs 0.044 af
15.0" Round Culvert n=0.013 L=55.0' S=0.0051 '/' Outflow=0.67 cfs 0.044 af

Pond CB 11: CB11 Peak Elev=82.98' Inflow=0.84 cfs 0.060 af
15.0" Round Culvert n=0.013 L=95.0' S=0.0049 '/' Outflow=0.84 cfs 0.060 af

Pond CB 12: CB12 Peak Elev=83.19' Inflow=0.76 cfs 0.054 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.76 cfs 0.054 af

Pond CB 13: CB13 Peak Elev=83.62' Inflow=0.70 cfs 0.045 af
15.0" Round Culvert n=0.013 L=75.0' S=0.0049 '/' Outflow=0.70 cfs 0.045 af

Pond CB 14: CB 14 Peak Elev=83.44' Inflow=0.14 cfs 0.006 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0910 '/' Outflow=0.14 cfs 0.006 af

Pond CB 15: CB 15 Peak Elev=81.79' Inflow=0.75 cfs 0.032 af
15.0" Round Culvert n=0.013 L=135.0' S=0.0200 '/' Outflow=0.75 cfs 0.032 af

Pond CB 16: CB 16 Peak Elev=82.03' Inflow=0.61 cfs 0.026 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=0.61 cfs 0.026 af

Pond CB 17: CB 17 Peak Elev=82.33' Inflow=0.25 cfs 0.011 af
15.0" Round Culvert n=0.013 L=76.0' S=0.0050 '/' Outflow=0.25 cfs 0.011 af

Pond CB 18: CB 18 Peak Elev=79.08' Inflow=1.05 cfs 0.047 af
15.0" Round Culvert n=0.013 L=73.0' S=0.0100 '/' Outflow=1.05 cfs 0.047 af

Pond CB 2: CB2 Peak Elev=77.18' Inflow=0.44 cfs 0.019 af
6.0" Round Culvert n=0.013 L=15.0' S=0.0053 '/' Outflow=0.44 cfs 0.019 af

Pond CB 20: CB20 Peak Elev=79.15' Inflow=0.38 cfs 0.016 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.38 cfs 0.016 af

Pond CB 21: CB21 Peak Elev=79.06' Inflow=0.75 cfs 0.033 af
15.0" Round Culvert n=0.013 L=116.0' S=0.0285 '/' Outflow=0.75 cfs 0.033 af

Pond CB 22: CB22 Peak Elev=75.04' Inflow=1.54 cfs 0.076 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=1.54 cfs 0.076 af

Pond CB 23: CB23 Peak Elev=75.00' Inflow=2.31 cfs 0.115 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=2.31 cfs 0.115 af

Pond CB 24: CB 24 Peak Elev=75.18' Inflow=4.93 cfs 0.239 af
24.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/' Outflow=4.93 cfs 0.239 af

Pond CB 25: CB25 Peak Elev=77.52' Inflow=1.29 cfs 0.059 af
15.0" Round Culvert n=0.013 L=150.0' S=0.0107 '/' Outflow=1.29 cfs 0.059 af

Pond CB 26: CB26 Peak Elev=79.04' Inflow=1.17 cfs 0.054 af
15.0" Round Culvert n=0.013 L=110.0' S=0.0132 '/' Outflow=1.17 cfs 0.054 af

Pond CB 27: CB27 Peak Elev=79.24' Inflow=0.84 cfs 0.038 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=0.84 cfs 0.038 af

Pond CB 4: CB4 Peak Elev=82.59' Inflow=0.54 cfs 0.024 af
15.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=0.54 cfs 0.024 af

Pond CB 5: CB5 Peak Elev=81.88' Inflow=1.72 cfs 0.115 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=1.72 cfs 0.115 af

Pond CB 6: CB6 Peak Elev=82.00' Inflow=1.21 cfs 0.088 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=1.21 cfs 0.088 af

Pond CB 7: CB7 Peak Elev=81.71' Inflow=4.10 cfs 0.278 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=4.10 cfs 0.278 af

Pond CB 8: CB8 Peak Elev=82.55' Inflow=2.05 cfs 0.146 af
15.0" Round Culvert n=0.013 L=42.0' S=0.0050 '/' Outflow=2.05 cfs 0.146 af

Pond CB 9: CB9 Peak Elev=82.41' Inflow=0.82 cfs 0.063 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.82 cfs 0.063 af

Pond CB19: CB19 Peak Elev=77.16' Inflow=1.25 cfs 0.060 af
15.0" Round Culvert n=0.013 L=40.0' S=0.0150 '/' Outflow=1.25 cfs 0.060 af

Total Runoff Area = 16.826 ac Runoff Volume = 1.107 af Average Runoff Depth = 0.79"
78.34% Pervious = 13.181 ac 21.66% Impervious = 3.645 ac

Summary for Subcatchment SC 10: 10

Runoff = 2.61 cfs @ 12.24 hrs, Volume= 0.245 af, Depth> 0.59"
Routed to Reach SP4 : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	53,485	55	Woods, Good, HSG B
	14,342	61	>75% Grass cover, Good, HSG B
	110,909	70	Woods, Good, HSG C
	11,725	74	>75% Grass cover, Good, HSG C
	9,203	77	Woods, Good, HSG D
	5,736	80	>75% Grass cover, Good, HSG D
*	10,064	98	IMPERVIOUS
	215,464	68	Weighted Average
	205,400		95.33% Pervious Area
	10,064		4.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.7	140	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.1750	2.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	75	0.0100	10.72	386.00	**Channel Flow,** Area= 36.0 sf Perim= 18.0' r= 2.00' n= 0.022 Earth, clean & straight
0.8	470	0.0300	10.39	166.29	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
0.2	150	0.0700	15.88	254.01	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
26.3	975	Total			

Summary for Subcatchment SC 11: 11

Runoff = 0.54 cfs @ 11.95 hrs, Volume= 0.024 af, Depth> 2.02"
Routed to Pond CB 4 : CB4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	2,472	80	>75% Grass cover, Good, HSG D
*	3,759	98	IMPERVIOUS
	6,231	91	Weighted Average
	2,472		39.67% Pervious Area
	3,759		60.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 12: 12

Runoff = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af, Depth> 1.47"
Routed to Pond CB 1 : CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	3,060	74	>75% Grass cover, Good, HSG C
	997	80	>75% Grass cover, Good, HSG D
*	2,655	98	IMPERVIOUS
	6,712	84	Weighted Average
	4,057		60.44% Pervious Area
	2,655		39.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1B: 1B

Runoff = 0.17 cfs @ 11.95 hrs, Volume= 0.008 af, Depth> 2.02"
Routed to Pond 9P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	1,577	98	IMPERVIOUS
	160	39	>75% Grass cover, Good, HSG A
	222	80	>75% Grass cover, Good, HSG D
	1,959	91	Weighted Average
	382		19.50% Pervious Area
	1,577		80.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1C: 1C

Runoff = 0.14 cfs @ 11.95 hrs, Volume= 0.006 af, Depth> 1.85"
Routed to Pond 10P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	1,481	98	IMPERVIOUS
	284	39	>75% Grass cover, Good, HSG A
	1,765	89	Weighted Average
	284		16.09% Pervious Area
	1,481		83.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1D: 1D

Runoff = 0.04 cfs @ 11.96 hrs, Volume= 0.002 af, Depth> 1.34"
Routed to Pond 11P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	435	98	IMPERVIOUS
	162	39	>75% Grass cover, Good, HSG A
	597	82	Weighted Average
	162		27.14% Pervious Area
	435		72.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1E: 1E

Runoff = 0.08 cfs @ 12.14 hrs, Volume= 0.016 af, Depth> 0.14"
Routed to Reach SP1 : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	27,881	30	Woods, Good, HSG A
	19,766	77	Woods, Good, HSG D
	5,258	39	>75% Grass cover, Good, HSG A
	9,286	80	>75% Grass cover, Good, HSG D
*	319	98	IMPERVIOUS
	62,510	53	Weighted Average
	62,191		99.49% Pervious Area
	319		0.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.3	40	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	90	Total			

Summary for Subcatchment SC 2A: 2A

Runoff = 0.23 cfs @ 11.96 hrs, Volume= 0.010 af, Depth> 1.09"
Routed to Pond CB 12 : CB12

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	989	39	>75% Grass cover, Good, HSG A
	1,861	80	>75% Grass cover, Good, HSG D
*	1,728	98	IMPERVIOUS
	4,578	78	Weighted Average
	2,850		62.25% Pervious Area
	1,728		37.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2B: 2B

Runoff = 0.70 cfs @ 12.10 hrs, Volume= 0.045 af, Depth> 1.27"
Routed to Pond CB 13 : CB13

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	7,086	77	Woods, Good, HSG D
	9,262	80	>75% Grass cover, Good, HSG D
*	2,089	98	IMPERVIOUS
	18,437	81	Weighted Average
	16,348		88.67% Pervious Area
	2,089		11.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	50	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.3	100	Total			

Summary for Subcatchment SC 2C: 2C

Runoff = 0.67 cfs @ 12.11 hrs, Volume= 0.044 af, Depth> 1.33"
Routed to Pond CB 10 : CB10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	4,892	77	Woods, Good, HSG D
	9,947	80	>75% Grass cover, Good, HSG D
*	2,365	98	IMPERVIOUS
	17,204	82	Weighted Average
	14,839		86.25% Pervious Area
	2,365		13.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.7	100	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	150	Total			

Summary for Subcatchment SC 2D: 2D

Runoff = 0.93 cfs @ 12.10 hrs, Volume= 0.058 af, Depth> 1.21"
Routed to Reach 6R : 15" SD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	10,993	77	Woods, Good, HSG D
	12,213	80	>75% Grass cover, Good, HSG D
*	2,062	98	IMPERVIOUS
	25,268	80	Weighted Average
	23,206		91.84% Pervious Area
	2,062		8.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0600	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.6	110	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.7	160	Total			

Summary for Subcatchment SC 2E: 2E

Runoff = 0.13 cfs @ 11.96 hrs, Volume= 0.005 af, Depth> 1.69"
Routed to Pond CB 11 : CB11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	276	39	>75% Grass cover, Good, HSG A
	145	80	>75% Grass cover, Good, HSG D
*	1,275	98	IMPERVIOUS
	1,696	87	Weighted Average
	421		24.82% Pervious Area
	1,275		75.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2F: 2F

Runoff = 0.41 cfs @ 11.95 hrs, Volume= 0.020 af, Depth> 2.39"
Routed to Pond CB 9 : CB9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	624	80	>75% Grass cover, Good, HSG D
*	3,645	98	IMPERVIOUS
	4,269	95	Weighted Average
	624		14.62% Pervious Area
	3,645		85.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2G: 2G

Runoff = 0.47 cfs @ 11.95 hrs, Volume= 0.022 af, Depth> 2.39"
Routed to Pond CB 8 : CB8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	727	80	>75% Grass cover, Good, HSG D
*	4,184	98	IMPERVIOUS
	4,911	95	Weighted Average
	727		14.80% Pervious Area
	4,184		85.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2H: 2H

Runoff = 0.29 cfs @ 11.95 hrs, Volume= 0.014 af, Depth> 2.48"
Routed to Pond CB 6 : CB6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	315	80	>75% Grass cover, Good, HSG D
*	2,651	98	IMPERVIOUS
	2,966	96	Weighted Average
	315		10.62% Pervious Area
	2,651		89.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2I: 2I

Runoff = 0.36 cfs @ 11.95 hrs, Volume= 0.017 af, Depth> 2.48"
Routed to Pond CB 7 : CB7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	475	80	>75% Grass cover, Good, HSG D
*	3,190	98	IMPERVIOUS
	3,665	96	Weighted Average
	475		12.96% Pervious Area
	3,190		87.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2J: 2J

Runoff = 0.35 cfs @ 11.95 hrs, Volume= 0.016 af, Depth> 2.11"
Routed to Pond CB 6 : CB6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,331	80	>75% Grass cover, Good, HSG D
*	2,599	98	IMPERVIOUS
	3,930	92	Weighted Average
	1,331		33.87% Pervious Area
	2,599		66.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2K: 2K

Runoff = 0.57 cfs @ 11.95 hrs, Volume= 0.027 af, Depth> 2.30"
Routed to Pond CB 5 : CB5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,221	80	>75% Grass cover, Good, HSG D
*	4,874	98	IMPERVIOUS
	6,095	94	Weighted Average
	1,221		20.03% Pervious Area
	4,874		79.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2L: 2L

Runoff = 2.32 cfs @ 12.01 hrs, Volume= 0.114 af, Depth> 1.27"
Routed to Pond 3P : WETLAND STORAGE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	918	39	>75% Grass cover, Good, HSG A
	221	55	Woods, Good, HSG B
	3,708	61	>75% Grass cover, Good, HSG B
	6,650	77	Woods, Good, HSG D
	24,849	80	>75% Grass cover, Good, HSG D
*	10,436	98	IMPERVIOUS
	46,782	81	Weighted Average
	36,346		77.69% Pervious Area
	10,436		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.10"
0.4	90	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
3.3	100	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	240	Total			

Summary for Subcatchment SC 3A: 3A

Runoff = 0.36 cfs @ 11.96 hrs, Volume= 0.016 af, Depth> 1.47"
Routed to Pond CB 16 : CB 16

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,294	39	>75% Grass cover, Good, HSG A
*	4,203	98	IMPERVIOUS
	5,497	84	Weighted Average
	1,294		23.54% Pervious Area
	4,203		76.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3B: 3B

Runoff = 0.14 cfs @ 11.96 hrs, Volume= 0.006 af, Depth> 1.55"
Routed to Pond CB 14 : CB 14

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	443	39	>75% Grass cover, Good, HSG A
*	1,560	98	IMPERVIOUS
	2,003	85	Weighted Average
	443		22.12% Pervious Area
	1,560		77.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3C: 3C

Runoff = 1.25 cfs @ 12.00 hrs, Volume= 0.060 af, Depth> 1.62"
Routed to Pond CB19 : CB19

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,827	39	>75% Grass cover, Good, HSG A
	2,448	61	>75% Grass cover, Good, HSG B
	1,828	80	>75% Grass cover, Good, HSG D
*	13,186	98	IMPERVIOUS
	19,289	86	Weighted Average
	6,103		31.64% Pervious Area
	13,186		68.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	12	0.0580	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.10"
7.1	65	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.10"
1.1	220	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	297	Total			

Summary for Subcatchment SC 3D: 3D

Runoff = 0.25 cfs @ 11.96 hrs, Volume= 0.011 af, Depth> 1.47"
Routed to Pond CB 17 : CB 17

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	900	39	>75% Grass cover, Good, HSG A
*	2,863	98	IMPERVIOUS
	3,763	84	Weighted Average
	900		23.92% Pervious Area
	2,863		76.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3E: 3E

Runoff = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af, Depth> 2.48"
Routed to Pond CB 18 : CB 18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	91	39	>75% Grass cover, Good, HSG A
*	2,954	98	IMPERVIOUS
	35	80	>75% Grass cover, Good, HSG D
	3,080	96	Weighted Average
	126		4.09% Pervious Area
	2,954		95.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3F: 3F

Runoff = 0.88 cfs @ 11.98 hrs, Volume= 0.040 af, Depth> 0.52"
Routed to Pond 1P : WETPOND A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	18,576	39	>75% Grass cover, Good, HSG A
	4,092	61	>75% Grass cover, Good, HSG B
	2,268	80	>75% Grass cover, Good, HSG D
*	14,757	98	IMPERVIOUS
	39,693	66	Weighted Average
	24,936		62.82% Pervious Area
	14,757		37.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 4: 4

Runoff = 0.00 cfs @ 19.42 hrs, Volume= 0.001 af, Depth> 0.01"
Routed to Reach SP2 : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	31,847	30	Woods, Good, HSG A
	10,452	39	>75% Grass cover, Good, HSG A
	10,898	55	Woods, Good, HSG B
	7,071	61	>75% Grass cover, Good, HSG B
*	3,643	98	IMPERVIOUS
	63,911	43	Weighted Average
	60,268		94.30% Pervious Area
	3,643		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.10"
0.3	30	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.8	130	Total			

Summary for Subcatchment SC 5: 5

Runoff = 1.54 cfs @ 12.01 hrs, Volume= 0.076 af, Depth> 0.64"
Routed to Pond CB 22 : CB22

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	8,853	55	Woods, Good, HSG B
	37,159	61	>75% Grass cover, Good, HSG B
	326	80	>75% Grass cover, Good, HSG D
*	15,241	98	IMPERVIOUS
	61,579	69	Weighted Average
	46,338		75.25% Pervious Area
	15,241		24.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	12	0.0580	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.10"
2.3	210	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.3	130	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	140	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.3	492	Total			

Summary for Subcatchment SC 6A: 6A

Runoff = 0.37 cfs @ 11.95 hrs, Volume= 0.017 af, Depth> 1.94"
Routed to Pond CB 21 : CB21

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,020	61	>75% Grass cover, Good, HSG B
*	3,490	98	IMPERVIOUS
	4,510	90	Weighted Average
	1,020		22.62% Pervious Area
	3,490		77.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6B: 6B

Runoff = 0.38 cfs @ 11.96 hrs, Volume= 0.016 af, Depth> 1.41"
Routed to Pond CB 20 : CB20

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	2,428	61	>75% Grass cover, Good, HSG B
*	3,600	98	IMPERVIOUS
	6,028	83	Weighted Average
	2,428		40.28% Pervious Area
	3,600		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6C: 6C

Runoff = 0.38 cfs @ 11.95 hrs, Volume= 0.017 af, Depth> 1.85"
Routed to Pond CB 23 : CB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,202	61	>75% Grass cover, Good, HSG B
*	3,507	98	IMPERVIOUS
	4,709	89	Weighted Average
	1,202		25.53% Pervious Area
	3,507		74.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6D: 6D

Runoff = 0.51 cfs @ 11.96 hrs, Volume= 0.022 af, Depth> 1.47"
Routed to Pond CB 24 : CB 24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	3,016	61	>75% Grass cover, Good, HSG B
*	4,748	98	IMPERVIOUS
	7,764	84	Weighted Average
	3,016		38.85% Pervious Area
	4,748		61.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6F: 6F

Runoff = 0.52 cfs @ 11.95 hrs, Volume= 0.023 af, Depth> 1.85"
Routed to Pond CB 23 : CB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,649	61	>75% Grass cover, Good, HSG B
*	4,883	98	IMPERVIOUS
	6,532	89	Weighted Average
	1,649		25.24% Pervious Area
	4,883		74.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6G: 6G

Runoff = 0.21 cfs @ 11.97 hrs, Volume= 0.009 af, Depth> 0.60"
Routed to Pond CB 24 : CB 24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	6,706	61	>75% Grass cover, Good, HSG B
*	1,465	98	IMPERVIOUS
	8,171	68	Weighted Average
	6,706		82.07% Pervious Area
	1,465		17.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6H: 6H

Runoff = 0.11 cfs @ 11.95 hrs, Volume= 0.006 af, Depth> 2.65"
Routed to Pond CB 25 : CB25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
*	1,110	98	IMPERVIOUS
	1,110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6I: 6I

Runoff = 0.84 cfs @ 11.95 hrs, Volume= 0.038 af, Depth> 1.94"
Routed to Pond CB 27 : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	2,141	61	>75% Grass cover, Good, HSG B
*	8,014	98	IMPERVIOUS
	10,155	90	Weighted Average
	2,141		21.08% Pervious Area
	8,014		78.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6J: 6J

Runoff = 0.33 cfs @ 11.95 hrs, Volume= 0.016 af, Depth> 2.48"
Routed to Pond CB 26 : CB26

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	191	61	>75% Grass cover, Good, HSG B
*	3,153	98	IMPERVIOUS
	3,344	96	Weighted Average
	191		5.71% Pervious Area
	3,153		94.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 7: 7

Runoff = 0.04 cfs @ 11.99 hrs, Volume= 0.002 af, Depth> 0.38"
Routed to Pond 6P : BIO CELL 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,639	39	>75% Grass cover, Good, HSG A
	255	61	>75% Grass cover, Good, HSG B
*	1,027	98	IMPERVIOUS
	2,921	62	Weighted Average
	1,894		64.84% Pervious Area
	1,027		35.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 8: 8

Runoff = 0.05 cfs @ 11.98 hrs, Volume= 0.002 af, Depth> 0.48"
Routed to Pond 7P : BIO CELL 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	1,249	39	>75% Grass cover, Good, HSG A
	429	61	>75% Grass cover, Good, HSG B
*	1,018	98	IMPERVIOUS
	2,696	65	Weighted Average
	1,678		62.24% Pervious Area
	1,018		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 9: 9

Runoff = 0.01 cfs @ 12.91 hrs, Volume= 0.005 af, Depth> 0.07"
Routed to Reach SP3 : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 YEAR Rainfall=3.10"

	Area (sf)	CN	Description
	13,252	30	Woods, Good, HSG A
	5,430	39	>75% Grass cover, Good, HSG A
	8,836	55	Woods, Good, HSG B
	10,682	61	>75% Grass cover, Good, HSG B
*	2,960	98	IMPERVIOUS
	41,160	49	Weighted Average
	38,200		92.81% Pervious Area
	2,960		7.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: REACH 1

Inflow Area = 0.067 ac, 35.16% Impervious, Inflow Depth > 0.38" for 2 YEAR event
Inflow = 0.04 cfs @ 11.99 hrs, Volume= 0.002 af
Outflow = 0.04 cfs @ 11.99 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: REACH 2

Inflow Area = 0.062 ac, 37.76% Impervious, Inflow Depth > 0.38" for 2 YEAR event
Inflow = 0.06 cfs @ 12.05 hrs, Volume= 0.002 af
Outflow = 0.06 cfs @ 12.05 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

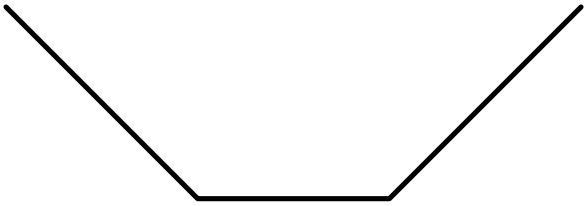
Summary for Reach 3R: REACH 3

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 2.02" for 2 YEAR event
Inflow = 0.10 cfs @ 11.70 hrs, Volume= 0.024 af
Outflow = 0.10 cfs @ 13.50 hrs, Volume= 0.024 af, Atten= 0%, Lag= 108.0 min
Routed to Reach 5R : REACH 5

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.19 fps, Min. Travel Time= 6.0 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 6.0 min

Peak Storage= 36 cf @ 13.45 hrs
Average Depth at Peak Storage= 0.02' , Surface Width= 4.04'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 538.48 cfs

4.00' x 4.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 425.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -12.75'



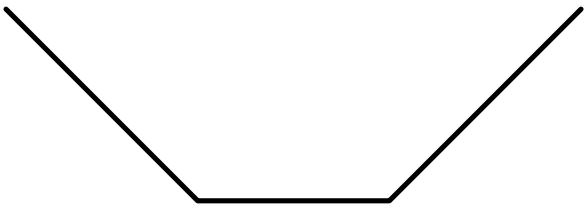
Summary for Reach 4R: REACH 4

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 0.10 cfs @ 11.75 hrs, Volume= 0.019 af
Outflow = 0.10 cfs @ 13.10 hrs, Volume= 0.019 af, Atten= 0%, Lag= 81.0 min
Routed to Reach 5R : REACH 5

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.19 fps, Min. Travel Time= 3.5 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 3.5 min

Peak Storage= 21 cf @ 13.05 hrs
Average Depth at Peak Storage= 0.02' , Surface Width= 4.04'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 538.48 cfs

4.00' x 4.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 250.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -7.50'



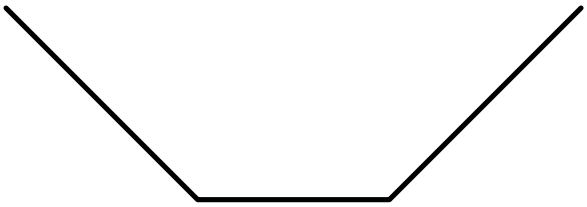
Summary for Reach 5R: REACH 5

Inflow Area = 0.297 ac, 49.56% Impervious, Inflow Depth > 1.73" for 2 YEAR event
Inflow = 0.20 cfs @ 13.10 hrs, Volume= 0.043 af
Outflow = 0.20 cfs @ 13.15 hrs, Volume= 0.043 af, Atten= 0%, Lag= 3.0 min
Routed to Reach SP4 : SUMMATION POINT 4

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.02 fps, Min. Travel Time= 5.9 min
Avg. Velocity = 0.86 fps, Avg. Travel Time= 6.9 min

Peak Storage= 71 cf @ 13.10 hrs
Average Depth at Peak Storage= 0.05' , Surface Width= 4.10'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 384.63 cfs

4.00' x 4.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 360.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -10.80'



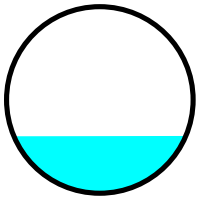
Summary for Reach 6R: 15" SD

Inflow Area = 0.580 ac, 8.16% Impervious, Inflow Depth > 1.21" for 2 YEAR event
Inflow = 0.93 cfs @ 12.10 hrs, Volume= 0.058 af
Outflow = 0.92 cfs @ 12.10 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.4 min
Routed to Pond CB 6 : CB6

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.92 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.13 fps, Avg. Travel Time= 0.6 min

Peak Storage= 12 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.38' , Surface Width= 1.15'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.57 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0050 '/'
Inlet Invert= 0.00', Outlet Invert= -0.19'



Summary for Reach 7R: Level Spreader B

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 1.09" for 2 YEAR event
Inflow = 0.50 cfs @ 11.80 hrs, Volume= 0.238 af
Outflow = 0.50 cfs @ 11.85 hrs, Volume= 0.237 af, Atten= 0%, Lag= 3.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.23 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.14 fps, Avg. Travel Time= 2.4 min

Peak Storage= 44 cf @ 11.80 hrs
Average Depth at Peak Storage= 0.12' , Surface Width= 18.71'
Bank-Full Depth= 2.00' Flow Area= 48.0 sf, Capacity= 63.37 cfs

18.00' x 2.00' deep channel, n= 0.240 Sheet flow over Dense Grass
Side Slope Z-value= 3.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 67.00', Outlet Invert= 66.50'



‡

Summary for Reach 13R: Level Spreader A

Inflow Area = 4.893 ac, 37.83% Impervious, Inflow Depth > 0.61" for 2 YEAR event
Inflow = 0.52 cfs @ 13.68 hrs, Volume= 0.251 af
Outflow = 0.52 cfs @ 13.72 hrs, Volume= 0.250 af, Atten= 0%, Lag= 2.3 min
Routed to Reach SP2 : SUMMATION POINT 2

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.24 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.15 fps, Avg. Travel Time= 2.3 min

Peak Storage= 44 cf @ 13.70 hrs
Average Depth at Peak Storage= 0.12' , Surface Width= 18.72'
Bank-Full Depth= 2.00' Flow Area= 48.0 sf, Capacity= 63.37 cfs

18.00' x 2.00' deep channel, n= 0.240 Sheet flow over Dense Grass
Side Slope Z-value= 3.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 67.00', Outlet Invert= 66.50'



‡

Summary for Reach SP1: SUMMATION POINT 1

Inflow Area = 1.534 ac, 5.70% Impervious, Inflow Depth > 0.25" for 2 YEAR event
Inflow = 0.29 cfs @ 12.02 hrs, Volume= 0.032 af
Outflow = 0.29 cfs @ 12.02 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: SUMMATION POINT 2

Inflow Area = 6.360 ac, 30.42% Impervious, Inflow Depth > 0.47" for 2 YEAR event
Inflow = 0.52 cfs @ 13.72 hrs, Volume= 0.250 af
Outflow = 0.52 cfs @ 13.72 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP3: SUMMATION POINT 3

Inflow Area = 3.689 ac, 33.74% Impervious, Inflow Depth > 0.80" for 2 YEAR event
Inflow = 0.59 cfs @ 12.04 hrs, Volume= 0.246 af
Outflow = 0.59 cfs @ 12.04 hrs, Volume= 0.246 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP4: SUMMATION POINT 4

Inflow Area = 5.244 ac, 7.21% Impervious, Inflow Depth > 0.66" for 2 YEAR event
Inflow = 2.81 cfs @ 12.24 hrs, Volume= 0.287 af
Outflow = 2.81 cfs @ 12.24 hrs, Volume= 0.287 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: WETPOND A

Inflow Area = 4.893 ac, 37.83% Impervious, Inflow Depth > 1.32" for 2 YEAR event
Inflow = 7.16 cfs @ 12.01 hrs, Volume= 0.536 af
Outflow = 0.52 cfs @ 13.68 hrs, Volume= 0.251 af, Atten= 93%, Lag= 100.3 min
Primary = 0.52 cfs @ 13.68 hrs, Volume= 0.251 af
Routed to Reach 13R : Level Spreader A
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach SP2 : SUMMATION POINT 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 73.85' Surf.Area= 4,353 sf Storage= 22,308 cf
Peak Elev= 76.25' @ 13.68 hrs Surf.Area= 7,116 sf Storage= 36,515 cf (14,207 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 118.8 min (909.7 - 791.0)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	64,662 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	587	0	0
65.00	857	722	722
66.00	1,153	1,005	1,727
67.00	1,474	1,314	3,041
68.00	1,821	1,648	4,688
69.00	2,193	2,007	6,695
70.00	2,561	2,377	9,072
71.00	3,011	2,786	11,858
72.00	3,458	3,235	15,093
73.00	3,931	3,695	18,787
74.00	4,428	4,180	22,967
75.00	6,154	5,291	28,258
76.00	6,919	6,537	34,794
77.00	7,722	7,321	42,115
78.00	8,726	8,224	50,339
79.00	9,827	9,277	59,615
79.50	10,359	5,047	64,662

Device	Routing	Invert	Outlet Devices
#1	Primary	71.85'	**24.0" Round Culvert** L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 71.85' / 71.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	73.85'	**0.10 cfs Exfiltration when above 73.85'**
#3	Device 1	75.80'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	78.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	78.90'	**10.0' 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=0.52 cfs @ 13.68 hrs HW=76.25' (Free Discharge)
└─**1=Culvert** (Passes 0.52 cfs of 22.00 cfs potential flow)
  ├─**2=Exfiltration** (Exfiltration Controls 0.10 cfs)
  ├─**3=Orifice/Grate** (Orifice Controls 0.42 cfs @ 2.27 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=73.85' (Free Discharge)
└─**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: WETPOND B

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 1.10" for 2 YEAR event
Inflow = 4.93 cfs @ 11.97 hrs, Volume= 0.239 af
Outflow = 0.50 cfs @ 11.80 hrs, Volume= 0.238 af, Atten= 90%, Lag= 0.0 min
Primary = 0.50 cfs @ 11.80 hrs, Volume= 0.238 af
Routed to Reach 7R : Level Spreader B
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 72.80' Surf.Area= 2,913 sf Storage= 12,519 cf
Peak Elev= 74.02' @ 12.51 hrs Surf.Area= 3,771 sf Storage= 16,568 cf (4,048 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 65.3 min (854.1 - 788.8)

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	30,442 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	550	0	0
66.00	767	659	659
67.00	1,009	888	1,547
68.00	1,277	1,143	2,690
69.00	1,570	1,424	4,113
70.00	1,887	1,729	5,842
71.00	2,230	2,059	7,900
72.00	2,599	2,415	10,315
73.00	2,992	2,796	13,110
74.00	3,756	3,374	16,484
75.00	4,408	4,082	20,566
76.00	4,932	4,670	25,236
77.00	5,480	5,206	30,442

Device	Routing	Invert	Outlet Devices
#1	Primary	70.71'	**24.0" Round Culvert** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.71' / 70.01' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	72.80'	**0.50 cfs Exfiltration when above 72.80'**
#3	Device 1	74.59'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	76.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	76.70'	**10.0' long x 6.0' 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) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.50 cfs @ 11.80 hrs HW=72.97' (Free Discharge)
└**1=Culvert** (Passes 0.50 cfs of 13.40 cfs potential flow)
  ├**2=Exfiltration** (Exfiltration Controls 0.50 cfs)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=72.80' (Free Discharge)
└**5=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: WETLAND STORAGE

Inflow Area = 3.209 ac, 29.40% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 6.34 cfs @ 11.99 hrs, Volume= 0.392 af
Outflow = 4.77 cfs @ 12.09 hrs, Volume= 0.391 af, Atten= 25%, Lag= 5.6 min
Primary = 4.77 cfs @ 12.09 hrs, Volume= 0.391 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 80.14' @ 12.09 hrs Surf.Area= 3,738 sf Storage= 2,185 cf

Plug-Flow detention time= 7.7 min calculated for 0.389 af (99% of inflow)
Center-of-Mass det. time= 6.3 min (790.5 - 784.3)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	15,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
79.00	112	0	0
81.00	6,500	6,612	6,612
82.00	10,700	8,600	15,212

Device	Routing	Invert	Outlet Devices
#1	Primary	79.00'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 79.00' / 78.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.75 cfs @ 12.09 hrs HW=80.13' (Free Discharge)
└**1=Culvert** (Barrel Controls 4.75 cfs @ 3.74 fps)

Summary for Pond 4P: GUSF 2

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af
Outflow = 0.10 cfs @ 11.75 hrs, Volume= 0.019 af, Atten= 77%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.75 hrs, Volume= 0.019 af
Routed to Reach 4R : REACH 4
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 4R : REACH 4

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 76.07' @ 12.12 hrs Surf.Area= 333 sf Storage= 220 cf

Plug-Flow detention time= 12.1 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 12.0 min (797.3 - 785.3)

Volume	Invert	Avail.Storage	Storage Description
#1	75.23'	1,167 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
75.23	192	0	0
77.00	491	604	604
78.00	634	563	1,167

Device	Routing	Invert	Outlet Devices
#1	Primary	72.98'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 72.98' / 72.88' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	75.23'	**0.10 cfs Exfiltration when above 75.23'**
#3	Secondary	76.73'	**5.0' long x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.10 cfs @ 11.75 hrs HW=75.26' (Free Discharge)
└**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=75.23' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5P: GUSF 1

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 2.02" for 2 YEAR event
Inflow = 0.54 cfs @ 11.95 hrs, Volume= 0.024 af
Outflow = 0.10 cfs @ 11.70 hrs, Volume= 0.024 af, Atten= 81%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.70 hrs, Volume= 0.024 af
Routed to Reach 3R : REACH 3
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 3R : REACH 3

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.01' @ 12.13 hrs Surf.Area= 410 sf Storage= 312 cf

Plug-Flow detention time= 17.9 min calculated for 0.024 af (100% of inflow)
Center-of-Mass det. time= 17.7 min (781.2 - 763.5)

Volume	Invert	Avail.Storage	Storage Description
#1	82.00'	1,228 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
82.00	210	0	0
83.00	408	309	309
84.00	673	541	850
84.50	841	379	1,228

Device	Routing	Invert	Outlet Devices
#1	Primary	79.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 79.75' / 79.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	82.00'	**0.10 cfs Exfiltration when above 82.00'**
#3	Secondary	83.50'	**5.0' long x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.10 cfs @ 11.70 hrs HW=82.04' (Free Discharge)
↑—**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=82.00' (Free Discharge)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 6P: BIO CELL 1

Inflow Area = 0.067 ac, 35.16% Impervious, Inflow Depth > 0.38" for 2 YEAR event
Inflow = 0.04 cfs @ 11.99 hrs, Volume= 0.002 af
Outflow = 0.04 cfs @ 11.99 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.2 min
Primary = 0.04 cfs @ 11.99 hrs, Volume= 0.002 af
Routed to Reach 1R : REACH 1
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 1R : REACH 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 78.51' @ 11.99 hrs Surf.Area= 140 sf Storage= 0 cf

Plug-Flow detention time= 0.2 min calculated for 0.002 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (845.4 - 845.2)

Volume	Invert	Avail.Storage	Storage Description
#1	78.50'	714 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.50	140	0.0	0	0
79.00	140	40.0	28	28
80.50	775	100.0	686	714

Device	Routing	Invert	Outlet Devices
#1	Primary	76.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.75' / 76.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	78.50'	**0.10 cfs Exfiltration at all elevations**
#3	Secondary	79.50'	**5.0' long 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=0.10 cfs @ 11.99 hrs HW=78.51' (Free Discharge)
↑—**1=Culvert** (Passes 0.10 cfs of 0.42 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=78.50' (Free Discharge)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: BIO CELL 2

Inflow Area = 0.062 ac, 37.76% Impervious, Inflow Depth > 0.48" for 2 YEAR event
Inflow = 0.05 cfs @ 11.98 hrs, Volume= 0.002 af
Outflow = 0.06 cfs @ 12.05 hrs, Volume= 0.002 af, Atten= 0%, Lag= 4.3 min
Primary = 0.06 cfs @ 12.05 hrs, Volume= 0.002 af
Routed to Reach 2R : REACH 2
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 2R : REACH 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.01' @ 12.05 hrs Surf.Area= 122 sf Storage= 25 cf

Plug-Flow detention time= 94.8 min calculated for 0.002 af (78% of inflow)
Center-of-Mass det. time= 32.5 min (866.7 - 834.2)

Volume	Invert	Avail.Storage	Storage Description
#1	76.50'	748 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
76.50	116	0.0	0	0
77.00	116	40.0	23	23
78.50	850	100.0	725	748

Device	Routing	Invert	Outlet Devices
#1	Primary	74.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.75' / 74.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	77.00'	**0.10 cfs Exfiltration when above 77.00'**
#3	Secondary	77.50'	**5.0' 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=0.10 cfs @ 12.05 hrs HW=77.01' (Free Discharge)
└**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=76.50' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 9P: DRIP FILTER

Inflow Area = 0.045 ac, 80.50% Impervious, Inflow Depth > 2.02" for 2 YEAR event
Inflow = 0.17 cfs @ 11.95 hrs, Volume= 0.008 af
Outflow = 0.15 cfs @ 12.01 hrs, Volume= 0.008 af, Atten= 11%, Lag= 3.4 min
Primary = 0.15 cfs @ 12.01 hrs, Volume= 0.008 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.68' @ 12.01 hrs Surf.Area= 200 sf Storage= 55 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.5 min (768.0 - 763.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.14 cfs @ 12.01 hrs HW=0.67' (Free Discharge)
└**1=Culvert** (Passes 0.04 cfs of 0.53 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.10 cfs @ 1.16 fps)

Summary for Pond 10P: DRIP FILTER

Inflow Area = 0.041 ac, 83.91% Impervious, Inflow Depth > 1.85" for 2 YEAR event
Inflow = 0.14 cfs @ 11.95 hrs, Volume= 0.006 af
Outflow = 0.09 cfs @ 12.04 hrs, Volume= 0.006 af, Atten= 35%, Lag= 5.2 min
Primary = 0.09 cfs @ 12.04 hrs, Volume= 0.006 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.61' @ 12.04 hrs Surf.Area= 200 sf Storage= 49 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.7 min (775.3 - 770.7)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.09 cfs @ 12.04 hrs HW=0.61' (Free Discharge)
└**1=Culvert** (Passes 0.04 cfs of 0.52 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.05 cfs @ 0.91 fps)

Summary for Pond 11P: DRIP FILTER

Inflow Area = 0.014 ac, 72.86% Impervious, Inflow Depth > 1.34" for 2 YEAR event
Inflow = 0.04 cfs @ 11.96 hrs, Volume= 0.002 af
Outflow = 0.04 cfs @ 11.97 hrs, Volume= 0.002 af, Atten= 1%, Lag= 0.4 min
Primary = 0.04 cfs @ 11.97 hrs, Volume= 0.002 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.01' @ 11.97 hrs Surf.Area= 200 sf Storage= 1 cf

Plug-Flow detention time= 0.3 min calculated for 0.002 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (790.7 - 790.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.04 cfs @ 11.97 hrs HW=0.01' (Free Discharge)
└─**1=Culvert** (Passes 0.04 cfs of 0.45 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond CB 1: CB1

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af
Outflow = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af
Routed to Pond CB 2 : CB2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.13' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.75'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.75' / 76.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.43 cfs @ 11.96 hrs HW=77.13' (Free Discharge)
└─**1=Culvert** (Barrel Controls 0.43 cfs @ 2.06 fps)

Summary for Pond CB 10: CB10

Inflow Area = 0.395 ac, 13.75% Impervious, Inflow Depth > 1.33" for 2 YEAR event
Inflow = 0.67 cfs @ 12.11 hrs, Volume= 0.044 af
Outflow = 0.67 cfs @ 12.11 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.11 hrs, Volume= 0.044 af
Routed to Pond CB 9 : CB9

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.71' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.25'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.25' / 81.97' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.66 cfs @ 12.11 hrs HW=82.70' (Free Discharge)
1=Culvert (Barrel Controls 0.66 cfs @ 2.44 fps)

Summary for Pond CB 11: CB11

Inflow Area = 0.567 ac, 20.61% Impervious, Inflow Depth > 1.27" for 2 YEAR event
Inflow = 0.84 cfs @ 12.02 hrs, Volume= 0.060 af
Outflow = 0.84 cfs @ 12.02 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.02 hrs, Volume= 0.060 af
Routed to Pond CB 8 : CB8

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.98' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.47'	**15.0" Round Culvert** L= 95.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.47' / 82.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.82 cfs @ 12.02 hrs HW=82.97' (Free Discharge)
1=Culvert (Barrel Controls 0.82 cfs @ 2.63 fps)

Summary for Pond CB 12: CB12

Inflow Area = 0.528 ac, 16.58% Impervious, Inflow Depth > 1.23" for 2 YEAR event
Inflow = 0.76 cfs @ 12.07 hrs, Volume= 0.054 af
Outflow = 0.76 cfs @ 12.07 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.76 cfs @ 12.07 hrs, Volume= 0.054 af
Routed to Pond CB 11 : CB11

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 83.19' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.67'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.67' / 82.57' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.76 cfs @ 12.07 hrs HW=83.18' (Free Discharge)
1=Culvert (Barrel Controls 0.76 cfs @ 2.36 fps)

Summary for Pond CB 13: CB13

Inflow Area = 0.423 ac, 11.33% Impervious, Inflow Depth > 1.27" for 2 YEAR event
Inflow = 0.70 cfs @ 12.10 hrs, Volume= 0.045 af
Outflow = 0.70 cfs @ 12.10 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.10 hrs, Volume= 0.045 af
Routed to Pond CB 12 : CB12

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.62' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	83.15'	**15.0" Round Culvert** L= 75.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.15' / 82.78' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.70 cfs @ 12.10 hrs HW=83.62' (Free Discharge)
1=Culvert (Barrel Controls 0.70 cfs @ 2.49 fps)

Summary for Pond CB 14: CB 14

Inflow Area = 0.046 ac, 77.88% Impervious, Inflow Depth > 1.55" for 2 YEAR event
Inflow = 0.14 cfs @ 11.96 hrs, Volume= 0.006 af
Outflow = 0.14 cfs @ 11.96 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 11.96 hrs, Volume= 0.006 af
Routed to Pond CB 15 : CB 15

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.44' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	83.25'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.25' / 81.43' S= 0.0910 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.13 cfs @ 11.96 hrs HW=83.44' (Free Discharge)
1=Culvert (Inlet Controls 0.13 cfs @ 1.16 fps)

Summary for Pond CB 15: CB 15

Inflow Area = 0.259 ac, 76.59% Impervious, Inflow Depth > 1.49" for 2 YEAR event
Inflow = 0.75 cfs @ 11.96 hrs, Volume= 0.032 af
Outflow = 0.75 cfs @ 11.96 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 11.96 hrs, Volume= 0.032 af
Routed to Pond CB 18 : CB 18

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.79' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.33'	**15.0" Round Culvert** L= 135.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.33' / 78.63' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.73 cfs @ 11.96 hrs HW=81.78' (Free Discharge)
1=Culvert (Inlet Controls 0.73 cfs @ 1.81 fps)

Summary for Pond CB 16: CB 16

Inflow Area = 0.213 ac, 76.31% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 0.61 cfs @ 11.96 hrs, Volume= 0.026 af
Outflow = 0.61 cfs @ 11.96 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
Primary = 0.61 cfs @ 11.96 hrs, Volume= 0.026 af
Routed to Pond CB 15 : CB 15

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.03' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.58'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.58' / 81.43' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.60 cfs @ 11.96 hrs HW=82.02' (Free Discharge)
1=Culvert (Barrel Controls 0.60 cfs @ 2.28 fps)

Summary for Pond CB 17: CB 17

Inflow Area = 0.086 ac, 76.08% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 0.25 cfs @ 11.96 hrs, Volume= 0.011 af
Outflow = 0.25 cfs @ 11.96 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 11.96 hrs, Volume= 0.011 af
Routed to Pond CB 16 : CB 16

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 82.33' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.06'	**15.0" Round Culvert** L= 76.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.06' / 81.68' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.24 cfs @ 11.96 hrs HW=82.33' (Free Discharge)
1=Culvert (Barrel Controls 0.24 cfs @ 1.90 fps)

Summary for Pond CB 18: CB 18

Inflow Area = 0.329 ac, 80.74% Impervious, Inflow Depth > 1.70" for 2 YEAR event
Inflow = 1.05 cfs @ 11.96 hrs, Volume= 0.047 af
Outflow = 1.05 cfs @ 11.96 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 11.96 hrs, Volume= 0.047 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.08' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.53'	**15.0" Round Culvert** L= 73.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.53' / 77.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.03 cfs @ 11.96 hrs HW=79.08' (Free Discharge)
1=Culvert (Inlet Controls 1.03 cfs @ 1.99 fps)

Summary for Pond CB 2: CB2

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 1.47" for 2 YEAR event
Inflow = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af
Outflow = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 11.96 hrs, Volume= 0.019 af
Routed to Pond 4P : GUSF 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.18' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.55'	**6.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.55' / 76.47' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.43 cfs @ 11.96 hrs HW=77.16' (Free Discharge)
1=Culvert (Barrel Controls 0.43 cfs @ 2.30 fps)

Summary for Pond CB 20: CB20

Inflow Area = 0.138 ac, 59.72% Impervious, Inflow Depth > 1.41" for 2 YEAR event
Inflow = 0.38 cfs @ 11.96 hrs, Volume= 0.016 af
Outflow = 0.38 cfs @ 11.96 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 11.96 hrs, Volume= 0.016 af
Routed to Pond CB 21 : CB21

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.15' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.80'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.80' / 78.70' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.37 cfs @ 11.96 hrs HW=79.15' (Free Discharge)
1=Culvert (Barrel Controls 0.37 cfs @ 1.98 fps)

Summary for Pond CB 21: CB21

Inflow Area = 0.242 ac, 67.28% Impervious, Inflow Depth > 1.63" for 2 YEAR event
Inflow = 0.75 cfs @ 11.96 hrs, Volume= 0.033 af
Outflow = 0.75 cfs @ 11.96 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.75 cfs @ 11.96 hrs, Volume= 0.033 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.06' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.60'	**15.0" Round Culvert** L= 116.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.60' / 75.29' S= 0.0285 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.74 cfs @ 11.96 hrs HW=79.06' (Free Discharge)
1=Culvert (Inlet Controls 0.74 cfs @ 1.82 fps)

Summary for Pond CB 22: CB22

Inflow Area = 1.414 ac, 24.75% Impervious, Inflow Depth > 0.64" for 2 YEAR event
Inflow = 1.54 cfs @ 12.01 hrs, Volume= 0.076 af
Outflow = 1.54 cfs @ 12.01 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
Primary = 1.54 cfs @ 12.01 hrs, Volume= 0.076 af
Routed to Pond CB 23 : CB23

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 75.04' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.40'	**24.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.40' / 74.30' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.49 cfs @ 12.01 hrs HW=75.03' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.49 cfs @ 2.61 fps)

Summary for Pond CB 23: CB23

Inflow Area = 1.672 ac, 32.45% Impervious, Inflow Depth > 0.83" for 2 YEAR event
Inflow = 2.31 cfs @ 11.99 hrs, Volume= 0.115 af
Outflow = 2.31 cfs @ 11.99 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 2.31 cfs @ 11.99 hrs, Volume= 0.115 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.00' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.20'	**24.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.20' / 74.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.26 cfs @ 11.99 hrs HW=74.99' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.26 cfs @ 2.88 fps)

Summary for Pond CB 24: CB 24

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 1.10" for 2 YEAR event
Inflow = 4.93 cfs @ 11.97 hrs, Volume= 0.239 af
Outflow = 4.93 cfs @ 11.97 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min
Primary = 4.93 cfs @ 11.97 hrs, Volume= 0.239 af
Routed to Pond 2P : WETPOND B

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.18' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.00'	**24.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.00' / 73.75' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.76 cfs @ 11.97 hrs HW=75.16' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 4.76 cfs @ 3.65 fps)

Summary for Pond CB 25: CB25

Inflow Area = 0.335 ac, 84.04% Impervious, Inflow Depth > 2.12" for 2 YEAR event
Inflow = 1.29 cfs @ 11.95 hrs, Volume= 0.059 af
Outflow = 1.29 cfs @ 11.95 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Primary = 1.29 cfs @ 11.95 hrs, Volume= 0.059 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.52' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**15.0" Round Culvert** L= 150.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.90' / 75.29' S= 0.0107 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.27 cfs @ 11.95 hrs HW=77.52' (Free Discharge)
1=Culvert (Inlet Controls 1.27 cfs @ 2.11 fps)

Summary for Pond CB 26: CB26

Inflow Area = 0.310 ac, 82.72% Impervious, Inflow Depth > 2.07" for 2 YEAR event
Inflow = 1.17 cfs @ 11.95 hrs, Volume= 0.054 af
Outflow = 1.17 cfs @ 11.95 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 1.17 cfs @ 11.95 hrs, Volume= 0.054 af
Routed to Pond CB 25 : CB25

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.04' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.45'	**15.0" Round Culvert** L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.45' / 77.00' S= 0.0132 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.16 cfs @ 11.95 hrs HW=79.04' (Free Discharge)
1=Culvert (Inlet Controls 1.16 cfs @ 2.06 fps)

Summary for Pond CB 27: CB27

Inflow Area = 0.233 ac, 78.92% Impervious, Inflow Depth > 1.94" for 2 YEAR event
Inflow = 0.84 cfs @ 11.95 hrs, Volume= 0.038 af
Outflow = 0.84 cfs @ 11.95 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 11.95 hrs, Volume= 0.038 af
Routed to Pond CB 26 : CB26

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 79.24' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.70'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.70' / 78.55' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.83 cfs @ 11.95 hrs HW=79.23' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.83 cfs @ 2.47 fps)

Summary for Pond CB 4: CB4

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 2.02" for 2 YEAR event
Inflow = 0.54 cfs @ 11.95 hrs, Volume= 0.024 af
Outflow = 0.54 cfs @ 11.95 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 11.95 hrs, Volume= 0.024 af
Routed to Pond 5P : GUSF 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.59' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.15'	**15.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.15' / 82.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.53 cfs @ 11.95 hrs HW=82.58' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.53 cfs @ 2.08 fps)

Summary for Pond CB 5: CB5

Inflow Area = 0.878 ac, 31.85% Impervious, Inflow Depth > 1.57" for 2 YEAR event
Inflow = 1.72 cfs @ 11.98 hrs, Volume= 0.115 af
Outflow = 1.72 cfs @ 11.98 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 11.98 hrs, Volume= 0.115 af
Routed to Pond CB 7 : CB7

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.88' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.10'	**15.0" Round Culvert** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.10' / 80.79' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.69 cfs @ 11.98 hrs HW=81.87' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.69 cfs @ 3.06 fps)

Summary for Pond CB 6: CB6

Inflow Area = 0.738 ac, 22.73% Impervious, Inflow Depth > 1.43" for 2 YEAR event
Inflow = 1.21 cfs @ 12.00 hrs, Volume= 0.088 af
Outflow = 1.21 cfs @ 12.00 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
Primary = 1.21 cfs @ 12.00 hrs, Volume= 0.088 af
Routed to Pond CB 5 : CB5

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.00' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.35'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.35' / 81.20' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.20 cfs @ 12.00 hrs HW=82.00' (Free Discharge)
1=Culvert (Barrel Controls 1.20 cfs @ 2.69 fps)

Summary for Pond CB 7: CB7

Inflow Area = 2.135 ac, 32.96% Impervious, Inflow Depth > 1.56" for 2 YEAR event
Inflow = 4.10 cfs @ 11.98 hrs, Volume= 0.278 af
Outflow = 4.10 cfs @ 11.98 hrs, Volume= 0.278 af, Atten= 0%, Lag= 0.0 min
Primary = 4.10 cfs @ 11.98 hrs, Volume= 0.278 af
Routed to Pond 3P : WETLAND STORAGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.71' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.69'	**24.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 80.69' / 80.19' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.01 cfs @ 11.98 hrs HW=81.69' (Free Discharge)
1=Culvert (Barrel Controls 4.01 cfs @ 3.70 fps)

Summary for Pond CB 8: CB8

Inflow Area = 1.173 ac, 29.92% Impervious, Inflow Depth > 1.49" for 2 YEAR event
Inflow = 2.05 cfs @ 11.99 hrs, Volume= 0.146 af
Outflow = 2.05 cfs @ 11.99 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min
Primary = 2.05 cfs @ 11.99 hrs, Volume= 0.146 af
Routed to Pond CB 7 : CB7

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 82.55' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.67'	**15.0" Round Culvert** L= 42.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.67' / 81.46' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.02 cfs @ 11.99 hrs HW=82.54' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.02 cfs @ 3.11 fps)

Summary for Pond CB 9: CB9

Inflow Area = 0.493 ac, 27.99% Impervious, Inflow Depth > 1.54" for 2 YEAR event
Inflow = 0.82 cfs @ 12.01 hrs, Volume= 0.063 af
Outflow = 0.82 cfs @ 12.01 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.01 hrs, Volume= 0.063 af
Routed to Pond CB 8 : CB8

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.41' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.87'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.87' / 81.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.81 cfs @ 12.01 hrs HW=82.40' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.81 cfs @ 2.40 fps)

Summary for Pond CB19: CB19

Inflow Area = 0.443 ac, 68.36% Impervious, Inflow Depth > 1.62" for 2 YEAR event
Inflow = 1.25 cfs @ 12.00 hrs, Volume= 0.060 af
Outflow = 1.25 cfs @ 12.00 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.00 hrs, Volume= 0.060 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.16' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.55'	**15.0" Round Culvert** L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.55' / 75.95' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.23 cfs @ 12.00 hrs HW=77.16' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.23 cfs @ 2.09 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentSC 10: 10 Runoff Area=215,464 sf 4.67% Impervious Runoff Depth>1.44"
Flow Length=975' Tc=26.3 min CN=68 Runoff=7.09 cfs 0.592 af

SubcatchmentSC 11: 11 Runoff Area=6,231 sf 60.33% Impervious Runoff Depth>3.37"
Tc=5.0 min CN=91 Runoff=0.86 cfs 0.040 af

SubcatchmentSC 12: 12 Runoff Area=6,712 sf 39.56% Impervious Runoff Depth>2.71"
Tc=5.0 min CN=84 Runoff=0.79 cfs 0.035 af

SubcatchmentSC 1B: 1B Runoff Area=1,959 sf 80.50% Impervious Runoff Depth>3.37"
Tc=5.0 min CN=91 Runoff=0.27 cfs 0.013 af

SubcatchmentSC 1C: 1C Runoff Area=1,765 sf 83.91% Impervious Runoff Depth>3.18"
Tc=5.0 min CN=89 Runoff=0.23 cfs 0.011 af

SubcatchmentSC 1D: 1D Runoff Area=597 sf 72.86% Impervious Runoff Depth>2.53"
Tc=5.0 min CN=82 Runoff=0.07 cfs 0.003 af

SubcatchmentSC 1E: 1E Runoff Area=62,510 sf 0.51% Impervious Runoff Depth>0.59"
Flow Length=90' Tc=12.0 min CN=53 Runoff=1.04 cfs 0.070 af

SubcatchmentSC 2A: 2A Runoff Area=4,578 sf 37.75% Impervious Runoff Depth>2.19"
Tc=5.0 min CN=78 Runoff=0.45 cfs 0.019 af

SubcatchmentSC 2B: 2B Runoff Area=18,437 sf 11.33% Impervious Runoff Depth>2.43"
Flow Length=100' Slope=0.0400 '/' Tc=17.3 min CN=81 Runoff=1.34 cfs 0.086 af

SubcatchmentSC 2C: 2C Runoff Area=17,204 sf 13.75% Impervious Runoff Depth>2.52"
Flow Length=150' Slope=0.0400 '/' Tc=18.2 min CN=82 Runoff=1.25 cfs 0.083 af

SubcatchmentSC 2D: 2D Runoff Area=25,268 sf 8.16% Impervious Runoff Depth>2.35"
Flow Length=160' Tc=16.7 min CN=80 Runoff=1.80 cfs 0.113 af

SubcatchmentSC 2E: 2E Runoff Area=1,696 sf 75.18% Impervious Runoff Depth>2.98"
Tc=5.0 min CN=87 Runoff=0.22 cfs 0.010 af

SubcatchmentSC 2F: 2F Runoff Area=4,269 sf 85.38% Impervious Runoff Depth>3.76"
Tc=5.0 min CN=95 Runoff=0.63 cfs 0.031 af

SubcatchmentSC 2G: 2G Runoff Area=4,911 sf 85.20% Impervious Runoff Depth>3.76"
Tc=5.0 min CN=95 Runoff=0.72 cfs 0.035 af

SubcatchmentSC 2H: 2H Runoff Area=2,966 sf 89.38% Impervious Runoff Depth>3.85"
Tc=5.0 min CN=96 Runoff=0.44 cfs 0.022 af

SubcatchmentSC 2I: 2I Runoff Area=3,665 sf 87.04% Impervious Runoff Depth>3.85"
Tc=5.0 min CN=96 Runoff=0.55 cfs 0.027 af

SubcatchmentSC 2J: 2J Runoff Area=3,930 sf 66.13% Impervious Runoff Depth>3.47"
Tc=5.0 min CN=92 Runoff=0.55 cfs 0.026 af

SubcatchmentSC 2K: 2K Runoff Area=6,095 sf 79.97% Impervious Runoff Depth>3.66"
Tc=5.0 min CN=94 Runoff=0.89 cfs 0.043 af

SubcatchmentSC 2L: 2L Runoff Area=46,782 sf 22.31% Impervious Runoff Depth>2.44"
Flow Length=240' Tc=9.4 min CN=81 Runoff=4.37 cfs 0.218 af

SubcatchmentSC 3A: 3A Runoff Area=5,497 sf 76.46% Impervious Runoff Depth>2.71"
Tc=5.0 min CN=84 Runoff=0.65 cfs 0.028 af

SubcatchmentSC 3B: 3B Runoff Area=2,003 sf 77.88% Impervious Runoff Depth>2.80"
Tc=5.0 min CN=85 Runoff=0.24 cfs 0.011 af

SubcatchmentSC 3C: 3C Runoff Area=19,289 sf 68.36% Impervious Runoff Depth>2.89"
Flow Length=297' Tc=8.3 min CN=86 Runoff=2.16 cfs 0.107 af

SubcatchmentSC 3D: 3D Runoff Area=3,763 sf 76.08% Impervious Runoff Depth>2.71"
Tc=5.0 min CN=84 Runoff=0.44 cfs 0.019 af

SubcatchmentSC 3E: 3E Runoff Area=3,080 sf 95.91% Impervious Runoff Depth>3.85"
Tc=5.0 min CN=96 Runoff=0.46 cfs 0.023 af

SubcatchmentSC 3F: 3F Runoff Area=39,693 sf 37.18% Impervious Runoff Depth>1.32"
Tc=5.0 min CN=66 Runoff=2.36 cfs 0.100 af

SubcatchmentSC 4: 4 Runoff Area=63,911 sf 5.70% Impervious Runoff Depth>0.20"
Flow Length=130' Slope=0.1000 '/' Tc=11.8 min CN=43 Runoff=0.11 cfs 0.024 af

SubcatchmentSC 5: 5 Runoff Area=61,579 sf 24.75% Impervious Runoff Depth>1.52"
Flow Length=492' Tc=8.3 min CN=69 Runoff=3.79 cfs 0.178 af

SubcatchmentSC 6A: 6A Runoff Area=4,510 sf 77.38% Impervious Runoff Depth>3.27"
Tc=5.0 min CN=90 Runoff=0.61 cfs 0.028 af

SubcatchmentSC 6B: 6B Runoff Area=6,028 sf 59.72% Impervious Runoff Depth>2.62"
Tc=5.0 min CN=83 Runoff=0.69 cfs 0.030 af

SubcatchmentSC 6C: 6C Runoff Area=4,709 sf 74.47% Impervious Runoff Depth>3.18"
Tc=5.0 min CN=89 Runoff=0.63 cfs 0.029 af

SubcatchmentSC 6D: 6D Runoff Area=7,764 sf 61.15% Impervious Runoff Depth>2.71"
Tc=5.0 min CN=84 Runoff=0.91 cfs 0.040 af

SubcatchmentSC 6F: 6F Runoff Area=6,532 sf 74.76% Impervious Runoff Depth>3.18"
Tc=5.0 min CN=89 Runoff=0.87 cfs 0.040 af

SubcatchmentSC 6G: 6G Runoff Area=8,171 sf 17.93% Impervious Runoff Depth>1.45"
Tc=5.0 min CN=68 Runoff=0.54 cfs 0.023 af

Subcatchment SC 6H: 6H Runoff Area=1,110 sf 100.00% Impervious Runoff Depth>4.01"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.009 af

Subcatchment SC 6I: 6I Runoff Area=10,155 sf 78.92% Impervious Runoff Depth>3.27"
Tc=5.0 min CN=90 Runoff=1.38 cfs 0.064 af

Subcatchment SC 6J: 6J Runoff Area=3,344 sf 94.29% Impervious Runoff Depth>3.85"
Tc=5.0 min CN=96 Runoff=0.50 cfs 0.025 af

Subcatchment SC 7: 7 Runoff Area=2,921 sf 35.16% Impervious Runoff Depth>1.07"
Tc=5.0 min CN=62 Runoff=0.14 cfs 0.006 af

Subcatchment SC 8: 8 Runoff Area=2,696 sf 37.76% Impervious Runoff Depth>1.25"
Tc=5.0 min CN=65 Runoff=0.15 cfs 0.006 af

Subcatchment SC 9: 9 Runoff Area=41,160 sf 7.19% Impervious Runoff Depth>0.41"
Tc=5.0 min CN=49 Runoff=0.57 cfs 0.033 af

Reach 1R: REACH 1 Inflow=0.10 cfs 0.006 af
Outflow=0.10 cfs 0.006 af

Reach 2R: REACH 2 Inflow=0.10 cfs 0.006 af
Outflow=0.10 cfs 0.006 af

Reach 3R: REACH 3 Avg. Flow Depth=0.04' Max Vel=1.20 fps Inflow=0.27 cfs 0.040 af
n=0.025 L=425.0' S=0.0300 '/' Capacity=538.48 cfs Outflow=0.19 cfs 0.040 af

Reach 4R: REACH 4 Avg. Flow Depth=0.04' Max Vel=1.19 fps Inflow=0.25 cfs 0.035 af
n=0.025 L=250.0' S=0.0300 '/' Capacity=538.48 cfs Outflow=0.19 cfs 0.035 af

Reach 5R: REACH 5 Avg. Flow Depth=0.07' Max Vel=1.24 fps Inflow=0.37 cfs 0.075 af
n=0.035 L=360.0' S=0.0300 '/' Capacity=384.63 cfs Outflow=0.34 cfs 0.074 af

Reach 6R: 15" SD Avg. Flow Depth=0.55' Max Vel=3.50 fps Inflow=1.80 cfs 0.113 af
15.0" Round Pipe n=0.013 L=38.0' S=0.0050 '/' Capacity=4.57 cfs Outflow=1.80 cfs 0.113 af

Reach 7R: Level Spreader B Avg. Flow Depth=0.14' Max Vel=0.26 fps Inflow=0.68 cfs 0.428 af
n=0.240 L=20.0' S=0.0250 '/' Capacity=63.37 cfs Outflow=0.68 cfs 0.426 af

Reach 13R: Level Spreader A Avg. Flow Depth=0.21' Max Vel=0.34 fps Inflow=1.30 cfs 0.676 af
n=0.240 L=20.0' S=0.0250 '/' Capacity=63.37 cfs Outflow=1.30 cfs 0.674 af

Reach SP1: SUMMATION POINT 1 Inflow=1.38 cfs 0.097 af
Outflow=1.38 cfs 0.097 af

Reach SP2: SUMMATION POINT 2 Inflow=1.35 cfs 0.698 af
Outflow=1.35 cfs 0.698 af

Reach SP3: SUMMATION POINT 3 Inflow=1.27 cfs 0.470 af
Outflow=1.27 cfs 0.470 af

Reach SP4: SUMMATION POINT 4 Inflow=7.31 cfs 0.666 af
Outflow=7.31 cfs 0.666 af

Pond 1P: WETPOND A Peak Elev=77.65' Storage=47,381 cf Inflow=13.04 cfs 0.998 af
Primary=1.30 cfs 0.676 af Secondary=0.00 cfs 0.000 af Outflow=1.30 cfs 0.676 af

Pond 2P: WETPOND B Peak Elev=75.31' Storage=21,945 cf Inflow=9.61 cfs 0.465 af
Primary=0.68 cfs 0.428 af Secondary=0.00 cfs 0.000 af Outflow=0.68 cfs 0.428 af

Pond 3P: WETLAND STORAGE Peak Elev=80.60' Storage=4,242 cf Inflow=11.43 cfs 0.713 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0050 '/' Outflow=8.35 cfs 0.711 af

Pond 4P: GUSF 2 Peak Elev=76.78' Storage=502 cf Inflow=0.79 cfs 0.035 af
Primary=0.10 cfs 0.033 af Secondary=0.15 cfs 0.001 af Outflow=0.25 cfs 0.035 af

Pond 5P: GUSF 1 Peak Elev=83.56' Storage=579 cf Inflow=0.86 cfs 0.040 af
Primary=0.10 cfs 0.038 af Secondary=0.17 cfs 0.002 af Outflow=0.27 cfs 0.040 af

Pond 6P: BIO CELL 1 Peak Elev=78.70' Storage=11 cf Inflow=0.14 cfs 0.006 af
Primary=0.10 cfs 0.006 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.006 af

Pond 7P: BIO CELL 2 Peak Elev=77.14' Storage=44 cf Inflow=0.15 cfs 0.006 af
Primary=0.10 cfs 0.006 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.006 af

Pond 9P: DRIP FILTER Peak Elev=0.79' Storage=63 cf Inflow=0.27 cfs 0.013 af
Outflow=0.26 cfs 0.013 af

Pond 10P: DRIP FILTER Peak Elev=0.76' Storage=61 cf Inflow=0.23 cfs 0.011 af
Outflow=0.22 cfs 0.011 af

Pond 11P: DRIP FILTER Peak Elev=0.13' Storage=10 cf Inflow=0.07 cfs 0.003 af
Outflow=0.04 cfs 0.003 af

Pond CB 1: CB1 Peak Elev=77.28' Inflow=0.79 cfs 0.035 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.79 cfs 0.035 af

Pond CB 10: CB10 Peak Elev=82.90' Inflow=1.25 cfs 0.083 af
15.0" Round Culvert n=0.013 L=55.0' S=0.0051 '/' Outflow=1.25 cfs 0.083 af

Pond CB 11: CB11 Peak Elev=83.20' Inflow=1.61 cfs 0.115 af
15.0" Round Culvert n=0.013 L=95.0' S=0.0049 '/' Outflow=1.61 cfs 0.115 af

Pond CB 12: CB12 Peak Elev=83.42' Inflow=1.47 cfs 0.105 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=1.47 cfs 0.105 af

Pond CB 13: CB13 Peak Elev=83.82' Inflow=1.34 cfs 0.086 af
15.0" Round Culvert n=0.013 L=75.0' S=0.0049 '/' Outflow=1.34 cfs 0.086 af

Pond CB 14: CB 14 Peak Elev=83.50' Inflow=0.24 cfs 0.011 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0910 '/' Outflow=0.24 cfs 0.011 af

Pond CB 15: CB 15 Peak Elev=81.96' Inflow=1.33 cfs 0.059 af
15.0" Round Culvert n=0.013 L=135.0' S=0.0200 '/' Outflow=1.33 cfs 0.059 af

Pond CB 16: CB 16 Peak Elev=82.20' Inflow=1.09 cfs 0.048 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=1.09 cfs 0.048 af

Pond CB 17: CB 17 Peak Elev=82.42' Inflow=0.44 cfs 0.019 af
15.0" Round Culvert n=0.013 L=76.0' S=0.0050 '/' Outflow=0.44 cfs 0.019 af

Pond CB 18: CB 18 Peak Elev=79.28' Inflow=1.79 cfs 0.081 af
15.0" Round Culvert n=0.013 L=73.0' S=0.0100 '/' Outflow=1.79 cfs 0.081 af

Pond CB 2: CB2 Peak Elev=77.92' Inflow=0.79 cfs 0.035 af
6.0" Round Culvert n=0.013 L=15.0' S=0.0053 '/' Outflow=0.79 cfs 0.035 af

Pond CB 20: CB20 Peak Elev=79.29' Inflow=0.69 cfs 0.030 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.69 cfs 0.030 af

Pond CB 21: CB21 Peak Elev=79.22' Inflow=1.30 cfs 0.058 af
15.0" Round Culvert n=0.013 L=116.0' S=0.0285 '/' Outflow=1.30 cfs 0.058 af

Pond CB 22: CB22 Peak Elev=75.46' Inflow=3.79 cfs 0.178 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=3.79 cfs 0.178 af

Pond CB 23: CB23 Peak Elev=75.45' Inflow=5.09 cfs 0.247 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=5.09 cfs 0.247 af

Pond CB 24: CB 24 Peak Elev=75.78' Inflow=9.61 cfs 0.465 af
24.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/' Outflow=9.61 cfs 0.465 af

Pond CB 25: CB25 Peak Elev=77.71' Inflow=2.04 cfs 0.097 af
15.0" Round Culvert n=0.013 L=150.0' S=0.0107 '/' Outflow=2.04 cfs 0.097 af

Pond CB 26: CB26 Peak Elev=79.22' Inflow=1.88 cfs 0.088 af
15.0" Round Culvert n=0.013 L=110.0' S=0.0132 '/' Outflow=1.88 cfs 0.088 af

Pond CB 27: CB27 Peak Elev=79.41' Inflow=1.38 cfs 0.064 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=1.38 cfs 0.064 af

Pond CB 4: CB4 Peak Elev=82.72' Inflow=0.86 cfs 0.040 af
15.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=0.86 cfs 0.040 af

Pond CB 5: CB5 Peak Elev=82.19' Inflow=2.98 cfs 0.204 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=2.98 cfs 0.204 af

Pond CB 6: CB6 Peak Elev=82.28' Inflow=2.21 cfs 0.161 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=2.21 cfs 0.161 af

Pond CB 7: CB7 Peak Elev=82.10' Inflow=7.13 cfs 0.494 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=7.13 cfs 0.494 af

Pond CB 8: CB8 Peak Elev=82.96' Inflow=3.66 cfs 0.263 af
15.0" Round Culvert n=0.013 L=42.0' S=0.0050 '/' Outflow=3.66 cfs 0.263 af

Pond CB 9: CB9 Peak Elev=82.61' Inflow=1.47 cfs 0.114 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=1.47 cfs 0.114 af

Pond CB19: CB19 Peak Elev=77.39' Inflow=2.16 cfs 0.107 af
15.0" Round Culvert n=0.013 L=40.0' S=0.0150 '/' Outflow=2.16 cfs 0.107 af

Total Runoff Area = 16.826 ac Runoff Volume = 2.298 af Average Runoff Depth = 1.64"
78.34% Pervious = 13.181 ac 21.66% Impervious = 3.645 ac

Summary for Subcatchment SC 10: 10

Runoff = 7.09 cfs @ 12.22 hrs, Volume= 0.592 af, Depth> 1.44"
Routed to Reach SP4 : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	53,485	55	Woods, Good, HSG B
	14,342	61	>75% Grass cover, Good, HSG B
	110,909	70	Woods, Good, HSG C
	11,725	74	>75% Grass cover, Good, HSG C
	9,203	77	Woods, Good, HSG D
	5,736	80	>75% Grass cover, Good, HSG D
*	10,064	98	IMPERVIOUS
	215,464	68	Weighted Average
	205,400		95.33% Pervious Area
	10,064		4.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.7	140	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.1750	2.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	75	0.0100	10.72	386.00	**Channel Flow,** Area= 36.0 sf Perim= 18.0' r= 2.00' n= 0.022 Earth, clean & straight
0.8	470	0.0300	10.39	166.29	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
0.2	150	0.0700	15.88	254.01	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
26.3	975	Total			

Summary for Subcatchment SC 11: 11

Runoff = 0.86 cfs @ 11.95 hrs, Volume= 0.040 af, Depth> 3.37"
Routed to Pond CB 4 : CB4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	2,472	80	>75% Grass cover, Good, HSG D
*	3,759	98	IMPERVIOUS
	6,231	91	Weighted Average
	2,472		39.67% Pervious Area
	3,759		60.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 12: 12

Runoff = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af, Depth> 2.71"
Routed to Pond CB 1 : CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	3,060	74	>75% Grass cover, Good, HSG C
	997	80	>75% Grass cover, Good, HSG D
*	2,655	98	IMPERVIOUS
	6,712	84	Weighted Average
	4,057		60.44% Pervious Area
	2,655		39.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1B: 1B

Runoff = 0.27 cfs @ 11.95 hrs, Volume= 0.013 af, Depth> 3.37"
Routed to Pond 9P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	1,577	98	IMPERVIOUS
	160	39	>75% Grass cover, Good, HSG A
	222	80	>75% Grass cover, Good, HSG D
	1,959	91	Weighted Average
	382		19.50% Pervious Area
	1,577		80.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1C: 1C

Runoff = 0.23 cfs @ 11.95 hrs, Volume= 0.011 af, Depth> 3.18"
Routed to Pond 10P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	1,481	98	IMPERVIOUS
	284	39	>75% Grass cover, Good, HSG A
	1,765	89	Weighted Average
	284		16.09% Pervious Area
	1,481		83.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1D: 1D

Runoff = 0.07 cfs @ 11.96 hrs, Volume= 0.003 af, Depth> 2.53"
Routed to Pond 11P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	435	98	IMPERVIOUS
	162	39	>75% Grass cover, Good, HSG A
	597	82	Weighted Average
	162		27.14% Pervious Area
	435		72.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 1E: 1E

Runoff = 1.04 cfs @ 12.07 hrs, Volume= 0.070 af, Depth> 0.59"
Routed to Reach SP1 : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	27,881	30	Woods, Good, HSG A
	19,766	77	Woods, Good, HSG D
	5,258	39	>75% Grass cover, Good, HSG A
	9,286	80	>75% Grass cover, Good, HSG D
*	319	98	IMPERVIOUS
	62,510	53	Weighted Average
	62,191		99.49% Pervious Area
	319		0.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.3	40	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	90	Total			

Summary for Subcatchment SC 2A: 2A

Runoff = 0.45 cfs @ 11.96 hrs, Volume= 0.019 af, Depth> 2.19"
Routed to Pond CB 12 : CB12

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	989	39	>75% Grass cover, Good, HSG A
	1,861	80	>75% Grass cover, Good, HSG D
*	1,728	98	IMPERVIOUS
	4,578	78	Weighted Average
	2,850		62.25% Pervious Area
	1,728		37.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2B: 2B

Runoff = 1.34 cfs @ 12.10 hrs, Volume= 0.086 af, Depth> 2.43"
Routed to Pond CB 13 : CB13

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	7,086	77	Woods, Good, HSG D
	9,262	80	>75% Grass cover, Good, HSG D
*	2,089	98	IMPERVIOUS
	18,437	81	Weighted Average
	16,348		88.67% Pervious Area
	2,089		11.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	50	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.3	100	Total			

Summary for Subcatchment SC 2C: 2C

Runoff = 1.25 cfs @ 12.11 hrs, Volume= 0.083 af, Depth> 2.52"
Routed to Pond CB 10 : CB10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	4,892	77	Woods, Good, HSG D
	9,947	80	>75% Grass cover, Good, HSG D
*	2,365	98	IMPERVIOUS
	17,204	82	Weighted Average
	14,839		86.25% Pervious Area
	2,365		13.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.7	100	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	150	Total			

Summary for Subcatchment SC 2D: 2D

Runoff = 1.80 cfs @ 12.09 hrs, Volume= 0.113 af, Depth> 2.35"
Routed to Reach 6R : 15" SD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	10,993	77	Woods, Good, HSG D
	12,213	80	>75% Grass cover, Good, HSG D
*	2,062	98	IMPERVIOUS
	25,268	80	Weighted Average
	23,206		91.84% Pervious Area
	2,062		8.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0600	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.6	110	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.7	160	Total			

Summary for Subcatchment SC 2E: 2E

Runoff = 0.22 cfs @ 11.95 hrs, Volume= 0.010 af, Depth> 2.98"
Routed to Pond CB 11 : CB11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	276	39	>75% Grass cover, Good, HSG A
	145	80	>75% Grass cover, Good, HSG D
*	1,275	98	IMPERVIOUS
	1,696	87	Weighted Average
	421		24.82% Pervious Area
	1,275		75.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2F: 2F

Runoff = 0.63 cfs @ 11.95 hrs, Volume= 0.031 af, Depth> 3.76"
Routed to Pond CB 9 : CB9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	624	80	>75% Grass cover, Good, HSG D
*	3,645	98	IMPERVIOUS
	4,269	95	Weighted Average
	624		14.62% Pervious Area
	3,645		85.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2G: 2G

Runoff = 0.72 cfs @ 11.95 hrs, Volume= 0.035 af, Depth> 3.76"
Routed to Pond CB 8 : CB8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	727	80	>75% Grass cover, Good, HSG D
*	4,184	98	IMPERVIOUS
	4,911	95	Weighted Average
	727		14.80% Pervious Area
	4,184		85.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2H: 2H

Runoff = 0.44 cfs @ 11.95 hrs, Volume= 0.022 af, Depth> 3.85"
Routed to Pond CB 6 : CB6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	315	80	>75% Grass cover, Good, HSG D
*	2,651	98	IMPERVIOUS
	2,966	96	Weighted Average
	315		10.62% Pervious Area
	2,651		89.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2I: 2I

Runoff = 0.55 cfs @ 11.95 hrs, Volume= 0.027 af, Depth> 3.85"
Routed to Pond CB 7 : CB7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	475	80	>75% Grass cover, Good, HSG D
*	3,190	98	IMPERVIOUS
	3,665	96	Weighted Average
	475		12.96% Pervious Area
	3,190		87.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2J: 2J

Runoff = 0.55 cfs @ 11.95 hrs, Volume= 0.026 af, Depth> 3.47"
Routed to Pond CB 6 : CB6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,331	80	>75% Grass cover, Good, HSG D
*	2,599	98	IMPERVIOUS
	3,930	92	Weighted Average
	1,331		33.87% Pervious Area
	2,599		66.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2K: 2K

Runoff = 0.89 cfs @ 11.95 hrs, Volume= 0.043 af, Depth> 3.66"
Routed to Pond CB 5 : CB5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,221	80	>75% Grass cover, Good, HSG D
*	4,874	98	IMPERVIOUS
	6,095	94	Weighted Average
	1,221		20.03% Pervious Area
	4,874		79.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 2L: 2L

Runoff = 4.37 cfs @ 12.01 hrs, Volume= 0.218 af, Depth> 2.44"
Routed to Pond 3P : WETLAND STORAGE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	918	39	>75% Grass cover, Good, HSG A
	221	55	Woods, Good, HSG B
	3,708	61	>75% Grass cover, Good, HSG B
	6,650	77	Woods, Good, HSG D
	24,849	80	>75% Grass cover, Good, HSG D
*	10,436	98	IMPERVIOUS
	46,782	81	Weighted Average
	36,346		77.69% Pervious Area
	10,436		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.10"
0.4	90	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
3.3	100	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	240	Total			

Summary for Subcatchment SC 3A: 3A

Runoff = 0.65 cfs @ 11.95 hrs, Volume= 0.028 af, Depth> 2.71"
Routed to Pond CB 16 : CB 16

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,294	39	>75% Grass cover, Good, HSG A
*	4,203	98	IMPERVIOUS
	5,497	84	Weighted Average
	1,294		23.54% Pervious Area
	4,203		76.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3B: 3B

Runoff = 0.24 cfs @ 11.95 hrs, Volume= 0.011 af, Depth> 2.80"
Routed to Pond CB 14 : CB 14

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	443	39	>75% Grass cover, Good, HSG A
*	1,560	98	IMPERVIOUS
	2,003	85	Weighted Average
	443		22.12% Pervious Area
	1,560		77.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3C: 3C

Runoff = 2.16 cfs @ 11.99 hrs, Volume= 0.107 af, Depth> 2.89"
Routed to Pond CB19 : CB19

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,827	39	>75% Grass cover, Good, HSG A
	2,448	61	>75% Grass cover, Good, HSG B
	1,828	80	>75% Grass cover, Good, HSG D
*	13,186	98	IMPERVIOUS
	19,289	86	Weighted Average
	6,103		31.64% Pervious Area
	13,186		68.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	12	0.0580	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.10"
7.1	65	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.10"
1.1	220	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	297	Total			

Summary for Subcatchment SC 3D: 3D

Runoff = 0.44 cfs @ 11.95 hrs, Volume= 0.019 af, Depth> 2.71"
Routed to Pond CB 17 : CB 17

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	900	39	>75% Grass cover, Good, HSG A
*	2,863	98	IMPERVIOUS
	3,763	84	Weighted Average
	900		23.92% Pervious Area
	2,863		76.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3E: 3E

Runoff = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af, Depth> 3.85"
Routed to Pond CB 18 : CB 18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	91	39	>75% Grass cover, Good, HSG A
*	2,954	98	IMPERVIOUS
	35	80	>75% Grass cover, Good, HSG D
	3,080	96	Weighted Average
	126		4.09% Pervious Area
	2,954		95.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 3F: 3F

Runoff = 2.36 cfs @ 11.97 hrs, Volume= 0.100 af, Depth> 1.32"
Routed to Pond 1P : WETPOND A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	18,576	39	>75% Grass cover, Good, HSG A
	4,092	61	>75% Grass cover, Good, HSG B
	2,268	80	>75% Grass cover, Good, HSG D
*	14,757	98	IMPERVIOUS
	39,693	66	Weighted Average
	24,936		62.82% Pervious Area
	14,757		37.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 4: 4

Runoff = 0.11 cfs @ 12.14 hrs, Volume= 0.024 af, Depth> 0.20"
Routed to Reach SP2 : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	31,847	30	Woods, Good, HSG A
	10,452	39	>75% Grass cover, Good, HSG A
	10,898	55	Woods, Good, HSG B
	7,071	61	>75% Grass cover, Good, HSG B
*	3,643	98	IMPERVIOUS
	63,911	43	Weighted Average
	60,268		94.30% Pervious Area
	3,643		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.10"
0.3	30	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.8	130	Total			

Summary for Subcatchment SC 5: 5

Runoff = 3.79 cfs @ 12.00 hrs, Volume= 0.178 af, Depth> 1.52"
Routed to Pond CB 22 : CB22

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	8,853	55	Woods, Good, HSG B
	37,159	61	>75% Grass cover, Good, HSG B
	326	80	>75% Grass cover, Good, HSG D
*	15,241	98	IMPERVIOUS
	61,579	69	Weighted Average
	46,338		75.25% Pervious Area
	15,241		24.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	12	0.0580	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.10"
2.3	210	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.3	130	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	140	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.3	492	Total			

Summary for Subcatchment SC 6A: 6A

Runoff = 0.61 cfs @ 11.95 hrs, Volume= 0.028 af, Depth> 3.27"
Routed to Pond CB 21 : CB21

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,020	61	>75% Grass cover, Good, HSG B
*	3,490	98	IMPERVIOUS
	4,510	90	Weighted Average
	1,020		22.62% Pervious Area
	3,490		77.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6B: 6B

Runoff = 0.69 cfs @ 11.96 hrs, Volume= 0.030 af, Depth> 2.62"
Routed to Pond CB 20 : CB20

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	2,428	61	>75% Grass cover, Good, HSG B
*	3,600	98	IMPERVIOUS
	6,028	83	Weighted Average
	2,428		40.28% Pervious Area
	3,600		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6C: 6C

Runoff = 0.63 cfs @ 11.95 hrs, Volume= 0.029 af, Depth> 3.18"
Routed to Pond CB 23 : CB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,202	61	>75% Grass cover, Good, HSG B
*	3,507	98	IMPERVIOUS
	4,709	89	Weighted Average
	1,202		25.53% Pervious Area
	3,507		74.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6D: 6D

Runoff = 0.91 cfs @ 11.95 hrs, Volume= 0.040 af, Depth> 2.71"
Routed to Pond CB 24 : CB 24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	3,016	61	>75% Grass cover, Good, HSG B
*	4,748	98	IMPERVIOUS
	7,764	84	Weighted Average
	3,016		38.85% Pervious Area
	4,748		61.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6F: 6F

Runoff = 0.87 cfs @ 11.95 hrs, Volume= 0.040 af, Depth> 3.18"
Routed to Pond CB 23 : CB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,649	61	>75% Grass cover, Good, HSG B
*	4,883	98	IMPERVIOUS
	6,532	89	Weighted Average
	1,649		25.24% Pervious Area
	4,883		74.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6G: 6G

Runoff = 0.54 cfs @ 11.96 hrs, Volume= 0.023 af, Depth> 1.45"
Routed to Pond CB 24 : CB 24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	6,706	61	>75% Grass cover, Good, HSG B
*	1,465	98	IMPERVIOUS
	8,171	68	Weighted Average
	6,706		82.07% Pervious Area
	1,465		17.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6H: 6H

Runoff = 0.17 cfs @ 11.95 hrs, Volume= 0.009 af, Depth> 4.01"
Routed to Pond CB 25 : CB25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
*	1,110	98	IMPERVIOUS
	1,110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6I: 6I

Runoff = 1.38 cfs @ 11.95 hrs, Volume= 0.064 af, Depth> 3.27"
Routed to Pond CB 27 : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	2,141	61	>75% Grass cover, Good, HSG B
*	8,014	98	IMPERVIOUS
	10,155	90	Weighted Average
	2,141		21.08% Pervious Area
	8,014		78.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 6J: 6J

Runoff = 0.50 cfs @ 11.95 hrs, Volume= 0.025 af, Depth> 3.85"
Routed to Pond CB 26 : CB26

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	191	61	>75% Grass cover, Good, HSG B
*	3,153	98	IMPERVIOUS
	3,344	96	Weighted Average
	191		5.71% Pervious Area
	3,153		94.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 7: 7

Runoff = 0.14 cfs @ 11.97 hrs, Volume= 0.006 af, Depth> 1.07"
Routed to Pond 6P : BIO CELL 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,639	39	>75% Grass cover, Good, HSG A
	255	61	>75% Grass cover, Good, HSG B
*	1,027	98	IMPERVIOUS
	2,921	62	Weighted Average
	1,894		64.84% Pervious Area
	1,027		35.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 8: 8

Runoff = 0.15 cfs @ 11.97 hrs, Volume= 0.006 af, Depth> 1.25"
Routed to Pond 7P : BIO CELL 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	1,249	39	>75% Grass cover, Good, HSG A
	429	61	>75% Grass cover, Good, HSG B
*	1,018	98	IMPERVIOUS
	2,696	65	Weighted Average
	1,678		62.24% Pervious Area
	1,018		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment SC 9: 9

Runoff = 0.57 cfs @ 12.00 hrs, Volume= 0.033 af, Depth> 0.41"
Routed to Reach SP3 : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 YEAR Rainfall=4.60"

	Area (sf)	CN	Description
	13,252	30	Woods, Good, HSG A
	5,430	39	>75% Grass cover, Good, HSG A
	8,836	55	Woods, Good, HSG B
	10,682	61	>75% Grass cover, Good, HSG B
*	2,960	98	IMPERVIOUS
	41,160	49	Weighted Average
	38,200		92.81% Pervious Area
	2,960		7.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 1R: REACH 1

Inflow Area = 0.067 ac, 35.16% Impervious, Inflow Depth > 1.07" for 10 YEAR event
Inflow = 0.10 cfs @ 11.95 hrs, Volume= 0.006 af
Outflow = 0.10 cfs @ 11.95 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: REACH 2

Inflow Area = 0.062 ac, 37.76% Impervious, Inflow Depth > 1.15" for 10 YEAR event
Inflow = 0.10 cfs @ 11.90 hrs, Volume= 0.006 af
Outflow = 0.10 cfs @ 11.90 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

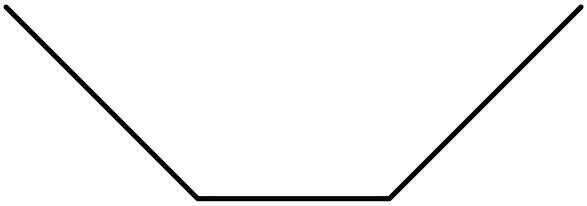
Summary for Reach 3R: REACH 3

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 3.37" for 10 YEAR event
Inflow = 0.27 cfs @ 12.10 hrs, Volume= 0.040 af
Outflow = 0.19 cfs @ 12.26 hrs, Volume= 0.040 af, Atten= 29%, Lag= 9.6 min
Routed to Reach 5R : REACH 5

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.20 fps, Min. Travel Time= 5.9 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 6.0 min

Peak Storage= 69 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.04' , Surface Width= 4.08'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 538.48 cfs

4.00' x 4.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 425.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -12.75'



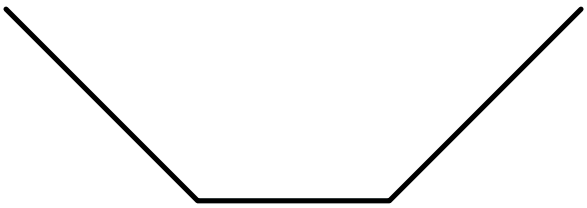
Summary for Reach 4R: REACH 4

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 2.70" for 10 YEAR event
Inflow = 0.25 cfs @ 12.10 hrs, Volume= 0.035 af
Outflow = 0.19 cfs @ 12.21 hrs, Volume= 0.035 af, Atten= 25%, Lag= 6.3 min
Routed to Reach 5R : REACH 5

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.19 fps, Min. Travel Time= 3.5 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 3.5 min

Peak Storage= 40 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.04' , Surface Width= 4.08'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 538.48 cfs

4.00' x 4.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 250.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -7.50'



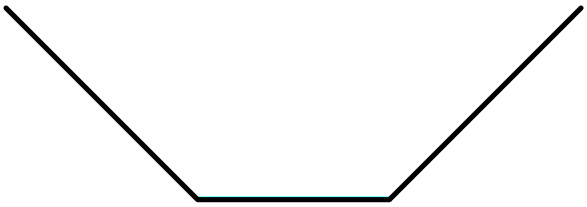
Summary for Reach 5R: REACH 5

Inflow Area = 0.297 ac, 49.56% Impervious, Inflow Depth > 3.02" for 10 YEAR event
Inflow = 0.37 cfs @ 12.23 hrs, Volume= 0.075 af
Outflow = 0.34 cfs @ 12.37 hrs, Volume= 0.074 af, Atten= 8%, Lag= 8.2 min
Routed to Reach SP4 : SUMMATION POINT 4

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.24 fps, Min. Travel Time= 4.8 min
Avg. Velocity = 0.88 fps, Avg. Travel Time= 6.8 min

Peak Storage= 99 cf @ 12.29 hrs
Average Depth at Peak Storage= 0.07' , Surface Width= 4.13'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 384.63 cfs

4.00' x 4.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 360.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -10.80'



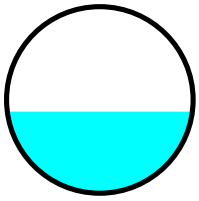
Summary for Reach 6R: 15" SD

Inflow Area = 0.580 ac, 8.16% Impervious, Inflow Depth > 2.35" for 10 YEAR event
Inflow = 1.80 cfs @ 12.09 hrs, Volume= 0.113 af
Outflow = 1.80 cfs @ 12.10 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.3 min
Routed to Pond CB 6 : CB6

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.50 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.28 fps, Avg. Travel Time= 0.5 min

Peak Storage= 20 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.55' , Surface Width= 1.24'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.57 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0050 '/'
Inlet Invert= 0.00', Outlet Invert= -0.19'



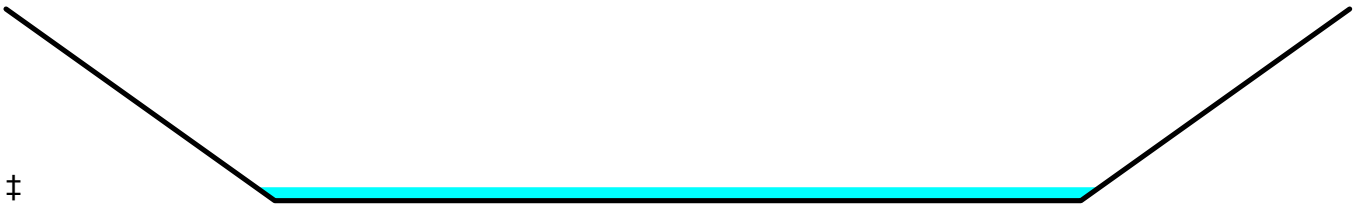
Summary for Reach 7R: Level Spreader B

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 1.96" for 10 YEAR event
Inflow = 0.68 cfs @ 12.76 hrs, Volume= 0.428 af
Outflow = 0.68 cfs @ 12.80 hrs, Volume= 0.426 af, Atten= 0%, Lag= 2.1 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.26 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 0.18 fps, Avg. Travel Time= 1.9 min

Peak Storage= 52 cf @ 12.77 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 18.85'
Bank-Full Depth= 2.00' Flow Area= 48.0 sf, Capacity= 63.37 cfs

18.00' x 2.00' deep channel, n= 0.240 Sheet flow over Dense Grass
Side Slope Z-value= 3.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 67.00', Outlet Invert= 66.50'



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Summary for Reach 13R: Level Spreader A

Inflow Area = 4.893 ac, 37.83% Impervious, Inflow Depth > 1.66" for 10 YEAR event
Inflow = 1.30 cfs @ 13.06 hrs, Volume= 0.676 af
Outflow = 1.30 cfs @ 13.09 hrs, Volume= 0.674 af, Atten= 0%, Lag= 1.7 min
Routed to Reach SP2 : SUMMATION POINT 2

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.34 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 0.21 fps, Avg. Travel Time= 1.6 min

Peak Storage= 77 cf @ 13.07 hrs
Average Depth at Peak Storage= 0.21' , Surface Width= 19.25'
Bank-Full Depth= 2.00' Flow Area= 48.0 sf, Capacity= 63.37 cfs

18.00' x 2.00' deep channel, n= 0.240 Sheet flow over Dense Grass
Side Slope Z-value= 3.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 67.00', Outlet Invert= 66.50'



‡

Summary for Reach SP1: SUMMATION POINT 1

Inflow Area = 1.534 ac, 5.70% Impervious, Inflow Depth > 0.76" for 10 YEAR event
Inflow = 1.38 cfs @ 12.05 hrs, Volume= 0.097 af
Outflow = 1.38 cfs @ 12.05 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: SUMMATION POINT 2

Inflow Area = 6.360 ac, 30.42% Impervious, Inflow Depth > 1.32" for 10 YEAR event
Inflow = 1.35 cfs @ 12.99 hrs, Volume= 0.698 af
Outflow = 1.35 cfs @ 12.99 hrs, Volume= 0.698 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP3: SUMMATION POINT 3

Inflow Area = 3.689 ac, 33.74% Impervious, Inflow Depth > 1.53" for 10 YEAR event
Inflow = 1.27 cfs @ 12.00 hrs, Volume= 0.470 af
Outflow = 1.27 cfs @ 12.00 hrs, Volume= 0.470 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP4: SUMMATION POINT 4

Inflow Area = 5.244 ac, 7.21% Impervious, Inflow Depth > 1.52" for 10 YEAR event
Inflow = 7.31 cfs @ 12.22 hrs, Volume= 0.666 af
Outflow = 7.31 cfs @ 12.22 hrs, Volume= 0.666 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: WETPOND A

Inflow Area = 4.893 ac, 37.83% Impervious, Inflow Depth > 2.45" for 10 YEAR event
Inflow = 13.04 cfs @ 12.00 hrs, Volume= 0.998 af
Outflow = 1.30 cfs @ 13.06 hrs, Volume= 0.676 af, Atten= 90%, Lag= 63.6 min
Primary = 1.30 cfs @ 13.06 hrs, Volume= 0.676 af
Routed to Reach 13R : Level Spreader A
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach SP2 : SUMMATION POINT 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 73.85' Surf.Area= 4,353 sf Storage= 22,308 cf
Peak Elev= 77.65' @ 13.06 hrs Surf.Area= 8,379 sf Storage= 47,381 cf (25,073 cf above start)

Plug-Flow detention time= 458.1 min calculated for 0.163 af (16% of inflow)
Center-of-Mass det. time= 130.7 min (911.4 - 780.7)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	64,662 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	587	0	0
65.00	857	722	722
66.00	1,153	1,005	1,727
67.00	1,474	1,314	3,041
68.00	1,821	1,648	4,688
69.00	2,193	2,007	6,695
70.00	2,561	2,377	9,072
71.00	3,011	2,786	11,858
72.00	3,458	3,235	15,093
73.00	3,931	3,695	18,787
74.00	4,428	4,180	22,967
75.00	6,154	5,291	28,258
76.00	6,919	6,537	34,794
77.00	7,722	7,321	42,115
78.00	8,726	8,224	50,339
79.00	9,827	9,277	59,615
79.50	10,359	5,047	64,662

Device	Routing	Invert	Outlet Devices
#1	Primary	71.85'	**24.0" Round Culvert** L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 71.85' / 71.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	73.85'	**0.10 cfs Exfiltration when above 73.85'**
#3	Device 1	75.80'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	78.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	78.90'	**10.0' 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=1.30 cfs @ 13.06 hrs HW=77.65' (Free Discharge)
└**1=Culvert** (Passes 1.30 cfs of 26.17 cfs potential flow)
  ├**2=Exfiltration** (Exfiltration Controls 0.10 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 1.20 cfs @ 6.10 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=73.85' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: WETPOND B

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 2.13" for 10 YEAR event
Inflow = 9.61 cfs @ 11.97 hrs, Volume= 0.465 af
Outflow = 0.68 cfs @ 12.76 hrs, Volume= 0.428 af, Atten= 93%, Lag= 47.5 min
Primary = 0.68 cfs @ 12.76 hrs, Volume= 0.428 af
Routed to Reach 7R : Level Spreader B
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 72.80' Surf.Area= 2,913 sf Storage= 12,519 cf
Peak Elev= 75.31' @ 12.76 hrs Surf.Area= 4,569 sf Storage= 21,945 cf (9,425 cf above start)

Plug-Flow detention time= 422.8 min calculated for 0.140 af (30% of inflow)
Center-of-Mass det. time= 126.5 min (905.0 - 778.5)

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	30,442 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	550	0	0
66.00	767	659	659
67.00	1,009	888	1,547
68.00	1,277	1,143	2,690
69.00	1,570	1,424	4,113
70.00	1,887	1,729	5,842
71.00	2,230	2,059	7,900
72.00	2,599	2,415	10,315
73.00	2,992	2,796	13,110
74.00	3,756	3,374	16,484
75.00	4,408	4,082	20,566
76.00	4,932	4,670	25,236
77.00	5,480	5,206	30,442

Device	Routing	Invert	Outlet Devices
#1	Primary	70.71'	**24.0" Round Culvert** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.71' / 70.01' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	72.80'	**0.50 cfs Exfiltration when above 72.80'**
#3	Device 1	74.59'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	76.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	76.70'	**10.0' long x 6.0' 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) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.68 cfs @ 12.76 hrs HW=75.31' (Free Discharge)
└**1=Culvert** (Passes 0.68 cfs of 22.65 cfs potential flow)
  ├**2=Exfiltration** (Exfiltration Controls 0.50 cfs)
  ├**3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 3.70 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=72.80' (Free Discharge)
└**5=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: WETLAND STORAGE

Inflow Area = 3.209 ac, 29.40% Impervious, Inflow Depth > 2.66" for 10 YEAR event
Inflow = 11.43 cfs @ 11.99 hrs, Volume= 0.713 af
Outflow = 8.35 cfs @ 12.10 hrs, Volume= 0.711 af, Atten= 27%, Lag= 6.2 min
Primary = 8.35 cfs @ 12.10 hrs, Volume= 0.711 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 80.60' @ 12.10 hrs Surf.Area= 5,207 sf Storage= 4,242 cf

Plug-Flow detention time= 7.8 min calculated for 0.711 af (100% of inflow)
Center-of-Mass det. time= 6.5 min (780.6 - 774.1)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	15,212 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
79.00	112	0	0
81.00	6,500	6,612	6,612
82.00	10,700	8,600	15,212

Device	Routing	Invert	Outlet Devices
#1	Primary	79.00'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 79.00' / 78.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.34 cfs @ 12.10 hrs HW=80.59' (Free Discharge)
└**1=Culvert** (Barrel Controls 8.34 cfs @ 4.26 fps)

Summary for Pond 4P: GUSF 2

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 2.71" for 10 YEAR event
Inflow = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af
Outflow = 0.25 cfs @ 12.10 hrs, Volume= 0.035 af, Atten= 68%, Lag= 8.9 min
Primary = 0.10 cfs @ 11.65 hrs, Volume= 0.033 af
Routed to Reach 4R : REACH 4
Secondary = 0.15 cfs @ 12.10 hrs, Volume= 0.001 af
Routed to Reach 4R : REACH 4

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 76.78' @ 12.10 hrs Surf.Area= 454 sf Storage= 502 cf

Plug-Flow detention time= 30.8 min calculated for 0.035 af (100% of inflow)
Center-of-Mass det. time= 30.7 min (802.6 - 771.9)

Volume	Invert	Avail.Storage	Storage Description
#1	75.23'	1,167 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
75.23	192	0	0
77.00	491	604	604
78.00	634	563	1,167

Device	Routing	Invert	Outlet Devices
#1	Primary	72.98'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 72.98' / 72.88' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	75.23'	**0.10 cfs Exfiltration when above 75.23'**
#3	Secondary	76.73'	**5.0' long x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.10 cfs @ 11.65 hrs HW=75.26' (Free Discharge)
└**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.14 cfs @ 12.10 hrs HW=76.78' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.14 cfs @ 0.54 fps)

Summary for Pond 5P: GUSF 1

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 3.37" for 10 YEAR event
Inflow = 0.86 cfs @ 11.95 hrs, Volume= 0.040 af
Outflow = 0.27 cfs @ 12.10 hrs, Volume= 0.040 af, Atten= 68%, Lag= 8.6 min
Primary = 0.10 cfs @ 11.65 hrs, Volume= 0.038 af
Routed to Reach 3R : REACH 3
Secondary = 0.17 cfs @ 12.10 hrs, Volume= 0.002 af
Routed to Reach 3R : REACH 3

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.56' @ 12.09 hrs Surf.Area= 556 sf Storage= 579 cf

Plug-Flow detention time= 33.9 min calculated for 0.040 af (100% of inflow)
Center-of-Mass det. time= 33.6 min (785.9 - 752.2)

Volume	Invert	Avail.Storage	Storage Description
#1	82.00'	1,228 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
82.00	210	0	0
83.00	408	309	309
84.00	673	541	850
84.50	841	379	1,228

Device	Routing	Invert	Outlet Devices
#1	Primary	79.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 79.75' / 79.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	82.00'	**0.10 cfs Exfiltration when above 82.00'**
#3	Secondary	83.50'	**5.0' long x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.10 cfs @ 11.65 hrs HW=82.05' (Free Discharge)
↑—**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.16 cfs @ 12.10 hrs HW=83.56' (Free Discharge)
↑—**3=Broad-Crested Rectangular Weir** (Weir Controls 0.16 cfs @ 0.57 fps)

Summary for Pond 6P: BIO CELL 1

Inflow Area = 0.067 ac, 35.16% Impervious, Inflow Depth > 1.07" for 10 YEAR event
Inflow = 0.14 cfs @ 11.97 hrs, Volume= 0.006 af
Outflow = 0.10 cfs @ 11.95 hrs, Volume= 0.006 af, Atten= 28%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.95 hrs, Volume= 0.006 af
Routed to Reach 1R : REACH 1
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 1R : REACH 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 78.70' @ 12.03 hrs Surf.Area= 140 sf Storage= 11 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.2 min (817.5 - 817.3)

Volume	Invert	Avail.Storage	Storage Description
#1	78.50'	714 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.50	140	0.0	0	0
79.00	140	40.0	28	28
80.50	775	100.0	686	714

Device	Routing	Invert	Outlet Devices
#1	Primary	76.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.75' / 76.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	78.50'	**0.10 cfs Exfiltration at all elevations**
#3	Secondary	79.50'	**5.0' long 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=0.10 cfs @ 11.95 hrs HW=78.58' (Free Discharge)
↑—**1=Culvert** (Passes 0.10 cfs of 0.43 cfs potential flow)
↑—**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=78.50' (Free Discharge)
↑—**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: BIO CELL 2

Inflow Area = 0.062 ac, 37.76% Impervious, Inflow Depth > 1.25" for 10 YEAR event
Inflow = 0.15 cfs @ 11.97 hrs, Volume= 0.006 af
Outflow = 0.10 cfs @ 11.90 hrs, Volume= 0.006 af, Atten= 34%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.90 hrs, Volume= 0.006 af
Routed to Reach 2R : REACH 2
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 2R : REACH 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.14' @ 12.03 hrs Surf.Area= 183 sf Storage= 44 cf

Plug-Flow detention time= 37.8 min calculated for 0.006 af (92% of inflow)
Center-of-Mass det. time= 10.2 min (821.0 - 810.8)

Volume	Invert	Avail.Storage	Storage Description
#1	76.50'	748 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
76.50	116	0.0	0	0
77.00	116	40.0	23	23
78.50	850	100.0	725	748

Device	Routing	Invert	Outlet Devices
#1	Primary	74.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.75' / 74.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	77.00'	**0.10 cfs Exfiltration when above 77.00'**
#3	Secondary	77.50'	**5.0' 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=0.10 cfs @ 11.90 hrs HW=77.04' (Free Discharge)
└**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=76.50' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 9P: DRIP FILTER

Inflow Area = 0.045 ac, 80.50% Impervious, Inflow Depth > 3.37" for 10 YEAR event
Inflow = 0.27 cfs @ 11.95 hrs, Volume= 0.013 af
Outflow = 0.26 cfs @ 11.97 hrs, Volume= 0.013 af, Atten= 3%, Lag= 1.2 min
Primary = 0.26 cfs @ 11.97 hrs, Volume= 0.013 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.79' @ 11.97 hrs Surf.Area= 200 sf Storage= 63 cf

Plug-Flow detention time= 4.2 min calculated for 0.013 af (100% of inflow)
Center-of-Mass det. time= 4.2 min (756.4 - 752.2)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.25 cfs @ 11.97 hrs HW=0.78' (Free Discharge)
└**1=Culvert** (Passes 0.04 cfs of 0.54 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.21 cfs @ 1.51 fps)

Summary for Pond 10P: DRIP FILTER

Inflow Area = 0.041 ac, 83.91% Impervious, Inflow Depth > 3.18" for 10 YEAR event
Inflow = 0.23 cfs @ 11.95 hrs, Volume= 0.011 af
Outflow = 0.22 cfs @ 11.98 hrs, Volume= 0.011 af, Atten= 5%, Lag= 1.6 min
Primary = 0.22 cfs @ 11.98 hrs, Volume= 0.011 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.76' @ 11.98 hrs Surf.Area= 200 sf Storage= 61 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.3 min (762.5 - 758.2)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.21 cfs @ 11.98 hrs HW=0.75' (Free Discharge)
└**1=Culvert** (Passes 0.04 cfs of 0.53 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.17 cfs @ 1.41 fps)

Summary for Pond 11P: DRIP FILTER

Inflow Area = 0.014 ac, 72.86% Impervious, Inflow Depth > 2.53" for 10 YEAR event
Inflow = 0.07 cfs @ 11.96 hrs, Volume= 0.003 af
Outflow = 0.04 cfs @ 11.90 hrs, Volume= 0.003 af, Atten= 40%, Lag= 0.0 min
Primary = 0.04 cfs @ 11.90 hrs, Volume= 0.003 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.13' @ 12.04 hrs Surf.Area= 200 sf Storage= 10 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.0 min (777.7 - 776.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.04 cfs @ 11.90 hrs HW=0.02' (Free Discharge)
└─**1=Culvert** (Passes 0.04 cfs of 0.45 cfs potential flow)
└─**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond CB 1: CB1

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 2.71" for 10 YEAR event
Inflow = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af
Outflow = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min
Primary = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af
Routed to Pond CB 2 : CB2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.28' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.75'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.75' / 76.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.78 cfs @ 11.95 hrs HW=77.27' (Free Discharge)
└─**1=Culvert** (Barrel Controls 0.78 cfs @ 2.37 fps)

Summary for Pond CB 10: CB10

Inflow Area = 0.395 ac, 13.75% Impervious, Inflow Depth > 2.52" for 10 YEAR event
Inflow = 1.25 cfs @ 12.11 hrs, Volume= 0.083 af
Outflow = 1.25 cfs @ 12.11 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.11 hrs, Volume= 0.083 af
Routed to Pond CB 9 : CB9

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.90' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.25'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.25' / 81.97' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.24 cfs @ 12.11 hrs HW=82.90' (Free Discharge)
1=Culvert (Barrel Controls 1.24 cfs @ 2.84 fps)

Summary for Pond CB 11: CB11

Inflow Area = 0.567 ac, 20.61% Impervious, Inflow Depth > 2.42" for 10 YEAR event
Inflow = 1.61 cfs @ 12.02 hrs, Volume= 0.115 af
Outflow = 1.61 cfs @ 12.02 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.02 hrs, Volume= 0.115 af
Routed to Pond CB 8 : CB8

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.20' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.47'	**15.0" Round Culvert** L= 95.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.47' / 82.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.59 cfs @ 12.02 hrs HW=83.20' (Free Discharge)
1=Culvert (Barrel Controls 1.59 cfs @ 3.09 fps)

Summary for Pond CB 12: CB12

Inflow Area = 0.528 ac, 16.58% Impervious, Inflow Depth > 2.38" for 10 YEAR event
Inflow = 1.47 cfs @ 12.06 hrs, Volume= 0.105 af
Outflow = 1.47 cfs @ 12.06 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
Primary = 1.47 cfs @ 12.06 hrs, Volume= 0.105 af
Routed to Pond CB 11 : CB11

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 83.42' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.67'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.67' / 82.57' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.46 cfs @ 12.06 hrs HW=83.41' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.46 cfs @ 2.76 fps)

Summary for Pond CB 13: CB13

Inflow Area = 0.423 ac, 11.33% Impervious, Inflow Depth > 2.43" for 10 YEAR event
Inflow = 1.34 cfs @ 12.10 hrs, Volume= 0.086 af
Outflow = 1.34 cfs @ 12.10 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Primary = 1.34 cfs @ 12.10 hrs, Volume= 0.086 af
Routed to Pond CB 12 : CB12

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.82' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	83.15'	**15.0" Round Culvert** L= 75.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.15' / 82.78' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.33 cfs @ 12.10 hrs HW=83.81' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.33 cfs @ 2.92 fps)

Summary for Pond CB 14: CB 14

Inflow Area = 0.046 ac, 77.88% Impervious, Inflow Depth > 2.80" for 10 YEAR event
Inflow = 0.24 cfs @ 11.95 hrs, Volume= 0.011 af
Outflow = 0.24 cfs @ 11.95 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min
Primary = 0.24 cfs @ 11.95 hrs, Volume= 0.011 af
Routed to Pond CB 15 : CB 15

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.50' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	83.25'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.25' / 81.43' S= 0.0910 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.24 cfs @ 11.95 hrs HW=83.50' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.24 cfs @ 1.35 fps)

Summary for Pond CB 15: CB 15

Inflow Area = 0.259 ac, 76.59% Impervious, Inflow Depth > 2.72" for 10 YEAR event
Inflow = 1.33 cfs @ 11.95 hrs, Volume= 0.059 af
Outflow = 1.33 cfs @ 11.95 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Primary = 1.33 cfs @ 11.95 hrs, Volume= 0.059 af
Routed to Pond CB 18 : CB 18

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 81.96' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.33'	**15.0" Round Culvert** L= 135.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.33' / 78.63' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.31 cfs @ 11.95 hrs HW=81.96' (Free Discharge)
1=Culvert (Inlet Controls 1.31 cfs @ 2.13 fps)

Summary for Pond CB 16: CB 16

Inflow Area = 0.213 ac, 76.31% Impervious, Inflow Depth > 2.71" for 10 YEAR event
Inflow = 1.09 cfs @ 11.95 hrs, Volume= 0.048 af
Outflow = 1.09 cfs @ 11.95 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 1.09 cfs @ 11.95 hrs, Volume= 0.048 af
Routed to Pond CB 15 : CB 15

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.20' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.58'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.58' / 81.43' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.07 cfs @ 11.95 hrs HW=82.19' (Free Discharge)
1=Culvert (Barrel Controls 1.07 cfs @ 2.62 fps)

Summary for Pond CB 17: CB 17

Inflow Area = 0.086 ac, 76.08% Impervious, Inflow Depth > 2.71" for 10 YEAR event
Inflow = 0.44 cfs @ 11.95 hrs, Volume= 0.019 af
Outflow = 0.44 cfs @ 11.95 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 11.95 hrs, Volume= 0.019 af
Routed to Pond CB 16 : CB 16

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 82.42' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.06'	**15.0" Round Culvert** L= 76.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.06' / 81.68' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.44 cfs @ 11.95 hrs HW=82.42' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.44 cfs @ 2.22 fps)

Summary for Pond CB 18: CB 18

Inflow Area = 0.329 ac, 80.74% Impervious, Inflow Depth > 2.96" for 10 YEAR event
Inflow = 1.79 cfs @ 11.95 hrs, Volume= 0.081 af
Outflow = 1.79 cfs @ 11.95 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
Primary = 1.79 cfs @ 11.95 hrs, Volume= 0.081 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.28' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.53'	**15.0" Round Culvert** L= 73.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.53' / 77.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.77 cfs @ 11.95 hrs HW=79.27' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.77 cfs @ 2.32 fps)

Summary for Pond CB 2: CB2

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 2.71" for 10 YEAR event
Inflow = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af
Outflow = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min
Primary = 0.79 cfs @ 11.95 hrs, Volume= 0.035 af
Routed to Pond 4P : GUSF 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.92' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.55'	**6.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.55' / 76.47' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.78 cfs @ 11.95 hrs HW=77.89' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.78 cfs @ 3.96 fps)

Summary for Pond CB 20: CB20

Inflow Area = 0.138 ac, 59.72% Impervious, Inflow Depth > 2.62" for 10 YEAR event
Inflow = 0.69 cfs @ 11.96 hrs, Volume= 0.030 af
Outflow = 0.69 cfs @ 11.96 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.69 cfs @ 11.96 hrs, Volume= 0.030 af
Routed to Pond CB 21 : CB21

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.29' @ 11.96 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.80'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.80' / 78.70' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.68 cfs @ 11.96 hrs HW=79.28' (Free Discharge)
1=Culvert (Barrel Controls 0.68 cfs @ 2.29 fps)

Summary for Pond CB 21: CB21

Inflow Area = 0.242 ac, 67.28% Impervious, Inflow Depth > 2.90" for 10 YEAR event
Inflow = 1.30 cfs @ 11.95 hrs, Volume= 0.058 af
Outflow = 1.30 cfs @ 11.95 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 11.95 hrs, Volume= 0.058 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.22' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.60'	**15.0" Round Culvert** L= 116.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.60' / 75.29' S= 0.0285 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.28 cfs @ 11.95 hrs HW=79.22' (Free Discharge)
1=Culvert (Inlet Controls 1.28 cfs @ 2.12 fps)

Summary for Pond CB 22: CB22

Inflow Area = 1.414 ac, 24.75% Impervious, Inflow Depth > 1.52" for 10 YEAR event
Inflow = 3.79 cfs @ 12.00 hrs, Volume= 0.178 af
Outflow = 3.79 cfs @ 12.00 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 3.79 cfs @ 12.00 hrs, Volume= 0.178 af
Routed to Pond CB 23 : CB23

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 75.46' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.40'	**24.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.40' / 74.30' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.76 cfs @ 12.00 hrs HW=75.45' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.76 cfs @ 3.25 fps)

Summary for Pond CB 23: CB23

Inflow Area = 1.672 ac, 32.45% Impervious, Inflow Depth > 1.77" for 10 YEAR event
Inflow = 5.09 cfs @ 11.99 hrs, Volume= 0.247 af
Outflow = 5.09 cfs @ 11.99 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min
Primary = 5.09 cfs @ 11.99 hrs, Volume= 0.247 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.45' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.20'	**24.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.20' / 74.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.96 cfs @ 11.99 hrs HW=75.44' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 4.96 cfs @ 3.49 fps)

Summary for Pond CB 24: CB 24

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 2.13" for 10 YEAR event
Inflow = 9.61 cfs @ 11.97 hrs, Volume= 0.465 af
Outflow = 9.61 cfs @ 11.97 hrs, Volume= 0.465 af, Atten= 0%, Lag= 0.0 min
Primary = 9.61 cfs @ 11.97 hrs, Volume= 0.465 af
Routed to Pond 2P : WETPOND B

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.78' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.00'	**24.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.00' / 73.75' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.30 cfs @ 11.97 hrs HW=75.74' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 9.30 cfs @ 4.28 fps)

Summary for Pond CB 25: CB25

Inflow Area = 0.335 ac, 84.04% Impervious, Inflow Depth > 3.46" for 10 YEAR event
Inflow = 2.04 cfs @ 11.95 hrs, Volume= 0.097 af
Outflow = 2.04 cfs @ 11.95 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 2.04 cfs @ 11.95 hrs, Volume= 0.097 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.71' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**15.0" Round Culvert** L= 150.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.90' / 75.29' S= 0.0107 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.03 cfs @ 11.95 hrs HW=77.71' (Free Discharge)
1=Culvert (Inlet Controls 2.03 cfs @ 2.42 fps)

Summary for Pond CB 26: CB26

Inflow Area = 0.310 ac, 82.72% Impervious, Inflow Depth > 3.42" for 10 YEAR event
Inflow = 1.88 cfs @ 11.95 hrs, Volume= 0.088 af
Outflow = 1.88 cfs @ 11.95 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
Primary = 1.88 cfs @ 11.95 hrs, Volume= 0.088 af
Routed to Pond CB 25 : CB25

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.22' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.45'	**15.0" Round Culvert** L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.45' / 77.00' S= 0.0132 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.86 cfs @ 11.95 hrs HW=79.22' (Free Discharge)
1=Culvert (Inlet Controls 1.86 cfs @ 2.36 fps)

Summary for Pond CB 27: CB27

Inflow Area = 0.233 ac, 78.92% Impervious, Inflow Depth > 3.27" for 10 YEAR event
Inflow = 1.38 cfs @ 11.95 hrs, Volume= 0.064 af
Outflow = 1.38 cfs @ 11.95 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 1.38 cfs @ 11.95 hrs, Volume= 0.064 af
Routed to Pond CB 26 : CB26

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 79.41' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.70'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.70' / 78.55' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.37 cfs @ 11.95 hrs HW=79.40' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.37 cfs @ 2.78 fps)

Summary for Pond CB 4: CB4

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 3.37" for 10 YEAR event
Inflow = 0.86 cfs @ 11.95 hrs, Volume= 0.040 af
Outflow = 0.86 cfs @ 11.95 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86 cfs @ 11.95 hrs, Volume= 0.040 af
Routed to Pond 5P : GUSF 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.72' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.15'	**15.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.15' / 82.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.86 cfs @ 11.95 hrs HW=82.71' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.86 cfs @ 2.34 fps)

Summary for Pond CB 5: CB5

Inflow Area = 0.878 ac, 31.85% Impervious, Inflow Depth > 2.79" for 10 YEAR event
Inflow = 2.98 cfs @ 11.98 hrs, Volume= 0.204 af
Outflow = 2.98 cfs @ 11.98 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 11.98 hrs, Volume= 0.204 af
Routed to Pond CB 7 : CB7

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.19' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.10'	**15.0" Round Culvert** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.10' / 80.79' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.92 cfs @ 11.98 hrs HW=82.18' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.92 cfs @ 3.47 fps)

Summary for Pond CB 6: CB6

Inflow Area = 0.738 ac, 22.73% Impervious, Inflow Depth > 2.62" for 10 YEAR event
Inflow = 2.21 cfs @ 12.01 hrs, Volume= 0.161 af
Outflow = 2.21 cfs @ 12.01 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min
Primary = 2.21 cfs @ 12.01 hrs, Volume= 0.161 af
Routed to Pond CB 5 : CB5

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.28' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.35'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.35' / 81.20' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.19 cfs @ 12.01 hrs HW=82.28' (Free Discharge)
1=Culvert (Barrel Controls 2.19 cfs @ 3.11 fps)

Summary for Pond CB 7: CB7

Inflow Area = 2.135 ac, 32.96% Impervious, Inflow Depth > 2.78" for 10 YEAR event
Inflow = 7.13 cfs @ 11.98 hrs, Volume= 0.494 af
Outflow = 7.13 cfs @ 11.98 hrs, Volume= 0.494 af, Atten= 0%, Lag= 0.0 min
Primary = 7.13 cfs @ 11.98 hrs, Volume= 0.494 af
Routed to Pond 3P : WETLAND STORAGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.10' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.69'	**24.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 80.69' / 80.19' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.00 cfs @ 11.98 hrs HW=82.09' (Free Discharge)
1=Culvert (Barrel Controls 7.00 cfs @ 4.20 fps)

Summary for Pond CB 8: CB8

Inflow Area = 1.173 ac, 29.92% Impervious, Inflow Depth > 2.70" for 10 YEAR event
Inflow = 3.66 cfs @ 11.99 hrs, Volume= 0.263 af
Outflow = 3.66 cfs @ 11.99 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 3.66 cfs @ 11.99 hrs, Volume= 0.263 af
Routed to Pond CB 7 : CB7

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 82.96' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.67'	**15.0" Round Culvert** L= 42.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.67' / 81.46' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.63 cfs @ 11.99 hrs HW=82.95' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 3.63 cfs @ 3.59 fps)

Summary for Pond CB 9: CB9

Inflow Area = 0.493 ac, 27.99% Impervious, Inflow Depth > 2.76" for 10 YEAR event
Inflow = 1.47 cfs @ 12.02 hrs, Volume= 0.114 af
Outflow = 1.47 cfs @ 12.02 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min
Primary = 1.47 cfs @ 12.02 hrs, Volume= 0.114 af
Routed to Pond CB 8 : CB8

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.61' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.87'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.87' / 81.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.45 cfs @ 12.02 hrs HW=82.61' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 1.45 cfs @ 2.75 fps)

Summary for Pond CB19: CB19

Inflow Area = 0.443 ac, 68.36% Impervious, Inflow Depth > 2.89" for 10 YEAR event
Inflow = 2.16 cfs @ 11.99 hrs, Volume= 0.107 af
Outflow = 2.16 cfs @ 11.99 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 2.16 cfs @ 11.99 hrs, Volume= 0.107 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.39' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.55'	**15.0" Round Culvert** L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.55' / 75.95' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.13 cfs @ 11.99 hrs HW=77.38' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 2.13 cfs @ 2.45 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentSC 10: 10 Runoff Area=215,464 sf 4.67% Impervious Runoff Depth>2.24"
Flow Length=975' Tc=26.3 min CN=68 Runoff=11.28 cfs 0.922 af

SubcatchmentSC 11: 11 Runoff Area=6,231 sf 60.33% Impervious Runoff Depth>4.46"
Tc=5.0 min CN=91 Runoff=1.12 cfs 0.053 af

SubcatchmentSC 12: 12 Runoff Area=6,712 sf 39.56% Impervious Runoff Depth>3.75"
Tc=5.0 min CN=84 Runoff=1.07 cfs 0.048 af

SubcatchmentSC 1B: 1B Runoff Area=1,959 sf 80.50% Impervious Runoff Depth>4.46"
Tc=5.0 min CN=91 Runoff=0.35 cfs 0.017 af

SubcatchmentSC 1C: 1C Runoff Area=1,765 sf 83.91% Impervious Runoff Depth>4.26"
Tc=5.0 min CN=89 Runoff=0.31 cfs 0.014 af

SubcatchmentSC 1D: 1D Runoff Area=597 sf 72.86% Impervious Runoff Depth>3.55"
Tc=5.0 min CN=82 Runoff=0.09 cfs 0.004 af

SubcatchmentSC 1E: 1E Runoff Area=62,510 sf 0.51% Impervious Runoff Depth>1.11"
Flow Length=90' Tc=12.0 min CN=53 Runoff=2.27 cfs 0.132 af

SubcatchmentSC 2A: 2A Runoff Area=4,578 sf 37.75% Impervious Runoff Depth>3.16"
Tc=5.0 min CN=78 Runoff=0.64 cfs 0.028 af

SubcatchmentSC 2B: 2B Runoff Area=18,437 sf 11.33% Impervious Runoff Depth>3.43"
Flow Length=100' Slope=0.0400 '/' Tc=17.3 min CN=81 Runoff=1.87 cfs 0.121 af

SubcatchmentSC 2C: 2C Runoff Area=17,204 sf 13.75% Impervious Runoff Depth>3.53"
Flow Length=150' Slope=0.0400 '/' Tc=18.2 min CN=82 Runoff=1.74 cfs 0.116 af

SubcatchmentSC 2D: 2D Runoff Area=25,268 sf 8.16% Impervious Runoff Depth>3.34"
Flow Length=160' Tc=16.7 min CN=80 Runoff=2.54 cfs 0.161 af

SubcatchmentSC 2E: 2E Runoff Area=1,696 sf 75.18% Impervious Runoff Depth>4.06"
Tc=5.0 min CN=87 Runoff=0.29 cfs 0.013 af

SubcatchmentSC 2F: 2F Runoff Area=4,269 sf 85.38% Impervious Runoff Depth>4.85"
Tc=5.0 min CN=95 Runoff=0.80 cfs 0.040 af

SubcatchmentSC 2G: 2G Runoff Area=4,911 sf 85.20% Impervious Runoff Depth>4.85"
Tc=5.0 min CN=95 Runoff=0.92 cfs 0.046 af

SubcatchmentSC 2H: 2H Runoff Area=2,966 sf 89.38% Impervious Runoff Depth>4.94"
Tc=5.0 min CN=96 Runoff=0.56 cfs 0.028 af

SubcatchmentSC 2I: 2I Runoff Area=3,665 sf 87.04% Impervious Runoff Depth>4.94"
Tc=5.0 min CN=96 Runoff=0.70 cfs 0.035 af

SubcatchmentSC 2J: 2J Runoff Area=3,930 sf 66.13% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=92 Runoff=0.72 cfs 0.034 af

SubcatchmentSC 2K: 2K Runoff Area=6,095 sf 79.97% Impervious Runoff Depth>4.76"
Tc=5.0 min CN=94 Runoff=1.14 cfs 0.055 af

SubcatchmentSC 2L: 2L Runoff Area=46,782 sf 22.31% Impervious Runoff Depth>3.44"
Flow Length=240' Tc=9.4 min CN=81 Runoff=6.07 cfs 0.308 af

SubcatchmentSC 3A: 3A Runoff Area=5,497 sf 76.46% Impervious Runoff Depth>3.75"
Tc=5.0 min CN=84 Runoff=0.88 cfs 0.039 af

SubcatchmentSC 3B: 3B Runoff Area=2,003 sf 77.88% Impervious Runoff Depth>3.85"
Tc=5.0 min CN=85 Runoff=0.33 cfs 0.015 af

SubcatchmentSC 3C: 3C Runoff Area=19,289 sf 68.36% Impervious Runoff Depth>3.95"
Flow Length=297' Tc=8.3 min CN=86 Runoff=2.90 cfs 0.146 af

SubcatchmentSC 3D: 3D Runoff Area=3,763 sf 76.08% Impervious Runoff Depth>3.75"
Tc=5.0 min CN=84 Runoff=0.60 cfs 0.027 af

SubcatchmentSC 3E: 3E Runoff Area=3,080 sf 95.91% Impervious Runoff Depth>4.94"
Tc=5.0 min CN=96 Runoff=0.58 cfs 0.029 af

SubcatchmentSC 3F: 3F Runoff Area=39,693 sf 37.18% Impervious Runoff Depth>2.09"
Tc=5.0 min CN=66 Runoff=3.76 cfs 0.159 af

SubcatchmentSC 4: 4 Runoff Area=63,911 sf 5.70% Impervious Runoff Depth>0.51"
Flow Length=130' Slope=0.1000 '/' Tc=11.8 min CN=43 Runoff=0.71 cfs 0.062 af

SubcatchmentSC 5: 5 Runoff Area=61,579 sf 24.75% Impervious Runoff Depth>2.34"
Flow Length=492' Tc=8.3 min CN=69 Runoff=5.86 cfs 0.275 af

SubcatchmentSC 6A: 6A Runoff Area=4,510 sf 77.38% Impervious Runoff Depth>4.36"
Tc=5.0 min CN=90 Runoff=0.80 cfs 0.038 af

SubcatchmentSC 6B: 6B Runoff Area=6,028 sf 59.72% Impervious Runoff Depth>3.65"
Tc=5.0 min CN=83 Runoff=0.94 cfs 0.042 af

SubcatchmentSC 6C: 6C Runoff Area=4,709 sf 74.47% Impervious Runoff Depth>4.26"
Tc=5.0 min CN=89 Runoff=0.82 cfs 0.038 af

SubcatchmentSC 6D: 6D Runoff Area=7,764 sf 61.15% Impervious Runoff Depth>3.75"
Tc=5.0 min CN=84 Runoff=1.24 cfs 0.056 af

SubcatchmentSC 6F: 6F Runoff Area=6,532 sf 74.76% Impervious Runoff Depth>4.26"
Tc=5.0 min CN=89 Runoff=1.14 cfs 0.053 af

SubcatchmentSC 6G: 6G Runoff Area=8,171 sf 17.93% Impervious Runoff Depth>2.26"
Tc=5.0 min CN=68 Runoff=0.83 cfs 0.035 af

SubcatchmentSC 6H: 6H Runoff Area=1,110 sf 100.00% Impervious Runoff Depth>5.09"
Tc=5.0 min CN=98 Runoff=0.21 cfs 0.011 af

SubcatchmentSC 6I: 6I Runoff Area=10,155 sf 78.92% Impervious Runoff Depth>4.36"
Tc=5.0 min CN=90 Runoff=1.80 cfs 0.085 af

SubcatchmentSC 6J: 6J Runoff Area=3,344 sf 94.29% Impervious Runoff Depth>4.94"
Tc=5.0 min CN=96 Runoff=0.63 cfs 0.032 af

SubcatchmentSC 7: 7 Runoff Area=2,921 sf 35.16% Impervious Runoff Depth>1.77"
Tc=5.0 min CN=62 Runoff=0.23 cfs 0.010 af

SubcatchmentSC 8: 8 Runoff Area=2,696 sf 37.76% Impervious Runoff Depth>2.01"
Tc=5.0 min CN=65 Runoff=0.25 cfs 0.010 af

SubcatchmentSC 9: 9 Runoff Area=41,160 sf 7.19% Impervious Runoff Depth>0.85"
Tc=5.0 min CN=49 Runoff=1.44 cfs 0.067 af

Reach 1R: REACH 1 Inflow=0.10 cfs 0.010 af
Outflow=0.10 cfs 0.010 af

Reach 2R: REACH 2 Inflow=0.10 cfs 0.010 af
Outflow=0.10 cfs 0.010 af

Reach 3R: REACH 3 Avg. Flow Depth=0.08' Max Vel=1.90 fps Inflow=0.89 cfs 0.053 af
n=0.025 L=425.0' S=0.0300 '/' Capacity=538.48 cfs Outflow=0.60 cfs 0.053 af

Reach 4R: REACH 4 Avg. Flow Depth=0.09' Max Vel=2.11 fps Inflow=0.96 cfs 0.048 af
n=0.025 L=250.0' S=0.0300 '/' Capacity=538.48 cfs Outflow=0.71 cfs 0.048 af

Reach 5R: REACH 5 Avg. Flow Depth=0.14' Max Vel=1.91 fps Inflow=1.26 cfs 0.101 af
n=0.035 L=360.0' S=0.0300 '/' Capacity=384.63 cfs Outflow=1.09 cfs 0.101 af

Reach 6R: 15" SD Avg. Flow Depth=0.67' Max Vel=3.82 fps Inflow=2.54 cfs 0.161 af
15.0" Round Pipe n=0.013 L=38.0' S=0.0050 '/' Capacity=4.57 cfs Outflow=2.53 cfs 0.161 af

Reach 7R: Level Spreader B Avg. Flow Depth=0.16' Max Vel=0.28 fps Inflow=0.80 cfs 0.538 af
n=0.240 L=20.0' S=0.0250 '/' Capacity=63.37 cfs Outflow=0.80 cfs 0.537 af

Reach 13R: Level Spreader A Avg. Flow Depth=0.36' Max Vel=0.48 fps Inflow=3.34 cfs 0.997 af
n=0.240 L=20.0' S=0.0250 '/' Capacity=63.37 cfs Outflow=3.32 cfs 0.995 af

Reach SP1: SUMMATION POINT 1 Inflow=2.72 cfs 0.168 af
Outflow=2.72 cfs 0.168 af

Reach SP2: SUMMATION POINT 2 Inflow=3.49 cfs 1.057 af
Outflow=3.49 cfs 1.057 af

Reach SP3: SUMMATION POINT 3 Inflow=2.20 cfs 0.623 af
Outflow=2.20 cfs 0.623 af

Reach SP4: SUMMATION POINT 4 Inflow=12.37 cfs 1.023 af
Outflow=12.37 cfs 1.023 af

Pond 1P: WETPOND A Peak Elev=78.68' Storage=56,555 cf Inflow=17.81 cfs 1.397 af
Primary=3.34 cfs 0.997 af Secondary=0.00 cfs 0.000 af Outflow=3.34 cfs 0.997 af

Pond 2P: WETPOND B Peak Elev=76.34' Storage=26,934 cf Inflow=13.64 cfs 0.665 af
Primary=0.80 cfs 0.538 af Secondary=0.00 cfs 0.000 af Outflow=0.80 cfs 0.538 af

Pond 3P: WETLAND STORAGE Peak Elev=80.93' Storage=6,148 cf Inflow=15.65 cfs 0.985 af
24.0" Round Culvert n=0.013 L=70.0' S=0.0050 '/' Outflow=11.06 cfs 0.983 af

Pond 4P: GUSF 2 Peak Elev=76.91' Storage=561 cf Inflow=1.07 cfs 0.048 af
Primary=0.10 cfs 0.040 af Secondary=0.86 cfs 0.008 af Outflow=0.96 cfs 0.048 af

Pond 5P: GUSF 1 Peak Elev=83.67' Storage=644 cf Inflow=1.12 cfs 0.053 af
Primary=0.10 cfs 0.045 af Secondary=0.79 cfs 0.008 af Outflow=0.89 cfs 0.053 af

Pond 6P: BIO CELL 1 Peak Elev=79.18' Storage=60 cf Inflow=0.23 cfs 0.010 af
Primary=0.10 cfs 0.010 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.010 af

Pond 7P: BIO CELL 2 Peak Elev=77.35' Storage=93 cf Inflow=0.25 cfs 0.010 af
Primary=0.10 cfs 0.010 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.010 af

Pond 9P: DRIP FILTER Peak Elev=0.85' Storage=68 cf Inflow=0.35 cfs 0.017 af
Outflow=0.34 cfs 0.017 af

Pond 10P: DRIP FILTER Peak Elev=0.82' Storage=65 cf Inflow=0.31 cfs 0.014 af
Outflow=0.30 cfs 0.014 af

Pond 11P: DRIP FILTER Peak Elev=0.31' Storage=25 cf Inflow=0.09 cfs 0.004 af
Outflow=0.04 cfs 0.004 af

Pond CB 1: CB1 Peak Elev=77.37' Inflow=1.07 cfs 0.048 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=1.07 cfs 0.048 af

Pond CB 10: CB10 Peak Elev=83.03' Inflow=1.74 cfs 0.116 af
15.0" Round Culvert n=0.013 L=55.0' S=0.0051 '/' Outflow=1.74 cfs 0.116 af

Pond CB 11: CB11 Peak Elev=83.37' Inflow=2.26 cfs 0.162 af
15.0" Round Culvert n=0.013 L=95.0' S=0.0049 '/' Outflow=2.26 cfs 0.162 af

Pond CB 12: CB12 Peak Elev=83.58' Inflow=2.06 cfs 0.149 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=2.06 cfs 0.149 af

Pond CB 13: CB13 Peak Elev=83.96' Inflow=1.87 cfs 0.121 af
15.0" Round Culvert n=0.013 L=75.0' S=0.0049 '/' Outflow=1.87 cfs 0.121 af

Pond CB 14: CB 14 Peak Elev=83.55' Inflow=0.33 cfs 0.015 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0910 '/' Outflow=0.33 cfs 0.015 af

Pond CB 15: CB 15 Peak Elev=82.08' Inflow=1.80 cfs 0.081 af
15.0" Round Culvert n=0.013 L=135.0' S=0.0200 '/' Outflow=1.80 cfs 0.081 af

Pond CB 16: CB 16 Peak Elev=82.32' Inflow=1.48 cfs 0.066 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=1.48 cfs 0.066 af

Pond CB 17: CB 17 Peak Elev=82.49' Inflow=0.60 cfs 0.027 af
15.0" Round Culvert n=0.013 L=76.0' S=0.0050 '/' Outflow=0.60 cfs 0.027 af

Pond CB 18: CB 18 Peak Elev=79.42' Inflow=2.39 cfs 0.110 af
15.0" Round Culvert n=0.013 L=73.0' S=0.0100 '/' Outflow=2.39 cfs 0.110 af

Pond CB 2: CB2 Peak Elev=78.86' Inflow=1.07 cfs 0.048 af
6.0" Round Culvert n=0.013 L=15.0' S=0.0053 '/' Outflow=1.07 cfs 0.048 af

Pond CB 20: CB20 Peak Elev=79.38' Inflow=0.94 cfs 0.042 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=0.94 cfs 0.042 af

Pond CB 21: CB21 Peak Elev=79.34' Inflow=1.74 cfs 0.080 af
15.0" Round Culvert n=0.013 L=116.0' S=0.0285 '/' Outflow=1.74 cfs 0.080 af

Pond CB 22: CB22 Peak Elev=75.76' Inflow=5.86 cfs 0.275 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=5.86 cfs 0.275 af

Pond CB 23: CB23 Peak Elev=75.79' Inflow=7.57 cfs 0.367 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=7.57 cfs 0.367 af

Pond CB 24: CB 24 Peak Elev=76.30' Inflow=13.64 cfs 0.665 af
24.0" Round Culvert n=0.013 L=50.0' S=0.0050 '/' Outflow=13.64 cfs 0.665 af

Pond CB 25: CB25 Peak Elev=77.86' Inflow=2.65 cfs 0.127 af
15.0" Round Culvert n=0.013 L=150.0' S=0.0107 '/' Outflow=2.65 cfs 0.127 af

Pond CB 26: CB26 Peak Elev=79.36' Inflow=2.44 cfs 0.116 af
15.0" Round Culvert n=0.013 L=110.0' S=0.0132 '/' Outflow=2.44 cfs 0.116 af

Pond CB 27: CB27 Peak Elev=79.53' Inflow=1.80 cfs 0.085 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=1.80 cfs 0.085 af

Pond CB 4: CB4 Peak Elev=82.80' Inflow=1.12 cfs 0.053 af
15.0" Round Culvert n=0.013 L=10.0' S=0.0050 '/' Outflow=1.12 cfs 0.053 af

Pond CB 5: CB5 Peak Elev=82.47' Inflow=4.02 cfs 0.279 af
15.0" Round Culvert n=0.013 L=62.0' S=0.0050 '/' Outflow=4.02 cfs 0.279 af

Pond CB 6: CB6 Peak Elev=82.50' Inflow=3.05 cfs 0.224 af
15.0" Round Culvert n=0.013 L=30.0' S=0.0050 '/' Outflow=3.05 cfs 0.224 af

Pond CB 7: CB7 Peak Elev=82.41' Inflow=9.65 cfs 0.677 af
24.0" Round Culvert n=0.013 L=100.0' S=0.0050 '/' Outflow=9.65 cfs 0.677 af

Pond CB 8: CB8 Peak Elev=83.46' Inflow=5.01 cfs 0.363 af
15.0" Round Culvert n=0.013 L=42.0' S=0.0050 '/' Outflow=5.01 cfs 0.363 af

Pond CB 9: CB9 Peak Elev=82.76' Inflow=2.00 cfs 0.156 af
15.0" Round Culvert n=0.013 L=20.0' S=0.0050 '/' Outflow=2.00 cfs 0.156 af

Pond CB19: CB19 Peak Elev=77.57' Inflow=2.90 cfs 0.146 af
15.0" Round Culvert n=0.013 L=40.0' S=0.0150 '/' Outflow=2.90 cfs 0.146 af

Total Runoff Area = 16.826 ac Runoff Volume = 3.405 af Average Runoff Depth = 2.43"
78.34% Pervious = 13.181 ac 21.66% Impervious = 3.645 ac

Summary for Subcatchment SC 10: 10

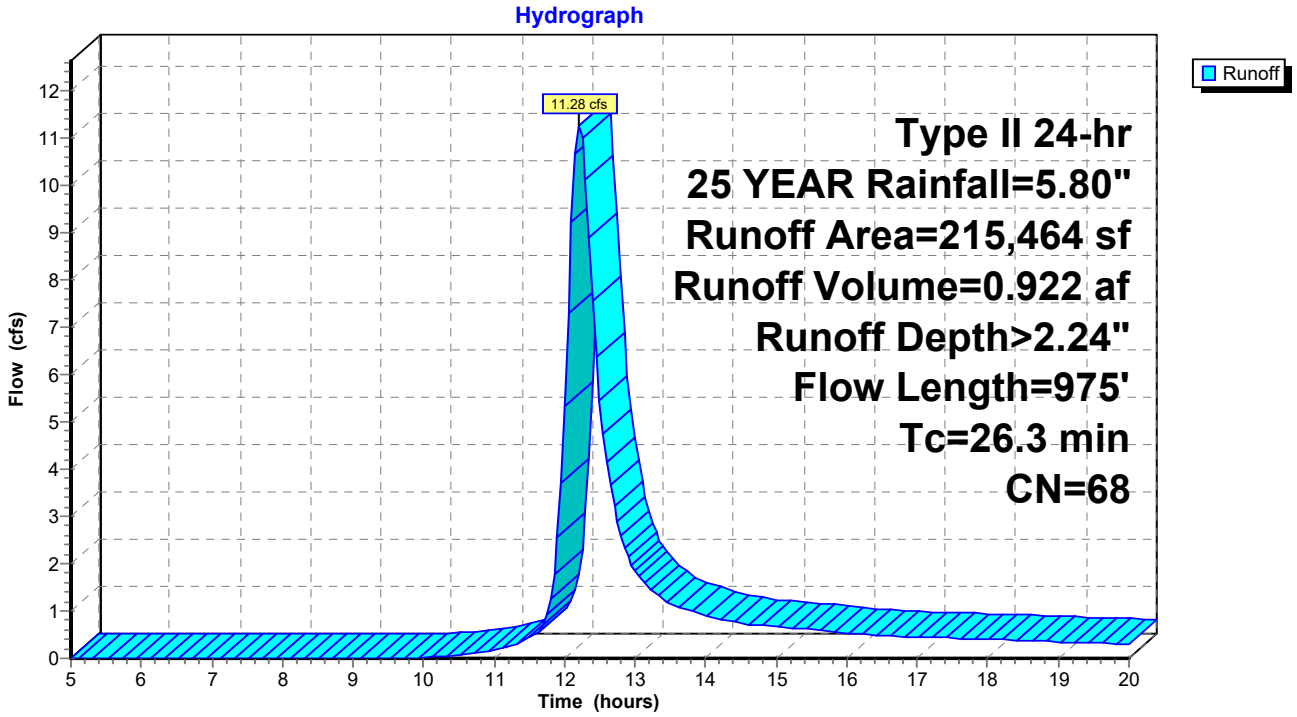
Runoff = 11.28 cfs @ 12.21 hrs, Volume= 0.922 af, Depth> 2.24"
Routed to Reach SP4 : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	53,485	55	Woods, Good, HSG B
	14,342	61	>75% Grass cover, Good, HSG B
	110,909	70	Woods, Good, HSG C
	11,725	74	>75% Grass cover, Good, HSG C
	9,203	77	Woods, Good, HSG D
	5,736	80	>75% Grass cover, Good, HSG D
*	10,064	98	IMPERVIOUS
	215,464	68	Weighted Average
	205,400		95.33% Pervious Area
	10,064		4.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.8	50	0.0200	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.7	140	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	90	0.1750	2.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	75	0.0100	10.72	386.00	**Channel Flow,** Area= 36.0 sf Perim= 18.0' r= 2.00' n= 0.022 Earth, clean & straight
0.8	470	0.0300	10.39	166.29	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
0.2	150	0.0700	15.88	254.01	**Channel Flow,** Area= 16.0 sf Perim= 12.0' r= 1.33' n= 0.030 Earth, grassed & winding
26.3	975	Total			

Subcatchment SC 10: 10



Summary for Subcatchment SC 11: 11

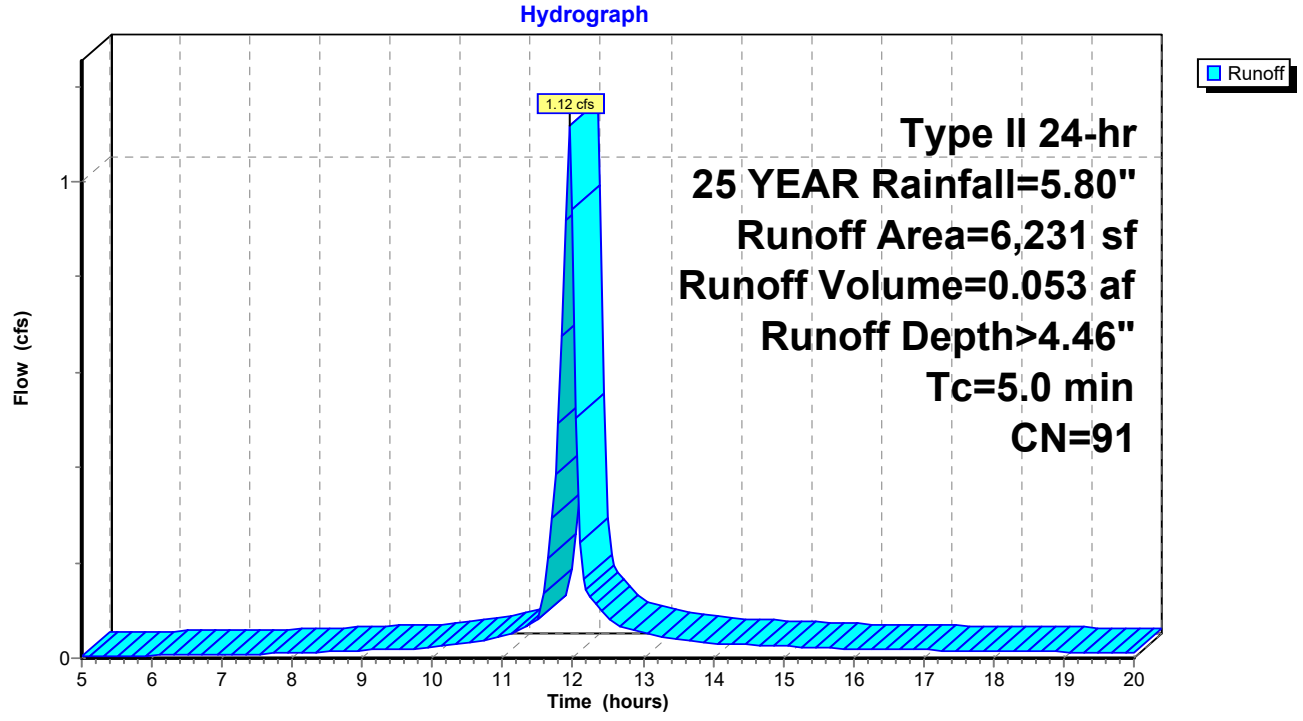
Runoff = 1.12 cfs @ 11.95 hrs, Volume= 0.053 af, Depth> 4.46"
Routed to Pond CB 4 : CB4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	2,472	80	>75% Grass cover, Good, HSG D
*	3,759	98	IMPERVIOUS
	6,231	91	Weighted Average
	2,472		39.67% Pervious Area
	3,759		60.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 11: 11



Summary for Subcatchment SC 12: 12

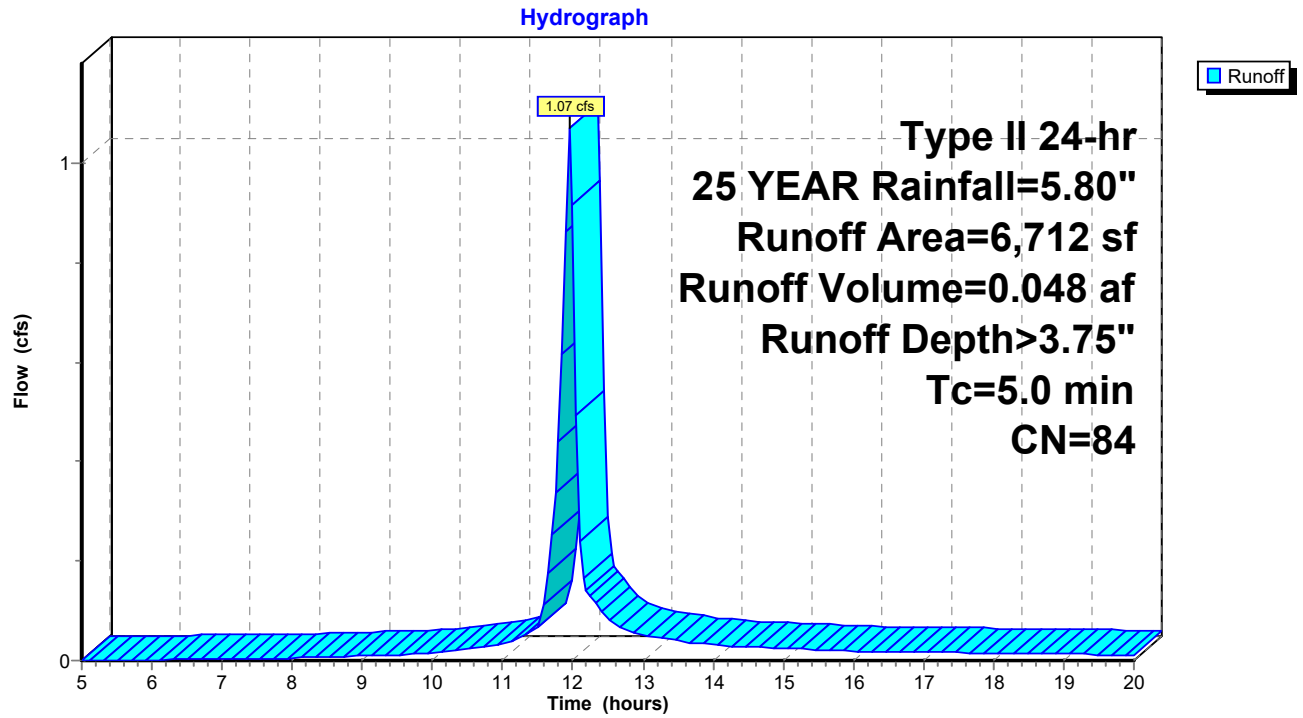
Runoff = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af, Depth> 3.75"
Routed to Pond CB 1 : CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	3,060	74	>75% Grass cover, Good, HSG C
	997	80	>75% Grass cover, Good, HSG D
*	2,655	98	IMPERVIOUS
	6,712	84	Weighted Average
	4,057		60.44% Pervious Area
	2,655		39.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 12: 12



Summary for Subcatchment SC 1B: 1B

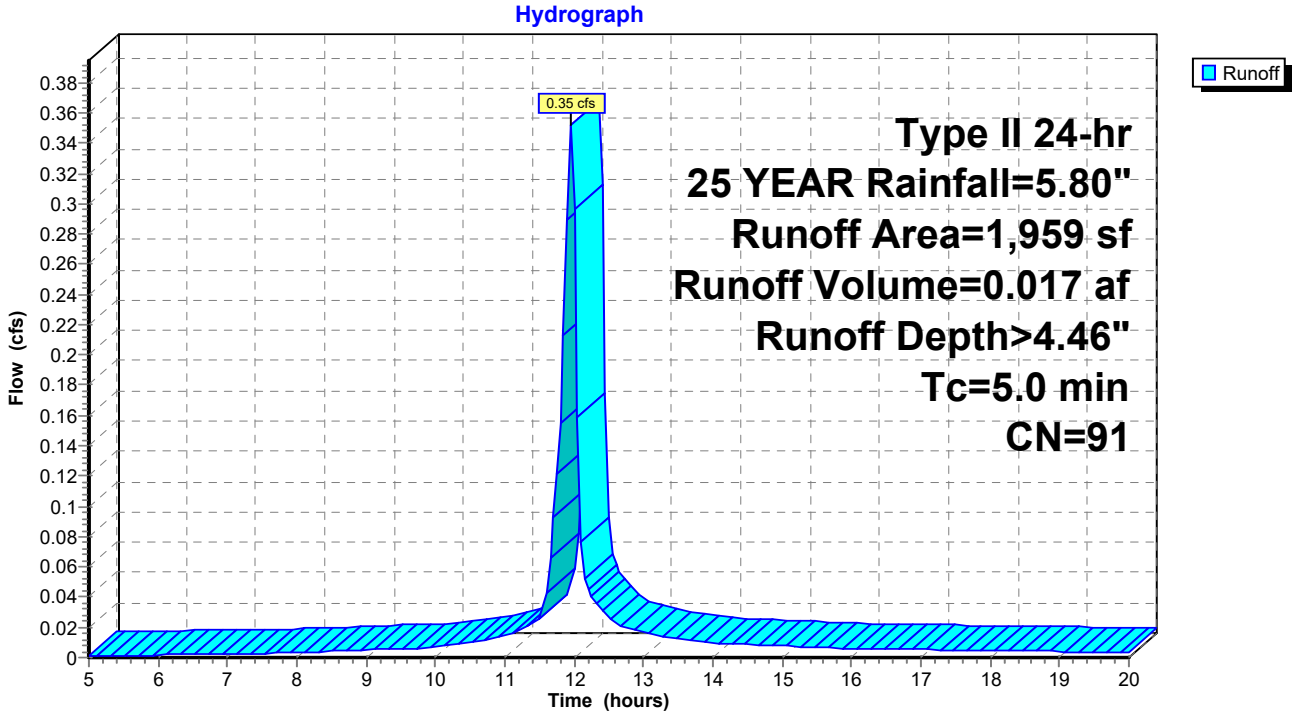
Runoff = 0.35 cfs @ 11.95 hrs, Volume= 0.017 af, Depth> 4.46"
Routed to Pond 9P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	1,577	98	IMPERVIOUS
	160	39	>75% Grass cover, Good, HSG A
	222	80	>75% Grass cover, Good, HSG D
	1,959	91	Weighted Average
	382		19.50% Pervious Area
	1,577		80.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 1B: 1B



Summary for Subcatchment SC 1C: 1C

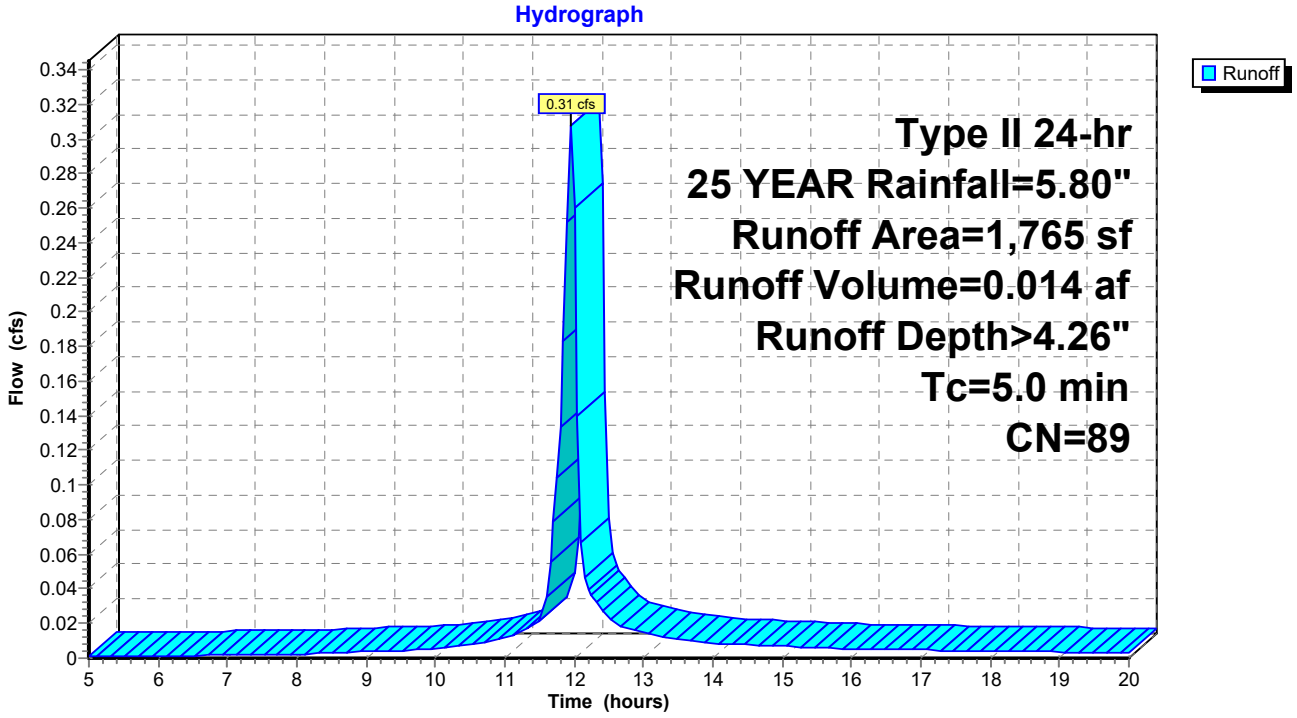
Runoff = 0.31 cfs @ 11.95 hrs, Volume= 0.014 af, Depth> 4.26"
Routed to Pond 10P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	1,481	98	IMPERVIOUS
	284	39	>75% Grass cover, Good, HSG A
	1,765	89	Weighted Average
	284		16.09% Pervious Area
	1,481		83.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 1C: 1C



Summary for Subcatchment SC 1D: 1D

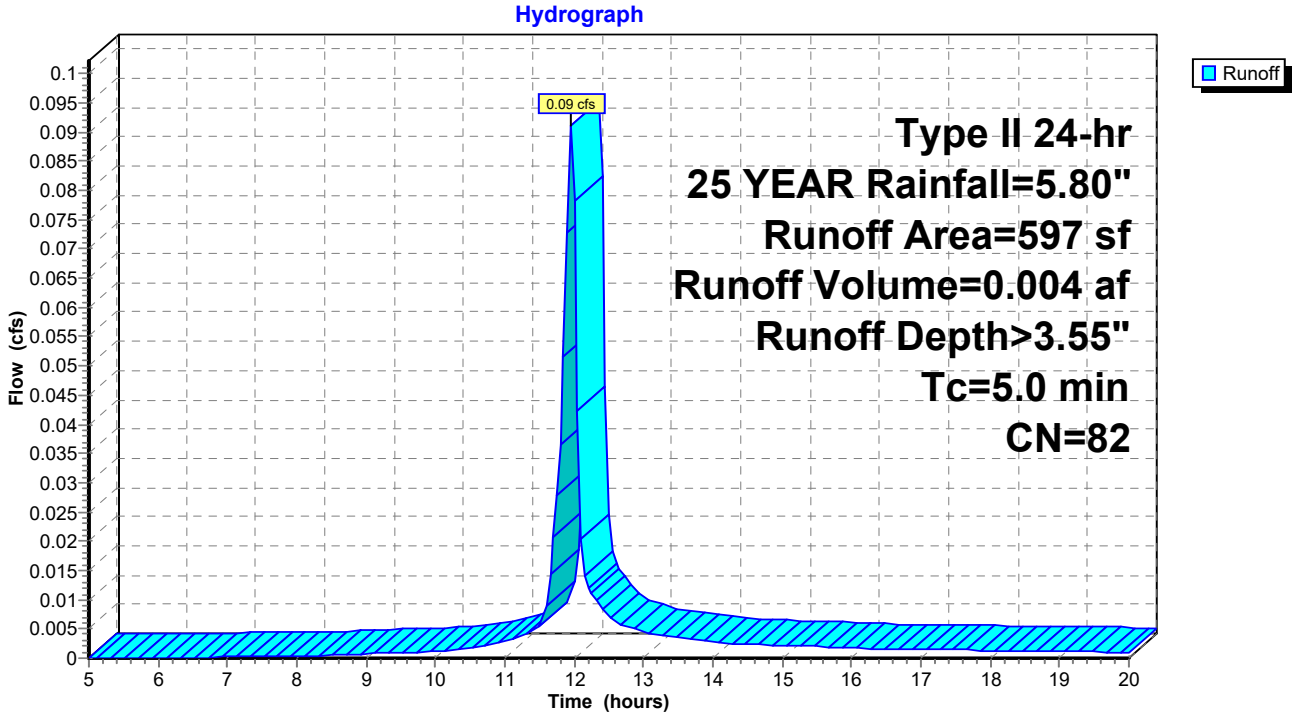
Runoff = 0.09 cfs @ 11.95 hrs, Volume= 0.004 af, Depth> 3.55"
Routed to Pond 11P : DRIP FILTER

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	435	98	IMPERVIOUS
	162	39	>75% Grass cover, Good, HSG A
	597	82	Weighted Average
	162		27.14% Pervious Area
	435		72.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 1D: 1D



Summary for Subcatchment SC 1E: 1E

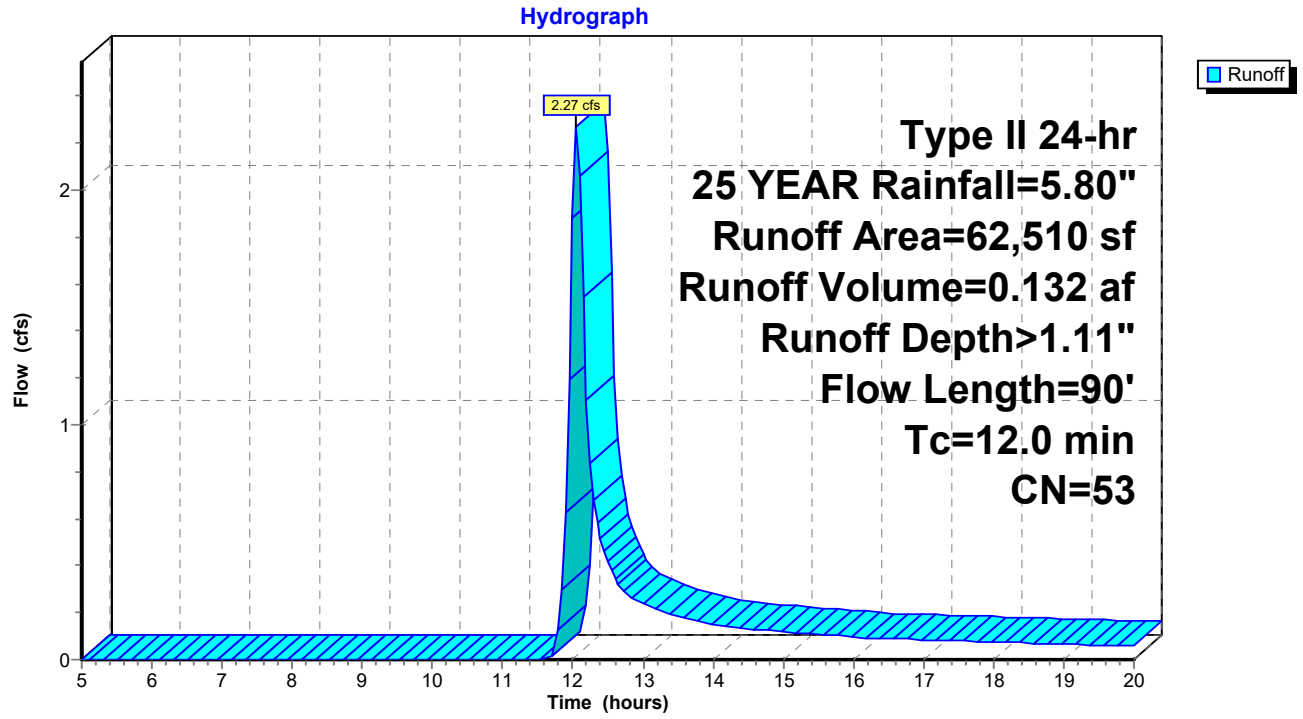
Runoff = 2.27 cfs @ 12.06 hrs, Volume= 0.132 af, Depth> 1.11"
Routed to Reach SP1 : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	27,881	30	Woods, Good, HSG A
	19,766	77	Woods, Good, HSG D
	5,258	39	>75% Grass cover, Good, HSG A
	9,286	80	>75% Grass cover, Good, HSG D
*	319	98	IMPERVIOUS
	62,510	53	Weighted Average
	62,191		99.49% Pervious Area
	319		0.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.1200	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.3	40	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.0	90	Total			

Subcatchment SC 1E: 1E



Summary for Subcatchment SC 2A: 2A

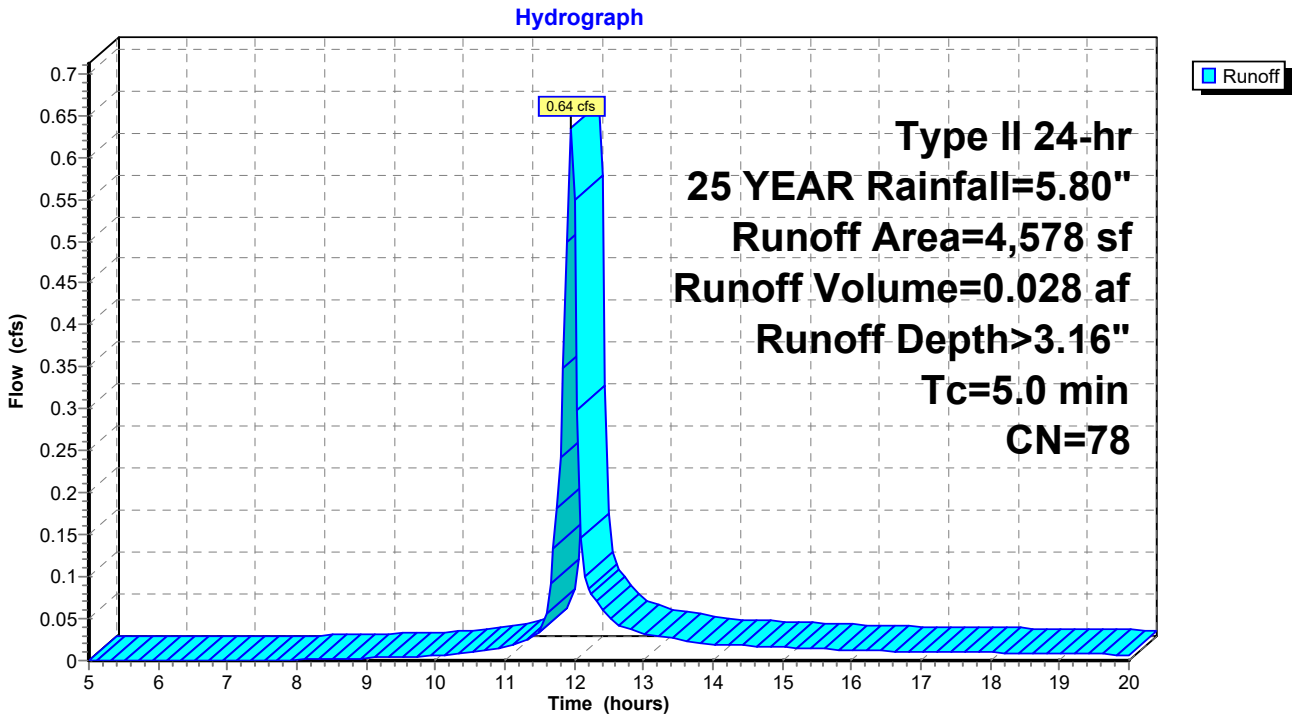
Runoff = 0.64 cfs @ 11.96 hrs, Volume= 0.028 af, Depth> 3.16"
Routed to Pond CB 12 : CB12

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	989	39	>75% Grass cover, Good, HSG A
	1,861	80	>75% Grass cover, Good, HSG D
*	1,728	98	IMPERVIOUS
	4,578	78	Weighted Average
	2,850		62.25% Pervious Area
	1,728		37.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2A: 2A



Summary for Subcatchment SC 2B: 2B

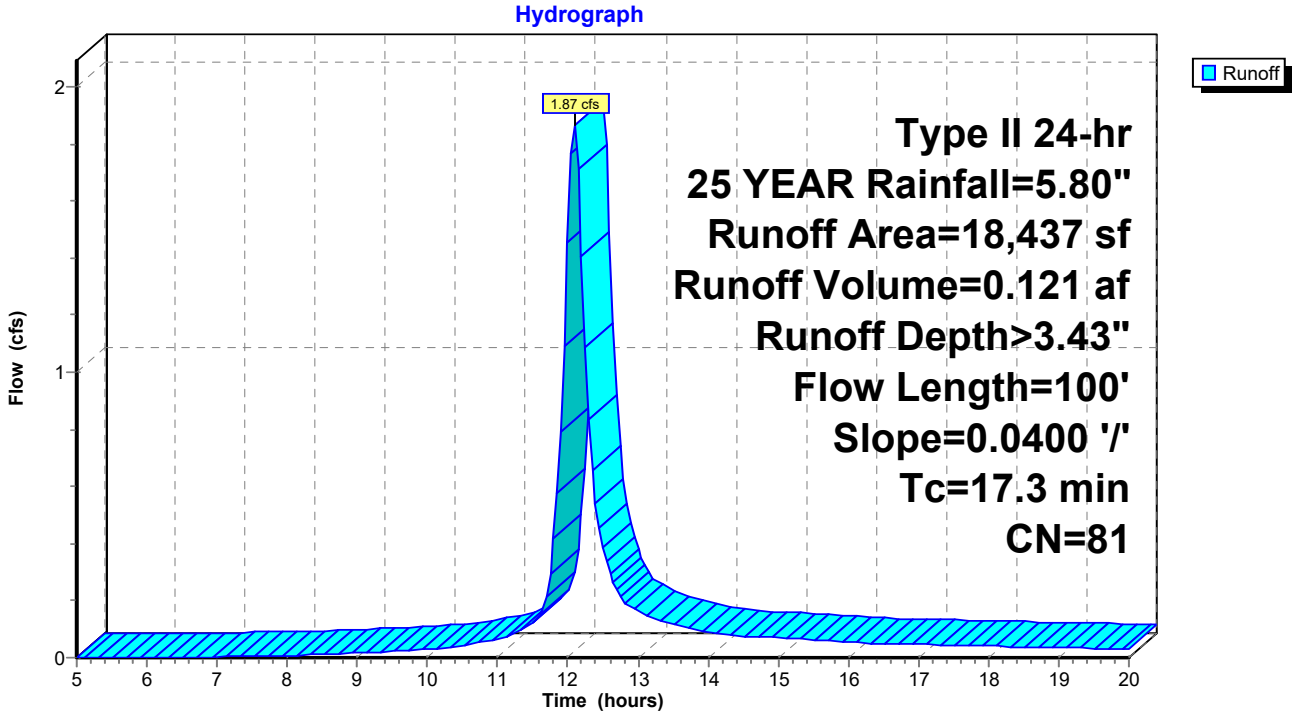
Runoff = 1.87 cfs @ 12.09 hrs, Volume= 0.121 af, Depth> 3.43"
Routed to Pond CB 13 : CB13

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	7,086	77	Woods, Good, HSG D
	9,262	80	>75% Grass cover, Good, HSG D
*	2,089	98	IMPERVIOUS
	18,437	81	Weighted Average
	16,348		88.67% Pervious Area
	2,089		11.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
0.8	50	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.3	100	Total			

Subcatchment SC 2B: 2B



Summary for Subcatchment SC 2C: 2C

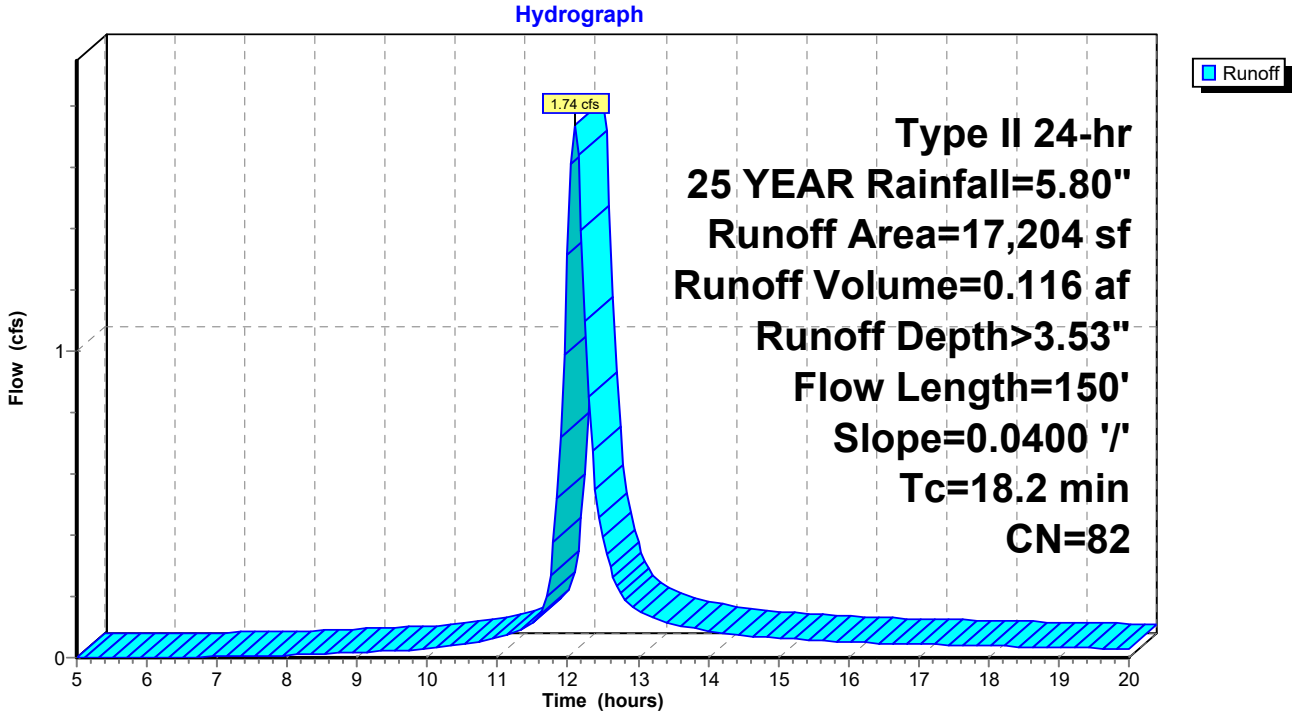
Runoff = 1.74 cfs @ 12.10 hrs, Volume= 0.116 af, Depth> 3.53"
Routed to Pond CB 10 : CB10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	4,892	77	Woods, Good, HSG D
	9,947	80	>75% Grass cover, Good, HSG D
*	2,365	98	IMPERVIOUS
	17,204	82	Weighted Average
	14,839		86.25% Pervious Area
	2,365		13.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.5	50	0.0400	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
1.7	100	0.0400	1.00		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	150	Total			

Subcatchment SC 2C: 2C



Summary for Subcatchment SC 2D: 2D

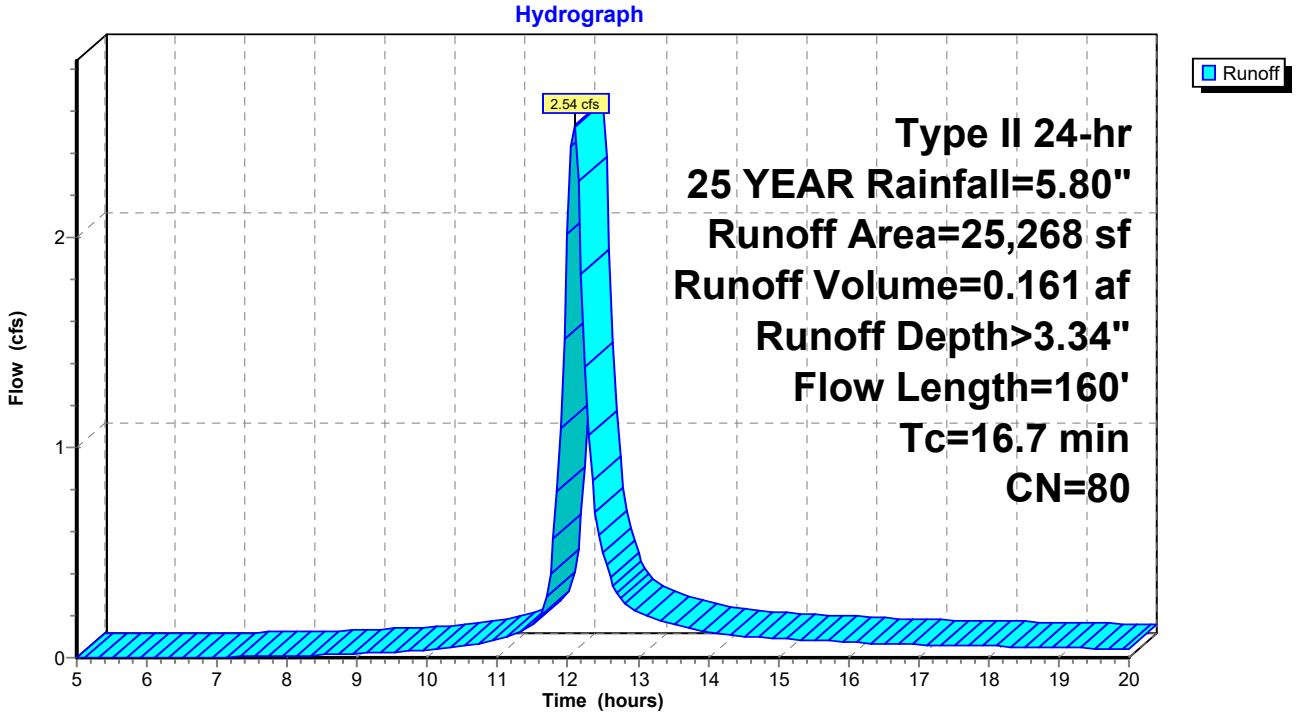
Runoff = 2.54 cfs @ 12.09 hrs, Volume= 0.161 af, Depth> 3.34"
Routed to Reach 6R : 15" SD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	10,993	77	Woods, Good, HSG D
	12,213	80	>75% Grass cover, Good, HSG D
*	2,062	98	IMPERVIOUS
	25,268	80	Weighted Average
	23,206		91.84% Pervious Area
	2,062		8.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0600	0.06		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.10"
2.6	110	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.7	160	Total			

Subcatchment SC 2D: 2D



Summary for Subcatchment SC 2E: 2E

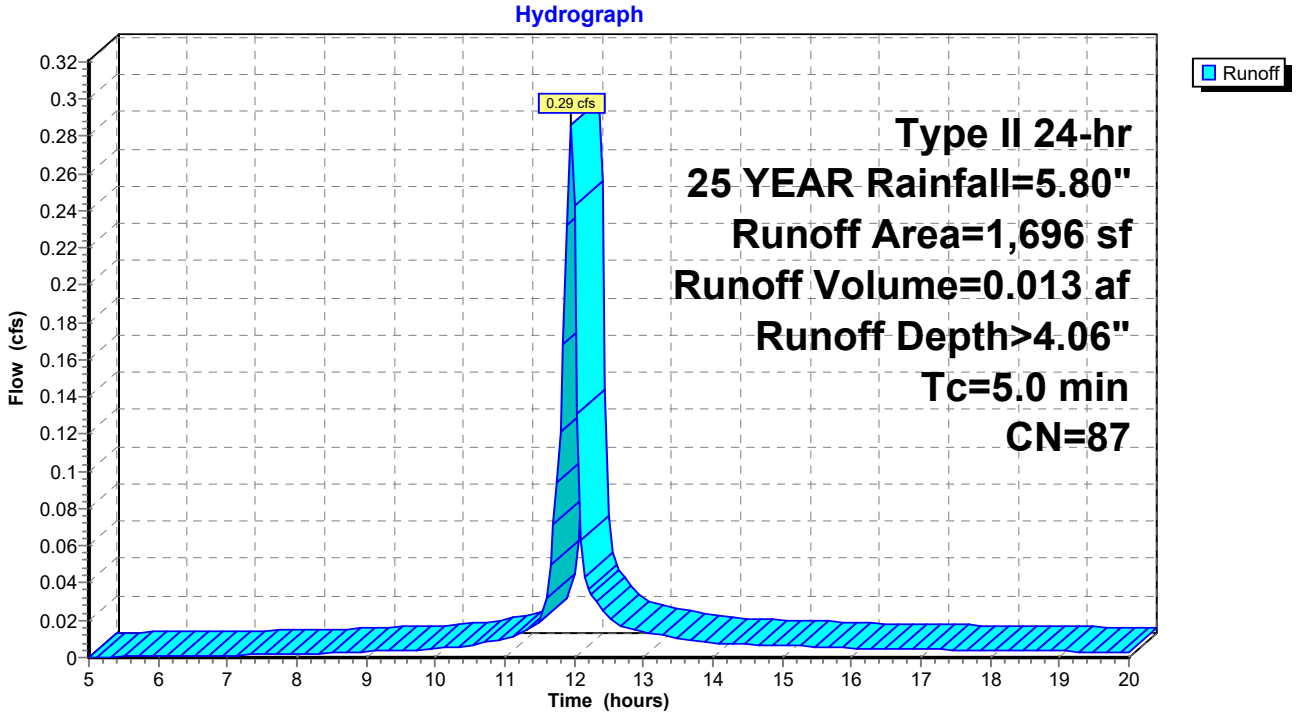
Runoff = 0.29 cfs @ 11.95 hrs, Volume= 0.013 af, Depth> 4.06"
Routed to Pond CB 11 : CB11

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	276	39	>75% Grass cover, Good, HSG A
	145	80	>75% Grass cover, Good, HSG D
*	1,275	98	IMPERVIOUS
	1,696	87	Weighted Average
	421		24.82% Pervious Area
	1,275		75.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2E: 2E



Summary for Subcatchment SC 2F: 2F

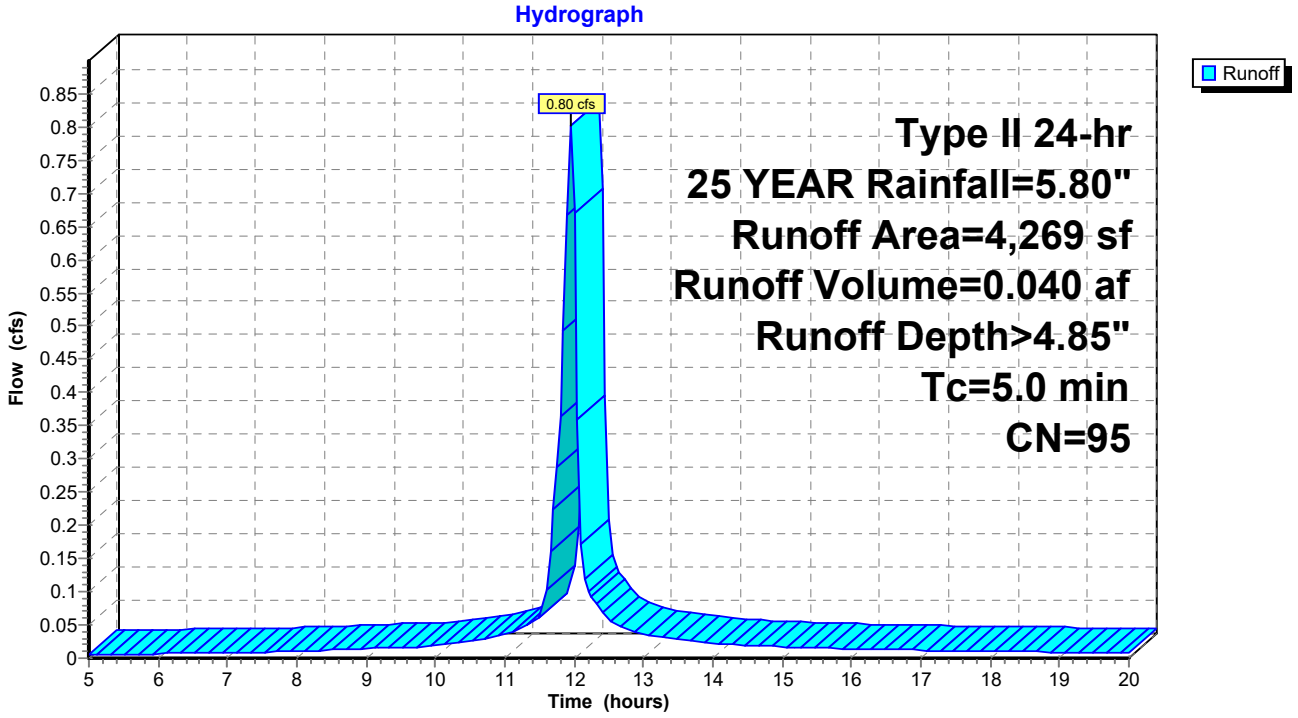
Runoff = 0.80 cfs @ 11.95 hrs, Volume= 0.040 af, Depth> 4.85"
Routed to Pond CB 9 : CB9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	624	80	>75% Grass cover, Good, HSG D
*	3,645	98	IMPERVIOUS
	4,269	95	Weighted Average
	624		14.62% Pervious Area
	3,645		85.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2F: 2F



Summary for Subcatchment SC 2G: 2G

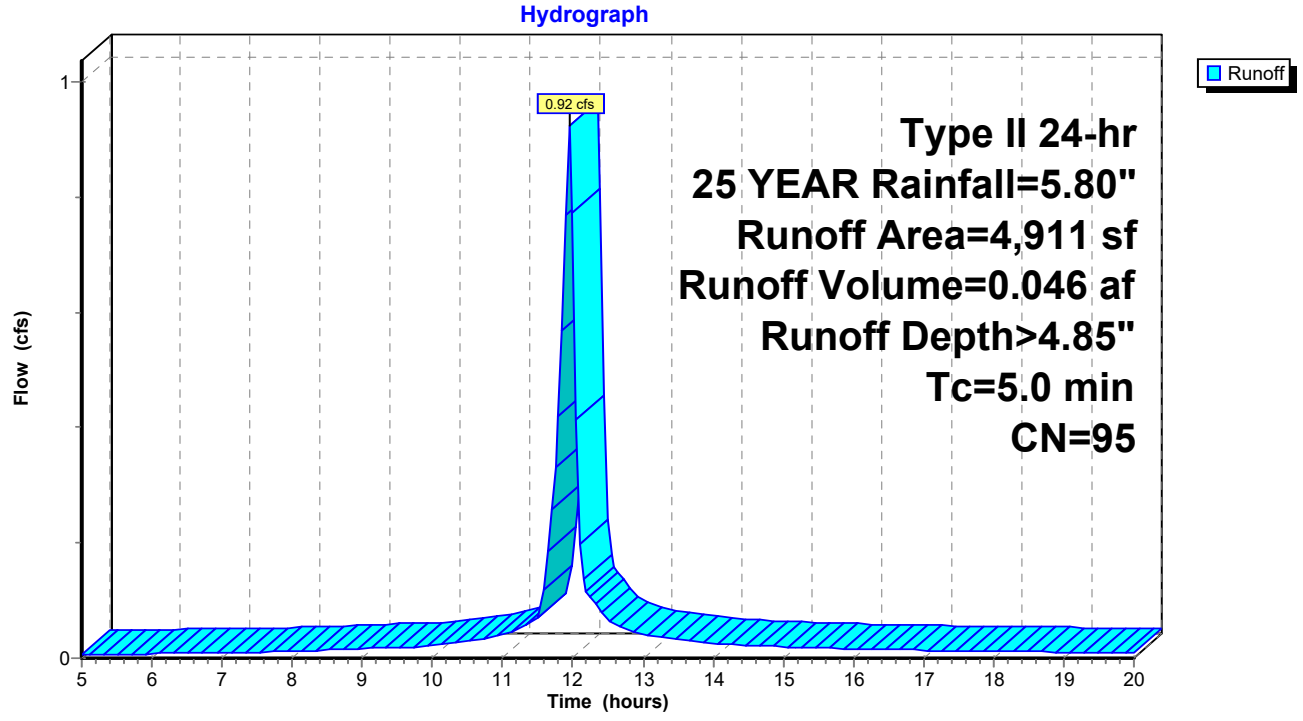
Runoff = 0.92 cfs @ 11.95 hrs, Volume= 0.046 af, Depth> 4.85"
Routed to Pond CB 8 : CB8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	727	80	>75% Grass cover, Good, HSG D
*	4,184	98	IMPERVIOUS
	4,911	95	Weighted Average
	727		14.80% Pervious Area
	4,184		85.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2G: 2G



Summary for Subcatchment SC 2H: 2H

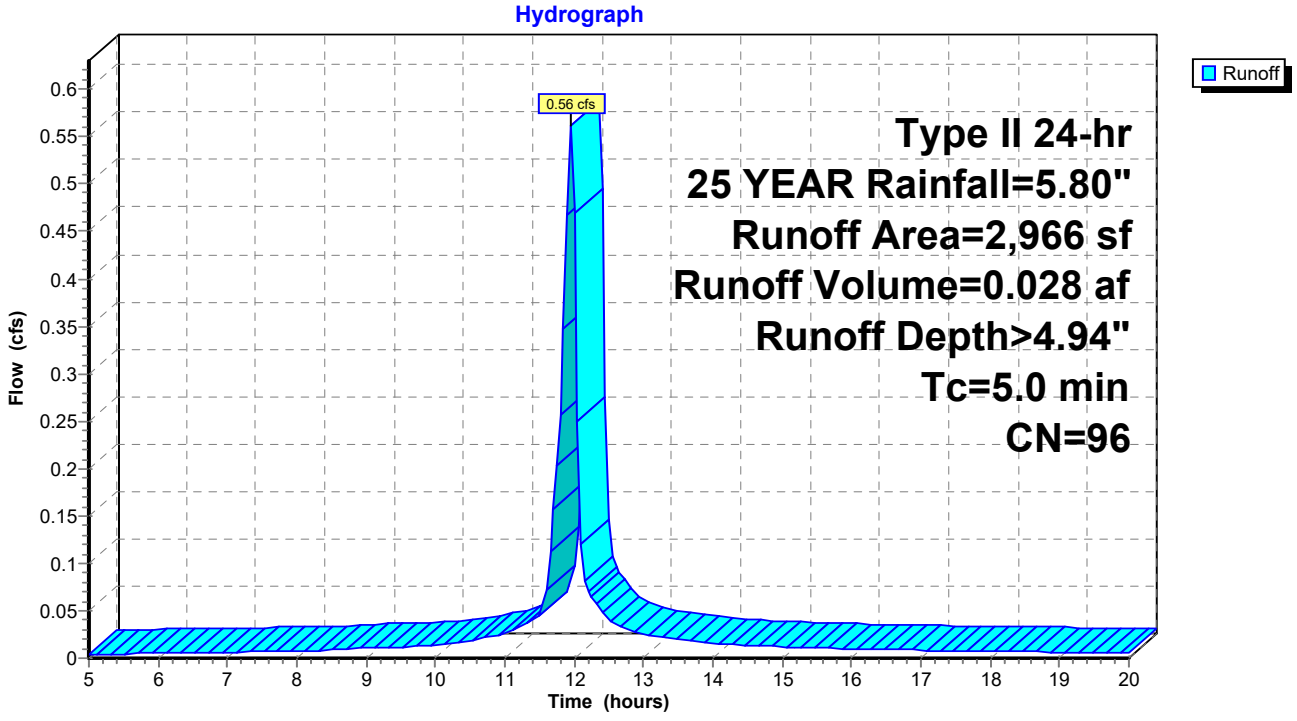
Runoff = 0.56 cfs @ 11.95 hrs, Volume= 0.028 af, Depth> 4.94"
Routed to Pond CB 6 : CB6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	315	80	>75% Grass cover, Good, HSG D
*	2,651	98	IMPERVIOUS
	2,966	96	Weighted Average
	315		10.62% Pervious Area
	2,651		89.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2H: 2H



Summary for Subcatchment SC 2l: 2l

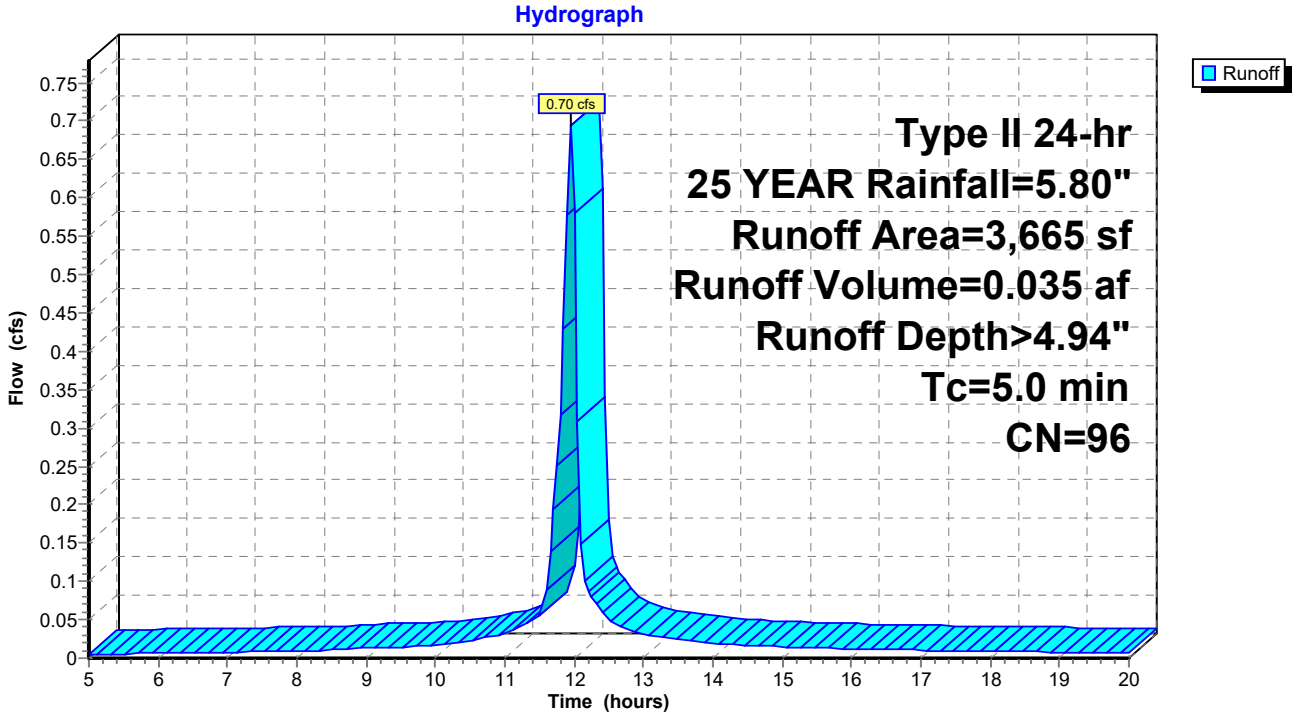
Runoff = 0.70 cfs @ 11.95 hrs, Volume= 0.035 af, Depth> 4.94"
Routed to Pond CB 7 : CB7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	475	80	>75% Grass cover, Good, HSG D
*	3,190	98	IMPERVIOUS
	3,665	96	Weighted Average
	475		12.96% Pervious Area
	3,190		87.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2l: 2l



Summary for Subcatchment SC 2J: 2J

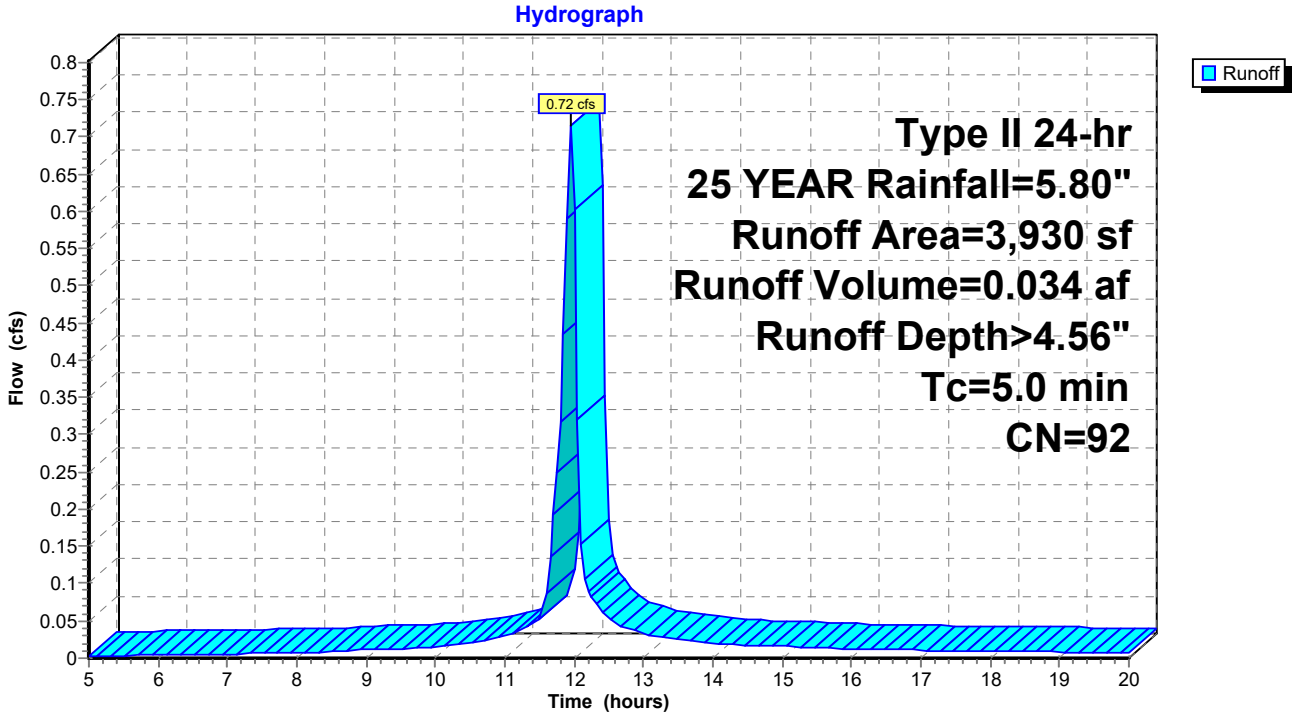
Runoff = 0.72 cfs @ 11.95 hrs, Volume= 0.034 af, Depth> 4.56"
Routed to Pond CB 6 : CB6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,331	80	>75% Grass cover, Good, HSG D
*	2,599	98	IMPERVIOUS
	3,930	92	Weighted Average
	1,331		33.87% Pervious Area
	2,599		66.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2J: 2J



Summary for Subcatchment SC 2K: 2K

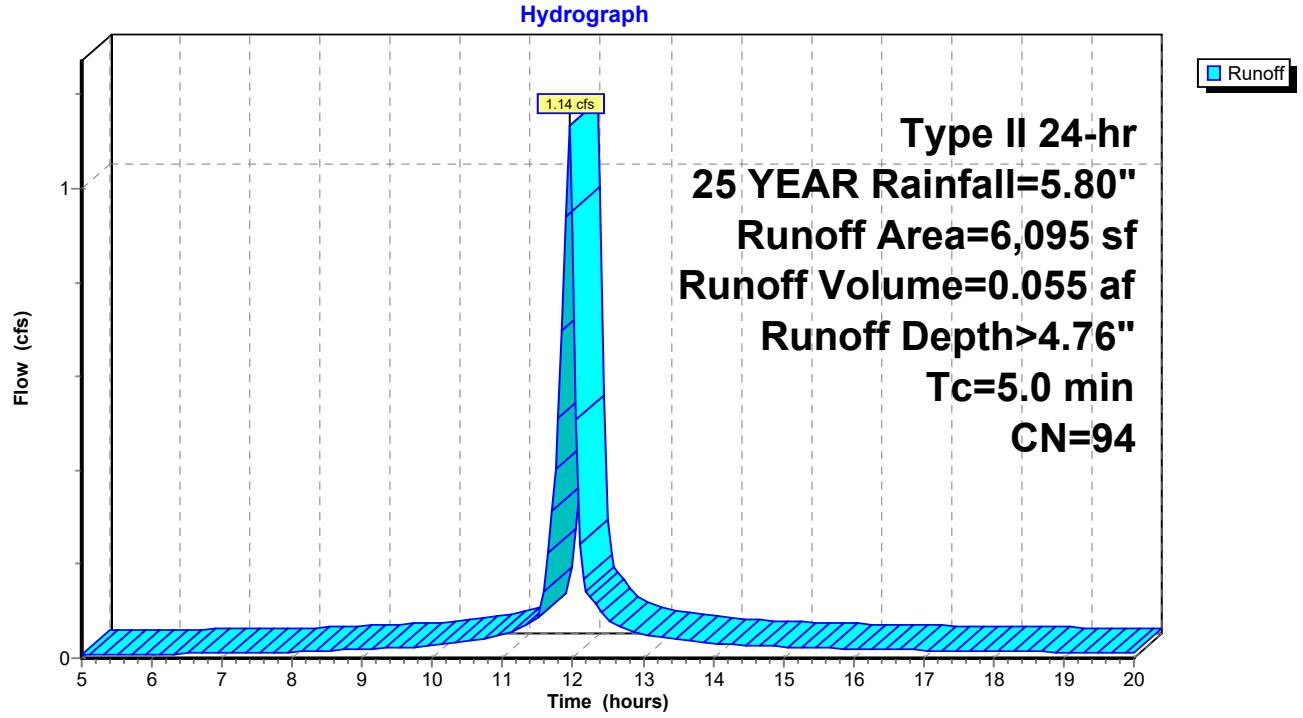
Runoff = 1.14 cfs @ 11.95 hrs, Volume= 0.055 af, Depth> 4.76"
Routed to Pond CB 5 : CB5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,221	80	>75% Grass cover, Good, HSG D
*	4,874	98	IMPERVIOUS
	6,095	94	Weighted Average
	1,221		20.03% Pervious Area
	4,874		79.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 2K: 2K



Summary for Subcatchment SC 2L: 2L

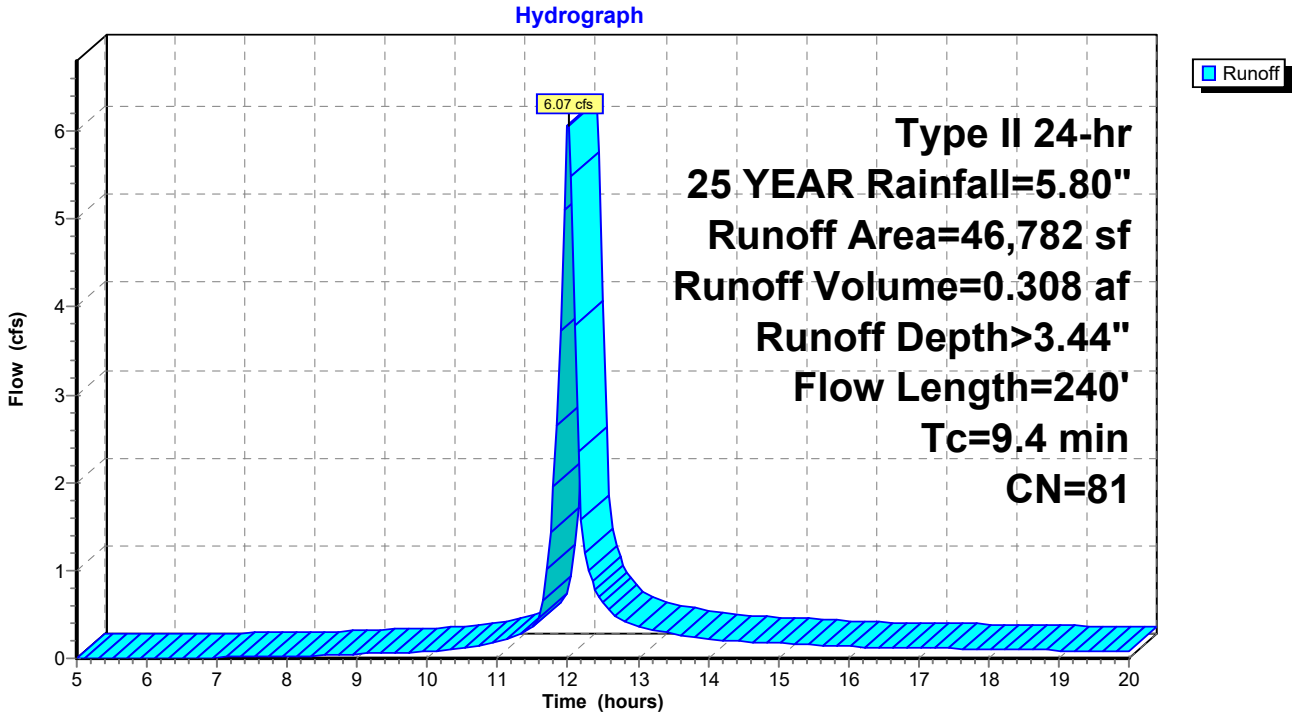
Runoff = 6.07 cfs @ 12.01 hrs, Volume= 0.308 af, Depth> 3.44"
Routed to Pond 3P : WETLAND STORAGE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	918	39	>75% Grass cover, Good, HSG A
	221	55	Woods, Good, HSG B
	3,708	61	>75% Grass cover, Good, HSG B
	6,650	77	Woods, Good, HSG D
	24,849	80	>75% Grass cover, Good, HSG D
*	10,436	98	IMPERVIOUS
	46,782	81	Weighted Average
	36,346		77.69% Pervious Area
	10,436		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.10"
0.4	90	0.0500	3.35		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
3.3	100	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	240	Total			

Subcatchment SC 2L: 2L



Summary for Subcatchment SC 3A: 3A

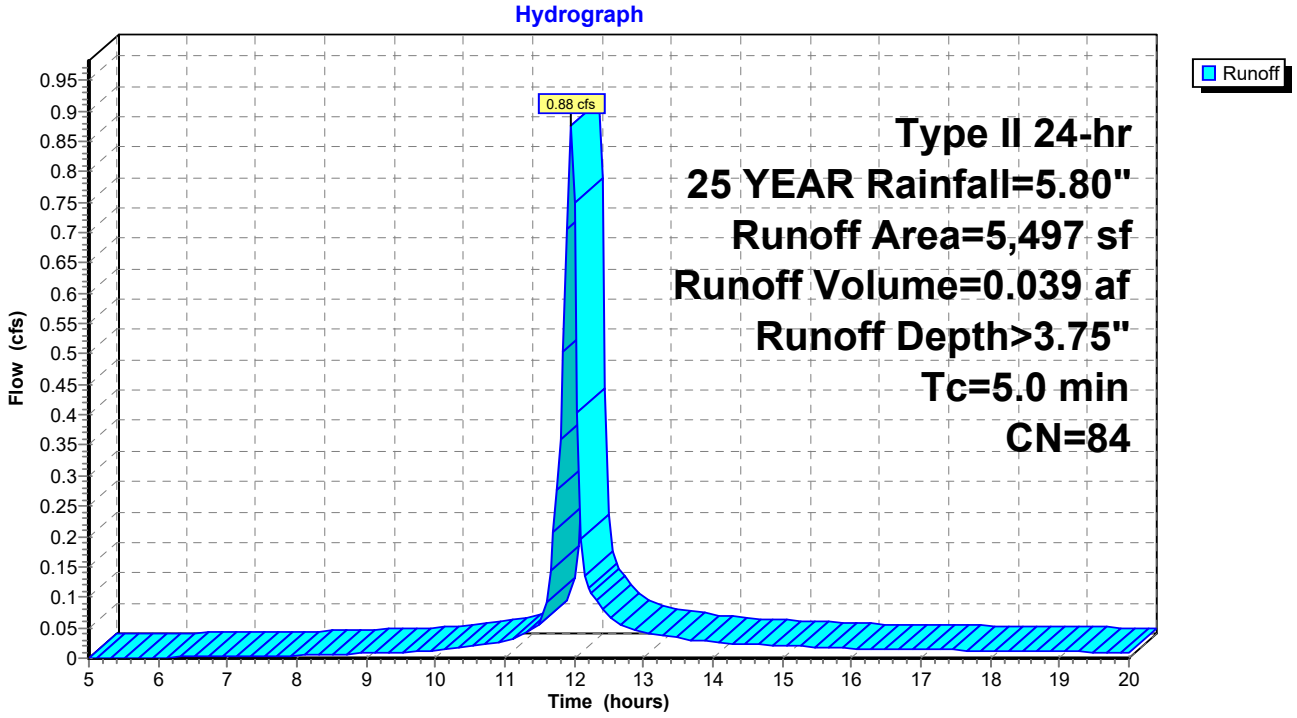
Runoff = 0.88 cfs @ 11.95 hrs, Volume= 0.039 af, Depth> 3.75"
Routed to Pond CB 16 : CB 16

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,294	39	>75% Grass cover, Good, HSG A
*	4,203	98	IMPERVIOUS
	5,497	84	Weighted Average
	1,294		23.54% Pervious Area
	4,203		76.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 3A: 3A



Summary for Subcatchment SC 3B: 3B

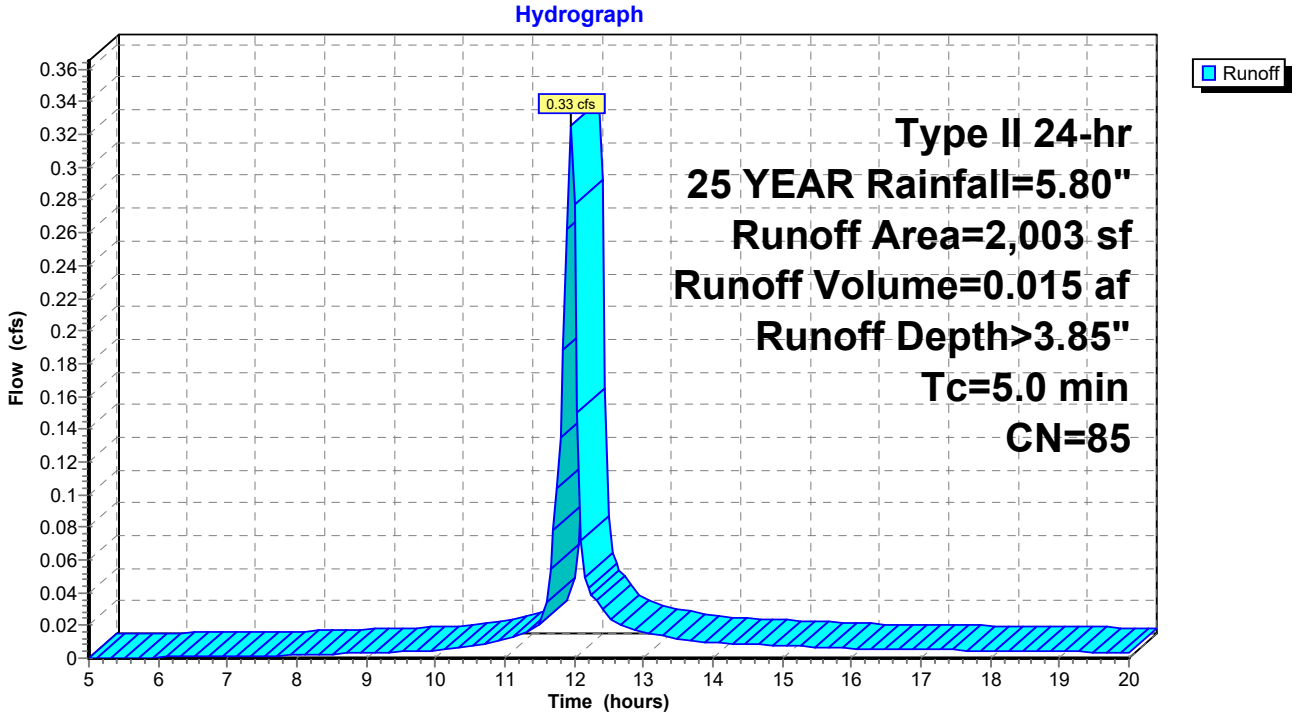
Runoff = 0.33 cfs @ 11.95 hrs, Volume= 0.015 af, Depth> 3.85"
Routed to Pond CB 14 : CB 14

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	443	39	>75% Grass cover, Good, HSG A
*	1,560	98	IMPERVIOUS
	2,003	85	Weighted Average
	443		22.12% Pervious Area
	1,560		77.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 3B: 3B



Summary for Subcatchment SC 3C: 3C

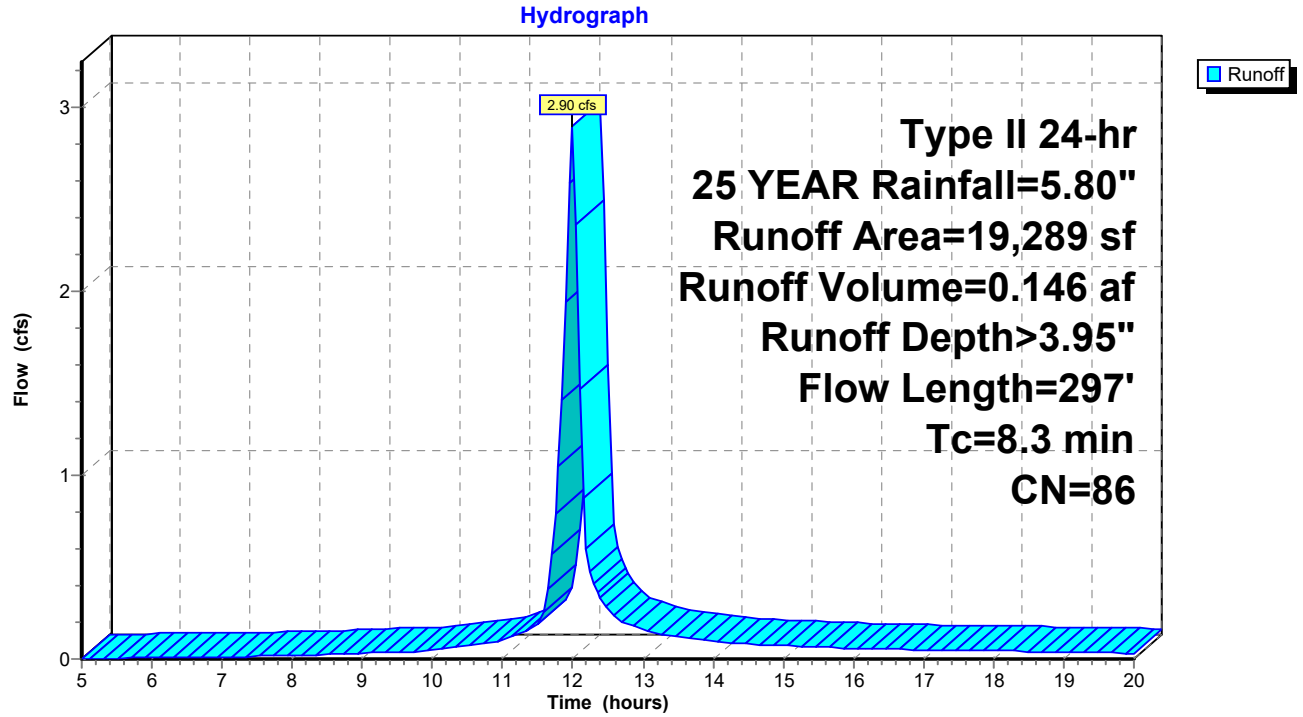
Runoff = 2.90 cfs @ 11.99 hrs, Volume= 0.146 af, Depth> 3.95"
Routed to Pond CB19 : CB19

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,827	39	>75% Grass cover, Good, HSG A
	2,448	61	>75% Grass cover, Good, HSG B
	1,828	80	>75% Grass cover, Good, HSG D
*	13,186	98	IMPERVIOUS
	19,289	86	Weighted Average
	6,103		31.64% Pervious Area
	13,186		68.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	12	0.0580	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.10"
7.1	65	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.10"
1.1	220	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	297	Total			

Subcatchment SC 3C: 3C



Summary for Subcatchment SC 3D: 3D

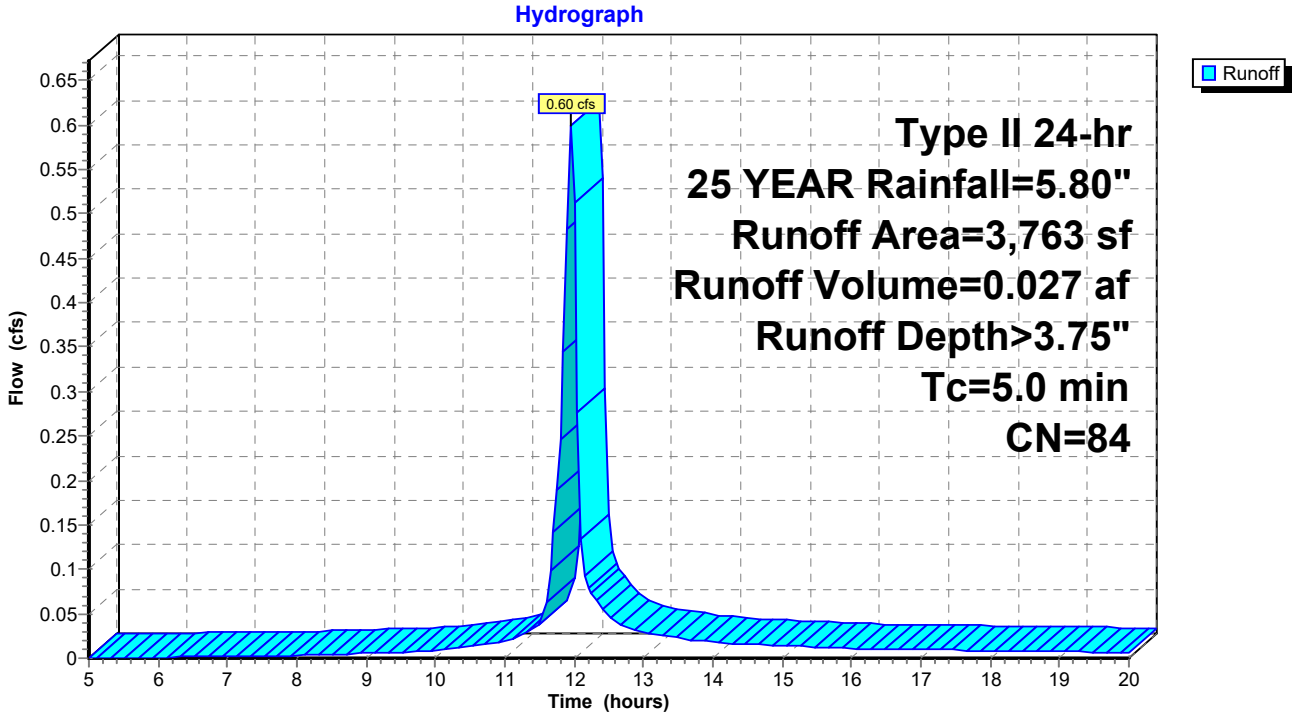
Runoff = 0.60 cfs @ 11.95 hrs, Volume= 0.027 af, Depth> 3.75"
Routed to Pond CB 17 : CB 17

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	900	39	>75% Grass cover, Good, HSG A
*	2,863	98	IMPERVIOUS
	3,763	84	Weighted Average
	900		23.92% Pervious Area
	2,863		76.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 3D: 3D



Summary for Subcatchment SC 3E: 3E

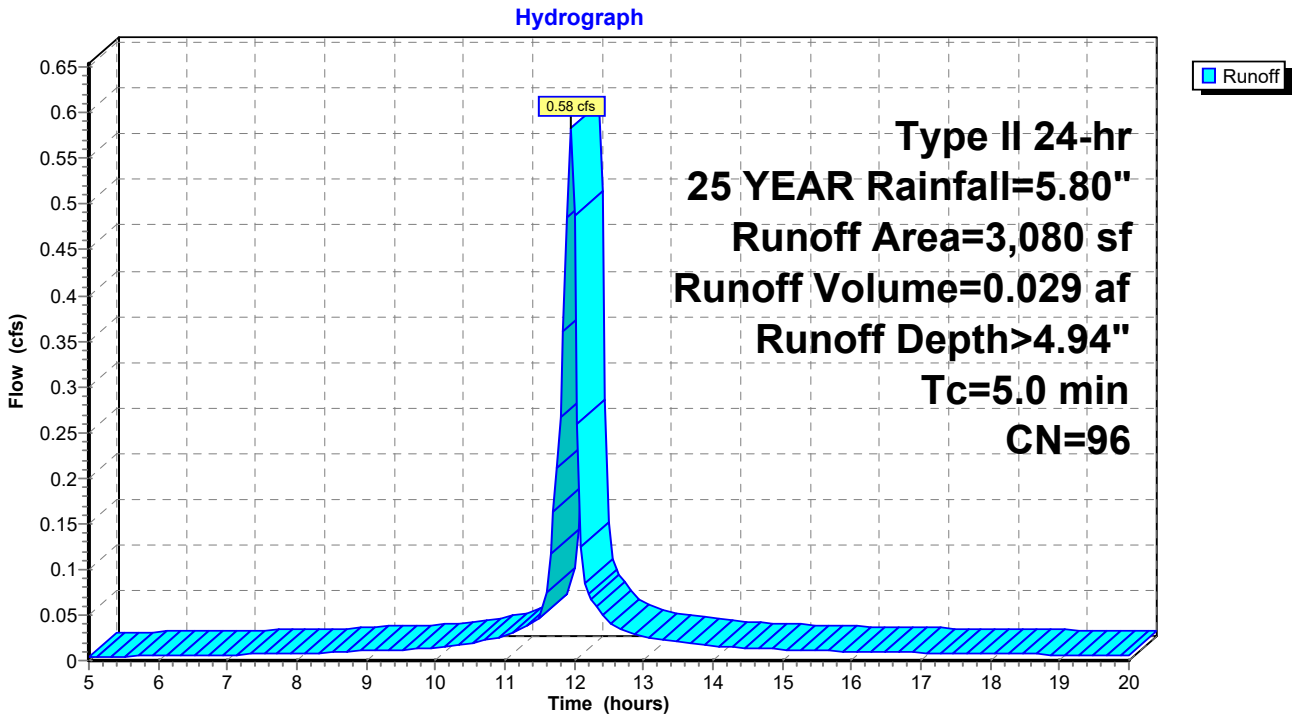
Runoff = 0.58 cfs @ 11.95 hrs, Volume= 0.029 af, Depth> 4.94"
Routed to Pond CB 18 : CB 18

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	91	39	>75% Grass cover, Good, HSG A
*	2,954	98	IMPERVIOUS
	35	80	>75% Grass cover, Good, HSG D
	3,080	96	Weighted Average
	126		4.09% Pervious Area
	2,954		95.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 3E: 3E



Summary for Subcatchment SC 3F: 3F

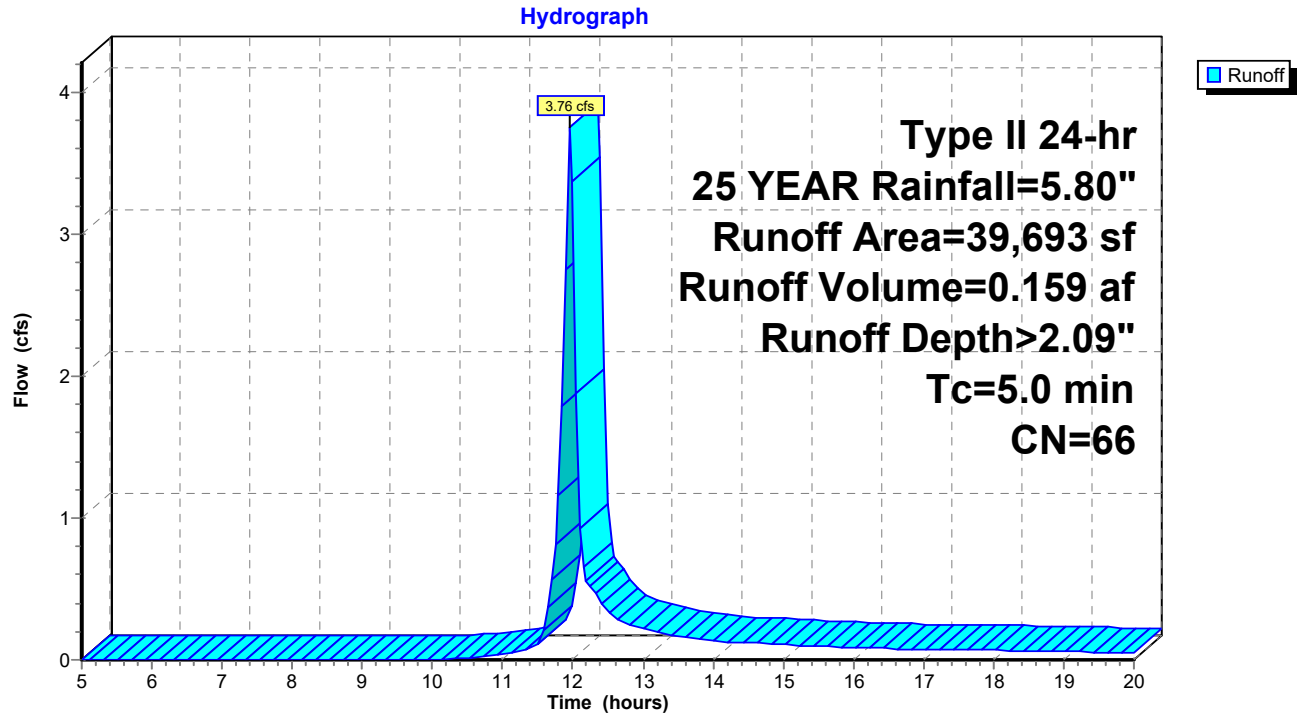
Runoff = 3.76 cfs @ 11.96 hrs, Volume= 0.159 af, Depth> 2.09"
Routed to Pond 1P : WETPOND A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	18,576	39	>75% Grass cover, Good, HSG A
	4,092	61	>75% Grass cover, Good, HSG B
	2,268	80	>75% Grass cover, Good, HSG D
*	14,757	98	IMPERVIOUS
	39,693	66	Weighted Average
	24,936		62.82% Pervious Area
	14,757		37.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 3F: 3F



Summary for Subcatchment SC 4: 4

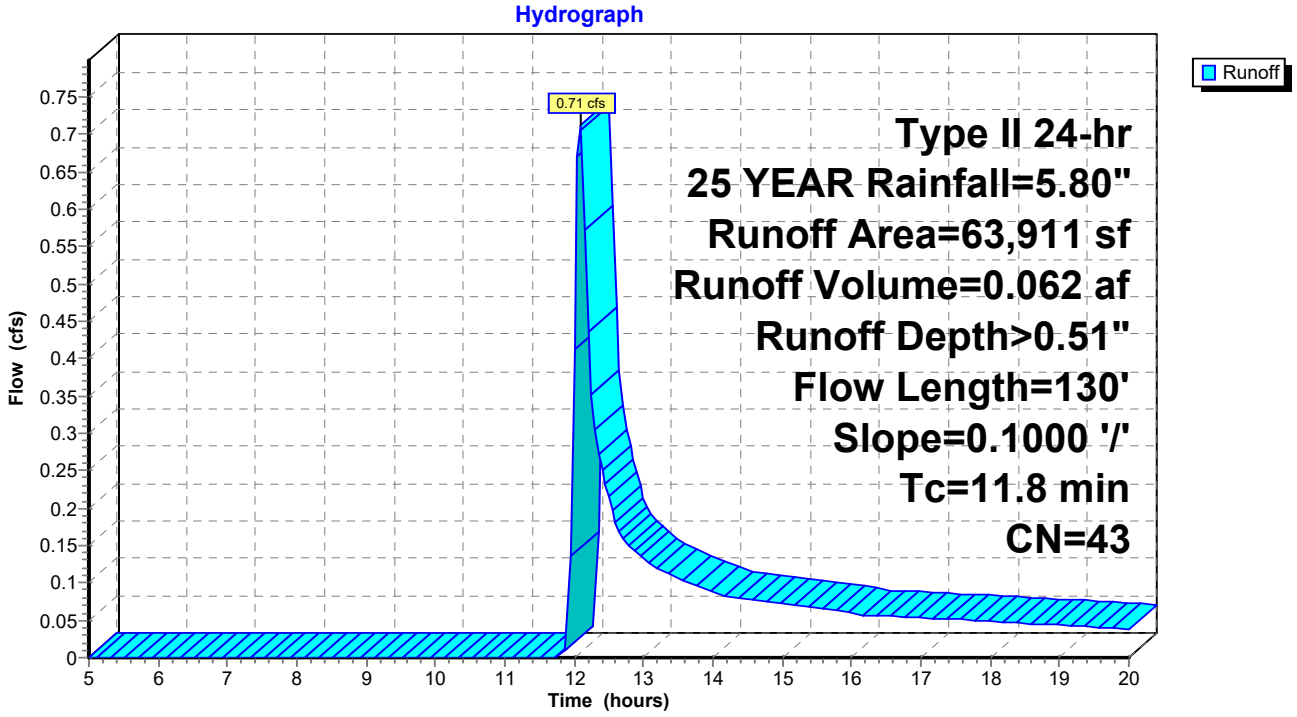
Runoff = 0.71 cfs @ 12.09 hrs, Volume= 0.062 af, Depth> 0.51"
Routed to Reach SP2 : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	31,847	30	Woods, Good, HSG A
	10,452	39	>75% Grass cover, Good, HSG A
	10,898	55	Woods, Good, HSG B
	7,071	61	>75% Grass cover, Good, HSG B
*	3,643	98	IMPERVIOUS
	63,911	43	Weighted Average
	60,268		94.30% Pervious Area
	3,643		5.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.10"
0.3	30	0.1000	1.58		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.8	130	Total			

Subcatchment SC 4: 4



Summary for Subcatchment SC 5: 5

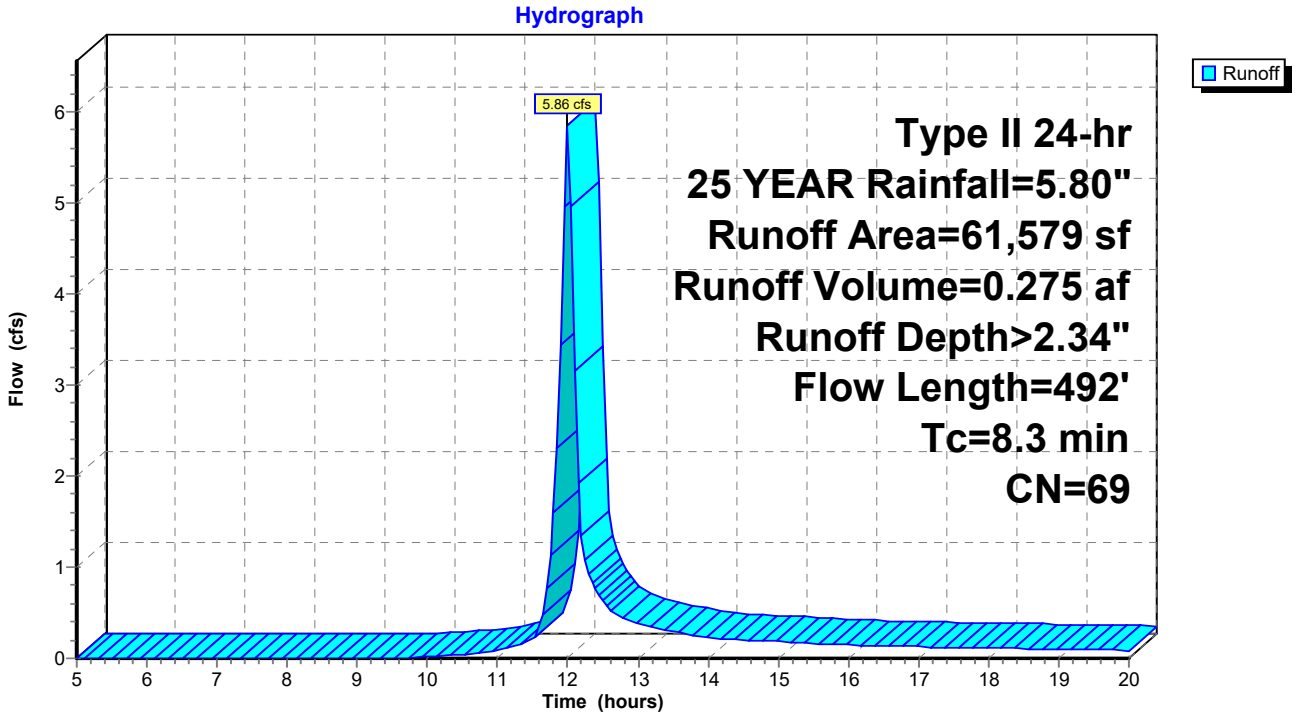
Runoff = 5.86 cfs @ 12.00 hrs, Volume= 0.275 af, Depth> 2.34"
Routed to Pond CB 22 : CB22

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	8,853	55	Woods, Good, HSG B
	37,159	61	>75% Grass cover, Good, HSG B
	326	80	>75% Grass cover, Good, HSG D
*	15,241	98	IMPERVIOUS
	61,579	69	Weighted Average
	46,338		75.25% Pervious Area
	15,241		24.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	12	0.0580	1.36		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.10"
2.3	210	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.3	130	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	140	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
8.3	492	Total			

Subcatchment SC 5: 5



Summary for Subcatchment SC 6A: 6A

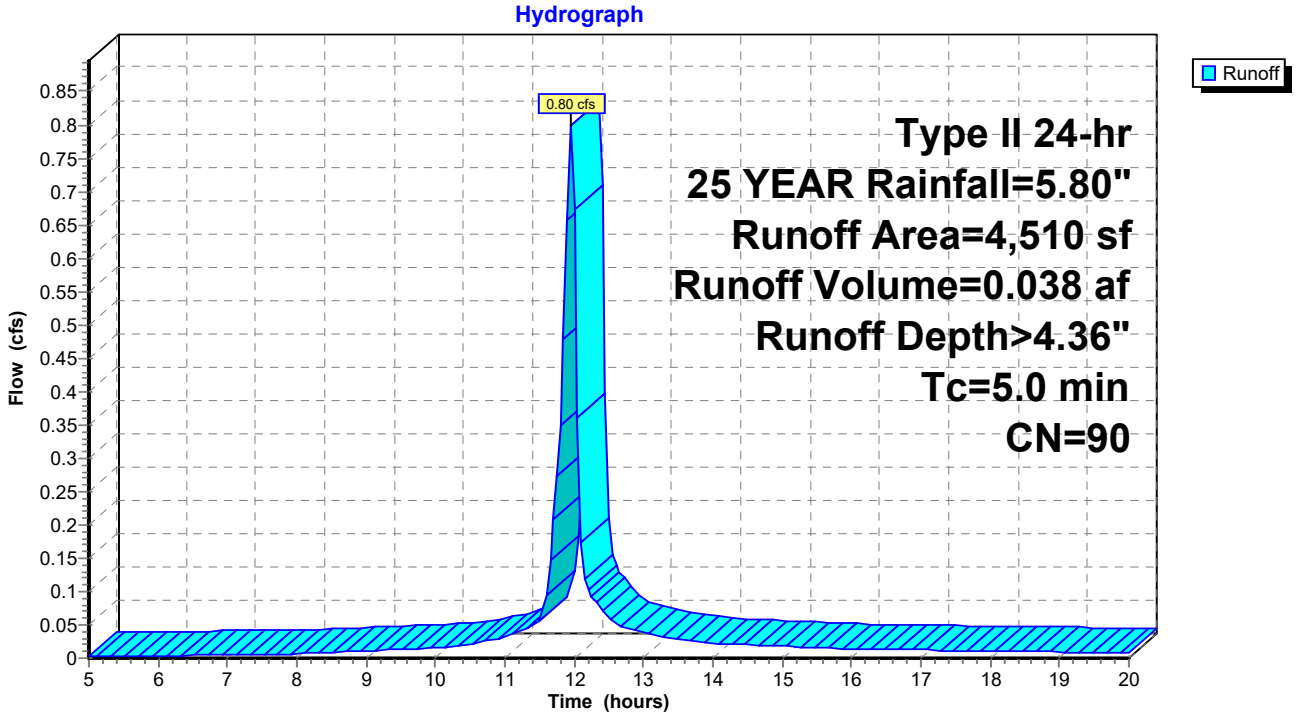
Runoff = 0.80 cfs @ 11.95 hrs, Volume= 0.038 af, Depth> 4.36"
Routed to Pond CB 21 : CB21

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,020	61	>75% Grass cover, Good, HSG B
*	3,490	98	IMPERVIOUS
	4,510	90	Weighted Average
	1,020		22.62% Pervious Area
	3,490		77.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6A: 6A



Summary for Subcatchment SC 6B: 6B

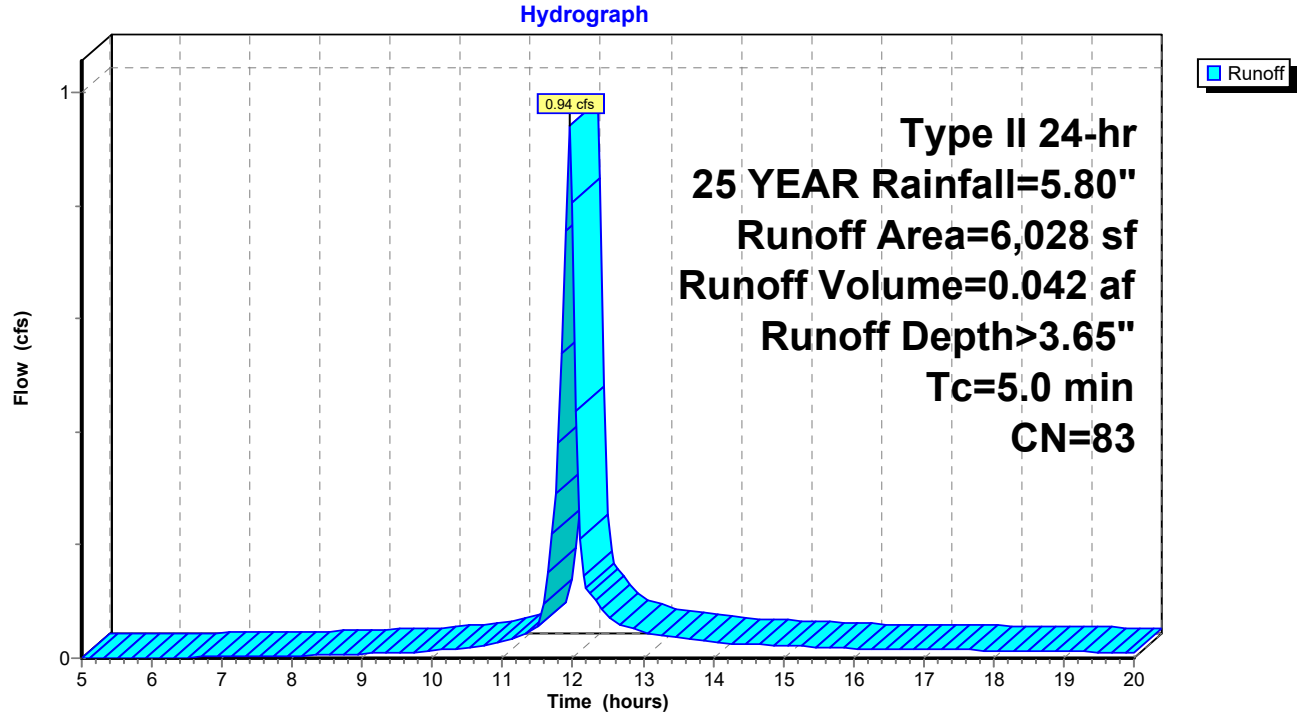
Runoff = 0.94 cfs @ 11.95 hrs, Volume= 0.042 af, Depth> 3.65"
Routed to Pond CB 20 : CB20

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	2,428	61	>75% Grass cover, Good, HSG B
*	3,600	98	IMPERVIOUS
	6,028	83	Weighted Average
	2,428		40.28% Pervious Area
	3,600		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6B: 6B



Summary for Subcatchment SC 6C: 6C

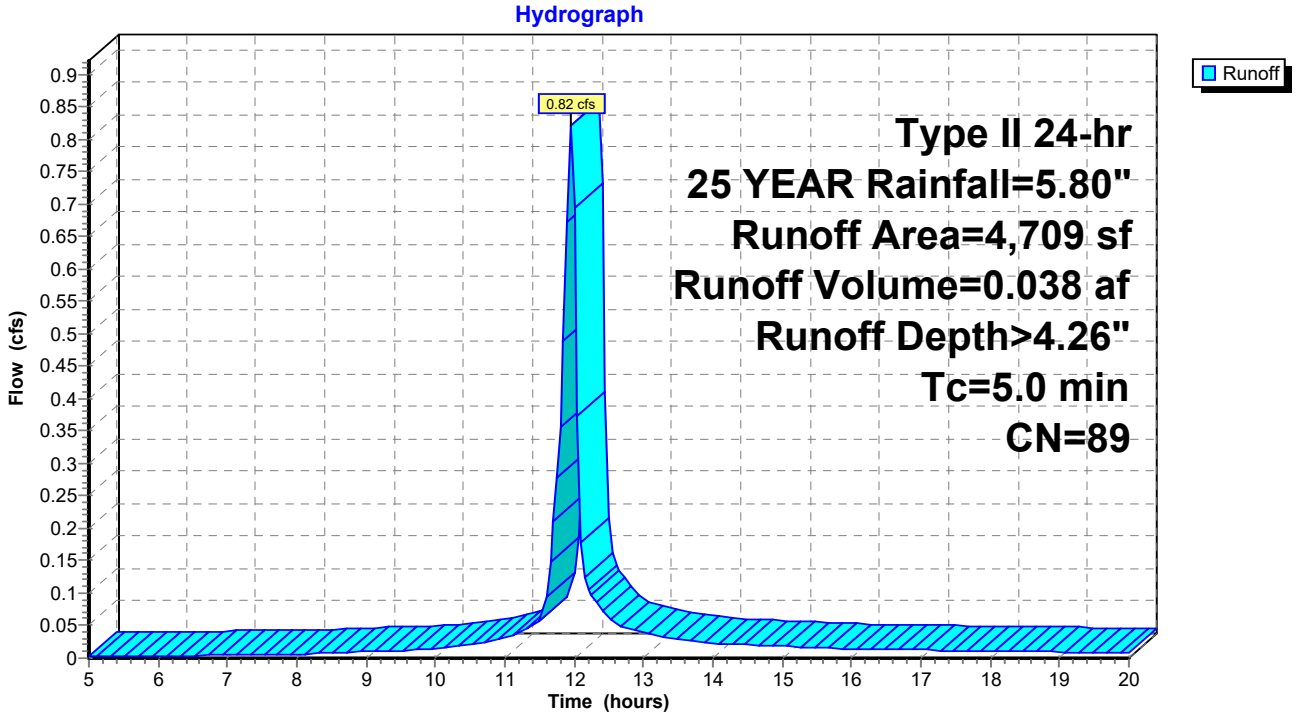
Runoff = 0.82 cfs @ 11.95 hrs, Volume= 0.038 af, Depth> 4.26"
Routed to Pond CB 23 : CB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,202	61	>75% Grass cover, Good, HSG B
*	3,507	98	IMPERVIOUS
	4,709	89	Weighted Average
	1,202		25.53% Pervious Area
	3,507		74.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6C: 6C



Summary for Subcatchment SC 6D: 6D

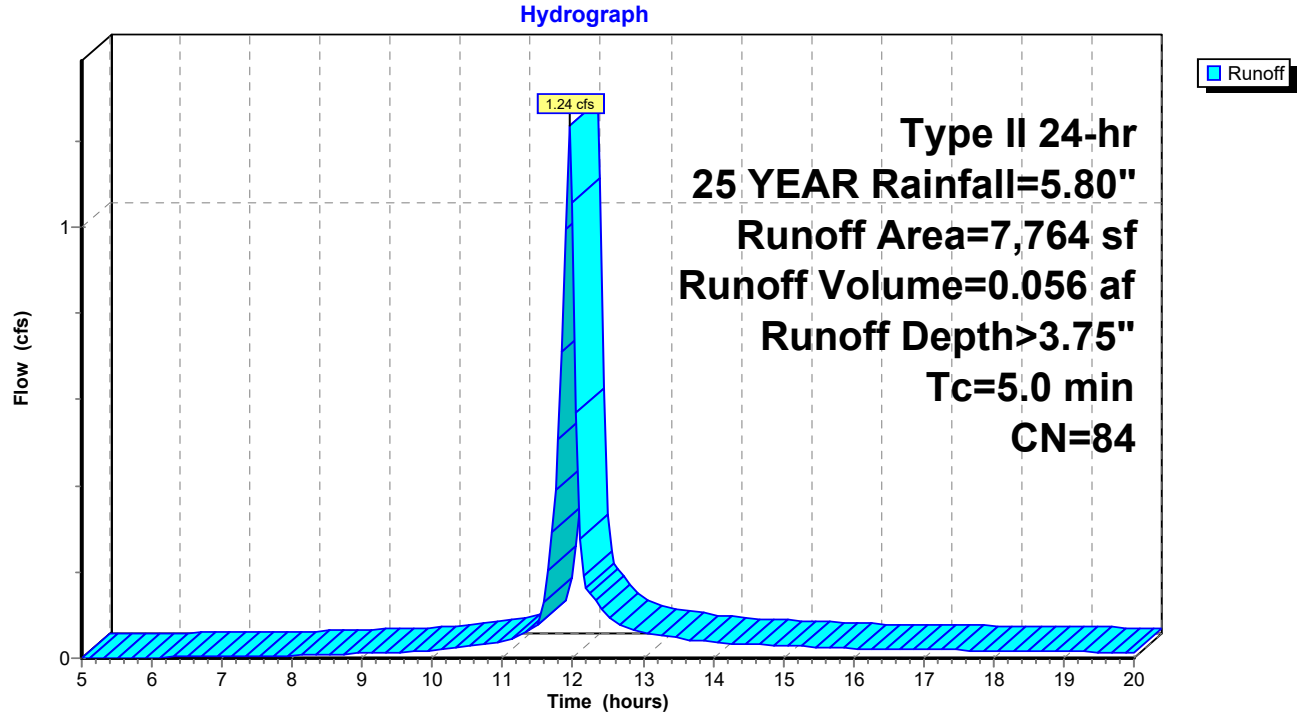
Runoff = 1.24 cfs @ 11.95 hrs, Volume= 0.056 af, Depth> 3.75"
Routed to Pond CB 24 : CB 24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	3,016	61	>75% Grass cover, Good, HSG B
*	4,748	98	IMPERVIOUS
	7,764	84	Weighted Average
	3,016		38.85% Pervious Area
	4,748		61.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6D: 6D



Summary for Subcatchment SC 6F: 6F

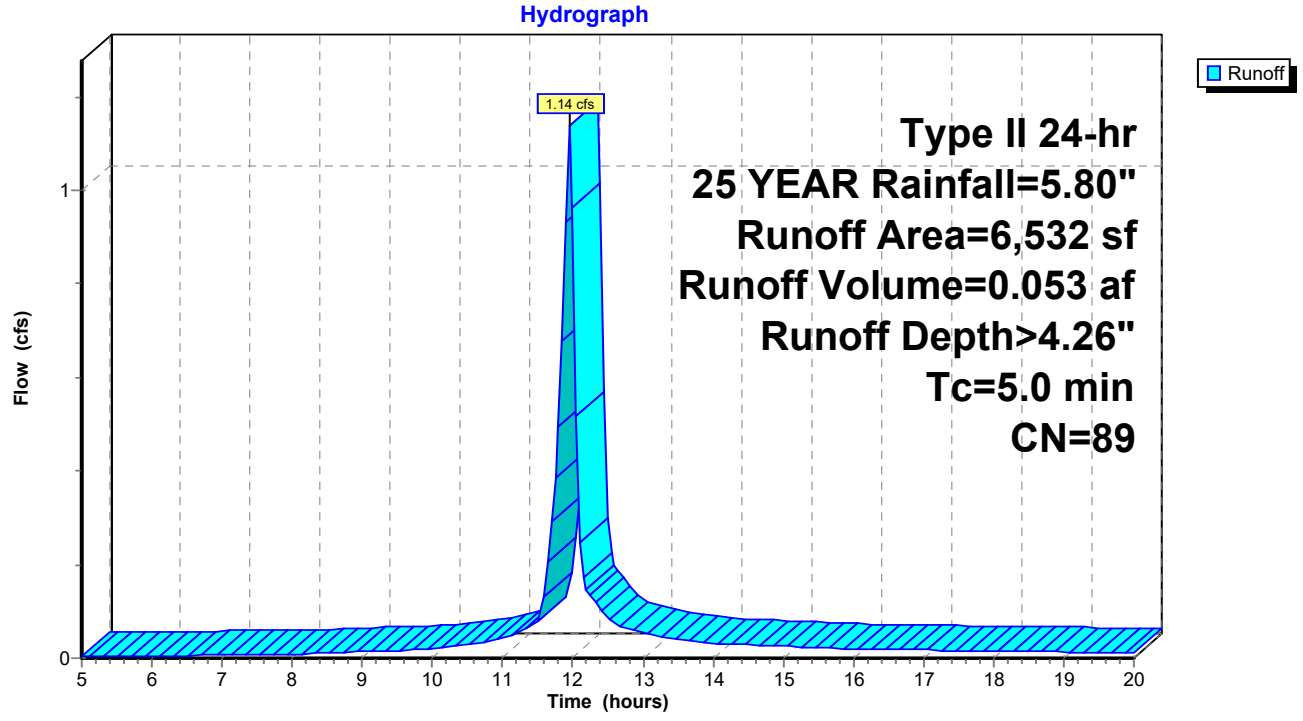
Runoff = 1.14 cfs @ 11.95 hrs, Volume= 0.053 af, Depth> 4.26"
Routed to Pond CB 23 : CB23

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,649	61	>75% Grass cover, Good, HSG B
*	4,883	98	IMPERVIOUS
	6,532	89	Weighted Average
	1,649		25.24% Pervious Area
	4,883		74.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6F: 6F



Summary for Subcatchment SC 6G: 6G

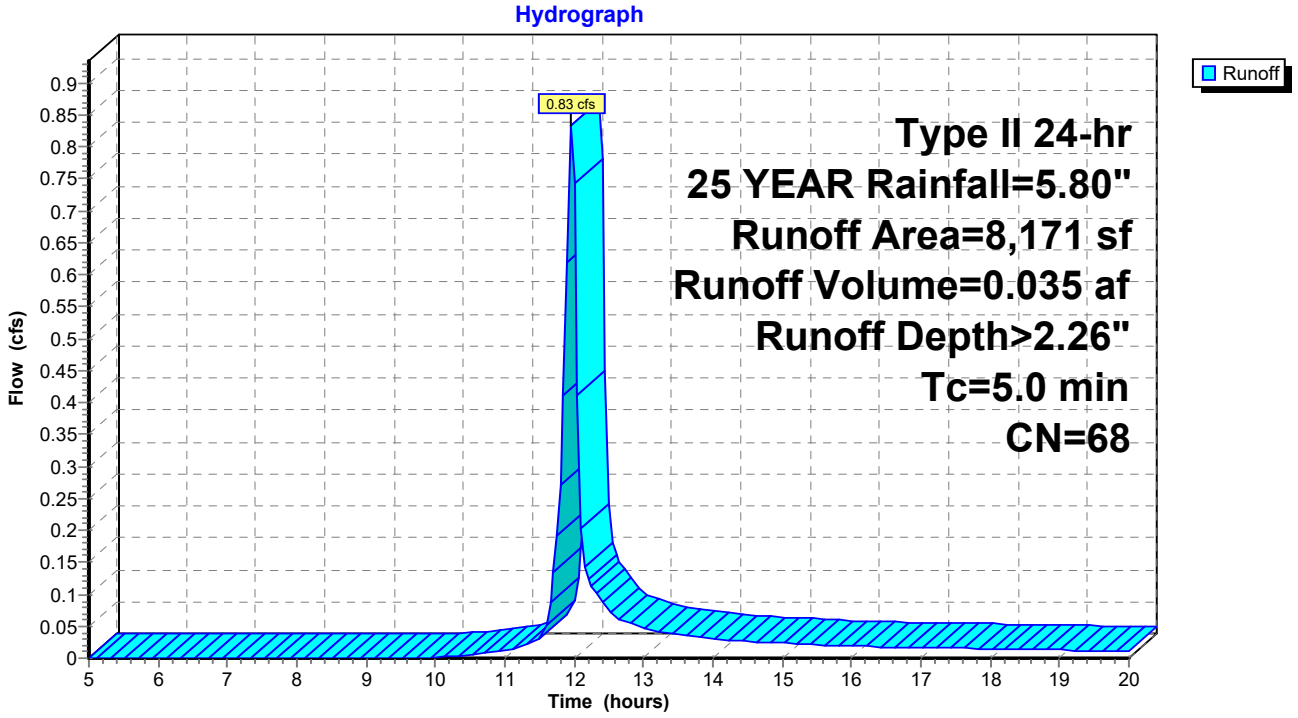
Runoff = 0.83 cfs @ 11.96 hrs, Volume= 0.035 af, Depth> 2.26"
Routed to Pond CB 24 : CB 24

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	6,706	61	>75% Grass cover, Good, HSG B
*	1,465	98	IMPERVIOUS
	8,171	68	Weighted Average
	6,706		82.07% Pervious Area
	1,465		17.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6G: 6G



Summary for Subcatchment SC 6H: 6H

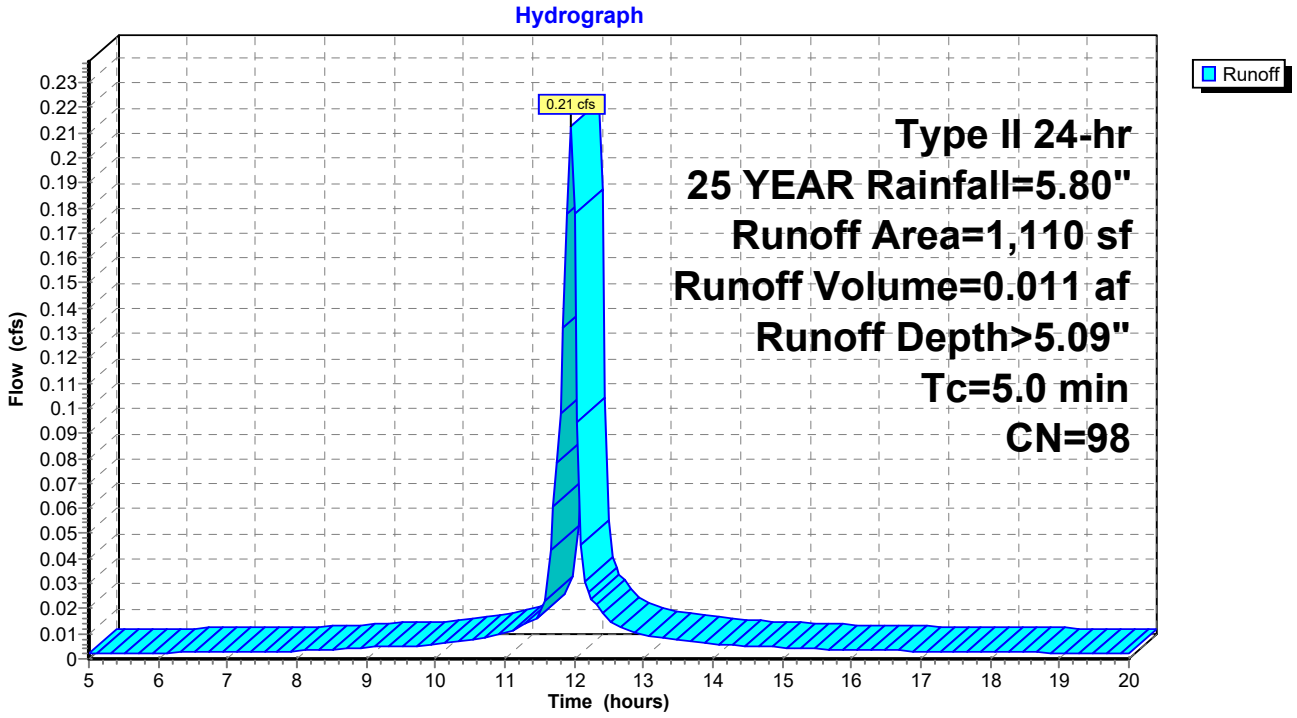
Runoff = 0.21 cfs @ 11.95 hrs, Volume= 0.011 af, Depth> 5.09"
Routed to Pond CB 25 : CB25

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
*	1,110	98	IMPERVIOUS
	1,110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6H: 6H



Summary for Subcatchment SC 6I: 6I

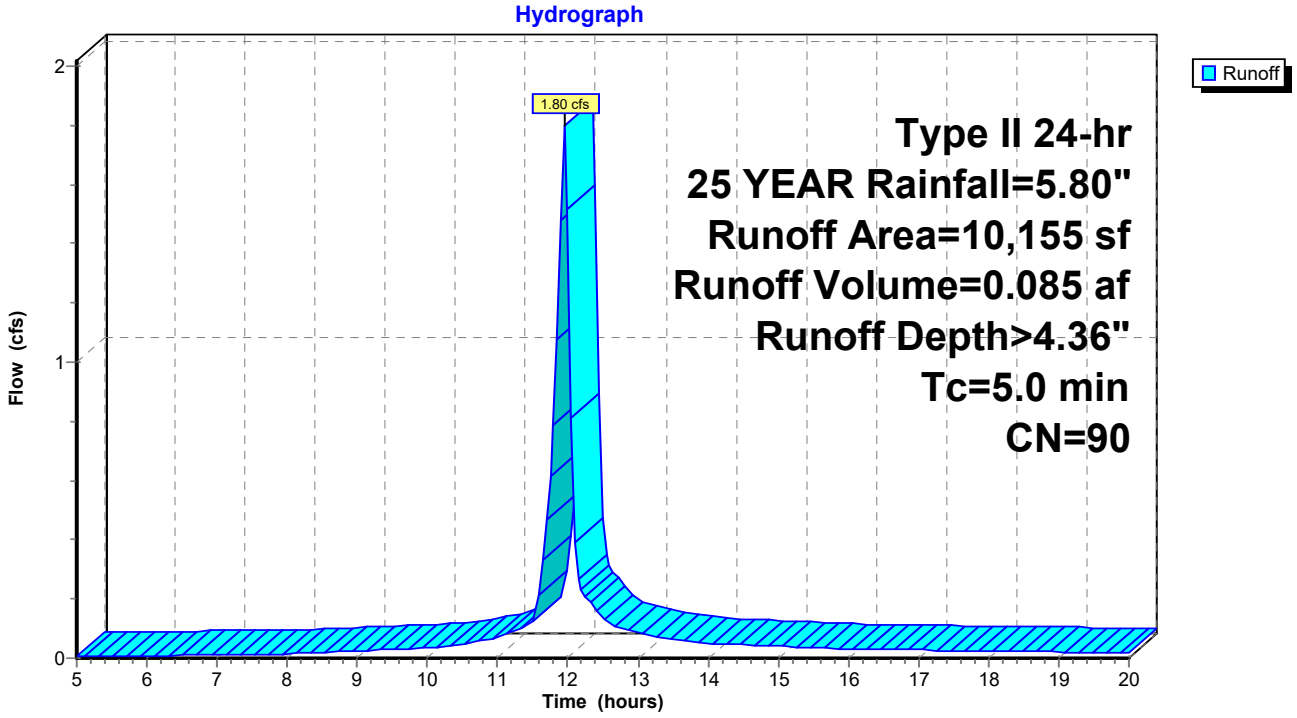
Runoff = 1.80 cfs @ 11.95 hrs, Volume= 0.085 af, Depth> 4.36"
Routed to Pond CB 27 : CB27

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	2,141	61	>75% Grass cover, Good, HSG B
*	8,014	98	IMPERVIOUS
	10,155	90	Weighted Average
	2,141		21.08% Pervious Area
	8,014		78.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6I: 6I



Summary for Subcatchment SC 6J: 6J

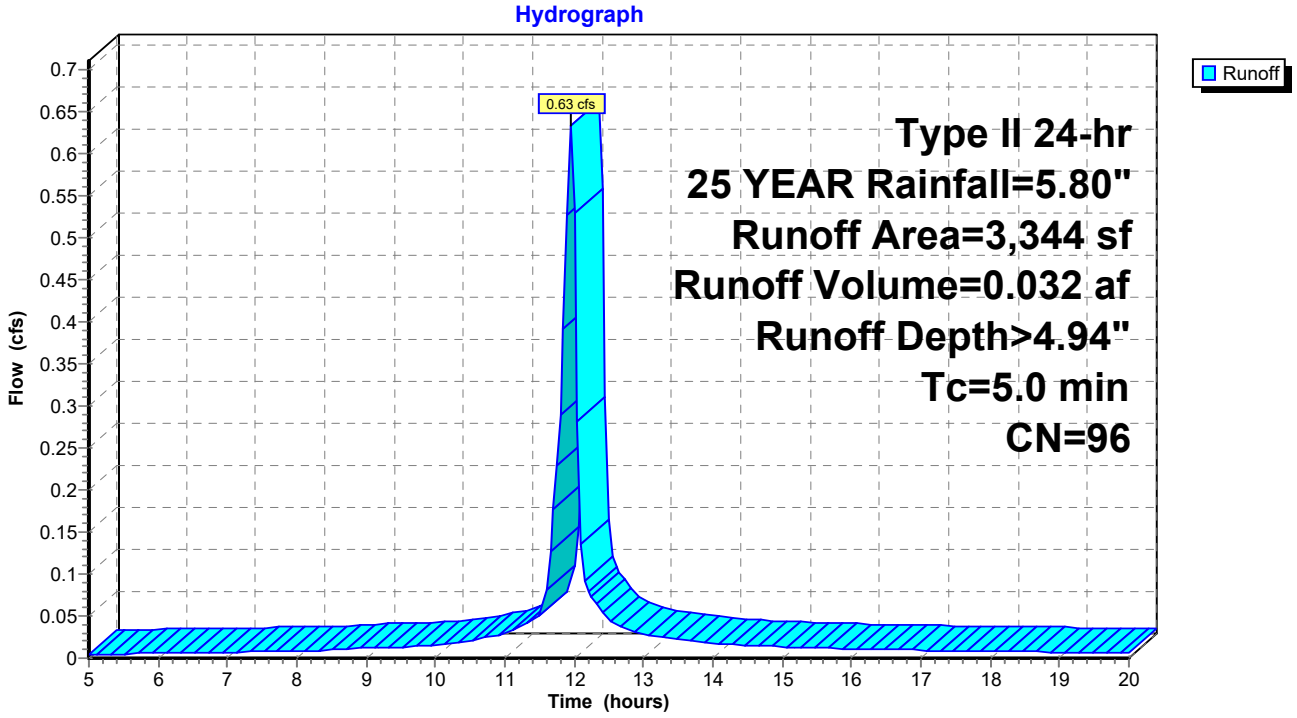
Runoff = 0.63 cfs @ 11.95 hrs, Volume= 0.032 af, Depth> 4.94"
Routed to Pond CB 26 : CB26

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	191	61	>75% Grass cover, Good, HSG B
*	3,153	98	IMPERVIOUS
	3,344	96	Weighted Average
	191		5.71% Pervious Area
	3,153		94.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 6J: 6J



Summary for Subcatchment SC 7: 7

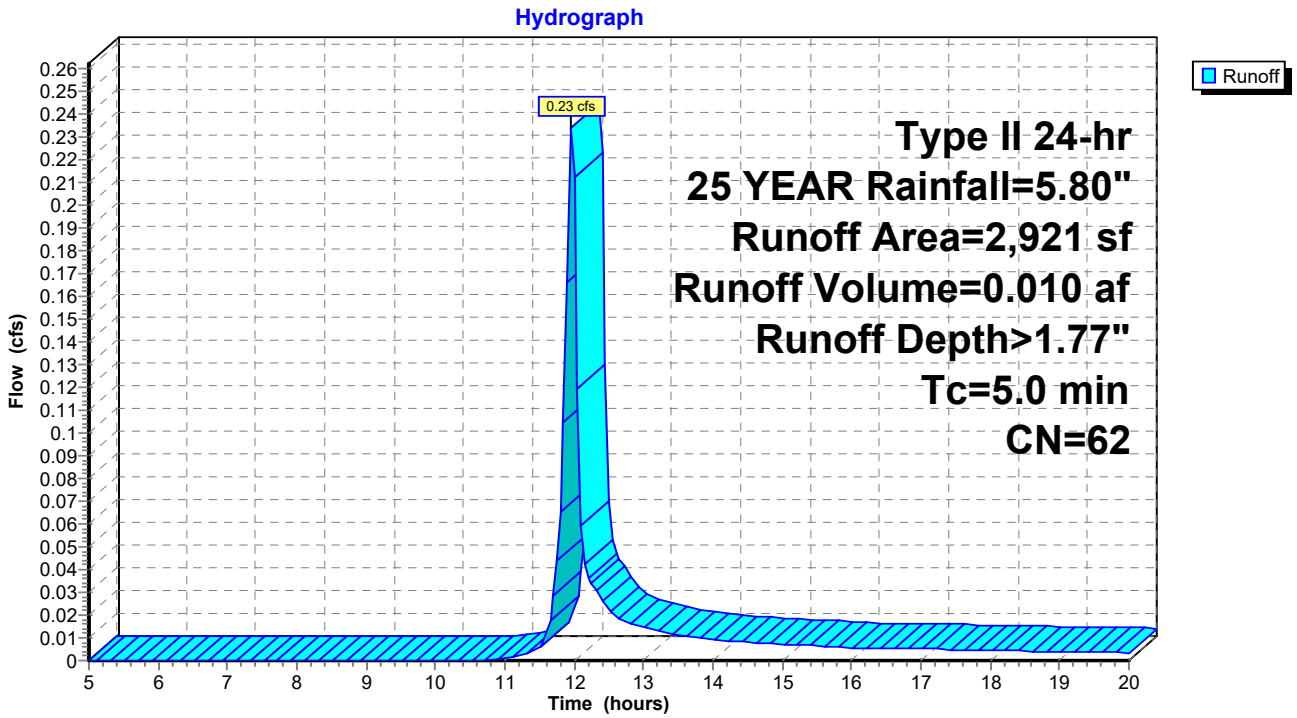
Runoff = 0.23 cfs @ 11.96 hrs, Volume= 0.010 af, Depth> 1.77"
Routed to Pond 6P : BIO CELL 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,639	39	>75% Grass cover, Good, HSG A
	255	61	>75% Grass cover, Good, HSG B
*	1,027	98	IMPERVIOUS
	2,921	62	Weighted Average
	1,894		64.84% Pervious Area
	1,027		35.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 7: 7



Summary for Subcatchment SC 8: 8

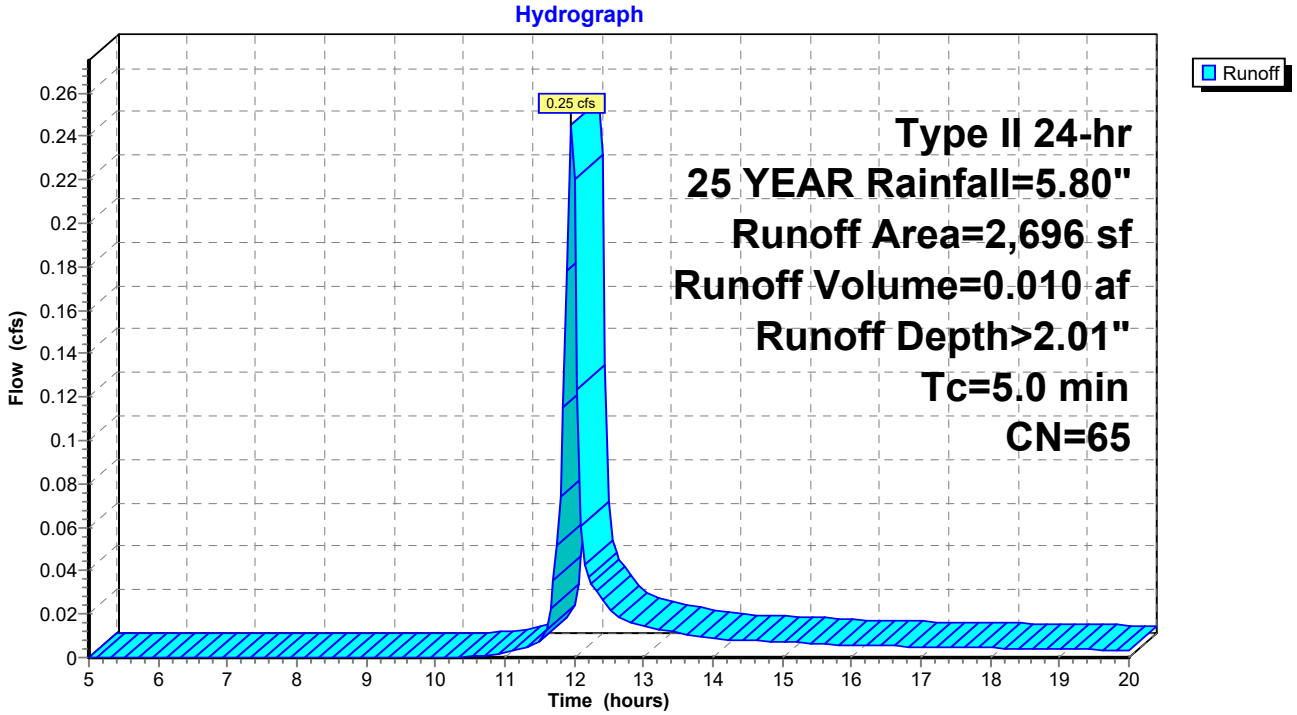
Runoff = 0.25 cfs @ 11.96 hrs, Volume= 0.010 af, Depth> 2.01"
Routed to Pond 7P : BIO CELL 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	1,249	39	>75% Grass cover, Good, HSG A
	429	61	>75% Grass cover, Good, HSG B
*	1,018	98	IMPERVIOUS
	2,696	65	Weighted Average
	1,678		62.24% Pervious Area
	1,018		37.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 8: 8



Summary for Subcatchment SC 9: 9

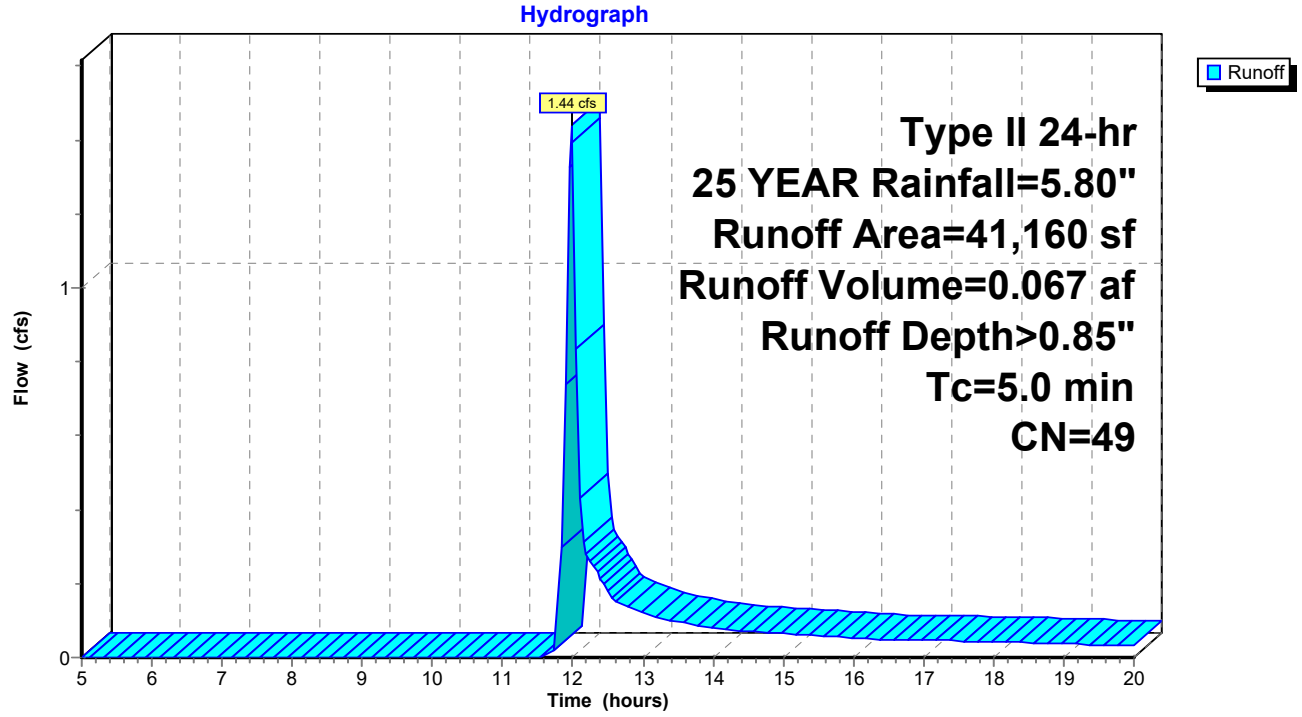
Runoff = 1.44 cfs @ 11.98 hrs, Volume= 0.067 af, Depth> 0.85"
Routed to Reach SP3 : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 YEAR Rainfall=5.80"

	Area (sf)	CN	Description
	13,252	30	Woods, Good, HSG A
	5,430	39	>75% Grass cover, Good, HSG A
	8,836	55	Woods, Good, HSG B
	10,682	61	>75% Grass cover, Good, HSG B
*	2,960	98	IMPERVIOUS
	41,160	49	Weighted Average
	38,200		92.81% Pervious Area
	2,960		7.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment SC 9: 9

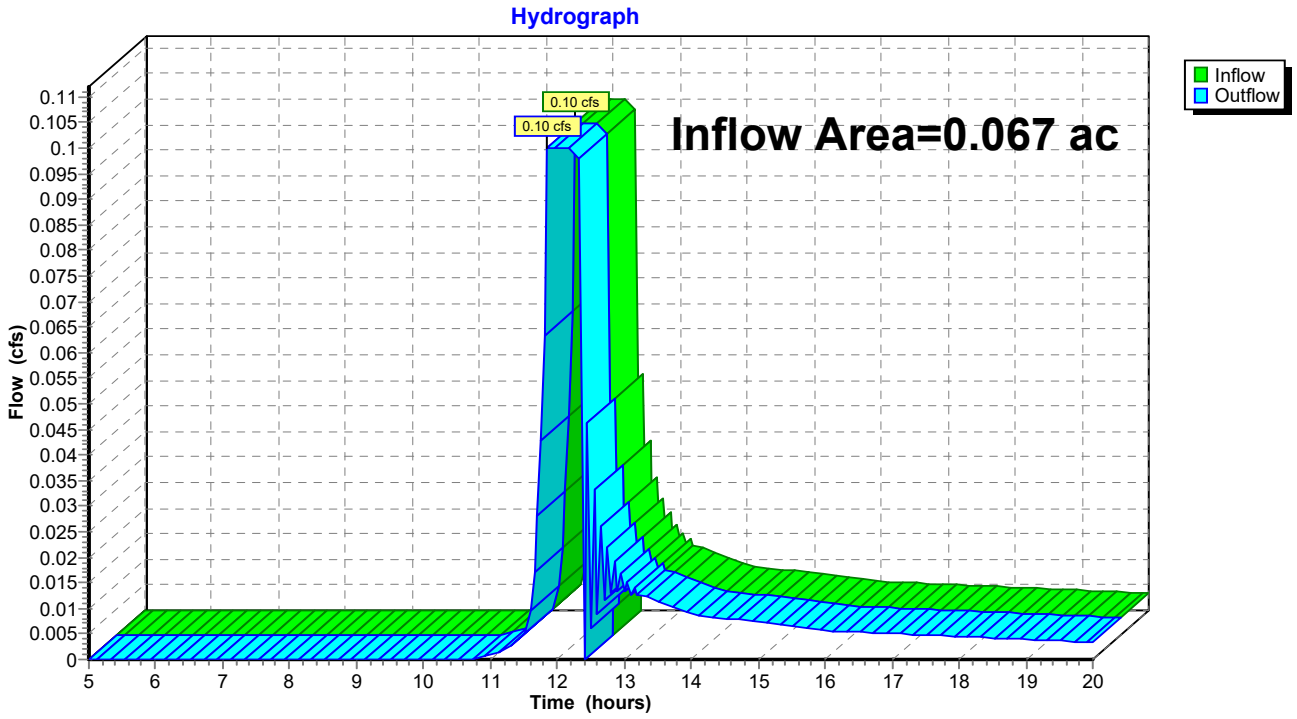


Summary for Reach 1R: REACH 1

Inflow Area = 0.067 ac, 35.16% Impervious, Inflow Depth > 1.78" for 25 YEAR event
Inflow = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af
Outflow = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: REACH 1

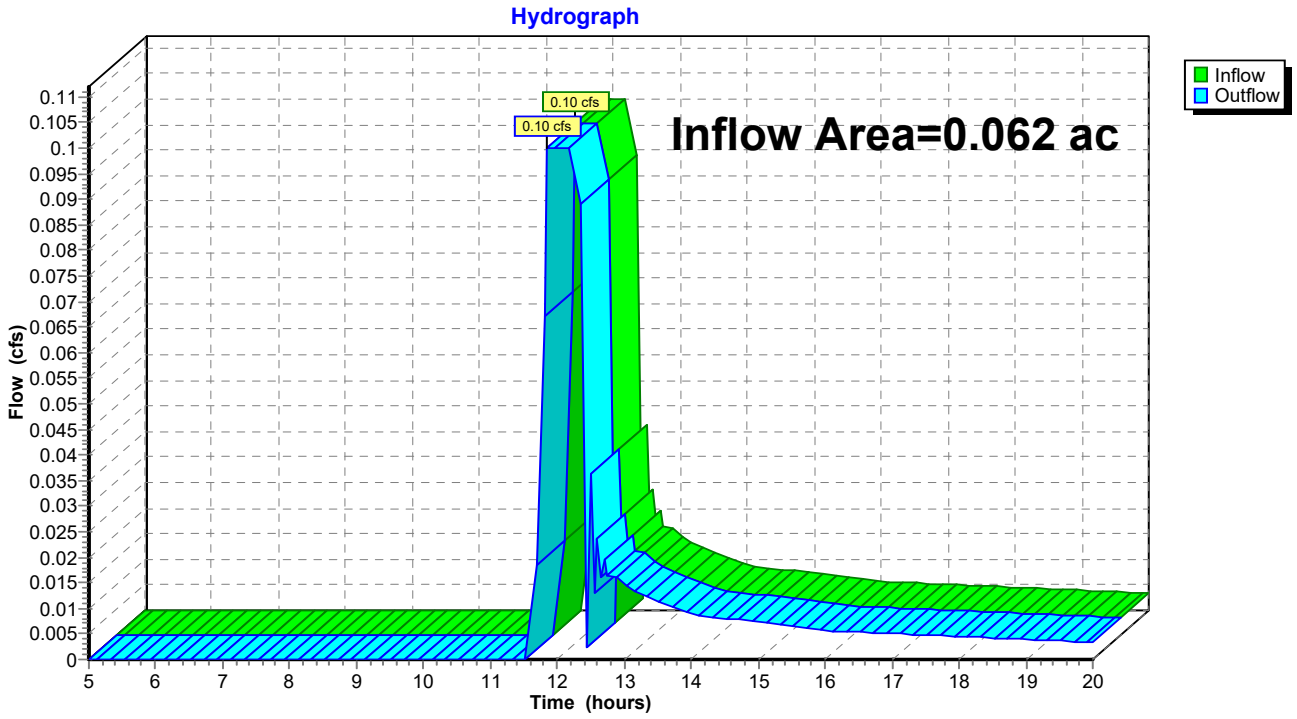


Summary for Reach 2R: REACH 2

Inflow Area = 0.062 ac, 37.76% Impervious, Inflow Depth > 1.90" for 25 YEAR event
Inflow = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af
Outflow = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: REACH 2



Summary for Reach 3R: REACH 3

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 4.46" for 25 YEAR event
Inflow = 0.89 cfs @ 12.02 hrs, Volume= 0.053 af
Outflow = 0.60 cfs @ 12.13 hrs, Volume= 0.053 af, Atten= 33%, Lag= 7.0 min
Routed to Reach 5R : REACH 5

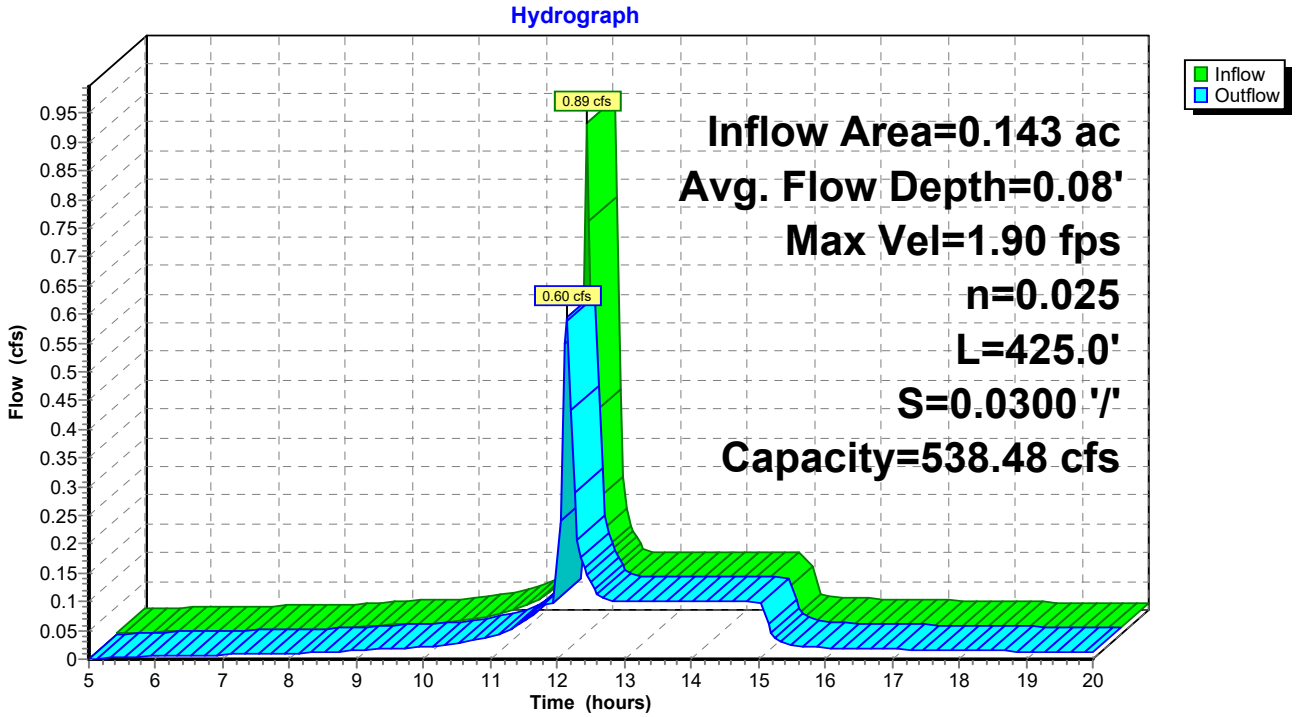
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.90 fps, Min. Travel Time= 3.7 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 5.9 min

Peak Storage= 146 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.08' , Surface Width= 4.17'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 538.48 cfs

4.00' x 4.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 425.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -12.75'



Reach 3R: REACH 3



Summary for Reach 4R: REACH 4

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 3.75" for 25 YEAR event
Inflow = 0.96 cfs @ 12.01 hrs, Volume= 0.048 af
Outflow = 0.71 cfs @ 12.09 hrs, Volume= 0.048 af, Atten= 26%, Lag= 4.7 min
Routed to Reach 5R : REACH 5

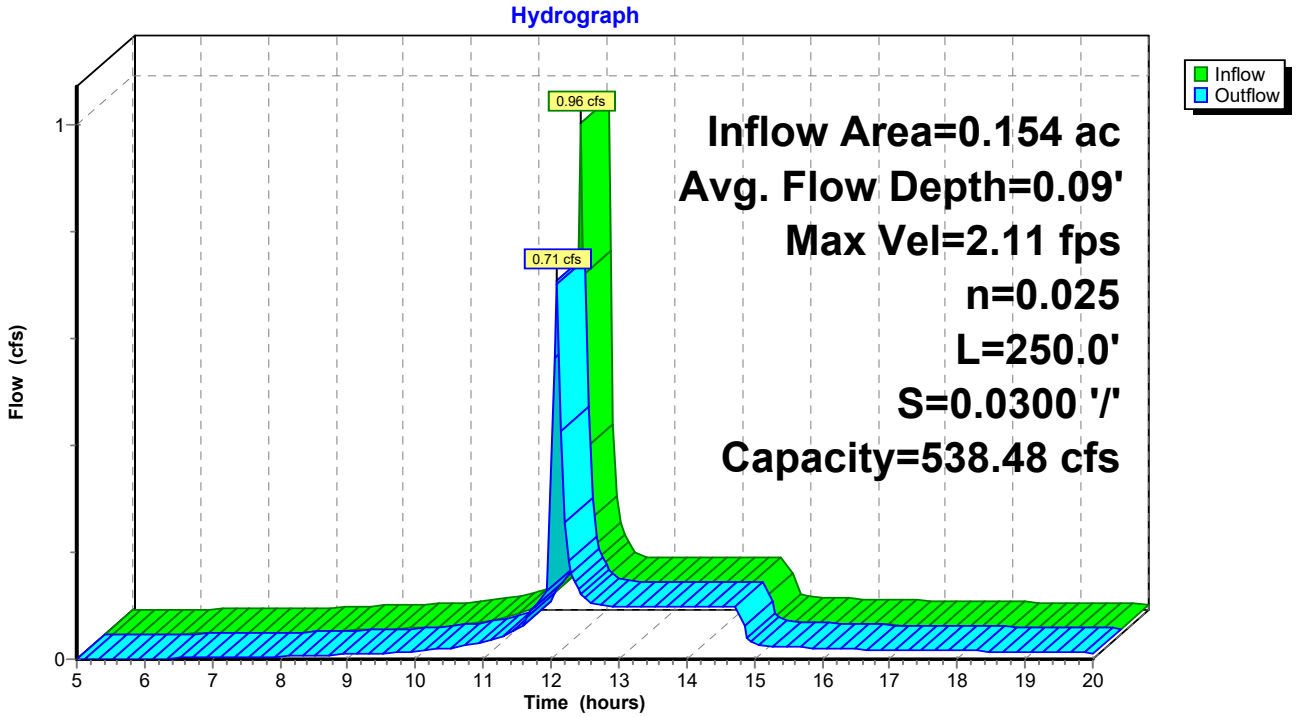
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.11 fps, Min. Travel Time= 2.0 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 3.5 min

Peak Storage= 96 cf @ 12.05 hrs
Average Depth at Peak Storage= 0.09' , Surface Width= 4.19'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 538.48 cfs

4.00' x 4.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 250.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -7.50'



Reach 4R: REACH 4



Summary for Reach 5R: REACH 5

Inflow Area = 0.297 ac, 49.56% Impervious, Inflow Depth > 4.08" for 25 YEAR event
Inflow = 1.26 cfs @ 12.11 hrs, Volume= 0.101 af
Outflow = 1.09 cfs @ 12.20 hrs, Volume= 0.101 af, Atten= 13%, Lag= 5.6 min
Routed to Reach SP4 : SUMMATION POINT 4

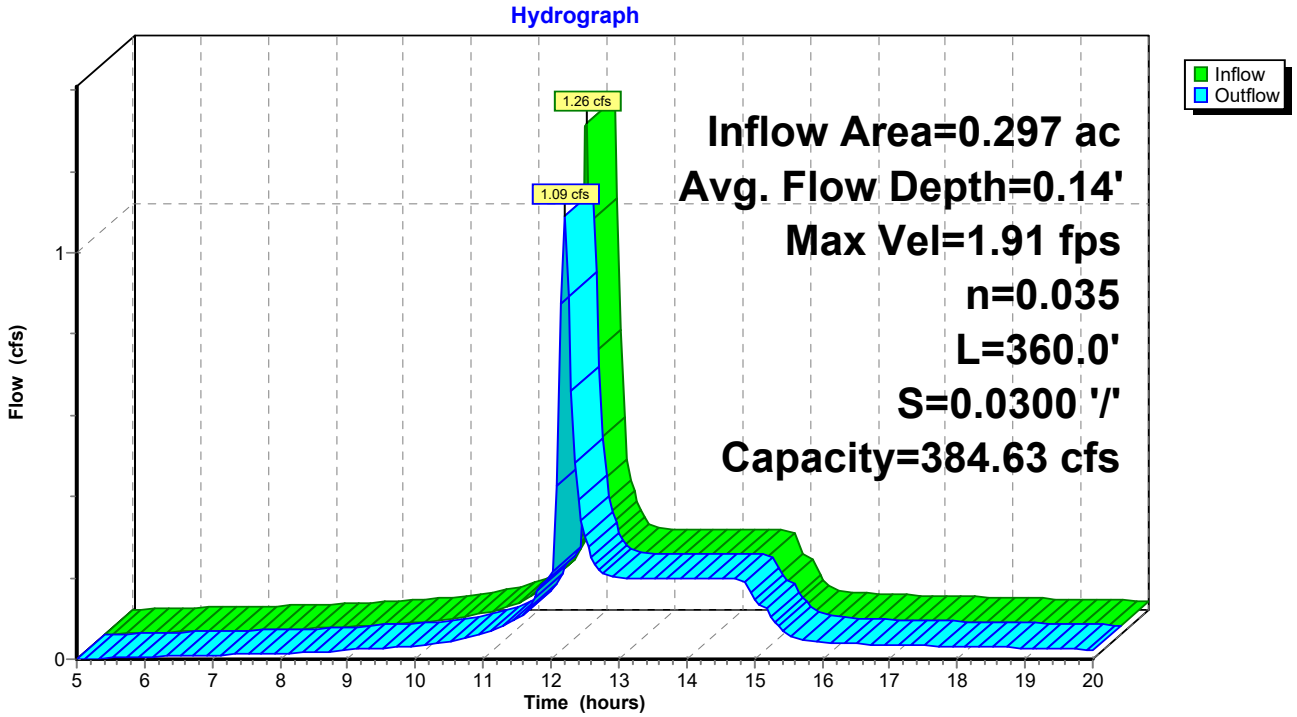
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.91 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 6.7 min

Peak Storage= 207 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 4.28'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 384.63 cfs

4.00' x 4.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 1.0 '/' Top Width= 12.00'
Length= 360.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -10.80'



Reach 5R: REACH 5



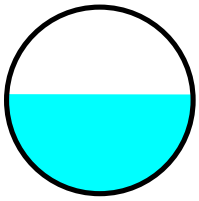
Summary for Reach 6R: 15" SD

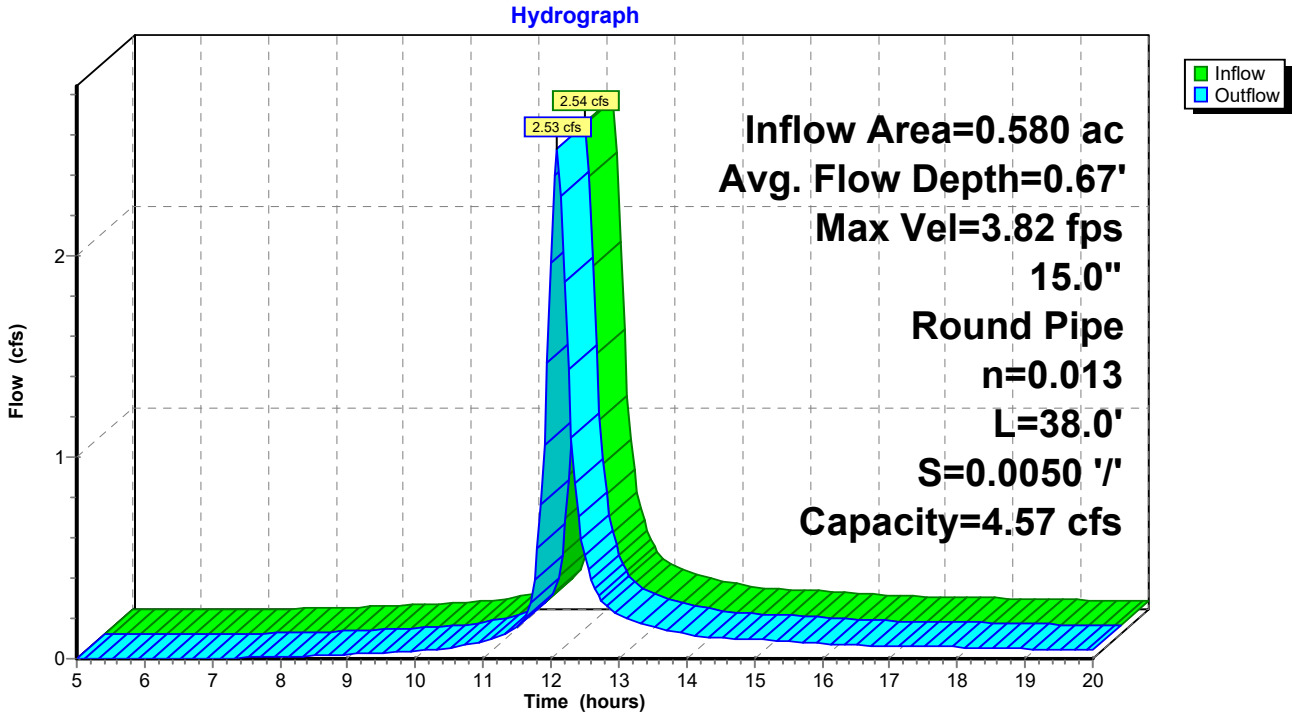
Inflow Area = 0.580 ac, 8.16% Impervious, Inflow Depth > 3.34" for 25 YEAR event
Inflow = 2.54 cfs @ 12.09 hrs, Volume= 0.161 af
Outflow = 2.53 cfs @ 12.09 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.3 min
Routed to Pond CB 6 : CB6

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.82 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.36 fps, Avg. Travel Time= 0.5 min

Peak Storage= 25 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.67' , Surface Width= 1.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 4.57 cfs

15.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 38.0' Slope= 0.0050 '/'
Inlet Invert= 0.00', Outlet Invert= -0.19'





Summary for Reach 7R: Level Spreader B

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 2.47" for 25 YEAR event
Inflow = 0.80 cfs @ 12.99 hrs, Volume= 0.538 af
Outflow = 0.80 cfs @ 13.02 hrs, Volume= 0.537 af, Atten= 0%, Lag= 2.0 min
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.28 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.20 fps, Avg. Travel Time= 1.7 min

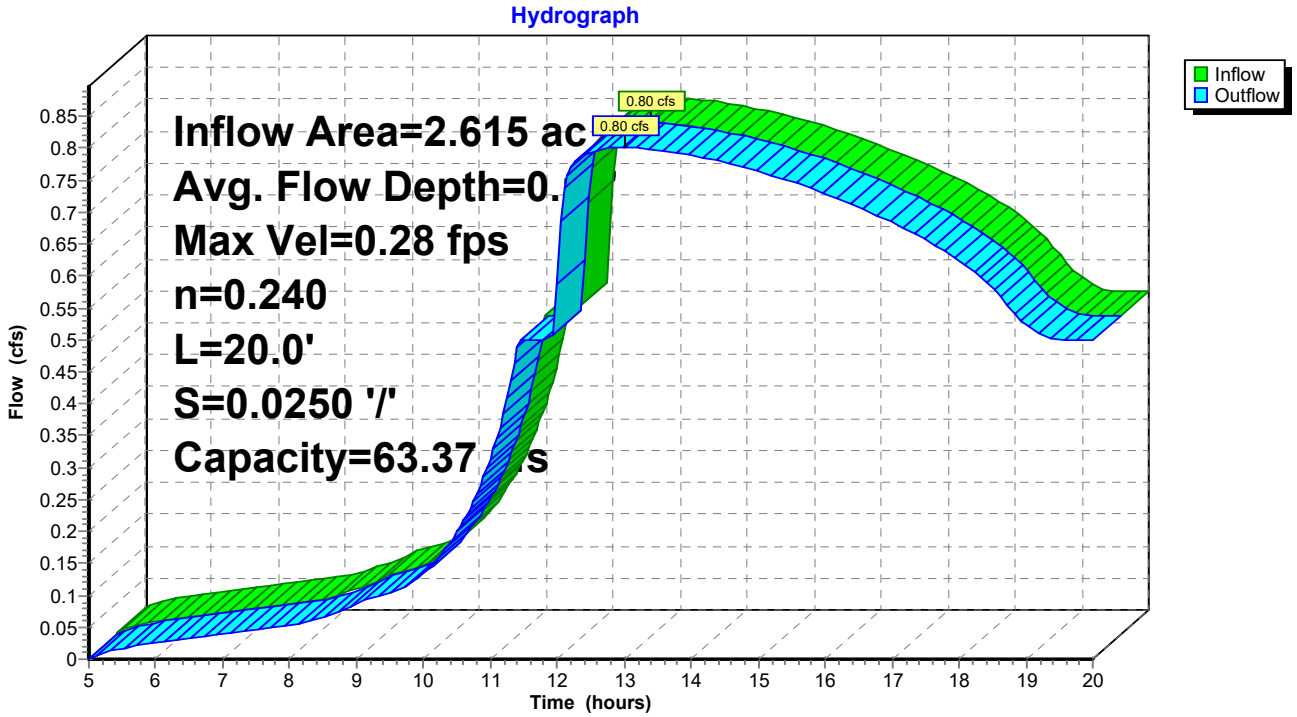
Peak Storage= 58 cf @ 13.00 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 18.93'
Bank-Full Depth= 2.00' Flow Area= 48.0 sf, Capacity= 63.37 cfs

18.00' x 2.00' deep channel, n= 0.240 Sheet flow over Dense Grass
Side Slope Z-value= 3.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 67.00', Outlet Invert= 66.50'



‡

Reach 7R: Level Spreader B



Summary for Reach 13R: Level Spreader A

Inflow Area = 4.893 ac, 37.83% Impervious, Inflow Depth > 2.45" for 25 YEAR event
Inflow = 3.34 cfs @ 12.66 hrs, Volume= 0.997 af
Outflow = 3.32 cfs @ 12.68 hrs, Volume= 0.995 af, Atten= 0%, Lag= 1.1 min
Routed to Reach SP2 : SUMMATION POINT 2

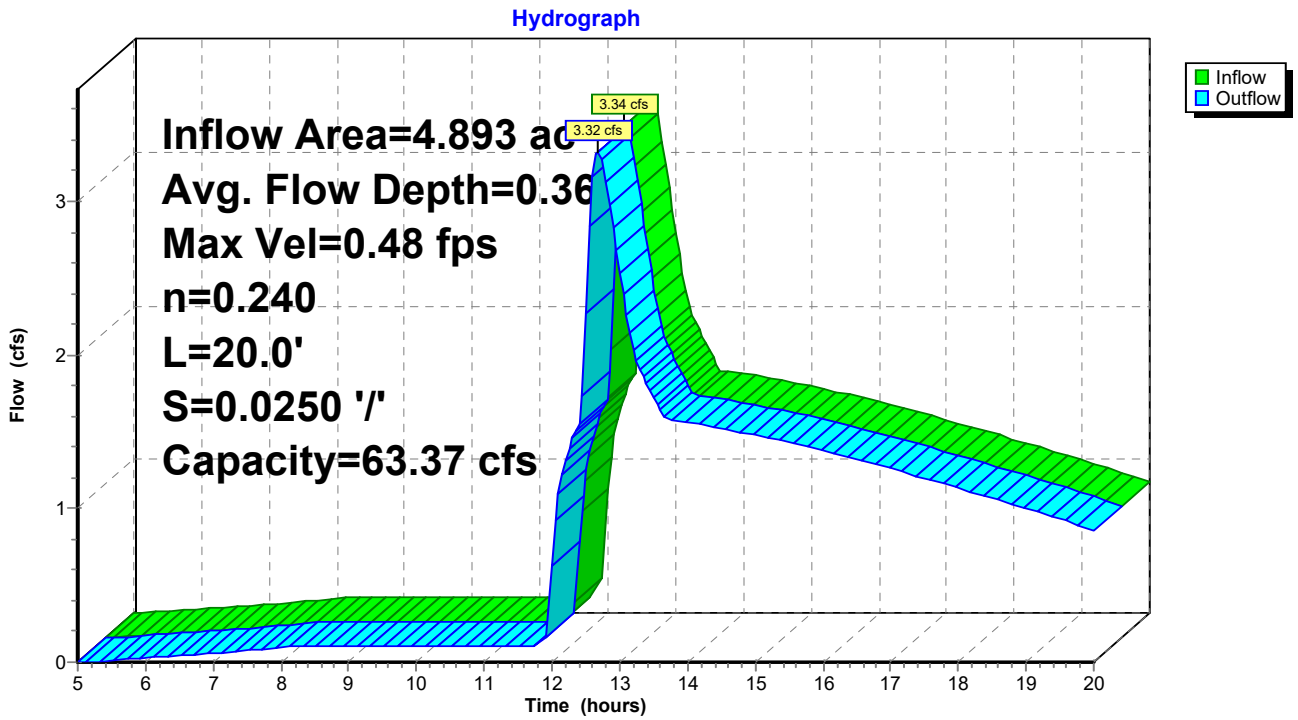
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.48 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 0.24 fps, Avg. Travel Time= 1.4 min

Peak Storage= 139 cf @ 12.67 hrs
Average Depth at Peak Storage= 0.36' , Surface Width= 20.19'
Bank-Full Depth= 2.00' Flow Area= 48.0 sf, Capacity= 63.37 cfs

18.00' x 2.00' deep channel, n= 0.240 Sheet flow over Dense Grass
Side Slope Z-value= 3.0 '/' Top Width= 30.00'
Length= 20.0' Slope= 0.0250 '/'
Inlet Invert= 67.00', Outlet Invert= 66.50'



‡

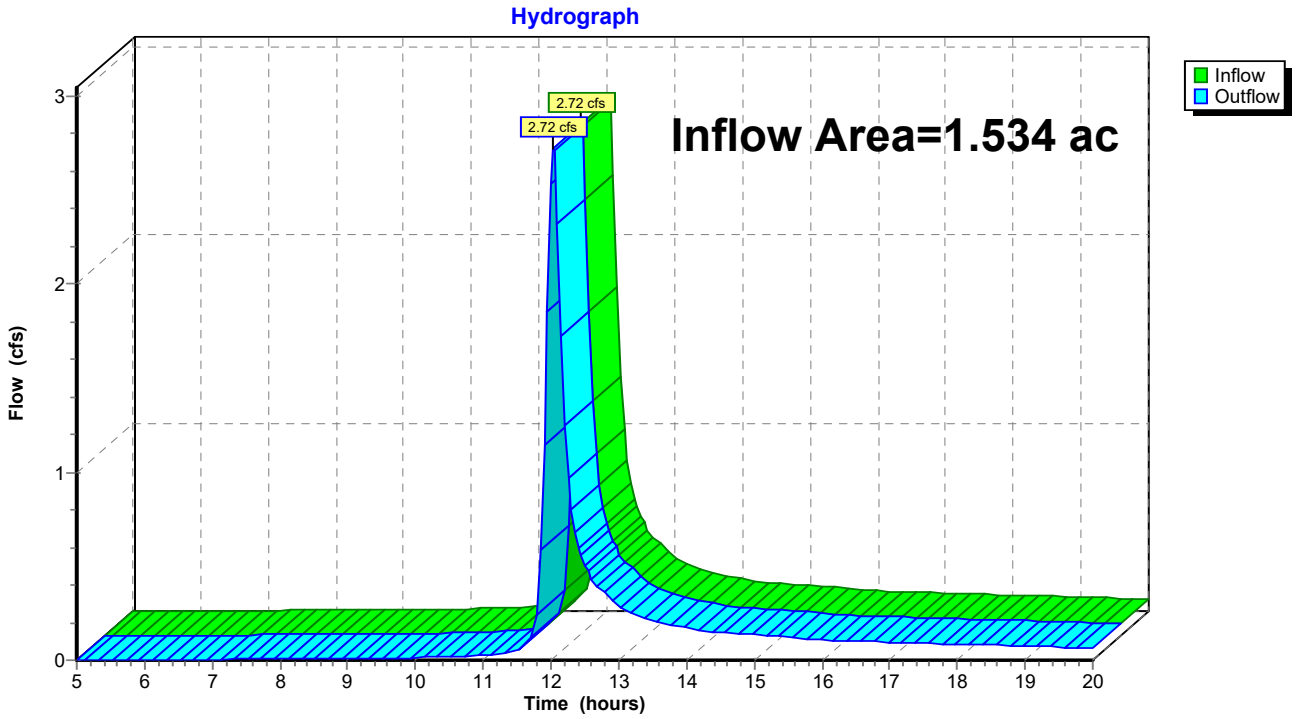


Summary for Reach SP1: SUMMATION POINT 1

Inflow Area = 1.534 ac, 5.70% Impervious, Inflow Depth > 1.31" for 25 YEAR event
Inflow = 2.72 cfs @ 12.04 hrs, Volume= 0.168 af
Outflow = 2.72 cfs @ 12.04 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SUMMATION POINT 1

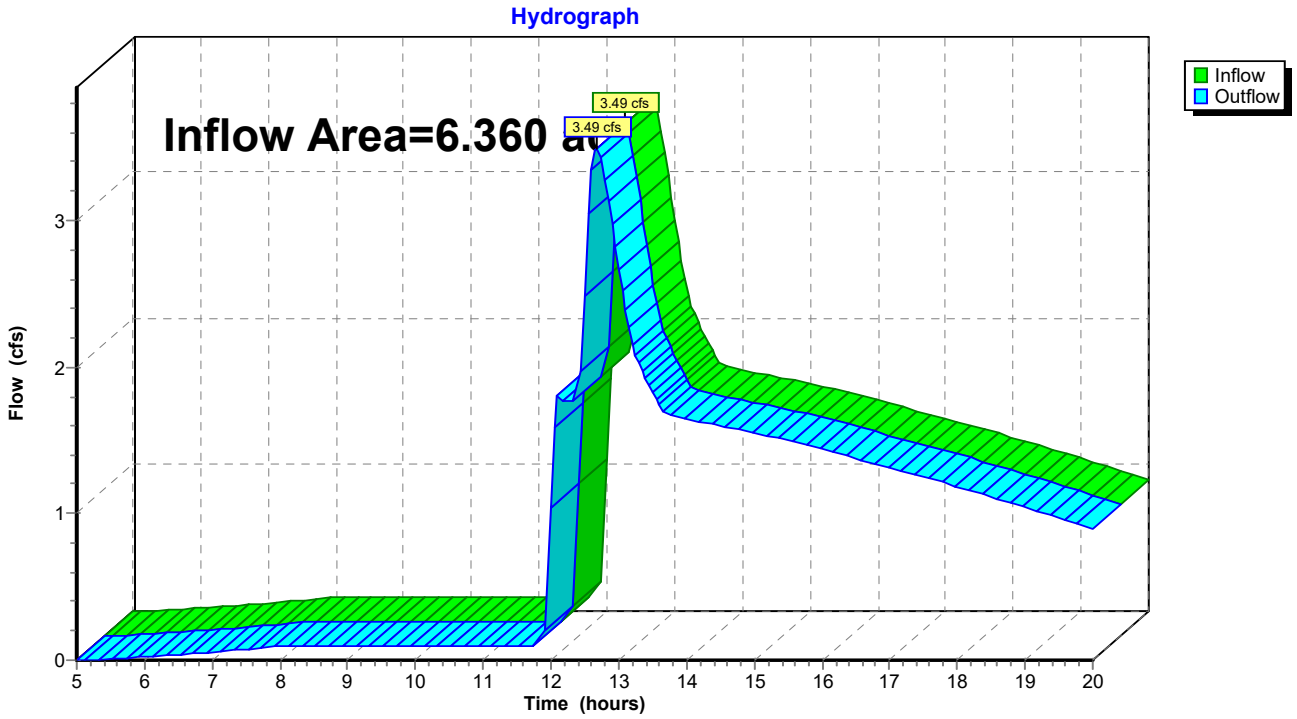


Summary for Reach SP2: SUMMATION POINT 2

Inflow Area = 6.360 ac, 30.42% Impervious, Inflow Depth > 1.99" for 25 YEAR event
Inflow = 3.49 cfs @ 12.67 hrs, Volume= 1.057 af
Outflow = 3.49 cfs @ 12.67 hrs, Volume= 1.057 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: SUMMATION POINT 2

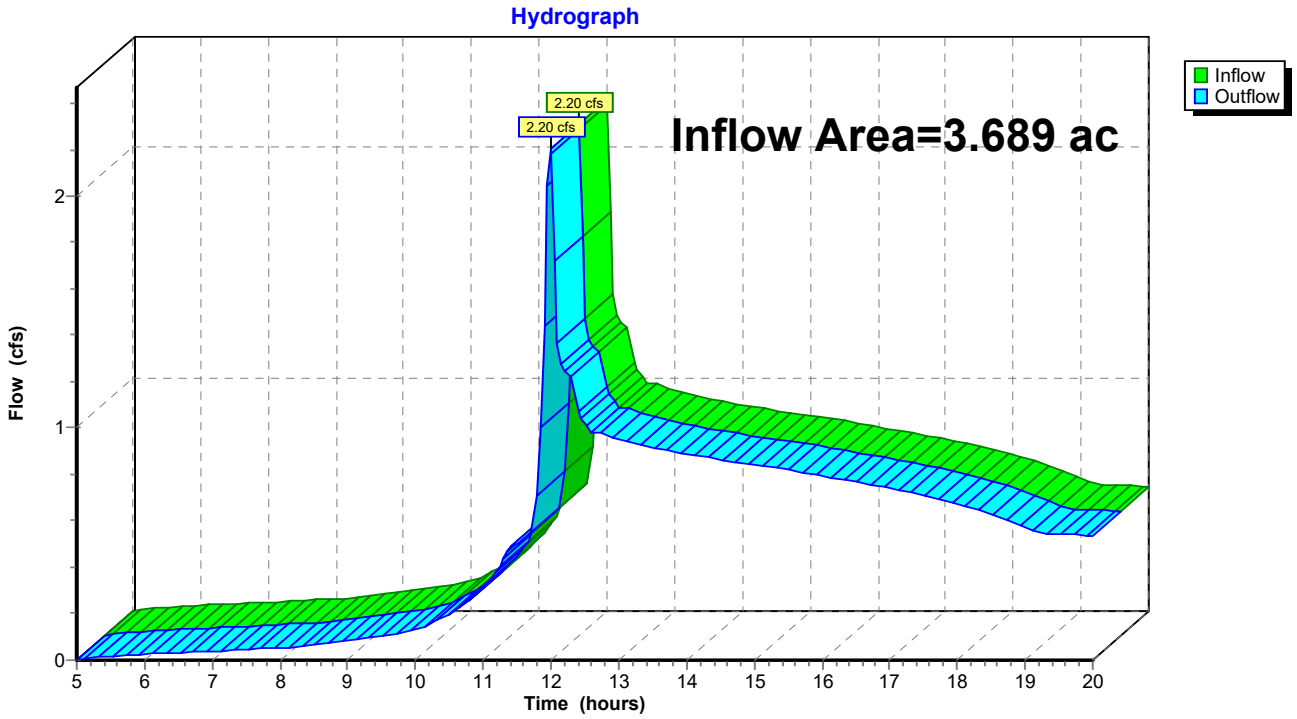


Summary for Reach SP3: SUMMATION POINT 3

Inflow Area = 3.689 ac, 33.74% Impervious, Inflow Depth > 2.03" for 25 YEAR event
Inflow = 2.20 cfs @ 11.99 hrs, Volume= 0.623 af
Outflow = 2.20 cfs @ 11.99 hrs, Volume= 0.623 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP3: SUMMATION POINT 3

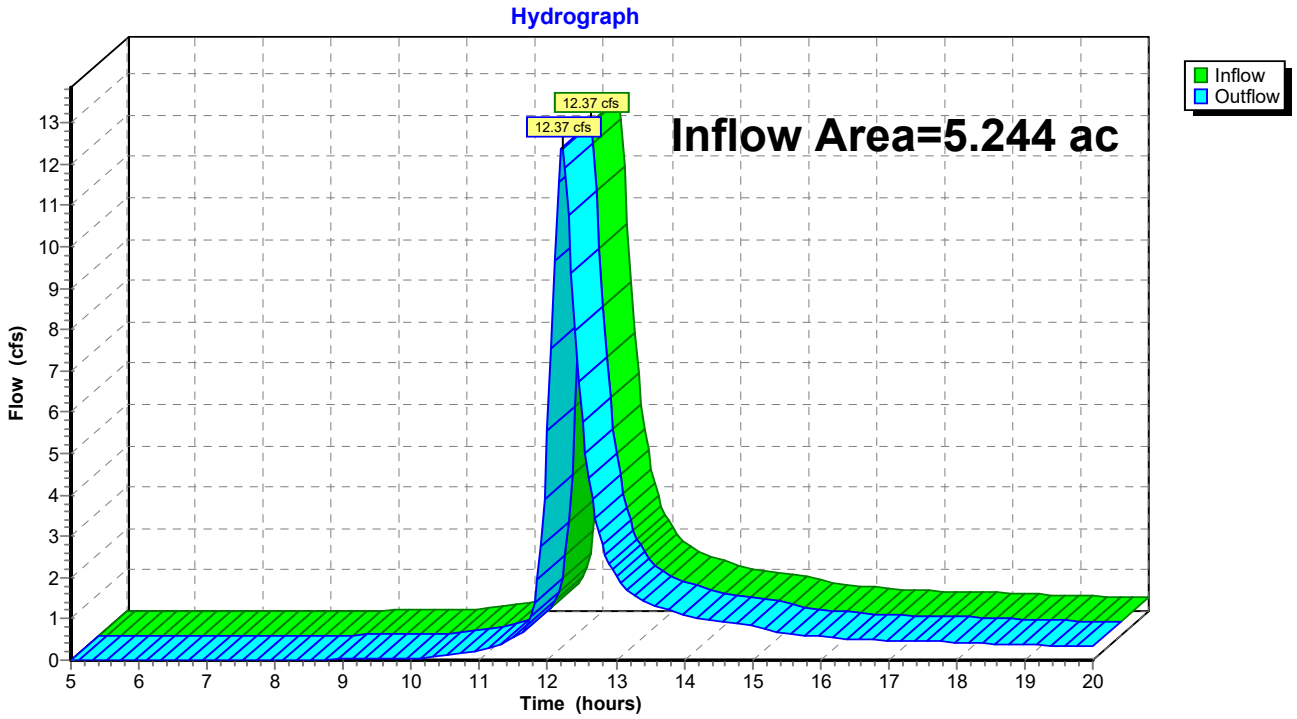


Summary for Reach SP4: SUMMATION POINT 4

Inflow Area = 5.244 ac, 7.21% Impervious, Inflow Depth > 2.34" for 25 YEAR event
Inflow = 12.37 cfs @ 12.21 hrs, Volume= 1.023 af
Outflow = 12.37 cfs @ 12.21 hrs, Volume= 1.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP4: SUMMATION POINT 4



Summary for Pond 1P: WETPOND A

Inflow Area = 4.893 ac, 37.83% Impervious, Inflow Depth > 3.43" for 25 YEAR event
Inflow = 17.81 cfs @ 12.00 hrs, Volume= 1.397 af
Outflow = 3.34 cfs @ 12.66 hrs, Volume= 0.997 af, Atten= 81%, Lag= 39.9 min
Primary = 3.34 cfs @ 12.66 hrs, Volume= 0.997 af
Routed to Reach 13R : Level Spreader A
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach SP2 : SUMMATION POINT 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 73.85' Surf.Area= 4,353 sf Storage= 22,308 cf
Peak Elev= 78.68' @ 12.66 hrs Surf.Area= 9,478 sf Storage= 56,555 cf (34,248 cf above start)

Plug-Flow detention time= 361.5 min calculated for 0.484 af (35% of inflow)
Center-of-Mass det. time= 133.3 min (908.1 - 774.9)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	64,662 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
64.00	587	0	0
65.00	857	722	722
66.00	1,153	1,005	1,727
67.00	1,474	1,314	3,041
68.00	1,821	1,648	4,688
69.00	2,193	2,007	6,695
70.00	2,561	2,377	9,072
71.00	3,011	2,786	11,858
72.00	3,458	3,235	15,093
73.00	3,931	3,695	18,787
74.00	4,428	4,180	22,967
75.00	6,154	5,291	28,258
76.00	6,919	6,537	34,794
77.00	7,722	7,321	42,115
78.00	8,726	8,224	50,339
79.00	9,827	9,277	59,615
79.50	10,359	5,047	64,662

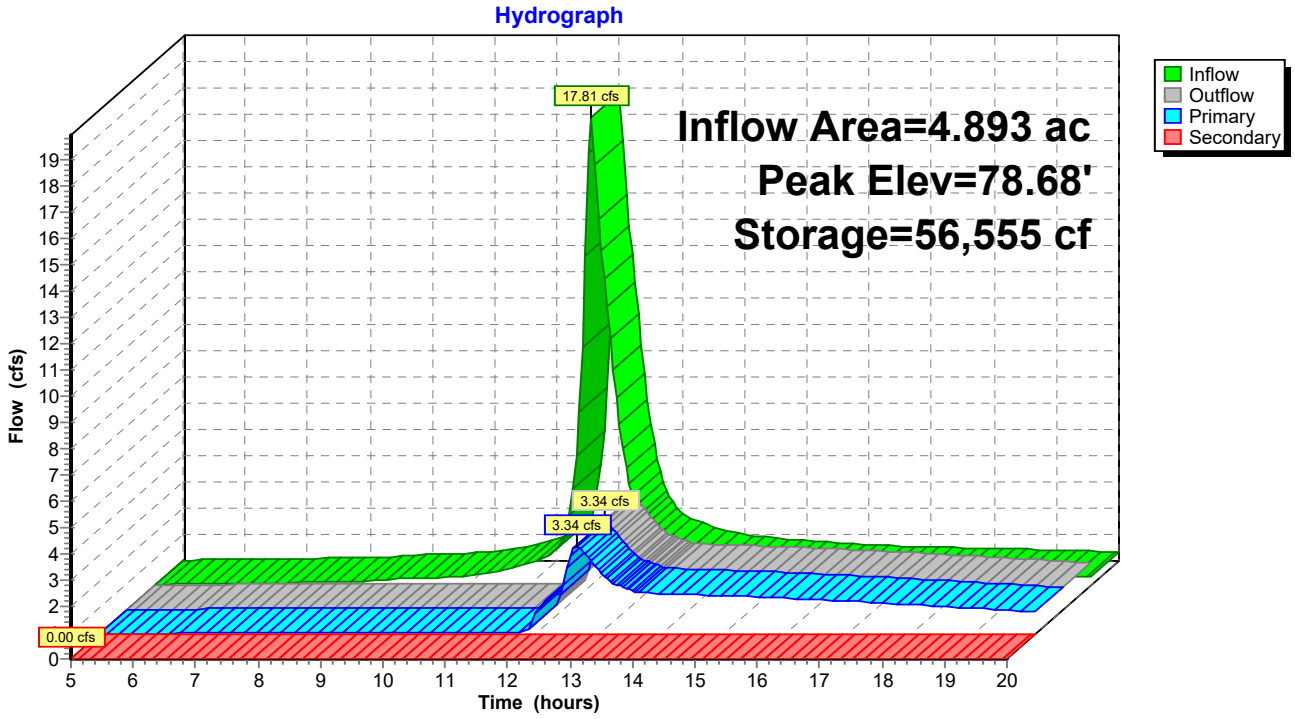
Device	Routing	Invert	Outlet Devices
#1	Primary	71.85'	**24.0" Round Culvert** L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 71.85' / 71.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	73.85'	**0.10 cfs Exfiltration when above 73.85'**
#3	Device 1	75.80'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	78.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	78.90'	**10.0' 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=3.23 cfs @ 12.66 hrs HW=78.68' (Free Discharge)
└**1=Culvert** (Passes 3.23 cfs of 28.84 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.10 cfs)
└**3=Orifice/Grate** (Orifice Controls 1.53 cfs @ 7.81 fps)
└**4=Orifice/Grate** (Weir Controls 1.60 cfs @ 1.40 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=73.85' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: WETPOND A



Summary for Pond 2P: WETPOND B

Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 3.05" for 25 YEAR event
Inflow = 13.64 cfs @ 11.97 hrs, Volume= 0.665 af
Outflow = 0.80 cfs @ 12.99 hrs, Volume= 0.538 af, Atten= 94%, Lag= 61.1 min
Primary = 0.80 cfs @ 12.99 hrs, Volume= 0.538 af
Routed to Reach 7R : Level Spreader B
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach SP3 : SUMMATION POINT 3

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 72.80' Surf.Area= 2,913 sf Storage= 12,519 cf
Peak Elev= 76.34' @ 12.99 hrs Surf.Area= 5,117 sf Storage= 26,934 cf (14,415 cf above start)

Plug-Flow detention time= 365.9 min calculated for 0.251 af (38% of inflow)
Center-of-Mass det. time= 121.9 min (894.8 - 772.9)

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	30,442 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

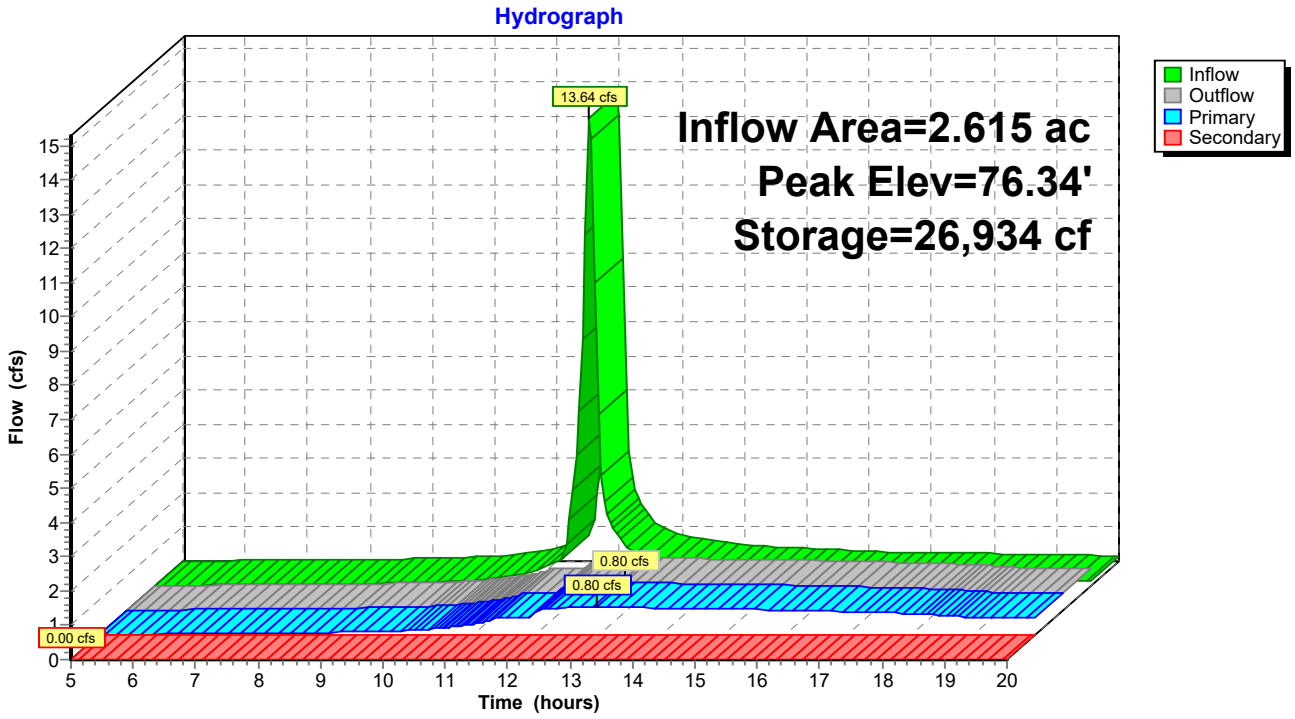
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	550	0	0
66.00	767	659	659
67.00	1,009	888	1,547
68.00	1,277	1,143	2,690
69.00	1,570	1,424	4,113
70.00	1,887	1,729	5,842
71.00	2,230	2,059	7,900
72.00	2,599	2,415	10,315
73.00	2,992	2,796	13,110
74.00	3,756	3,374	16,484
75.00	4,408	4,082	20,566
76.00	4,932	4,670	25,236
77.00	5,480	5,206	30,442

Device	Routing	Invert	Outlet Devices
#1	Primary	70.71'	**24.0" Round Culvert** L= 35.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.71' / 70.01' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	72.80'	**0.50 cfs Exfiltration when above 72.80'**
#3	Device 1	74.59'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	76.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	76.70'	**10.0' long x 6.0' 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) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.80 cfs @ 12.99 hrs HW=76.34' (Free Discharge)
└─**1=Culvert** (Passes 0.80 cfs of 25.69 cfs potential flow)
  └─**2=Exfiltration** (Exfiltration Controls 0.50 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.30 cfs @ 6.13 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=72.80' (Free Discharge)
└─**5=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond 2P: WETPOND B



Summary for Pond 3P: WETLAND STORAGE

Inflow Area = 3.209 ac, 29.40% Impervious, Inflow Depth > 3.68" for 25 YEAR event
Inflow = 15.65 cfs @ 12.00 hrs, Volume= 0.985 af
Outflow = 11.06 cfs @ 12.11 hrs, Volume= 0.983 af, Atten= 29%, Lag= 6.7 min
Primary = 11.06 cfs @ 12.11 hrs, Volume= 0.983 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 80.93' @ 12.11 hrs Surf.Area= 6,268 sf Storage= 6,148 cf

Plug-Flow detention time= 8.0 min calculated for 0.979 af (99% of inflow)
Center-of-Mass det. time= 6.8 min (775.0 - 768.2)

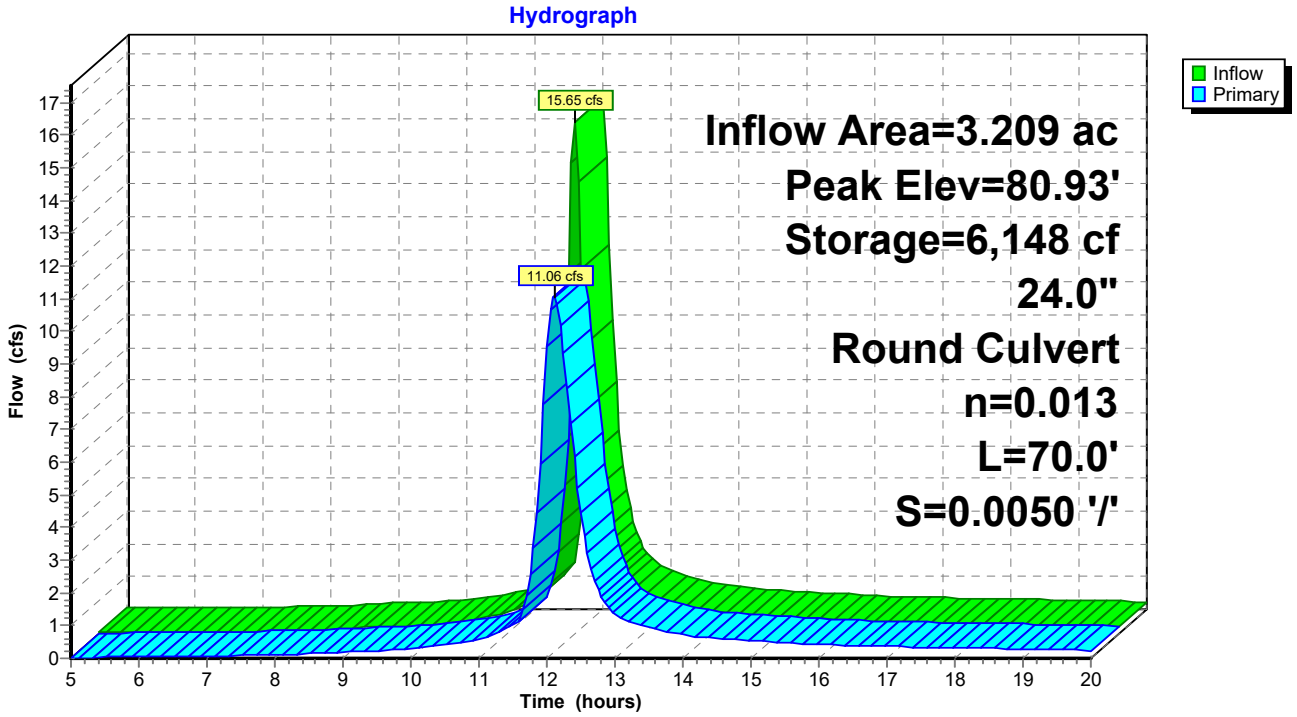
Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	15,212 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
79.00	112	0	0
81.00	6,500	6,612	6,612
82.00	10,700	8,600	15,212

Device	Routing	Invert	Outlet Devices
#1	Primary	79.00'	**24.0" Round Culvert** L= 70.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 79.00' / 78.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.03 cfs @ 12.11 hrs HW=80.92' (Free Discharge)
1=Culvert (Barrel Controls 11.03 cfs @ 4.55 fps)

Pond 3P: WETLAND STORAGE



Summary for Pond 4P: GUSF 2

Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 3.75" for 25 YEAR event
Inflow = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af
Outflow = 0.96 cfs @ 12.01 hrs, Volume= 0.048 af, Atten= 11%, Lag= 3.6 min
Primary = 0.10 cfs @ 11.65 hrs, Volume= 0.040 af
Routed to Reach 4R : REACH 4
Secondary = 0.86 cfs @ 12.01 hrs, Volume= 0.008 af
Routed to Reach 4R : REACH 4

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 76.91' @ 12.02 hrs Surf.Area= 476 sf Storage= 561 cf

Plug-Flow detention time= 27.1 min calculated for 0.048 af (100% of inflow)
Center-of-Mass det. time= 26.9 min (791.3 - 764.4)

Volume	Invert	Avail.Storage	Storage Description
#1	75.23'	1,167 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

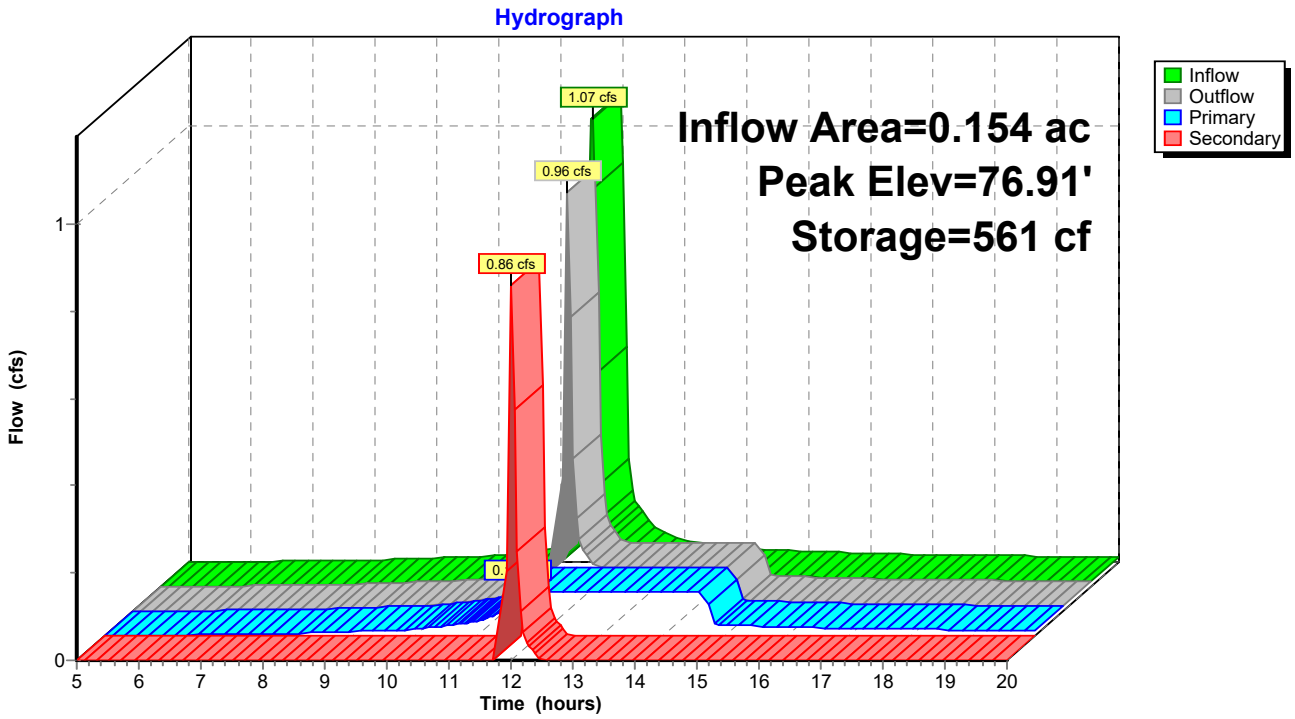
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
75.23	192	0	0
77.00	491	604	604
78.00	634	563	1,167

Device	Routing	Invert	Outlet Devices
#1	Primary	72.98'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 72.98' / 72.88' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	75.23'	**0.10 cfs Exfiltration when above 75.23'**
#3	Secondary	76.73'	**5.0' long x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.10 cfs @ 11.65 hrs HW=75.30' (Free Discharge)
1=Culvert (Passes 0.10 cfs of 0.49 cfs potential flow)
2=Exfiltration (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.75 cfs @ 12.01 hrs HW=76.89' (Free Discharge)
3=Broad-Crested Rectangular Weir (Weir Controls 0.75 cfs @ 0.95 fps)

Pond 4P: GUSF 2



Summary for Pond 5P: GUSF 1

Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 4.46" for 25 YEAR event
Inflow = 1.12 cfs @ 11.95 hrs, Volume= 0.053 af
Outflow = 0.89 cfs @ 12.02 hrs, Volume= 0.053 af, Atten= 21%, Lag= 4.0 min
Primary = 0.10 cfs @ 11.60 hrs, Volume= 0.045 af
Routed to Reach 3R : REACH 3
Secondary = 0.79 cfs @ 12.02 hrs, Volume= 0.008 af
Routed to Reach 3R : REACH 3

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.67' @ 12.02 hrs Surf.Area= 586 sf Storage= 644 cf

Plug-Flow detention time= 30.1 min calculated for 0.053 af (100% of inflow)
Center-of-Mass det. time= 30.0 min (776.8 - 746.9)

Volume	Invert	Avail.Storage	Storage Description
#1	82.00'	1,228 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

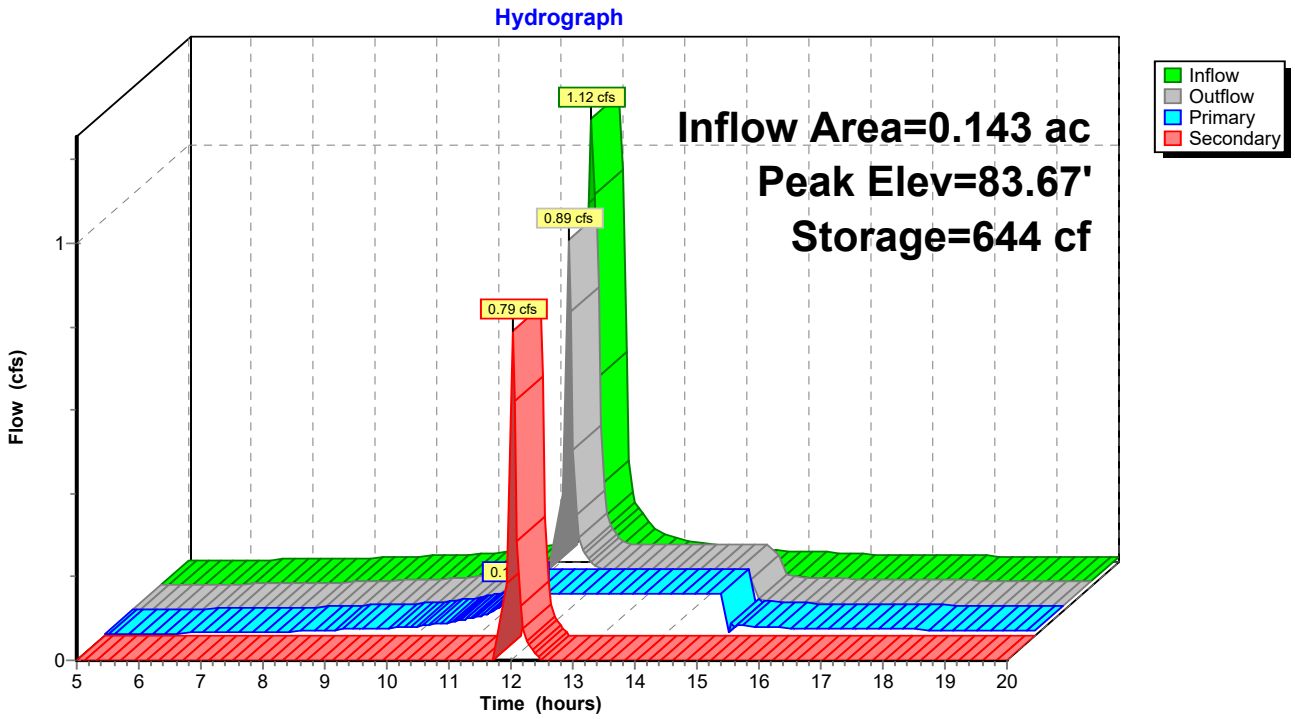
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
82.00	210	0	0
83.00	408	309	309
84.00	673	541	850
84.50	841	379	1,228

Device	Routing	Invert	Outlet Devices
#1	Primary	79.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 79.75' / 79.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	82.00'	**0.10 cfs Exfiltration when above 82.00'**
#3	Secondary	83.50'	**5.0' long x 4.0' 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) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.10 cfs @ 11.60 hrs HW=82.04' (Free Discharge)
↑**1=Culvert** (Passes 0.10 cfs of 0.48 cfs potential flow)
↑**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.69 cfs @ 12.02 hrs HW=83.65' (Free Discharge)
↑**3=Broad-Crested Rectangular Weir** (Weir Controls 0.69 cfs @ 0.92 fps)

Pond 5P: GUSF 1



Summary for Pond 6P: BIO CELL 1

Inflow Area = 0.067 ac, 35.16% Impervious, Inflow Depth > 1.77" for 25 YEAR event
Inflow = 0.23 cfs @ 11.96 hrs, Volume= 0.010 af
Outflow = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af, Atten= 57%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af
Routed to Reach 1R : REACH 1
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 1R : REACH 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.18' @ 12.07 hrs Surf.Area= 216 sf Storage= 60 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 1.9 min (808.1 - 806.2)

Volume	Invert	Avail.Storage	Storage Description
#1	78.50'	714 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

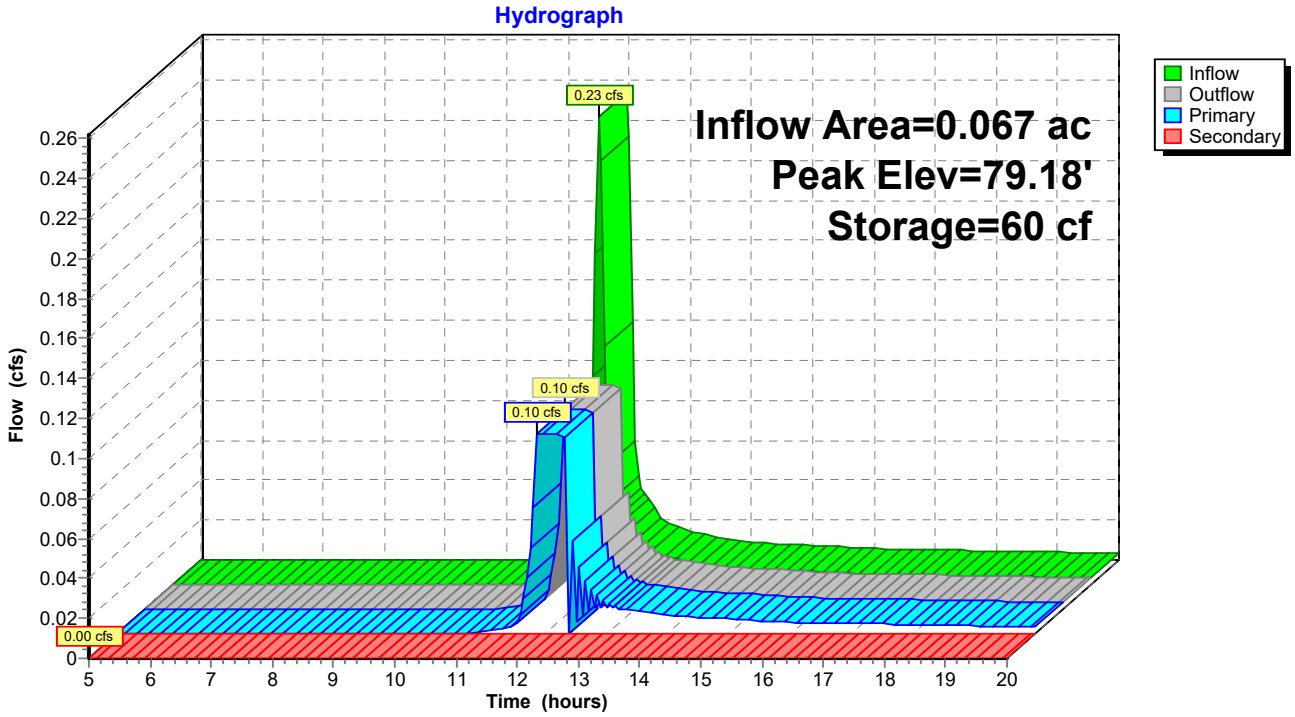
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.50	140	0.0	0	0
79.00	140	40.0	28	28
80.50	775	100.0	686	714

Device	Routing	Invert	Outlet Devices
#1	Primary	76.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.75' / 76.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	78.50'	**0.10 cfs Exfiltration at all elevations**
#3	Secondary	79.50'	**5.0' long 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=0.10 cfs @ 11.85 hrs HW=78.52' (Free Discharge)
1=Culvert (Passes 0.10 cfs of 0.42 cfs potential flow)
2=Exfiltration (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=78.50' (Free Discharge)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 6P: BIO CELL 1



Summary for Pond 7P: BIO CELL 2

Inflow Area = 0.062 ac, 37.76% Impervious, Inflow Depth > 2.01" for 25 YEAR event
Inflow = 0.25 cfs @ 11.96 hrs, Volume= 0.010 af
Outflow = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af, Atten= 59%, Lag= 0.0 min
Primary = 0.10 cfs @ 11.85 hrs, Volume= 0.010 af
Routed to Reach 2R : REACH 2
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 2R : REACH 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.35' @ 12.07 hrs Surf.Area= 286 sf Storage= 93 cf

Plug-Flow detention time= 28.1 min calculated for 0.010 af (95% of inflow)
Center-of-Mass det. time= 9.3 min (810.0 - 800.7)

Volume	Invert	Avail.Storage	Storage Description
#1	76.50'	748 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

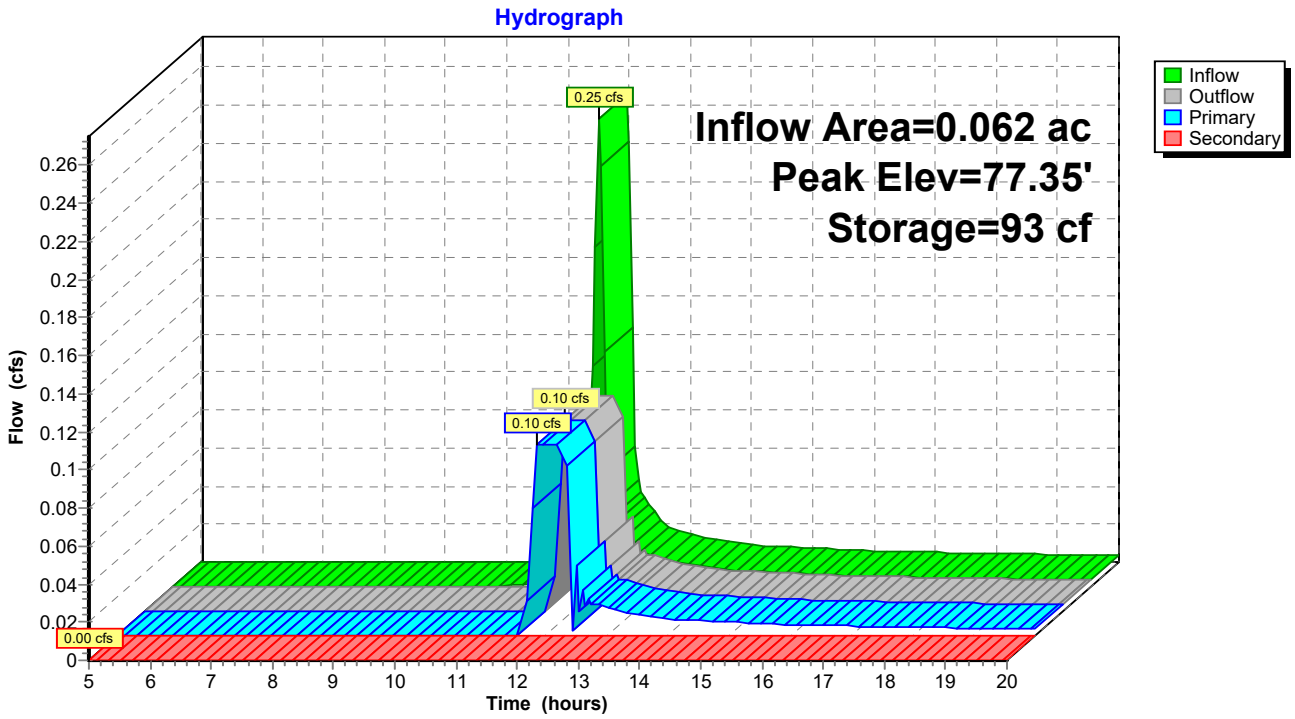
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
76.50	116	0.0	0	0
77.00	116	40.0	23	23
78.50	850	100.0	725	748

Device	Routing	Invert	Outlet Devices
#1	Primary	74.75'	**4.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.75' / 74.65' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	77.00'	**0.10 cfs Exfiltration when above 77.00'**
#3	Secondary	77.50'	**5.0' 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=0.10 cfs @ 11.85 hrs HW=77.03' (Free Discharge)
1=Culvert (Passes 0.10 cfs of 0.48 cfs potential flow)
2=Exfiltration (Exfiltration Controls 0.10 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=76.50' (Free Discharge)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 7P: BIO CELL 2



Summary for Pond 9P: DRIP FILTER

Inflow Area = 0.045 ac, 80.50% Impervious, Inflow Depth > 4.46" for 25 YEAR event
Inflow = 0.35 cfs @ 11.95 hrs, Volume= 0.017 af
Outflow = 0.34 cfs @ 11.97 hrs, Volume= 0.017 af, Atten= 4%, Lag= 1.1 min
Primary = 0.34 cfs @ 11.97 hrs, Volume= 0.017 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.85' @ 11.97 hrs Surf.Area= 200 sf Storage= 68 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.0 min (750.8 - 746.9)

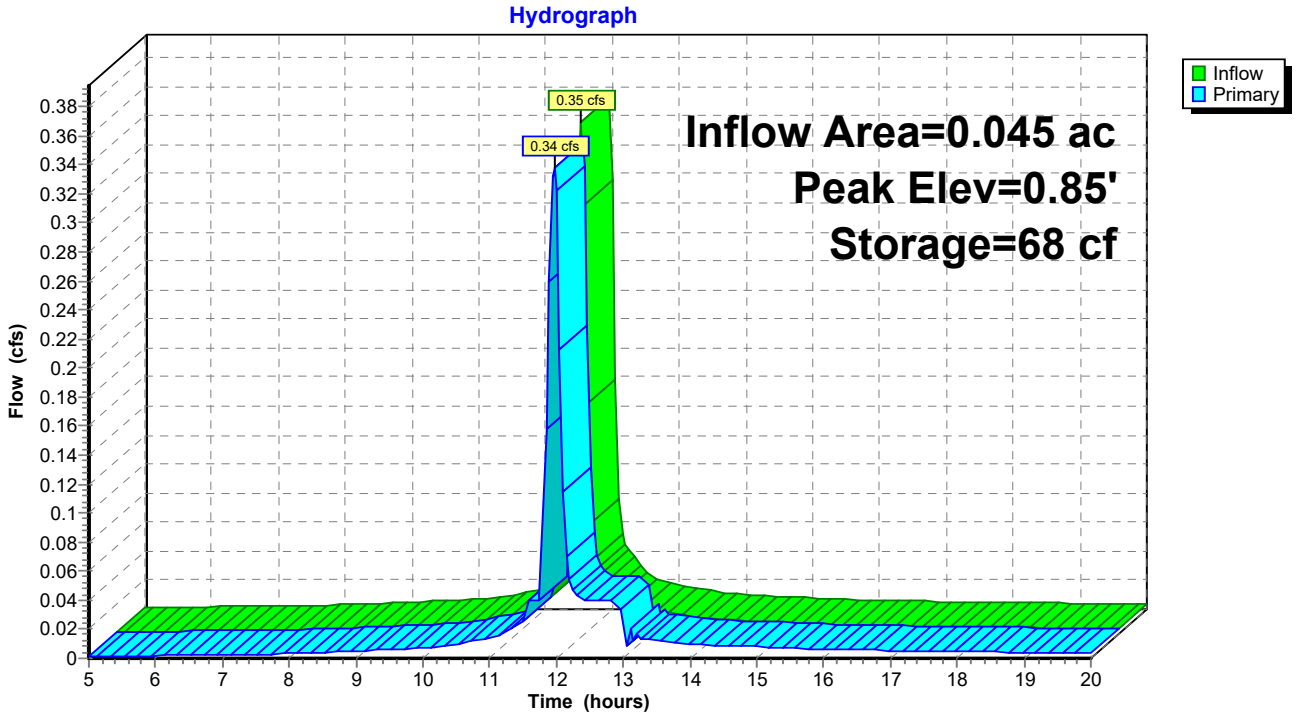
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.33 cfs @ 11.97 hrs HW=0.84' (Free Discharge)
└**1=Culvert** (Passes 0.04 cfs of 0.54 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.04 cfs)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.29 cfs @ 1.69 fps)

Pond 9P: DRIP FILTER



Summary for Pond 10P: DRIP FILTER

Inflow Area = 0.041 ac, 83.91% Impervious, Inflow Depth > 4.26" for 25 YEAR event
Inflow = 0.31 cfs @ 11.95 hrs, Volume= 0.014 af
Outflow = 0.30 cfs @ 11.97 hrs, Volume= 0.014 af, Atten= 4%, Lag= 1.2 min
Primary = 0.30 cfs @ 11.97 hrs, Volume= 0.014 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.82' @ 11.97 hrs Surf.Area= 200 sf Storage= 65 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 4.1 min (756.1 - 752.0)

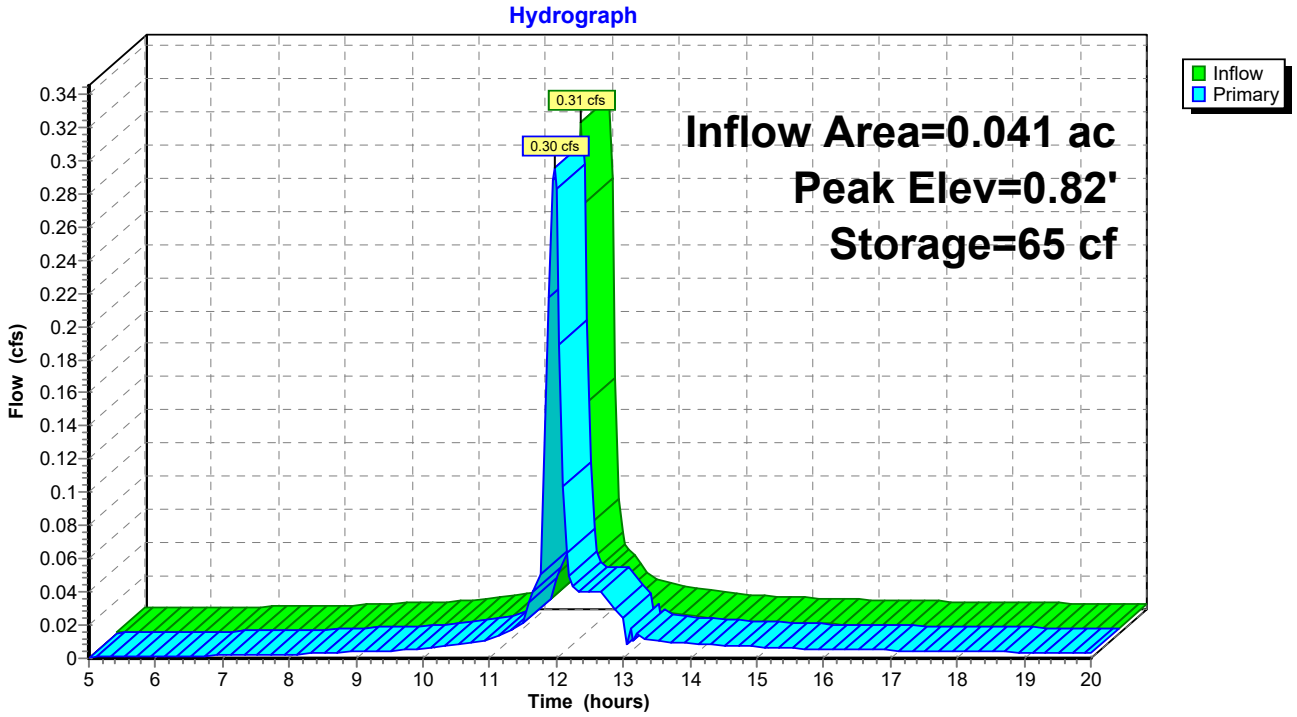
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.29 cfs @ 11.97 hrs HW=0.81' (Free Discharge)
- **1=Culvert** (Passes 0.04 cfs of 0.54 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.04 cfs)
- **3=Broad-Crested Rectangular Weir** (Weir Controls 0.25 cfs @ 1.59 fps)

Pond 10P: DRIP FILTER



Summary for Pond 11P: DRIP FILTER

Inflow Area = 0.014 ac, 72.86% Impervious, Inflow Depth > 3.55" for 25 YEAR event
Inflow = 0.09 cfs @ 11.95 hrs, Volume= 0.004 af
Outflow = 0.04 cfs @ 11.85 hrs, Volume= 0.004 af, Atten= 56%, Lag= 0.0 min
Primary = 0.04 cfs @ 11.85 hrs, Volume= 0.004 af
Routed to Reach SP1 : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.31' @ 12.06 hrs Surf.Area= 200 sf Storage= 25 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 2.5 min (771.5 - 769.0)

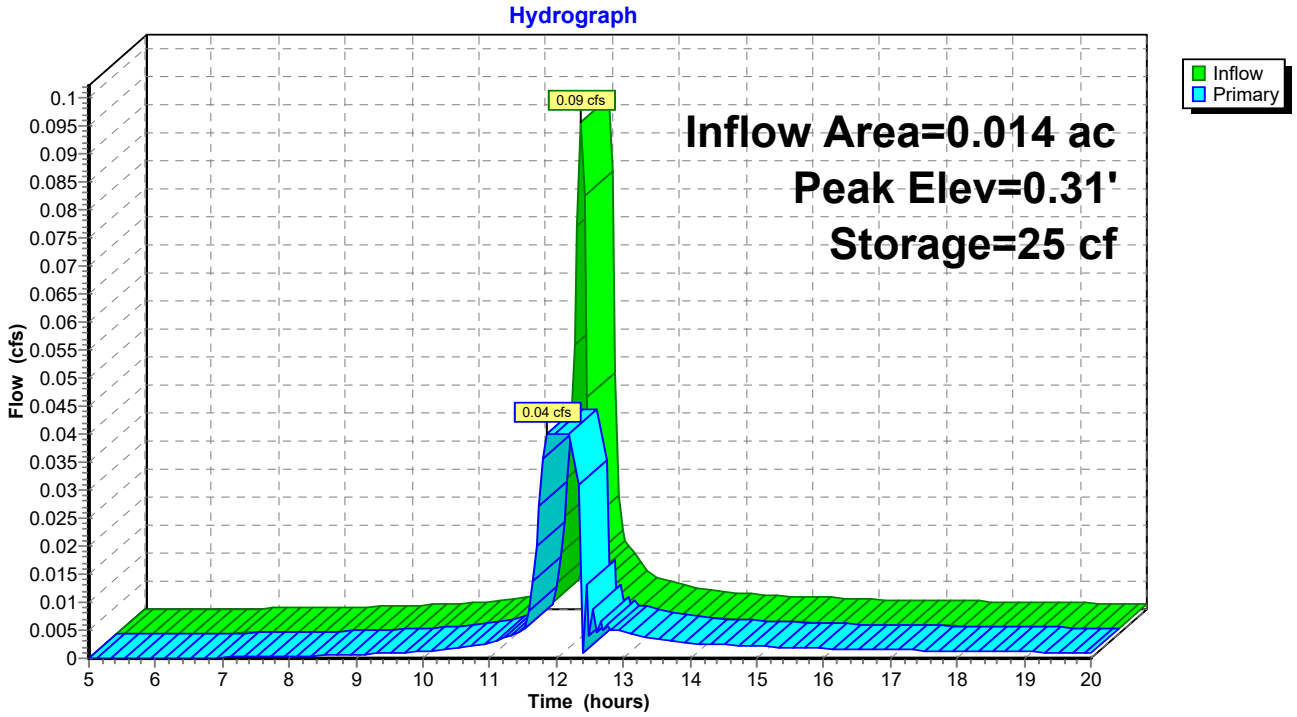
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	80 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 200 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	200	0	0
1.00	200	200	200

Device	Routing	Invert	Outlet Devices
#1	Primary	-2.00'	**4.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= -2.00' / -2.01' S= 0.0010 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	0.00'	**0.04 cfs Exfiltration at all elevations**
#3	Primary	0.50'	**0.5' 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

Primary OutFlow Max=0.04 cfs @ 11.85 hrs HW=0.02' (Free Discharge)
- **1=Culvert** (Passes 0.04 cfs of 0.45 cfs potential flow)
  - **2=Exfiltration** (Exfiltration Controls 0.04 cfs)
- **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 11P: DRIP FILTER



Summary for Pond CB 1: CB1

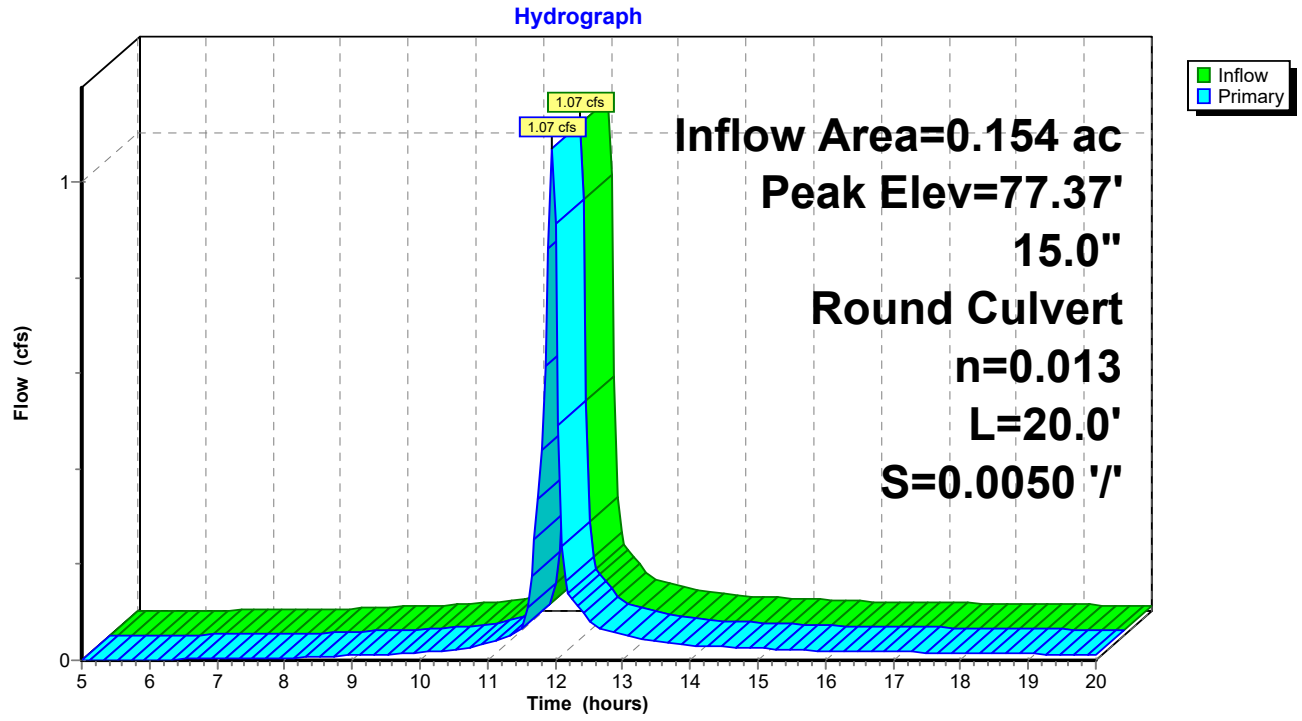
Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 3.75" for 25 YEAR event
Inflow = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af
Outflow = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af
Routed to Pond CB 2 : CB2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.37' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.75'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.75' / 76.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.06 cfs @ 11.95 hrs HW=77.37' (Free Discharge)
1=Culvert (Barrel Controls 1.06 cfs @ 2.55 fps)

Pond CB 1: CB1



Summary for Pond CB 10: CB10

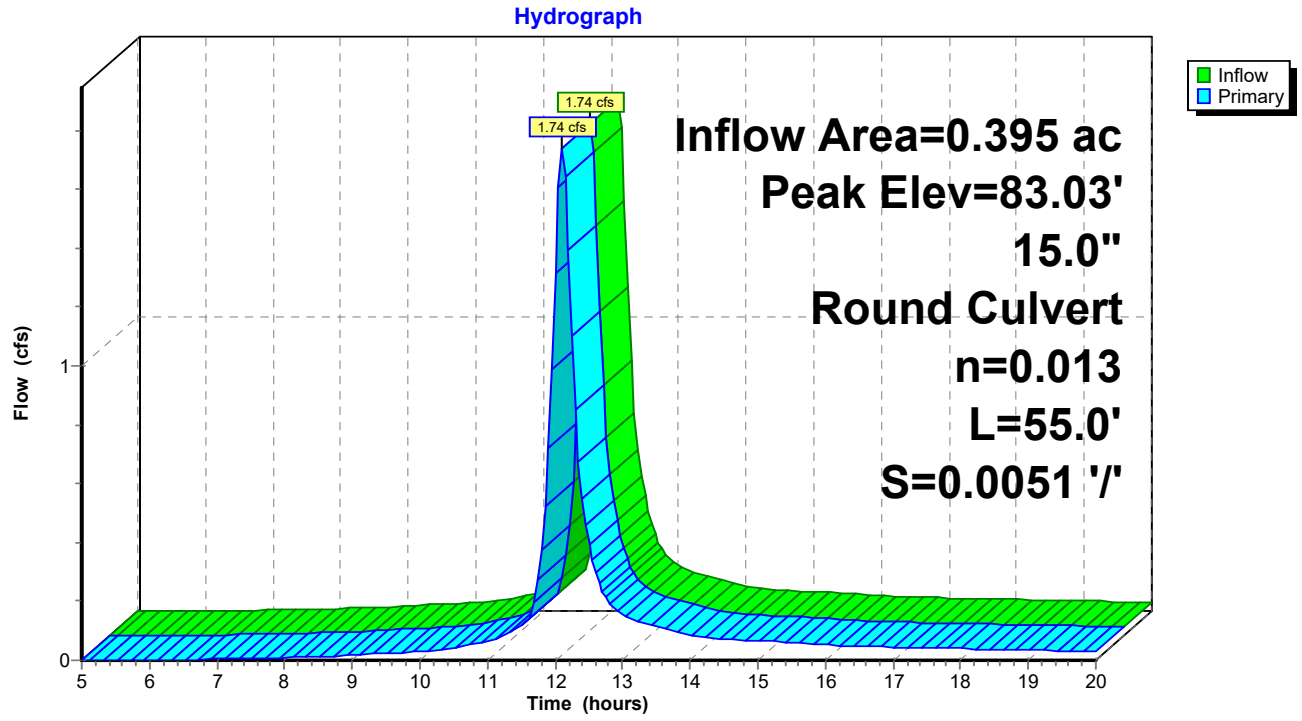
Inflow Area = 0.395 ac, 13.75% Impervious, Inflow Depth > 3.53" for 25 YEAR event
Inflow = 1.74 cfs @ 12.10 hrs, Volume= 0.116 af
Outflow = 1.74 cfs @ 12.10 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 1.74 cfs @ 12.10 hrs, Volume= 0.116 af
Routed to Pond CB 9 : CB9

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.03' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.25'	**15.0" Round Culvert** L= 55.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.25' / 81.97' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.73 cfs @ 12.10 hrs HW=83.03' (Free Discharge)
1=Culvert (Barrel Controls 1.73 cfs @ 3.07 fps)

Pond CB 10: CB10



Summary for Pond CB 11: CB11

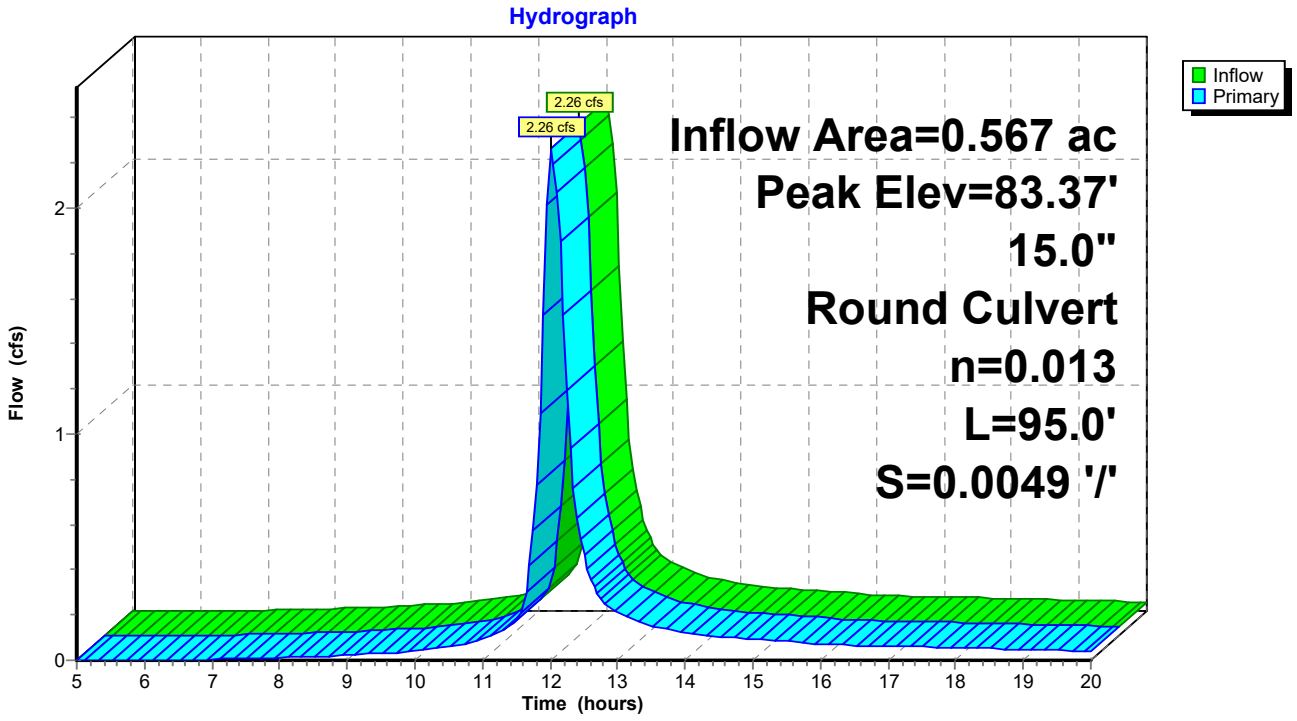
Inflow Area = 0.567 ac, 20.61% Impervious, Inflow Depth > 3.42" for 25 YEAR event
Inflow = 2.26 cfs @ 12.02 hrs, Volume= 0.162 af
Outflow = 2.26 cfs @ 12.02 hrs, Volume= 0.162 af, Atten= 0%, Lag= 0.0 min
Primary = 2.26 cfs @ 12.02 hrs, Volume= 0.162 af
Routed to Pond CB 8 : CB8

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.37' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.47'	**15.0" Round Culvert** L= 95.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.47' / 82.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.23 cfs @ 12.02 hrs HW=83.36' (Free Discharge)
1=Culvert (Barrel Controls 2.23 cfs @ 3.34 fps)

Pond CB 11: CB11



Summary for Pond CB 12: CB12

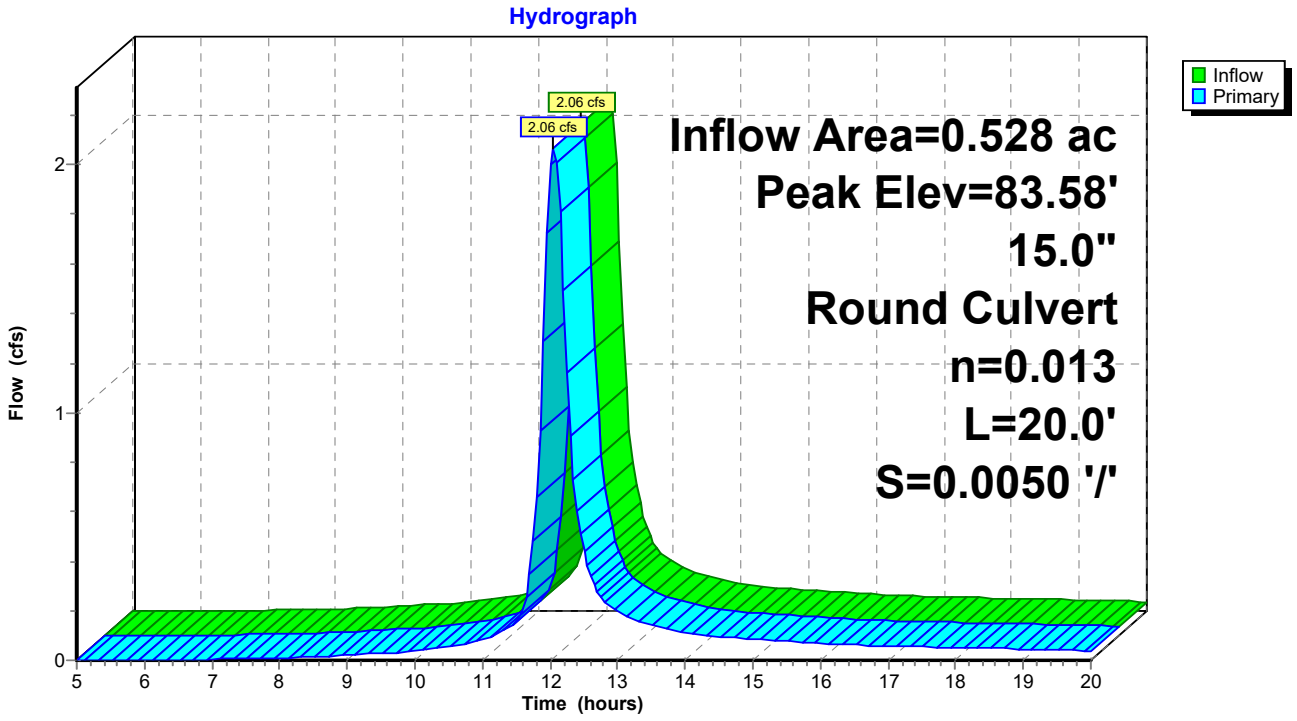
Inflow Area = 0.528 ac, 16.58% Impervious, Inflow Depth > 3.38" for 25 YEAR event
Inflow = 2.06 cfs @ 12.05 hrs, Volume= 0.149 af
Outflow = 2.06 cfs @ 12.05 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min
Primary = 2.06 cfs @ 12.05 hrs, Volume= 0.149 af
Routed to Pond CB 11 : CB11

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.58' @ 12.05 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.67'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.67' / 82.57' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.06 cfs @ 12.05 hrs HW=83.58' (Free Discharge)
1=Culvert (Barrel Controls 2.06 cfs @ 3.01 fps)

Pond CB 12: CB12



Summary for Pond CB 13: CB13

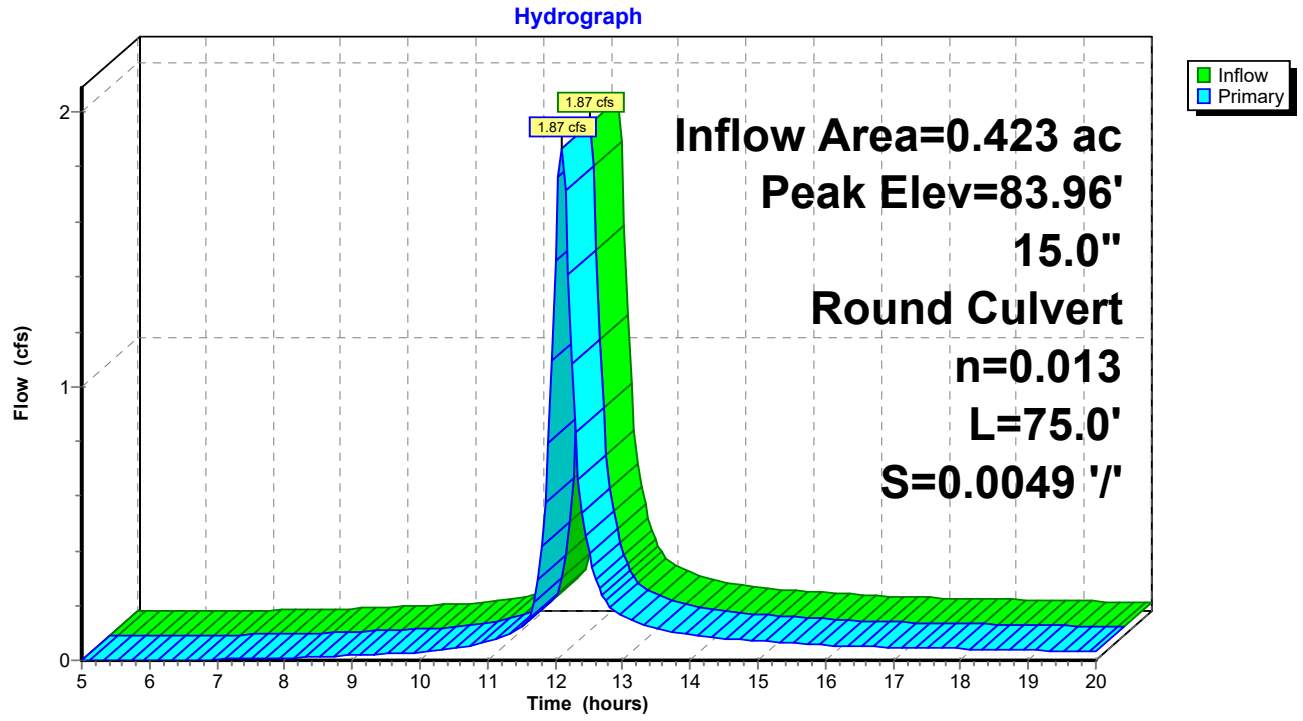
Inflow Area = 0.423 ac, 11.33% Impervious, Inflow Depth > 3.43" for 25 YEAR event
Inflow = 1.87 cfs @ 12.09 hrs, Volume= 0.121 af
Outflow = 1.87 cfs @ 12.09 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.09 hrs, Volume= 0.121 af
Routed to Pond CB 12 : CB12

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.96' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	83.15'	**15.0" Round Culvert** L= 75.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.15' / 82.78' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.85 cfs @ 12.09 hrs HW=83.96' (Free Discharge)
1=Culvert (Barrel Controls 1.85 cfs @ 3.15 fps)

Pond CB 13: CB13



Summary for Pond CB 14: CB 14

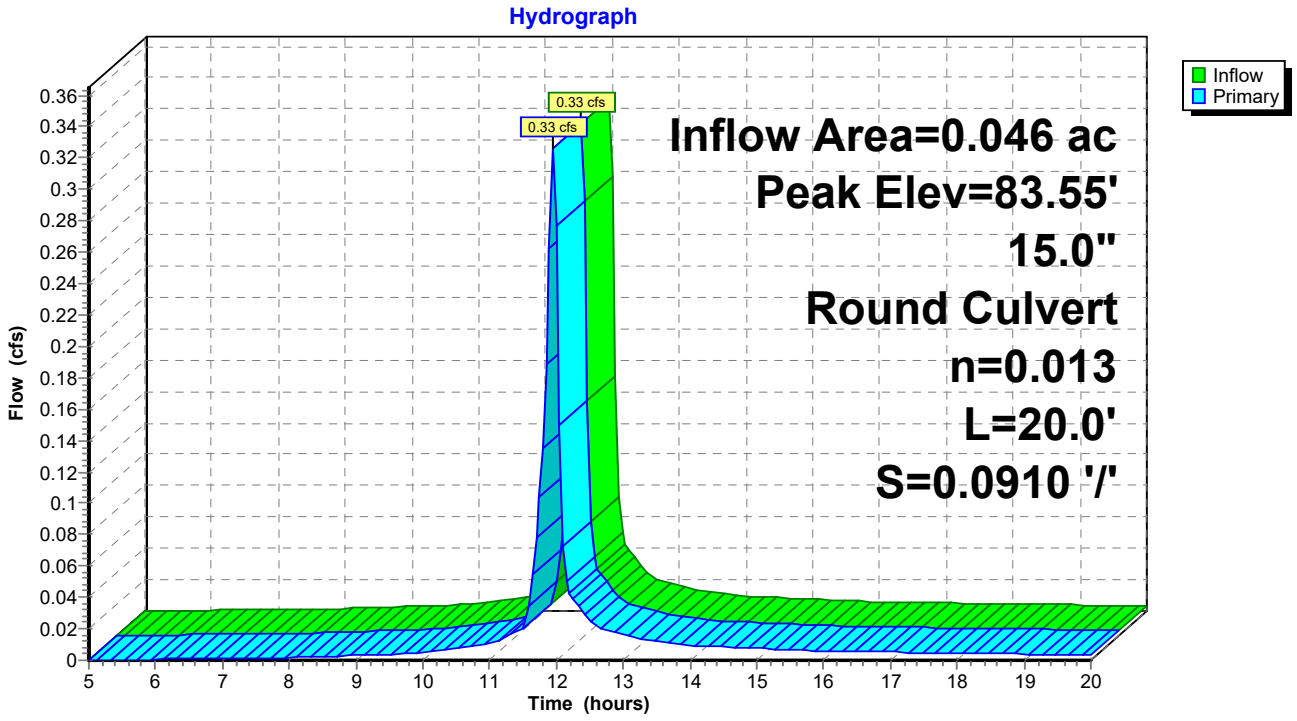
Inflow Area = 0.046 ac, 77.88% Impervious, Inflow Depth > 3.85" for 25 YEAR event
Inflow = 0.33 cfs @ 11.95 hrs, Volume= 0.015 af
Outflow = 0.33 cfs @ 11.95 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 11.95 hrs, Volume= 0.015 af
Routed to Pond CB 15 : CB 15

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.55' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	83.25'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 83.25' / 81.43' S= 0.0910 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.32 cfs @ 11.95 hrs HW=83.54' (Free Discharge)
1=Culvert (Inlet Controls 0.32 cfs @ 1.46 fps)

Pond CB 14: CB 14



Summary for Pond CB 15: CB 15

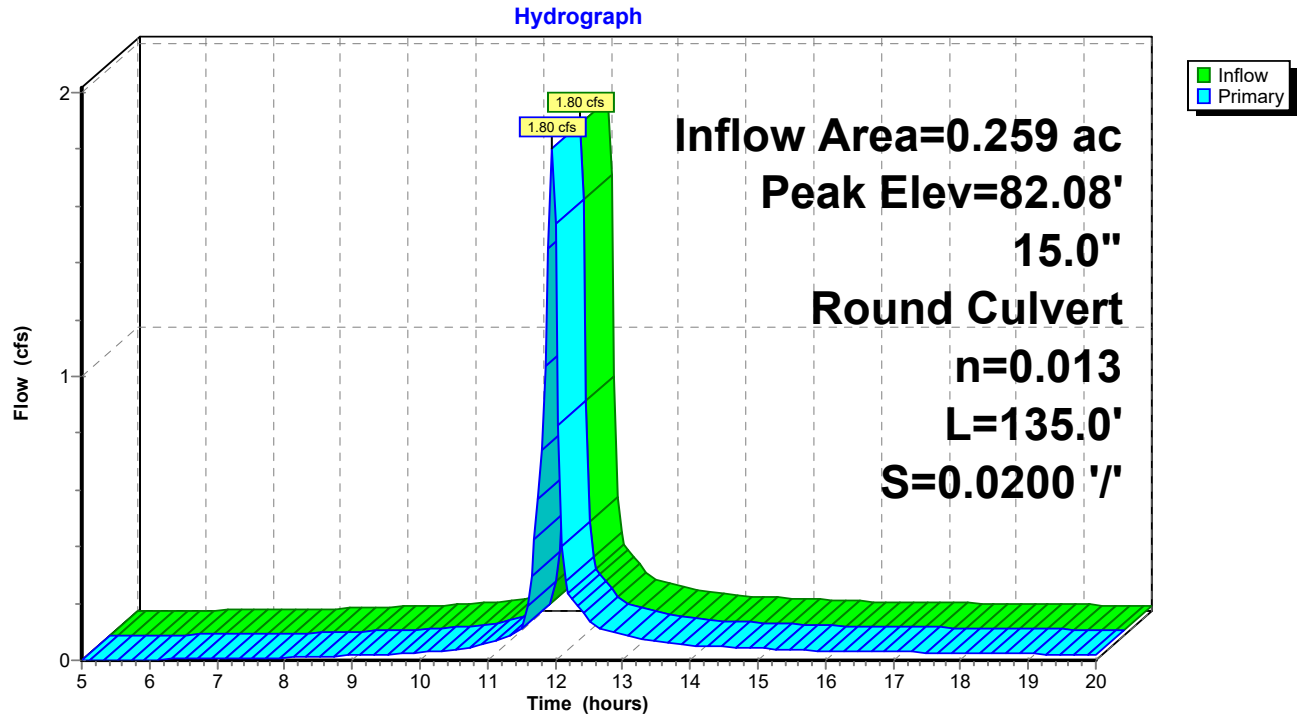
Inflow Area = 0.259 ac, 76.59% Impervious, Inflow Depth > 3.77" for 25 YEAR event
Inflow = 1.80 cfs @ 11.95 hrs, Volume= 0.081 af
Outflow = 1.80 cfs @ 11.95 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
Primary = 1.80 cfs @ 11.95 hrs, Volume= 0.081 af
Routed to Pond CB 18 : CB 18

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.08' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.33'	**15.0" Round Culvert** L= 135.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.33' / 78.63' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.78 cfs @ 11.95 hrs HW=82.08' (Free Discharge)
1=Culvert (Inlet Controls 1.78 cfs @ 2.33 fps)

Pond CB 15: CB 15



Summary for Pond CB 16: CB 16

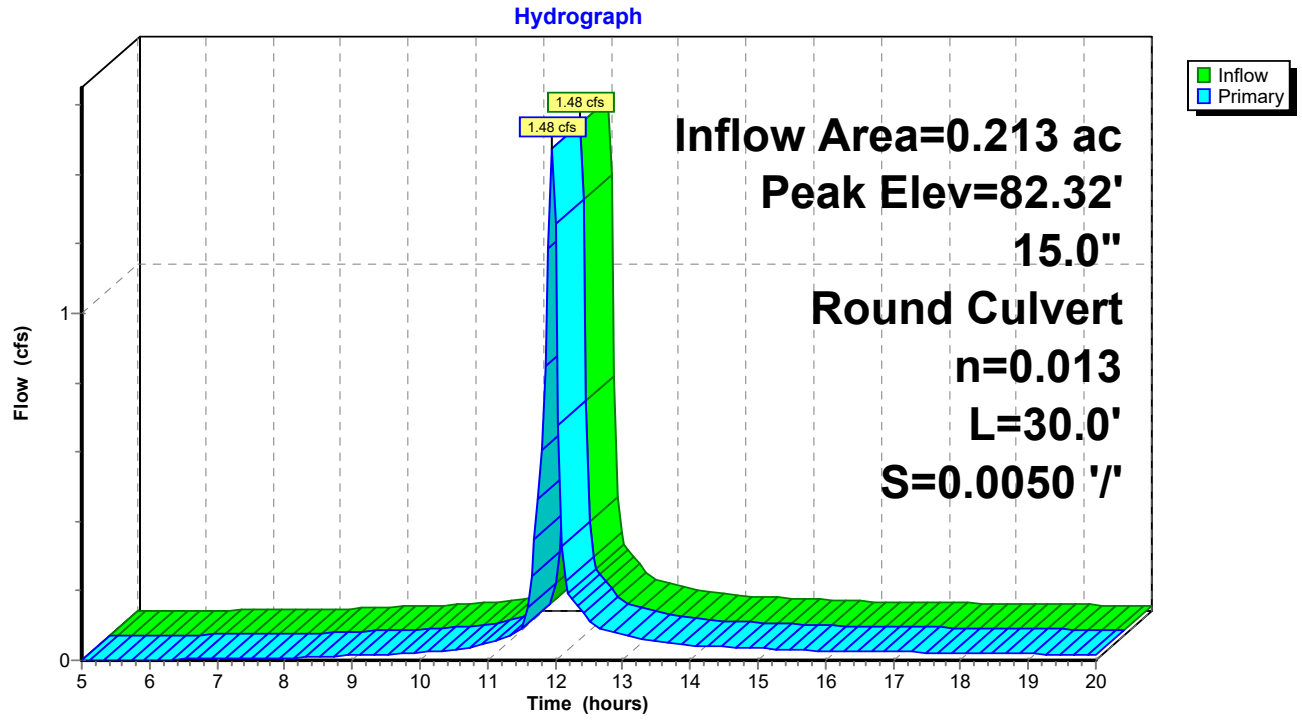
Inflow Area = 0.213 ac, 76.31% Impervious, Inflow Depth > 3.75" for 25 YEAR event
Inflow = 1.48 cfs @ 11.95 hrs, Volume= 0.066 af
Outflow = 1.48 cfs @ 11.95 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 11.95 hrs, Volume= 0.066 af
Routed to Pond CB 15 : CB 15

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.32' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.58'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.58' / 81.43' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.46 cfs @ 11.95 hrs HW=82.31' (Free Discharge)
1=Culvert (Barrel Controls 1.46 cfs @ 2.82 fps)

Pond CB 16: CB 16



Summary for Pond CB 17: CB 17

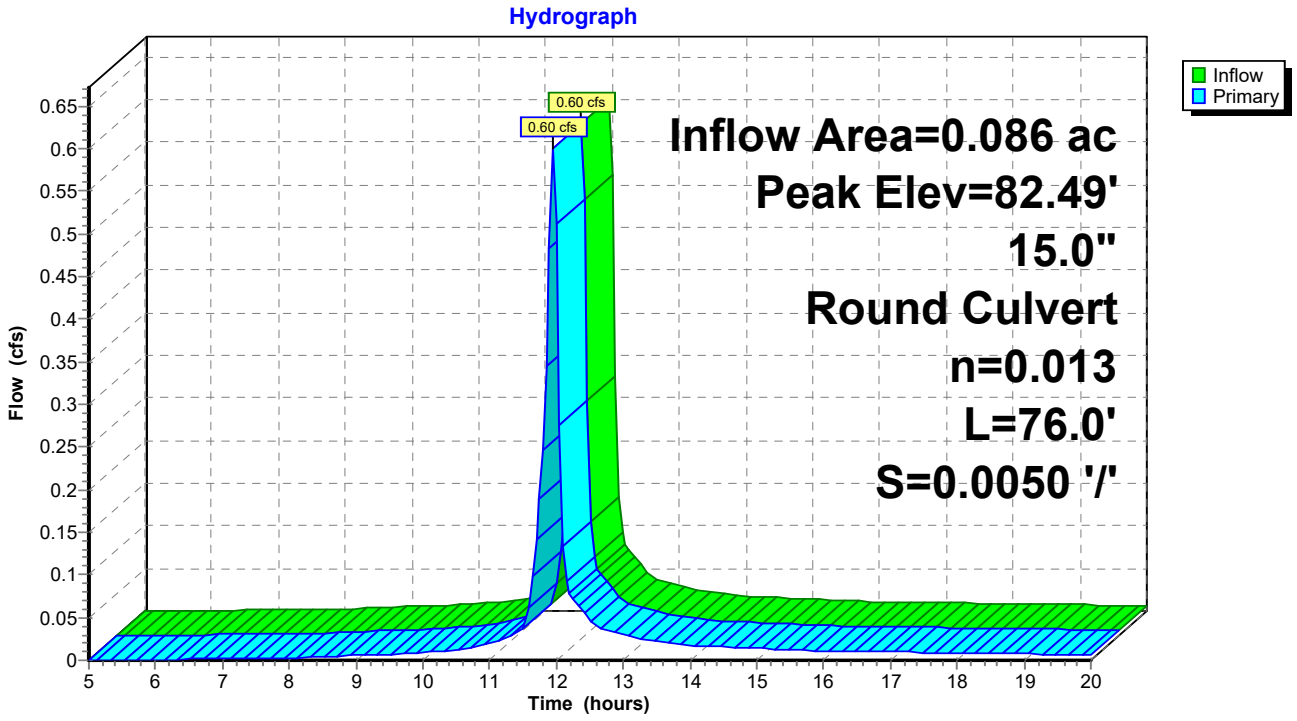
Inflow Area = 0.086 ac, 76.08% Impervious, Inflow Depth > 3.75" for 25 YEAR event
Inflow = 0.60 cfs @ 11.95 hrs, Volume= 0.027 af
Outflow = 0.60 cfs @ 11.95 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.60 cfs @ 11.95 hrs, Volume= 0.027 af
Routed to Pond CB 16 : CB 16

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.49' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.06'	**15.0" Round Culvert** L= 76.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.06' / 81.68' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.59 cfs @ 11.95 hrs HW=82.49' (Free Discharge)
1=Culvert (Barrel Controls 0.59 cfs @ 2.40 fps)

Pond CB 17: CB 17



Summary for Pond CB 18: CB 18

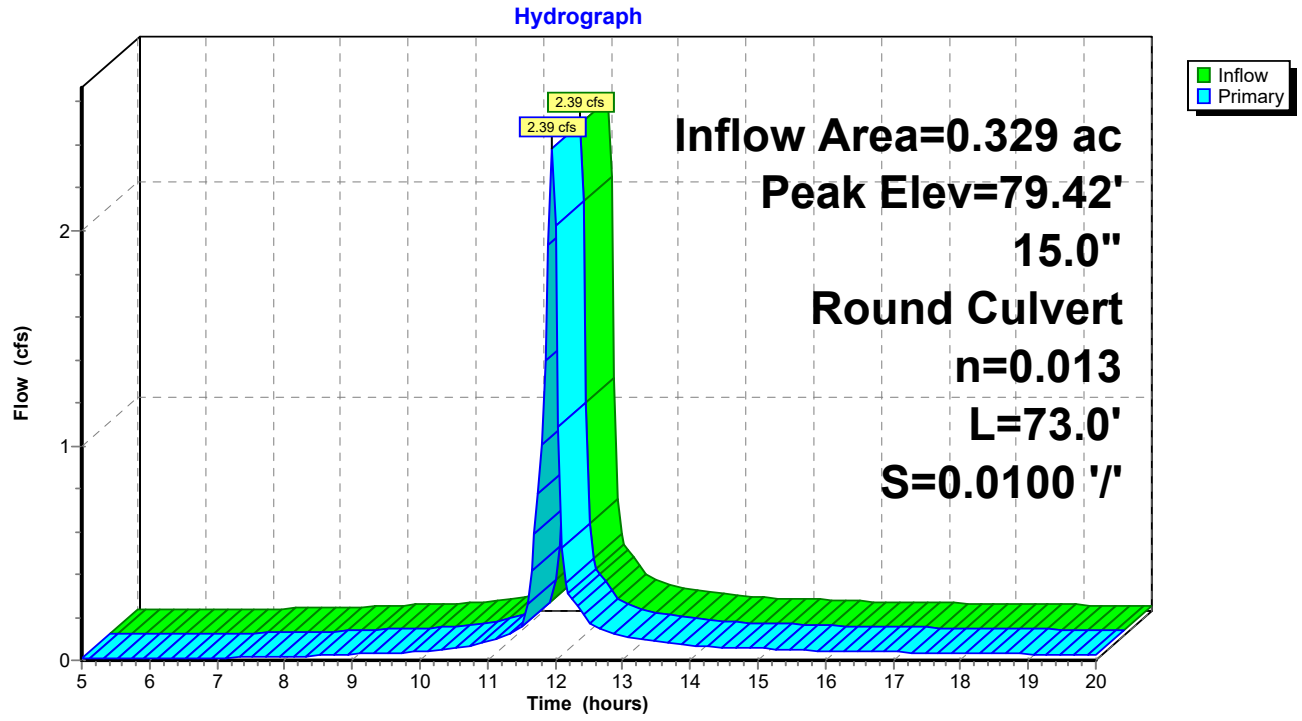
Inflow Area = 0.329 ac, 80.74% Impervious, Inflow Depth > 4.02" for 25 YEAR event
Inflow = 2.39 cfs @ 11.95 hrs, Volume= 0.110 af
Outflow = 2.39 cfs @ 11.95 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 2.39 cfs @ 11.95 hrs, Volume= 0.110 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.42' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.53'	**15.0" Round Culvert** L= 73.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.53' / 77.80' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.37 cfs @ 11.95 hrs HW=79.42' (Free Discharge)
1=Culvert (Inlet Controls 2.37 cfs @ 2.53 fps)

Pond CB 18: CB 18



Summary for Pond CB 2: CB2

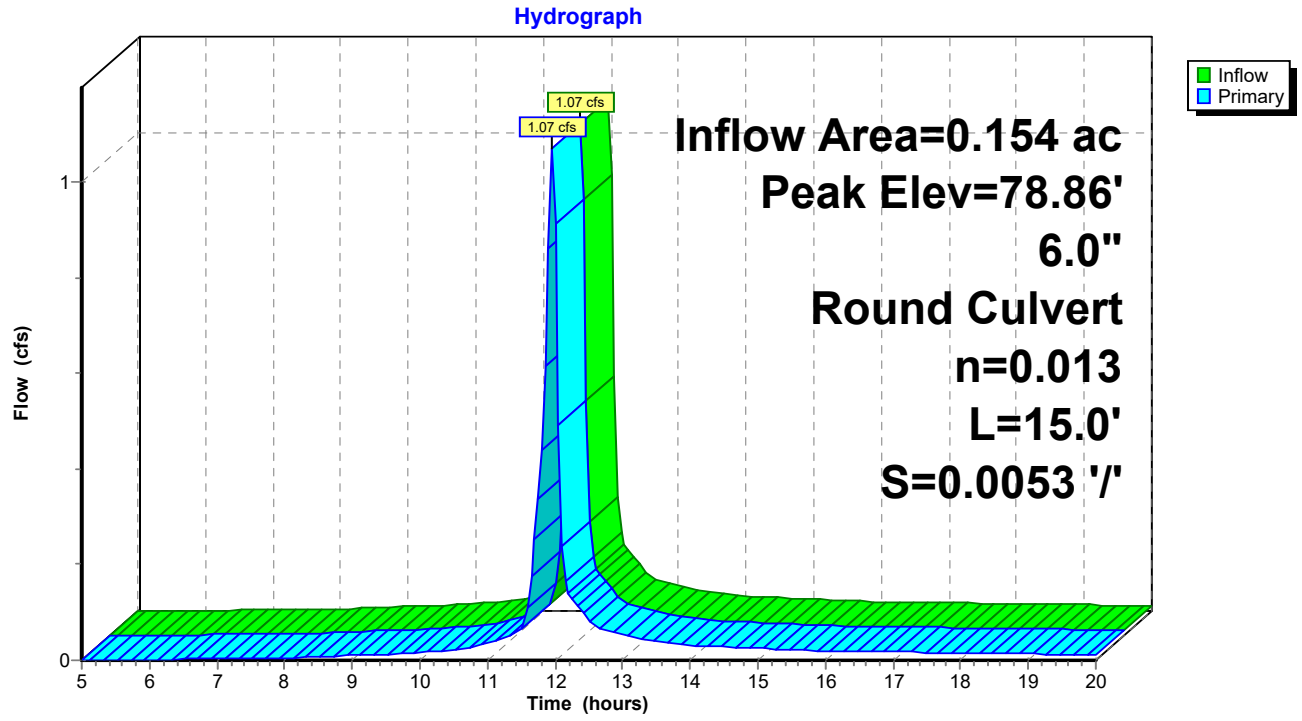
Inflow Area = 0.154 ac, 39.56% Impervious, Inflow Depth > 3.75" for 25 YEAR event
Inflow = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af
Outflow = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 11.95 hrs, Volume= 0.048 af
Routed to Pond 4P : GUSF 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 78.86' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.55'	**6.0" Round Culvert** L= 15.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.55' / 76.47' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=1.06 cfs @ 11.95 hrs HW=78.81' (Free Discharge)
1=Culvert (Inlet Controls 1.06 cfs @ 5.39 fps)

Pond CB 2: CB2



Summary for Pond CB 20: CB20

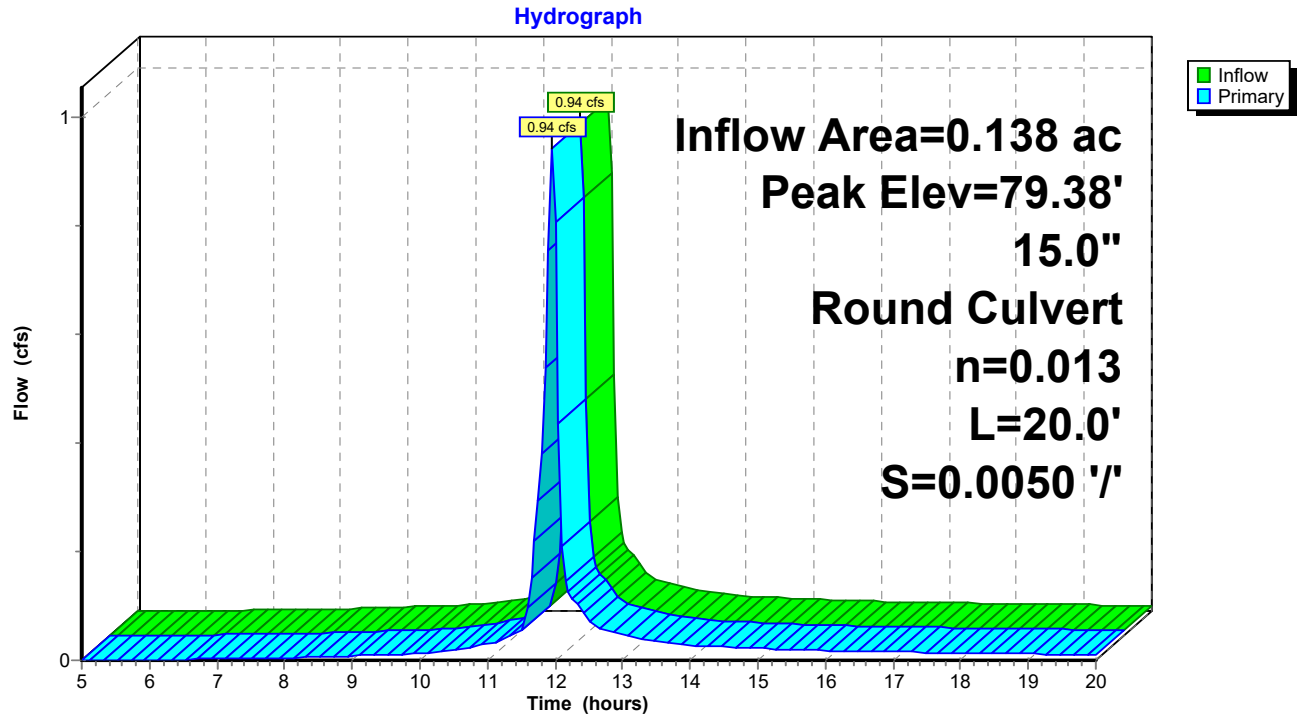
Inflow Area = 0.138 ac, 59.72% Impervious, Inflow Depth > 3.65" for 25 YEAR event
Inflow = 0.94 cfs @ 11.95 hrs, Volume= 0.042 af
Outflow = 0.94 cfs @ 11.95 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.94 cfs @ 11.95 hrs, Volume= 0.042 af
Routed to Pond CB 21 : CB21

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.38' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.80'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.80' / 78.70' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.93 cfs @ 11.95 hrs HW=79.38' (Free Discharge)
1=Culvert (Barrel Controls 0.93 cfs @ 2.47 fps)

Pond CB 20: CB20



Summary for Pond CB 21: CB21

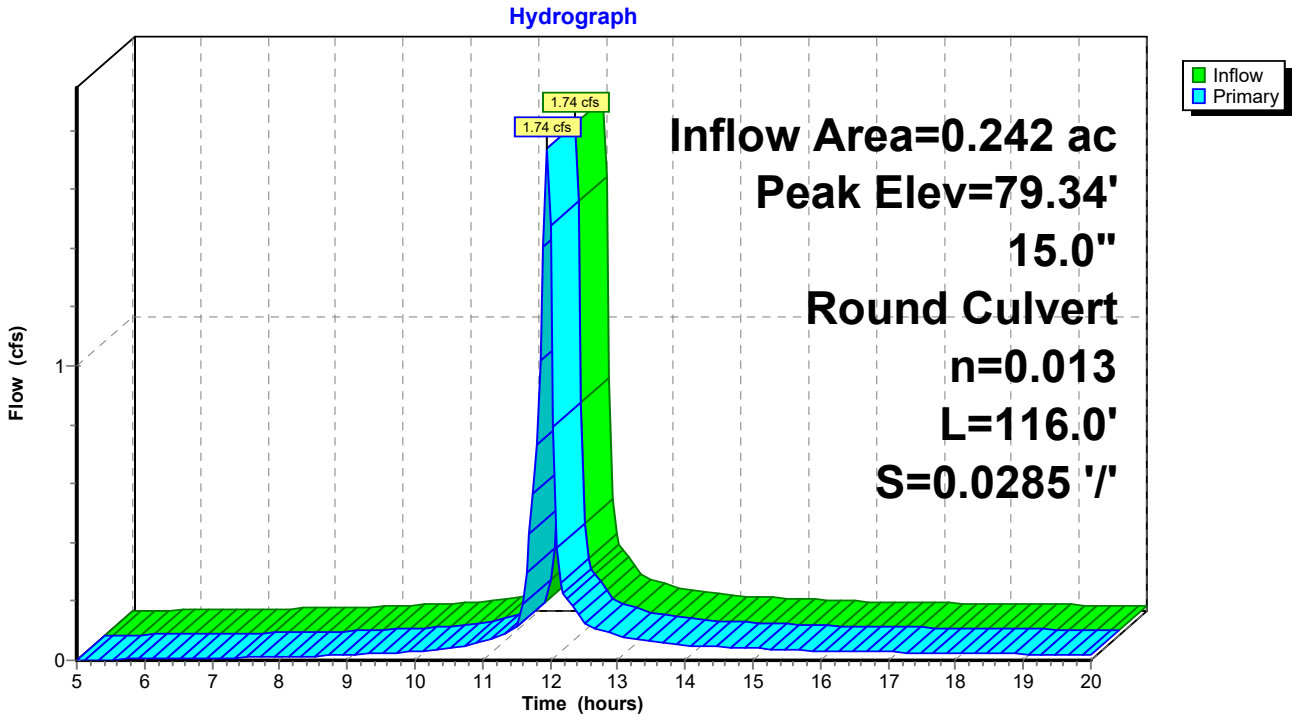
Inflow Area = 0.242 ac, 67.28% Impervious, Inflow Depth > 3.95" for 25 YEAR event
Inflow = 1.74 cfs @ 11.95 hrs, Volume= 0.080 af
Outflow = 1.74 cfs @ 11.95 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.74 cfs @ 11.95 hrs, Volume= 0.080 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.34' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.60'	**15.0" Round Culvert** L= 116.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.60' / 75.29' S= 0.0285 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.72 cfs @ 11.95 hrs HW=79.33' (Free Discharge)
1=Culvert (Inlet Controls 1.72 cfs @ 2.30 fps)

Pond CB 21: CB21



Summary for Pond CB 22: CB22

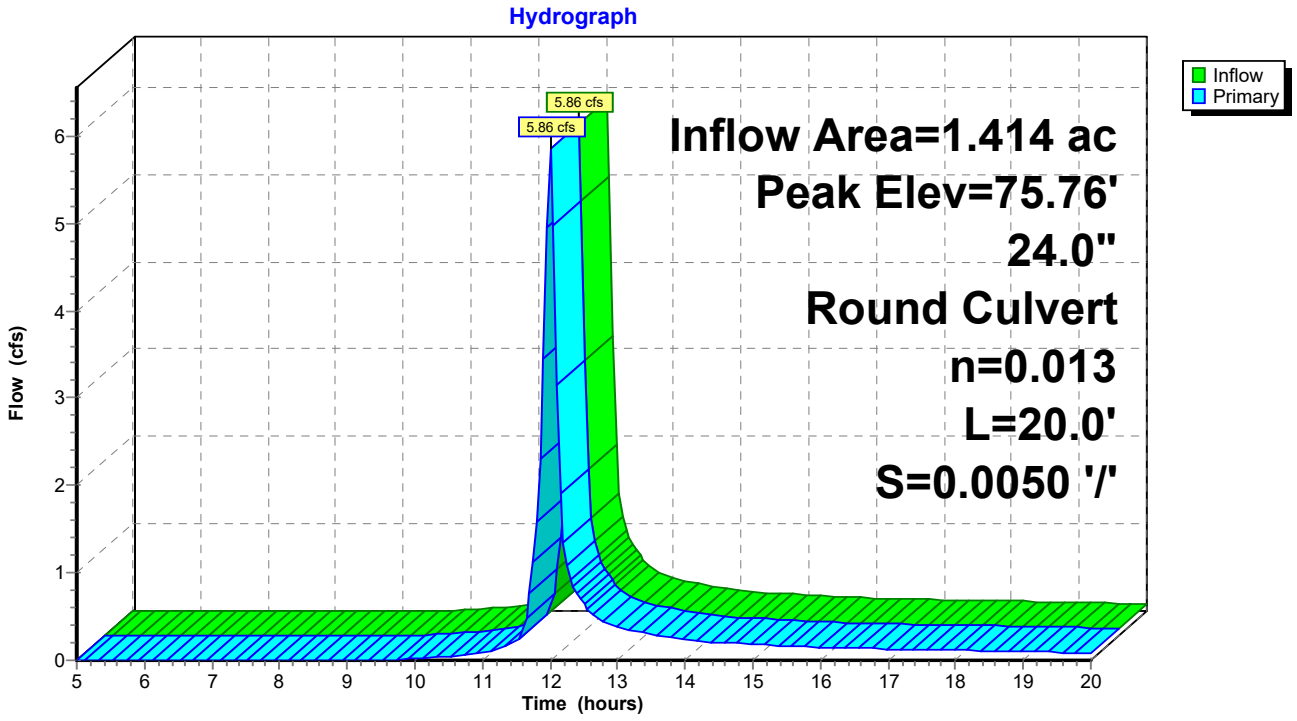
Inflow Area = 1.414 ac, 24.75% Impervious, Inflow Depth > 2.34" for 25 YEAR event
Inflow = 5.86 cfs @ 12.00 hrs, Volume= 0.275 af
Outflow = 5.86 cfs @ 12.00 hrs, Volume= 0.275 af, Atten= 0%, Lag= 0.0 min
Primary = 5.86 cfs @ 12.00 hrs, Volume= 0.275 af
Routed to Pond CB 23 : CB23

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.76' @ 12.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.40'	**24.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.40' / 74.30' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.85 cfs @ 12.00 hrs HW=75.76' (Free Discharge)
1=Culvert (Barrel Controls 5.85 cfs @ 3.63 fps)

Pond CB 22: CB22



Summary for Pond CB 23: CB23

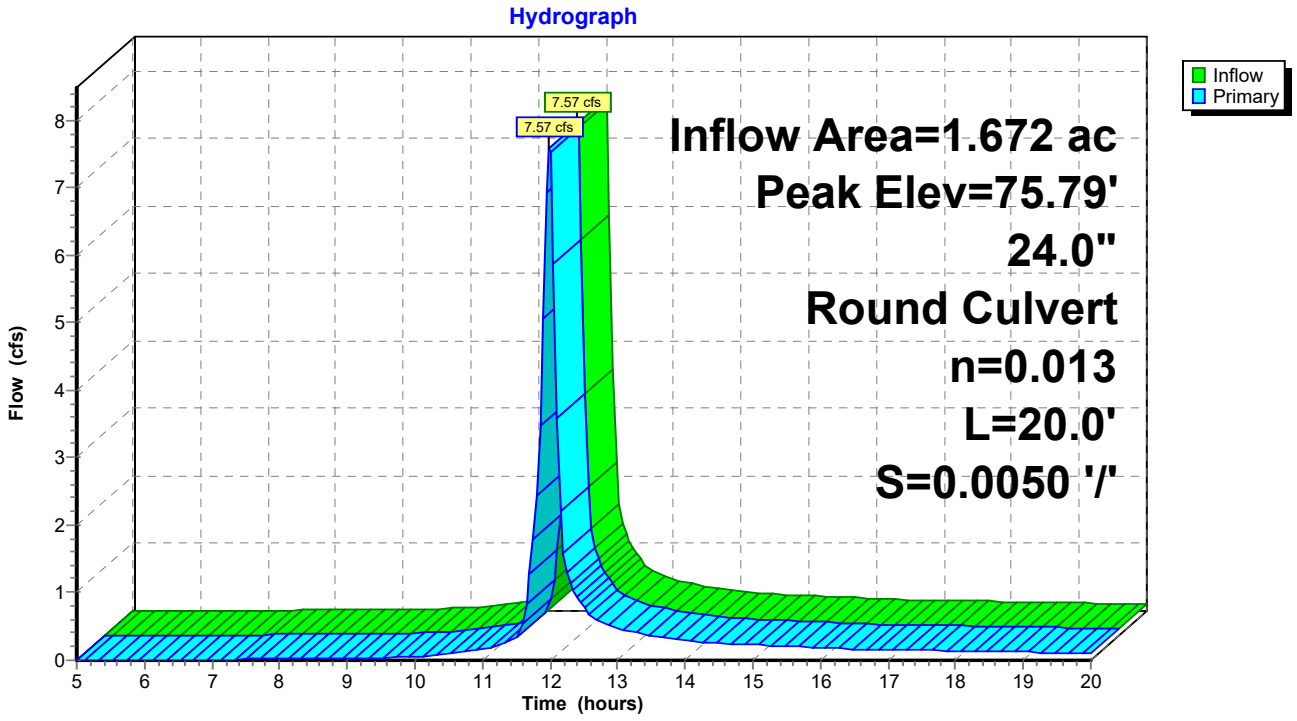
Inflow Area = 1.672 ac, 32.45% Impervious, Inflow Depth > 2.64" for 25 YEAR event
Inflow = 7.57 cfs @ 11.99 hrs, Volume= 0.367 af
Outflow = 7.57 cfs @ 11.99 hrs, Volume= 0.367 af, Atten= 0%, Lag= 0.0 min
Primary = 7.57 cfs @ 11.99 hrs, Volume= 0.367 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 75.79' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.20'	**24.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.20' / 74.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.37 cfs @ 11.99 hrs HW=75.76' (Free Discharge)
1=Culvert (Barrel Controls 7.37 cfs @ 3.86 fps)

Pond CB 23: CB23



Summary for Pond CB 24: CB 24

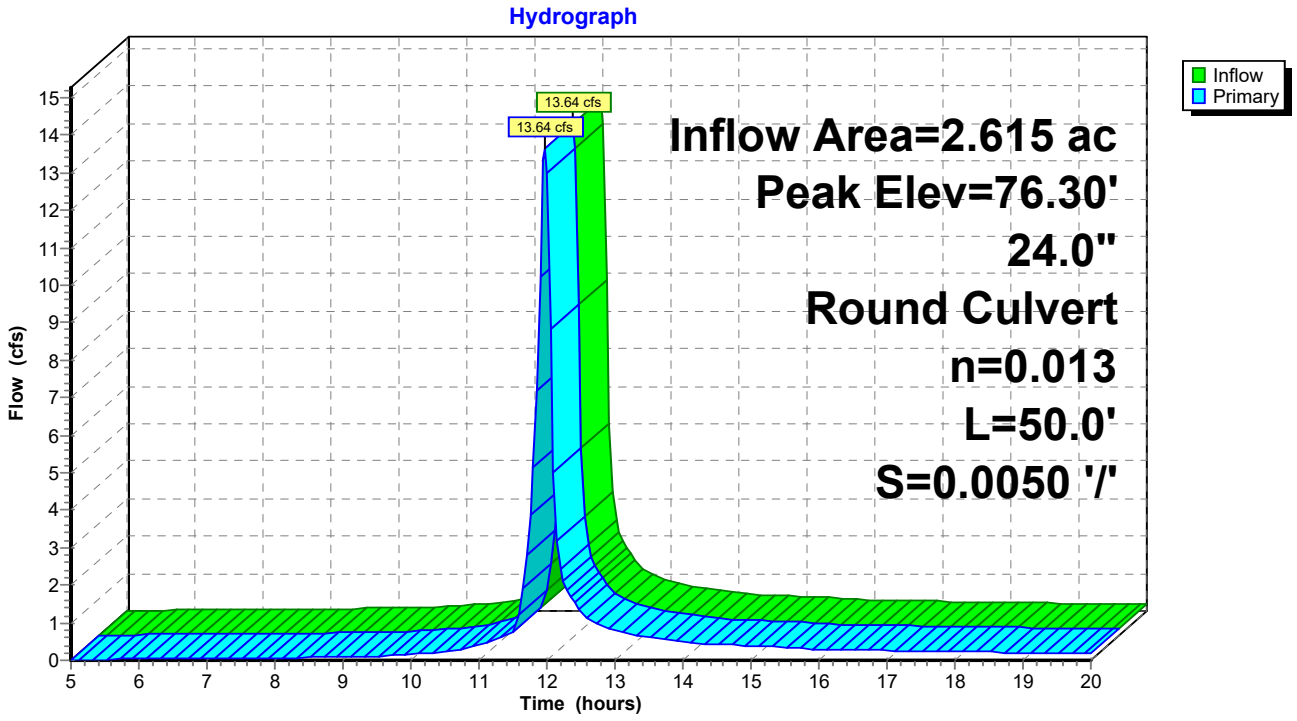
Inflow Area = 2.615 ac, 43.20% Impervious, Inflow Depth > 3.05" for 25 YEAR event
Inflow = 13.64 cfs @ 11.97 hrs, Volume= 0.665 af
Outflow = 13.64 cfs @ 11.97 hrs, Volume= 0.665 af, Atten= 0%, Lag= 0.0 min
Primary = 13.64 cfs @ 11.97 hrs, Volume= 0.665 af
Routed to Pond 2P : WETPOND B

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 76.30' @ 11.97 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.00'	**24.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 74.00' / 73.75' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=13.23 cfs @ 11.97 hrs HW=76.25' (Free Discharge)
1=Culvert (Barrel Controls 13.23 cfs @ 4.69 fps)

Pond CB 24: CB 24



Summary for Pond CB 25: CB25

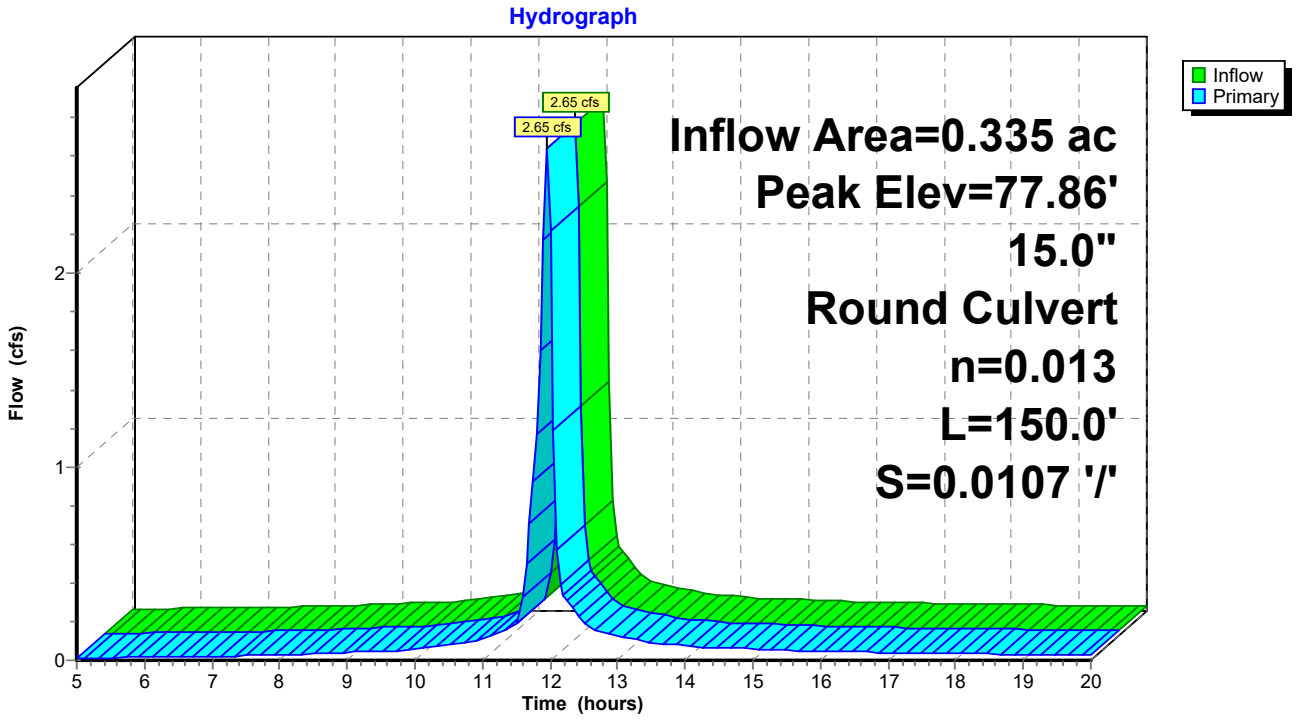
Inflow Area = 0.335 ac, 84.04% Impervious, Inflow Depth > 4.55" for 25 YEAR event
Inflow = 2.65 cfs @ 11.95 hrs, Volume= 0.127 af
Outflow = 2.65 cfs @ 11.95 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 2.65 cfs @ 11.95 hrs, Volume= 0.127 af
Routed to Pond CB 24 : CB 24

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.86' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**15.0" Round Culvert** L= 150.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.90' / 75.29' S= 0.0107 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.64 cfs @ 11.95 hrs HW=77.85' (Free Discharge)
1=Culvert (Inlet Controls 2.64 cfs @ 2.63 fps)

Pond CB 25: CB25



Summary for Pond CB 26: CB26

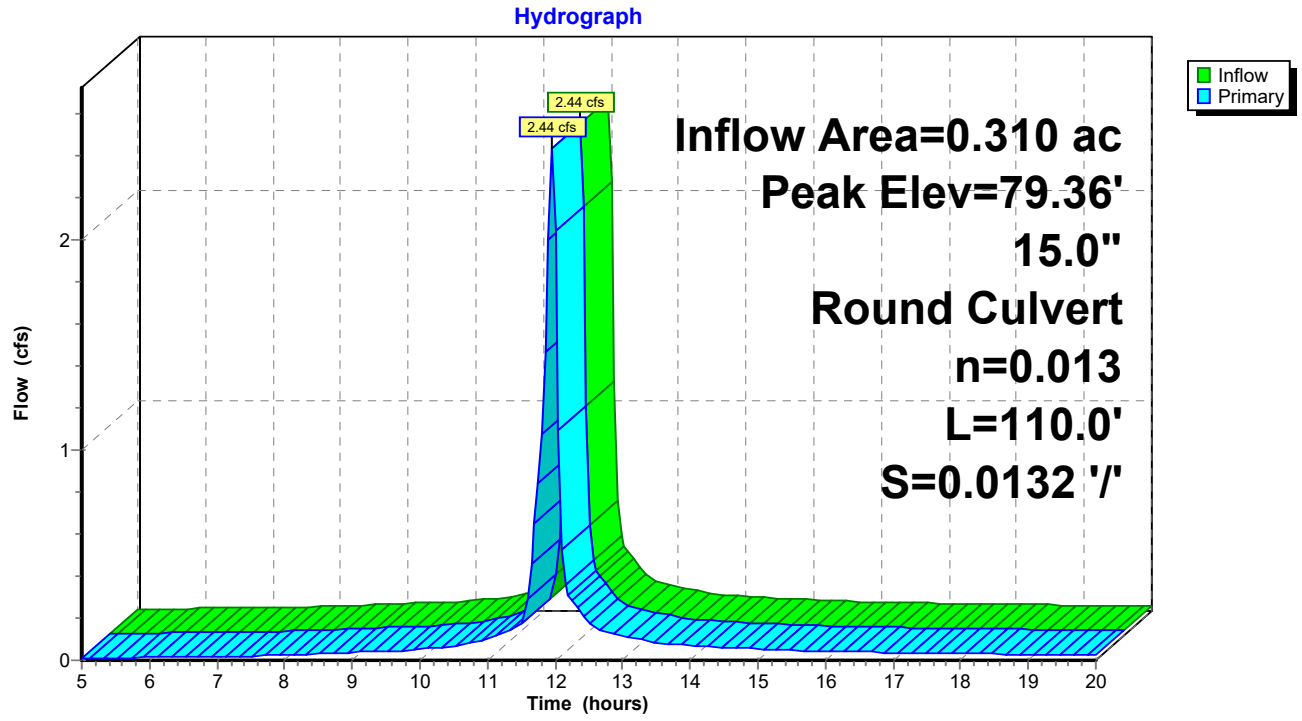
Inflow Area = 0.310 ac, 82.72% Impervious, Inflow Depth > 4.51" for 25 YEAR event
Inflow = 2.44 cfs @ 11.95 hrs, Volume= 0.116 af
Outflow = 2.44 cfs @ 11.95 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 2.44 cfs @ 11.95 hrs, Volume= 0.116 af
Routed to Pond CB 25 : CB25

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.36' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.45'	**15.0" Round Culvert** L= 110.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.45' / 77.00' S= 0.0132 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.42 cfs @ 11.95 hrs HW=79.35' (Free Discharge)
1=Culvert (Inlet Controls 2.42 cfs @ 2.55 fps)

Pond CB 26: CB26



Summary for Pond CB 27: CB27

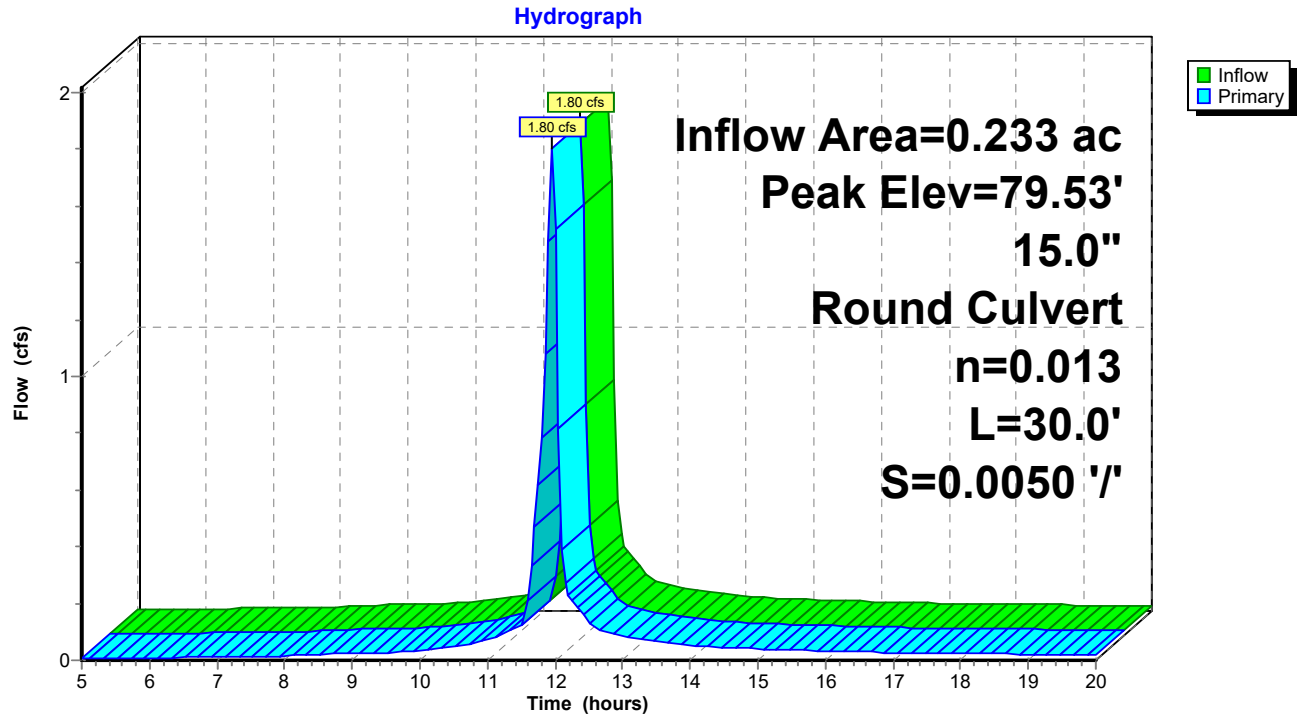
Inflow Area = 0.233 ac, 78.92% Impervious, Inflow Depth > 4.36" for 25 YEAR event
Inflow = 1.80 cfs @ 11.95 hrs, Volume= 0.085 af
Outflow = 1.80 cfs @ 11.95 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min
Primary = 1.80 cfs @ 11.95 hrs, Volume= 0.085 af
Routed to Pond CB 26 : CB26

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 79.53' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	78.70'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.70' / 78.55' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.79 cfs @ 11.95 hrs HW=79.52' (Free Discharge)
1=Culvert (Barrel Controls 1.79 cfs @ 2.96 fps)

Pond CB 27: CB27



Summary for Pond CB 4: CB4

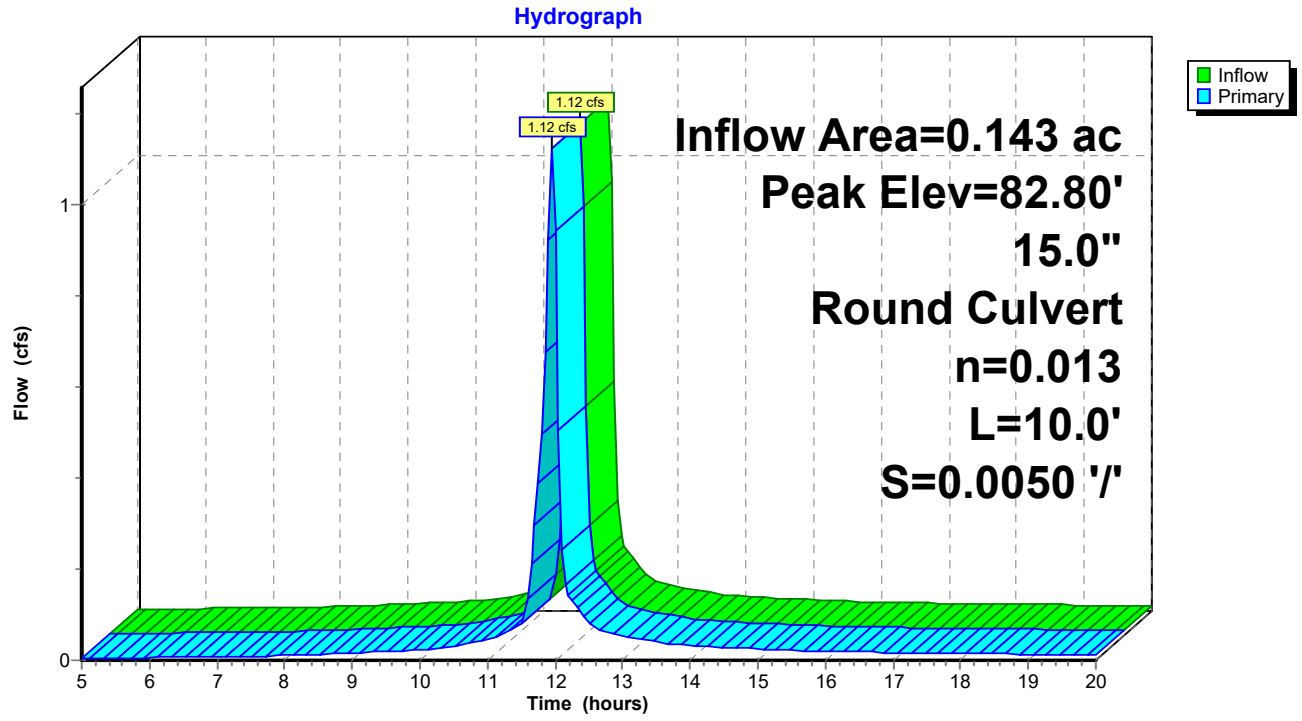
Inflow Area = 0.143 ac, 60.33% Impervious, Inflow Depth > 4.46" for 25 YEAR event
Inflow = 1.12 cfs @ 11.95 hrs, Volume= 0.053 af
Outflow = 1.12 cfs @ 11.95 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 11.95 hrs, Volume= 0.053 af
Routed to Pond 5P : GUSF 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.80' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	82.15'	**15.0" Round Culvert** L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.15' / 82.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.12 cfs @ 11.95 hrs HW=82.80' (Free Discharge)
1=Culvert (Barrel Controls 1.12 cfs @ 2.50 fps)

Pond CB 4: CB4



Summary for Pond CB 5: CB5

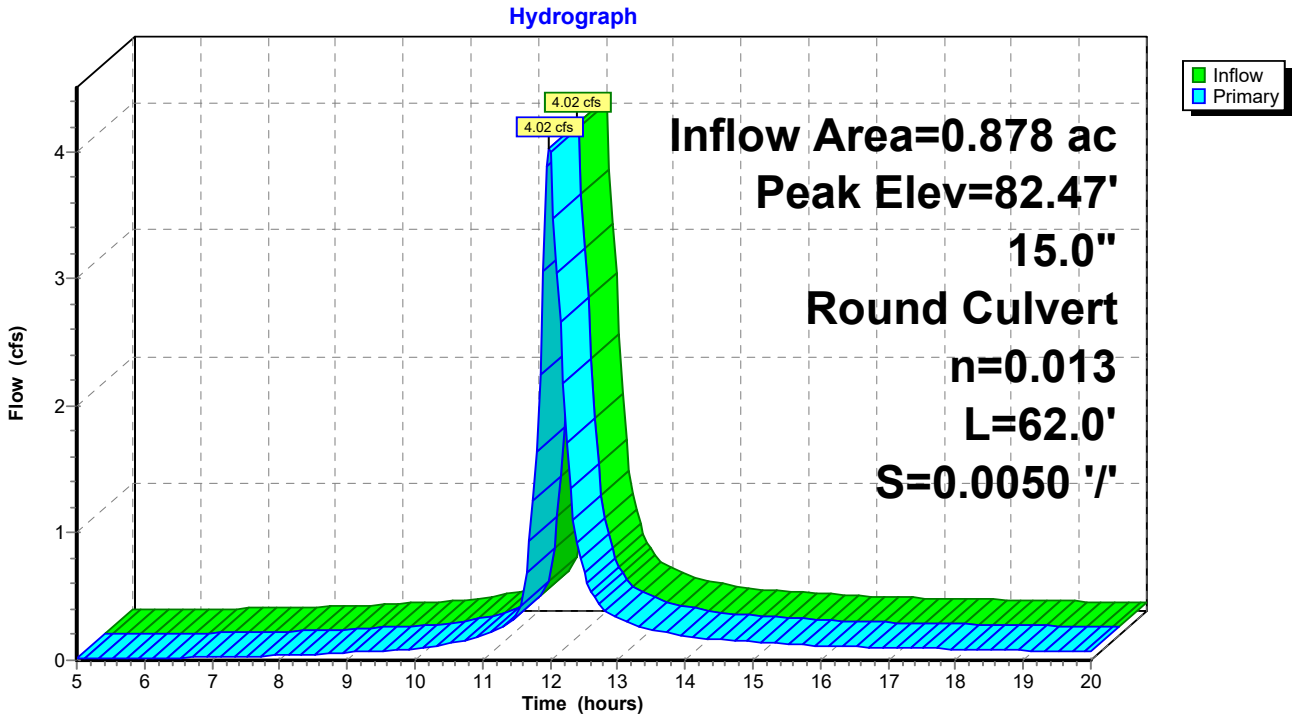
Inflow Area = 0.878 ac, 31.85% Impervious, Inflow Depth > 3.81" for 25 YEAR event
Inflow = 4.02 cfs @ 11.98 hrs, Volume= 0.279 af
Outflow = 4.02 cfs @ 11.98 hrs, Volume= 0.279 af, Atten= 0%, Lag= 0.0 min
Primary = 4.02 cfs @ 11.98 hrs, Volume= 0.279 af
Routed to Pond CB 7 : CB7

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.47' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.10'	**15.0" Round Culvert** L= 62.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.10' / 80.79' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.95 cfs @ 11.98 hrs HW=82.45' (Free Discharge)
1=Culvert (Barrel Controls 3.95 cfs @ 3.72 fps)

Pond CB 5: CB5



Summary for Pond CB 6: CB6

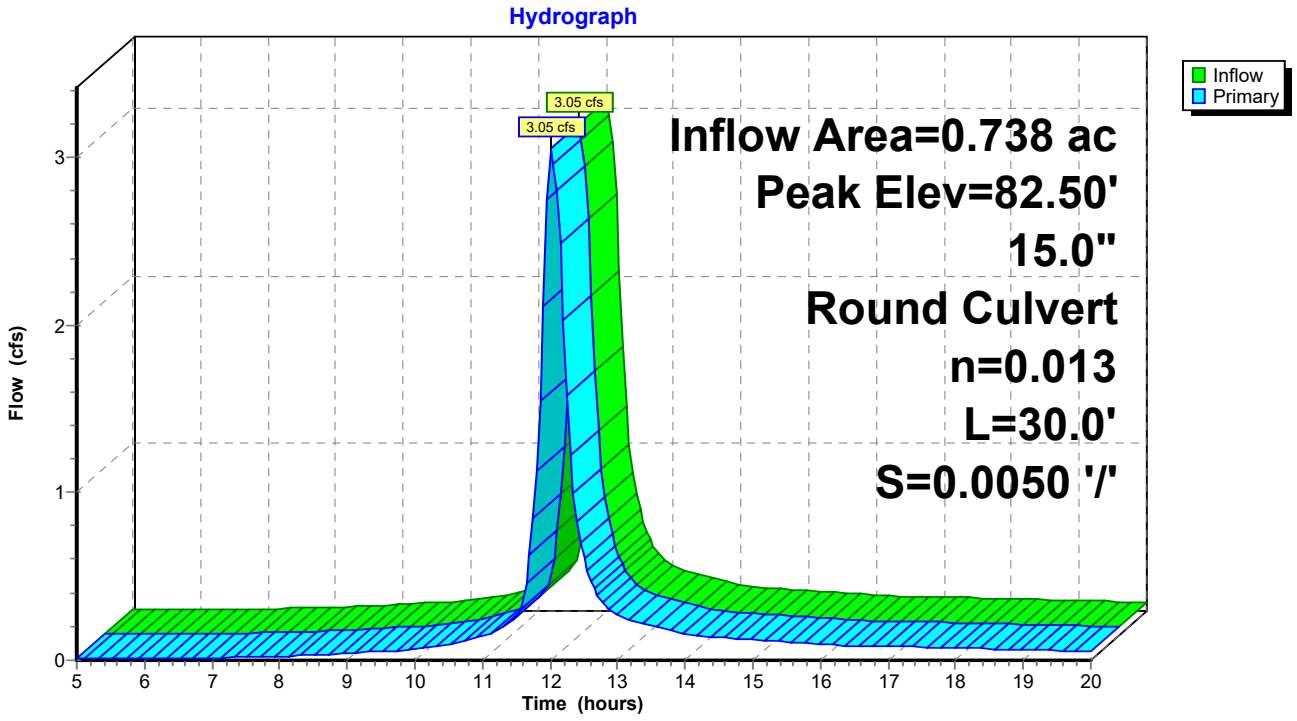
Inflow Area = 0.738 ac, 22.73% Impervious, Inflow Depth > 3.63" for 25 YEAR event
Inflow = 3.05 cfs @ 12.02 hrs, Volume= 0.224 af
Outflow = 3.05 cfs @ 12.02 hrs, Volume= 0.224 af, Atten= 0%, Lag= 0.0 min
Primary = 3.05 cfs @ 12.02 hrs, Volume= 0.224 af
Routed to Pond CB 5 : CB5

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.50' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.35'	**15.0" Round Culvert** L= 30.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.35' / 81.20' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.01 cfs @ 12.02 hrs HW=82.49' (Free Discharge)
1=Culvert (Barrel Controls 3.01 cfs @ 3.37 fps)

Pond CB 6: CB6



Summary for Pond CB 7: CB7

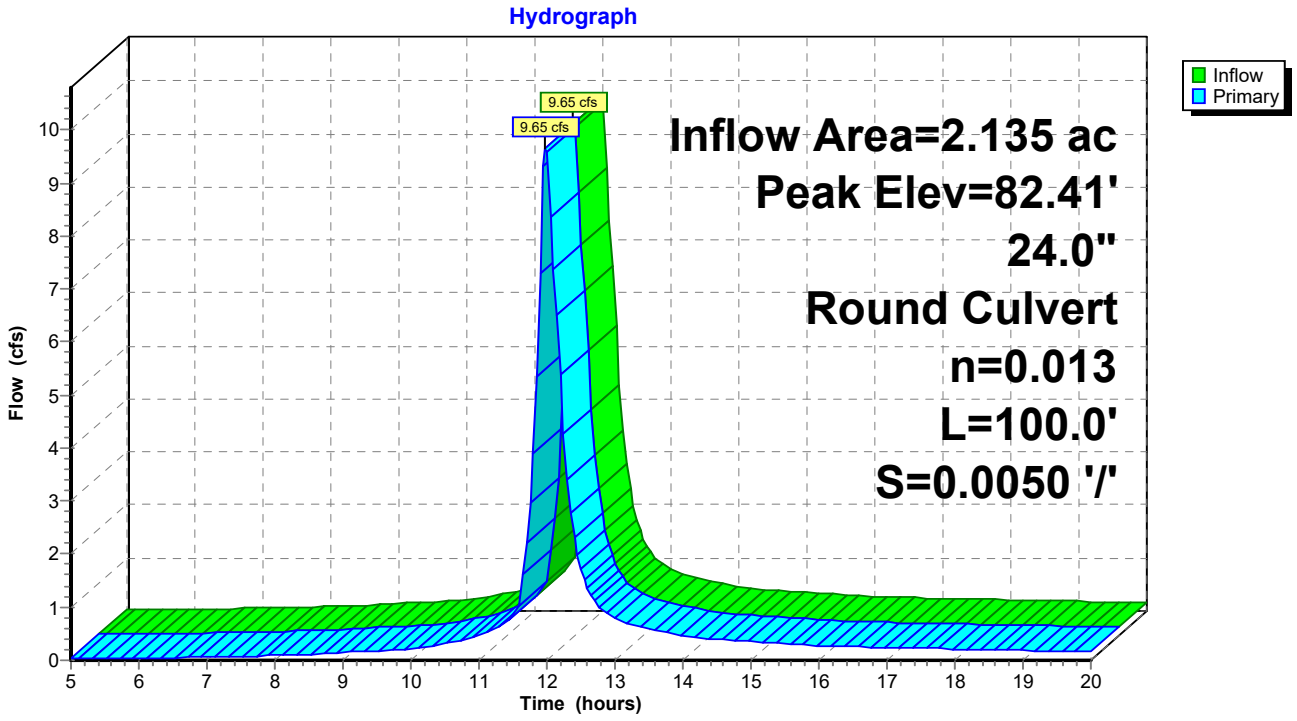
Inflow Area = 2.135 ac, 32.96% Impervious, Inflow Depth > 3.80" for 25 YEAR event
Inflow = 9.65 cfs @ 11.98 hrs, Volume= 0.677 af
Outflow = 9.65 cfs @ 11.98 hrs, Volume= 0.677 af, Atten= 0%, Lag= 0.0 min
Primary = 9.65 cfs @ 11.98 hrs, Volume= 0.677 af
Routed to Pond 3P : WETLAND STORAGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.41' @ 11.98 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.69'	**24.0" Round Culvert** L= 100.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 80.69' / 80.19' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.49 cfs @ 11.98 hrs HW=82.39' (Free Discharge)
1=Culvert (Barrel Controls 9.49 cfs @ 4.50 fps)

Pond CB 7: CB7



Summary for Pond CB 8: CB8

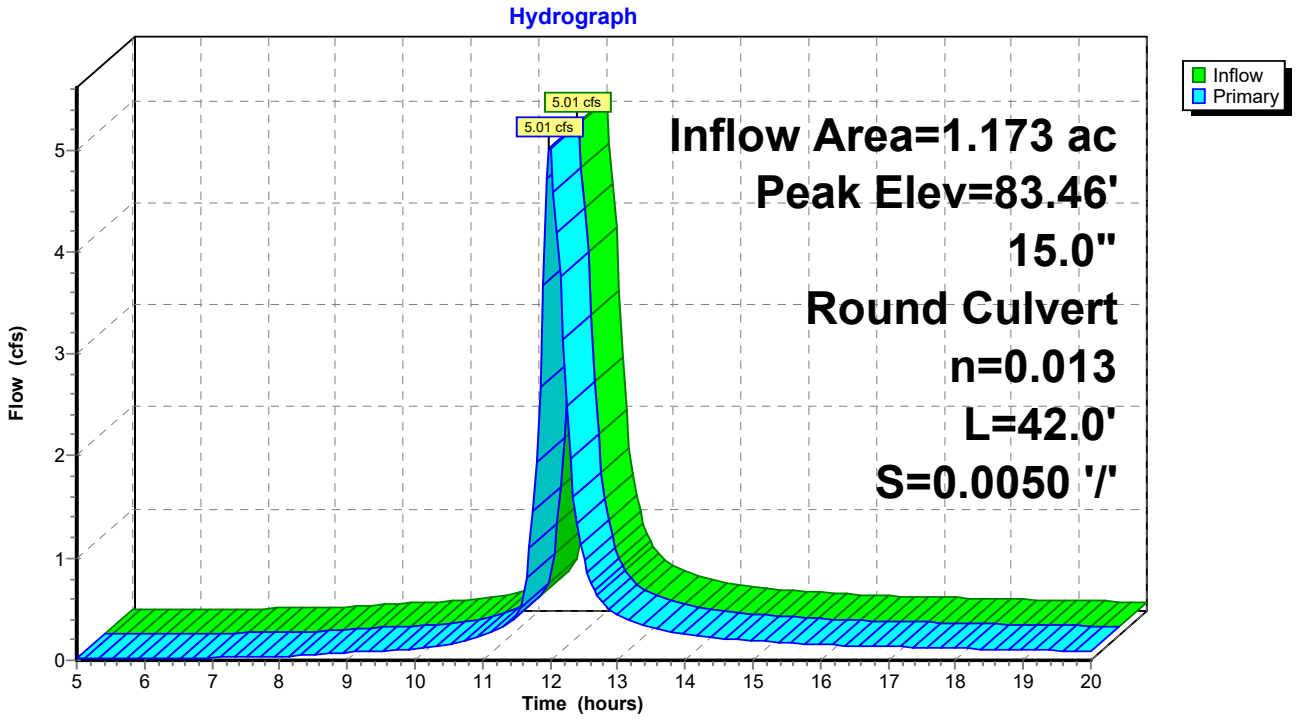
Inflow Area = 1.173 ac, 29.92% Impervious, Inflow Depth > 3.72" for 25 YEAR event
Inflow = 5.01 cfs @ 11.99 hrs, Volume= 0.363 af
Outflow = 5.01 cfs @ 11.99 hrs, Volume= 0.363 af, Atten= 0%, Lag= 0.0 min
Primary = 5.01 cfs @ 11.99 hrs, Volume= 0.363 af
Routed to Pond CB 7 : CB7

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.46' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.67'	**15.0" Round Culvert** L= 42.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.67' / 81.46' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.97 cfs @ 11.99 hrs HW=83.44' (Free Discharge)
1=Culvert (Barrel Controls 4.97 cfs @ 4.05 fps)

Pond CB 8: CB8



Summary for Pond CB 9: CB9

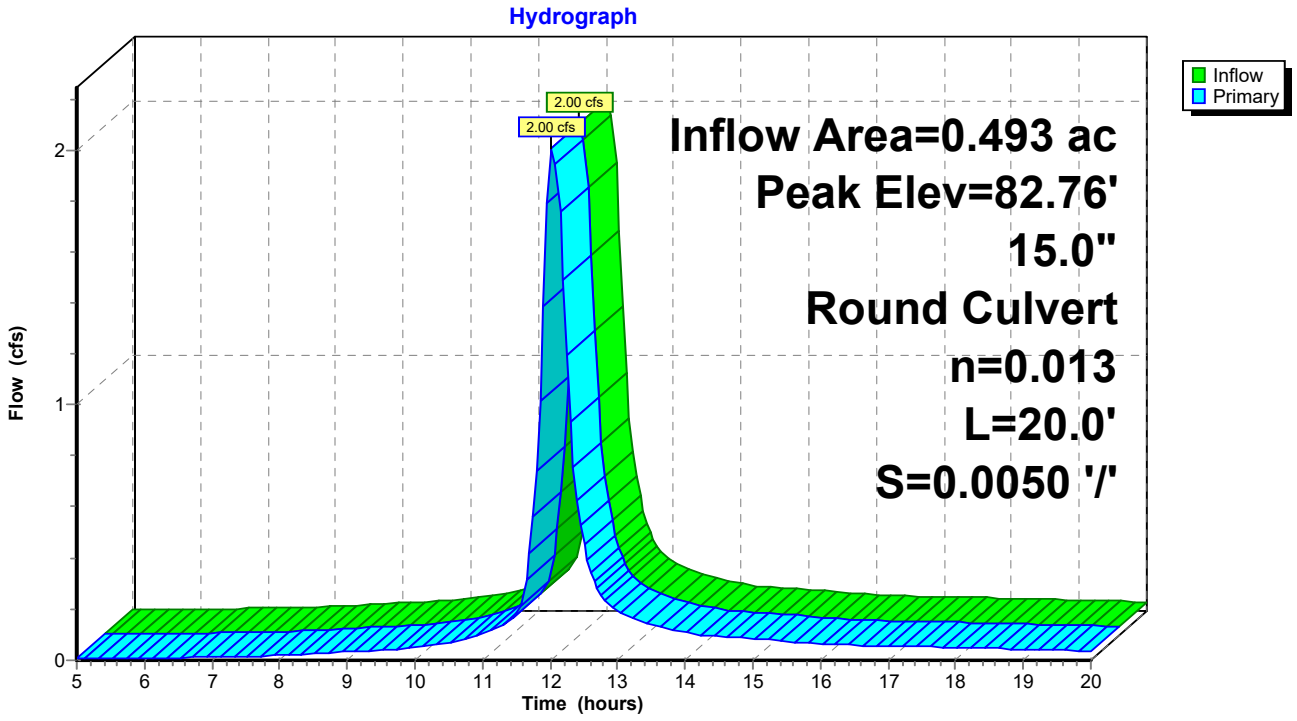
Inflow Area = 0.493 ac, 27.99% Impervious, Inflow Depth > 3.79" for 25 YEAR event
Inflow = 2.00 cfs @ 12.02 hrs, Volume= 0.156 af
Outflow = 2.00 cfs @ 12.02 hrs, Volume= 0.156 af, Atten= 0%, Lag= 0.0 min
Primary = 2.00 cfs @ 12.02 hrs, Volume= 0.156 af
Routed to Pond CB 8 : CB8

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 82.76' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	81.87'	**15.0" Round Culvert** L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 81.87' / 81.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.98 cfs @ 12.02 hrs HW=82.76' (Free Discharge)
1=Culvert (Barrel Controls 1.98 cfs @ 2.98 fps)

Pond CB 9: CB9



Summary for Pond CB19: CB19

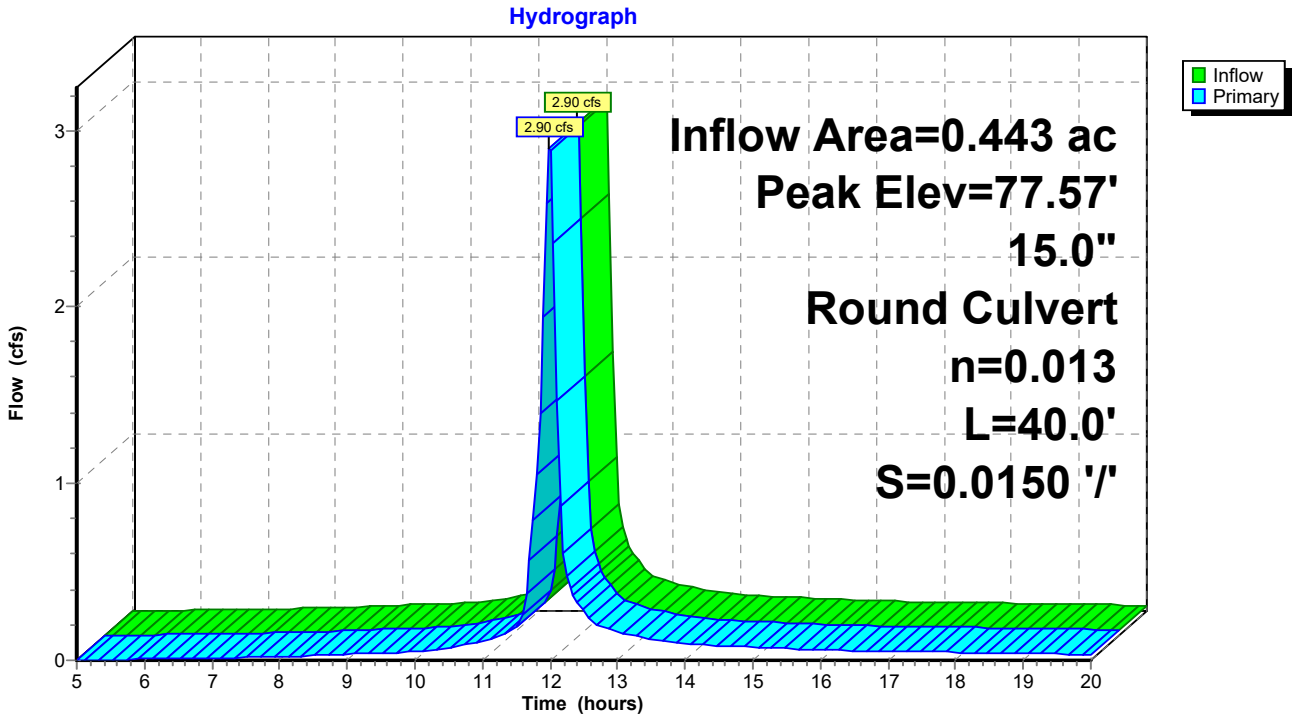
Inflow Area = 0.443 ac, 68.36% Impervious, Inflow Depth > 3.95" for 25 YEAR event
Inflow = 2.90 cfs @ 11.99 hrs, Volume= 0.146 af
Outflow = 2.90 cfs @ 11.99 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min
Primary = 2.90 cfs @ 11.99 hrs, Volume= 0.146 af
Routed to Pond 1P : WETPOND A

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 77.57' @ 11.99 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.55'	**15.0" Round Culvert** L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 76.55' / 75.95' S= 0.0150 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.85 cfs @ 11.99 hrs HW=77.55' (Free Discharge)
1=Culvert (Inlet Controls 2.85 cfs @ 2.69 fps)

Pond CB19: CB19



Presumpscot Woods
0 Hope Ave., Portland, Maine
Buffering

The Presumpscot Woods project proposes to maintain a significant amount of natural vegetation in open/common areas which will act as a visual and noise buffer from surrounding properties. Open/common areas will be protected and maintained through the common ownership and management of the development's Condominium Association. These areas are depicted within the Site Plan Set. There are no stormwater treatment buffers proposed for this project.

shinberg CONSULTING

NEIGHBORHOOD MEETING SIGN IN SHEET

JUNE 7, 2023 5 TO 7 PM
EAST END COMMUNITY CENTER, 195 NORTH ST.
PORTLAND, MAINE
RESIDENTIAL CONDOMINIUM DEVELOPMENT LOCATED AT 246 EASTERN PROMENADE AND 15 TURNER STREET

MEMBERS OF THE PUBLIC IN ATTENDANCE

NAME	EMAIL
WILLIAM GRIBIZIS	WGRIBIZI@gmail.com
RUDINA GRIBIZIS	RUDIWARG@gmail.com
Kaili Moore	kaili@presumpscotpm.com
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BRIAN Harrington	BRIANHarrington39@msn.com
Peter Murray	pmurray@gwi.net

DEVELOPER AND CONSUTANT TEAM IN ATTENDANCE

NAME	EMAIL
NICK ACETO	NA@ACETOLA.COM
GREG SHINBERG	gbs@shinbergconsulting.com
EVAN DEMERS	evan@mullerarchitects.com
mark mueller	mark@mullerarchitects.com

Presumpscot Woods/Hope Avenue Development

Notes compiled by Drew Olehowski of Haley Ward and Greg Shinberg of Shinberg Consulting

Neighborhood Meeting

May 31, 2023 – Lyman Middle School, Portland, ME

Developer and Consultant Team in Attendance:

- Greg Shinberg – Shinberg Consulting, LLC ("GS")
- Andrew Peterson - Modular Sales ("AP")
- Jon Whitten, Jr. – Haley Ward ("JW")
- Drew Olehowski – Haley Ward ("DO")

Members of Public in Attendance:

- Approximately 25, see sign-in sheet attached. GS asked members of the public to share their initials when asking questions or making comments. These appear in the notes below.

17:10 – GS begins meeting. Provides project introduction and description.

- 60 units will be for rent, not condos.
- 12 duplexes, 12 triplexes
- 8 affordable, 7 in-lieu fee
- Discussion on Planning Board Schedule.

17:20 – Presentation by JW

- Project description
- Discussed changes from design originally submitted last year, specifically switch to modular homes.
- Brief description of site features, including road length and width, utilities, stream crossing, stormwater management
- Discussion of zoning. R3 zone with PRUD standards
- This will all be 1 lot with 1 owner.
- Roadway designed for emergency access.
- Underground utilities

- Wooded areas to be preserved to extent possible
- Landscape architect to provide design
- Traffic engineer to perform traffic study,
    - Question from abutter – Where will this study look at?
    - Answer from Jon – Impacts on Summit street

17:30 – Presentation by AP

- Modular home description
- Homes designed by Worchester Modular Homes
- Abutter interrupts and says they don't care what homes look like – Andrew's presentation ends.

17:30 – Questions from the audience begin.

MS – Biggest concern is traffic and safety of children.

LB – Lives on Basket Lane. Biggest concern is traffic. Mentioned traffic generated by nearby developments. Concerned with children's safety.

AG – Many people weren't notified of this meeting.

- GS – We followed the city's rules on notices. Notices were provided to those within 500' of the project property.

SC – Can there be another neighborhood meeting where everyone impacted by the project can be notified?

- GS – Yes, this is possible.

RB – Can we put up fliers for another meeting?

SC – Can the meeting be at 6-8 on a Wednesday?

MS2 – Questioned impact of project on already overburdened school system. Questioned why abutters weren't informed of changes in project. Mentioned project was originally supposed to be single family housing, then 55+ housing, etc.

- GS – Not knowledgeable on school system topic

BS – Comment that this is not an appropriate area for low-income rentals. There are no walkable amenities or services. Who will want to live in these units?

GS – Explained affordable housing rules and guidelines. Identified rent will be ~$2100/month.

RH – Comments that there are no undeveloped parcels within the city close to amenities. All undeveloped parcels are towards city limits such as this project is.

CL – Does the Owner have any other rentals in Portland or Maine? What is his reputation on how these rentals are managed?

- GS – Not sure. Does not believe he has any in Portland/

JC – With the current zoning, is this project legal? (are 60 units with duplexes/triplexes allowed in this zone?) If it is illegal, what obstacles would be in our way to make it legal?

- GS – Explained city preapplication meeting where it was confirmed this project was allowed in the R3 zone under PRUD standards. We did not max out the density in order to maximize green space and reduce traffic impacts.

SC – Why did you increase the size of the project?

- GS – We weren't part of the original project. The property has changed owners several times.

SS – Lives on Garsoe, which is a 23' wide street. This street feels very narrow, and the current traffic situation is poor. This road may struggle to accommodate new traffic.

NB – IS the traffic study made public prior to the planning board workshop?

- GS – IT is up to staff on how soon they release information to the public.

MS1 – Teachers won't be able to afford these "affordable" units. Will there be Airbnb restrictions? Will this meeting impact the project?

- GS – This meeting is not a formality, abutters input will be given to the city and the planning board will listen to comments.

GL – Will we be notified of the planning board meeting?

- GS – City will send notice to the same abutters that were notified of this neighborhood meeting. GS explains planning board process.

RB – Recommend this project be paused until the Lombard (spelling?) project is completed to see its impacts before creating new impacts with our project.

GS – Mentions that these meeting notes will be sent to the Planning Dept. and Planning Board

WH – What zone is this in?

- GS – R3
- WH – "Anne Machado says this project is not allowed."
- JW – This is an R3 PRUD, where this type of development is allowed. Explains how PRUD is allowed for certain lots and allowed duplexes/triplexes
- WH – What is the funding source to keep units affordable?
- GS – Explains Green New Deal rules and in-lieu fees that go to a housing fund.
- WH – The city had said previously this lot would be only for single family or 55+ housing.

HS – Can abutters petition the city to expand notice radius? Should let everyone in the neighborhood who will be impacted know of future meetings.

- JW mentions to email planning department with this type of concern.

WH – Could the residents of this project get Section 8 housing? I have a house worth $800-$900k. What will this do to the value of my house?

HS – Is there a way to expand the notification to the entire neighborhood. Everyone should get notes. This will have a huge impact on the traffic and the schools.

HS – Will there be a wooded buffer between this project and Basket Lane?

- JW – Shows buffer distance on site plan. Approx. 120' from Basket Lane to proposed road that will remain wooded.

LB – Question on erosion. Concerned with vegetation removal in ravine area.

- JW – Describes how this project is required to comply with MDEP's erosion standards. Explained limits of disturbance in ravine area. Identified stormwater management and how there will be no increased flows to the ravine as a result of this project. Stormwater analysis has been provided in the application.

MS2 – Were you a part of the Brandy Lane project?

- GS – No.
- MS2 – Brandy Lane project resulted in property damage to a local resident. How will this be handled for this project?
- GS – After receiving approvals, a performance guarantee is required that would cover damage caused during construction. Says he is a non-practicing attorney. This would be a good question for the planning board.

RB – Can you show us on the map where the Presumpscot River is? How far is the project from the river?

- JW – shows on map. Measures distance as 500-600 feet.
- RB – Will the Middle or North Loop be impacted? Will and marked trail be impacted?
- GS – Not sure, will meet with Jamie Parker with Portland Trails.

MS – Can this property be absorbed into the Presumpscot River Preserve? The preference is that this be made single family homes as originally planned. Mentioned increased noise from highway due to clearing from adjacent development. Will there be a noise study or any proposed noise barriers?

- JW – No noise study is planned.

WC – Concerned with safety due to proximity to highway and new access to highway due to clearing. Will undeveloped/open space areas be donated to Portland Trails?

- GS – reducing the size of property could impact space and bulk zoning standards. The city will have to determine if ownership of open space can be changed.

BH – Now that we know these are rentals – Is there an average turnover rate for rentals? Wants to know impacts of moving trucks on local streets. Is there a max load on local roads?

- GS – I don't know.

JP- Commented on pressures on health care system. Who would want to live in these units for these prices? The neighborhood is currently quiet and safe, don't want this to change.

- GS demonstrates integrated nature of affordable units on site plan. Points out that these are duplexes/triplexes.

BC – Developer is only looking to make money off property. The nature of the project doesn't make sense in this location. Aware of housing issue, but worried about kids' safety and traffic. Hard to see community benefit.

RW – Where does burden of over-tapped school systems lie? Schools are already at capacity.

- GS – Not on us to answer. Should be asked at the Planning Board.
- RW – We should wait to see what the impacts of other current projects will be before pursuing this one.

MS1 – Project is just for maximizing profits and not caring for the neighborhood. Can you see the project from the trails?

- JW – We aren't sure. We can do an analysis to determine this.
- GS – Planning Board will likely have a site walk. Explained site walks and the type of questions commonly asked at them.
- MS1 – Question on Property values
- GS – Prices may go up, or down. *Crowd angry at this response*

LB – First to move to Basket Lane. Could only cut trees within 20 feet of house due to erosion. Feel like they are being bamboozled due to all the changes in this project over the years. Feels like abutters are owed transparency on why these changes have happened without telling them.

SS – How to prevent issue of all those impacted by the project not being notified. Why isn't there a city representative at this meeting? They should be at the next meeting if there is one. Fear that City will only hear developers side of the story.

- GS – These meeting notes are sent to the City. All comments included.
- SS – After this project is built, are more units allowed to be built?
- GS – No. What is currently proposed could be built in phases. We are not required to invite city representative to this meeting. Encouraged to email comments to planning board and planning dept.

RH – Should walk the neighborhood to get addresses of all who should be invited to next meetings. Comments on housing shortages across the country. Creating higher end units allows people to "move up" and opens up other low-income housing to the homeless. Emphasized homelessness issue in Portland and how the City wants more housing.

BS – Will take photo of sign-in sheet so that everyone at meeting can be on an email list for this project.

- Greg – mentions how he is required to provide a sign in sheet but not required to sign.

MS2 – Was Brandy Lane already cleared when the City reviewed our project?

- GS – We haven't had the first planning board meeting yet so the City hasn't reviewed anything beyond the preapplication meeting.
- MS2 – Does the owner understand the size/scope of nearby developments? Was it considered?

- GS – I don't know. The owner is aware of the development but not sure if he factored into his plan.

SC – Will all existing Trail access remain? Will the trail still go to the river? Will there be light pollution/wildlife studies? Why isn't the owner building all 15 affordable units?

- JW – Shows on site plan where trail accesses are. Describes how state agencies were contacted for potential impacts to sensitive wildlife/historic areas. Natural resource surveys have been done. Photometric plan was prepared – only lighting is streetlights and porch lights. Will follow Dark Sky standards.
- GS – Owner thought there would be local opposition to full number of affordable units. The Green new Deal is very controversial and didn't want to create opposition. Greg explains how units were integrated in this design.

SC – Why are there no recreation areas or amenities?

JP – "Understand the need for affordable housing in Portland, but this isn't the neighborhood for it." The Lambert project is in a location with a bigger street that can accommodate a large project.

RB – Mentioned he has observed clearing of vegetation on other projects prior to obtaining approvals. Can it be assured this won't happen here?

- GS – No. Portland and MDEP rules would prevent this. MDEP takes this very seriously. Greg has seen this happen on other projects and it has resulted in fines and delays.

HS – Commented that people like to live in the neighborhood because of woods, trails, nature, low traffic – this project is taking that away. This is a large neighborhood to only have 2 traffic entries/exits. Emphasized strain on local schools/services, pre-k, swim lessons, after-care. Strained systems make this unattractive area for future families. The schools could handle the original idea of single family or 55+ housing. Why did this change and abutters were not told? The proposed use has been changed multiple times. The future use of this lot was taken into consideration when her home was purchased on Basket Lane. More comments about how 500' notice wasn't enough. The city portal had no project information on it.

- GS – Asked how far to send for abutters. Again, mentions the planning dept. email to submit comments directly.

LB – When she bought her property it was 55+, expected that here.

SC – Should notify residents on Alice, Curtis, Garsoe, Summit, Basket, Brandy and Hope. "Everyone who uses Garsoe and Curtis roads." Also Lyseff and Lyman school district residents. Mentioned Press Herald article on traffic issues on Summit.

NB – Done lots of Planning meetings. The way to stop this project is for everyone to go to the planning board meeting and reach out to city council.

- JW – There will be signage on the property identify planning board meeting date.
- SS – Can signage be put at Garsoe and Curtis intersections too?
- GS – I will submit all these questions to the owner.

AG – Called City yesterday. Planner says best thing to do is submit email comments to the planning department.

GL – Will these notes be on the city portal? Where do they go?

- GS – We aren't sure. Good question for planning dept.board.
- HS – Probably uploaded to citizen self serve portal. There were no items on this portal 2 weeks ago.

GS – This will be a several planning board meeting process.

AG – Would the developer go back to original plans of single family?

- GS – This property has changed owners several times. It was never the current owner's plan to do single family or 55+.

19:00 – Meeting adjourns

HALEY WARD

MEMO

To: Zach Powell | Senior Planner

From: Drew Olehowski, PE & Jon Whitten, Jr., PE

Re: **1 Hope Avenue Development | Review Comments Round IV | PL-002454-2023**

Date: January 14, 2025 (Revised January 23, 2025)

Haley Ward, Inc. (Haley Ward) has prepared this memo in response to comments within the City's **Review Comments Round IV** letter, dated September 6, 2024, and submitted to us via email. Review Comments and Recommendations are in **Bold**, followed by our responses.

GENERAL REVIEW COMMENTS

- **Updated and reformatted documents were uploaded by review category, including draft condominium & homeowner association documents.**
  No response required.

- **As requested in the last comment letter, please identify how the proposed development is meeting the Subdivision Review Standards of §15.4.1. The last application submission included a short statement stating that the application meets the applicable site plan and subdivision standards with additional narratives specifying compliance with each applicable section. While some narratives speak to the standards of §15.4.1., there are missing sections.**
  An updated response letter has been prepared and submitted for review.

- **As relayed by email in August, the project must demonstrate financial capacity to meet Site Law of Development (SLOD) standards through submission of one of the following items:**

  - **A letter from a financial institution, governmental agency, or other funding entity indicating a commitment to fund the cost of the project; or**
  - **The most recent corporate annual report or financial statements indicating availability of sufficient funds to finance the development together with material explaining the report, and evidence that funds have been set aside for the proposed development. The financial information in any annual report and any financial statement should be audited, or an explanation provided why audited reports are not available; or**
  - **Copies of bank statements of accounts held by the applicant or other evidence**

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indicating that funds are available and have been set aside for the proposed development.
The applicant will submit adequate proof of financial capacity under separate cover.

STATE/FEDERAL PERMITS

- **The applicant will also need to provide evidence of any necessary state and federal permits for the proposed disturbance within the state-required 75' setback from the stream.**
  We have submitted evidence of approval of all state and federal permits required for wetland impacts, the proposed stream crossing, and disturbance within 75 feet, but not within 25 feet of a stream.

- **Evidence of MaineDEP and US Army Corps of Engineers approvals should be sent to the City upon receipt.**
  We have submitted evidence of approval of all state and federal permits required for wetland impacts, the proposed stream crossing, and disturbance within 75 feet, but not within 25 feet of a stream.

ZONING/DESIGN

- **Upon review of the requested building elevations, the listed building heights do not correspond with the listed scale & maximum permitted heights. Please update building elevations to use an accurate scale and have a maximum building height of 35 feet, along with updating the site plan to reflect updated calculations.**
  Although we were unable to re-create the calculation of building heights of more than 35 feet, we have submitted revised architectural plans, prepared by others that are to scale and indicate building heights of less than 35 feet.

- **Calculations for the proposed open space, building length for triplexes, and minimum building setback from external subdivision property lines have been provided. Submission of the duplex elevations & floor plans is still required. As mentioned in the bullet above, the scale for the elevations should be revised to provide consistent building height and length between application documents.**
  Revised architectural drawings for both the tri-plex and duplex buildings have been submitted, as requested.

ADDITIONAL SUBMISSIONS REQUESTED:

- **Updated elevations and floor plans**
  Submitted

- **Zoning Clarification: Structure Height**
  Submitted

14.6.1 TRANSPORTATION STANDARDS

IMPACT ON SURROUNDING STREET SYSTEMS

- **Submit additional speed data over a minimum 48-hour period from a location on Summit Street.**
  Updated data from a location on Summit Street has been submitted. Results are similar to the other locations, as expected.

- **Improvements (existing and proposed) in the ROW should be dimensioned on the plan view sheets (in this case the 20 Scale Plan). For example, dimensions for streets, lanes, sidewalks, esplanade, driveways, and other improvements should be noted. Please also note the widths and when the widths change.**
  The only improvements proposed within the City's right of way is at the proposed entrance to the project, where is intersects with Hope Avenue. Utility connections are proposed and have been shown on a 20-scale drawing, as requested.

PUBLIC TRANSIT ACCESS

- **The applicant conducted a general evaluation of pedestrian facilities and noted ADA-compliance issues related to ramp conditions. The Department of Public Works provided no further comment/request related to this topic.**
  No response required.

- **As mentioned in the previous comment letter, crosswalks in the ROW shall follow the City Standard detail Figure I-17 Typical Crosswalk Markings (COP Technical Manual).**
  We have updated the design of each crosswalk to meet the standards mentioned. These are shown on the updated plans.

PARKING

- **The location of on-street parking spaces is not evenly distributed throughout the site and the applicant should note how parking will be managed so that vehicles do not park in non-pull-out areas.**
  We have removed all on-street parking except for three parking spaces proposed to be located that the project's proposed trail connection to the "Sebago to the Sea" Trail. Each unit will have one parking space located within the garage and one located in the driveway leading to the garage.

- **The five parking spaces at station 6+00 are not abutting a sidewalk and access into and out of vehicles may be difficult as it also abuts a snow storage area.**
  We have removed these parking spaces.

ADDITIONAL SUBMISSIONS REQUESTED:

- **Updated speed data for Summit Street**
  Submitted
- **Response to parking concerns**
  Eliminated
- **20 Scale Plan for ROW Improvements**
  Submitted

14.6.2 ENVIRONMENTAL QUALITY STANDARDS

SITE LANDSCAPING AND BUFFERS

- **Provide a response on how tree preservation will take place given the existing steep terrain and proposed grading activities.**
  Trees to be preserved will be marked in the field and City standards will be followed to protect those trees during construction.

- **In the central area to be selectively cut and retained as recreational open space, identify on the site plan the existing basal area that is targeted to be retained.**
  Per discussion with the Planning Board we are proposing to increase the cleared lawn area to better balance with the tree preservation area. This will allow for open recreation and gathering area near the center of the development. The applicant can provide more detailed information regarding the existing basal area to be preserved, prior to start of clearing and construction.

- **Revise Note #3 on landscape plan sheet LA101 to read "*All planting shall be done in accordance with ANSI A300 standard Ch 6: Planting and Transplanting*"**
  This note will be included on a revised sheet LA101 prior to final signature of the Site/Subdivision Plan.

- **For Planting Note #7 on landscape plan sheet LA101, please include text explicitly stating that compost will not have 'sludge' or biosolids as a parent material.**
  This note will be added to a revised sheet LA101 prior to final signature of the Site/Subdivision Plan.

WATER QUALITY, STORMWATER MANAGEMENT AND EROSION CONTROL

- **The submitted geotechnical report analyzed the proposed 1:1 embankment design located at the proposed access drive and box culvert stream crossing near station 2+50. The report indicated the design of the 1:1 embankment slopes should be revised to flatten slopes to 2:1 or be designed as reinforced slopes with engineered face treatments and internal geotextile reinforcement. The design should be updated to reflect all of the findings of this report.**
  An additional report, specifying the design details for a reinforced 1:1 sloped embankment has been prepared by S.W. Cole Engineering and submitted for review. Reference to this report has been added to the plans.

- **Stormwater discharge flows from GUSF-1 and some existing drainage areas appear to be directed towards an existing gully that will be impounded by the proposed access driveway/embankment construction.**

  Flows will ultimately spill over towards the inlet side of the proposed stream crossing box culvert. The applicant should consider and comment on how this may impact the design of the proposed access drive/culvert embankment. Water Resources expresses concern that stormwater flows being directed to flow along the toe of the embankment could lead to future scour issues.
  Additional riprap support has been added to the proposed stream crossing to better guard against possible scour.

- **Water Resources remains concerned with the lack of outlet protection being provided at the proposed stormwater outfall pipe locations, especially at the piped discharge locations for Wetpond's A and B and Bio Cell's A and B. These outfalls should be designed with plunge pools and level spreaders per design guidance listed in Maine DEP's ESC manual for designers and engineers. This area is known to have high highly erodible soils and import that concentrated stormwater discharges from this site do not cause downstream erosion and land stability issues.**
  Outlet locations have been modified, as well as the design of outlet protection features to minimize their impact on existing lands.

- **Water Resources has identified a potential calculation error in the post- development HydroCAD model pond nodes for Wet Ponds A and B. The model appears to allow storage volume to be utilized below the design permanent pool volume for each pond during simulated rainfall events. The applicant should revise the model to set a starting storage elevation at the proposed permanent pool elevation and re-run the analysis. This could affect the conclusions of the flooding standard analysis and proposed plunge pool/outfall protection design.**
  As discussed with the Planning Board, we have reduced the building count between proposed Pond A and Pond B and have moved these ponds away from the eastern property line. As a result we have updated the stormwater calculations, pond volumes, pond locations and pond designs. We believe these changes minimizes the potential for significant, negative impacts on downstream areas.

- **The construction management plan should be updated to discuss in more detail how erosion and sediment control practices will be implemented and managed on-site during construction.**
  An updated construction management plan has been submitted. The Plan refers to the Erosion and Sedimentation Control Plan within the Plan Set and written narrative.

ADDITIONAL SUBMISSIONS REQUESTED:

- **Response on tree preservation related to slopes & grading**
  Revisions are agreed to and will be made prior to final signature of the Site/Subdivision Plan.

- **Updates to Landscape Plan Notes**
  Revisions are agreed to and will be made prior to final signature of the Site/Subdivision Plan.
- **Flows near access drive embankment response**
  Submitted
- **Updates to embankment design based on geotechnical report findings**
  Submitted
- **Outlet Protection**
  Submitted
- **HydroCAD model updates**
  Submitted
- **Construction management plan updates on ESC practices**
  Submitted

14.6.3 PUBLIC INFRASTRUCTURE + COMMUNITY SAFETY STANDARDS

PUBLIC UTILITIES

- **Submit a formal status update on the design package and continue to work with DPW to submit any additional information/plan revisions.**
  We have submitted a design package for the proposed sewer lift station upgrade at Hope Avenue and that plan has been initially accepted by DPW. We will continue to work with DPW to finalize the specifications for construction as the applicant enters the building permit stages of the project.

ADDITIONAL SUBMISSIONS REQUESTED

- **Update regarding wastewater system upgrade**
  Answered above.

14.6.4 SITE DESIGN STANDARDS

SNOW AND ICE LOADING

- **As noted in comments related to Parking and Design, a reconfiguration of snow storage areas adjacent to on-street parking with no sidewalks is warranted.**
  Snow storage areas have been reconfigured based on the revised parking and sidewalk design.

EXTERIOR LIGHTING

- **Submit a specification sheet for the proposed on-site lighting that includes the maximum lumens and CCT (3000K CCT is the maximum permitted). The referenced model number in the lighting plan appears to be for lights that are not currently manufactured.**
  Updated light fixture specifications have been submitted.

- **Update the lighting plan to include the Uniformity (Maximum to Minimum Illumination) and minimum, maximum, and average illumination values measured at grade that meet the standards of §12.3.1 & §12.3.2 of the Technical Manual.**
  The lighting layout has been revised due to the reduction in parking and sidewalks and a revised plan has been submitted.

ADDITIONAL SUBMISSIONS REQUESTED

- **Specification sheet for onsite lighting & updated lighting plan**
  Submitted

- **Response on where mechanical units/HVAC systems will be located & screened away from adjacent properties and the street**
  Mechanical Units/HVAC systems are expected to be limited to Heat Pumps and the like. They are very quiet when operating and the outside units will be located at the rear of the units.

- **Response to September 4, 2024 Design Memo**
  The Design Memo requested that lighting, parallel on-street parking, and crosswalks be updated. As mentioned within our responses to other review comments, we have eliminated on-street parking, eliminated some sidewalks, and adjusted lighting. We believe the crosswalks meet ADA requirements and are now better illuminated. Please see the Plan Set for more information.

PC1

Carter Frank <cfrank@portlandmaine.gov>

Public Comment for 1 Hope Avenue (PL-002454-2023) from Protect Presumpscot

1 message

Robert <rgbenak@gmail.com> Thu, Feb 27, 2025 at 4:36 PM
To: Zachary Powell <zpowell@portlandmaine.gov>, planning@portlandmaine.gov

Hello Zach,
I am attaching here a submission of public comment for the 1 Hope Avenue application (PL-002454-2023) from Protect Presumpscot. Please ensure this is available to the Planning Board for their consideration.

Separately, per our previous conversations about the independent geotechnical firm's review of all available public comment, I am asking you to ensure that the firm conducting the study receives this public comment. Can you please respond with confirmation that they will receive this material?

As an aside while I have your eyes, can you let me know whether that review has begun yet? And if so by when it might be completed? I spoke with Director Kraft this morning and he mentioned that it was possible that the study might be completed before the 3/11 meeting. I would like to understand what the timing protocols are with that situation.... As an example: If the study materials become available on the 10th, are they able to be considered for the 3/11 meeting? Such a tight timeline would leave the public very little time to consume the material.

Presumpscot Formation Proximity Public Comment from Protect Presumpscot - Google Docs.pdf
9285K

To the members of Portland Planning Board:

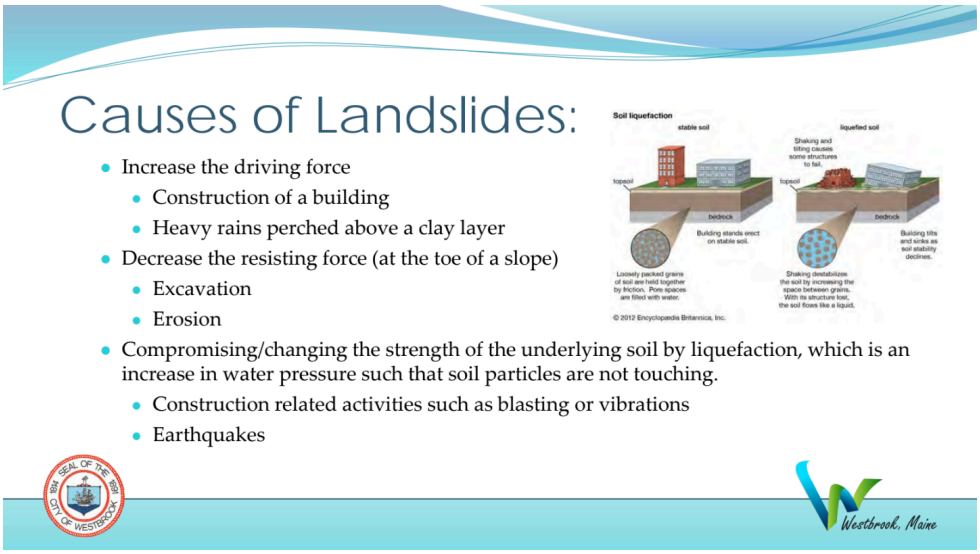
Hello, My name is Robert Benak and I submit this material to you as a member of the Board of Directors of and on behalf of Protect Presumpscot. Protect Presumpscot is an environmental nonprofit whose mission is to advocate for protecting the environmental health and ecological integrity of the Presumpscot River Preserve, the adjacent section of the Presumpscot River, and maintaining the natural experience of the Presumpscot River Trails network. Thank you for receiving this letter and understanding our concerns outlined herein.

It has come to our attention that a Major Site Plan Application has been submitted by GenX Capital Partners, LLC for a property located on/about 1 Hope Avenue in Portland (PL–2454-2023). In consuming the applicant's design materials, previously submitted public comments on the matter, as well as externally available sources of geological information, we have concluded that there is a very high probability that a geological formation known as the Presumpscot Formation exists near and/or within the parcel for which GenX Capital Partners is seeking development approval. This is problematic as the Presumpscot Formation represents a landslide risk due to soil make up and other conditions found within it. This risk is exacerbated by construction activity that necessarily accompanies Major Site developments such as the one GenX proposes: these increased risks are due to reduction of stabilizing vegetation, increased impervious surfaces, increased stormwater runoff, construction equipment vibrations, the weight of new roads and buildings where previously there was forest, and others.

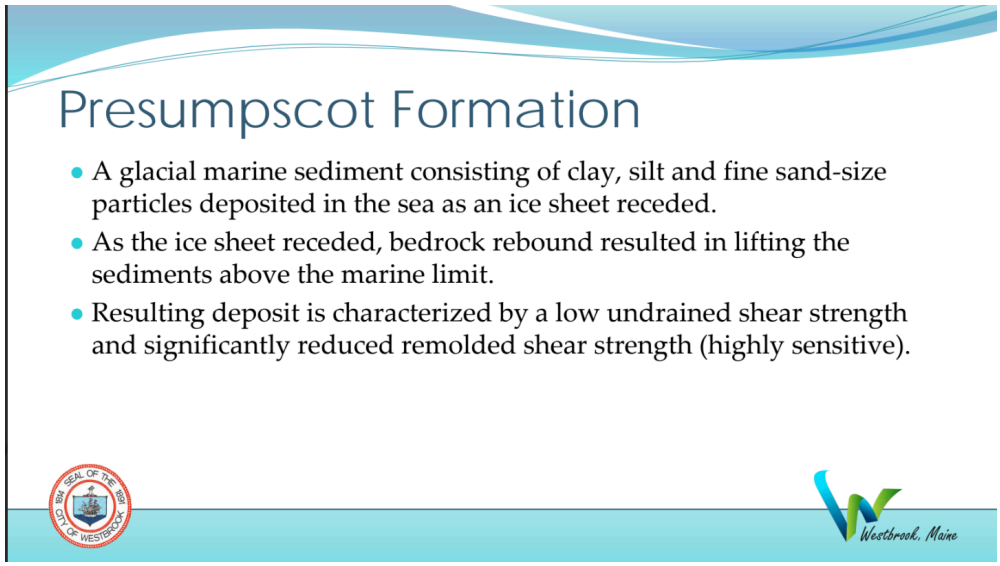
This public comment submission is not for the purpose of informing the Planning Board of the risks associated with the Presumpscot Formation, nor the soil conditions found at the applicant's site as both of those subjects have been submitted to you by other experts including Dr. Irwin Novak, Friends of the Presumpscot River, and Haley Ward of the applicant team, respectively. Rather, this public comment submission serves to inform you as to the confirmed locations of the Presumpscot Formation in close proximity to the applicant site as reported by recent studies, and with that in mind, we assert that it is probable that the Presumpscot Formation exists within the applicant site. If it is possible that the Presumpscot Formation exists within the applicant site, and it is a given that the Presumpscot Formation represents a landslide risk, then we must require the applicant to either prove that the Presumpscot Formation does not exist within the applicant site and/or require the applicant to modify its building plans in such as way that the risks posed by the Presumpscot Formation's presence are fully mitigated. To not do so, allows the Presumpscot Preserve, the Presumpscot River, existing nearby structures, and the health and wellbeing of any future homeowner of a home built by the applicant to remain under potentially lethal risk.

1. On October 22, 2024, Portland held a Hybrid Planning Board Meeting. During this meeting public comment was given by Dr. Irwin Novak, a professional geologist, university professor, academic author, and expert on the Presumpscot Formation. His full public comment can be referenced here on the Portland city website containing minutes from the Hybrid Planning Board Meeting at which he spoke.

a. As part of his public comments, Dr Novak states in regards to the applicant's most recent soil report that, "In sum, the descriptions are of poorly drained soil derived from the Presumpscot Formation - a glacially deposited surficial layer of clayey-silt with occasional admixutres of sand that varies in thickness and land slope." He goes on to say, "Landslides in the Presumpscot Formation have been associated with human activity such as well-drilling, overloading of mined sand and gravel materials, and over-steepening of slopes during road construction. Landslides occur naturally as a consequence of undercutting slopes by river erosion and wave activity and possibly by the freezing and thawing of the clayey-silt material."

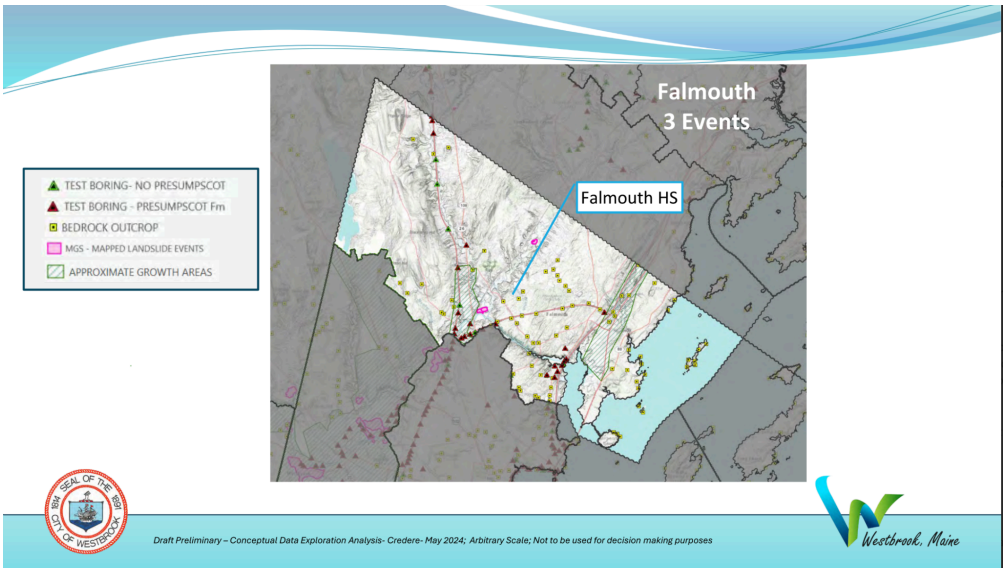
2. On February 7th, 2025, Bangor Daily News writer Kathleen O'Brien wrote an article titled, "This researcher is trying to stop homes from falling into the Penobscot River". In the article the writer interviews and quotes Dr. Aaron Gallant, a geotechnical engineer and associate professor at the University of Maine. The subject of the article and interview includes the risk posed by the Presumpscot Formation.
    a. The article reports that the "Presumpscot Formation is found in coastal and riverfront areas…across Maine. It contains soft silty mud with a high water content" and goes on to quote Dr. Gallant who describes the Presumpscot Formation as "a house of cards" in terms of its stability. "It's stable to some extent," Gallant Said. "But, it has a low resistance. It can be strong as long as you're not disturbing it."
3. Since it is a given that the Presumpscot Formation represents landslide risk to our region, the town of Westbrook recently completed an effort to understand the locations of the Presumpscot Formation, "Landslide Vulnerability Assessment Study" (see Appenx). A few notable details from the study are included here:
    a. On the causes of landslides (below), the study lists "Construction of a building" and "Heavy rains above a clay layer". It also says that "construction related activities such as blasting or vibrations" can contribute to "compromising/changing the strength of the underlying soil by liquefaction"
    b. 

c. Regarding the Presumpscot Formation itself (below), the study notes that the land becomes “highly sensitive”.

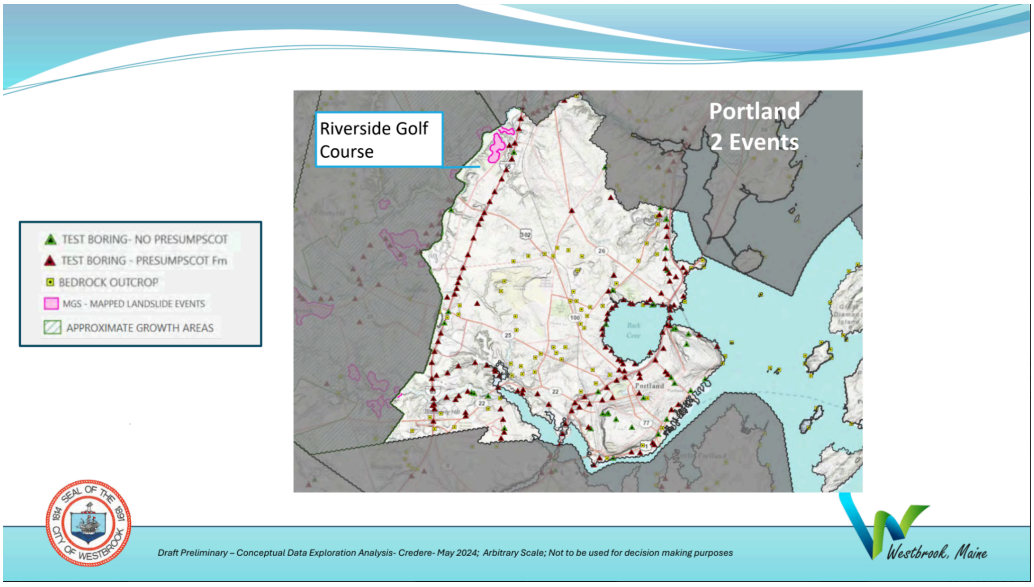
d. 

e. The study goes on (below) to locate confirmed detections of the Presumpscot Formation in our region, including and concerningly very near to the applicant’s site. Note that the key on the left communicates that red triangles are confirmed locations of the Presumpscot Formation.

f. Below is a chart of the Town of Falmouth with respect to confirmed locations of the Presumpscot Formation:

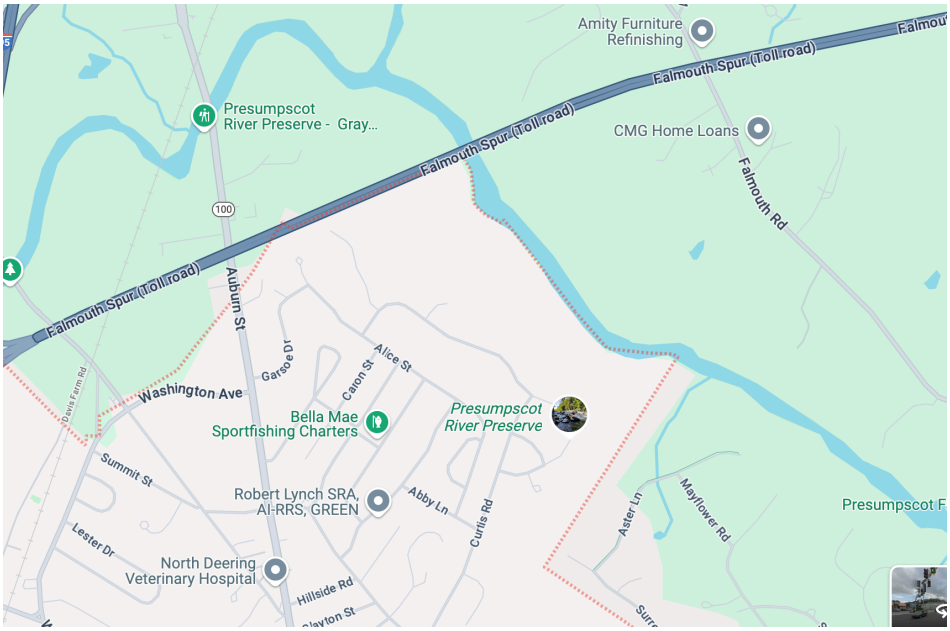
g. 

h. Below is a chart of the City of Portland with respect to confirmed locations of the Presumpscot Formation:

i. 

j. To help consume this information, what follows are four views: 1) a map of Portland's North Deering neighborhood which includes the applicant's proposed build site, 2) a copy of the high level site from the applicant's submitted materials, and 3) and 4) which are zoomed in views of the Falmouth and Portland charts showing confirmed locations of the Presumpscot Formation in very close proximity to the applicant's site.

k. 1) Map of a portion of Portland (below)

l. 

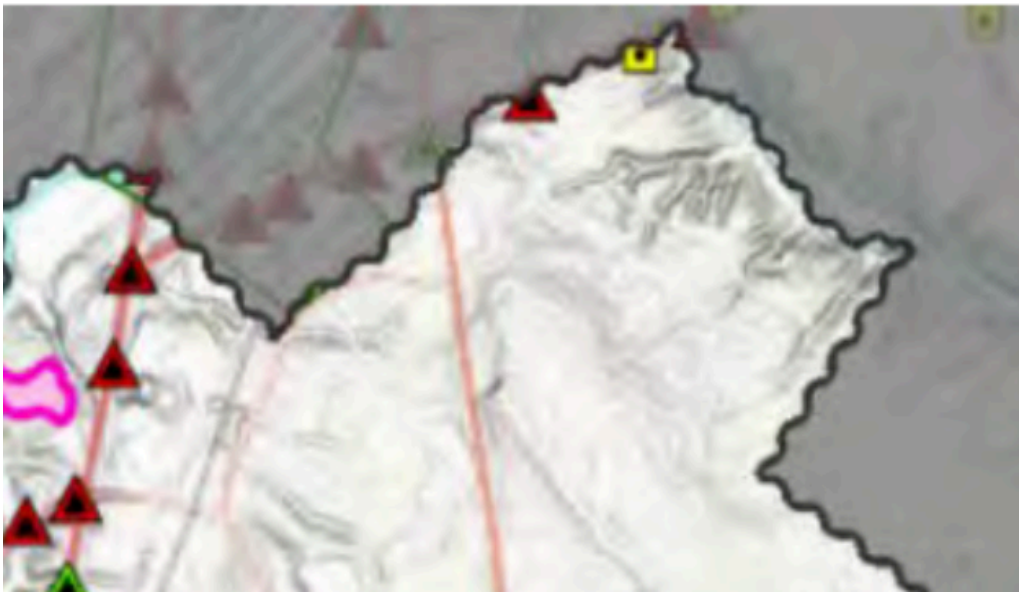
m. 2) A copy of the high level site from the applicant's submitted materials (below)

n. 

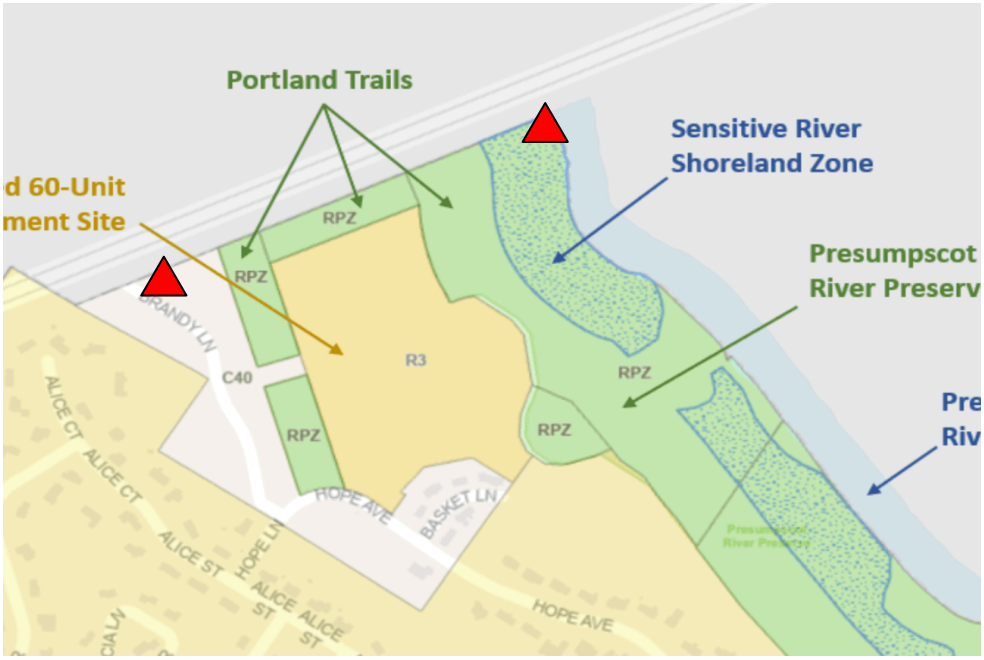
o. 3) Zoomed in version of the Falmouth chart (below). Note the presence of the Presumpscot Formation by the red triangles.

p. 

q. 4) Zoomed in version of the Portland chart (below). Note the presence of the Presumpscot Formation by the red triangles.

r. 

4. It is clear that there are confirmed locations of the Presumpscot Formation very close to the applicant's build site, possibly even within a couple hundred feet. Below is an overlay of the confirmed locations from the Westbook study on the visual of applicant's site.

a. 

5. We assert that given Dr. Novak's interpretation of the soil samples collected from within the applicant's site as being consistent with what is found within the Presumpscot Formation, and given the confirmed locations of the Presumpscot Formation from the Westbrook study, it is highly probable that the Presumpscot Formation runs underneath the applicant's site. Further, given the scale of the applicant's proposed designs, and the Westbrook study's information that activity common to construction projects such as the one being proposed can cause landslides, it is entirely possible that if approved, this construction project results in landslides. Lastly, note that while this risk is present within

the applicant site, due to the nature of construction equipment vibration, and the breadth of the Presumpscot Formation and its conditions, the risk also exists away from and outside of the applicant site, including but not limited to the Presumpscot Preserve and surrounding homes and neighborhoods.

To conclude, as was mentioned early in this public comment, given all of the above information, it is critical that the applicant either prove that the Presumpscot Formation does not exist within its proposed build site, and/or that the applicant take any and all mitigating steps necessary to eliminate the landslide risk from the land, nearby existing homes of Falmouth and Portland, and any potential future residents of homes built by the applicant on this site.

Landslide Vulnerability Assessment Study

Presented by: City of Westbrook

& Credere Associates, LLC

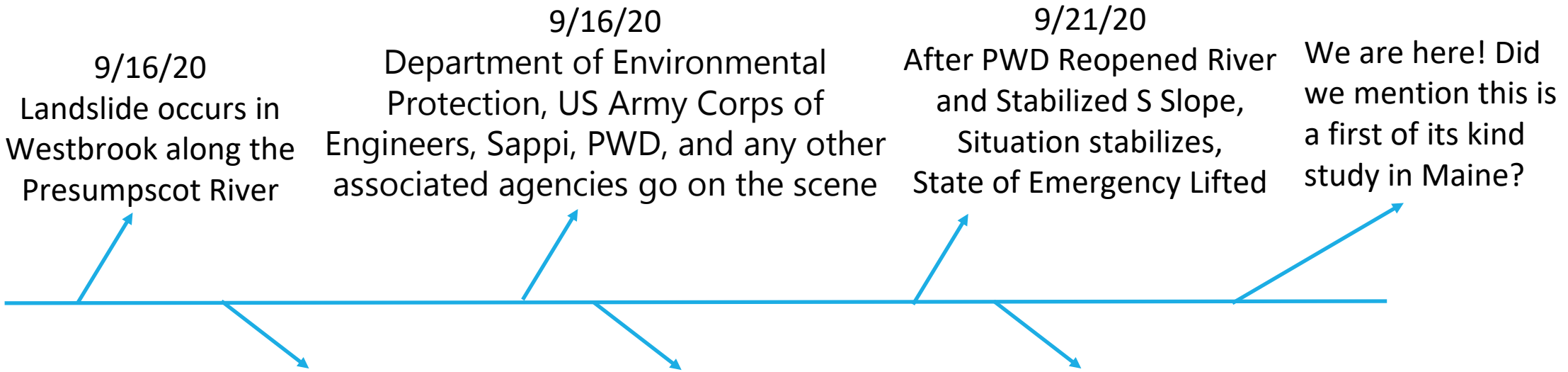
Brief Introductions

2020 Landslide In the News…

- https://www.youtube.com/watch?v=60FKkUt6llk&list=PPSV



Why Westbrook is taking on this task



Why Westbrook is taking on this task

This isn't the first landslide for Westbrook…



Sketch of the 1831 landslide by Professor Edward Hitchcock

May 5th, 1831

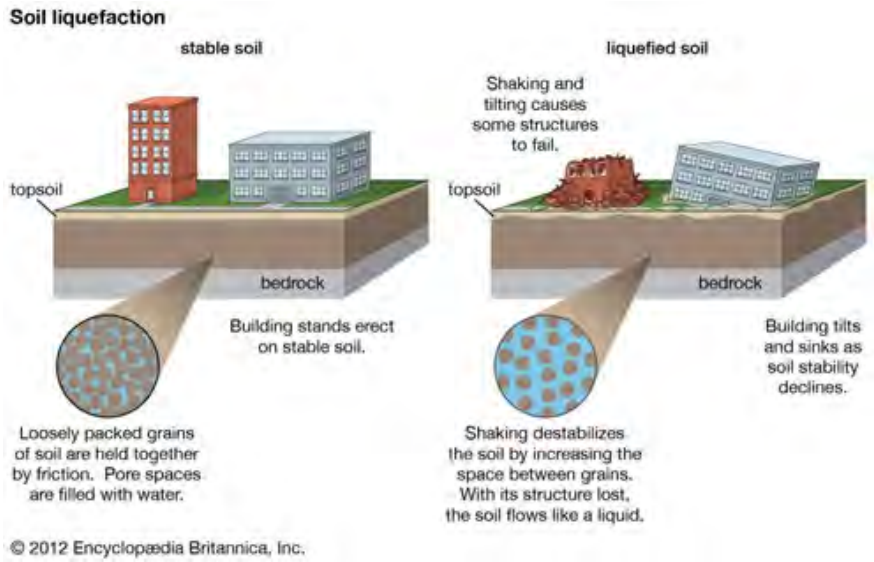
View into the 1868 landslide crater from near the Presumpscot River, looking roughly north from Westbrook Historical Society



November 22, 1868

Causes of Landslides:

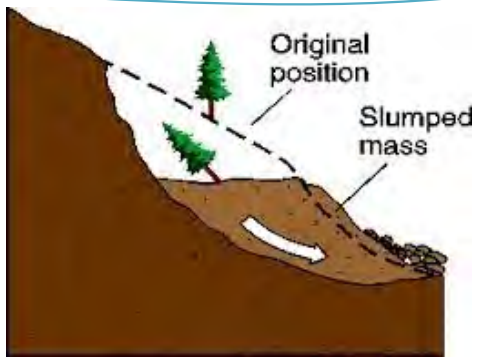
- Increase the driving force
  - Construction of a building
  - Heavy rains perched above a clay layer
- Decrease the resisting force (at the toe of a slope)
  - Excavation
  - Erosion
- Compromising/changing the strength of the underlying soil by liquefaction, which is an increase in water pressure such that soil particles are not touching.
  - Construction related activities such as blasting or vibrations
  - Earthquakes

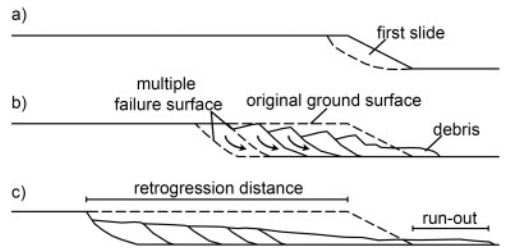


Presumpscot Formation

- A glacial marine sediment consisting of clay, silt and fine sand-size particles deposited in the sea as an ice sheet receded.
- As the ice sheet receded, bedrock rebound resulted in lifting the sediments above the marine limit.
- Resulting deposit is characterized by a low undrained shear strength and significantly reduced remolded shear strength (highly sensitive).

Two Types of Failure

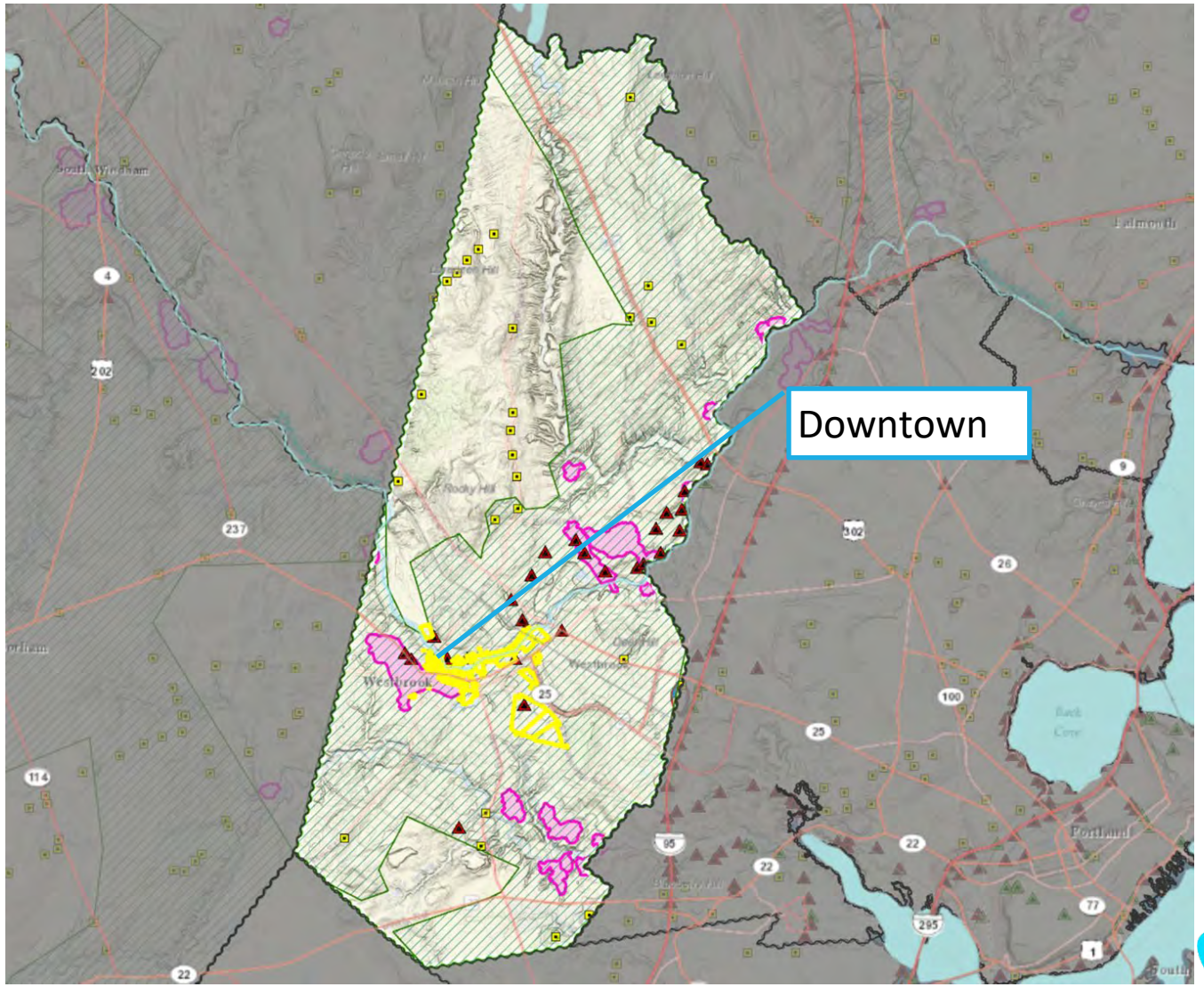


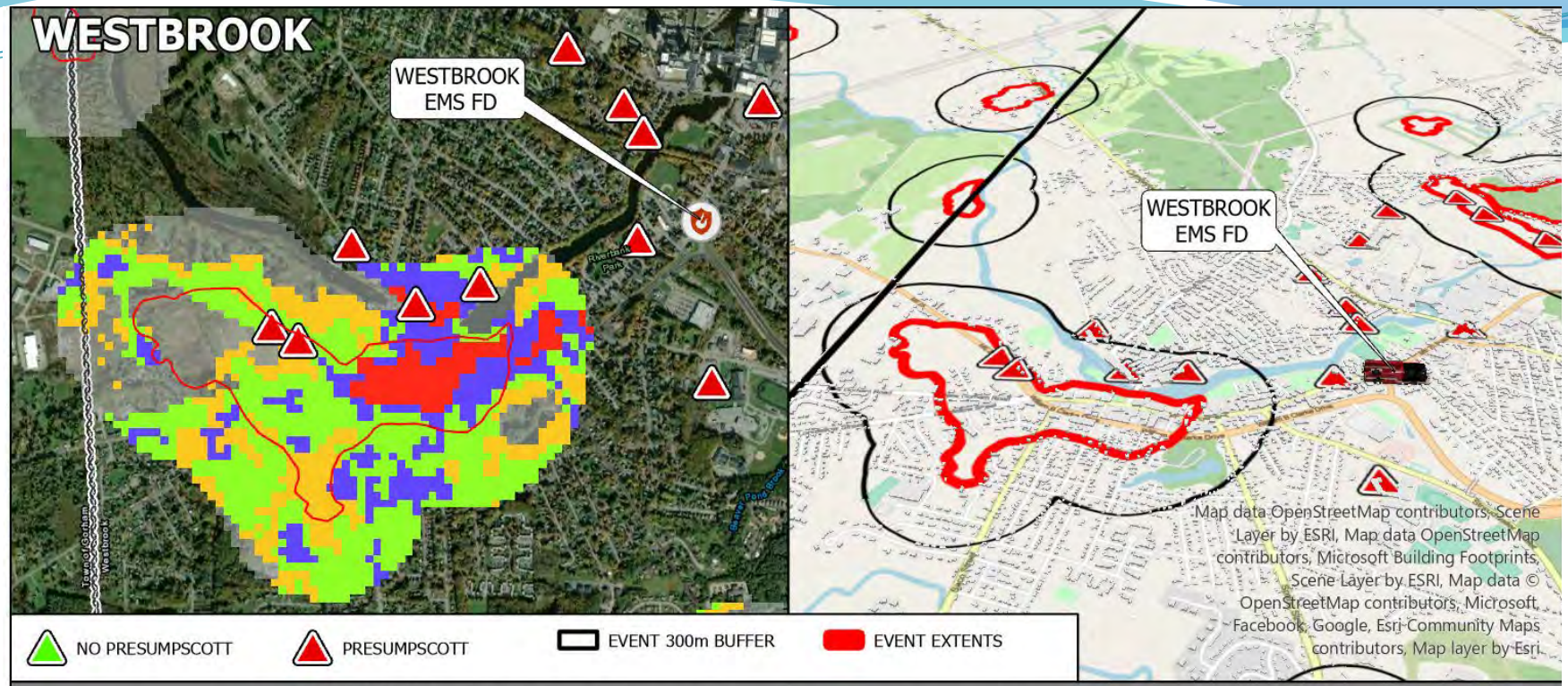


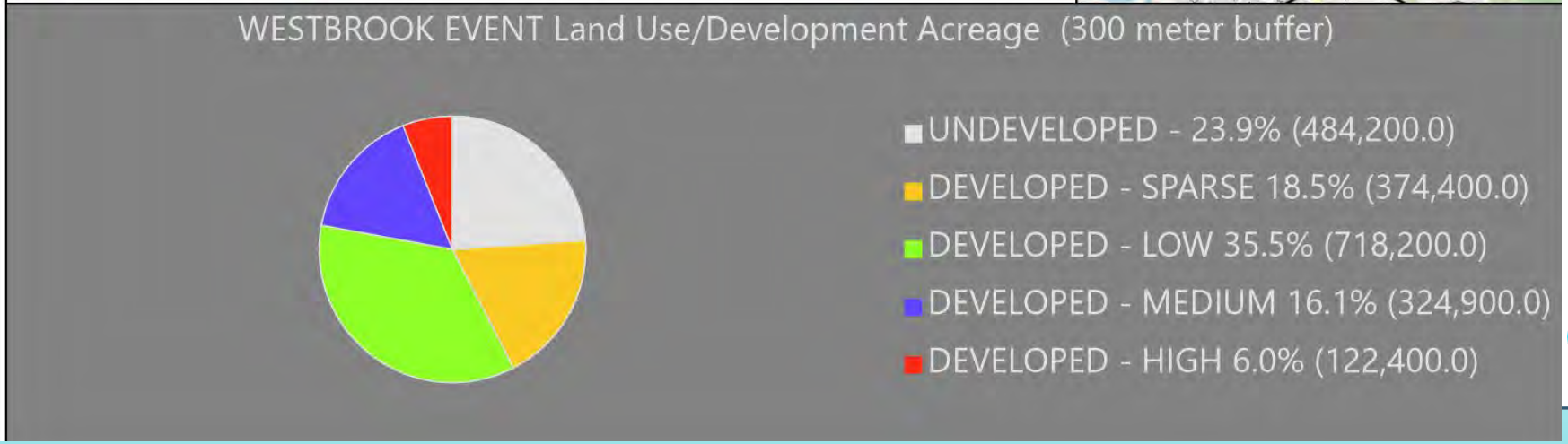
- Single rotational slides
- Retrogressive slides

- The rotational slides typically occur in thick deposits of the Presumpscot Formation along the Maine coast because of oversteepening due to wave erosion at the toe. This erosion is promoted by highly erodible silt layers interbedded in the silty clay.

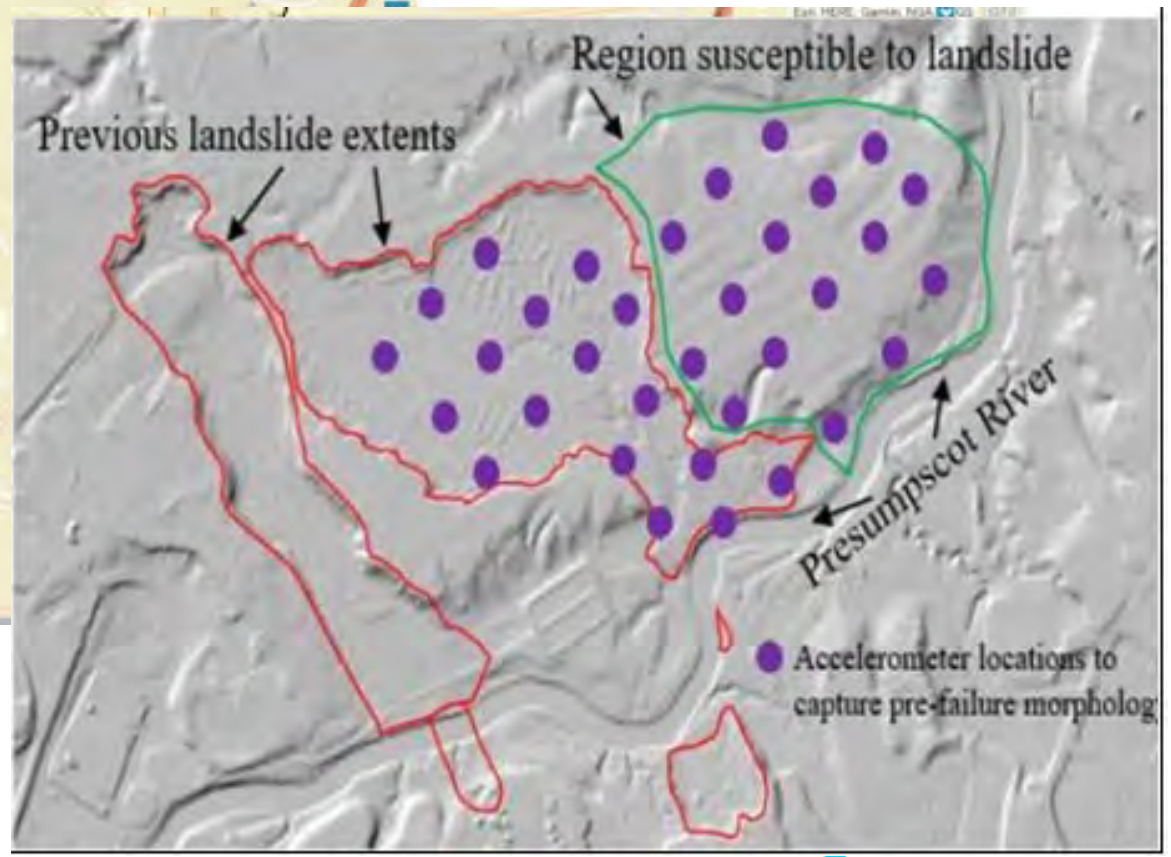
- The retrogressive slides occur more commonly in the Presumpscot Formation inland from the coast and adjacent to a small river due to lower strengths and highly sensitive, i.e. the disturbed shear strength was much lower than the intact shear strength.


TEST BORING- NO PRESUMPSCOT
TEST BORING - PRESUMPSCOT Fm
BEDROCK OUTCROP
MGS - MAPPED LANDSLIDE EVENTS
APPROXIMATE GROWTH AREAS
Downtown


WESTBROOK
WESTBROOK EMS FD
WESTBROOK EMS FD
Map data OpenStreetMap contributors, Scene Layer by ESRI, Map data OpenStreetMap contributors, Microsoft Building Footprints, Scene Layer by ESRI, Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer by Esri
NO PRESUMPSCOTT
PRESUMPSCOTT
EVENT 300m BUFFER
EVENT EXTENTS


WESTBROOK EVENT Land Use/Development Acreage (300 meter buffer)
UNDEVELOPED - 23.9% (484,200.0)
DEVELOPED - SPARSE 18.5% (374,400.0)
DEVELOPED - LOW 35.5% (718,200.0)
DEVELOPED - MEDIUM 16.1% (324,900.0)
DEVELOPED - HIGH 6.0% (122,400.0)

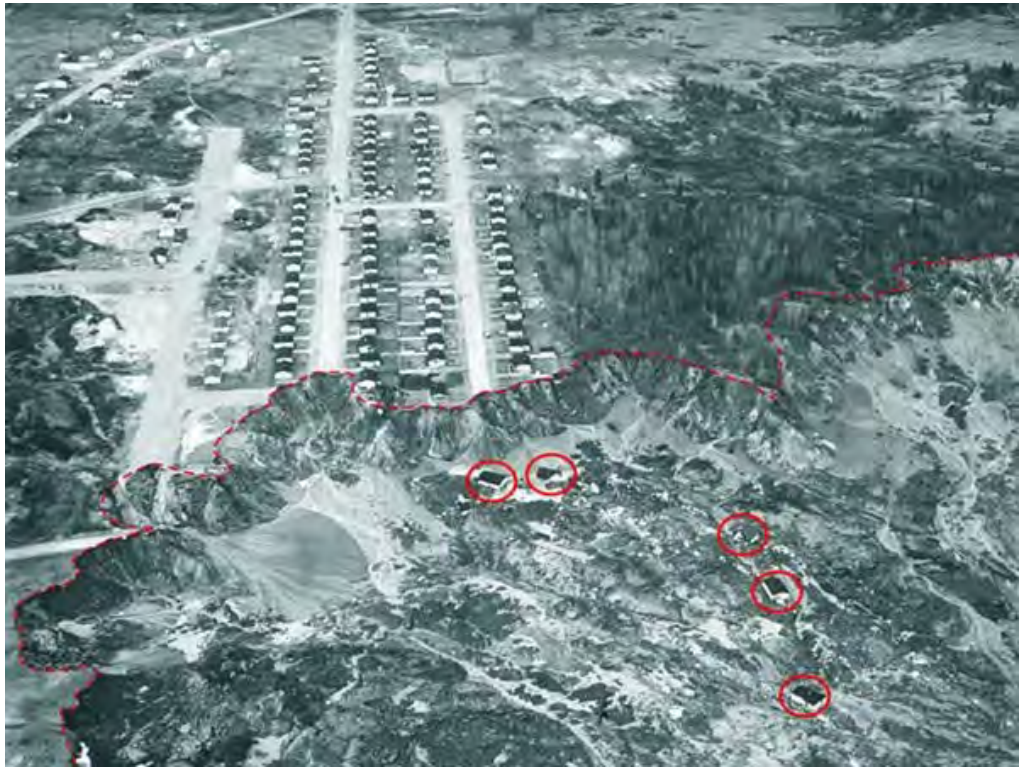

Westbrook, ME


Region susceptible to landslide
Previous landslide extents
Presumpscot River
Accelerometer locations to
capture pre-failure morpholog

Key Takeaways

- 12 Documented Landslide Events
- Limited Boring Data
- Potential Landslide Vulnerable Areas in Town Designated Growth Areas
- Presumpscot Clay detected along Presumpscot River

Case Study from a Neighbor



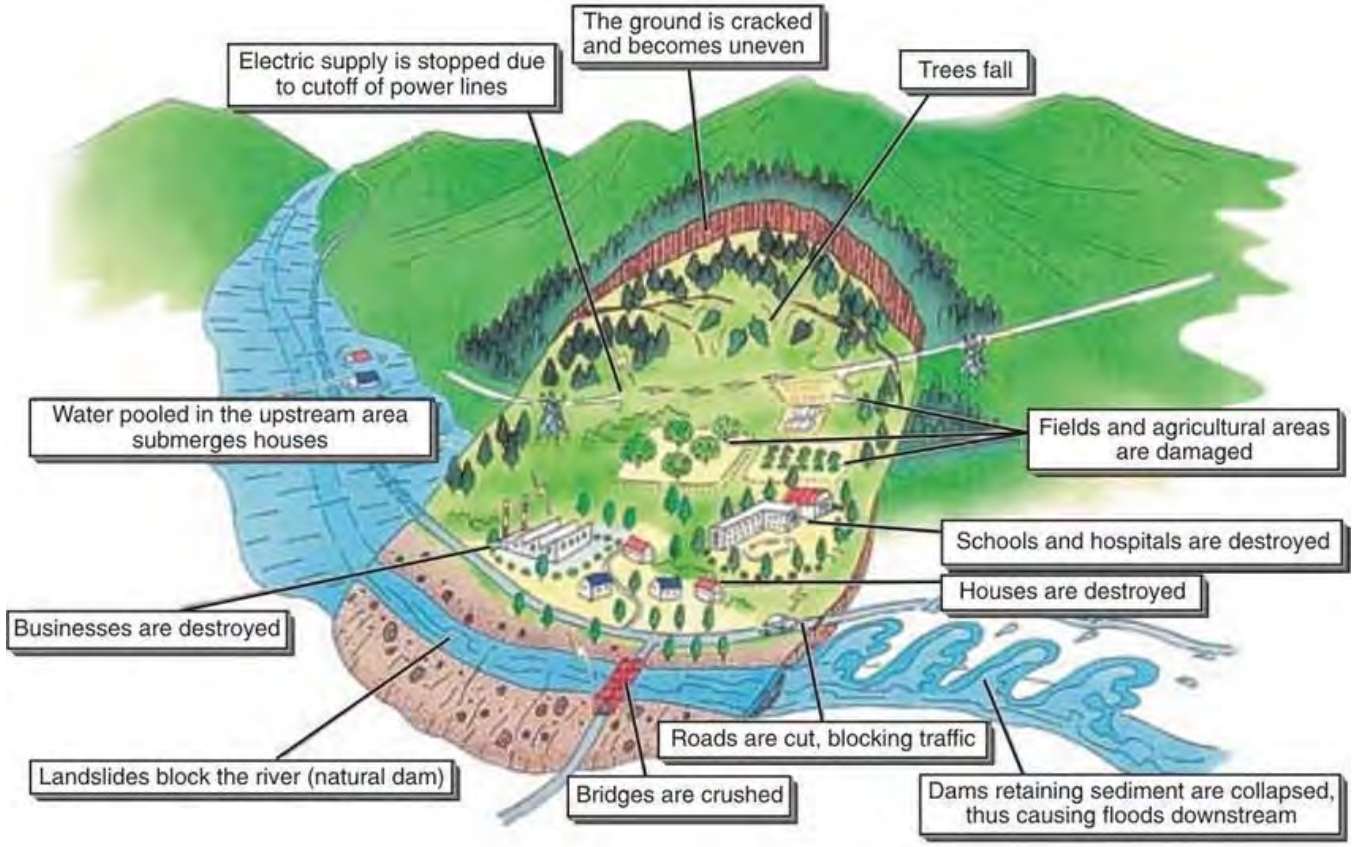


Saint Jean Vianney Landslide, St. Lawrence Waterway, Quebec

Effects of Landslides on Rivers

ENVIRONMENTAL

- River Blockage and Natural Dams
- Alteration of River Courses
- Impact on Water Quality
- Flooding
- Sediment Load and River Morphology



Effects of Landslides on Rivers

SAFETY / ECONOMIC

- Projected Increased Frequency of Landslides with Increased Storm Frequency and Intensity
- Unknown Landslide Vulnerabilities = Increased Safety Risk
- Increasing Population Densities = Increased Future Safety Risk
- High Cost Associated w/ Damage to Existing Infrastructure & Property
- Costs for Rehabilitation / Mitigation will only Get Higher in the Future (Maine Disaster Relief Fund)



Overall Goals of this Project

1. Identify triggers of the 2020 landslide (and other vulnerable areas)
2. Explore or make improvements to policy to minimize future losses from landslide action
3. Develop list of mitigation sites

Other Goals of this Project

- Facilitate Future Development Safely Along Waterways
- Proactive steps
- Not to cause a panic!

Project Partners

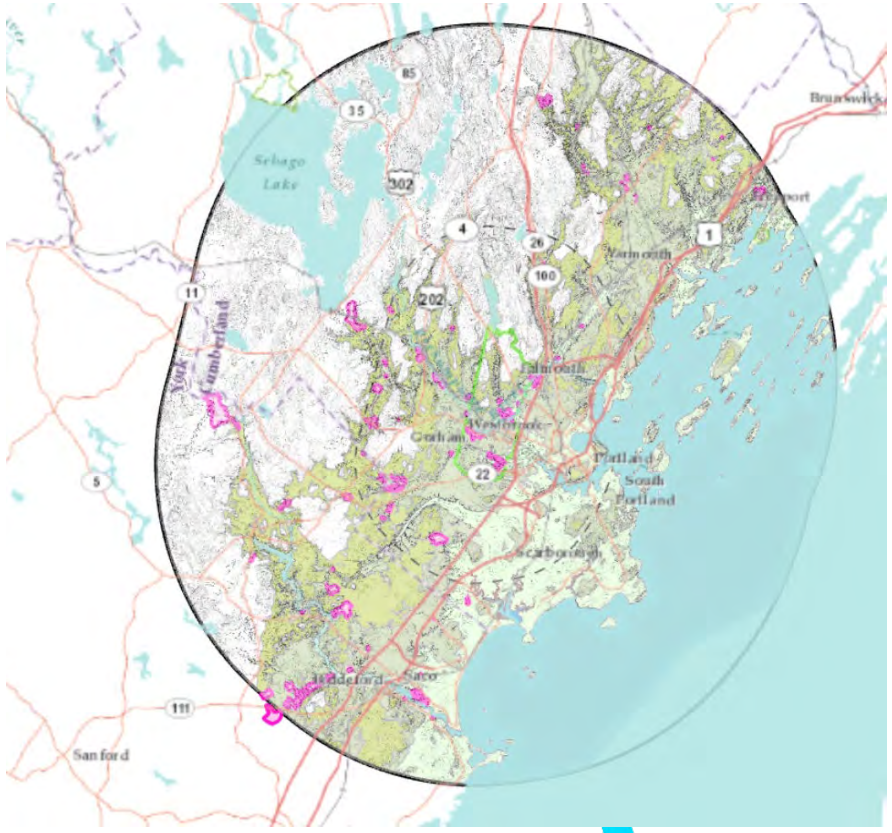
- City of Westbrook – Grant Administrator
  - Credere Associates, LLC – Grant Support to Westbrook
- Maine Geologic Service – Mapping Lead
- UMaine College of Engineering – Engineering Evaluation Lead
- Greater Portland Council of Governments
- Portland Water District
- Cumberland County Emergency Management Agency

Project Partners

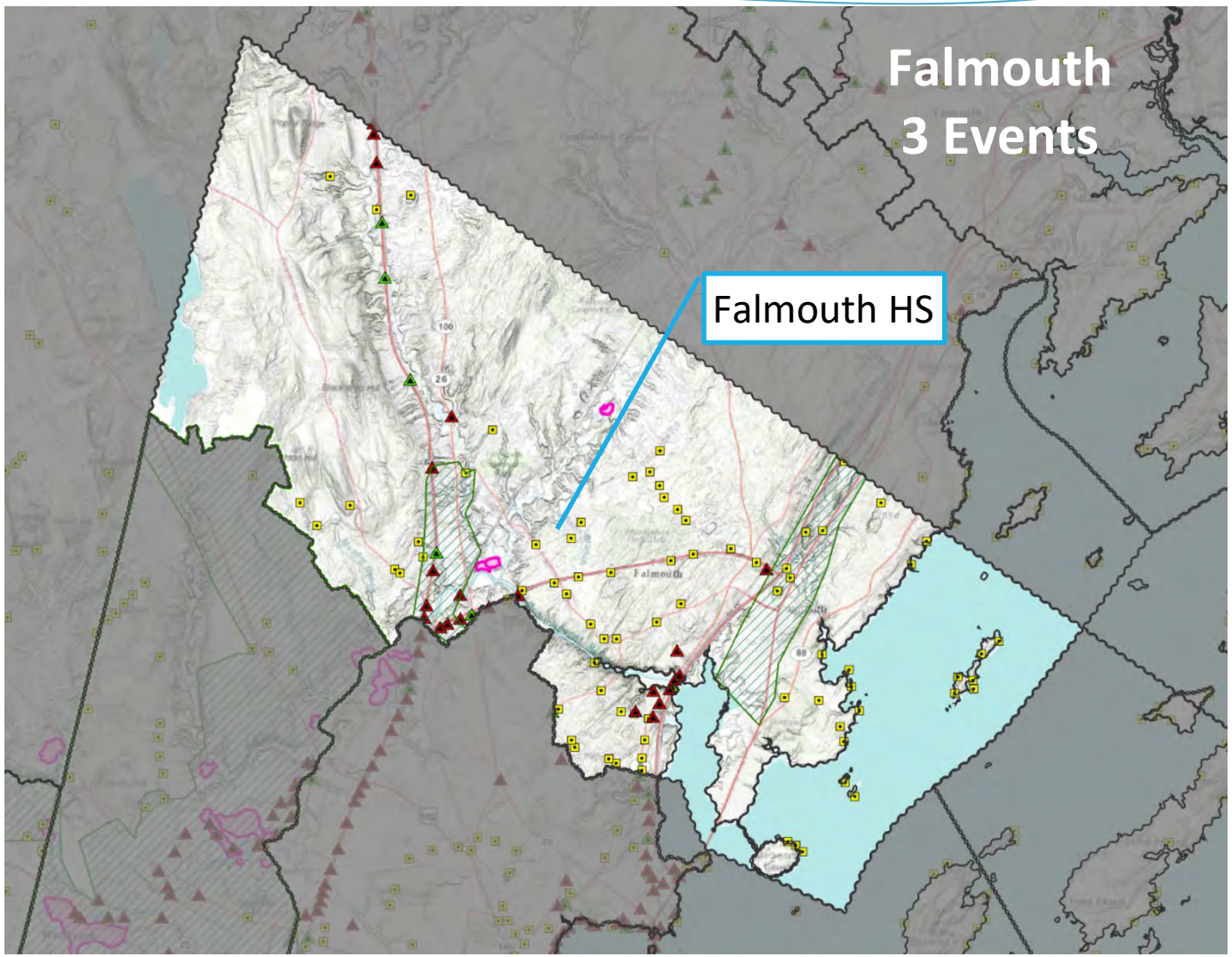
- Partner Municipalities (Emergency Response, Engineering, Planning)
- Maine Department of Environmental Protection (Inf Adaptation Grants and match)
- Technical Advisory Panel – Geotechnical Support (TBD, RFP due in October)
- Planning / Policy Consultant – Update Ordinances(TBD)

Overview: Landslides and your Community

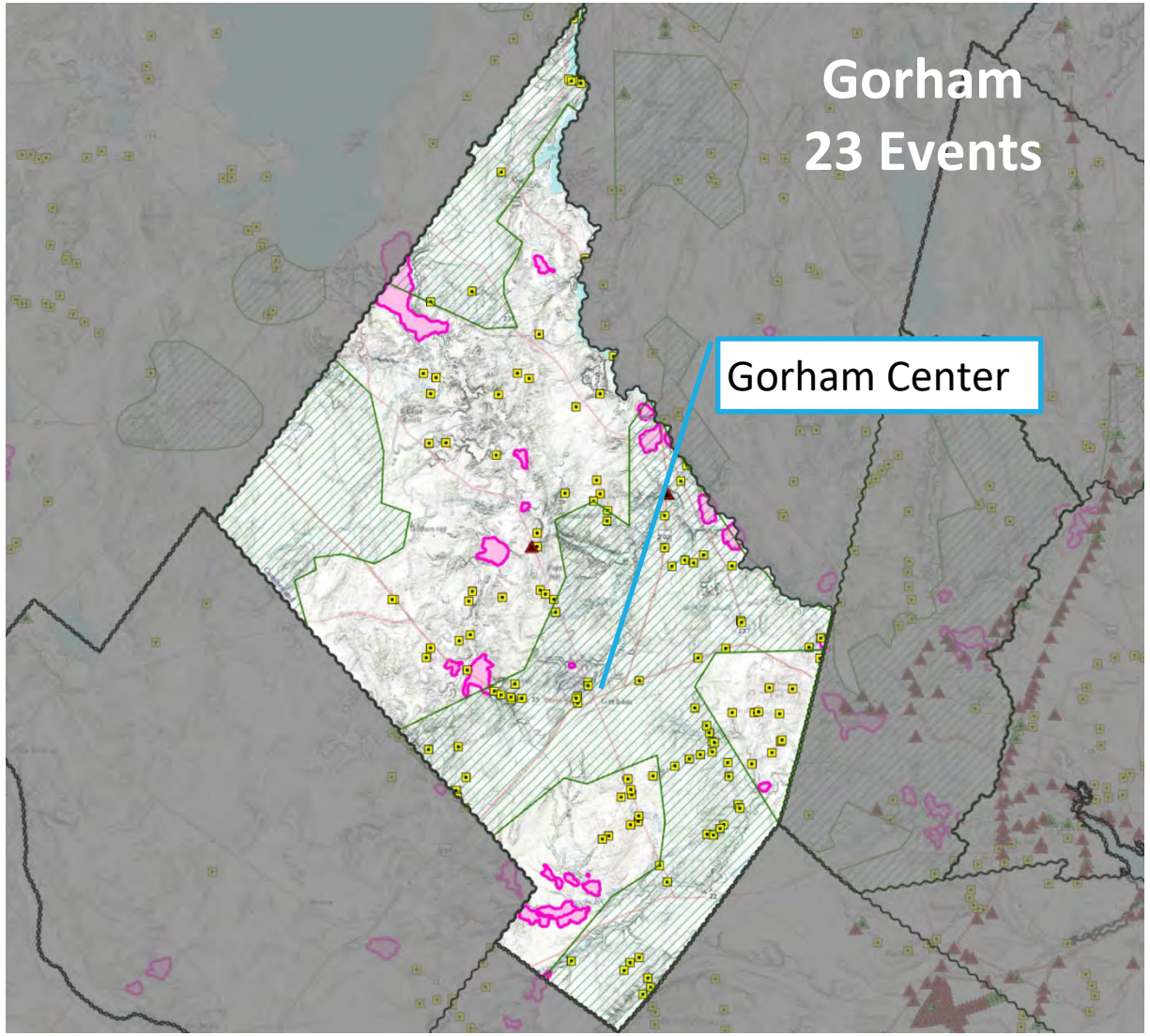
- Presented in alphabetical order
- A brief look at your communities



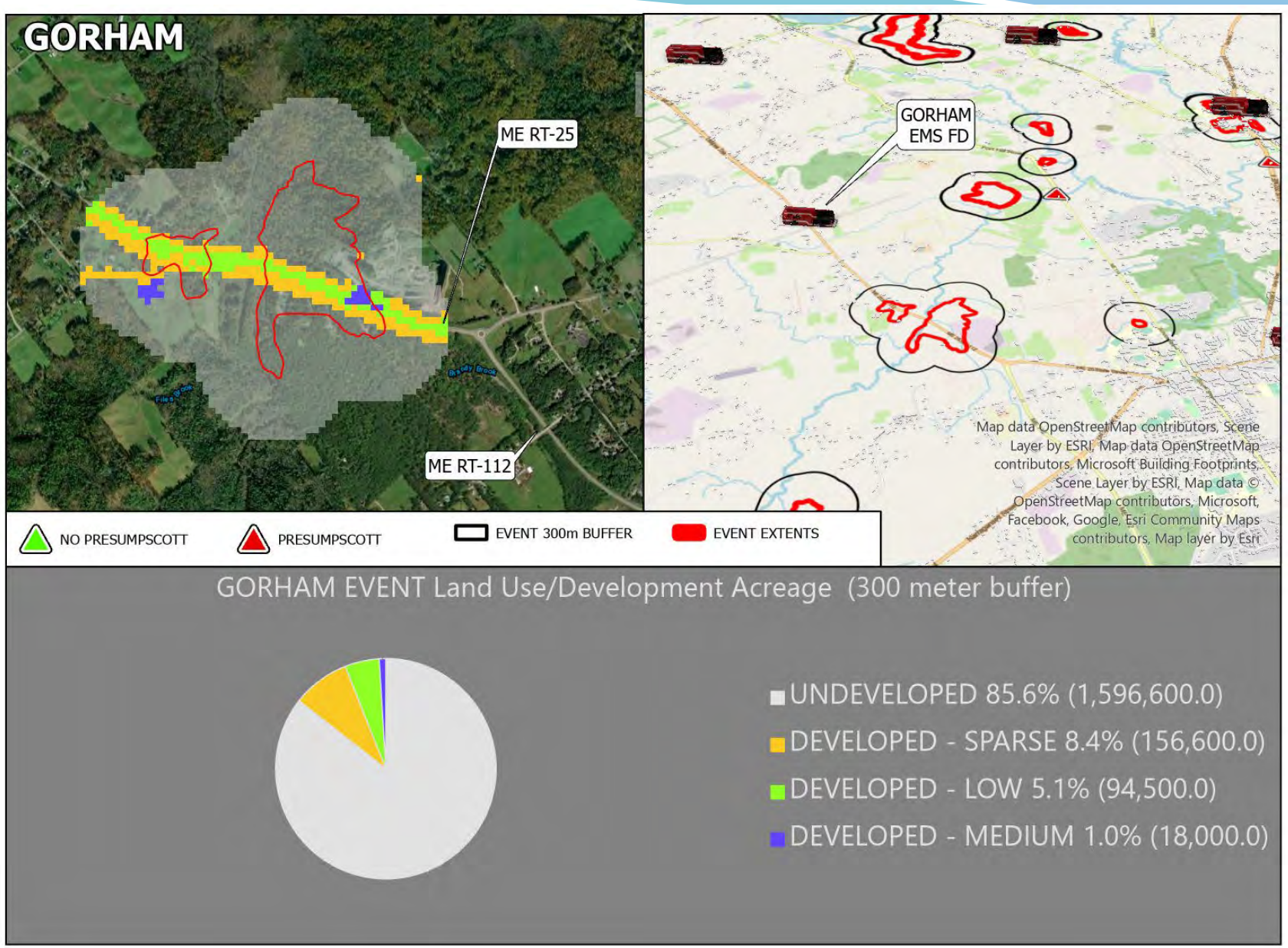
Falmouth


Falmouth
3 Events
Falmouth HS
TEST BORING- NO PRESUMPSCOT
TEST BORING - PRESUMPSCOT Fm
BEDROCK OUTCROP
MGS - MAPPED LANDSLIDE EVENTS
APPROXIMATE GROWTH AREAS

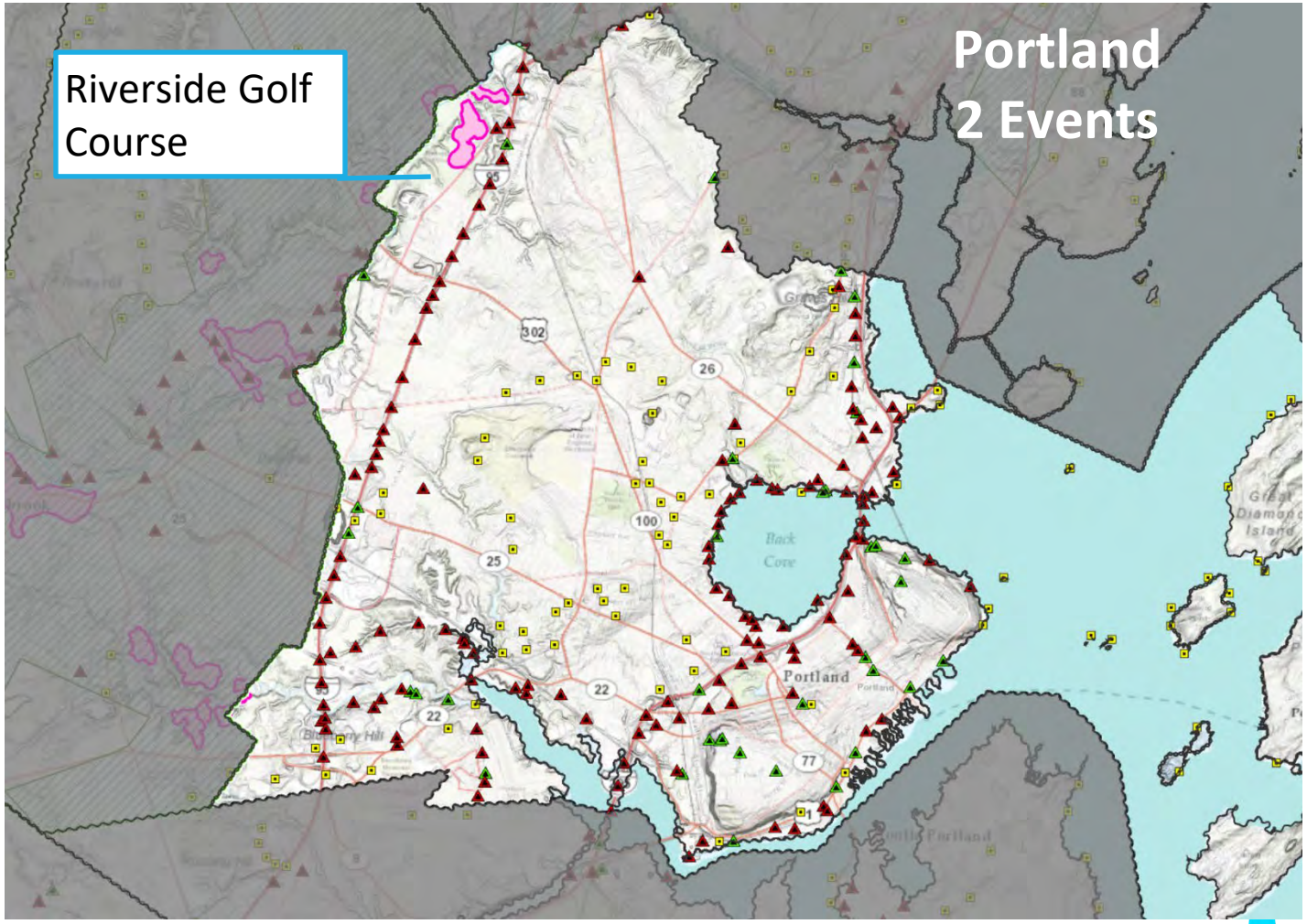
Gorham



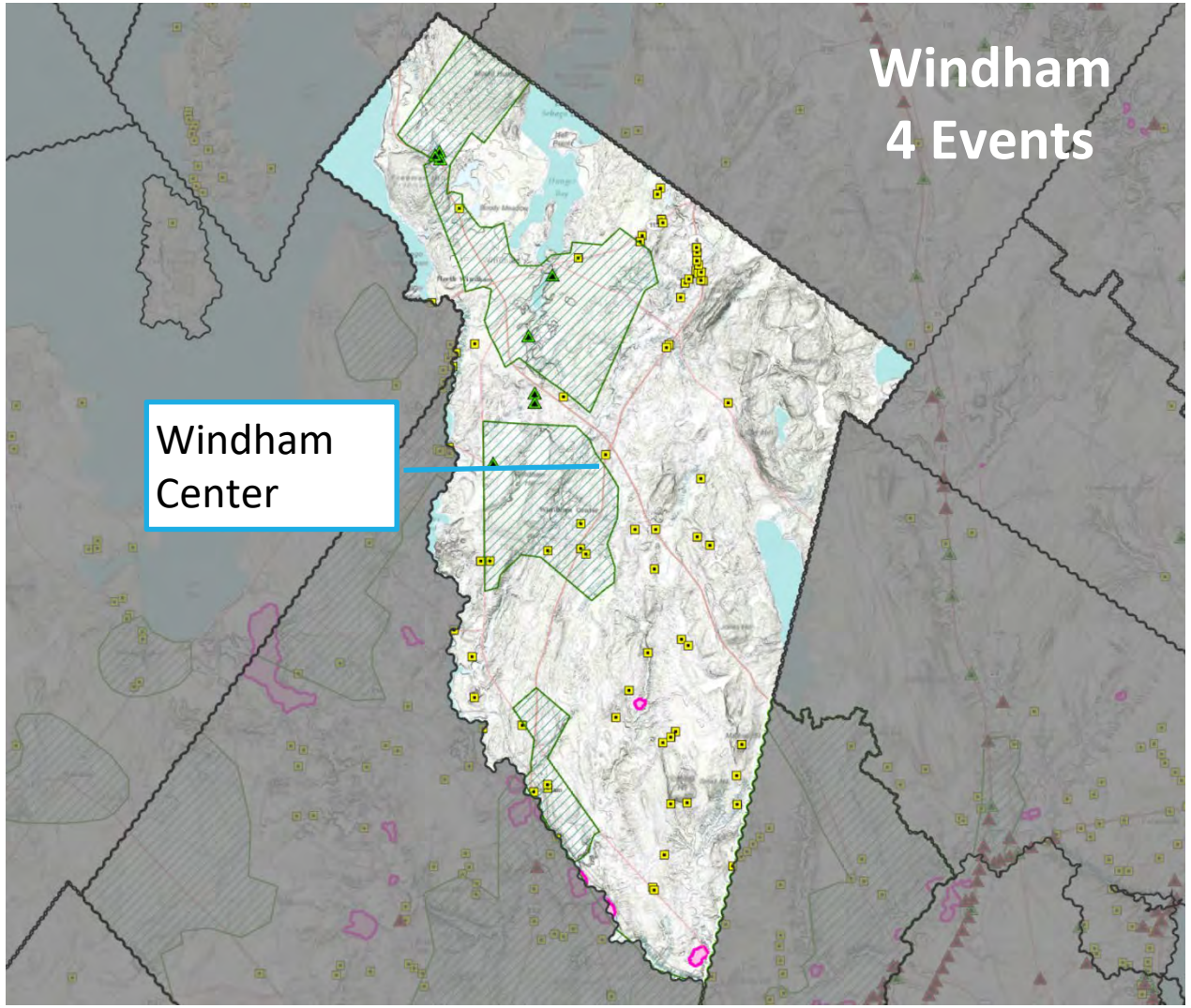
- TEST BORING- NO PRESUMPSCOT
- TEST BORING - PRESUMPSCOT Fm
- BEDROCK OUTCROP
- MGS - MAPPED LANDSLIDE EVENTS
- APPROXIMATE GROWTH AREAS


GORHAM
ME RT-25
ME RT-112
GORHAM EMS FD
Map data OpenStreetMap contributors, Scene Layer by ESRI, Map data OpenStreetMap contributors, Microsoft Building Footprints, Scene Layer by ESRI, Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer by Esri
NO PRESUMPSCOTT
PRESUMPSCOTT
EVENT 300m BUFFER
EVENT EXTENTS
GORHAM EVENT Land Use/Development Acreage (300 meter buffer)
UNDEVELOPED 85.6% (1,596,600.0)
DEVELOPED - SPARSE 8.4% (156,600.0)
DEVELOPED - LOW 5.1% (94,500.0)
DEVELOPED - MEDIUM 1.0% (18,000.0)

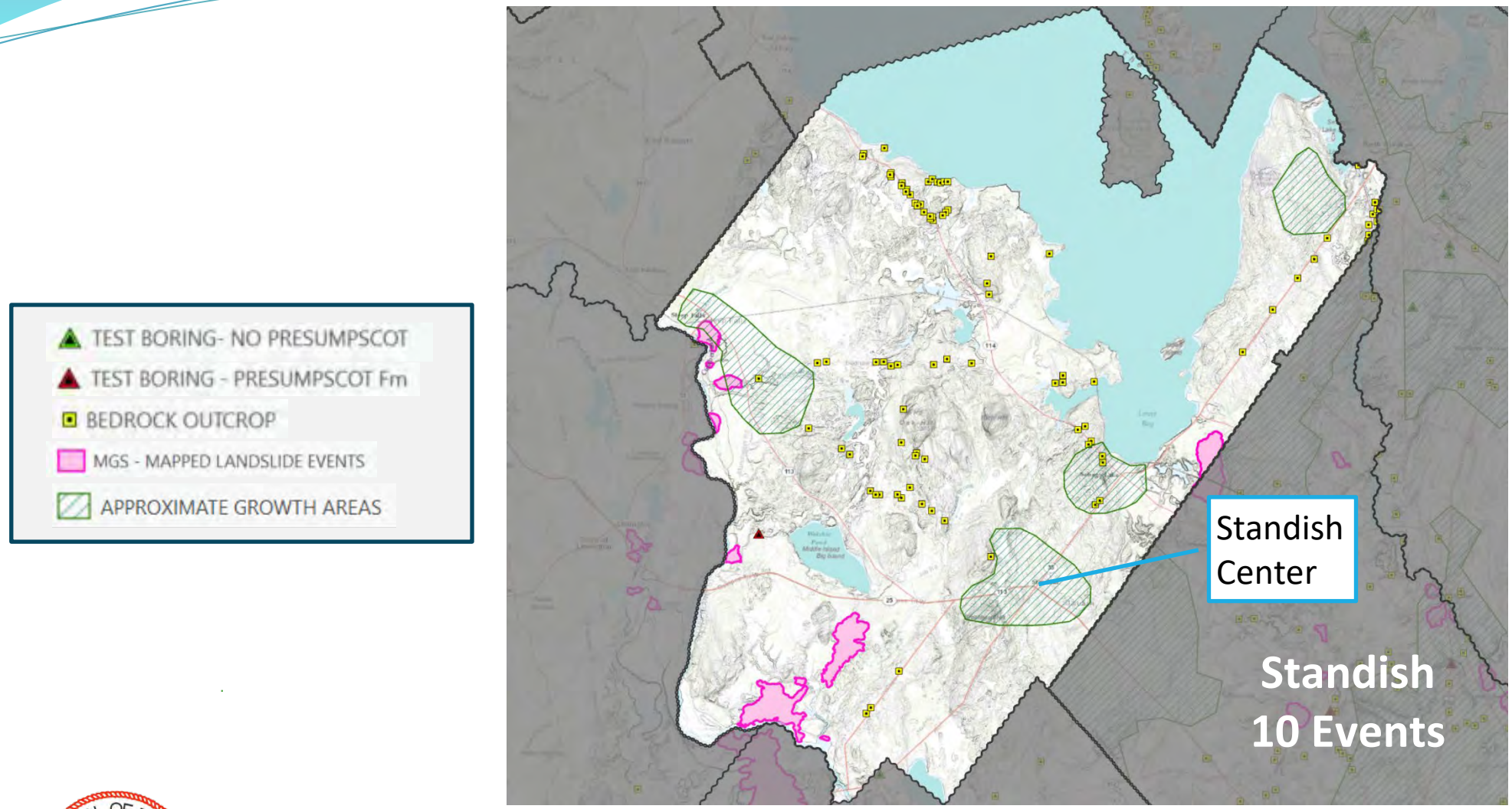
Portland


Riverside Golf Course
Portland
2 Events
TEST BORING- NO PRESUMPSCOT
TEST BORING - PRESUMPSCOT Fm
BEDROCK OUTCROP
MGS - MAPPED LANDSLIDE EVENTS
APPROXIMATE GROWTH AREAS
Portland
Back Cove

Windham


Windham
4 Events
Windham
Center
TEST BORING- NO PRESUMPSCOT
TEST BORING - PRESUMPSCOT Fm
BEDROCK OUTCROP
MGS - MAPPED LANDSLIDE EVENTS
APPROXIMATE GROWTH AREAS

Standish


TEST BORING- NO PRESUMPSCOT
TEST BORING - PRESUMPSCOT Fm
BEDROCK OUTCROP
MGS - MAPPED LANDSLIDE EVENTS
APPROXIMATE GROWTH AREAS
Standish Center
Standish
10 Events

Summary of Risks to Communities

- Impacts to Land = Up to 750 acre landslide in Hollis
- Impacts to Water Quality / Recreation
- Safety – Loss of Property / Risk of Injury / Potential Loss of Life
- Town/Private Costs of Response and Rebuilding Infrastructure
- Potential Adverse Impacts to Designated Growth Areas

Proposed Scope of Work

- 1. Collect / Aggregate Existing Boring Data (Summer / Fall 2024)
- 2. Evaluate Existing Available Data (Fall / Winter 2024)
- 3. Identify Data Gaps (Winter Spring 2025)
- 4. Conduct Field Efforts to Fill Data Gaps (Spring/ Summer 2025)
- 5. Evaluate Additional Data (Fall/Winter 2025)
- 6. Develop Vulnerable Area Maps (Winter 2026)
- 7. Develop Model Ordinance and Tool Box for Addressing Vulnerable Areas (Winter/Spring/ Summer 2026)
- 8. Identify Mitigation Projects for FEMA Funding (Spring/Summer 2026)

Outcomes

- Identification of Vulnerable Areas within Area Communities
- Policy for Addressing Growth within Vulnerable Areas
- List of Mitigation Projects for Future Funding

Questions?

Portland Planning Board
C/O Zachary Powell
389 Congress St
4th Floor
Portland, ME 04101

February 28, 2025

RE: Public Comment for PL-002454-2023 / 1 Hope Avenue

To members of the Planning Board,

Friends of the Presumpscot River (FOPR) reviewed the very well-done soil study and explained to the Planning Board at the October 22, 2024, workshop why the soil study findings amplify two of our three concerns identified in June 2024. At the same time, FOPR changed its position regarding this potential development from "Concerned" to "Opposed to." Those two concerns are:

1. Unsuitable soils for this development throughout the property being considered for development. See the "USE AND MANAGEMENT" sections of Appendix C of the soils study. Finding is that all 9 of the 9 Soils and Settings are not suitable and would need to be replaced.
2. With confirmation that this property sits on the Presumpscot Formation, and given the local topography, the property is prone to landslides. Furthermore, disturbing the property and operation of heavy equipment increase the risk of a landslide.

Following the October 22, 2024, workshop, our understanding was that the next step was to commission a geotechnical review of the soils study and site to, perhaps, shed more light on the situation, unsuitability of soils, and landslide risk. We have not yet seen this geotechnical review and don't understand why another meeting is now scheduled for March 11, 2025.

It should have been a requirement that the output of the geotechnical review be available before this development proposal was brought to a planning board hearing. Waiting to comment until this review is published was a reasonable decision that the planning board should have allowed for by following its originally outlined sequence of review first, then schedule a hearing.

The minor site plan changes made since October do not alleviate our concerns.

Respectfully,

--Will

Will Plumley – Board of Directors
Friends of the Presumpscot River
wsplumley@gmail.com
207-595-2134



PO Box 1474, Westbrook, ME 04098

Re: PL-002454-2023/1 Hope Avenue March 1, 2025

Dear Members of the Portland Planning Board,

In an email dated February 25, 2025, the Friends of the Presumpscot contacted me and asked me, once again, to "share my thoughts" regarding the subdivision application planned for 1 Hope Avenue as a resubmission that has been filed for consideration at the March 11 Planning Board meeting. Attached is a copy of my original concerns and, as you will note, those concerns have not changed.

1. **Landslide Susceptibility** – Because there is historical evidence for the Presumpscot Formation's clayey-silt susceptibility for landslides, I believe there is a reasonable risk of a landslide in this parcel. This risk is exacerbated by the use of heavy machinery, weight of water in retention ponds, weight of roads and all structures plus the reduction of soil-binding vegetation - all things to expect from a development of this scale. This issue is not addressed at all in the application.

One recent example of such catastrophic slope failure occurred in September 2020 at the Les Wilson & Sons excavators' property on Warren Avenue in Westbrook that took a large area of soil and pile of fill and blocked the Presumpscot River.

I can enumerate many such failures that have impacted homes and industry in the 19th and 20th centuries. Since 1983, the year of a Gorham landslide along a tributary of the Presumpscot River that destroyed a home and garage, I have devoted many years to research related to this hazard in Maine (see Resume attached). Landslides in the Presumpscot Formation have been associated with human activity such as well-drilling, overloading of mined sand and gravel materials, and over-steepening of slopes during road construction. (See attachment 1)

2. **Water runoff and retention ponds and Tree Removal** – Since the soils are so clearly delineated as "very poorly drained," my concerns here are how surface and foundation water accumulation will be dealt with. The high seasonal water table may make relying on infiltration and evaporation in retention ponds insufficient to cope with runoff from roads and building roofs. More importantly, where does excess water, that which is incapable of being handled by the retention ponds, go? Directly into the Presumpscot River, I presume.

Overall, drainage mitigation – such as retention ponds – appear to be critical to the project. However, adequate sizing for such mitigation is of particular importance given projected impacts associated with extreme runoff events that accompany climate change. These events can be difficult to predict. Current design criteria for retention systems (dating I believe from 1985) may not currently be adequate to address climate concerns.

A related concern is the amount of tree removal. Removal would likely increase the amount of runoff from the site. Woodlands function in support of soil stabilization and reduce site runoff during rainfall events. Woodlands are generally considered important natural biofilters that protect environments from excessive sedimentation, surface runoff, and erosion.

3. **Independent Review** - I had expected that an independent review would confirm the efficacy of the Soil Survey and surface water and landslide issues which would then be available for public comment.

4. Depth to bedrock may become a serious issue for foundation work, road sub-surfaces, and the area beneath where detention ponds are proposed.

I believe consideration of catastrophic vulnerability of this location should be a substantive factor in the amount of tree removal, site preparation, and retention water management.

Respectfully submitted,

Irwin Novak

Irwin Novak, PhD

Irwin Novak, PhD
82 Middle Jam Road
Gorham, Maine 04038

Attention: Portland Planning Board
City of Portland

Re: PL-002454-2023/1 Hope Avenue March 1, 2025

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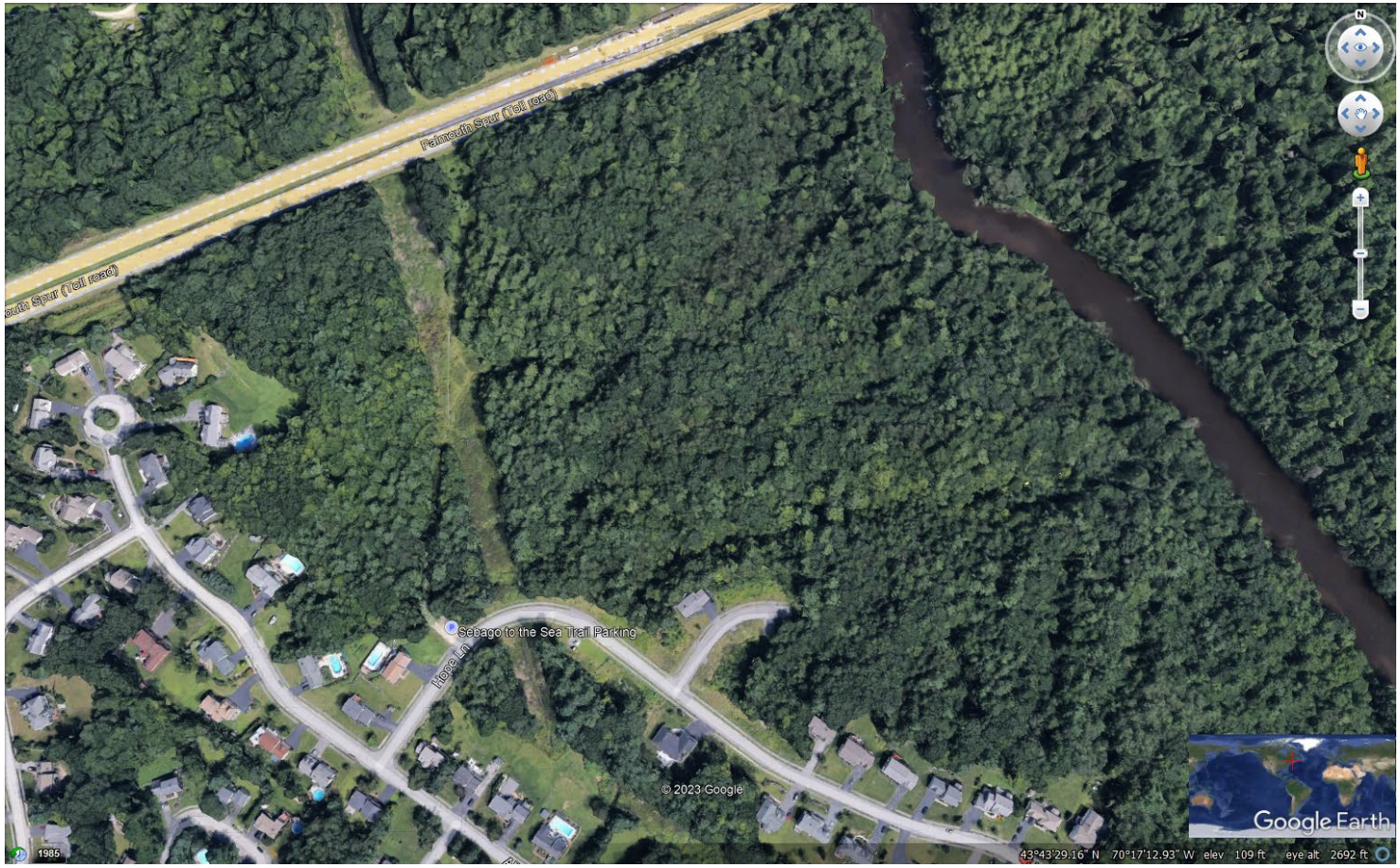
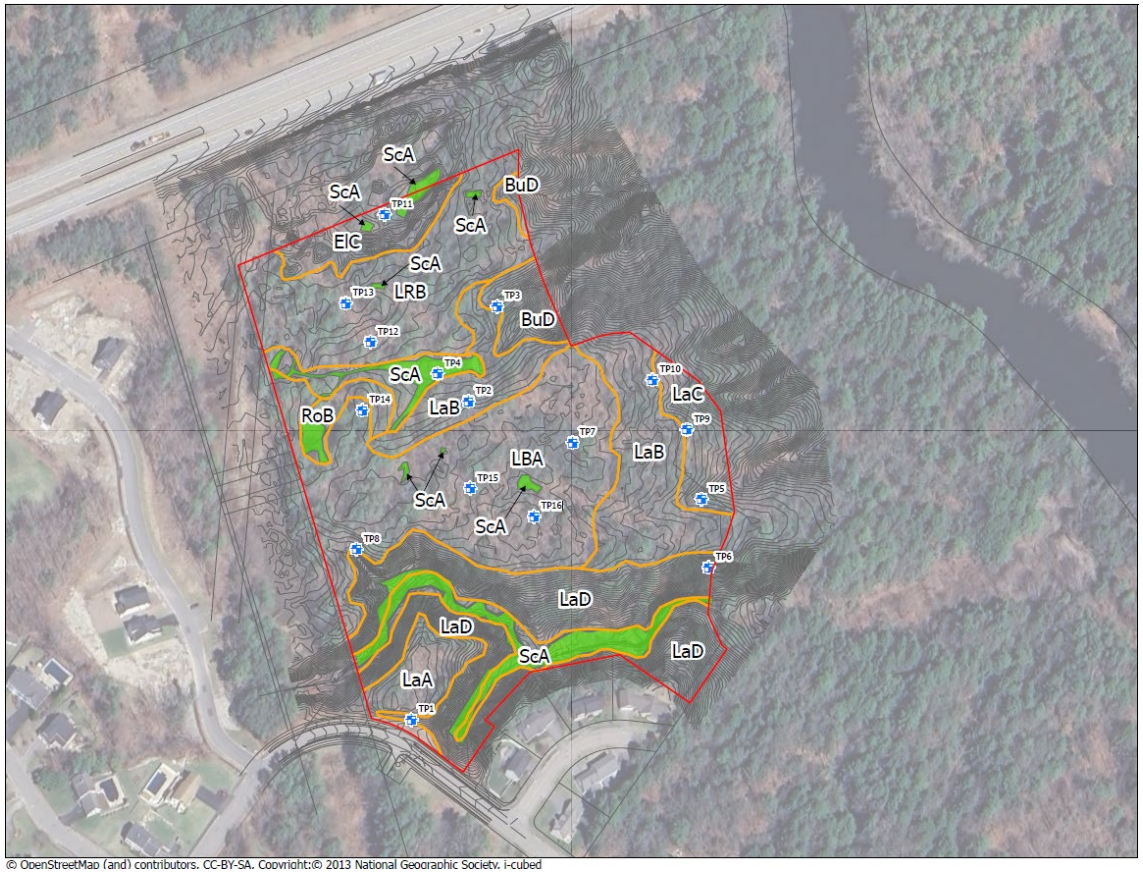
Respectfully submitted,

Irwin Novak, PhD

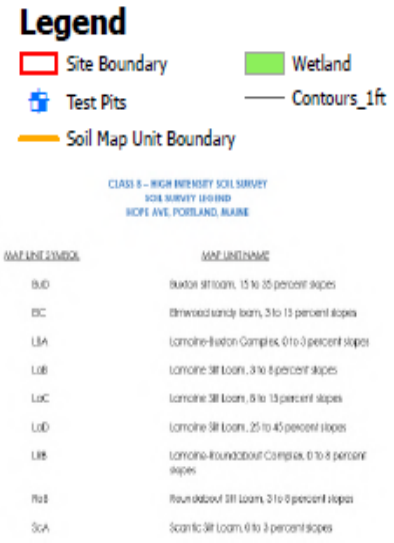
Prepared by: Irwin D. Novak, PhD, Retired Professor of Geology at USM, Maine Licensed Geologist, and former Site Evaluator



Totally tree-cover property (prior to Code Enforcement stop work order during unauthorized cutting for soil testing).



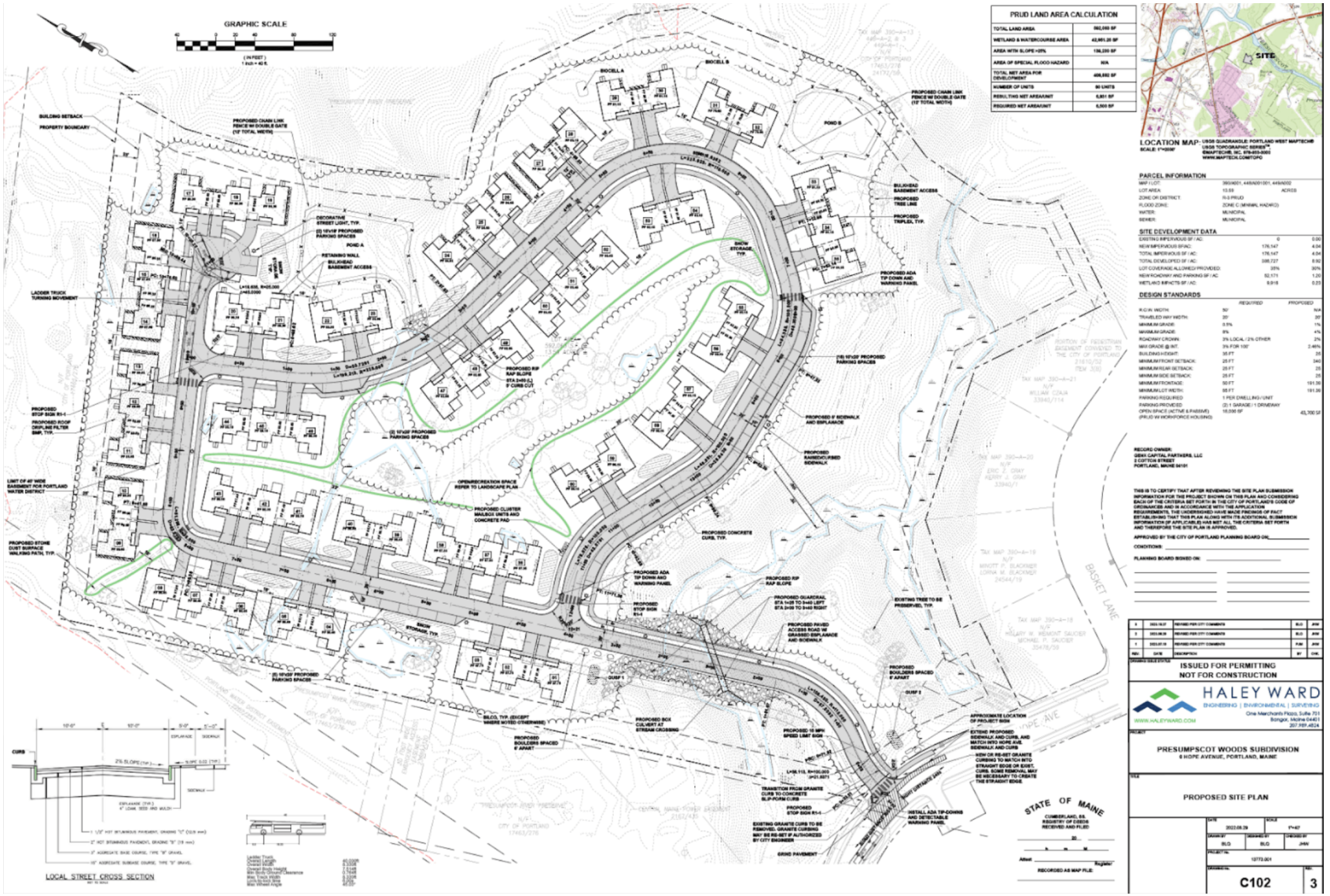
© OpenStreetMap (and) contributors, CC-BY-SA, Copyright:© 2013 National Geographic Society, i-cubed

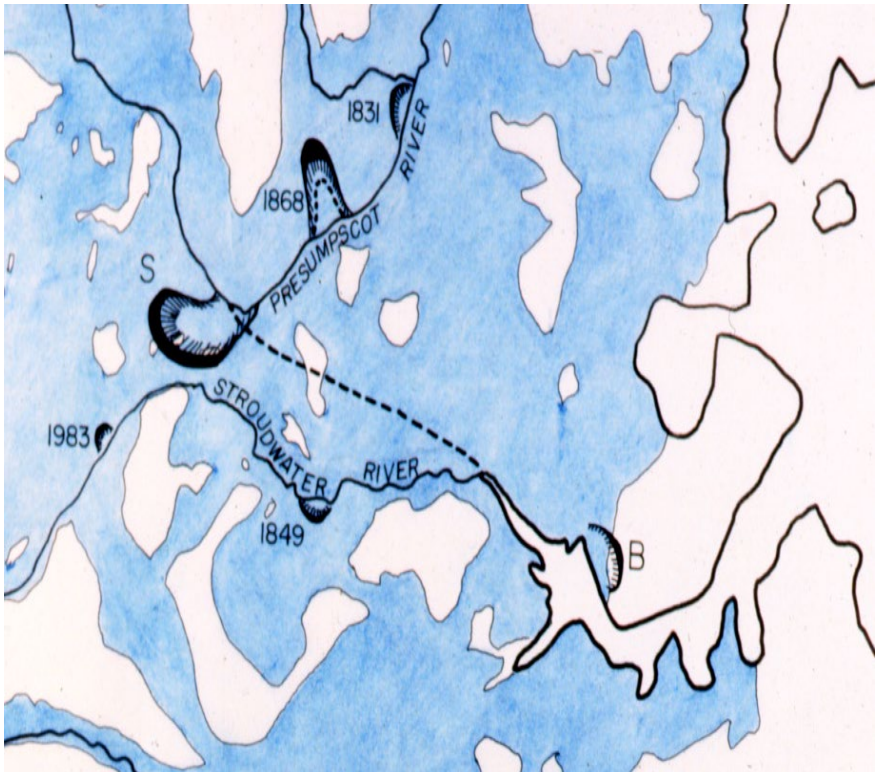


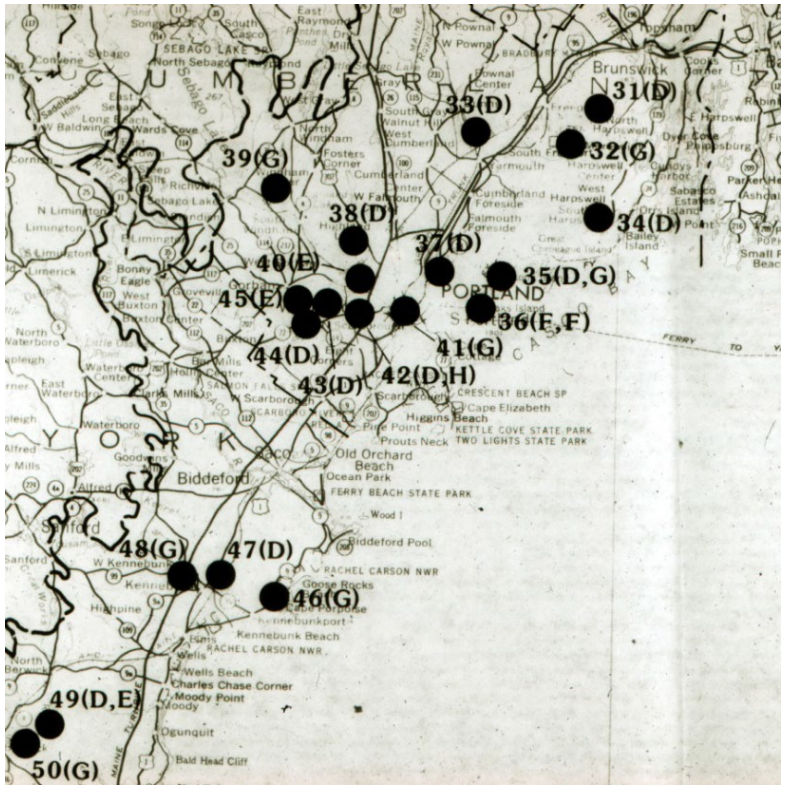
Selected from Site Description Section: The Project area is an approximately 13.8-acre, undeveloped wooded terrace along the top and shoulder slopes of a moderate, linear, slope to the Presumpscot River. According to surficial geology data available from the Maine Geological survey, surficial materials in the Project area consist of the Presumpscot Formation which is described as consisting of silt, clay, and minor sand deposited on the sea floor during the late-glacial marine submergence. Within the Project area the landscape consists of a relatively flat terrace with steep slopes off the project area to the east leading to the Presumpscot River. Also within the Project area is a steep slope to an unnamed tributary to the Presumpscot River.

Selected from Findings Section : Limitations exist in the Buxton, Lamoine, Scantic soils series as related to fine textured soils percolating slowly resulting in a relatively high seasonal high-water table. These soils have high potential for frost action and a relatively high seasonal water table.


Portland Trails
Sensitive River
Shoreland Zone
Proposed 60-Unit
Development Site
Presumpscot
River Preserve
Presumpscot
River
RPZ
R3
R2
C40
BRANDY LN
HOPE AVE
BASKET LN
ALICE CT
ALICE ST
HOPE LN
ARMSTRONG HTS
AUBURN ST
GARSOE DR
PATRICIA LN
LONGVIEW DR
CARON ST
CARTER ST
CRESTVIEW DR
PANORAMIC VIEW ST
BONNY ST
PAMELA RD
STURDIVANT DR
CLAPBOARD RD
CURTIS RD
WHALEBOAT RD
OVERSET RD
WHITEHEAD CIR
ABBY LN
SUMMIT ST
ASHINGTON AVE


GRAPHIC SCALE
PRUD LAND AREA CALCULATION
LOCATION MAP
SITE
PARCEL INFORMATION
SITE DEVELOPMENT DATA
DESIGN STANDARDS
RECORD OWNER:
GEMI CAPITAL PARTNERS, LLC
2 COTTON STREET
PORTLAND, MAINE 04101
ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION
HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE
PROPOSED SITE PLAN
C102
LOCAL STREET CROSS SECTION
STATE OF MAINE





Landslides in the Presumpscot Formation

Storm water runoff: though dated May 2016 the methodologies are from the 1970s and 1980s and do not, in my opinion, account for the potential of great runoff associated with climate change.

MAINE STORMWATER MANAGEMENT DESIGN MANUAL Technical Design Manual Volume III MAY 2016

Appendix A-1: Runoff Peak Discharge Calculations Rational Method - ASCE, 1992 and Rossmiller, 1**980**

Appendix A-2: Runoff Peak and Volume Calculations SCS TR-55 Graphical Method - Soil Conservation Service, **1986**

Appendix A-3: Other Methods and Models SCS TR-20 - Soil Conservation Service, **1983**

SCS TR-55 Tabular Method - Soil Conservation Service, **1986**

Corps of Engineers: HEC-1- Hydrologic Engineering Center, **1990**

USGS Regression Equations (for Maine) - USGS, **1975**

Soil Conservation Service NEH-4 - Soil Conservation Service, **1972.**

ABBREVIATED RESUME

Irwin D. Novak

PROFESSIONAL/CONSULTATIVE

Forty-four years teaching geology – University of Southern Maine
Licensed Geologist (no. 82) State of Maine since 1974
Licensed Site Evaluator State of Maine – retired (test pit soil profiling and septic design)
Current Member of the State Board of Certification for Geologists and Soil Scientists (appointed by Governor King, reappointed by Governor LePage)

FIELDS OF INTEREST

Air photo Interpretation and Remote Sensing analysis, GIS Cartographic Applications especially of Greece and Maine. Quaternary Geology: Geomorphology; Coastal, Fluvial, and Glacial Processes; Sedimentology.

EDUCATION

Cornell University	Ph.D., 1971
University of Florida	M.S., 1968
Hunter College	A.B., 1966

PUBLICATIONS

Refereed Publications (Presumpscot Formation-related highlighted in yellow)

Soulakellis, N., **Novak, I.D.,** Zouros, N., Lowman, P. and Yates, J., 2006, Fusing Landsat-5/TM imagery and shaded relief maps in tectonic and geomorphic mapping: Lesvos Island, Greece: Photogrammetric Engineering and Remote Sensing: . Photogrammetric Engineering & Remote Sensing v.72, no.6, p.693–700.

Novak, I.D., and Soulakellis, N., 2000, Identifying geomorphic features using LANDSAT-5/TM data processing techniques on Lesvos, Greece: Geomorphology, v.34, p.101-109.

Novak, I.D., 1997, Landslides in the Presumpscot Formation in the State of Maine, USA: in Engineering Geology and the Environment, Proceedings of the International Association of Engineering Geology, v. 1, P. Marinos et al, eds., A.A. Balkema Publishing Co., p.931-936 .

Novak, I.D., 1990, Airphoto reconnaissance of slope failures in the Presumpscot Formation, Cumberland County, Maine: Open-File Report No. 90-22, Maine Geological Survey, Augusta.

Novak, I.D., 1987, Inventory and bibliography of landslides in Maine: Open-file Report No. 87-1, Maine Geological Survey, Augusta, 24p.

Books

Geology of the Presumpscot River in Maine in River Voices: Perspectives on the Presumpscot, 2020, compiled by Robert M Sanford and William S Plumley.

Edney, M. and **Novak, I.D**., Editors, 2001, Reading the World: Interdisciplinary perspectives on Peter van den *Keere's Map, "Nova Totius Terrarum Orbis Geographica ac Hydrographica Tabula*" (Amsterdam, 1608/36), Occasional Publication No. 1, Osher Library Associates, University of Southern Maine.

Peer Reviewed Oral and Poster Presentations with Abstracts:

Jones, C., Rich, J., and **Novak, I.D.,** 2006: Mapping sand and gravel mining within the Presumpscot River Watershed, Maine, using remote sensing and other digital data in a G.I.S. environment. Geological Society of America, Abstracts with Programs, v. 38, no. 2, p.25.

Rich, J., Jones, C. and **Novak, I.D.,** 2006: Landslide susceptibility modeling within the glaciomarine Presumpscot formation, southern Maine: Geological Society of America, Abstracts with Programs, v. 38, no. 2, p.80.

Novak, I.D., Zogby, M., Soulakellis, N., Lowman, P., and Yates, J., 2005, Comparing Intra-plate (Maine-Canada) and Active Plate (Aegean) Regions Using Remotely Sensed Geophysical and LANDSAT-5/TM Digital Data: Geological Society of America, Abstracts with Programs, v. 37, no. 7, p.294.

Zogby, M. and **Novak, I.D.,** 2005, Digital magnetic, gravity, and heat flow for Maine and Canada integrated with other digital data in an object-oriented geographical information system: Geological Society of America, Abstracts with Programs, v. 37, no. 1 , p.58.

Novak, I.D., Soulakellis, N., Yates, J., and Lowman, P., 2004, Viewing and intra-plate region by integrating LANDSAT 5-TM images with digital data into an object-oriented geographical information system: Geological Society of America, Abstracts with Programs, v. 35, no. 6, p.260.

Soulakellis, N., **Novak, I.D.,** Yates, J., and Lowman, P., 2002, A Synoptic View of Aegean Tectonics Using MODIS Images and other Digital: Data Geological Society of America, Abstracts with Programs, v. 33, no. 6, p.398.

Novak, I.D., Soulakellis, N., and Zouros, N., 2001, Identifying former centers of volcanic activity on Lesvos Island, Greece: Geological Society of America, Abstracts with Programs, v. 33, no. 6, p.398.

Novak, I.D., Soulakellis, N., and Valiakos, H., 2001, Identifying geologic and geomorphic features of Chios Island, Greece using LANDSAT-5/TM data-processing techniques: American Association of Geographers, 97th Annual Meeting, New York, p.703 of Digital CD Abstract Volume.

Luetje, J. E., and **Novak, I.D.,** 2000, Pebble and cobble morphology on Crescent Beach, Cape Elizabeth, Maine: Geological Society of America, Abstracts with Programs, v. 32, no. 2. (Note: J.E. Luetje is a USM student)

Novak, I. D., 1999, Sealevel change and paleogeography in the vicinity of Lesvos Island, Greece: Geological Society of America, Abstracts with Programs, v. 31, no. 7, p. A52-A53.

Other Presentations:

Novak, I.D., 2001, The meaning of maps to geologists: in Reading the World: Interdisciplinary perspectives on Peter van den *Keere's Map, "Nova Totius Terrarum Orbis Geographica ac Hydrographica Tabula*" (Amsterdam, 1608/36), Matthew Edney and Irwin D. Novak, editors, Occasional Publication No. 1, Osher Library Associates, University of Southern Maine.

Environmental education through Art and Public Service – ***Poster Project***

Novak, I.D., 2001, Geology of the Presumpscot River Valley: Presumpscot River: A River in Time, a Gift to the Future: Friends of the Presumpscot River Association.

Art Project

Aviva Rahmani and ***Irwin Novak****, Back Cove: Zooming in on IF: part of the "Back Cove - Heart of Portland" USM Area Gallery exhibit, Woodbury Campus Center Portland and USM Art Gallery, Gorham, University of Southern Maine, May10-October 12, 2001*

GRANT AND SCHOLARLY ACTIVITY

USM/NASA-Maine Space Grant Consortium Student Fellowship Program, Principal Investigator. 2007-2008 academic year. $15,000.

USM/NASA-Maine Space Grant Consortium Student Fellowship Program, Principal Investigator. 2006-2007 academic year. $23,500.

USM/NASA-Maine Space Grant Consortium Student Fellowship Program, Principal Investigator (Replacing Sharon Locke). 2006-2007 academic year. $10,000.

NASA-Maine Space Grant Consortium Student Fellowship. $2500 Student Fellowships in each year: 2001-2002, 2001-2002, 2002-2003, 2003-2004 and 2004-2005.

Presumpscot River Watershed Coalition. 2005-2006. $2000 for student research support. Project title: Mapping sand and gravel mining within the Presumpscot River Watershed, Maine, using remote sensing and other digital data in a G.I.S. environment.

TEACHING EXPERIENCE
University of Southern Maine:
Professor Emeritus of Geology, 2015 to present
Professor of Geology, September 2007-2015
Associate Professor of Geology 1975-2007
Assistant Professor of Geology, September 1971-1975

Cornell University:
Shoals Marine Laboratory, Summer Faculty 1972-1997

G

raduate Teaching Fellow, September 1968-June 1971

ADMINISTRATIVE EXPERIENCE
Associate Dean, College of Arts and Sciences, University of Southern Maine, Sept. 1994 to Dec.1997.
Chairman, Department of Geosciences, University of Southern Maine, 2005-2007, 1998- 2002, 1992 to 1994; 1982 to 1988.
Chairman, Department of Earth Sciences, Physics and Engineering, University of Southern Maine, 1976 to 1978.
Vice-Chairman, Department of Earth Sciences, Physics and Engineering, University of Southern Maine, January to July l976.

PROFESSIONAL ACTIVITIES
Appointed by Governor Angus King to the Maine Board of Certification for Geologist and Soil Scientists (5-year term beginning March 2000) and continuing to present.
Certified Geologist #82 - State of Maine
Licensed Site Evaluator #104 - State of Maine (retired)
Consulting Geologist: Coastal Processes, Site Development

PROFESSIONAL SOCIETIES
Geological Society of America
Geological Society of Maine
Geological Society of Greece

Revised & abbreviated March 2025

Brandon Mazer
Planning Board Members
Zachary Powell

Re: 338 Falmouth Foreside Partners and Mark McClure

On behalf of a North Deering resident I am submitting documents/information to show that Mark McClure the developer on Hope Avenue does not meet the standard to be considered financially nor technically qualified to develop the proposed Hope Avenue project.

Mr McClure has developed two properties in Maine; one in Saco and one in Cumberland.

As detailed in the Portland Press Herald the Saco project did not end on a positive note. The problems identified and developers quotes (ie"we are not contractors") in the attached Press Herald article demonstrate the applicants technical and financial ability is lacking

The Cumberland project appears almost completed, however, it has not received a certificate of occupancy. The development has mechanics liens and court proceedings for unpaid bills amounting to over 2 million dollars. A summary and sample lien/court document are attached, The consulting firm, Shinberg Consulting, has also cut ties with the developer. Portland officials should contact Bill Longley, Cumberland Code Enforcement Officer, to discuss the developers performance and status of the project. His contact information is 207-558-9136 or wlongley@cumberlandmaine.com. Mr Longley will confirm the Cumberland development has been left incomplete as well as provide additional information regarding the project status and the developers abilities. The entity developing the project has been dissolved as a non filer.

On February 26, 2025, Mr McClure was a party to two foreclosures in Miami Florida. Copies attached.

Mr McClure owes Portland for real estate taxes on the Hope Avenue property having paid nothing since his purchase

Mr McClure owes Portland for a violation fee and is currently in default of his payment agreement with the City.

With both taxes an violation fees being owed Portland per ordinance should this application be in front of the board?

Just recently Genx/McClure paid there outstanding taxes to the State of Maine. These liens were paid by the sale of a property they encumbered. This further demonstrates the applicants not paying obligations in a timely manner.

Mr McClure's engineering firm recently placed a mortgage on the subject property for 100,610.78. Was this for outstanding invoices? Is this why the resubmitted plans differ little from the last submission?

The letter given to meet the requirement of financial ability given by Titan Funding does not meet the requirement of state or local code. Titan is a hard money privately owned LLC registered in Florida. It is not a governed by the FDIC and not a bonding company. They solicit

private capital offering an 11 percent return. They may have the ability to loan money(not unlike private individuals), however, how would Portland collect on a performance guaranty; bring litigation in Florida? Why isn't the applicant using a local lender or bonding company to ensure completion of the project? At the very least shouldn't Titan be required to escrow the funds required for the performance guarantee?

It should be noted that Titan Funding is involved in the Cumberland project and party to the litigation.

The initial package presented for this project included a list of "key members of the development team." This list included the project engineer, landscape design team, traffic engineer....it also included Shinberg Consulting. Shinberg, a key member of the team, is no longer associated with the developer. Who is replacing this key team member?

The initial package also included a list of "current and past successful development projects." The projects included the Saco and Cumberland projects referenced earlier, several single family/duplex renovations and Carr Woods in Cape Elizabeth.

Carr Woods did not receive approval from the town The applicants financial and technical ability were both questioned during review. Portland Planning should contact Cape Elizabeth planning for detailed information.

In summary, in Maine Mr McClure has completed a development in Saco (see attached), has yet to complete his project in Cumberland with court records showing millions of dollars in unpaid bills, has been party to two foreclosures in Florida this February and owes Portland funds.

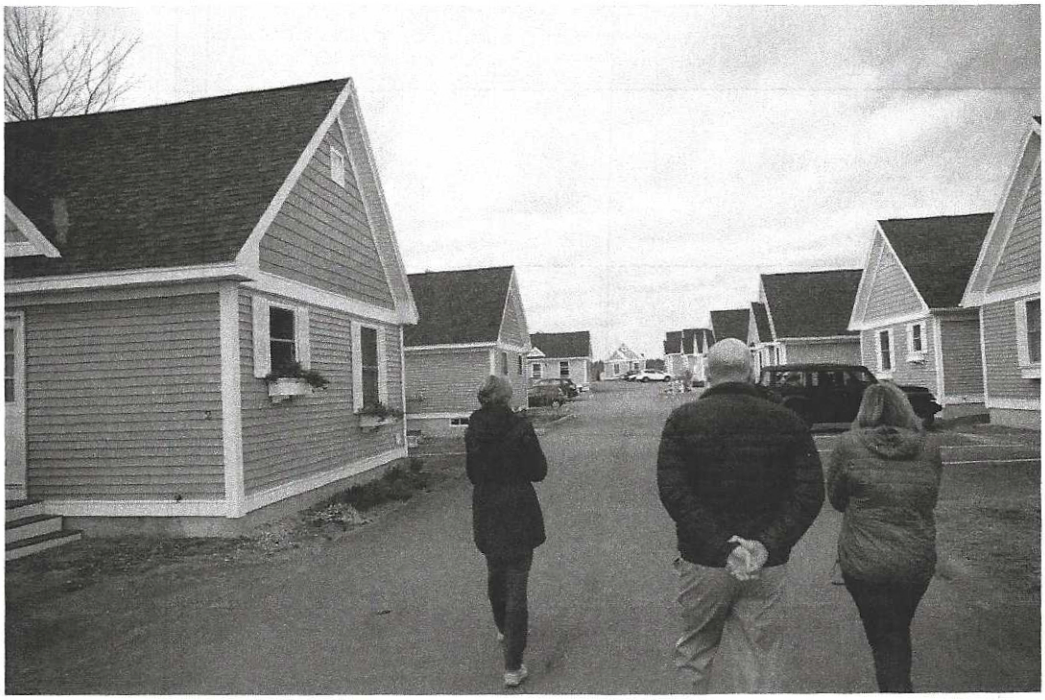
Thank you for your time.

Jim Wolf

Saco retirement development plagued by problems, some residents say

pressherald.com/2023/12/10/saco-retirement-development-plagued-by-problems-one-resident-compares-to-a-living-hell

December 10, 2023



Residents walk at the The Cottages at Pine Meadow development in Saco. Many residents say they have experienced problems with their homes, and some filed a complaint with the attorney general's office.
Derek Davis/Staff Photographer

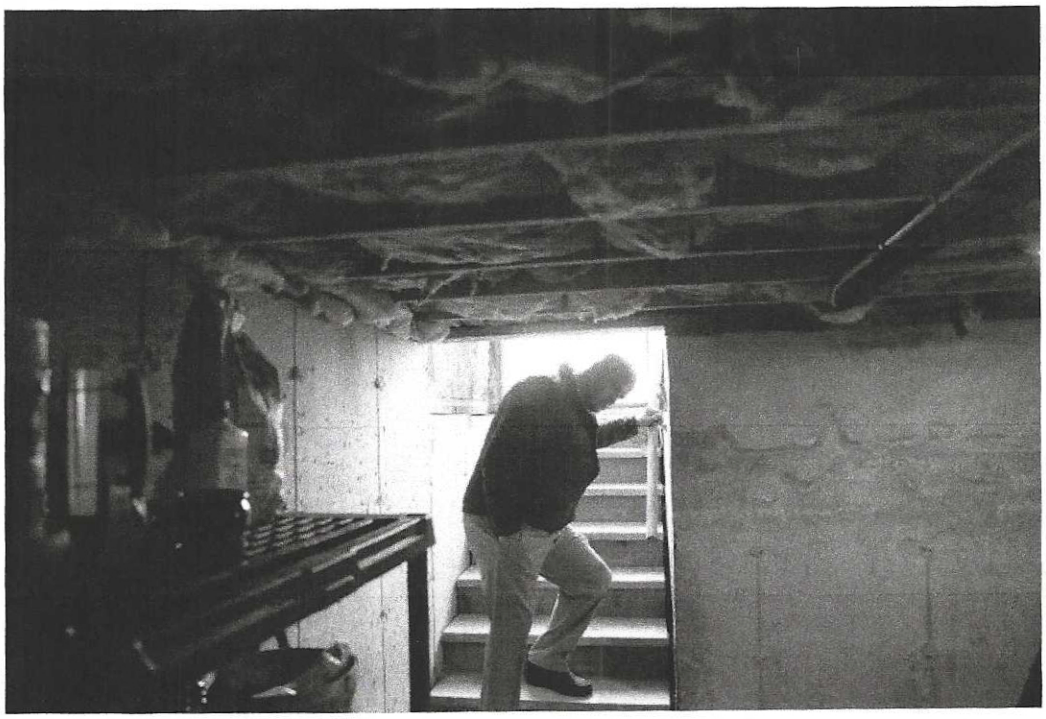
Jon Fetherston looks through his neighbor's sliding glass door at the sprawling farmland capped by a line of trees that still cling to their autumn colors.

The 58-year-old was drawn to The Cottages at Pine Meadow in part for that idyllic backdrop, where he imagined sunrises and sunsets book-ending the days for him and other residents as they eased into retirement.

"This was our reward," Fetherston said of the 55-and-over development where he and his wife, Wendy, live part-time. "But it's been a living hell."

The Fetherstons bought their 610-square-foot condominium in April 2022 and say they've experienced nothing but problems since. They have replaced their heat pump twice already. There's moisture in their basement. The stove was installed incorrectly and shot flames several feet in the air the first time they turned it on.

Their list of grievances is long, and the costs have been racking up. Complaints to the developers and requests that the builder make repairs frequently went unanswered, they claim.



Jon Fetherston, 58, of Ashland, Mass., has to stoop so he doesn't hit his head when he enters the basement of his vacation home at the The Cottages at Pine Meadow development in Saco. *Derek Davis/Staff Photographer*

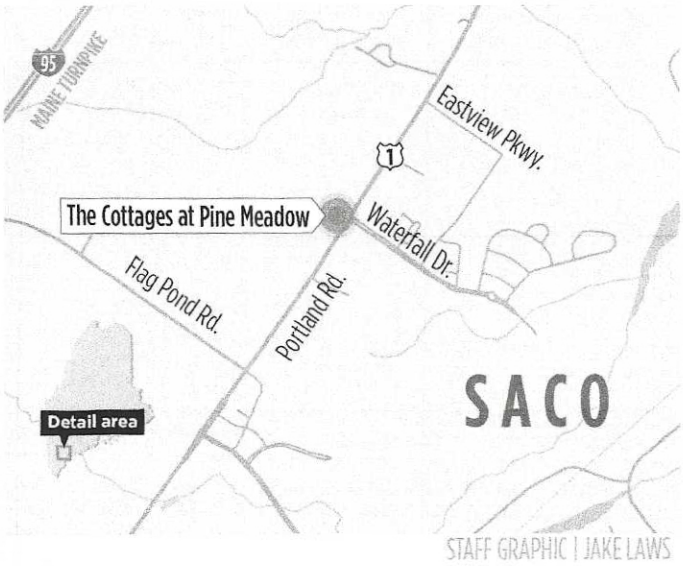
And they're not alone.

Residents in more than half the 24 cottages say they bought the newly built homes thinking they would be stress-free. Instead, there has been nothing but headaches. Windows that were improperly installed, malfunctioning appliances, uneven flooring, and even cracks in the walls and foundation. The beautiful landscaping that was promised never materialized, leaving residents to plant their own.

Collectively, the residents have tried to get recourse. They contacted Saco city councilors, the code enforcement officer, the planning board, and the mayor. They attended and spoke during planning board meetings in Cape Elizabeth to warn board members about the builder, who had proposed a development there. But their complaints kept getting shuffled to different departments and then disappeared altogether.

In June 2022, the Fetherstons lodged an official complaint with the Maine Office of the Attorney General against the developers, Mark McClure and Paula Wallem of GenX Capital Development, doing business as Saco Cottages LLC, as well as the builder, Ron Goddard. The complaint, which alleges poor construction resulting in myriad health, safety, and aesthetic issues, was signed by the owners of 13 of the cottages.

The AG's office would not confirm the existence of an investigation, but a spokesperson said last month that there have been eight complaints lodged against Saco Cottages LLC, though it's not clear how many may be duplicated efforts from those who already signed Fetherston's complaint. Emails from as recently as January show correspondence between the residents and AG's office staff. But neither side has heard anything, one way or another, in several months.



Kelly Flagg, executive director of the Associated General Contractors of Maine, said she couldn't speak to this specific development because her organization represents commercial contractors, not residential ones. Generally, she said it's common for newly constructed buildings to have a few minor things that need to be fixed after construction wraps up, but it's rare for them to go unresolved to the point where owners complain to the attorney general.

The property developer and builder, meanwhile, have forcefully denied the allegations.

Goddard maintains that the construction was standard-issue – the houses were never meant to be luxury units, he said. Some of the problems he attributes to the pandemic and supply chain issues, but he maintains that he responded to every request for service communicated to him during the nearly two years he was on the site.

McClure, however, referred to the complaints as "vindictive" and "falsehoods," and threatened to launch personal attacks against the residents and the Portland Press Herald/Maine Sunday Telegram to discredit their claims.

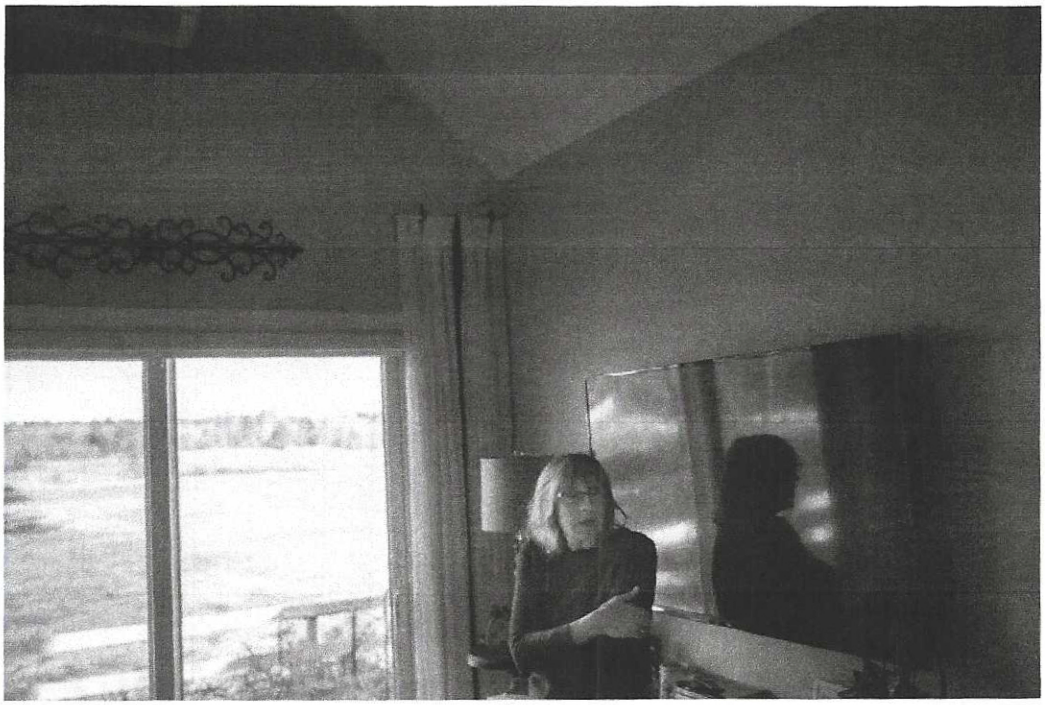
"My PR team has prepared a detailed, unflattering response about the writer and those that have made these false claims," he said in an email to the reporter ahead of publication, adding his desire to "ensure those that published (the story) face dire consequences on Google search infinitely."

"If our names will be dragged into the mud on the internet falsely, rest assured we are responding 20-fold to ensure the writer and complainants' names are in all searches as well from a negative standpoint," he said.

'IF I KNEW THEN …'

They found their way to The Cottages at Pine Meadow for different reasons.

Cheryl Sarno, 64, wanted to be closer to her kids and grandkids. Her 650-square-foot home at the end of the development was going to be the last property she ever bought, the perfect place to settle in with her dog and cats.



Cheryl Sarno was one of the first residents to move into The Cottages at Pine Meadow. She's given up hope for financial relief but doesn't want other older adults to have to deal with the problems she's faced with her home. *Derek Davis/Staff Photographer*

Fetherston and his wife, Wendy, had always vacationed in Maine. Finding a place close to Portland and area beaches seemed like a dream come true.

Marcia Thibeault, 67, bought the biggest house – a 1,100-square-foot corner condo with views of the neighboring Leary Farm from both sides – because of the location. Her husband, who has since died, was in a nursing home just down the street.

"I would drive by on Route 1 every day on my way to work in Portland, and I looked in at these little places here and thought, 'I'd love to live in one of these places one of these days,' " she said. "If I knew then what I know now."

The complaint to the attorney general includes more than 100 specific grievances from 13 owners. Some of the more common complaints include flooded basements, malfunctioning and improperly installed appliances, uneven flooring, missing window screens, and windows that were installed incorrectly, upside-down, or with plastic instead of glass.

Others complained about doors that were improperly fitted and wouldn't lock, cracks in walls or foundations, and leaking heating and cooling systems. Residents say some things that were included in the purchase and sale were not as promised. Some bathroom fixtures were missing or were downgraded.

Each of the nine home layouts includes a loft, and several residents complained that the ladder, which slides, did not feel safe. Sarno had her ladder replaced with a spiral staircase, and others have paid to secure their ladder in place.



Jon Fetherston, 58, tries a ladder to a loft at his neighbor's home at The Cottages at Pine Meadow development. Several residents complained that their sliding ladders did not feel safe. Some paid to secure their ladder in place. *Derek Davis/Staff Photographer*

Sarno said one of her neighbors had an incorrectly installed water expansion tank break, flooding their basement with about 5 feet of water. Thibeault and Fetherston both had the water in their toilets freeze during a cold snap last year because they didn't have a heat source in the bathroom.

Fetherston said their stackable washer and dryer weren't installed properly and the dryer toppled over into the shower.

"Sometimes I walk in my door and feel like, am I going to end up in my basement?" Fetherston said.

Two houses are positioned so that the front doors directly face each other with only about 10 feet of space in between, preventing the construction of a wheelchair-accessible ramp for one homeowner with disabilities.

Many issues were noted before closing and added as an addendum in documents or simply promised verbally, the residents said. Some were not immediately obvious until it was too late. Some of the issues have been fixed – and Goddard said he responded to all the requests he received – but some remain unresolved.

"This situation is a travesty," the residents wrote in the complaint. "We all were looking forward to residing in Maine in a lovely retirement community. Instead, we spend our time in attempts to get resolution to the mounting issues and we spend hard-earned dollars to fix those issues that simply can't wait."

Teri and Dave Treiger closed on their cottage in July 2022. One week later, a pipe backed up, dumping raw sewage into their basement.

In a letter to the Cape Elizabeth Planning Board, which was reviewing a proposed development from Goddard, the Treigers said the team misrepresented a previous backup situation to rush the closing. A receipt from Rooter-Man Plumbers says the line seemed to be broken just east of the foundation. Follow-up calls and emails seeking assistance went unanswered, they said.

"Rather than continue fighting with the developers to fix their shoddy work, my husband and I opted to hire the proper people to address the remaining issues," Teri Treiger wrote.

Dana and Anne Bengtson also wrote to the Cape planning board and said that while they had a better relationship with Goddard than many other residents in the community, they were disappointed with several issues in their unit and with the development.

When they bought the house, their backyard faced a quiet, densely wooded area. They asked Goddard if the property was buildable and were told no, because of the wetlands, the Bengtsons wrote. A year later, there's a 120-unit apartment complex under construction right behind the house.

"We are angry and disappointed, as we would not have purchased had we been told the truth," they wrote.

Fetherston, Sarno, and Thibeault have given up hope for any financial relief, but they're hoping there will be some accountability. They say they don't want what happened to them to happen to other older adults or other vulnerable populations.

"Our concerns have been raised with the (developers) without resolution and delays have resulted in the loss of warranty coverage," the complaint reads. "If not completely ignored, some issues raised have been met with retaliatory comments and threats of lawsuits for libel or slander."

HOMES NOT MEANT TO BE 'TAJ MAHAL'

Saco Cottages LLC is the second team to take on the development.

Developer Bill Koch and Sandra Murray, a broker with Keller Williams Realty, dreamed up The Cottages at Pine Meadow as a "four-season, age 55-plus luxury cottage condominium community," according to a 2019 advertisement.

The Saco Planning Board approved the development in 2018, and Koch and Murray began renovating existing cabins and building the model unit. But the pair abandoned the project for "personal reasons," according to a Mainebiz article, and GenX Capital Development – McClure and Wallem's Miami-based real estate investing and development company – bought the property for about $6 million in October 2020.

McClure, Wallem, and Goddard stuck to the development's original plans for 24 new-build cottages and seven renovated cabins, but "with an eye toward speed" to keep up with demand as interest in Maine increased at the height of the pandemic, they told Mainebiz.

Crews broke ground in January 2021, and the first batch of residents closed in October and November of that year.

But the cluster of small homes that now dot the landscape just south of the Scarborough line is a far cry from the luxury cottage community that was originally promised, residents say. Sure, they have stainless steel appliances, granite countertops, and cathedral ceilings, but the leaking heating units, sliding glass doors without screens, and frigid bathrooms paint a different picture.

Goddard, however, said the units were never meant to be luxury.

"They're cheaper units," he said. "The materials are lower-end materials."

That was necessary, he argued, to keep the prices under $300,000. By the time GenX Capital took over the project and began marketing the units, the word "luxury" had been scrubbed from the description.

Some of the problems, like the two homes that directly face each other, were part of the original plan approved by the city. Goddard said he stuck to the plan and built what he was told to.

Goddard also said the pandemic caused supply chain issues, meaning that some appliances and materials were not available, had become more expensive, or were damaged. The builder acknowledged that homeowners were frustrated by the delays.

"When they were able to move in, they already came in heated," he said. "And so that just snowballed into any little thing that might've been a simple issue, they would just make it into a bigger issue.

"Maybe they thought they were getting the Taj Mahal, and they got a tiny home."

As delays and problems continued, the environment quickly deteriorated. Both sides say the work site was hostile, with insults and accusations being hurled both verbally and over email.

At one point, Sarno filed a protection from harassment order against one of the workers, whom she said was trespassing through her backyard. Goddard said the worker was trying to take measurements of a drainage ditch. The complaint was later withdrawn.

All the homes received the stamp of approval from the city's code enforcement office and received a certificate of occupancy.

"The units were scrutinized extremely hard," Goddard said. "As far as I know, no one has had their occupancy permits revoked due to poor workmanship or … the houses falling over."

If anything, Goddard said, some of the residents "destroyed their own property" by filling in the drainage ditches to build up their backyards, causing flooding in some of the units.

But residents say the poor drainage, while a problem, is the least of their concerns.

Many of the issues were discovered after they moved in, sometimes long after.

Fetherston, a member of the Board of Selectmen in his home community of Ashland, Massachusetts, said it was "mind-boggling" that no elected officials have come to the development to talk to residents or investigate their claims.

"I believe in buyer beware," he said. "But government is supposed to protect people."

OWNERS CRITICIZE BUILDER'S OTHER PROJECTS

McClure denied any responsibility for the problems in the development and said he had minimal involvement with the construction.

"We're not contractors. … All we can say is 'go fix this' … (and) try to crack the proverbial whip as best we could," he said.

Some of the residents asked to move in early before a certificate of occupancy was granted. They told the developer they were going to be homeless. So, they were allowed to move in early with the understanding that some things were unfinished, according to McClure. The punch list would be completed after, but promptly.

Then they started complaining, McClure said.

The homeowner association hired an attorney for advice but was told filing a lawsuit would be costly. Sarno hired her own attorney, who advised her that any case would be long and drawn out, costing her far more than any damages she might try to recoup.

Residents reached out to Saco city councilors, the code enforcement officer, the Planning Board, and the mayor before ultimately contacting the attorney general.

Saco Mayor William Doyle said in an email that the former administrator had some conversations with homeowners who contacted the city, but in light of the complaint with the attorney general's office, he declined to discuss the issue further "as our staff may be involved in the investigation and/or subsequent hearings."

Last year, Sarno tried to take their story to the media, but nobody got back to her. Then, in February 2022, she received a cease-and-desist order from Murray Plumb and Murray, the law firm representing Saco Cottages LLC.

The letter said Sarno was "engaged in a campaign to falsely impune (sic) the integrity of both Saco Cottages and its contractors."

McClure said he does not know the cease-and-desist order.

He said he didn't deal with complaints directly. His wife, Wallem, often coordinated with the property manager, Goddard, and the residents about problems.

McClure also stressed that since the homes have increased in value in the last two years, it's "pretty odd that they're suing us."

Frustrated by a lack of action, residents of The Cottages at Pine Meadow have spoken out about other projects involving the development team.

Goddard, financial adviser Laurie Bachelder, and Cape Elizabeth real estate agent Andrew Carr approached the Cape Elizabeth Planning Board this summer with plans for a 16-unit development.

But residents of The Cottages at Pine Meadow caught wind of the proposal and wrote letters and spoke at meetings to rebut the claims that Saco Cottages was a successfully built condo community. The Cape Elizabeth Planning Board rejected the proposal in October, ultimately ruling that the team lacked the "technical or financial capability" to build the development to completion.

GenX Capital is developing "The Mark," a 45-unit, high-end, one- and two-bedroom condo development in Cumberland. It's also trying to get a 60-unit luxury condominium development of duplexes and triplexes off the ground on Hope Avenue in Portland. The project, also known as Presumpscot Woods, already has a coalition of neighbors lined up in opposition.

McClure said he hasn't spoken with Goddard in more than a year. Goddard was previously listed as a partner in "The Mark," but McClure said in an email that Goddard is not involved in the project. Goddard said he has some investment interest in the property but is not working on it in a professional capacity.

'SHOULD HAVE BEEN A HOME RUN'

It's unclear what will happen next. Neither side has heard anything from the attorney general's office in months. Goddard assumes that means the office has dismissed the complaint. The residents hope it's still being investigated.

AG's office spokesperson Danna Hayes said there is not always a definitive end to an investigation.

If the office files suit, it means officials determined there were grounds for legal action. If not, it still doesn't mean the case is closed.

"People who made complaints are sometimes aware of a conclusion if one exists, but that depends on the facts and context of the cases," Hayes said.

So, what's next? Residents could move, and some have. One unit is currently for sale for the third time since it was built in 2021.

But others either aren't ready or aren't able to give up.

Sarno can't afford to move. Between the roughly $260,000 she spent on her home and the $35,000 she estimates she will have spent once the last of her home repairs and renovations are completed, there won't be enough left over to start again.

Thibeault also is not confident she should or even could sell. At $411,000, hers was the most expensive house on the lot, and prices have only appreciated since then. What would be the dealbreaker for a potential buyer? The falling insulation in the basement? The pipes that keep freezing? The windows that leak?

"Even if I wanted to sell, I'd feel guilty selling," she said. "I feel like I would have to disclose a lot of things, and I wouldn't want to do that."

Fetherston is still optimistic that things will improve. He's given up hope of receiving any financial compensation, but he is hoping for accountability from the city.

"This should have been a home run for Saco," he said. "But they struck out with the bases loaded in the bottom of the ninth."

Interactive Corporate Services

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Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

List of All Filings

CUMBERLAND FORESIDE PARTNERS LLC

Description	Date	Image Available	Please check one of the following ☐ All documents ☐ Specific records Select from the list below. **Each record $ 3.00** ☐ **Certify order $5.00**
CERTIFICATE OF FORMATION	09/03/2021	Yes	☐
ANNUAL REPORT	05/29/2022	Yes	☐
ANNUAL REPORT	05/01/2023	Yes	☐
NOTICE - FAILURE TO FILE AN ANNUAL REPORT	08/12/2024	Yes	☐
ADMINISTRATIVELY DISSOLVED - FAILURE TO FILE ANNUAL REPORT	11/07/2024	Yes	☐

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Cumberland Developer

SEARCH RESULTS

Cumberland, ME

The MARK Cumberland

Recorded Land Name Search

2/27/2025 9:49:20 AM

Doc.#	Name/Corporation	Book	Page	Type Desc.	File Date	Town	Img Flag	Type
4927	CUMBERLAND FORESIDE PARTNERS LLC	41277	72	LIEN	2/11/2025	CUMBRLAND	**	GR
5037	CUMBERLAND FORESIDE PARTNERS LLC	41278	269	COURT	2/11/2025	CUMBRLAND	**	GR
4474	CUMBERLAND FORESIDE PARTNERS LLC	41271	246	COURT	2/6/2025	CUMBRLAND	**	GR
4290	CUMBERLAND FORESIDE PARTNERS LLC	41269	72	COURT	2/4/2025	CUMBRLAND	**	GR
2884	CUMBERLAND FORESIDE PARTNERS LLC	41251	299	LIEN	1/27/2025	CUMBRLAND	**	GR
1998	CUMBERLAND FORESIDE PARTNERS LLC	41241	132	LIEN	1/17/2025	CUMBRLAND	**	GR
1853	CUMBERLAND FORESIDE PARTNERS LLC	41239	88	LIEN	1/16/2025	CUMBRLAND	**	GR
1232	CUMBERLAND FORESIDE PARTNERS LLC	41231	249	DISCHARGE	1/13/2025	CUMBRLAND	**	GT
963	CUMBERLAND FORESIDE PARTNERS LLC	41227	329	LIEN	1/10/2025	CUMBRLAND	**	GR
753	CUMBERLAND FORESIDE PARTNERS LLC	41225	182	LIEN	1/8/2025	FALMOUTH	**	GR
455	CUMBERLAND FORESIDE PARTNERS LLC	41221	325	LIEN	1/6/2025	CUMBRLAND	**	GR
474	CUMBERLAND FORESIDE PARTNERS LLC	41222	29	LIEN	1/6/2025	CUMBRLAND	**	GR
115	CUMBERLAND FORESIDE PARTNERS LLC	41218	96	LIEN	1/2/2025	CUMBRLAND	**	GR
49605	CUMBERLAND FORESIDE PARTNERS LLC	41212	36	ASSIGNMENT	12/30/2024	CUMBRLAND	**	GR

49675	CUMBERLAND FORESIDE PARTNERS LLC	41213	59	LIEN	12/30/2024	CUMBRLAND	**	GR
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45900	CUMBERLAND FORESIDE PARTNERS LLC	41162	25	AFFIDAVIT	12/3/2024	CUMBRLAND	**	GR

DOC :46893 BK:41203 PG:22
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
12/23/2024, 01:27:19P
Register of Deeds Jessica M. Spaulding E-RECORDED

STATE OF MAINE
CUMBERLAND, ss

MECHANIC'S LIEN CERTIFICATE

DeStefano & Associates, Inc., a New Hampshire corporation with a place of business at 2456 Lafayette Road, Suite 3, Portsmouth, New Hampshire 03801, claims a lien in the amount of $2,037,186.80, plus interest and costs, based on its furnishing of labor, equipment, and materials up through and including December 16, 2024, pursuant to a contract with Cumberland Foreside Partners, LLC, a Maine limited liability company having a place of business at 2 Cotton Street, Portland, Maine 04101, in connection with the construction of the development known as The Mark Condominiums, at or near 98-102 US Route 1, Cumberland, Maine 04110, as more particularly described in the Quitclaim Deed with Covenant from Broad Cove Ridge, LLC, to Cumberland Foreside Partners, LLC, dated October 26. 2021, and recorded in the Cumberland County Registry of Deeds at Book 38823, Page 115. Owners of interests in said Property, to the extent known by the lien claimant following a diligent search, include Cumberland Foreside Partners, LLC, Broad Cove Ridge, LLC, Construction Loan Services II, LLC, and Titan Funding, LLC.

Dated: December 20, 2024

John P. DeStefano

DeStefano & Associates, Inc.
By: John P. DeStefano
Its: President

STATE OF New Hampshire
County of Rockingham

On December 20, 2024, personally appeared before me the above-named John D. DeStefano, on behalf of DeStefano & Associates, Inc., and made oath and swore that the above statements are true based on his personal knowledge.

Megan Hawkes

Notary Public

MEGAN M. HAWKES, Notary Public
My Commission Expires February 3, 2026

#17705678v2

CLERK'S CERTIFICATE

I, Associate Emma S. Lewis, Clerk of the Cumberland County Superior Court, do hereby certify that **DeStefano & Associates, Inc.** a New Hampshire company with its principal place of business in Portsmouth, New Hampshire, has filed in this office of the Clerk of this Court a Complaint against Cumberland Foreside Partners, LLC, a limited liability corporation with a place of business at 2 Cotton Street, Portland, Maine 04101, and parties-in-interest Seabee Electric, Inc; James A. McBrady, Inc.; Hancock Lumber Company, Inc.; Liston Paints, LLC; JLD Services, LLC d/b/a Enertex; Chase Excavating, Inc.; American Aerial Services, Inc.; Broad Cover Ridge, LLC; Construction Loan Services, II, LLC; Builders Capital Finance, LLC; and Titan Funding, LLC. Said Complaint claims a lien upon certain land, with any buildings and appurtenances thereon, located at or near 98-100 US Route 1, Cumberland, Maine, and more particularly described in the Mechanic's Lien Certificate attached hereto as Exhibit A and by reference incorporated herein.

The Complaint is dated January 14, 2025, and was filed in this Clerk's office on January 14, 2025.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seal of said Court this 16 day of January, 2025.

Associate Clerk
Cumberland County Superior Court

CUMBERLAND COUNTY

Please return to:
Page Holmes
Pierce Atwood LLP
254 Commercial Street
Portland, ME 04101

After recording return to:
Adam J. Shub, Esq.
PretiFlaherty
One City Center, 6th Floor
P.O. Box 9546
Portland, ME 04112-9546

---------- (Space Above This Line For Recording Data) ----------

CERTIFICATE OF MECHANIC'S LIEN
(10 M.R.S. § 3251 et seq.)

This is to certify that the following is a true statement of the amount, with all just credits given, due to **Timberland Drywall, Inc.**, a Maine corporation with offices located at 626 Main St., Gorham, Maine 04038 ("Subcontractor"), for services performed by Subcontractor in connection with improvements to certain real property owned by the **Cumberland Foreside Partners LLC**, a Maine limited liability company, being a parcel of land commonly known as The Mark Condominiums and located at or around 100-102 U.S. Route 1, Cumberland, Maine 04110, as more particularly described and depicted in the deed from Broad Cove Ridge, LLC to Cumberland Foreside Partners LLC dated October 26, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38823, Page 115 and on Exhibit A attached hereto (the "Premises").

All such labor and/or materials furnished and/or services performed were provided for the benefit of the Premises, with the knowledge and consent of Cumberland Foreside Partners LLC, and pursuant to a contract between Subcontractor and **DeStefano & Associates, Inc.** a New Hampshire corporation with offices located at 2456 Lafayette Road, Suite 3, Portsmouth, New Hampshire 03801. The last labor, materials and/or services were furnished or performed on November 13, 2024. With all just credits given, there is currently due to said Subcontractor, separate from costs, attorney's fees and additional interest, the amount of $ 372,785.47 as of the date of notarization below, plus ongoing interest, penalties, late fees, and legal fees and costs. *Notice is given that any party seeking to pay off the full balance of this lien should contact Timberland Drywall, Inc. for a payoff statement.*

By virtue of all of which a lien is claimed on said land and the improvements located thereon.

[No further text. Signature page follows.]

STATEMENT OF LIEN CLAIM
Pursuant to 10 M.R.S.A. § 3251, *et seq.*

This is to certify that the following is a true statement of the amount due FBS Plumbing & Heating Co. d/b/a Jerry's Plumbing & Heating, a Maine corporation having a principal place of business at 23 Enterprise Drive, Arundel, Maine 04046 for labor and/or materials furnished by virtue of a contract dated November 29, 2022 between FBS Plumbing & Heating Co. d/b/a Jerry's Plumbing & Heating and DeStefano & Associates, Inc., a New Hampshire corporation with a principal place of business of 2456 Lafayette Road, in Portsmouth, New Hampshire 03801.

The land and buildings upon which FBS Plumbing & Heating Co. d/b/a Jerry's Plumbing & Heating furnished the labor and/or materials is commonly known as The Mark Condominiums, at or near 98-102 U.S. Route 1 in Cumberland, Maine ("Property"). The Property is more particularly described in a quitclaim deed from Broad Cove Ridge, LLC to the Owner dated October 26, 2021, and recorded in the Cumberland County Registry of Deeds on October 27, 2021 at Book 38823, Page 115. The Property may be further described in: (a) a Mortgage Deed and Security Agreement from Cumberland Foreside Partners, LLC to Broad Cove Ridge, LLC, with a mailing address of 97 Ledge Brook Crossing, Brunswick, Maine 04011, recorded in the Cumberland County Registry of Deeds at Book 40005, Page 236; (b) a Mortgage Deed and Security Agreement from Cumberland Foreside Partners, LLC to Titan Funding, LLC, with a mailing address of 2701 NW Boca Raton Boulevard, Suite 105, Boca Raton, Florida 33431, recorded in the Cumberland County Registry of Deeds at Book 40369, Page 264; and (c) a Mortgage, Security

NOTICE OF MECHANICS LIEN

10 M.R.S.A. § 3251, *et. seq.* as amended

Claimant:	American Aerial Services 33 Allen Avenue Extension Falmouth, ME 04105
Contractor:	DeStefano & Associates, Inc. 2456 Lafayette Road, Ste. 3 Portsmouth, NH 03801
Property Owner:	Cumberland Foreside Partners, LLC 2 Cotton Street Portland, ME 04101
Primary Mortgagee:	Construction Loan Services II, LLC 1019 39th Ave SE, Ste. 220 Puyallup, WA 98374
Junior Mortgagee:	Titan Funding, LLC 2701 NW Boca Raton Blvd. #105 Boca Raton, FL 33413
Third Mortgagee:	Broad Cove Ridge, LLC 97 Ledgebrook Crossing Brunswick, ME 04011

American Aerial, Inc. a Maine business corporation having a place of business in Falmouth, Maine, has provided labor, equipment, services and materials by virtue of a contract with **DeStefano & Associates, Inc.** a New Hampshire corporation having a place of business in Portsmouth, New Hampshire, on land and improvements owned by **Cumberland Foreside Partners, LLC**, said labor, materials, equipment and services having been performed, delivered, and incorporated upon the land and improvements owned by Cumberland Foreside Partners, LLC (or others as owners, mortgagees, or persons with interest in said land and improvements, and if the persons named above are not the owners, then the owners are to lien claimant unknown). Said labor, materials, equipment, and services were furnished with the consent and knowledge of said Cumberland Foreside Partners, LLC and other owners, mortgagees, or persons with an interest named above, on property owned by them generally described as being located at 98-100 US Route One, Cumberland, Cumberland County, State of Maine and further described hereinbelow, and pursuant to contracts and agreements between American Aerial Services and DeStafano & Associates, Inc. for labor, materials, equipment, and services.

The premises on which this lien is claimed were conveyed to **Cumberland Foreside Partners, LLC** by deed recorded in the Cumberland County Registry of Deeds in Book 38823, Page 115.

NOTICE OF LIEN
10 M.R.S.A. § 3251, et seq. as amended

Lien Claimant: **Chase Excavating, Inc.** ("Chase" or the "Lien Claimant").

Property Owner: Cumberland Foreside Partners, LLC, 2 Cotton Street, Portland, Maine.

Project: The Mark Condominiums, Cumberland, Maine.

Chase Excavating, Inc., a Maine business corporation having a place of business in Falmouth, Maine, with a mailing address of 56 Gray Road, Falmouth, Maine 04105, has provided labor, equipment, services and materials by virtue of a contract with **DeStefano & Associates, Inc.**, a New Hampshire corporation having a place of business in Portsmouth, New Hampshire, with a mailing address of 2456 Lafayette Road, Suite 3, Portsmouth, New Hampshire 03801, on land and improvements owned by **Cumberland Foreside Partners, LLC**, whose address is 2 Cotton Street, Portland, Maine, said labor, materials, equipment, and services having been performed, delivered, and incorporated upon the land and improvements owned by Cumberland Foreside Partners, LLC (or others as owners, mortgagees, or persons with interest in said land and improvements, and if the persons named above are not the owners, then the owners are to lien claimant unknown). Said labor, materials, equipment, and services were furnished with the consent and knowledge of said Cumberland Foreside Partners, LLC and other owners, mortgagees, or persons with an interest named above, on property owned by them generally described as being located at 102 US Route One, Cumberland, Cumberland County, State of Maine, and further described herein below, and pursuant to contracts and agreements between Chase and DeStefano & Associates, Inc., for labor, materials, equipment and services.

The premises on which this lien is claimed were conveyed to **Cumberland Foreside Partners, LLC** by deed recorded in the Cumberland County Registry of Deeds in Book 38823, Page 115. Said real estate is also commonly known as and referred to as 100 US Route One, Cumberland, Cumberland County, State of Maine. The Property may be further described in: (a) a Mortgage Deed and Security Agreement from Cumberland Foreside Partners, LLC to Broad Cove Ridge, LLC, with a mailing address of 97 Ledgebrook Crossing, Brunswick, ME 04011, recorded in the Cumberland County Registry of Deeds at Book 40005, Page 236; (b) Mortgage Deed and Security Agreement from Cumberland Foreside Partners, LLC to Titan Funding, LLC, with a mailing address of 2701 NW Boca Raton Blvd., Suite 105, Boca Raton, FL 33431, recorded in the Cumberland County Registry of Deeds at Book 40369, Page 264; and (c) Mortgage, Security Agreement, Assignment of Leases and Rents, Assignment of Contracts and Plans, and Fixture Filing from Cumberland Foreside Partners, LLC to Construction Loan Services II, LLC, with a mailing address of 1019 39th Ave., SF, Suite 2020, Puyallup, WA 98374, recorded in the Cumberland County Registry of Deeds at Book 40369, Page 228.

Clerk's File No.: 2024 R 965118, **Group:** 1

CFN DETAILS | DOCUMENT IMAGE | ORDER CERTIFIED COPIES | REDACTION REQUEST

First Party (Code):	STORMFIELD SPV I LLC (D)	**Second Party:**	OASIS HOSPITALITY PARTNERS II LLC	**Rec Book/Page:**	34551 / 1933	**Rec Date:**	12/26/2024
Orig. CFN No:		**Orig. Book/Page:**		**Misc Reference:**	2024-004325-CA-01 FJUDJUD		
Document Type:	DCP	**Entry Date:**	12/24/2024	**Pages:**	8		
Subdivision Name:		**Legal Description:**		**Block No:**		**Folio No:**	
Plat Book/Page:		**Section:**		**Township:**		**Range:**	

First Party (Code):	OASIS HOSPITALITY PARTNERS II LLC (R)	**Second Party:**	STORMFIELD SPV I LLC	**Rec Book/Page:**	34551 / 1933	**Rec Date:**	12/26/2024
Orig. CFN No:		**Orig. Book/Page:**		**Misc Reference:**	2024-004325-CA-01 FJUDJUD		
Document Type:	DCP	**Entry Date:**	12/24/2024	**Pages:**	8		
Subdivision Name:		**Legal Description:**		**Block No:**		**Folio No:**	
Plat Book/Page:		**Section:**		**Township:**		**Range:**	

First Party (Code):	MCCLURE MARK (R)	**Second Party:**	STORMFIELD SPV I LLC	**Rec Book/Page:**	34551 / 1933	**Rec Date:**	12/26/2024
Orig. CFN No:		**Orig. Book/Page:**		**Misc Reference:**	2024-004325-CA-01 FJUDJUD		
Document Type:	DCP	**Entry Date:**	12/24/2024	**Pages:**	8		
Subdivision Name:		**Legal Description:**		**Block No:**		**Folio No:**	
Plat Book/Page:		**Section:**		**Township:**		**Range:**	

Foreclosures in Miami Florida

CFN: 20240965118 BOOK 34551 PAGE 1933
DATE:12/26/2024 12:54:30 PM
JUAN FERNANDEZ-BARQUIN
CLERK OF THE COURT & COMPTROLLER
MIAMI-DADE COUNTY, FL

IN THE CIRCUIT COURT OF THE ELEVENTH JUDICIAL CIRCUIT IN AND FOR MIAMI-DADE COUNTY, FLORIDA

CASE NO: 2024-004325-CA-01
SECTION: CA05
JUDGE: Vivianne Del Rio

Stormfield SPV I, LLC

Plaintiff(s)

vs.

Oasis Hospitality Partners II, LLC et al

Defendant(s)

_____/

FINAL JUDGMENT BY JUDGE

THIS ACTION was heard before the court on the Plaintiff's motion for final judgment after default on December 12, 2024 at 9:30 AM. Based on the pleadings and evidence presented, the lack of any opposition nor objection being filed by the Defendants, the presence of a default, and being otherwise fully informed in the premises, it is hereby:

ORDERED and ADJUDGED that:

1. Final Judgment of Foreclosure is granted in favor STORMFIELD SPV I LLC against the Defendants OASIS HOSPITALITY PARTNERS II, LLC, MARK MCCLURE, UNKNOWN TENANT #1, and UNKNOWN TENANT #2. Service of process has been obtained over all the Defendants.

2. **VALUE OF CLAIM**. At the initiation of this action, in accordance with section 28.241(1)(a)2.b., Florida Statutes (effective for actions filed on and after June 1, 2009), plaintiff estimated the amount in controversy of the claim to be **$75,000.00 to $100,000.00**. In accordance with section 28.241(1)(a) Florida Statutes, the court identifies the actual value of the claim to be **$3,929,341.07**. For any difference between the estimated amount in controversy and the actual value of the claim that requires the filing fee to be adjusted, the

clerk shall adjust the filing fee. In determining whether the filing fee needs to be adjusted, the following graduated filing fee scale in section 28.241(1)(a)2.d., Florida Statutes, controls:

$400	Value of claim less than or equal to $50,000.00 with 5 defendants or less.
$905	Value of claim greater than $50,000.00 but less than $250,000.00 with 5 defendants or less.
$1,905	Value of claim $250,000.00 or greater with 5 defendants or less

If an excess filing fee was paid, the clerk shall provide a refund of the excess fee. If an additional filing fee is owed, the plaintiff shall pay the additional fee prior to the judicial sale. If any additional filing fee owed is not paid prior to the judicial sale, the clerk shall cancel the judicial sale without further order of the court.

3. **Amounts Due**:

Principal	$3,450,000.00
Interest	$937,633.33
Unpaid Late Charges	$1,653.13
Unpaid Advances & Fees	$147,769.83
Other Fees	$365.00
TOTAL SUM	$4,537,421.29

4. **Interest**. The total sum referenced in Paragraph 3 shall bear interest from this date forward at the rate of interest set forth in section 55.03, Florida Statutes.

5. **Lien on Property**. Plaintiff, whose address is 200 Pequot Avenue, Southport, CT 06890, holds a lien for the total sum specified in Paragraph 3 herein. The lien of the plaintiff is superior in dignity to any right, title, interest or claim of the defendants and all persons, corporations, or other entities claiming by, or under the defendants or any of them and the property will be sold free and clear of all claims of the defendants, with the exception of any assessments that are superior pursuant to sections 718.116 or 720.3085, Florida Statutes. Plaintiff's lien encumbers the subject property located in Miami-Dade County, Florida and described as: Lot 15, Block 61, Lincoln Subdivision, according to the plat thereof of record at Plat Book 9, Page 69, of the Public Records of Miami-Dade County, Florida a/k/a 1545 Meridian Avenue, Miami Beach, Florida 33139.

6. **Sale of Property**. If the total sum with interest at the rate described in Paragraph 4 and all costs accrued subsequent to this judgment are not paid, the Clerk of the Court shall sell the subject property to the highest bidder for cash at public sale on **JANUARY 21, 2025**, at 9:00 A.M. after having first given notice as required by section 45.031, Florida Statutes. The judicial sale will be conducted electronically online at the following website: http://www.miamidade.realforeclose.com. At least three (3) days prior to the sale, plaintiff must pay the costs associated with the Notice of Publication. The party or their attorney shall be responsible for preparing, in accordance with section 45.031(2), Florida Statutes, and submitting the Notice of Sale to a legal publication. The original Notice of Sale and Proof of Publication must be filed with the Clerk of the Circuit Court at least 24 hours prior to the scheduled sale date.

7. **Court Costs**. Plaintiff shall advance all subsequent required costs of this action and shall be reimbursed for them by the Clerk if plaintiff is not the purchaser of the property for sale. If plaintiff is the purchaser, the Clerk shall credit plaintiff's bid with the total sum with interest

Clerk's File No.: 2025 R 61912, **Group:** 1

CFN DETAILS | DOCUMENT IMAGE | ORDER CERTIFIED COPIES | REDACTION REQUEST

First Party (Code):	STORMFIELD CAPITAL FUNDING I LLC (D)	**Second Party:**	OASIS HOSPITALITY PARTNERS LLC	**Rec Book/Page:**	34591 / 1915	**Rec Date:**	01/27/2025
Orig. CFN No:		**Orig. Book/Page:**		**Misc Reference:**	2024-007873-CA-01 FJUDJUD		
Document Type:	DCP	**Entry Date:**	01/23/2025	**Pages:**	8		
Subdivision Name:		**Legal Description:**		**Block No:**		**Folio No:**	
Plat Book/Page:		**Section:**		**Township:**		**Range:**	

First Party (Code):	OASIS HOSPITALITY PARTNERS LLC (R)	**Second Party:**	STORMFIELD CAPITAL FUNDING I LLC	**Rec Book/Page:**	34591 / 1915	**Rec Date:**	01/27/2025
Orig. CFN No:		**Orig. Book/Page:**		**Misc Reference:**	2024-007873-CA-01 FJUDJUD		
Document Type:	DCP	**Entry Date:**	01/23/2025	**Pages:**	8		
Subdivision Name:		**Legal Description:**		**Block No:**		**Folio No:**	
Plat Book/Page:		**Section:**		**Township:**		**Range:**	

First Party (Code):	MCCLURE MARK (R)	**Second Party:**	STORMFIELD CAPITAL FUNDING I LLC	**Rec Book/Page:**	34591 / 1915	**Rec Date:**	01/27/2025
Orig. CFN No:		**Orig. Book/Page:**		**Misc Reference:**	2024-007873-CA-01 FJUDJUD		
Document Type:	DCP	**Entry Date:**	01/23/2025	**Pages:**	8		
Subdivision Name:		**Legal Description:**		**Block No:**		**Folio No:**	
Plat Book/Page:		**Section:**		**Township:**		**Range:**	

Florida Foreclosure

CFN: 20250061912 BOOK 34591 PAGE 1915
DATE:01/27/2025 11:51:45 AM
JUAN FERNANDEZ-BARQUIN
CLERK OF THE COURT & COMPTROLLER
MIAMI-DADE COUNTY, FL

IN THE CIRCUIT COURT OF THE ELEVENTH JUDICIAL CIRCUIT IN AND FOR MIAMI-DADE COUNTY, FLORIDA

CASE NO: 2024-007873-CA-01
SECTION: CA15
JUDGE: Jose Rodriguez

Stormfield Capital Funding I, LLC

Plaintiff(s)

vs.

OASIS HOSPITALITY PARTNERS LLC et al

Defendant(s)

_____/

FINAL JUDGMENT BY JUDGE

THIS ACTION was heard before the court on the Plaintiff's motion for final judgment after default on December 11, 2024 at 8:30 AM. Based on the pleadings and evidence presented, the lack of any opposition nor objection being filed by the Defendants, and being otherwise fully informed in the premises, it is hereby:

ORDERED and ADJUDGED that:

1. Final Judgment of Foreclosure is granted in favor STORMFIELD CAPITAL FUNDING I, LLC against the Defendants OASIS HOSPITALITY PARTNERS LLC, MARK MCCLURE, UNKNOWN TENANT #1, and UNKNOWN TENANT #2. Service of process has been obtained over all the Defendants.

2. **VALUE OF CLAIM**. At the initiation of this action, in accordance with section 28.241(1)(a)2.b., Florida Statutes (effective for actions filed on and after June 1, 2009), plaintiff estimated the amount in controversy of the claim to be **$75,000.00 to $100,000.00**. In accordance with section 28.241(1)(a) Florida Statutes, the court identifies the actual value of the claim to be **$3,929,341.07**. For any difference between the estimated amount in controversy and the actual value of the claim that requires the filing fee to be adjusted, the

clerk shall adjust the filing fee. In determining whether the filing fee needs to be adjusted, the following graduated filing fee scale in section 28.241(1)(a)2.d., Florida Statutes, controls:

$400	Value of claim less than or equal to $50,000.00 with 5 defendants or less.
$905	Value of claim greater than $50,000.00 but less than $250,000.00 with 5 defendants or less.
$1,905	Value of claim $250,000.00 or greater with 5 defendants or less

If an excess filing fee was paid, the clerk shall provide a refund of the excess fee. If an additional filing fee is owed, the plaintiff shall pay the additional fee prior to the judicial sale. If any additional filing fee owed is not paid prior to the judicial sale, the clerk shall cancel the judicial sale without further order of the court.

3. **Amounts Due**:

Principal	$3,165,360.00
Interest	$588,698.47
Unpaid Late Charges	$1,516.74
Unpaid Advances & Fees	$173,400.46

Other Fees	$365.00
TOTAL SUM	$3,929,341.07

4. **Interest**. The total sum referenced in Paragraph 3 shall bear interest from this date forward at the rate of interest set forth in section 55.03, Florida Statutes.

5. **Lien on Property**. Plaintiff, whose address is 200 Pequot Avenue, Southport, CT 06890, holds a lien for the total sum specified in Paragraph 3 herein. The lien of the plaintiff is superior in dignity to any right, title, interest or claim of the defendants and all persons, corporations, or other entities claiming by, or under the defendants or any of them and the property will be sold free and clear of all claims of the defendants, with the exception of any assessments that are superior pursuant to sections 718.116 or 720.3085, Florida Statutes. Plaintiff's lien encumbers the subject property located in Miami-Dade County, Florida and described as: Lot 6, Block 89, Ocean Beach, FLA., Addition No. 3, according to the plat thereof of record at Plat Book 2, Page 81, of the Public Records of Miami -Dade County, Florida. a/k/a 1018 Jefferson Street, Miami Beach, FL 33133.

6. **Sale of Property**. If the total sum with interest at the rate described in Paragraph 4 and all costs accrued subsequent to this judgment are not paid, the Clerk of the Court shall sell the subject property to the highest bidder for cash at public sale on FEBRUARY 26, **2025**, at 9:00 A.M. after having first given notice as required by section 45.031, Florida Statutes. The judicial sale will be conducted electronically online at the following website: http://www.miamidade.realforeclose.com. At least three (3) days prior to the sale, plaintiff must pay the costs associated with the Notice of Publication. The party or their attorney shall be responsible for preparing, in accordance with section 45.031(2), Florida Statutes, and submitting the Notice of Sale to a legal publication. The original Notice of Sale and Proof of Publication must be filed with the Clerk of the Circuit Court at least 24 hours prior to the

Real Estate

Prior unpaid bill(s) exist for this parcel.

View Bill View bill image

As of	2/15/2025
Bill Year	2025
Bill	2500450
Owner	338 FALMOUTH FORESIDE PARTNERS LLC
Parcel ID	448-A-001-001

View payments/adjustments

Installment	Pay By	Amount	Payments/Credits	Balance	Interest	Due
1	10/18/2024	$3,781.02	$0.00	$3,781.02	$105.66	$3,886.68
2	3/14/2025	$3,781.02	$0.00	$3,781.02	$0.00	$3,781.02
Interest			$0.00			$105.66
TOTAL		$7,562.04	$0.00	$7,562.04	$105.66	$7,667.70

Add to Cart

©2025 Tyler Technologies, Inc.

Unpaid taxes on Hope Avenue Property

Lien Bill Details

Return to Lien View

Lien Bill Details

Bill Year	2024
Bill	29
Owner	338 FALMOUTH FORESIDE PARTNERS LLC
Parcel ID	448-A-001-001

View payments/adjustments

Installment	Pay By	Amount	Payments/Credits	Balance	Due
1	6/24/2024	$3,779.93	$0.00	$3,779.93	$4,007.43
Fees		$35.08	$0.00	$35.08	$35.08
Interest			$0.00		$192.42
TOTAL		$3,815.01	$0.00	$3,815.01	$4,007.43

©2025 Tyler Technologies, Inc.

STATE OF MAINE
MAINE REVENUE SERVICES
PO BOX 1060
AUGUSTA ME 04332-1060

Letter ID: L0001488046
Letter Date: March 05, 2024
TAXPAYER ASSISTANCE: (207) 624-9595
V/TTY 7-1-1

Cumberland

NOTICE OF STATE TAX LIEN

As provided by 36 M.R.S § 175-A, notice is given that the tax, interest, penalties and costs set forth below have been assessed against **MCCLURE, MARK C** whose last known address is **2 TOWN LANDING RD FALMOUTH ME 04105-1624.**

These amounts were not paid when due and no further administrative or judicial review is available pursuant to the Maine Administrative Procedure Act or 36 M.R.S § 151. Therefore, a lien exists in favor of the State of Maine upon all real property, fixtures and crops that are presently owned or hereafter acquired by this taxpayer. The lien arises at the time the assessment becomes final and continues for 10 years from the date of recording unless sooner released or otherwise discharged. Filing of this notice by the State Tax Assessor constitutes notice for, and secures payment of, both the original assessment and all subsequent assessments of tax against the same person, until such time as the lien is released or otherwise discharged. The State Tax Assessor has complied with all the provisions of Title 36 in the assessment of the tax.

Description	Tax	Interest	Penalties and Costs	Credit	Balance
Individual Income Tax					
1093-9735	$37,183.00	$5,171.28	$22,922.76	$0.00	$65,277.04
Totals				Total amount owed:	**$65,277.04**

March 04, 2024
Date

Michael Fortin
Director, Compliance Division

bL0017 | 5

Received
Recorded Register of Deeds
Mar 13,2024 11:03:58A
Cumberland County
Jessica M. Spaulding

GenX Capital Partners

Property Location: O Hope Lane, Portland, ME

Subject: Level III Site Plan Application

Date: September 26, 2022

General Application Documents: Financial Capability

The following are key members of the development team:

1) Shinberg Consulting, Portland, Maine — no longer associated.. provides construction management... who is taking this role
2) Haley Ward Engineering, Saco, Maine
3) Owen Haskell Surveyors, Falmouth, Maine
4) RS Leonard Landscape Architecture, Portland, Maine
5) John Q. Adams, P.E. Barton & Loguidice, Inc. Transportation Engineer, Scarborough, Maine
6) GenX Capital Partners, LLC, Portland, ME

GenX Capital Partners, LLC has developed and also financed more than $500 million in commercial real estate projects over the past 6 years throughout the U.S.

STATE OF MAINE

DISTRICT COURT
Location: Portland
Docket No. CUMCD VI-24-28
Docket No. CUMCD VI-24-29

CITY OF PORTLAND, a body politic and Corporate, located in the county of Cumberland and State of Maine,

Plaintiff,

v.

GENX CAPITOL PARTNERS,

Defendant.

PLAINTIFF'S VERIFIED MOTION FOR A FINDING OF CONTEMPT AGAINST DEFENDANT AND INCORPORATED MEMORANDUM OF LAW

The Plaintiff, the City of Portland ("Portland"), Maine respectfully requests, pursuant to M. R. Civ. P. 66(d), that this honorable Court find the Defendant, GenX Capitol Partners ("Defendant"), in contempt of this Court's May 14, 2024 Consent Judgment.[1] The Consent Judgment resolved a code enforcement action brought by Portland against the Defendant pursuant to Portland City Code of Ordinances, Section 29-21 (Mutilation of Trees) and the Portland City Code of Ordinances, Section 29-18 (Tree Removal without Permit). The Defendant admitted to the violations and the Court approved the Consent Judgment which was voluntarily executed by the Defendant.

The Defendant has failed to comply with the contribution requirements of the Consent Judgment. The contribution requirements of the Consent Judgment are found in Paragraphs 1 and 2 on Page 1 of the document.[2] These paragraphs state that the "Defendant shall pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024" and that "Defendant shall pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or

[1] *See* Consent Judgment, dated May 14, 2024, attached hereto as "EXHIBIT 1."
[2] *Id.*

before December 1, 2024."[3] To date, the Defendant has not made a single contribution payment, in direct violation of the Court Order.

In support of its motion, Portland submits the following incorporated memorandum of law.

BACKGROUND

The Defendant was served with summonses for tree removal without a permit (Portland City Code of Ordinances, Section 29-18) and tree mutilation (Portland City Code of Ordinances, Section 29-21) on March 15, 2024. The Defendant had removed and/or damaged an area of trees and vegetation on land owned by the City of Portland on or about January 29, 2024. Prior to the Defendant's appearance in Court for the summonses, the Defendant and Plaintiff executed a Consent Judgment which was subsequently executed by the Court on May 14, 2024.

The Consent Judgment required the Defendant to pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024, and also pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or before December 1, 2024. To date, the Defendant has failed to comply with any of the contribution payment requirements of the Consent Judgment as no payments have been made. The balance remains at $11,160.00.

Plaintiff, City of Portland, has made repeated demands to the Defendant to arrange for compliance with the Consent Judgment through payment of the contribution amounts. Portland has given the Defendant ample notice and numerous opportunities to comply with the obligations under the Consent Judgment, but the Defendant has failed to comply with the Court's Order.

[3] *Id.*

ARGUMENT

The Court may find a party in contempt when that party has "fail[ed] to comply with a lawful judgment . . . of the court." M.R. Civ. P. 66(a)(2)(A)(ii). When a party fails to comply with an order to abate a violation of a municipal code, it is proper to find them in contempt, issue fines, and grant the municipality other prospective relief. *Town of Kittery v. Dineen*, 591 A.2d 236, 236-37 (Me. 1991); *see also Town of Stonington v. Galilean Gospel Temple*, 1999 ME 2, 722 A.2d 1269, 1273-74 (affirming contempt order for violation of nuisance law, and upholding award of civil penalties).

On May 13, 2024, the Defendant signed a Consent Judgment which consisted of a detailed list of requirements. As set forth above, to date, the Defendant has failed to comply with all of the requirements included in the Court Order. As the Defendant has failed to comply with a lawful judgment of the Court, she is in contempt and subject to the requirements delineated in the Consent Judgment as well as any other relief this honorable Court deems appropriate.

WHEREFORE, Portland respectfully requests that the Court find the Defendant in contempt of this Court's May 14, 2023 Consent Judgment, and order that the Defendant:

> Pursuant to Paragraphs 1 of the Consent Judgment, immediately pay a contribution in the amount of $10,000.00 to Portland Trails. Payment shall be made by cashier's check or money order and made out to "Portland Trails" and delivered to counsel for Plaintiff for recording and subsequent forwarding to Portland Trails; and
>
> Pursuant to Paragraph 2 of the Consent Judgment, immediately pay a contribution in the amount of $1,600.00 to City of Portland Tree Trust. Payment shall be made by cashier's check or money order and made out to "City of Portland, Tree Trust" and delivered to counsel for Plaintiff for recording and subsequent forwarding to City of Portland, Parks Division.

Dated: January 23, 2025.

Richard M. Bianculli Jr., Esq. Bar No. 5496
Neighborhood Prosecutor
Portland Police Department
109 Middle Street
Portland, ME 04101
P · (207) 756-8350
F · (207) 874-8521
richb@portlandmaine.gov

STATE OF MAINE
County of Cumberland

Personally appeared the above named RICHARD M. BIANCULLI JR. on January 23 2025, and made oath that the foregoing instrument is based upon his personal knowledge and is true.

Before me,

Attorney-at-Law
Nicole Albert, Esq., Maine Bar No. 4956

NOTICE

This Motion shall be heard on February 10, 2025 at 10:00 AM/PM in Courtroom 3 of the Cumberland County District Court. Opposition to this motion must be filed not later than twenty-one (21) days after the filing of the motion unless another time is provided by the Maine Rules of Civil Procedure or set by the Court. The failure to file timely opposition will be deemed a waiver of all objections to the motion, which may be granted without further notice or hearing.

STATE OF MAINE
CUMBERLAND, ss.

DISTRICT COURT
CIVIL ACTION
DOCKET NO. CV-24-0028
DOCKET NO. CV-24-0029

CITY OF PORTLAND,	)	
	)	
Plaintiff,	)	
	)	
v.	)	**CONSENT JUDGMENT**
	)	
GENX CAPITOL PARTNERS,	)	
	)	
Defendant.	)	

THIS MATTER was scheduled for an initial appearance on May 13, 2024 on the civil charges of one (1) count of tree removal without permit in violation of Portland City Code of Ordinances, Section 29-18, and one (1) count of tree mutilation in violation of Portland City Code of Ordinances, Section 29-21. The Defendant, GenX Capitol Partners, hereby admits to the violations. Having reached agreement on the matter, the Parties hereby consent to the entry of this Consent Judgment as follows.

It is hereby ordered that:

1. Defendant shall pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024.
2. Defendant shall pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or before December 1, 2024.
3. Failure to comply with any portion of this Consent Judgment may constitute contempt of court and may subject the Defendant to prosecution for such contempt pursuant to M. R. Civ. P. 66(c); and
4. The Clerk shall enter this Consent Judgment on the Docket by reference, pursuant to M.R. Civ. P. 79(a).

STATE OF MAINE
Cumberland, ss. Clerk's Office
MAY 13 2024
RECEIVED

SEEN AND AGREED TO:

Dated: May 13, 2024.

For the City of Portland
Richard M. Bianculli Jr., Esq.
Neighborhood Prosecutor
Portland Police Department
109 Middle Street
Portland, ME 04101
P – 207.756.8350
F – 207.874.8521
richb@portlandmaine.gov

Dated: May 13, 2024.

Greg Shinberg, authorized agent
GenX Capitol Partners
P.O. Box 4424
Portland, ME 04101
207-772-7070

SO ORDERED:

Dated: May 13, 2024.

Judge, District Court

PC5

Carter Frank <cfrank@portlandmaine.gov>

Public Comment for 1 Hope Ave (PL-002454-2023)

1 message

Benjamin Haber <haber568@gmail.com> Wed, Mar 5, 2025 at 8:26 PM
Reply-To: haber568@gmail.com
To: planningboard@portlandmaine.gov
Cc: zpowell@portlandmaine.gov

To Members of the Portland Planning Board,

I ask that you add the attached community letter of concern with supporting names of over 120 of my neighbors to the public comments for the development proposal known as 1 Hope Avenue, Portland permit number PL-002454-2023, ahead of the Planning Board hearing scheduled for March 11th, 2025.

Thank You
Benjamin Haber
100 Hope Ave, Portland ME

Microsoft Word - North Deering Neighborhood Letter-Final_3-5-2025.docx.pdf
215K

Portland Planning Board
C/O Zachary Powell
389 Congress St
4th Floor
Portland, ME 04101

To Members of the Planning Board,

Thank you for receiving our letter. The cosigners below live in North Deering on Hope Lane, Hope Avenue, Basket Lane, Curtis Road, Alice Street, Alice Court, Garsoe Drive and other streets which would be directly and negatively impacted by the proposed development at 1 Hope Avenue (PL-002454-2023). Also included on this letter are names of affected residents in the Greater Portland area and from The Cottages at Pine Meadow development in Saco.

As you know, this development application has been open for a while. The concerns of our neighborhood surrounding the environmental risks associated with this parcel, the applicant's track record, the applicant's ability to successfully build out this development proposal, and the best land use for this parcel have grown considerably over the last 18 months. While some of our concerns might be mitigated through changes to the site plan, like increasing setbacks to better protect the Presumpscot River Preserve, others like the developer's troublesome track record and tenuous financial posture likely cannot. As such, we feel that the Portland Planning Board has an obligation to deny this application at the public hearing scheduled for March 11th. Should the Planning Board instead defer judgement to allow for additional considerations, we ask for your help in requiring the Applicant to address our concerns via proper due diligence and/or modification to the proposal so that it becomes more reasonable for Portland and our neighborhood. We ask that these concerns be made part of the Public Record for this matter, and we ask for your response to each when you have time to do so. You have our sincere thanks in advance of your response.

- **Concern:** If approved, this development proposal represents a significant environmental risk, given the unusually steep grade between the parcel under consideration and the Presumpscot River Preserve, to the surrounding woodland and Presumpscot River which leads directly to Casco Bay. At the latest workshop held on October 22nd of last year, expert testimony was given by Dr Irwin Novak and Friends of the Presumpscot River regarding concerns over the findings from the high intensity soil survey conducted by the applicant, in addition to the likelihood of the Presumpscot Formation's presence on the parcel. In agreeing with the concerns raised as being valid enough to understand in more detail, the Planning Board requested that a third party geotechnical review be completed prior to acting upon this application . To our knowledge this review has not been completed yet and should be reviewed by the Planning Board and neighbors..
    - **We strongly urge the Planning Board to deny this application in the absence of the third party geotechnical review.** Planning Staff, the Planning Board, the public, and engaged experts have not been able to properly consume or digest any findings from this report and given time to offer public comment

ahead of a public hearing. Given the poor soils discovered on the lot, in addition to the heightened risk of landslide that the likely presence of the Presumpscot Formation represents, the conclusion of this review may suggest a major site overhaul is needed, for which even a conditional approval may be inappropriate.
    - **If an extension is granted to allow for additional consideration of this application, we strongly urge the Planning Board to mandate that the applicant conduct additional soil boring surveys on this parcel.** The exact location and full extent of the Presumpscot Formation that is likely to exist on the parcel should be well characterized before permit approval is considered. In a recent landslide assessment conducted by the City of Westbrook, nearby historical test boring sites along the Falmouth Spur Highway, within hundreds of feet of the parcel, discovered geology indicative of the Presumpscot Formation. This suggests a strong likelihood that the Presumpscot Formation exists on this parcel.
    - **If an extension is granted to allow for additional consideration of this application, we strongly urge the Planning Board to require any and all mitigations be implemented by the applicant to eliminate the risk of landslide, erosion, and other environmental damage.** Upon the conclusion of the geotechnical review, we request the Planning Board hold the applicant accountable to the highest standards for implementing all changes necessary to ensure the safety of our neighborhood, the surrounding woodlands, and the Presumpscot River.

- **Concern:** Our neighborhood has significant reservations regarding the developer's technical ability to see this development proposal through to successful completion based on mistakes already made with preliminary site work for this application. To our knowledge the trail damage incurred from preliminary site work conducted in February of last year has not yet been rectified and the ensuing consent judgement fine has not yet been paid. It is also our understanding that this developer failed to skillfully execute a development in Saco a few years ago despite that project being smaller and less technically complex.
    - **We strongly urge the Planning Board to deny this application due to an active contempt of court motion by the City of Portland against the Applicant.** Our neighborhood doesn't understand how the Planning Board can bring to a public hearing a development proposal in which the Applicant is still considered in contempt of court for non-payment of agreed-upon penalties assessed for its trespass and damage to City property.
    - **We strongly urge the Planning Board to deny this application based on insufficient technical ability on the part of the developer.** The mistakes made while executing a routine soil boring survey on the parcel, in addition to the issues with the Cottages at Pine Meadows development, show a lack of technical capacity on the part of the developer. This concern is amplified given the small margin for error in regards to the sensitive and fragile nature of the adjacent Presumpscot River Preserve and surrounding Portland Trails network. It is our

neighborhood and the City of Portland that will bear the consequences should mistakes be made during the planning and construction phases of this development proposal.

- **Concern**: From public financial documents, we understand that there are numerous liens associated with this developer and the parcel. In addition to the outstanding consent judgement in the amount of $10k, a property tax lien by the City of Portland in the amount of ~$4k is active against the Hope Ave parcel. A tax lien by the State of Maine was recorded in the amount of ~$65k against Mark McClure of the Applicant team. And a dozen liens totaling ~$3.5M have recently been filed against this developer's project known as "The Mark" in Cumberland. Additionally, the financial pledge letter from Titan Funding dated February 13th 2025 seems to offer little guarantee of solid funding to the applicant, especially when measured against these concerns
    - **We strongly urge the Planning Board to deny this application on the basis of insufficient financial capacity to execute this development proposal through to completion.** The planning board should have serious concerns regarding a developer for which more drastic legal actions seem to be required in order to collect payment. We urge the planning board to consider who will pick up the bill should the developer run out of money and/or should cost overruns occur with this development proposal.
    - **If an extension is granted to allow for additional consideration of this application, we strongly urge the Planning Board to require the developer to post a significant portion of the estimated development costs in escrow with the City of Portland.** We encourage the Portland Planning Board to take reasonable steps to mitigate financial exposure to the City of Portland and its ratepayers should remediations be necessary and/or the development not be completed.

- **Concern**: If approved, this proposed development represents an unreasonable negative impact to the experience of using the Presumpscot Trail network of the Portland Trails System. The buildings, which would be 6 to 9 bedroom structures each, will be huge, and easily visible when using the Presumpscot Trail. This feels like a degradation of a treasured Portland resource for the profit of an out of town developer.
    - **If an extension is granted to allow for additional consideration of this application, we strongly urge the City to consider imposing the requirement of 100ft setbacks along the parcel's boundary with the Presumpscot River Preserve.** At the latest workshop for this permit application, Planning Board Member Marpheen Chann suggested the applicant remove the central wooded open space in the site plans and instead conserve additional vegetation along the northeastern boundary which would serve to pull units back from the Presumpscot River Preserve. In the latest version of the site plans submitted to the Planning Board on February 19th, the wooded strip in the center still remains. And while some buildings were moved farther from the boundary by

a few feet, the remainder of the triplex structures along this boundary still maintain the minimum 25ft setback. None of these structures achieve the 100ft setback which was repeatedly urged by members of the public during that workshop.
    - **If an extension is granted to allow for additional consideration of this application, we strongly urge the city to require an independent view study be conducted.** All stakeholders, including neighbors and trail users, should be able to fully understand the aesthetic and recreation impacts to the Presumpscot River Trail System. We request that the Planning Board order a third party view study, in relation to the nearby sections of the Portland Trails network, be conducted by someone with expertise in this matter before considering permit approval.

- **Concern**: The Hope Ave parcel has continuously been a high priority for the Portland Land Bank due to its considerable conservation value that would be eliminated by the scale of this development proposal. Last fall, the Portland Land Bank issued a letter of interest in acquiring the Hope Ave Parcel and the landowner, 338 Falmouth Foreside Partners LLC, managed by Mark McClure of GenX Capital Partners LLC, a member of the applicant team, responded with a willingness to sell it to the City. Additionally, a letter with over 120 names was recently submitted to the Land Bank and a number of public comments were given from North Deering residents at the Land Bank's December meeting offering community support for conserving this parcel.
    - **We strongly urge the Planning Board to pause its consideration of this permit application in order to thoroughly consider the best land use for this parcel.** At its December meeting, the Land Bank agreed to request a suitability for development assessment from the Planning Department. However, to our knowledge the results of this assessment have not been made public. Furthermore, the reasoning for why the landowner would consider selling this property, thus abandoning the development proposal, should give the Planning Board serious doubts as to the suitability and feasibility of developing this parcel.

We feel the Planning Board should deny this application due to the heightened environmental risk associated with this lot and a demonstrated lack of technical and financial capacity on the part of the applicant. Should the Planning Board grant an extension of this development proposal, we ask you to ensure the applicant acts as a good community partner during this process and takes actionable steps to address the concerns of our community and the City. Thank you, again, for your time and attention, and we look forward to your response.

With appreciation,

Alexandra Peacock	Garsoe Drive
Alison Mickey	Crestview Drive
Amanda Benak	Alice Street
Amanda Kabantu	Hope Avenue

Angel Soutuyo	Hope Avenue
Anna Louise Englund	Hope Avenue
Anthony Derrig	Hope Avenue
Anthony Robb	Hope Avenue
Audrey Gagne	Hope Avenue
Benjamin Haber	Hope Avenue
Beth Katz	Hope Avenue
Bill St. Laurence	Curtis Road
Blake Kastle	Hope Avenue
Bob Macdonald	Alice Court
Bob Milliken	Alice Court
Brady Freeman	Alice Court
Brenda Downs	Hope Lane
Bronwyn Sewell	Hope Avenue
Bryan Carter	Whaleboat Road
Caitlyn Hanley	Hope Avenue
Carissa Robb	Hope Avenue
Caroline Viall	Whaleboat Road
Carrie Haber	Hope Avenue
Charles Cathcart	Garsoe Drive
Cheryl Sarno	Saco Cottages
Chris Harmon	Curtis Road
Chris Hegstrom	Alice Street
Christopher Cathcart	Garsoe Drive
Colleen Craig	Summit Street
Dan Downey	Alice Street
David Bates	Abby Lane
David Hesselink	Hope Avenue
Davina Kabantu	Hope Avenue
Deb Whitworth	Hope Avenue
Emily Anne Garland	Abby Lane
Erez Katz	Hope Avenue
Eric Kenney	Rustic Lane
Erika Myer	Caron Street
Gavin Goodall	Garsoe Drive
Gemima Motema	Hope Avenue
Gen Macdonald	Alice Court
Glen Mayberry	Carter Street
Gloria LaBrecque	Alice Street
Grace Stacey	Hope Avenue
Gren Freeman	Alice Court
Henry Downs	Hope Lane
Hillary Weimont	Basket Lane
Ian McGinley	Basket Lane

Jake Hunnewell	Whaleboat Road
James Freeman	Alice Court
James Macisso	Hope Avenue
Jamie Rice	Alice Court
Janet Parker	Whaleboat Road
Jason Cole	Hope Avenue
Jenna Harmon	Curtis Road
Jennifer Gagner	Hope Avenue
Jeremy Harmon	Curtis Road
Jerry Rawcliffe	Summit Street
Jesse Pinchoff	Whaleboat Road
Jessica Karp	Christy Road
Jessica Myer	Crestview Drive
Jona Rice	Alice Court
Josh Hunnewell	Whaleboat Road
Josh Labrecque	Hope Avenue
Joshua Barton	Alice Court
Kasey Cole	Hope Avenue
Katherine Maxsimic	Rustic Lane
Kathleen Kelly	Abby Lane
Kathleen McGinley	Basket Lane
Katie Milliken	Alice Court
Kevin Noonan	Carter Street
Kristen Giancotti	Hope Avenue
Kristin Harmon	Curtis Road
Laurie Downey	Alice Street
Laurie Hesselink	Hope Avenue
Leslie Silk-Champagne	Hope Avenue
Libby Derrig	Hope Avenue
Lindsay Macisso	Hope Avenue
Lisa McCafferty	Caron Street
Lisa Noonan	Carter Street
Liz Freeman	Alice Court
Lorna Blackmer	Basket Lane
Marco Giancotti	Hope Avenue
Mark Arienti	Alice Street
Mary Beyer	Alice Street
Matt Drew	Crestview Drive
Megan Drew	Crestview Drive
Melissa Soutuyo	Hope Avenue
Michael Pierter	Garsoe Drive
Michael Saucier	Basket Lane
Mitch Petracca	Garsoe Drive
Morgan Myer	Crestview Drive

Nathan Barr	Hope Avenue
Nick Peterson	Curtis Road
Nikki Hegstrom	Alice Street
Owen Freema	Alice Court
Pam Lyden	Hope Avenue
Peter Myer	Caron Street
Rachel Petracca	Garsoe Drive
Robert Benak	Alice Street
Robert Pineau	Crestview Drive
Ronnie Crosby	Hope Avenue
Sally Richardson	Alice Court
Scott Bowe	Hope Avenue
Scott Stacey	Hope Avenue
Sean Macdonald	Alice Court
Sharon Smalley	Garsoe Drive
Sheila Mayberry	Carter Street
Stephen Champagne	Hope Avenue
Stephanie Noyes	Lower Falls Rd, Falmouth
Steve Gagne	Hope Avenue
Steve Smalley	Garsoe Drive
Su Rawcliffe	Summit Street
Susan Pierter	Garsoe Drive
Susan Pineau	Crestview Drive
Taryn Macdonald	Alice Court
Tessa Peterson	Curtis Road
Theodore Hanley	Hope Avenue
Tim Viall	Whaleboat Road
Wendy Cathcart	Garsoe Drive
Wendy Harmon	Curtis Road
Will Plumley	Main Street, Windham
William Noyes	Lower Falls Rd, Falmouth

Zachary Powell <zpowell@portlandmaine.gov>

Public Comment for 1 Hope Avenue (PL-002454-2023) from Protect Presumpscot

Robert <rgbenak@gmail.com> Wed, Mar 5, 2025 at 3:50 PM
To: Zachary Powell <zpowell@portlandmaine.gov>, planningboard@portlandmaine.gov

Hello Zach and Planning,

With this email Protect Presumpscot is submitting public comment regarding the 1 Hope Avenue (PL-002454-2023) development application.

Zach, thanks for taking my call earlier today. This is the email I said I would submit. It includes a Google Drive link to a folder that contains 19 separate documents which are our public comment.

Google Drive Link

Note that the file titled, "0 Hope Ave_PL-002454-2023_Protect Presumpscot" is our letter of public comment which urges the Planning Board to reject this application. The letter references the other documents in the folder which is the reason for their submission to you as well.

Earlier on the phone, you mentioned that you could confirm receipt of these documents and confirm that each was successfully downloaded from the Drive folder. Please do that when you can, tomorrow is fine if you're wrapping up for the day. It is critical that the Planning Board have all of this information, so if there are any issues accessing or downloading it, let me know and I can fix it.

Thanks again for all your help throughout this long process,

Robert Benak
Board Member
Protect Presumpscot

To Members of the Portland Planning Board,

This letter is intended to provide explanation and clarity regarding the documents listed below that have been submitted as public comment ahead of the Planning Board hearing scheduled for March 11, 2025 for Portland **Permit Number PL-002454-2023**, known as **1 Hope Avenue, also known as Presumpscot Woods** (referred to as Hope Ave). The documents supporting this letter call into serious doubt both the technical and financial capacity of the Applicant, GenX Capital Partners LLC (referred to as GenX), based on mistakes executing sitework for this application, poor execution of past projects, and evidence of a troublesome financial state. Furthermore, recent expert public testimony regarding the technical complexity, challenges, and risks that exist with developing the Hope Ave lot should cause the Planning Board to doubt whether a developer with GenX's execution history and pattern of behavior should be permitted to develop on this site. Finally, the Planning Board should exercise the utmost caution in considering the delicate, vulnerable, and widely treasured environmental and recreational characteristics of the Presumpscot River and the Presumpscot River Preserve (PRP), which are at stake should mistakes be made during construction. The documents referenced in this letter are as follows:

Documents related to the Developer's Lack of Technical / Financial Capacity

1. City of Portland v GenX Consent Judgement from May 2024
2. City of Portland v GenX Motion for Contempt of Court from January 2025
3. Portland Press Herald (PPH) article titled "Saco Cottages Plagued by Problems, Some Residents Say" published in December of 2023
4. Cape Elizabeth Planning Board Meeting Minutes from September 2023
5. Cape Elizabeth Planning Board Meeting Minutes from October 2023
6. Hope Ave owner 338 Falmouth Foreside Partners 2023 annual report

Recent Tax liens, Mortgages, and Foreclosures:

7. $4K tax lien against the Hope Ave property from the City of Portland
8. $100K Mortgage given to Haley Ward against the Hope Ave property
9. $65K tax lien against Mark McClure from the State of Maine
10. Oasis Hospitality Partners LLC $3.2M Mortgage of 1018 Jefferson Ave FL
11. Foreclosure Notice of 1018 Jefferson Ave FL
12. Oasis Hospitality Partners II LLC $3.5M Mortgage of 1545 Meridian Ave FL
13. Foreclosure Notice of 1545 Meridian Ave FL

Liens related to "The Mark" in Cumberland developed by GenX totaling $3.5M:

- $2M mechanics lien from Destefano
- $28K mechanics lien from American Aerial Services
- $194K mechanics lien from Chase Excavating
- $58K mechanics lien from GDS Services
- $54K mechanics lien from Hancock Lumber
- $35K mechanics lien from James A McBrady
- $274K mechanics lien from Jerry's Plumbing
- $135K mechanics lien from JLD Services

- $94K mechanics lien from Liston Paint
- $36K mechanics lien from Optimum Building
- $147K mechanics lien from Seabee Electric
- $373K mechanics lien from Timberland Drywall

Documents related to environmental risk imposed by this project

14. PPH article titled “Landslide Blocks Presumpscot River in Westbrook”
15. Landslide Vulnerability Assessment published by Westbrook in May 2024
16. Presumpscot Formation Landslide Susceptibility Modeling Report
17. Portland Land Bank Scorecard for Hope Ave
18. Portland Land Bank Letter of Interest for Hope Ave

GenX has already demonstrated its lack of technical and financial capacity for this project

GenX has not even gotten through the planning stage of its project without violating the City Code. The City of Portland v. GenX Consent Judgement is from an incident that occurred in February of 2024 when GenX attempted to execute what should have been a simple and routine soil boring survey on the Hope Ave parcel. Heavy machinery trespassed on City property, damaged a section of the Portland Trails network, and mutilated trees on City property without any appropriate permits. This incident demonstrates the developer’s inattention to detail, lack of concern for the environment, and a lack of technical capacity. The Planning Board should be concerned about successful execution of the Hope Ave proposal, given its scale, when mistakes were made while executing this simple task.

The City’s recent Motion for Contempt shows that, even after being given a 6-month window to pay the consent judgement described above, and after numerous good faith deadline extensions by the City of Portland at the request of GenX, this fine still has yet to be paid, prompting the City of Portland to have to take more drastic legal measures to collect payment. First, this situation should call into question the appropriateness of an Applicant that is currently being held in contempt of court by the City even being considered for issuance of a permit. Second, this should cast doubt on the likelihood of GenX paying for remediation should mistakes occur during the construction of Hope Ave. And third, the inability of a GenX to afford a relatively small payment of $10K should cast serious doubts as to their financial capacity and their financial state.

Gen X has failed to properly execute past developments

The PPH article published on December 10th, 2023 titled "Saco Cottages Plagued By Problems, Some Residents Say" is about the Cottages at Pine Meadow (referred to as Saco Cottages), which were developed by GenX. The Saco Cottages were built on flat farmland, arguably the easiest lot type to develop, and still experienced a plethora of issues, including:

- Foundations poured in too close proximity to or actually on top of property boundaries in violation of setback ordinance
- Improper grading causing stormwater runoff to damage a neighboring farmfield
- Construction vehicles trespassing onto abutting property
- Crushed sewer drains backfilling raw sewage into unit basements
- Improperly installed plumbing fixtures failing and flooding basements
- Construction debris blowing onto a neighboring farmfield

Despite the numerous and alarming issues outlined in the PPH article and the threatening remarks made towards its author, GenX relies on the Saco Cottages in its letter of Financial Capacity as a demonstration of its technical and financial capability to complete the Hope Ave project.

Another project GenX relies upon to demonstrate its financial capacity is the Carr Woods development in Cape Elizabeth. The Cape Elizabeth Planning Board Meeting Minutes from September 2023 detail a hearing for the Carr Woods. At this meeting, residents from the Saco Cottages gave testimony detailing how their condo development was fraught with construction deficiencies. Of particular note is the testimony given by Jon Fetherston, a resident of Saco Cottages Unit 11, in which he detailed his oven shooting out flames, heat pumps leaking into his walls, and his washer/dryer stack falling over on the day he moved in, among many other poor workmanship issues. These residents argued that the Saco Cottages was not a successful past project and demonstrated a lack of both technical and financial capacity on the part of the Developer. The way in which the Saco Cottage residents described their developer team, including Mark McClure from GenX, overseeing poor construction and engaging in poor treatment of the residents after remediations were requested, should cause the Portland Planning Board to have serious doubts as to whether GenX has the ability or willingness to successfully execute the Hope Ave development proposal, arguably a much larger and more technically complex development, and how they will respond to mistakes should they be made during construction.

The Cape Elizabeth Planning Board Meeting Minutes from October 2023 detail a hearing for the Carr Woods development proposal in which the Carr Woods application was **denied** for a lack of financial and technical capacity. This denial was due partially to poor execution of the Saco Cottages development and partially to concerns about solvency of Titan Funding, which had also been tapped to fund the Carr Woods project. It is confusing that GenX is listing the Carr Woods project, which was **denied**, as a success in their letter of financial capacity for this Hope Ave permit. Cape Elizabeth's denial gives precedent for Portland Planning Board to similarly deny the Hope Ave development proposal due to the same demonstrated lack of technical and financial capacity on the part of GenX.

Overall, GenX's list of "Current and Past Successful Development Projects" submitted for the Hope Ave development proposal fails to identify any actually successful developments of a comparable scale. In summary, the projects GenX believes are representative of its capabilities are as follows:

- Cottages at Pine Meadows (Saco Cottages) - **Problematic**
- 1179 Shore Rd, Cape Elizabeth - **Single Family Home**
- 3 Caydens Way, Cape Elizabeth - **Single Family Home**
- Carr Woods, Cape Elizabeth - **Denied**
- The Mark, Cumberland - **No Occupancy Permit, $3.5M in Outstanding Liens**
- 53 Waites Landing, Falmouth - **Single Family Home**
- 2 Town Landing, Falmouth - **Single Family Home**

The majority of these projects are single-family homes, some of which were actually renovations of existing structures and not new construction. These small projects are significantly different in scale from a 60-unit Planned Residential Unit Development (PRUD), which requires accompanying infrastructure like roads, sewers, pump station upgrades, water mains, power lines, etc. Of the comparable developments, Carr Woods was denied, Saco Cottages has been heavily critiqued and The Mark is currently facing its own obstacles, which we will describe in more detail below. GenX's list suggests that it has not actually successfully developed any comparable projects and has run into serious difficulties completing approved projects beyond single-family homes. It's important to highlight that any failures and cost overruns will make it all that more difficult for GenX to keep any of these units "affordable."

Finally, GenX has listed Greg Shinberg as a member of the Applicant's team. Mr. Shinberg brought a reputation for competence and success to the development team; however, he is no longer the Applicant's representative.

Ultimately, there are no truly successfully completed projects on GenX's list which are comparable to what the applicant proposes for Portland and there are now fewer members of the applicant team who can offer reassurances of project success.

GenX lacks the financial capability to deliver on what it proposes to Portland:

The next set of documents includes recent liens, mortgage debts, and foreclosures.

- Of particular note is the real estate lien against the landowner of the Hope Ave parcel, 338 Falmouth Foreside Partners LLC (referred to as 338 Falmouth Foreside), managed by Mark McClure according to its latest annual report, for unpaid property taxes. We're curious as to why Mark McClure has failed to—or chosen not to pay—a $4,000 tax obligation.
- Also of note is a mortgage in the amount of $100,000 granted by 338 Falmouth Foreside (by Mark McClure) using the Hope Ave parcel as collateral to Haley Ward, the engineering firm being contracted by GenX to generate site plans for this permit. We're aware that this is highly unusual and encourage the Planning Board to ask why it was issued.
- It is our understanding that until recently, Mark McClure had a tax lien issued against himself by the State of Maine for unpaid income taxes in the amount of $65K. Again we

find it notable that Mark McClure has a demonstrated track record of failing to, or choosing not to satisfy financial obligations.

- Recently, liens totaling $3,500,000 have been filed against The Mark, an unfinished GenX project in Cumberland that has not received occupancy permits, and, per the Cumberland Planning Department, is still without a passed final inspection. We're aware that, while it may be common for liens to be filed against a development nearing completion, the sum of $3,500,000 seems unusually large. We encourage the Planning Board to inquire about the technical and financial success of the Cumberland project.
- And finally, it is our understanding that properties owned by LLCs managed by Mark McClure of GenX totaling $6,700,000 located in Miami, FL recently went into foreclosure.

Considering the financial state of 338 Foreside Partners and GenX, including the outstanding $10,000 consent judgement by the City of Portland detailed above, and other evidence of financial difficulty in GenX's projects, it is our growing understanding that this Developer is financially unstable. We suggest to the Planning Board that it would be irresponsible for Portland to put its confidence in this Developer to not just begin but successfully complete a project of this scale, technical complexity, and environmental risk while it is under such financial pressures. We also question the Developer's ability to obtain the financial guarantees that will be the only thing ultimately protecting neighbors, including Portland Trails, from harm should the project not be properly completed.

Development of this property requires a heightened level of technical capacity and environmental responsibility

While we believe the Planning Board has sufficient information and understanding to deny this application on the basis of lack of technical and financial capacity of the Applicant under otherwise normal development circumstances, the Planning Board should understand that the parcel in question does not represent normal development circumstances. In fact, the parcel in question represents an uncommonly high degree of technical complexity and therefore risk, as well as an uncommonly high degree of cost of failure. For these reasons, it would be right to hold the Applicant to an even higher degree of financial and technical capacity than would be necessary under normal circumstances.

The PPH Westbrook Landslide Article and the Landslide Vulnerability Assessment describe the trademark characteristics of the Presumpscot Formation, that of loose and poorly draining soils atop a slippery, viscous clay layer. These two documents also detail the devastating results of landslides that have occurred in the Presumpscot Formation. The study shows historical test boring samples indicative of the Presumpscot Formation collected mere yards from the Hope Ave parcel. And the Landslide Susceptibility Modeling Excerpt suggests the Hope Ave parcel is within the highest landslide risk category. The geology present on the Hope Ave lot highlights the technical complexity and risk of building a development there, especially when the securing vegetation would be removed, added weight of construction material would stress the land, and

the vibration from heavy machinery would shake the ground, all factors known to increase the risk of landslide, and all of which were involved with the Westbrook landslide in 2020.

While the high intensity soil survey conducted and analyzed by the Applicant team last summer discovered topsoils indicative of the Presumpscot Formation, the full extent and location of this geological formation on the lot remains unknown. Recall that at the October 22nd, 2024 Planning Workshop, Will Plumley from Friends of the Presumpscot River supplied evidence from the soil survey report stating that all nine of the nine soil samples collected demonstrate unsuitability for a development on the scale of this GenX proposal. At the very least, this information should compel the Portland Planning Board to table judgement of this application until the independent geotechnical review, which the Planning Board has requested, is complete and closely scrutinized. Furthermore, additional soil boring samples taken in the area of the proposed wet ponds, which are located along the steep embankment boundary with the PRP should be required of the Developer in order to fully understand the site conditions before judgement on this permit is rendered. At a minimum, any approval should be conditioned on results from the additional soil surveys and the geotechnical review, which could indicate the need for major overhaul of design plans inconsistent with a conditional approval.

Land conservation opportunities for this parcel should be considered prior to a Planning Board decision

The Portland Land Bank Scorecard highlights the compelling conservation value of the Hope Ave parcel detailing the following merits:

- A healthy forest and ecosystem currently exists on the parcel
- Contributes to healthy wetlands, streams, the river, and the ocean
- Acts as a buffer for stormwater runoff by providing filtration capacity and soil stabilization
- Helps mitigate the impacts of climate change by sequestering CO2
- Helps to preserve public access to and would add acreage to the PRP
- Helps preserve access to the Presumpscot River
- Existing social trails provide recreation value
- Conserving this property fits into Portland's good urban planning practices of a dense core with developed corridors along high through traffic routes.

Having a major site development like one proposed for Hope Ave on the periphery of a low-density residential neighborhood, a half mile from the nearest major traffic corridor and the closest bus route, and encroaching towards existing conservation land and the sensitive Presumpscot River ecosystem makes a strong case for pausing this development proposal to fully consider the conservation opportunities available. If this development is built on the Hope Ave parcel, the City will lose the possibility of land conservation and the environmental protections and benefits it offers on this parcel forever. The Portland Planning Board should defer permit approval until a suitability for development assessment has been completed for this parcel.

A Portland Land Bank Letter of Interest, indicating a willingness to engage in land conservation efforts between the City of Portland and the Hope Ave parcel landowner was published in November of last year. At the December 2024 Land Bank meeting, Land Bank Chairman Jon Kachmar stated that the landowner had responded to the letter indicating a willingness to sell the entire lot to the City of Portland. Mark McClure's interest in offloading the Hope Ave parcel may suggest that the Applicant recognizes the technical and financial barriers to developing this lot. Again, the Planning Board should carefully assess the conservation values and opportunities of this parcel before considering permit approval. But if any sort of development is to proceed on this parcel it should be by a developer that is financially solvent, with a strong record of technical skill and environmental compliance. GenX's track record shows that it possesses none of these.

In conclusion, this letter and supporting documents should prove that GenX does not possess the technical and financial capacity to carry out construction of these site plans. Serious doubts should persist about whether GenX would act as a good community partner in addressing issues during construction as they might arise. And given the technical complexity and geological risks associated with building on this lot and the fragility of the adjacent PRP and Presumpscot River, rigorous consideration about the best land use for this lot should be completed ahead of issuing a permit approval.

Respectfully,

Robert Benak - Board Member
Protect Presumpscot

STATE OF MAINE
CUMBERLAND, ss.

DISTRICT COURT
CIVIL ACTION
DOCKET NO. CV-24-0028
DOCKET NO. CV-24-0029

CITY OF PORTLAND,	)	
	)	
Plaintiff,	)	
	)	
v.	)	CONSENT JUDGMENT
	)	
GENX CAPITOL PARTNERS,	)	
	)	
Defendant.	)	

THIS MATTER was scheduled for an initial appearance on May 13, 2024 on the civil charges of one (1) count of tree removal without permit in violation of Portland City Code of Ordinances, Section 29-18, and one (1) count of tree mutilation in violation of Portland City Code of Ordinances, Section 29-21. The Defendant, GenX Capitol Partners, hereby admits to the violations. Having reached agreement on the matter, the Parties hereby consent to the entry of this Consent Judgment as follows.

It is hereby ordered that:

1. Defendant shall pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024.
2. Defendant shall pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or before December 1, 2024.
3. Failure to comply with any portion of this Consent Judgment may constitute contempt of court and may subject the Defendant to prosecution for such contempt pursuant to M. R. Civ. P. 66(c); and
4. The Clerk shall enter this Consent Judgment on the Docket by reference, pursuant to M.R. Civ. P. 79(a).

STATE OF MAINE
Cumberland, ss. Clerk's Office
MAY 13 2024
RECEIVED

STATE OF MAINE
CUMBERLAND, ss.

DISTRICT COURT
CIVIL ACTION
DOCKET NO. CV-24-0028
DOCKET NO. CV-24-0029

CITY OF PORTLAND,	)	
	)	
Plaintiff,	)	
	)	
v.	)	CONSENT JUDGMENT
	)	
GENX CAPITOL PARTNERS,	)	
	)	
Defendant.	)	

THIS MATTER was scheduled for an initial appearance on May 13, 2024 on the civil charges of one (1) count of tree removal without permit in violation of Portland City Code of Ordinances, Section 29-18, and one (1) count of tree mutilation in violation of Portland City Code of Ordinances, Section 29-21. The Defendant, GenX Capitol Partners, hereby admits to the violations. Having reached agreement on the matter, the Parties hereby consent to the entry of this Consent Judgment as follows.

It is hereby ordered that:

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4. The Clerk shall enter this Consent Judgment on the Docket by reference, pursuant to M.R. Civ. P. 79(a).

STATE OF MAINE
Cumberland, ss. Clerk's Office
MAY 13 2024
RECEIVED

SEEN AND AGREED TO:

Dated: May 13, 2024.

For the City of Portland
Richard M. Bianculli Jr., Esq.
Neighborhood Prosecutor
Portland Police Department
109 Middle Street
Portland, ME 04101
P – 207.756.8350
F – 207.874.8521
richb@portlandmaine.gov

Dated: May 13, 2024.

Greg Shinberg, authorized agent
GenX Capitol Partners
P.O. Box 4424
Portland, ME 04101
207-772-7070

SO ORDERED:

Dated: May 13, 2024.

Judge, District Court

SEEN AND AGREED TO:

Dated: May 13, 2024.

For the City of Portland
Richard M. Bianculli Jr., Esq.
Neighborhood Prosecutor
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Portland, ME 04101
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SO ORDERED:

Dated: May 13, 2024.

Judge, District Court

STATE OF MAINE

CRIMINAL DOCKET
CUMBERLAND
Docket No. CUMCD-VI-2024-00029

NOTICE OF HEARING

CITY OF PORTLAND
v.
GENX CAPITOL PARTNERS

To:
GENX CAPITOL PARTNERS
2 COTTON STREET
PORTLAND ME 04101

OFFENSE(S): 001 TREE REMOVAL

This is to notify you that a HEARING has been set for INITIAL APPEARANCE on **05/13/2024 at 08:30 a.m. in Room #3** at the :

CUMBERLAND CRIMINAL DOCKET
205 NEWBURY ST
PORTLAND, ME 04101

If you have any questions you may call: (207) 822-4204
TTY (711) -

YOUR PRESENCE IS REQUIRED ON THIS DATE AND TIME.

NOTICE GIVEN ( )/IN HAND
(X) BY MAIL

Date: 03/20/2024

Shelly Sawyer
Clerk of Courts

Attention Defendant:
Failure to appear at the above date and time may result in a default being entered, bail being forfeited, and the issuance of an arrest warrant.

c: File:

D.A.: RICHARD M BIANCULLI
Officer:

STATE OF MAINE

CRIMINAL DOCKET
CUMBERLAND
Docket No. CUMCD-VI-2024-00029

NOTICE OF HEARING

CITY OF PORTLAND
v.
GENX CAPITOL PARTNERS

To:
GENX CAPITOL PARTNERS
2 COTTON STREET
PORTLAND ME 04101

OFFENSE(S): 001 TREE REMOVAL

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Attention Defendant:
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c: File:

D.A.: RICHARD M BIANCULLI
Officer:

3295293

MAINE COURT

ATN/CTN

☒ District ☐ Superior

Docket No.

UNIFORM SUMMONS AND COMPLAINT

☐ CRIMINAL: ☐ ARREST ☐ BAIL $ _____

☒ CIVIL VIOLATION ☐ FISHERIES AND WILDLIFE ☐ MARINE RESOURCES

☐ TRAFFIC VIOLATION ☐ FOREST SERVICE

State of Maine / Municipality of Portland VT-24-20

GenX Capital Partners

Last First Middle (Defendant)

Mailing address: 2 Cotton Street

City/Town Portland State ME Zip 04101

OPERATOR	LICENSE NUMBER				STATE	DATE OF BIRTH
	HAIR	EYES	HEIGHT	WEIGHT	SEX	RACE	AGE

VEHICLE ☐ C.M.V. >26,000LBS. ☐ HAZ. MAT. ☐ BUS > 15 PASSENGERS	REGISTRATION NUMBER			STATE
	COLOR	YEAR	MAKE	BODY

U.S. DOT #	OFFENSE COMMITTED (ON) ABOUT	MONTH	DAY	YEAR	AT	TIME
		01	29	24		

(AT) RT / ST / PL	CITY / TOWN
Hope Ave, Presumpscot	Portland

☐ Speeding: Alleged _____ mph; Legal _____ mph

VIOLATION (Title _____ Section/Ordinance 29-18) Class Civil

Sequence No. _____ Domestic Violence ☐

Tree Removal

Officer's name, printed Collado Elizabeth A.

Last First MI

Date of service: 3/5/24 Officer's Signature

Dept. Parks Troop Ranger OFF. NO

YOU ARE HEREBY ORDERED TO APPEAR BEFORE THE COURT LOCATED AT:

205 Newbury St Portland, ME 04101

STREET ADDRESS CITY/TOWN ZIP

5-13-24 830 A.M. / P.M. (207) 822-4200

DATE TIME COURT TELEPHONE NO.

■ I promise to appear in the Court at the place, date, and time described above.

Signature _____ Date 3/5/24

STREET ADDRESS CITY/TOWN STATE ZIP

(MAILING ADDRESS IF DIFFERENT FROM ABOVE.)

Your signature does not constitute an admission or plea of guilty to the above violation(s). However, refusal to sign after having been ordered to do so by a law enforcement is a separate Class E crime for which you may be arrested.

The undersign states that he/she has probable cause to believe and does believe that the person named above committed the violation set forth herein.

Signature _____ Dept. _____

Sworn to before me on ___/___/___ _____ (Dep.) Clerk

FOR WAIVER DISPOSITION ONLY

Date _____ Guilty / Offense committed

$_____ Fine Amt.

Fine Amt.

$_____

☐ Paid

Rev. 3/11 **COURT/PROSECUTOR**

3295293

MAINE COURT

ATN/CTN

☒ District ☐ Superior

Docket No.

UNIFORM SUMMONS AND COMPLAINT

☐ CRIMINAL: ☐ ARREST ☐ BAIL $ _____

☒ CIVIL VIOLATION ☐ FISHERIES AND WILDLIFE ☐ MARINE RESOURCES

☐ TRAFFIC VIOLATION ☐ FOREST SERVICE

State of Maine / Municipality of Portland VT-24-20

GenX Capital Partners

Last First Middle (Defendant)

Mailing address: 2 Cotton Street

City/Town Portland State ME Zip 04101

OPERATOR	LICENSE NUMBER				STATE	DATE OF BIRTH
	HAIR	EYES	HEIGHT	WEIGHT	SEX	RACE	AGE

VEHICLE ☐ C.M.V. >26,000LBS. ☐ HAZ. MAT. ☐ BUS > 15 PASSENGERS	REGISTRATION NUMBER			STATE
	COLOR	YEAR	MAKE	BODY

U.S. DOT #	OFFENSE COMMITTED (ON) ABOUT	MONTH	DAY	YEAR	AT	TIME
		01	29	24		

(AT)	RT / ST / PL	CITY / TOWN
	Hope Ave, Presumpscot	Portland

☐ Speeding: Alleged _____ mph; Legal _____ mph

VIOLATION (Title _____ Section/Ordinance 29-18) Class Civil

Sequence No. _____ Domestic Violence ☐

Tree Removal

Officer's name, printed Collado Elizabeth A.

Last First MI

Date of service: 3/5/24 Officer's signature

Dept. Parks Troop Ranger OFF. NO

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STREET ADDRESS CITY/TOWN ZIP

5-13-24 830 A.M. / P.M. (207) 822-4200

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STREET ADDRESS CITY/TOWN STATE ZIP

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Signature _____ Dept. _____

Sworn to before me on ___/___/___ _____ (Dep.) Clerk

FOR WAIVER DISPOSITION ONLY

Date _____ Guilty / Offense committed

$_____ Fine Amt.

Fine Amt.

$_____ ☐ Paid

Rev. 3/11 **COURT/PROSECUTOR**

Rank R...

STATE OF MAINE

DISTRICT COURT
Location: Portland
Docket No. CUMCD VI-24-28
Docket No. CUMCD VI-24-29

CITY OF PORTLAND, a body politic and Corporate, located in the county of Cumberland and State of Maine,

Plaintiff,

v.

GENX CAPITOL PARTNERS,

Defendant.

PLAINTIFF'S VERIFIED MOTION FOR A FINDING OF CONTEMPT AGAINST DEFENDANT AND INCORPORATED MEMORANDUM OF LAW

The Plaintiff, the City of Portland ("Portland"), Maine respectfully requests, pursuant to M. R. Civ. P. 66(d), that this honorable Court find the Defendant, GenX Capitol Partners ("Defendant"), in contempt of this Court's May 14, 2024 Consent Judgment.[1] The Consent Judgment resolved a code enforcement action brought by Portland against the Defendant pursuant to Portland City Code of Ordinances, Section 29-21 (Mutilation of Trees) and the Portland City Code of Ordinances, Section 29-18 (Tree Removal without Permit). The Defendant admitted to the violations and the Court approved the Consent Judgment which was voluntarily executed by the Defendant.

The Defendant has failed to comply with the contribution requirements of the Consent Judgment. The contribution requirements of the Consent Judgment are found in Paragraphs 1 and 2 on Page 1 of the document.[2] These paragraphs state that the "Defendant shall pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024" and that "Defendant shall pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or

[1] *See* Consent Judgment, dated May 14, 2024, attached hereto as "EXHIBIT 1."
[2] *Id.*

before December 1, 2024."[3] To date, the Defendant has not made a single contribution payment, in direct violation of the Court Order.

In support of its motion, Portland submits the following incorporated memorandum of law.

BACKGROUND

The Defendant was served with summonses for tree removal without a permit (Portland City Code of Ordinances, Section 29-18) and tree mutilation (Portland City Code of Ordinances, Section 29-21) on March 15, 2024. The Defendant had removed and/or damaged an area of trees and vegetation on land owned by the City of Portland on or about January 29, 2024. Prior to the Defendant's appearance in Court for the summonses, the Defendant and Plaintiff executed a Consent Judgment which was subsequently executed by the Court on May 14, 2024.

The Consent Judgment required the Defendant to pay a contribution amount of $10,000.00 to Portland Trails on or before December 1, 2024, and also pay a contribution amount of $1,600.00 to the City of Portland Tree Trust on or before December 1, 2024. To date, the Defendant has failed to comply with any of the contribution payment requirements of the Consent Judgment as no payments have been made. The balance remains at $11,160.00.

Plaintiff, City of Portland, has made repeated demands to the Defendant to arrange for compliance with the Consent Judgment through payment of the contribution amounts. Portland has given the Defendant ample notice and numerous opportunities to comply with the obligations under the Consent Judgment, but the Defendant has failed to comply with the Court's Order.

[3] *Id.*

ARGUMENT

The Court may find a party in contempt when that party has "fail[ed] to comply with a lawful judgment . . . of the court." M.R. Civ. P. 66(a)(2)(A)(ii). When a party fails to comply with an order to abate a violation of a municipal code, it is proper to find them in contempt, issue fines, and grant the municipality other prospective relief. *Town of Kittery v. Dineen*, 591 A.2d 236, 236-37 (Me. 1991); *see also Town of Stonington v. Galilean Gospel Temple*, 1999 ME 2, 722 A.2d 1269, 1273-74 (affirming contempt order for violation of nuisance law, and upholding award of civil penalties).

On May 13, 2024, the Defendant signed a Consent Judgment which consisted of a detailed list of requirements. As set forth above, to date, the Defendant has failed to comply with all of the requirements included in the Court Order. As the Defendant has failed to comply with a lawful judgment of the Court, she is in contempt and subject to the requirements delineated in the Consent Judgment as well as any other relief this honorable Court deems appropriate.

WHEREFORE, Portland respectfully requests that the Court find the Defendant in contempt of this Court's May 14, 2023 Consent Judgment, and order that the Defendant:

> Pursuant to Paragraphs 1 of the Consent Judgment, immediately pay a contribution in the amount of $10,000.00 to Portland Trails. Payment shall be made by cashier's check or money order and made out to "Portland Trails" and delivered to counsel for Plaintiff for recording and subsequent forwarding to Portland Trails; and
>
> Pursuant to Paragraph 2 of the Consent Judgment, immediately pay a contribution in the amount of $1,600.00 to City of Portland Tree Trust. Payment shall be made by cashier's check or money order and made out to "City of Portland, Tree Trust" and delivered to counsel for Plaintiff for recording and subsequent forwarding to City of Portland, Parks Division.

Dated: January 23, 2025.

Richard M. Bianculli Jr., Esq., Bar No. 5496
Neighborhood Prosecutor
Portland Police Department
109 Middle Street
Portland, ME 04101
P · (207) 756-8350
F · (207) 874-8521
richb@portlandmaine.gov

STATE OF MAINE
County of Cumberland

Personally appeared the above named RICHARD M. BIANCULLI JR. on January 23 2025, and made oath that the foregoing instrument is based upon his personal knowledge and is true.

Before me,

Attorney-at-Law
Nicole Albert, Esq., Maine Bar No. 4956

NOTICE

This Motion shall be heard on February 10, 2025 at 10:00 AM/PM in Courtroom 3 of the Cumberland County District Court. Opposition to this motion must be filed not later than twenty-one (21) days after the filing of the motion unless another time is provided by the Maine Rules of Civil Procedure or set by the Court. The failure to file timely opposition will be deemed a waiver of all objections to the motion, which may be granted without further notice or hearing.

STATE OF MAINE
CUMBERLAND, ss.

DISTRICT COURT
CIVIL ACTION
DOCKET NO. CV-24-0028
DOCKET NO. CV-24-0029

CITY OF PORTLAND,	)	
	)	
Plaintiff,	)	
	)	
v.	)	**CONSENT JUDGMENT**
	)	
GENX CAPITOL PARTNERS,	)	
	)	
Defendant.	)	

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STATE OF MAINE
Cumberland, ss. Clerk's Office
MAY 13 2024
RECEIVED

SEEN AND AGREED TO:

Dated: May 13, 2024.

For the City of Portland
Richard M. Bianculli Jr., Esq.
Neighborhood Prosecutor
Portland Police Department
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P – 207.756.8350
F – 207.874.8521
richb@portlandmaine.gov

Dated: May 13, 2024.

Greg Shinberg, authorized agent
GenX Capitol Partners
P.O. Box 4424
Portland, ME 04101
207-772-7070

SO ORDERED:

Dated: May 13, 2024.

Judge, District Court

Saco retirement development plagued by problems, some residents say

pressherald.com/2023/12/10/saco-retirement-development-plagued-by-problems-one-resident-compares-to-a-living-hell

December 10, 2023



Residents walk at the The Cottages at Pine Meadow development in Saco. Many residents say they have experienced problems with their homes, and some filed a complaint with the attorney general's office. *Derek Davis/Staff Photographer*

Jon Fetherston looks through his neighbor's sliding glass door at the sprawling farmland capped by a line of trees that still cling to their autumn colors.

The 58-year-old was drawn to The Cottages at Pine Meadow in part for that idyllic backdrop, where he imagined sunrises and sunsets book-ending the days for him and other residents as they eased into retirement.

"This was our reward," Fetherston said of the 55-and-over development where he and his wife, Wendy, live part-time. "But it's been a living hell."

The Fetherstons bought their 610-square-foot condominium in April 2022 and say they've experienced nothing but problems since. They have replaced their heat pump twice already. There's moisture in their basement. The stove was installed incorrectly and shot flames several feet in the air the first time they turned it on.

Their list of grievances is long, and the costs have been racking up. Complaints to the developers and requests that the builder make repairs frequently went unanswered, they claim.



Jon Fetherston, 58, of Ashland, Mass., has to stoop so he doesn't hit his head when he enters the basement of his vacation home at the The Cottages at Pine Meadow development in Saco. *Derek Davis/Staff Photographer*

And they're not alone.

Residents in more than half the 24 cottages say they bought the newly built homes thinking they would be stress-free. Instead, there has been nothing but headaches. Windows that were improperly installed, malfunctioning appliances, uneven flooring, and even cracks in the walls and foundation. The beautiful landscaping that was promised never materialized, leaving residents to plant their own.

Collectively, the residents have tried to get recourse. They contacted Saco city councilors, the code enforcement officer, the planning board, and the mayor. They attended and spoke during planning board meetings in Cape Elizabeth to warn board members about the builder, who had proposed a development there. But their complaints kept getting shuffled to different departments and then disappeared altogether.

In June 2022, the Fetherstons lodged an official complaint with the Maine Office of the Attorney General against the developers, Mark McClure and Paula Wallem of GenX Capital Development, doing business as Saco Cottages LLC, as well as the builder, Ron Goddard. The complaint, which alleges poor construction resulting in myriad health, safety, and aesthetic issues, was signed by the owners of 13 of the cottages.

The AG's office would not confirm the existence of an investigation, but a spokesperson said last month that there have been eight complaints lodged against Saco Cottages LLC, though it's not clear how many may be duplicated efforts from those who already signed Fetherston's complaint. Emails from as recently as January show correspondence between the residents and AG's office staff. But neither side has heard anything, one way or another, in several months.



STAFF GRAPHIC | JAKE LAWS

Kelly Flagg, executive director of the Associated General Contractors of Maine, said she couldn't speak to this specific development because her organization represents commercial contractors, not residential ones. Generally, she said it's common for newly constructed buildings to have a few minor things that need to be fixed after construction wraps up, but it's rare for them to go unresolved to the point where owners complain to the attorney general.

The property developer and builder, meanwhile, have forcefully denied the allegations.

Goddard maintains that the construction was standard-issue – the houses were never meant to be luxury units, he said. Some of the problems he attributes to the pandemic and supply chain issues, but he maintains that he responded to every request for service communicated to him during the nearly two years he was on the site.

McClure, however, referred to the complaints as “vindictive” and “falsehoods,” and threatened to launch personal attacks against the residents and the Portland Press Herald/Maine Sunday Telegram to discredit their claims.

“My PR team has prepared a detailed, unflattering response about the writer and those that have made these false claims,” he said in an email to the reporter ahead of publication, adding his desire to “ensure those that published (the story) face dire consequences on Google search infinitely.”

“If our names will be dragged into the mud on the internet falsely, rest assured we are responding 20-fold to ensure the writer and complainants’ names are in all searches as well from a negative standpoint,” he said.

‘IF I KNEW THEN …’

They found their way to The Cottages at Pine Meadow for different reasons.

Cheryl Sarno, 64, wanted to be closer to her kids and grandkids. Her 650-square-foot home at the end of the development was going to be the last property she ever bought, the perfect place to settle in with her dog and cats.



Cheryl Sarno was one of the first residents to move into The Cottages at Pine Meadow. She's given up hope for financial relief but doesn't want other older adults to have to deal with the problems she's faced with her home. *Derek Davis/Staff Photographer*

Fetherston and his wife, Wendy, had always vacationed in Maine. Finding a place close to Portland and area beaches seemed like a dream come true.

Marcia Thibeault, 67, bought the biggest house – a 1,100-square-foot corner condo with views of the neighboring Leary Farm from both sides – because of the location. Her husband, who has since died, was in a nursing home just down the street.

"I would drive by on Route 1 every day on my way to work in Portland, and I looked in at these little places here and thought, 'I'd love to live in one of these places one of these days,' " she said. "If I knew then what I know now."

The complaint to the attorney general includes more than 100 specific grievances from 13 owners. Some of the more common complaints include flooded basements, malfunctioning and improperly installed appliances, uneven flooring, missing window screens, and windows that were installed incorrectly, upside-down, or with plastic instead of glass.

Others complained about doors that were improperly fitted and wouldn't lock, cracks in walls or foundations, and leaking heating and cooling systems. Residents say some things that were included in the purchase and sale were not as promised. Some bathroom fixtures were

missing or were downgraded.

Each of the nine home layouts includes a loft, and several residents complained that the ladder, which slides, did not feel safe. Sarno had her ladder replaced with a spiral staircase, and others have paid to secure their ladder in place.



Jon Fetherston, 58, tries a ladder to a loft at his neighbor's home at The Cottages at Pine Meadow development. Several residents complained that their sliding ladders did not feel safe. Some paid to secure their ladder in place. *Derek Davis/Staff Photographer*

Sarno said one of her neighbors had an incorrectly installed water expansion tank break, flooding their basement with about 5 feet of water. Thibeault and Fetherston both had the water in their toilets freeze during a cold snap last year because they didn't have a heat source in the bathroom.

Fetherston said their stackable washer and dryer weren't installed properly and the dryer toppled over into the shower.

"Sometimes I walk in my door and feel like, am I going to end up in my basement?" Fetherston said.

Two houses are positioned so that the front doors directly face each other with only about 10 feet of space in between, preventing the construction of a wheelchair-accessible ramp for one homeowner with disabilities.

Many issues were noted before closing and added as an addendum in documents or simply promised verbally, the residents said. Some were not immediately obvious until it was too late. Some of the issues have been fixed – and Goddard said he responded to all the requests he received – but some remain unresolved.

“This situation is a travesty,” the residents wrote in the complaint. “We all were looking forward to residing in Maine in a lovely retirement community. Instead, we spend our time in attempts to get resolution to the mounting issues and we spend hard-earned dollars to fix those issues that simply can’t wait.”

Teri and Dave Treiger closed on their cottage in July 2022. One week later, a pipe backed up, dumping raw sewage into their basement.

In a letter to the Cape Elizabeth Planning Board, which was reviewing a proposed development from Goddard, the Treigers said the team misrepresented a previous backup situation to rush the closing. A receipt from Rooter-Man Plumbers says the line seemed to be broken just east of the foundation. Follow-up calls and emails seeking assistance went unanswered, they said.

“Rather than continue fighting with the developers to fix their shoddy work, my husband and I opted to hire the proper people to address the remaining issues,” Teri Treiger wrote.

Dana and Anne Bengtson also wrote to the Cape planning board and said that while they had a better relationship with Goddard than many other residents in the community, they were disappointed with several issues in their unit and with the development.

When they bought the house, their backyard faced a quiet, densely wooded area. They asked Goddard if the property was buildable and were told no, because of the wetlands, the Bengtsons wrote. A year later, there’s a 120-unit apartment complex under construction right behind the house.

“We are angry and disappointed, as we would not have purchased had we been told the truth,” they wrote.

Fetherston, Sarno, and Thibeault have given up hope for any financial relief, but they’re hoping there will be some accountability. They say they don’t want what happened to them to happen to other older adults or other vulnerable populations.

“Our concerns have been raised with the (developers) without resolution and delays have resulted in the loss of warranty coverage,” the complaint reads. “If not completely ignored, some issues raised have been met with retaliatory comments and threats of lawsuits for libel or slander.”

HOMES NOT MEANT TO BE ‘TAJ MAHAL’

Saco Cottages LLC is the second team to take on the development.

Developer Bill Koch and Sandra Murray, a broker with Keller Williams Realty, dreamed up The Cottages at Pine Meadow as a “four-season, age 55-plus luxury cottage condominium community,” according to a 2019 advertisement.

The Saco Planning Board approved the development in 2018, and Koch and Murray began renovating existing cabins and building the model unit. But the pair abandoned the project for “personal reasons,” according to a Mainebiz article, and GenX Capital Development – McClure and Wallem’s Miami-based real estate investing and development company – bought the property for about $6 million in October 2020.

McClure, Wallem, and Goddard stuck to the development’s original plans for 24 new-build cottages and seven renovated cabins, but “with an eye toward speed” to keep up with demand as interest in Maine increased at the height of the pandemic, they told Mainebiz.

Crews broke ground in January 2021, and the first batch of residents closed in October and November of that year.

But the cluster of small homes that now dot the landscape just south of the Scarborough line is a far cry from the luxury cottage community that was originally promised, residents say. Sure, they have stainless steel appliances, granite countertops, and cathedral ceilings, but the leaking heating units, sliding glass doors without screens, and frigid bathrooms paint a different picture.

Goddard, however, said the units were never meant to be luxury.

“They’re cheaper units,” he said. “The materials are lower-end materials.”

That was necessary, he argued, to keep the prices under $300,000. By the time GenX Capital took over the project and began marketing the units, the word “luxury” had been scrubbed from the description.

Some of the problems, like the two homes that directly face each other, were part of the original plan approved by the city. Goddard said he stuck to the plan and built what he was told to.

Goddard also said the pandemic caused supply chain issues, meaning that some appliances and materials were not available, had become more expensive, or were damaged. The builder acknowledged that homeowners were frustrated by the delays.

“When they were able to move in, they already came in heated,” he said. “And so that just snowballed into any little thing that might’ve been a simple issue, they would just make it into a bigger issue.

“Maybe they thought they were getting the Taj Mahal, and they got a tiny home.”

As delays and problems continued, the environment quickly deteriorated. Both sides say the work site was hostile, with insults and accusations being hurled both verbally and over email.

At one point, Sarno filed a protection from harassment order against one of the workers, whom she said was trespassing through her backyard. Goddard said the worker was trying to take measurements of a drainage ditch. The complaint was later withdrawn.

All the homes received the stamp of approval from the city’s code enforcement office and received a certificate of occupancy.

“The units were scrutinized extremely hard,” Goddard said. “As far as I know, no one has had their occupancy permits revoked due to poor workmanship or … the houses falling over.”

If anything, Goddard said, some of the residents “destroyed their own property” by filling in the drainage ditches to build up their backyards, causing flooding in some of the units.

But residents say the poor drainage, while a problem, is the least of their concerns.

Many of the issues were discovered after they moved in, sometimes long after.

Fetherston, a member of the Board of Selectmen in his home community of Ashland, Massachusetts, said it was “mind-boggling” that no elected officials have come to the development to talk to residents or investigate their claims.

“I believe in buyer beware,” he said. “But government is supposed to protect people.”

OWNERS CRITICIZE BUILDER’S OTHER PROJECTS

McClure denied any responsibility for the problems in the development and said he had minimal involvement with the construction.

“We’re not contractors. … All we can say is ‘go fix this’ … (and) try to crack the proverbial whip as best we could,” he said.

Some of the residents asked to move in early before a certificate of occupancy was granted. They told the developer they were going to be homeless. So, they were allowed to move in early with the understanding that some things were unfinished, according to McClure. The punch list would be completed after, but promptly.

Then they started complaining, McClure said.

The homeowner association hired an attorney for advice but was told filing a lawsuit would be costly. Sarno hired her own attorney, who advised her that any case would be long and drawn out, costing her far more than any damages she might try to recoup.

Residents reached out to Saco city councilors, the code enforcement officer, the Planning Board, and the mayor before ultimately contacting the attorney general.

Saco Mayor William Doyle said in an email that the former administrator had some conversations with homeowners who contacted the city, but in light of the complaint with the attorney general's office, he declined to discuss the issue further "as our staff may be involved in the investigation and/or subsequent hearings."

Last year, Sarno tried to take their story to the media, but nobody got back to her. Then, in February 2022, she received a cease-and-desist order from Murray Plumb and Murray, the law firm representing Saco Cottages LLC.

The letter said Sarno was "engaged in a campaign to falsely impune (sic) the integrity of both Saco Cottages and its contractors."

McClure said he does not know the cease-and-desist order.

He said he didn't deal with complaints directly. His wife, Wallem, often coordinated with the property manager, Goddard, and the residents about problems.

McClure also stressed that since the homes have increased in value in the last two years, it's "pretty odd that they're suing us."

Frustrated by a lack of action, residents of The Cottages at Pine Meadow have spoken out about other projects involving the development team.

Goddard, financial adviser Laurie Bachelder, and Cape Elizabeth real estate agent Andrew Carr approached the Cape Elizabeth Planning Board this summer with plans for a 16-unit development.

But residents of The Cottages at Pine Meadow caught wind of the proposal and wrote letters and spoke at meetings to rebut the claims that Saco Cottages was a successfully built condo community. The Cape Elizabeth Planning Board rejected the proposal in October, ultimately ruling that the team lacked the "technical or financial capability" to build the development to completion.

GenX Capital is developing "The Mark," a 45-unit, high-end, one- and two-bedroom condo development in Cumberland. It's also trying to get a 60-unit luxury condominium development of duplexes and triplexes off the ground on Hope Avenue in Portland. The project, also known as Presumpscot Woods, already has a coalition of neighbors lined up in opposition.

McClure said he hasn't spoken with Goddard in more than a year. Goddard was previously listed as a partner in "The Mark," but McClure said in an email that Goddard is not involved in the project. Goddard said he has some investment interest in the property but is not working

on it in a professional capacity.

‘SHOULD HAVE BEEN A HOME RUN’

It’s unclear what will happen next. Neither side has heard anything from the attorney general’s office in months. Goddard assumes that means the office has dismissed the complaint. The residents hope it’s still being investigated.

AG’s office spokesperson Danna Hayes said there is not always a definitive end to an investigation.

If the office files suit, it means officials determined there were grounds for legal action. If not, it still doesn’t mean the case is closed.

“People who made complaints are sometimes aware of a conclusion if one exists, but that depends on the facts and context of the cases,” Hayes said.

So, what’s next? Residents could move, and some have. One unit is currently for sale for the third time since it was built in 2021.

But others either aren’t ready or aren’t able to give up.

Sarno can’t afford to move. Between the roughly $260,000 she spent on her home and the $35,000 she estimates she will have spent once the last of her home repairs and renovations are completed, there won’t be enough left over to start again.

Thibeault also is not confident she should or even could sell. At $411,000, hers was the most expensive house on the lot, and prices have only appreciated since then. What would be the dealbreaker for a potential buyer? The falling insulation in the basement? The pipes that keep freezing? The windows that leak?

“Even if I wanted to sell, I’d feel guilty selling,” she said. “I feel like I would have to disclose a lot of things, and I wouldn’t want to do that.”

Fetherston is still optimistic that things will improve. He’s given up hope of receiving any financial compensation, but he is hoping for accountability from the city.

“This should have been a home run for Saco,” he said. “But they struck out with the bases loaded in the bottom of the ninth.”

Maine real estate industry braces for changes to home sales commissions
Chocolate prices are rising everywhere as cocoa rots in West Africa
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MINUTES OF THE PLANNING BOARD
TOWN OF CAPE ELIZABETH

September 19, 2023 7:00p.m. Town Hall

Present:	Jonathan Sahrbeck	James Huebener
	Daniel Bodenski	Derek LaVallee
	Matthew Caton	Alton Palmer
Absent:	Andrew Gilbert	
Also present:	Maureen O'Meara, Town Planner	
	Mary Costigan, Town Attorney	
	Lucy Bauer, Minutes Secretary	

CALL TO ORDER

Mr. Sahrbeck called the hybrid meeting (in-person and virtual) to order at 7:00p.m.

Mr. Huebener called for approval of the minutes of August 15, 2023. Mr. Huebener moved to approve the minutes, and Mr. LaVallee seconded. With no further comments, the minutes were approved by a vote of 5 in favor, none opposed. Mr. Sahrbeck abstained because he was not present at the August meeting.

Mr. Sahrbeck reviewed the rules of the hybrid meeting, citing incidences of "Zoom bombs" at Town meetings in other communities. Ms. O'Meara reminded the audience that anyone attending virtually must provide a name in order to be admitted to the meeting.

OLD BUSINESS

Carr Woods – Shore Road Development Partners LLC is requesting final subdivision review and a Resource Protection Permit for Carr Woods, a 16 unit condominium and 1 single family home lot located on Deep Brook Drive (U6-91, 91A, 92, 94A, 95), Sec. 16-2-4 Final Subdivision review and Sec. 19-8-3, Resource Protection Permit.

Andrew Carr, Debra Carr, Ena Hanson and Shore Road Development Partners LLC are representing the applicant. The application was deemed complete at the June 20, 2023 meeting, and public comment has been scheduled for this evening.

Mr. Sahrbeck stated his understanding from communication with the Town Planner that there would be a request to table the business of tonight's meeting.

Kristin Collins, attorney for Shore Road Development Partners LLC, addressed the Board and requested a continuance based on the volume and timing of public comment on the project. Extra time is requested to allow for a fair response to the comment. In addition, Ms. Collins stated that Mr. Goddard was unable to attend tonight's meeting. Ms. Collins identified that most of the comments submitted are related to Mr. Goddard's technical capacity to complete the project; therefore, his presence is

necessary. The request for a continuance will also allow the applicant to revise the construction management plan to reflect a broader and longer role for Shinberg Consulting in the project. Finally, Ms. Collins asked the Board when the record would be closed and requested clarification for future public comment in order to avoid being in the position of not having enough time to respond fairly.

Mr. Sahrbeck asked if any members of the Board had questions for Ms. Collins.

Mr. Sahrbeck clarified that information received from both the public and the applicant has raised questions that have required further deliberation. He explained that the Board has not immediately moved to table the business of tonight's meeting because of the request made at last month's meeting for guidance from the Town attorney. This is business that can be completed tonight.

Mr. Caton stated that he would like the Town attorney to clarify the difference between evidence that applies to the applicant as an entity vs. an individual or other entities associated with an individual. He requested that the Board seek a response from the applicant to an email query submitted by one of the Board members. He asked for clarification on both public comment and how the Board would close the record to determine if the application can go forward or not.

Mr. Sahrbeck stated that, from a procedural point of view, tonight's public comment period would be limited to 15 minutes.

Ms. Collins addressed the Board, stating that the majority of the public comment received in advance of tonight's meeting was related to the Cottages at Pine Meadows in Saco. This development was not developed by Ron Goddard; he was involved in the project as more of a general contractor. Ms. Collins stated that Mr. Goddard would be working on the Carr Woods project in a different capacity as the developer.

Mr. Sahrbeck opened the floor for public comment, reminding virtual participants of the need to identify themselves before they can be admitted to the meeting.

Attorney Brandon Mazer of Perkins Thompson, representing Erik and Jennifer Johansson of 2 Rocky Hill Road, Cape Elizabeth, as abutters to the project, addressed the Board. Citing language from both Title 38 MRS, Section 4404 and Cape Elizabeth Subdivision Ordinance 16-3-1, he stated that the applicant has not met the required prerequisite for demonstrating financial and technical capacity to complete the project. The intent of the ordinance is to demonstrate a present ability to complete a proposed project. The ordinance also requires that an applicant provide a performance guarantee prior to any sale of lots, issuance of building permits or commencement of site work. A draft escrow agreement that does not illustrate where the funds are coming from does not prove financial capacity. He cited case law from Maine courts that establish rules governing the nature of proof necessary for an applicant to demonstrate adequate financial capacity. He stated that the letter from Titan is not a commitment and is partially based on the pre-sale of the homes on the Carr Woods project. The letter does not explain where the funds are coming from.

Jon Fetherston of 98 Heritage Avenue, Ashland, MA addressed the Board. He identified himself as an owner of one of the homes at the Cottages at Pine Meadows in Saco. He also identified that he holds two Governor-appointed positions in MA; specifically, he has been appointed to the Massachusetts area planning council and to the position of a housing commissioner in MA. Mr. Fetherston disputed the earlier statement that Mr. Goddard was not the developer of the Cottages at Pine Meadows. He stated

that Mr. Carr had placed an advertisement in the newspaper identifying Ron Goddard as the developer of the project. Mr. Fetherston referenced a previous planning board meeting where the applicant stated that the process for the development is consistent across projects. He then described multiple issues with his Saco home to include, within the first day of occupancy, a fire resulting from a stove that was not converted to the appropriate fuel source, a flood resulting from improperly installed A/C units, stacked laundry units that fell over causing damage to the floor, and a bedroom door that held nine differently sized screws.

Leonard White of 13 Rocky Hill Rd addressed the Board. He expressed concern that the applicant's stormwater management plan does not acknowledge that the stormwater system at Casino Beach is broken. He questioned why the Board would allow a project to put more stormwater through a system with known risks and referenced his previous written submissions to the Board. He expressed an additional concern regarding the complexity of the project which includes wetlands, ledge, steep grades, tight margins to the abutters, trees, and vegetation issues. He questioned whether the materials submitted by the applicant include evidence demonstrating technical capacity for the complexity of the project. The closest example provided by the applicant is the Cottages at Pine Meadows, a project that did not have site conditions that mirror those at Carr Woods.

Karen Glennon of Saco, Maine addressed the Board identifying herself as an owner of a home at the Cottages at Pine Meadows, a development brought to market by Ron Goddard and Andrew Carr. She described multiple hardships ranging from poor communication for the closing to the need to engage outside contractors to make her home livable. She stated that items listed on the executed Purchase & Sales agreement were not delivered, leaving her with the options of either taking the developer to small claims court or losing her $15,000 deposit by walking away from the agreement. She stated that a water line was compromised during the construction of a foundation of an adjacent property, resulting in the loss of water flow in her home. She described other issues with siding, doors, and caulking in bathrooms.

Richard Blake of 2 Ivie Road addressed the Board. He referenced a letter he had submitted to the Board identifying an exhibit illustrating that the applicant deeded back the declarant rights for the construction of the project, he believes, in Saco. He stated that this is an unusual transaction and may represent a deed-in-lieu-of-foreclosure transaction. This would demonstrate a lack of financial capacity on the part of the applicant to complete the project.

Erik Johansson of 2 Rocky Hill addressed the Board expressing concern over the consideration of tabling the business of the agenda. He referenced public comment that counters the applicant's assertion that Ron Goddard was not the developer for the Cottages at Pine Meadows. He urged the Board to vote on the application tonight.

Noting that the 15-minute window for public comment had been reached, Mr. Sahrbeck closed the floor for further comment. He stated that, in the absence of response from the applicant to the public comment, he would ask the Town Attorney to address questions that were raised at the August 15, 2023 meeting. Mr. Sahrbeck stated that he would entertain a motion from the Board to enter an executive session with the Town Attorney, clarifying that he did not feel this was necessary. Hearing no motion, Mr. Sahrbeck asked Ms. Costigan, Town Attorney, for clarification on the definition of technical ability pertaining to site plan review as specified in Town ordinances.

Mary Costigan, Town Attorney, addressed the Board stating that the question posed is broad in nature noting that the concept of technical capacity is different for every project and that, essentially, it means that the "applicant demonstrates that they can actually complete what they are telling you they are going to do." She stated that the applicant does not have to demonstrate that they can complete a perfect project without problems; rather, they must demonstrate that they have a team with the technical expertise to complete the proposed project.

Mr. LaVallee, referencing the August 15, 2023 Planning Board meeting, asked Ms. Costigan for clarification on the objective standard to be met, given his opinion that both the evidence presented and response from the applicant to questions from the Board were inadequate. He asked if the standard should be applied to the original application or to subsequent submissions, excluding the most recent public comment. Ms. Costigan replied that decisions should be based on the record, to include the original application, subsequent submissions to the Board, and public comment.

Mr. Caton asked Ms. Costigan to clarify the definition of financial capacity. Ms. Costigan stated that, frequently, the demonstration of financial capacity focuses on public improvements. The items that "the Town cares about the most" are generally included in the demonstration of financial capacity. The applicant's performance guarantee represents the demonstration of financial capacity which typically includes a letter from a bank or lender, i.e., evidence that funds are available to cover the public improvements for the proposed project.

Ms. Costigan asked Ms. O'Meara to define the public improvements for the Carr Woods project. Ms. O'Meara stated that the most significant items include vehicular access, to include the private road; the sewer and water lines; the stormwater system; and preservation of the landscape, to include elements of the natural buffer.

Mr. Caton asked Ms. Costigan to explain the difference between technical and financial capacity since technical capacity includes not only public benefit, but also construction of the homes. Ms. Costigan stated that the Board should have a level of confidence that the applicant has a team that will not leave a project in a state where the Town must assume responsibility for it. She suggested that the Board should consider the impact if the project fails.

Mr. Palmer referenced Attorney Mazer's comments on the applicant's financial capacity and, specifically, both Board and legal interpretations of what type of information can be used to either approve or deny an application. He asked Ms. Costigan for an opinion on the type of information that can be used to determine financial capacity. Ms. Costigan replied that the Board would want evidence that funds that are immediately available to complete, primarily, the public improvements if the applicant cannot finish the project. Ms. O'Meara clarified that the Town, as stated in the ordinance, accepts a letter of credit or an escrow account as demonstration of financial capacity. Further, a letter of credit must come from an FDIC-insured institution.

Mr. Sahrbeck asked Ms. Costigan if she could provide any examples of municipal projects that a Board had denied because the evidence of technical capacity was deemed inadequate based on projects within an applicant's portfolio that had not worked out well. Ms. Costigan could not cite any examples of this situation, either from her experience representing municipalities or case law.

Mr. Caton asked Ms. Costigan for an opinion on the evidence the Board should consider given that the applicant is a new corporate entity and that evidence presented is specific to past projects involving one individual. Ms. Costigan replied that the Board should be judging the application based on the applicant and the team the applicant has assembled to complete the project. The project involving the individual was, technically, completed, even if not to everyone's satisfaction.

Mr. Palmer asked Ms. Costigan if the performance guarantee can be extended to provide surety that the team assembled by the applicant will remain involved in the project. Ms. Costigan replied that the guarantee cannot mandate that a team remain involved in any project if the team wishes to be released.

Mr. LaVallee asked Ms. Costigan to clarify if an application should be overwhelmingly clear that an applicant has the technical capacity to deliver the work outlined in a proposal. Ms. Costigan, having stated that the bar for the standard is low, replied that a typical application should include a clear list of both the members of the team and their collective experience.

Mr. Sahrbeck asked the Board if any members had a desire to move to an executive session. Hearing none, he thanked Ms. Costigan for her counsel. He then turned the floor over to the applicant with regard to the request to table the business of the agenda.

Attorney Collins addressed the Board requesting to table the business in order to more comprehensively prepare a response. She requested comment from the Board on the request for continuance.

Mr. Caton asked Mr. Sahrbeck if the Board was being asked to consider tabling the business or, rather, to consider conditions that would be attached to a decision to table the business. Mr. Sahrbeck replied that he would like to consider issues that still need to be addressed. In fairness to the applicant, information only recently submitted should be reviewed, to include the question of liens on the applicant's record. In addition, the applicant has introduced Greg Shinberg as a new member of the project. Mr. Sahrbeck advised the Board on two options for tonight's meeting. Either the Board denies the request to table the business and the proceedings continue or grants the request to table the business.

Mr. Huebener stated that he feels the applicant has not demonstrated technical capacity and does not feel that any further evidence will persuade him otherwise.

Mr. LaVallee asked what additional information would be provided if the decision was made to table the business. Attorney Collins provided examples of evidence that could be provided. Discussion ensued regarding the value of information provided by either a management company or HOA for the Cottages at Pine Meadows. Ms. Cheryl Sarno identified herself as the official representative of the HOA for the development.

Mr. Palmer stated that he was struggling with separating the project from the current proponent. He reviewed the history of the application which has been before the Board since before his term which will end this year. Mr. Palmer asked Ms. O'Meara what would happen if the Board denied the application based on concluding that the current proponent has not met the standard of technical and financial capacity. Ms. O'Meara stated that a new application would follow the process from the beginning which includes a workshop and application for preliminary approval.

Mr. Bodenski noted the complexity of the Carr Woods project and asked for clarification on the financial value of the infrastructure for the project. Ms. O'Meara stated that the applicant has provided a performance guarantee for an estimated $2.2 million dollars. She further clarified that any performance guarantee for a project must be current. Mr. Bodenski noted that the largest infrastructure project previously completed by New England Earthworks is $1.25 million dollars. He stated that the scale of the Carr Woods project is larger and asked the applicant if New England Earthworks can demonstrate projects of similar scale to Carr Woods.

Attorney Collins addressed the Board, asking for clarification for Mr. Sahrbeck on the need to address specific concerns given the request to table the business. Mr. Sahrbeck stated that the Board would like to hear information that would warrant granting the request to table. Ms. Collins replied that the applicant is requesting a continuance in order to fully address the concerns raised about liens, provide an improved construction management plan, and respond to specific concerns about the units at the Cottages at Pine Meadows. Mr. Sahrbeck invited Ms. Collins to respond to the question raised about New England Earthworks.

In response, Ms. Collins introduced Greg Shinberg, founder of Shinberg Consulting, a real estate development consulting firm. Mr. Shinberg addressed the Board stating that he was recently hired to participate in the project. He stated that he has advised the owners to consider larger contractors, clarifying that this does not mean that the current contractor cannot complete the project. Mr. Shinberg reviewed a list of projects that he has been involved in completing and stated that he has the technical capability to complete the Carr Woods project.

Mr. Sahrbeck asked Mr. Shinberg to define his role in the Carr Woods project. Mr. Shinberg replied that his role would be to work with the Town (Mr. Jay Reynolds and Mr. Steve Harding), secure the letter of credit, and oversee the hiring of the site contractor. Mr. Shinberg would be present during all phases of the construction and would make sure that the work would be done correctly according to the plans submitted by Mr. Gerrish. He stated that he has experience completing complex projects and provided examples of the oversight that would be required on the Carr Woods project.

Mr. Caton referenced a letter of intent that was submitted by the applicant on September 5, 2023. He asked if there was subsequent evidence of Mr. Shinberg's involvement in the project. Mr. Shinberg replied that he has signed a contract with the applicant which could be provided to the Board. Mr. Shinberg stated that he has no personal experience with Mr. Goddard and was not involved in the development in Saco; therefore, he cannot speak to it.

Mr. Sahrbeck asked Mr. Shinberg when he was brought into the Carr Woods project. Mr. Shinberg replied that he was contacted approximately three weeks prior to tonight's meeting. He signed the contract approximately two weeks ago. Mr. Shinberg stated that he has experience to address problems as they arise and provided descriptions of projects that required his technical expertise. He also described how he would work with Mr. Gerrish and subcontractors to ensure that the work on the Carr Woods project is done correctly. He stated that he has walked the entire Carr Woods property and acknowledges that the site is a very important location that will require careful traffic management. His primary concern on any project is safety and, additionally, quality. He stated that he has no experience with New England Earthworks and has recommended that the owners consider another contractor with more experience.

Mr. Sahrbeck asked Mr. Shinberg if he has reviewed the issues associated with Casino Beach. Mr. Shinberg replied that he has not. He has discussed the issues with Mr. Gerrish and has a general understanding of the stormwater management plan for the project. He acknowledged that he needs to review and understand the details of this component of the project, not least in order to anticipate potential issues.

Mr. LaVallee asked Mr. Shinberg if he had ever held a similar role in a project of similar size to Carr Woods. Mr. Shinberg replied in the affirmative, citing a project for which he was both developer and owner's representative in Freeport in 1988. He stated that he primarily works as an owner's representative providing oversight and quality assurance. He has no ownership interest in the projects and is paid a flat fee.

Attorney Gordon Smith addressed the Board responding to the discussion about the infrastructure experience of New England Earthworks. He asked Mr. Shinberg to provide a description of his experience with large infrastructure projects. Mr. Shinberg stated that the largest project he was involved in was InterMed which had an infrastructure value of $40 million dollars. He has been involved in projects as an owner's representative or project manager that, in total, amount to approximately $400 million dollars. Attorney Smith asked Mr. Shinberg to clarify whether or not an owner of a project should have construction experience. Mr. Shinberg replied that most of his work is for owners who have either minimal or no construction experience; therefore, he is engaged for his experience.

Mr. Sahrbeck asked Mr. Huebener if the information presented has persuaded him to change his position on the evidence. Mr. Huebener stated that his position has not changed and would vote against a motion to table the business of the agenda.

Mr. Caton asked that, if there were a motion to table, would this include an organized list of specific issues that the applicant would need to address at the next meeting. He would consider a motion to table with specific instructions to the applicant for a response.

Mr. Bodenski agreed with Mr. Caton and requested additional evidence that New England Earthworks has the capability to handle the infrastructure on the project. He appreciated Mr. Shinberg's presentation; however, the current evidence does not demonstrate technical capacity for the project. He stated that he is in favor of tabling.

Mr. Palmer acknowledged that the process makes it difficult to close the record. Mr. Sahrbeck interjected that, in his experience serving on the Board, the public record is never closed because ongoing public comment is germane to the evidence on which the Board deliberates. Mr. Palmer responded that he would support a motion to table.

Mr. LaVallee stated that he associates himself with Mr. Caton's remarks and would be in favor of a continuance.

Referencing Mr. Caton's request for an organized list of additional information from the applicant, Mr. Sahrbeck stated that the response needs to include information addressing liens against the developer.

Ms. O'Meara clarified for the Board that the Town has a very strong policy about allowing public comment. The time provided for public comment at every meeting is mandated by Town Council rules. Based on Council rules, any effort to close the record would be concerning.

Mr. Sahrbeck stated that he continues to have concerns that many questions have remained unanswered. He stated that Mr. Shinberg's involvement is a positive development in the project and that, if questions remain unanswered at the next meeting, he will vote against the project. The record will not be closed.

Attorney Smith asked for clarification on additional evidence requested by the Board. Mr. Sahrbeck suggested that questions regarding liens and the information shared during the public comment period which raised questions about the applicant's technical and financial capacity to complete the project should be addressed.

Mr. Caton suggested that the Board come to an agreement on seminal points that need to be addressed by the applicant and on which the applicant can provide focused evidence. He also questioned whether the responsibility for the issues at Casino Beach belong to the applicant as opposed to the Town. Ideally, the response from the applicant would allow the opportunity for the Board to vote either in favor or against the project.

Mr. LaVallee asked Mr. Caton if he was suggesting that the Board define the list of seminal points for the application to address prior to any motion on tabling. Mr. Caton replied in the affirmative. Discussion ensued regarding the need to provide specific guidance to the applicant. Mr. Sahrbeck suggested that specific guidance to the applicant does not need to be part of a motion to table. He stated that individual members of the Board should forward specific concerns to the Town planner by Thursday at noon to allow time for the concerns to be forwarded to the applicant. Ms. O'Meara clarified that any requests for response by the applicant that are submitted by members of the Board will be de-identified and become part of the public record. Mr. Sahrbeck reminded the public that any material submitted to the Town Planner is individual in nature. Board members do not discuss the business of the agenda among themselves outside of the Planning Board meetings.

Mr. Caton made a motion to table the consideration of the applicant's submission until the October 17th Planning Board meeting. Mr. LaVallee seconded the motion. With no further discussion, the motion passed with four in favor (LaVallee, Palmer, Bodenski, Caton) and two opposed (Sahrbeck, Huebener).

Mr. Sahrbeck opened the floor for public comment.

Richard Blake of 2 Ivie Rd addressed the Board, stating his opinion that fifteen minutes for public comment is too short considering that the applicant has unlimited time. In addition, he asked why the applicant was not asked about declarant rights which would indicate default as part of a deed-in-lieu-of-foreclosure transaction. He suggested that the Board ask this question of the applicant.

Noting no further comment from the public, either in person or virtually, Mr. Sahrbeck closed the floor for public comment.

Mr. Huebener made a motion to adjourn. Mr. Caton seconded. With no further discussion, the motion passed, 6-0.

The meeting adjourned at 8:39 p.m.

Respectfully submitted,
Lucy E. Bauer
Minutes Secretary

MINUTES OF THE PLANNING BOARD
TOWN OF CAPE ELIZABETH

October 17, 2023 7:00p.m. Town Hall

Present:	Jonathan Sahrbeck, Chair	James Huebener
	Daniel Bodenski	Derek LaVallee
	Matthew Caton	Alton Palmer
	Andrew Gilbert	

Also present: Maureen O'Meara, Town Planner and Lucy Bauer, Minutes Secretary

CALL TO ORDER

Mr. Sahrbeck called the hybrid meeting (in-person and virtual) to order at 7:00p.m. Mr. Palmer was not in attendance at the start of the meeting.

Mr. Sahrbeck called for approval of the minutes of the September 19, 2023 Planning Board meeting as well as the October 3, 2023 Workshop. Mr. Huebener moved to approve the minutes of September 19, and Mr. Bodenski seconded. With no further comments, the minutes were approved by a vote of 5 in favor, none opposed, and one abstention (Gilbert). With the recommendation to remove a highlight from the October 3 Workshop minutes, Mr. Huebener moved to approve the minutes. Mr. Gilbert seconded. The minutes were approved by a vote of 5 in favor, none opposed, and one abstention (Bodenski).

Mr. Sahrbeck reviewed the rules of the hybrid meeting, citing incidences of "Zoom bombs" at Town meetings in other communities. He reminded the audience that anyone attending virtually must provide a name in order to be admitted to the meeting.

NEW BUSINESS

14 Sunnybank Rd Private Accessway Permit – Vincent Oliviero is requesting a Private Accessway Permit to create access for a vacant lot located at 14 Sunnybank Rd (U41-19), Sec. 19-7-9, Private Accessway Permit Completeness and Public Hearing.

John Mitchell of Mitchell & Associates, representing the applicant, Vincent Oliviero, addressed the Board and provided a summary of the proposal. Mr. Mitchell explained that Dr. Oliviero is requesting an accessway to a parcel of land identified as Lot 19 on Sunnybank Rd. He explained that Sunnybank Road is located within a 25-foot right of way. Lot 19 is a vacant, buildable lot owned by Dr. Oliviero. The lot is contiguous with Lot 13 where Dr. Oliviero resides. The proposal includes extending Sunnybank Rd by 185 feet and incorporating an emergency vehicle turnaround at the end. This will provide Lot 19 with required frontage and access. Lot 19 is a nonconforming lot, having been created in 1956; however, it is a legal and buildable lot.

Mr. Mitchell described the characteristics of Lot 19 and reviewed the grading & drainage plan. He described the plan for installation of utilities via conduits from the transformer located on Sunnybank Rd. He described the plan for an onsite wastewater disposal system, noting that Mark Hampton of Mark Hampton Associates has completed soil testing and has found suitable soils for an onsite system. He

described the plan for a dug well which is located, topographically, in line with existing wells on either side of Lot 19.

Mr. Mitchell referenced comments submitted to the applicant by both Mr. Harding and Ms. O'Meara. Mr. Mitchell summarized the changes that have been made to the plans in response to the comments. All comments have been addressed.

Mr. Mitchell addressed concerns expressed by Mr. Romano, an abutter. Mr. Mitchell explained that the applicant engaged Robert Danielson, Esq. to complete a title search for Lot 19 and verify that Lot 19 is a legal, buildable parcel. Mr. Mitchell reviewed the decision-making for placing the hammerhead in a location that is least disruptive to the topography and vegetation.

Mr. Sahrbeck asked a clarifying question regarding Sunnybank Rd. Mr. LaVallee asked a clarifying question about mature evergreens on Lot 19. Mr. Mitchell provided answers to the questions. Mr. Gilbert asked for clarification on the overflow from the rain garden. Mr. Mitchell replied that overflow will not go onto the abutter's property; rather, the overflow will be directed to the drainage swale on the lot. Mr. Mitchell addressed the maintenance of vegetation on Sunnybank Rd in response to comments from the Town Fire Chief. Regarding a concern about setbacks from the septic system, Mr. Mitchell explained that he had spoken with Ben McDougal for clarification on the ordinance. Mr. Gilbert asked if there had been any consideration of a holding tank. Mr. Mitchell replied that this option was not considered. Mr. Mitchell addressed concerns about the impact to the abutter's driveway and access during the construction. Discussion ensued regarding the CMP easement for access to the transformer.

Mr. Sahrbeck clarified that the business of the agenda is specific to the issue of completeness. Mr. Mitchell briefly reviewed the request for two waivers. Mr. Sahrbeck opened the floor to the Board for questions. Hearing none, Mr. Sahrbeck opened the floor for public comment on the issue of completeness. Hearing none, Mr. Sahrbeck closed the floor for public comment. Mr. Gilbert made a motion for completeness.

BE IT ORDERED that, based on the plans and materials submitted and the facts presented, the application of Dr. Vincent Oliviero for a Private Accessway to create frontage for the lot located at 14 Sunnybank Rd (U41-19) be deemed complete.

Mr. Huebener seconded the motion. With no further discussion, the motion passed, 6-0. Discussion ensued about scheduling a site walk. The walk was scheduled on October 21, 2023 at 8:00 a.m. and will be advertised. Mr. Sahrbeck noted that, until the site walk is completed, it would be premature to consider the merits of the application at this time. Ms. O'Meara suggested that the Chair open the floor for public comment, given that the public hearing had been advertised.

Mr. Sahrbeck opened the floor for public comment. Carmen Romano of 12 Sunnybank Rd. addressed the Board virtually and identified himself as the abutter to the proposed project. He clarified a number of his concerns in response to Mr. Mitchell's presentation.

With no further comment, Mr. Sahrbeck closed the floor for public comment. He invited the applicant to respond to Mr. Romano's comments. Mr. Mitchell addressed the Board, indicating that he would review concerns about runoff. Mr. LaVallee made a motion to table consideration of the application until the Planning Board meeting scheduled for November 21, 2023. Mr. Huebener seconded. With no further discussion, the motion passed, 6-0.

OLD BUSINESS

Carr Woods – Andrew Carr, Debra Carr, Ena Hanson and Shore Road Development Partners LLC are requesting final subdivision review and a Resource Protection Permit for Carr Woods, a 16 unit condominium and 1 single family home lot subdivision located on Deep Brook Drive (U6-91, 91A, 92, 94A, 95), Sec. 16-2-4 Final Subdivision review and Sec. 19-8-3, Resource Protection Permit. The application was deemed complete on June 20, 2023, and a public hearing held on July 18, 2023.

Mr. Gilbert recused himself from this business on the agenda. Mr. Palmer joined the meeting.

Greg Shinberg, owner of Shinberg Consulting, addressed the Board and identified himself as the owner's representative for Shore Road Development Partners, LLC. He identified the team members present, to include Bill Gerrish of Northeast Civil Solutions; Laurie Bachelder, owner of Shore Road Development Partners, LLC; Kristin Collins, Esq. of Preti Flaherty; Gordon Smith, Esq. of Verrill; and Andrew Carr, property owner. Mr. Shinberg stated that the Carr Woods project is consistent with the character of the neighborhood. He acknowledged the concerns that have been raised about the financial capability of the applicant. He clarified that a letter of financial commitment for any project cannot be obtained in advance of approval of the project. He described multiple public benefits of the project to both the Town and the greater Portland area, to include affordable housing units and the expansion of public land. Mr. Shinberg concluded by stating that Carr Woods is an extremely well-designed project.

Bill Gerrish of Northeast Civil Solutions addressed the Board, representing the co-applicants for the project, stating that he would briefly review the submission documents for the meeting. He referenced a letter submitted by Kristin Collins, Esq. addressing concerns expressed about the financial and technical capacity of the applicants. He also referenced a revised construction management plan that has been submitted to the Board.

Mr. Gerrish acknowledged and reviewed the issues at Casino Beach and provided additional detail on the stormwater management plan for the project.

Mr. Shinberg addressed the Board to describe his efforts to hire a qualified team to implement the plans. He described his expertise and role in the project as the owners' representative.

Kristin Collins, attorney for Shore Road Development Partners LLC, addressed the Board and stated that she was available to answer any questions regarding her letter to the Board dated September 29, 2023.

Mr. Sahrbeck opened the floor for public comment.

Kathy Duca, Senior Vice President & Managing Broker, Advisors Living Real Estate, Cape Elizabeth addressed the Board. Ms. Duca resides at 58 Jessica Lane, South Portland and identified that she is originally from Cape Elizabeth. She spoke in support of the Carr Woods project, stating that the project will help alleviate the existing housing shortage in the area. She cited the affordable housing units and open space components of the plan and stated that the project would likely have a positive economic impact on adjacent housing values and the Town.

Alison Day of 75 Hillside Ave., South Portland addressed the Board and identified herself as a residential advisor for Advisors Living Real Estate in Cape Elizabeth. She described personal experience of owning a property adjacent to a new development. She spoke in support of the Carr Woods project, citing the

open space, extension of the Green Belt trail, and preservation of both wildlife habitat and character of the neighborhood.

Patrick Cooper of Arundel addressed the Board and identified himself as a realtor with Advisors Living Real Estate in Cape Elizabeth. He referenced his experience as a former builder and contractor in the area. He spoke in support of the Carr Woods project, citing his confidence in the plans and benefit to the Town.

Helen Smith of 17 Cross Hill Rd., Cape Elizabeth addressed the Board and identified herself as a residential advisor for Advisors Living Real Estate in Cape Elizabeth. She stated that she has no financial stake in the project. She spoke in support of the Carr Woods project, citing the advantage of the defined plan for the project as well as the inclusion of increased housing stock, affordable housing units, access to Greenbelt Trails, open space, and increased tax revenue for the Town.

Jon Fetherston of Ashland, MA and the Cottages at Pine Meadows in Saco, ME addressed the Board. He referenced his participation at last month's Planning Board meeting and questioned the new public support for the Carr Woods project.

Leonard White of 13 Rocky Hill Rd addressed the Board and thanked Mr. Gerrish for responding to public concerns regarding stormwater flow to Casino Beach. He described the issue of overflow exiting the system at the junction point in the middle of the beach as opposed to the outflow pipe located in Casco Bay. He stated that the overflow exiting the system at the beach is erosive and suggested that the Carr Woods plan to reduce peak flow is irrelevant because it would compound the issue. He stated that, subsequent to the last Planning Board meeting, water samples taken from the stormwater system at Casino Beach have demonstrated unsafe levels of sewage contamination at the site. He concluded by suggesting that the technical capacity of the developer has not been demonstrated.

Lise Pratt of 32 Wood Rd. addressed the Board and identified herself as an abutter to the project. She expressed concern about the multiple changes to the project team and, with these changes, the need for a revised budget. She stated that evidence presented to the Board does not demonstrate the technical and financial capacity of the developer. She urged the Board to consider whether the project can be completed as proposed and advocated that the Board deny the application.

Mr. Sahrbeck noted that the 15-minute time limit for public comment had been exceeded and made a motion for allowing limited, additional public comment. Mr. Huebener seconded the motion. With no further discussion, the motion passed, 6-0.

Attorney Brandon Mazer of Perkins Thompson, representing Erik and Jennifer Johansson of 2 Rocky Hill Road, Cape Elizabeth, as abutters to the project, addressed the Board. He stated that the standard of demonstrating technical and financial capacity of the applicant has not been met. He noted that the only comments in support of the project have been offered by realtors.

Julia Edwards of 158 Dobson St. South Portland addressed the Board and identified herself as a realtor in Cape Elizabeth. She referenced earlier public comment, stating that, in the property value world, prices older than six months old are not current. She stated that the Carr Woods project has been curated thoughtfully and carefully and will offer benefits to the Town. She cited the lack of housing stock and stated that the project will meet a critical need for housing.

Richard Blake of 2 Ivie Road addressed the Board. He referenced a letter he had submitted to the Board identifying that the Saco project known as the Cottages at Pine Meadows was not completed. He expressed concern about the risks to the Town if the developer cannot complete the project. He questioned whether the financial capacity of the developer has been demonstrated and referenced a recent judgment against Laurie Bachelder.

Mr. Sahrbeck closed the floor to public comment.

Mr. Sahrbeck requested comment from the applicant on an email received by the Board that referenced a judgement against Ms. Bachelder.

Laurie Bachelder of Shore Road Development Partners, LLC addressed the Board. She provided written copies of a lawsuit filed against Coastal Realty Capital by an ex-client of Ms. Bachelder. She stated that the lien that was placed by Court order was lifted, and that the case is being dismissed.

Mr. Sahrbeck asked for clarification on the amount that will be funded in the escrow account for the Carr Woods project. Ms. Bachelder replied that the estimate had been provided in an earlier submission and reiterated that an escrow account provides the highest level of surety that funding is available for a project. The exact amount of funding will need to be determined. Mr. Sahrbeck asked Ms. Bachelder to respond to comments made asserting that she has not completed any projects. Ms. Bachelder replied that she has no completed projects and described a project underway in North Yarmouth for which she is the developer. She spoke of her decision to hire Mr. Shinberg as an owner's representative, stating that she may have misinterpreted the level of information that the Board wished to review. She spoke of her years of experience managing the financial side of development projects.

Mr. Caton requested clarification from Mr. Shinberg on how his role in the development of the Town Green may have differed from his role as the owner's representative for the Carr Woods project. Mr. Shinberg replied that the scope of his role in both projects is similar; the developer for the Town Green had no experience and was advised to engage Mr. Shinberg for his experience.

Mr. Palmer asked Mr. Shinberg to identify the two affordable units in the Carr Woods project. Mr. Gerrish approached the podium and identified units 3 and 4 in the middle of the quadruplex as the affordable units. Mr. Palmer asked for clarification on the maximum sales price qualifying the units as affordable. Mr. Shinberg stated that he believes the maximum price would be approximately $390 thousand dollars, depending on Town rules and HUD requirements.

Mr. Sahrbeck asked Mr. Shinberg about the list of proposed contractors for the project and asked what reassurance could be given that those who have expressed interest will be hired. Mr. Shinberg described his process for obtaining competitive bids and hiring a competent team. Mr. Sahrbeck expressed concern that the Board does not know exactly who will be hired to complete the project. He suggested that a condition for approval be placed that would restrict bids from the team listed in the recent submission documents. Mr. Shinberg acknowledged the concern and discussion ensued.

Mr. LaVallee referenced a letter in the submission documents proposing that, if Mr. Shinberg were unable to fulfill the terms of his agreement as the owner's representative, the Town Planner would assume oversight of Mr. Shinberg's replacement. Mr. LaVallee asked Ms. O'Meara if there was any precedent for this condition. Ms. O'Meara stated that she is not aware of any precedent. Attorney Collins addressed the Board, suggesting that the condition should include "guardrails" around the

delegation to the Town Planner. Ms. Collins suggested that a similar condition could be placed around replacement of contractors on the project. This condition would avoid having to obtain Board approval for new team members.

Regarding the issue of financial capacity, Ms. Collins stated that a commitment letter cannot be obtained prior to Board approval of the project. She offered suggestions for conditions that might offer assurance of financial capacity at different stages of the project.

Mr. LaVallee asked Ms. Collins if, in her experience with other municipalities, there was any precedent for the proposed condition delegating responsibility for replacing the development team to the Town Planner. Ms. Collins replied in the affirmative. Discussion ensued on how this condition would be implemented. Mr. Sahrbeck interjected, questioning whether this type of condition is an appropriate expectation of the Town Planner. He stated that replacement of the development team should be the responsibility of the Board as opposed to either the Board Chair or the Town Planner.

Mr. Huebener stated that he is not in favor of a condition that would either limit the applicant's ability to obtain a competitive bid or involve the Town Planner. He stated that he would not be in favor of a condition that would delegate authority to the Board for oversight of replacing Mr. Shinberg.

Ms. Collins expressed concern for conditions delegating authority to the Board for the replacement of contractors, citing issues of risk to established timelines and the ability of the applicant to secure funding if multiple contingencies are in place. Understanding the importance of Mr. Shinberg's role in the project, Ms. Collins suggested that a condition for addressing his replacement, if necessary, would be acceptable.

Mr. Caton asked for clarification on the proposed language of the condition identifying the corporate entity of Shinberg Consulting LLC vs. Mr. Shinberg himself. The Board has no information on who, within Shinberg Consulting, would replace Mr. Shinberg.

Mr. Caton agreed that Board authority should not be delegated to the Town Planner. The Board has recognized both that the applicant has limited experience in completing projects and that Shinberg Consulting has the expertise to complete the project. Mr. Caton stated that he would be in favor of creating a condition that Shinberg Consulting remain on the project. Mr. Bodenski stated that he, too, would be in favor of a condition maintaining the involvement of Shinberg Consulting.

Mr. Shinberg interjected, stating that, if he is unable to continue as the owner's representative, it would be very difficult for the applicant to complete the project without a qualified owner's representative. He suggested that the applicant's interests would be best served by finding a suitable replacement for his expertise.

Citing the language in the subdivision ordinance for demonstrating technical and financial capacity, Mr. Palmer expressed concern for the lack of evidence demonstrating the developer's ability to complete a project. He stated that the applicant's project in North Yarmouth is not comparable to the Carr Woods project. He stated that crafting conditions to allow the project to proceed may not be in the best interests of the community. He acknowledged that the applicant has assembled a team to complete individual roles; however, the technical and financial capacity of the developer is tenuous. He does not believe that a condition of approval should be used to demonstrate the applicant's ability to meet the

standard. Regarding financial capacity, Mr. Palmer acknowledged that an escrow account provides the greatest level of surety; however, the details of the project covered by the escrow account are not clear.

Mr. Sahrbeck asked Ms. O'Meara for clarification on the Town's administration of an escrow account. Ms. O'Meara stated that she is the most confident in making sure that a performance guarantee will be available to complete the infrastructure of a project. She further explained that the Town is not involved in making sure that individual buildings are completed, as these represent a contract between a private property purchaser and a seller. Mr. Palmer countered that the Town may not be involved in the completion of individual buildings; however, the standard to be met is completion of the project. Ms. O'Meara validated Mr. Palmer's statement. Ms. O'Meara suggested that the challenge before the Board is consideration of the opaqueness of an escrow account funded by "hard money" as opposed to a more familiar, guarantee letter from an FDIC insured institution.

Attorney Collins addressed the Board to address apprehension specific to the funding of the escrow account. She reminded the Board that Ms. Bachelder is comfortable and familiar with the funding structure and principles of Titan. Ms. Collins suggested that commitment letters from FDIC insured institutions do not offer a better guarantee. Mr. Sahrbeck asked Ms. Collins to elaborate on her experience representing projects funded with private capital. Ms. Collins replied that, while her experience representing projects that are funded with private capital is limited ("less than 10"), the option is considered more frequently. Discussion ensued regarding establishing evidence of financial surety for both the infrastructure and construction phases of the project.

Mr. Sahrbeck asked Mr. Gerrish for clarification on the issue of the sewer cap at Casino Beach referenced during the public comment. Mr. Gerrish stated that the issue at Casino Beach is the result of flow that travels from a 30-inch pipe into a 17-inch pipe. Ms. O'Meara acknowledged that this is the Town's issue. The stormwater management for the project is designed to slow the arrival of flow to the outlet pipe, reducing the risk of popping the cap and causing erosion on the beach.

Mr. LaVallee stated that, while he recognizes the benefits of the Carr Woods project to the community and has greater confidence in the technical team, he remains concerned with the developer. Specifically, he does not feel that Shore Road Development Partners, LLC has the appropriate depth of experience to complete the Carr Woods project. Mr. LaVallee offered thanks to the public, Ms. O'Meara, and the Board for participation in the process. He stated that he would not vote to approve the project.

Mr. Palmer stated that the current applicant has not demonstrated technical and financial capacity; therefore, he would not vote to approve the project.

Mr. Huebener summarized his opinions, both favorable and unfavorable, on specific aspects of the application. He stated that he has not decided to either approve or deny and requested to hear the opinions of the remaining Board members.

Mr. Bodenski summarized his opinions, both favorable and unfavorable, on specific aspects of the application. He expressed concern about the expertise of the developer.

Mr. Caton stated that he would be in favor of changing the ordinance to remove the responsibility for determining technical and financial capacity of an applicant from the Board. He stated that he is not distracted by the changes to the management team. He stated that the addition of Mr. Shinberg provides evidence of technical capacity, regardless of the experience of the developer. He stated that he

would be in favor of requesting a condition that provides a contingency if Mr. Shinberg left the project. Concerns about financial capacity could also be subject to a condition. Mr. Caton stated that he would support the application with conditions.

Mr. Sahrbeck stated that his reluctance toward the project stems from the multiple changes to the application. He stated that, while many of the changes represent improvements to the project, he is not confident that all concerns have been fully addressed. He expressed reservations about putting conditions on approval of the application.

Discussion ensued about potential conditions for approval of the application that include preserving the involvement of Mr. Shinberg in the project and suggestions outlined in Attorney Collins' letter dated 9/29/23, p. 4. last paragraph before Section 3.

Noting the hour of 10:00 p.m., Mr. Sahrbeck motioned to continue the meeting. Mr. LaVallee seconded. With no further discussion, the motion passed, 6-0. The proceedings were suspended for a 10-minute break.

Mr. Sahrbeck called the meeting to order at 10:10 p.m.

Attorney Collins addressed the Board to respond to Mr. Palmer's stated concern about the developer. Ms. Collins referenced the Town Attorney's counsel that the Board consider the team of individuals on a project as opposed to an individual. She stated that Ms. Bachelder has expertise in the real estate development industry and has the capacity to work with Mr. Shinberg as the owner's representative. She suggested that the Board engage the Town Attorney to work with the Board to craft conditions for approval of the application. She also offered her own suggestions for conditions that would be acceptable to the applicant.

With no further comment from the Board, Mr. Palmer made a motion for the Board to Consider based on the Findings of Fact:

1. Andrew Carr, Debra Carr, Ena Hanson and Shore Road Development Partners LLC are requesting Final Subdivision Review and a Resource Protection Permit for Carr Woods, a 16 unit condominium and one single family home lot subdivision located on Deep Brook Rd, which requires review under Sec. 16-2-4 Major Subdivision Review, Sec. 19-8-3, Resource Protection Permit, and Sec. 19-7-2, Open Space Zoning.

2. The final subdivision and Resource Protection Permit application was deemed complete on June 20, 2023, a site visit was held on July 5, 2023, and a public hearing was held on July 18, 2023.

3. The subdivision will not result in undue water pollution. The subdivision is not located in the 100-year floodplain. Soils will support the proposed uses. The slope of the land, proximity to streams, and state and local water resource rules and regulations will not be compromised by the project.

4. The subdivision will have a sufficient quantity and quality of potable water.

5. The subdivision will not cause soil erosion, based on the erosion control plan provided.

6. The subdivision will not cause unreasonable road congestion or unsafe vehicular and pedestrian traffic. The subdivision provides for road network connectivity while discouraging through traffic. Roads are laid out to conform to existing topography as much as is feasible. All lots are provided with vehicular access. Roads are designed to meet town standards.

7. The subdivision will provide for adequate sewage disposal.

8. The subdivision will provide for adequate solid waste disposal.

9. The subdivision will not have an undue adverse impact on scenic or natural areas, historic sites, significant wildlife habitat, rare natural areas, or public access to the shoreline.

10. The subdivision is compatible with applicable provisions of the Comprehensive Plan and town ordinances.

11. The applicant has not demonstrated adequate technical and financial capability to complete the project.

12. The subdivision will not adversely impact surface water quality.

13. The subdivision will not adversely impact the quality or quantity of ground water.

14. The subdivision will comply with the Floodplain Regulations, Chapter 6.

15. The subdivision is in compliance with the Town wetland regulations in the Zoning Ordinance.

16. The subdivision will provide for adequate stormwater management.

17. The subdivision is not located within the watershed of Great Pond.

18. The subdivision is located wholly in the Town of Cape Elizabeth, Maine.

19. The subdivision is not located on land where liquidation harvesting was conducted.

20. The subdivision does provide for access to direct sunlight.

21. The subdivision does provide a vegetative buffer throughout and around the subdivision and screening as needed.

22. The subdivision will comply with the open space impact fee with the preservation of 47.56% of the gross land area as open space.

23. The subdivision lots will be provided with access to utilities.

24. The subdivision plan does not include a phasing plan.

25. The wetland alterations will not materially obstruct the flow of surface or subsurface waters across or from the alteration area;

26. The wetland alterations will not impound surface waters or reduce the absorptive capacity of the alteration area so as to cause or increase the flooding of adjacent properties;

27. The wetland alterations will not increase the flow of surface waters across, or the discharge of surface waters from, the alteration area so as to threaten injury to the alteration area or to upstream and/or downstream lands by flooding, draining, erosion, sedimentation or otherwise;

28. The wetland alterations will not result in significant damage to spawning grounds or habitat for aquatic life, birds or other wildlife;

29. The wetland alterations will not pose problems related to the support of structures;

30. The wetland alterations will not be detrimental to aquifer recharge or the quantity or quality of groundwater;

31. The wetland alterations will not disturb coastal dunes or contiguous back dune areas;

32. The wetland alterations will maintain or improve ecological and aesthetic values;

33. The project design will maintain an adequate buffer area between the wetland and adjacent land uses;

34. The wetland alterations will be accomplished in conformance with the erosion prevention provisions of Environmental Quality Handbook Erosion and Sediment Control, published by the Maine Soil and Water Conservation Commission dated March, 1986, or subsequent revisions thereof;

35. The wetland alterations will be accomplished without discharging wastewater from buildings or from other construction into wastewater Treatment Facilities in violation of Section 15-1-4 of the Sewage Ordinance; and

36. The wetland alterations are not located in the Resource Protection-Floodplain District.

THEREFORE, BE IT ORDERED that, based on the plans and materials submitted and the facts presented, the application of Andrew Carr, Debra Carr, Ena Hanson and Shore Road Development Partners LLC for Final Subdivision Review and a Resource Protection Permit for Carr Woods, a 16 unit condominium and one single family home lot subdivision located on Deep Brook Rd is denied.

Mr. Huebener seconded the motion. With no further discussion, the motion passed with 4 in favor (Huebener, LaVallee, Palmer, Sahrbeck) and 2 opposed (Bodenski, Caton).

OTHER BUSINESS

Project Submission Amendments -At the June 12, 2023 meeting, the Town Council referred to the Planning Board amendments to update submission deadlines and digital submission of materials. The Planning Board has reviewed the amendment package at the June 6, September 5 and October 3, 2023 workshops. A public hearing has been scheduled for this evening.

Ms. O'Meara referenced the general summary of amendments and explained that the Planning Board adopted digital submission guidelines at the start of the pandemic. The amendments incorporate these guidelines into standard practice. In addition, there are updates to Planning Board rules. The amendments update submission provisions in the Zoning Ordinance, Subdivision Ordinance and Planning Board Rules.

Mr. Sahrbeck opened the floor for public comment. With no public comment, either in person or virtually, Mr. Sahrbeck closed the public hearing. With no further comment from the Board, Mr. Huebener made a motion for the Board to consider.

BE IT ORDERED that, based on the materials and the facts presented, the Planning Board recommends the Project Submission Amendments to the Zoning Ordinance, Subdivision Ordinance and Planning Board Rules to the Town Council for consideration.

Mr. Gilbert seconded the motion. With no further discussion, the motion passed, 7-0.

Home Business Amendments – At the September 11, 2023 meeting, the Town Council referred to the Planning Board Home Business Amendments which have been developed by the Ordinance Committee. The Planning Board reviewed the amendments at the October 3, 2023 workshop. A public hearing has been scheduled for this evening.

Ms. O'Meara explained that these amendments represent updates to the home business and home occupation requirements. Updates specific to the home business requirements include expansion of business activity in an accessory structure with two, non-resident, full-time employees. Updates specific to home occupation requirements include allowance of one full-time employee who is not a resident of the dwelling unit on the premises on a regular basis.

Mr. Sahrbeck opened the floor for public comment. With no public comment, either in person or virtually, Mr. Sahrbeck closed the public hearing.

Mr. Palmer referenced the current ADU section of the ordinance that excludes home businesses and occupations. Ms. O'Meara acknowledged that no amendments have been proposed; however, based on recent State legislation, the Town may be revising ADU provisions. Mr. Sahrbeck stated that the decision before the Board regarding approval of the home business amendments is separate from business specific to LD 2003 and ADUs.

With no further discussion, Mr. Huebener made a motion for the Board to consider, seconded by Mr. Caton.

BE IT ORDERED that, based on the materials and the facts presented, the Planning Board recommends the Home Business Amendments to the Town Council for consideration.

With no further discussion, the motion passed, 7-0.

Mr. Sahrbeck opened the floor for public comment. With no comments, either in person or virtually, Mr. Sahrbeck closed the public hearing.

Mr. Huebener made a motion to adjourn. Mr. Caton seconded. With no further discussion, the motion passed, 7-0.

The meeting adjourned at 10:31 p.m.

Respectfully submitted,
Lucy E. Bauer
Minutes Secretary

Filing Fee:
$85.00

Make check payable to:
Secretary of State

Please file by
April 1, 2024

STATE OF MAINE
2024 ANNUAL REPORT

FOR LIMITED LIABILITY COMPANIES ON FILE AS OF DECEMBER 31, 2023

Pursuant to 31 MRSA §1665.2, the information on the report must be current as of the date signed.

Filing by April 1, 2024 will allow us to provide better service. The legal filing deadline is still **June 1, 2024.** A $50 late filing fee will be assessed if the report is late.

Charter Number:
20216072DC

Jurisdiction:
ME

338 FALMOUTH FORESIDE PARTNERS LLC
DREW A. ANDERSON, REGISTERED AGENT
PO BOX 9785
PORTLAND, ME 04104-5085 US

Principal Home Office Address:

488 NE 18TH ST, APT 4612
MIAMI, FL 33132 US

1. A brief statement of the character of the business in which the limited liability company is actually engaged in the State of Maine; if none, so indicate: (31 MRSA §1665.1.D)

LLC FOR A FUTURE PROJECT CUMBERLAND

2. Name and physical address of at least one member, manager, or authorized person (31 MRSA §1665.1.E)

Type or Print Name	Member, Manager, or Authorized Person	Physical Street Address (City, State, Zip - Not PO Box)
MARK C. MCCLURE	MANAGER	488 NE 18TH ST, APT 4612, MIAMI, FL 33132

Electronically Filed On: 06/01/2024

(AUTHORIZED SIGNATURE)	(TYPE OR PRINT NAME)	(CAPACITY/TITLE)
MARK MCCLURE	MARK MCCLURE	MANAGER

(Execution - 31 MRSA §1676.1.B. Penalty for untrue or omitted material facts - 31MRSA §1678)

SUBMIT TO: Bureau of Corporations, Elections and Commissions 101 State House Station, Augusta, ME 04333-0101
For questions, please contact 207-624-7752 or e-mail cec.corporations@maine.gov

FORM NO. MLLC-13 Revised 5/22/2023

Received
Recorded Register of Deeds
Jun 25,2024 09:10:07A
Cumberland County
Jessica M. Spaulding

STATE OF MAINE
TAX LIEN CERTIFICATE
36 M.R.S.A. Section 942, 943 AS AMENDED

I, Brendan T. O'Connell, Director of Finance of the City of Portland in the County of Cumberland, 2024 taxes having been duly and legally committed to me for collection on the September 18, 2023 hereby certify that a tax of $3,629.88 together with interest of $81.95, which has been added to and becomes a part of said tax remains unpaid. The tax was assessed against owner(s)338 FALMOUTH FORESIDE PARTNERS LLC of real estate described as follows:

448-A-001-001
HOPE AVE 44-56
578276 SF

A LIEN IS HEREBY CLAIMED on the above-described real estate to secure payment of said tax. A demand for payment of said tax has been made of the above owner(s), by sending certified mail/return receipted requested to the assessed owner's last known address: 2 TOWN LANDING RD FALMOUTH, ME 04105 on May 24, 2024, a notice in writing signed by Brendan T. O'Connell stating the amount of said tax, describing the real estate on which the tax is assessed, alleging that a lien is claimed on said real estate and demanding payment of said tax and costs within 30 days after mailing of said notice, in accordance with provisions in M.R.S.A. 36 Section 942, 943 as amended.

Tax:	$3,629.88
Interest	$81.95
Notice Fee:	$3.00
Mail Charge:	$43.18
Recording and Discharge Fee:	$57.00
Total:	**$3,815.01**

Brendan T. 'Connell
Director of Finance
City of Portland
County of Cumberland

State of Maine
Cumberland, SS

June 25, 2024

Then personally appeared the above subscribed, Brendan T. O'Connell Director of Finance and acknowledged the foregoing instrument to be his free act and deed in his capacity.

For the Period beginning July 1, 2023 and ending June 30, 2024
Payments will be applied to the oldest outstanding bill.

Remit to: City of Portland, Maine
P.O. Box 544
Portland, Maine 04112
Telephone: (207) 874-8490

NOTARY PUBLIC
June 25, 2024

Tax Id: 448-A-001-001

REBEKKA CONLEY
Notary Public, State of Maine
My Commission Expires 12/11/2028

MORTGAGE

338 FALMOUTH FORESIDE PARTNERS LLC, a Maine limited liability company (the "Grantor"), for consideration paid, GRANTS to HALEY WARD, INC., a Maine corporation ("Grantee"), its successors and assigns forever, WITH MORTGAGE COVENANTS, to secure the payment of a certain a certain PROMISSORY NOTE dated February 12, 2025 in the original principal amount of ONE HUNDRED THOUSAND SIX HUNDRED TEN DOLLARS and SEVENTY EIGHT Cents ($100,610.78) (the "Note") the following described real estate, and all appurtenances, located at and in the vicinity of 0 Hope Avenue, Portland, County of Cumberland and State of Maine as described in Exhibit A annexed hereto and incorporated herein by reference (collectively, the "Project"). The Note and this Mortgage are referred to herein collectively as the "Loan Documents".

Also conveying and granting hereby as part of the realty and as property mortgaged hereunder, all of the following articles owned by Grantor now and hereafter on the above described Project or used or intended to be used exclusively in connection therewith: All plumbing, heating, lighting, refrigerating, ventilating and air conditioning apparatus and equipment, garbage incinerators and receptacles, elevators and elevator machinery, boilers, tanks, motors, sprinkler and fire extinguishing systems, doorbell and alarm systems, screens, awnings, screen doors, storm and other detachable windows and doors, mantels, built in cases, counters, trees, hardy shrubs and perennial flowers, and other equipment, machinery, furniture and furnishings, fixtures and articles of personal property now and hereafter owned by Grantor and now and hereafter affixed to, placed upon or used in connection with the operation of said Project for business and commercial purposes, and all other purposes whether or not included in the foregoing enumeration, together with cash proceeds and non-cash proceeds of all of the foregoing and of all of the following, all of which are covered by this mortgage, whether or not such property is subject to prior conditional sales agreements, chattel mortgages or other liens, excepting inventory and personal property to be consumed or sold in the normal course of business of Grantor. If the lien of this mortgage on any fixtures or personal property be subject to a conditional sales agreement or chattel mortgage covering such property, then in the event of any default hereunder all the rights, title and interest of the Grantor in and to any and all deposits made thereon or therefor are hereby assigned to Grantee, together with the benefit of any payments now or hereafter made thereon. There

STATE OF MAINE
MAINE REVENUE SERVICES
PO BOX 1060
AUGUSTA ME 04332-1060

Letter ID: L0001488046
Letter Date: March 05, 2024
TAXPAYER ASSISTANCE: (207) 624-9595
V/TTY 7-1-1

Cumberland

NOTICE OF STATE TAX LIEN

As provided by 36 M.R.S § 175-A, notice is given that the tax, interest, penalties and costs set forth below have been assessed against **MCCLURE, MARK C** whose last known address is **2 TOWN LANDING RD FALMOUTH ME 04105-1624.**

These amounts were not paid when due and no further administrative or judicial review is available pursuant to the Maine Administrative Procedure Act or 36 M.R.S § 151. Therefore, a lien exists in favor of the State of Maine upon all real property, fixtures and crops that are presently owned or hereafter acquired by this taxpayer. The lien arises at the time the assessment becomes final and continues for 10 years from the date of recording unless sooner released or otherwise discharged. Filing of this notice by the State Tax Assessor constitutes notice for, and secures payment of, both the original assessment and all subsequent assessments of tax against the same person, until such time as the lien is released or otherwise discharged. The State Tax Assessor has complied with all the provisions of Title 36 in the assessment of the tax.

Description	Tax	Interest	Penalties and Costs	Credit	Balance
Individual Income Tax					
1093-9735	$37,183.00	$5,171.28	$22,922.76	$0.00	$65,277.04
Totals				Total amount owed:	**$65,277.04**

March 04, 2024
Date

Michael Fortin
Director, Compliance Division

bL0017 | 5

Received
Recorded Register of Deeds
Mar 13,2024 11:03:58A
Cumberland County
Jessica M. Spaulding

CFN: 20220954190 BOOK 33516 PAGE 786
DATE:12/22/2022 03:30:36 PM
MTG DOC 11,270.00
INTANGIBLE 6,440.00
HARVEY RUVIN, CLERK OF COURT, MIA-DADE CTY

Return to & Prepared by:
Mavrides, Moyal, Packman & Sadkin, LLP
276 Fifth Avenue, Suite 404
New York, New York 10001
Attention: Eric Sadkin, Esq.

[Space Above This Line for Recording Data]

MORTGAGE AND SECURITY AGREEMENT

between

OASIS HOSPITALITY PARTNERS LLC
a Florida limited liability company
488 NE 18th Street, Unit 4612
Miami, Florida 33131

to

STORMFIELD CAPITAL FUNDING I, LLC
a Connecticut limited liability company
200 Pequot Avenue
Southport, Connecticut 06890

Dated: as of December 14, 2022

ADDRESS OF MORTGAGED PROPERTY:

1018 Jefferson Street
Miami, Florida 33133

NOTE TO RECORDER: DOCUMENTARY STAMP TAXES IN THE AMOUNT OF $11,270.00 AND INTANGIBLE TAXES IN THE AMOUNT OF $6,440.00 ARE BEING PAID UPON THE RECORDATION OF THIS INSTRUMENT BASED ON THE LOAN AMOUNT OF $3,220,000.00.

MORTGAGE AND SECURITY AGREEMENT

THIS MORTGAGE AND SECURITY AGREEMENT (this "**Mortgage**") made effective as of the 14th day of December, 2022, is made by and between OASIS HOSPITALITY PARTNERS LLC, a Florida limited liability company having an address for purposes of notices and legal process at 488 NE 18th Street, Unit 4612, Miami, Florida 33131 (the "**Mortgagor**") and STORMFIELD CAPITAL FUNDING I, LLC, a Connecticut limited liability company having an address at 200 Pequot Avenue, Southport, Connecticut 06890 (the "**Mortgagee**").

WITNESSETH, that to secure the (a) payment of that certain indebtedness in the original principal amount of Three Million Two Hundred Twenty Thousand and 00/100 Dollars ($3,220,000.00) (the "**Loan Amount**"), lawful money of the United States, as evidenced by that certain Promissory Note of even date herewith made by Mortgagor for the benefit of Mortgagee (the "**Note**"), together with all interest payable under the Note, (b) the payment of all amounts, sums and expenses due under this Mortgage, the Note and the Loan Documents (as hereinafter defined), and (c) the payment and performance of such other obligations as are set forth in this Mortgage (the "**Loan**"), Mortgagor does hereby irrevocably mortgage, grant, bargain, sell, pledge, assign, warrant, transfer and convey to Mortgagee, and grants a security interest to Mortgagee in, the following property, rights, interests and estates now owned or hereafter acquired by Mortgagor (the "**Premises**"):

ALL that certain plot, piece or parcel of land commonly known by the addresses 1018 Jefferson Street, Miami, Florida 33133, as more particularly described in Schedule A annexed hereto and hereby made a part hereof (the "**Land**");

TOGETHER with all additional lands, estates and development rights hereafter acquired by Mortgagor for use in connection with the Land and the development of the Land, and all additional lands and estates therein which may, from time to time, by supplemental mortgage or otherwise, be expressly made subject to the lien of this Mortgage;

TOGETHER with all buildings, structures and improvements of every kind and nature whatsoever now or hereafter located, erected or placed upon the Land, and all extensions, additions, improvements, betterments, renewals, substitutions and replacements of or to any of the foregoing (collectively, the "**Improvements**");

TOGETHER with all machinery, appliances, apparatus, decorations, piping, conduits, fixtures, chattels, articles of personal property and other property now owned or hereafter acquired and/or now or hereafter attached to or used in connection with the Premises including, but not limited to, furnaces, boilers, oil burners, radiators and piping, coal stokers, plumbing and bathroom fixtures, refrigeration, heating, ventilating and air conditioning systems, sprinkler systems, power systems, washtubs, sinks, gas and electric fixtures, stoves, ranges, awnings, screens, window shades, elevators, motors, dynamos, refrigerators, kitchen cabinets, incinerators,

CFN: 20240334097 BOOK 34205 PAGE 2289
DATE:05/01/2024 12:32:09 PM
JUAN FERNANDEZ-BARQUIN
CLERK OF THE COURT & COMPTROLLER
MIAMI-DADE COUNTY, FL

IN THE CIRCUIT COURT OF THE 11TH JUDICIAL COURT IN AND FOR MIAMI-DADE COUNTY, FLORIDA

CASE NO.

STORMFIELD CAPITAL FUNDING I, LLC,

Plaintiff,

v.

OASIS HOSPITALITY PARTNERS LLC,
MARK MCCLURE,
UNKNOWN TENANT #1, and
UNKNOWN TENANT #2,

Defendants.

_____/

NOTICE OF LIS PENDENS

TO THE ABOVE STYLED DEFENDANTS AND ALL OTHERS WHOM IT MAY CONCERN:

YOU ARE HEREBY NOTIFIED:

Stormfield Capital Funding I, LLC ("**Lender**") initiated this this action against Oasis Hospitality Partners LLC ("**Borrower**"), Mark McClure, Unknown Tenant #1, and Unknown Tenant #2, to seek adjudication of the amount owed by the Borrower under a promissory note held by Lender, and seeking foreclosure of the mortgage securing the note with respect to the property described below. The mortgage encumbers commercial real estate, and the improvements thereon and personal property used in connection therewith, located at 1018 Jefferson Street, Miami Beach, FL 33133. The foreclosure sale will be of all real and personal property described as collateral in the mortgage.

The date of the institution of this action was April 30, 2024. The property that is the subject matter of this action is in Miami-Dade County, Florida, and is described as follows:

LEGAL DESCRIPTION

Lot 6, Block 89, Ocean Beach, FLA., Addition No. 3, according to the plat thereof of record at Plat Book 2, Page 81, of the Public Records of Miami -Dade County, Florida.

Respectfully submitted:

/s/ Nardo Dorsin
Nardo Dorsin
Florida Bar No. 126301
POLSINELLI PC
315 S Biscayne Blvd., Suite 400
Miami, FL 33131
Telephone: 305-921-1848
Facsimile: 305-935-0838
ndorsin@polsinelli.com
FLdocketing@polsinelli.com
LBugliaro@polsinelli.com

Attorneys for Plaintiff

CFN: 20230034412 BOOK 33545 PAGE 3530
DATE:01/18/2023 03:24:01 PM
MTG DOC 12,250.00
INTANGIBLE 7,000.00
CLERK OF CIRCUIT & COUNTY COURTS, MIAMI-DADE COUNTY FL

Return to & Prepared by:
Mavrides, Moyal, Packman & Sadkin, LLP
276 Fifth Avenue, Suite 404
New York, New York 10001
Attention: Eric Sadkin, Esq.

[Space Above This Line for Recording Data]

MORTGAGE AND SECURITY AGREEMENT

between

OASIS HOSPITALITY PARTNERS II, LLC
a Florida limited liability company
1545 Meridian Avenue
Miami Beach, Florida 33139

to

STORMFIELD SPV I, LLC
a Delaware limited liability company
200 Pequot Avenue
Southport, Connecticut 06890

Dated: as of January 13, 2023

ADDRESS OF MORTGAGED PROPERTY:

1545 Meridian Avenue
Miami Beach, Florida 33139

NOTE TO RECORDER: DOCUMENTARY STAMP TAXES IN THE AMOUNT OF $12,250.00 AND INTANGIBLE TAXES IN THE AMOUNT OF $7,000.00 ARE BEING PAID UPON THE RECORDATION OF THIS INSTRUMENT BASED ON THE LOAN AMOUNT OF $3,500,000.00.

MORTGAGE AND SECURITY AGREEMENT

THIS MORTGAGE AND SECURITY AGREEMENT (this "**Mortgage**") made effective as of the 13th day of January, 2023, is made by and between OASIS HOSPITALITY PARTNERS II, LLC, a Florida limited liability company having an address for purposes of notices and legal process at 488 NE 18th Street, Unit 4612, Miami, Florida 33131 (the "**Mortgagor**") and STORMFIELD SPV I, LLC, a Delaware limited liability company having an address at 200 Pequot Avenue, Southport, Connecticut 06890 (the "**Mortgagee**").

WITNESSETH, that to secure the (a) payment of that certain indebtedness in the original principal amount of Three Million Five Hundred Thousand and 00/100 Dollars ($3,500,000.00) (the "**Loan Amount**"), lawful money of the United States, as evidenced by that certain Promissory Note of even date herewith made by Mortgagor for the benefit of Mortgagee (the "**Note**"), together with all interest payable under the Note, (b) the payment of all amounts, sums and expenses due under this Mortgage, the Note and the Loan Documents (as hereinafter defined), and (c) the payment and performance of such other obligations as are set forth in this Mortgage (the "**Loan**"), Mortgagor does hereby irrevocably mortgage, grant, bargain, sell, pledge, assign, warrant, transfer and convey to Mortgagee, and grants a security interest to Mortgagee in, the following property, rights, interests and estates now owned or hereafter acquired by Mortgagor (the "**Premises**"):

ALL that certain plot, piece or parcel of land commonly known by the addresses 1545 Meridian Avenue, Miami Beach, Florida 33139, as more particularly described in Schedule A annexed hereto and hereby made a part hereof (the "**Land**");

TOGETHER with all additional lands, estates and development rights hereafter acquired by Mortgagor for use in connection with the Land and the development of the Land, and all additional lands and estates therein which may, from time to time, by supplemental mortgage or otherwise, be expressly made subject to the lien of this Mortgage;

TOGETHER with all buildings, structures and improvements of every kind and nature whatsoever now or hereafter located, erected or placed upon the Land, and all extensions, additions, improvements, betterments, renewals, substitutions and replacements of or to any of the foregoing (collectively, the "**Improvements**");

TOGETHER with all machinery, appliances, apparatus, decorations, piping, conduits, fixtures, chattels, articles of personal property and other property now owned or hereafter acquired and/or now or hereafter attached to or used in connection with the Premises including, but not limited to, furnaces, boilers, oil burners, radiators and piping, coal stokers, plumbing and bathroom fixtures, refrigeration, heating, ventilating and air conditioning systems, sprinkler systems, power systems, washtubs, sinks, gas and electric fixtures, stoves, ranges, awnings, screens, window shades, elevators, motors, dynamos, refrigerators, kitchen cabinets, incinerators,

CFN: 20240188501 BOOK 34130 PAGE 373
DATE:03/11/2024 04:18:46 PM
JUAN FERNANDEZ-BARQUIN
CLERK OF THE COURT & COMPTROLLER
MIAMI-DADE COUNTY, FL

IN THE CIRCUIT COURT OF THE 11TH JUDICIAL COURT IN AND FOR MIAMI-DADE COUNTY, FLORIDA

CASE NO.

STORMFIELD SPV I, LLC,

Plaintiff,

v.

OASIS HOSPITALITY PARTNERS II, LLC,
MARK MCCLURE,
UNKNOWN TENANT #1, and
UNKNOWN TENANT #2,

Defendants.
_____/

NOTICE OF LIS PENDENS

TO THE ABOVE STYLED DEFENDANTS AND ALL OTHERS WHOM IT MAY CONCERN:

YOU ARE HEREBY NOTIFIED:

Stormfield SPV I, LLC ("**Lender**") initiated this this action against Oasis Hospitality Partners II, LLC ("**Borrower**"), Mark McClure, Unknown Tenant #1, and Unknown Tenant #2, to seek adjudication of the amount owed by the Borrower under a promissory note held by Lender, and seeking foreclosure of the mortgage securing the note with respect to the property described below. The mortgage encumbers commercial real estate, and the improvements thereon and personal property used in connection therewith, located at 1545 Meridian Avenue, Miami Beach, FL 33139. The foreclosure sale will be of all real and personal property described as collateral in the mortgage.

The date of the institution of this action was March 9, 2024. The property that is the subject matter of this action is in Miami-Dade County, Florida, and is described as follows:

LEGAL DESCRIPTION

Lot 15, Block 61, Lincoln Subdivision, according to the plat thereof of record at Plat Book 9, Page 69, of the Public Records of Miami-Dade County, Florida.

Respectfully submitted:

/s/ Nardo Dorsin
Nardo Dorsin
Florida Bar No. 126301
POLSINELLI PC
315 S Biscayne Blvd., Suite 400
Miami, FL 33131
Telephone: 305-921-1848
Facsimile: 305-935-0838
ndorsin@polsinelli.com
FLdocketing@polsinelli.com
LBugliaro@polsinelli.com
Attorneys for Plaintiff

‘The bank kept moving’: Landslide blocks Presumpscot River in Westbrook

pressherald.com/2020/09/16/landslide-blocks-presumpscot-river-in-westbrook

September 16, 2020

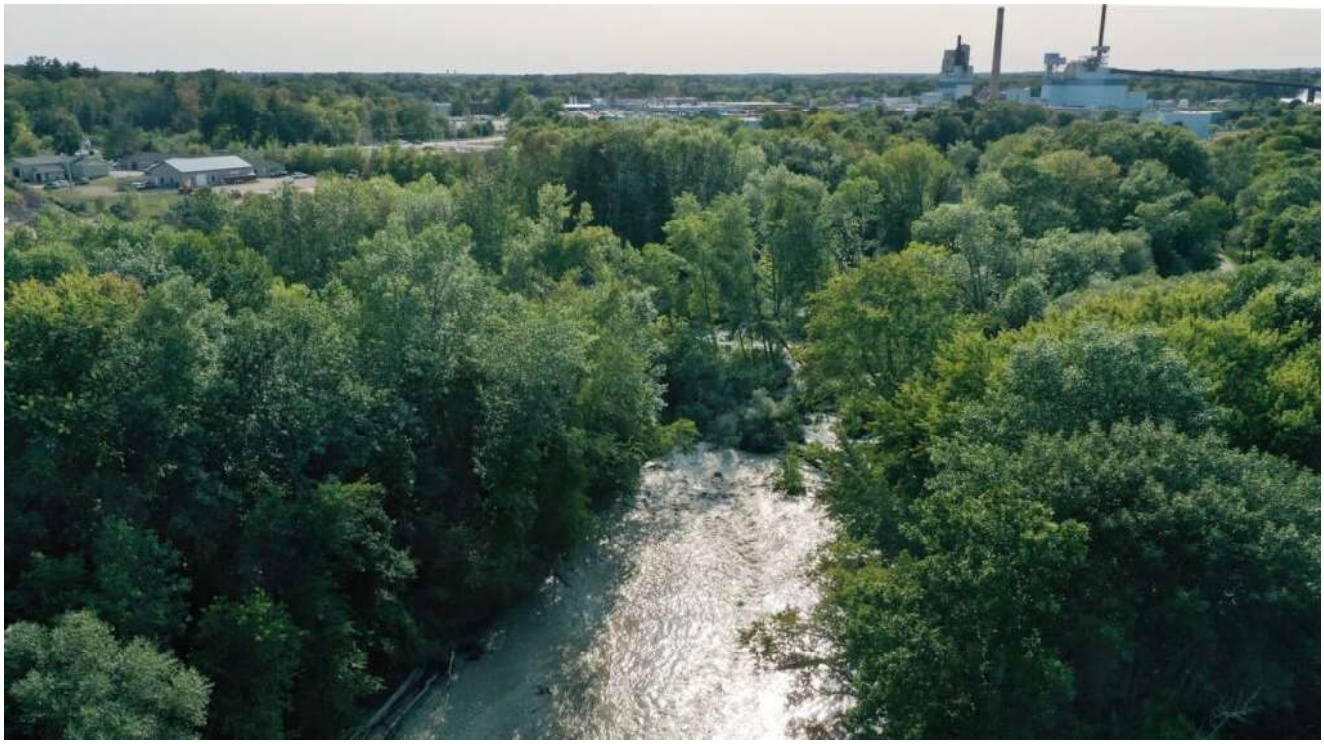


WESTBROOK — A large landslide completely blocked the Presumpscot River in Westbrook on Wednesday afternoon, threatening nearby water and gas mains and triggering a flash-flood watch and an emergency order from the city.

The landslide was reported Wednesday morning after people saw trees moving on the river’s forested bank. The landslide, which happened directly behind Les Wilson & Sons excavators at 161 Warren Ave., also took a large area of soil and pile of fill.

The landslide was so large it initially blocked the river just downstream from the Sappi Mill, Westbrook Fire Chief Andrew Turcotte said Wednesday afternoon.

The National Weather Service issued a flash flood watch that was in effect until nearly 10 p.m.



A landslide in Westbrook on Wednesday morning temporarily blocked the Presumpscot River, causing the water to back up. *Roger McCord for the Portland Press Herald*

“River levels behind the slide are rapidly rising. Expect water levels upstream of the landslide to continue to rise. Downstream of the slide, sudden changes in river level are possible if the slide breaks,” the weather service said.

But by Wednesday night, Turcotte said the immediate risk of flooding had passed.

“Sappi dam engineers were able to significantly lower the water to reduce the flow,” he said. “It appears that there’s a breach somewhere in that artificial dam that was created from the landslide so there’s water flow now.”

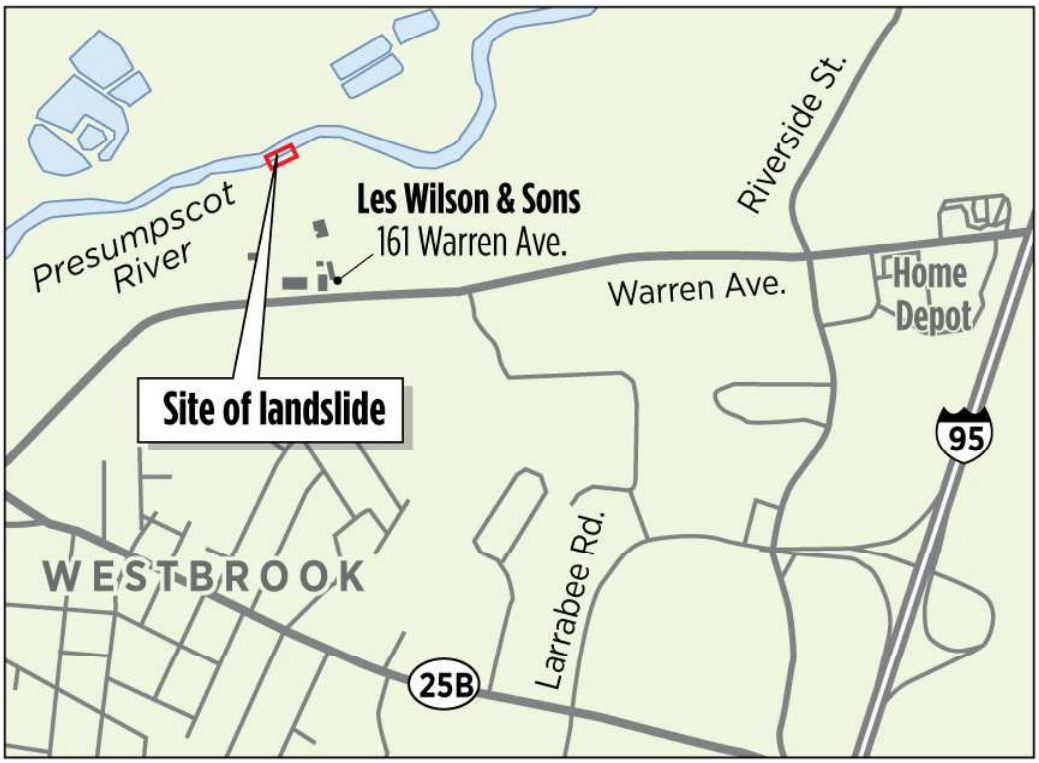
It wasn’t clear how much the river rose behind the landslide before the it appeared to begin flowing at least partially through the area around 2:30 p.m..

The weather service updated its assessment of the conditions in a tweet around 10 p.m.

> We have canceled the Flash Flood Watch for the Presumpscot River in Cumberland County, ME. The threat for a flash flood has diminished but there is still an small chance waters could rapidly rise again. Residents should continue to heed the advice of local officials. #MEwx #NHwx pic.twitter.com/S4KqVGQZXi
>
> — NWS Gray (@NWSGray) September 17, 2020

Mayor Michael Foley declared a state of emergency in the city following the landslide. He said the city was working with the Maine Department of Environmental Protection, the U.S. Army Corps of Engineers, Sappi and other agencies to address the situation. An emergency operations center was established, he said.

Foley asked people not to attempt to go to the area to view the damage.



STAFF GRAPHIC | MICHAEL FISHER

Turcotte said crews on the scene Wednesday afternoon assessing the potential flood impact also were assessing the possible impact to a nearby 60-inch water main and a 16-inch gas main.

There were no reported injuries and there are no impacts to roads in the area, Turcotte said.

The cause of the landslide wasn't immediately clear. The area is known to have a layer of soft clay deep underground that was linked to a historic landslide across the river.

Lindsay Spigel, senior geologist at the Maine Geological Survey, said she visited the site Wednesday but didn't get too close because the nearby land was still unstable. She cited that soft clay layer – called the Presumpscot Formation – as the cause of this landslide but couldn't say for sure what triggered its movement.

Related

She said it could have been the weight of the fill on top of that clay layer or the shaking of heavy equipment. Or, she said, it could have been a fluke.

“It’s a really interesting spot for a landslide,” Spigel said. “It’s not one I would have picked for the next landslide. It’s also a very unusual time of year. Usually, our landslides happen in the spring when the earth is very wet.”

Chris Wilson, owner of Les Wilson and Sons, an excavating contractor, said the slide began around 9 or 9:30 a.m. and consumed piles of aggregate he was keeping on his lot.

Wilson said his property extends back toward the river from Warren Avenue, but the property line stops before the river. Sappi and the Portland Water District own the land closest to the river, he said.

“After their land failed, my land and the neighbor’s land followed,” Wilson said. “A lot of money went over the edge,” he said, referring to the wasted material.

The sliding earth eventually consumed one pile of dirt and half of a second pile, and dragged a metal building and some equipment with it. Cracks in the earth were visible in Wilson’s equipment yard near the edge of the slide.



A viscous substance oozes from the ground after a landslide occurred behind Les Wilson & Sons excavators at 161 Warren Ave. in Westbrook on Wednesday morning. *Derek Davis/Staff Photographer*

Mike Maples, who rents a garage nearby and went to the site of the slide Wednesday afternoon, said that decades ago the area that is occupied by Les Wilson and Sons used to be a large gully that led to the river. But over the years, Maples said, Wilson dumped fill into the ravine, reclaiming more space.

“That used to be a big ditch and they filled it in,” Maples said.

Another witness, Jeremy Tardif, who was working on a job site finishing a concrete foundation that overlooks the area, said a bucket loader on the Wilson property was dumping buckets of earth on top of a large pile before the slide.

“The next thing you know, you see everything moving and it kept going,” Tardif said. “The bank kept moving and moving.”



A shed was destroyed when the landslide occurred behind Les Wilson & Sons in Westbrook on Wednesday morning. *Derek Davis/Staff Photographer*

Wilson dismissed the idea that his company's piles of fill and aggregate and the daily operations with heavy equipment might have contributed to the unstable soil conditions.

Wilson said the piles of road-building material and clean fill have been there on and off for years, growing and shrinking with the various construction projects that require it.

Wilson also pointed out that his property is about 200 feet from the river's edge, and that nothing has changed recently in how they do business. The gully that existed near his property was filled in at least a decade earlier, he said.

"Nothing's changed with our operations or footprint or anything," Wilson said.



The landslide destroyed a metal building at 161 Warren Avenue in Westbrook on Wednesday morning. *Staff photo by Derek Davis*

Wilson also pointed out that Wednesday's slide is across the river from the site of the state's largest landslide, which occurred in 1868, when about 20 acres shifted, eventually covering about 38 acres with displaced soil, according to materials published by the Maine Geological Survey.

A geologic investigation of the area in 1990 found that a layer of soft clay lies beneath the area and extends deep underground. The softness of the clay means that the material behaves like a viscous fluid that can "flow" rather than break into discrete pieces.

This layer is referred to as the Presumpscot Formation, and a later 2008 geological survey found that the formation surrounds the river outside of its immediate banks.

"It's really something that people need to be aware of as things become more developed in southern Maine," said Spigel, the senior geologist. "There is this clay and it's hazardous, and we've been lucky that no one has been hurt."

Staff Writer Megan Gray contributed to this report.

Related Headlines

New research tracks an age-old hazard in Maine: landslides

filed under:
westbrook maine
Border Patrol arrests 7 along Maine-Canada border
Greely High School threat likely came from outside Maine, police say
© 2024

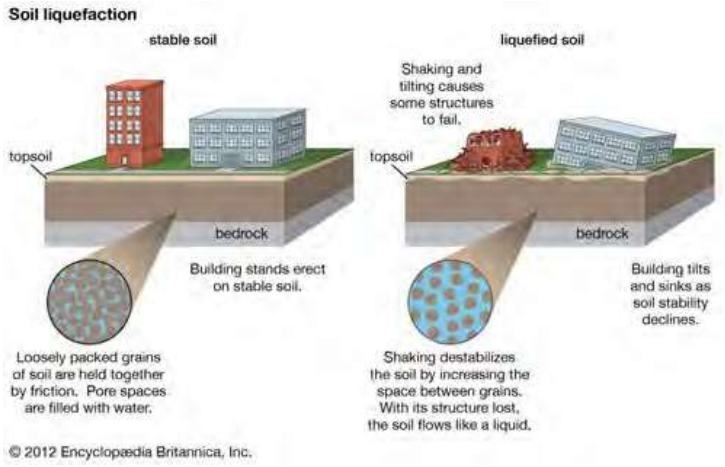
Landslide Vulnerability Assessment Study

Presented by: City of Westbrook

& Credere Associates, LLC

Causes of Landslides:

- Increase the driving force
  - Construction of a building
  - Heavy rains perched above a clay layer
- Decrease the resisting force (at the toe of a slope)
  - Excavation
  - Erosion



- Compromising/changing the strength of the underlying soil by liquefaction, which is an increase in water pressure such that soil particles are not touching.
  - Construction related activities such as blasting or vibrations
  - Earthquakes

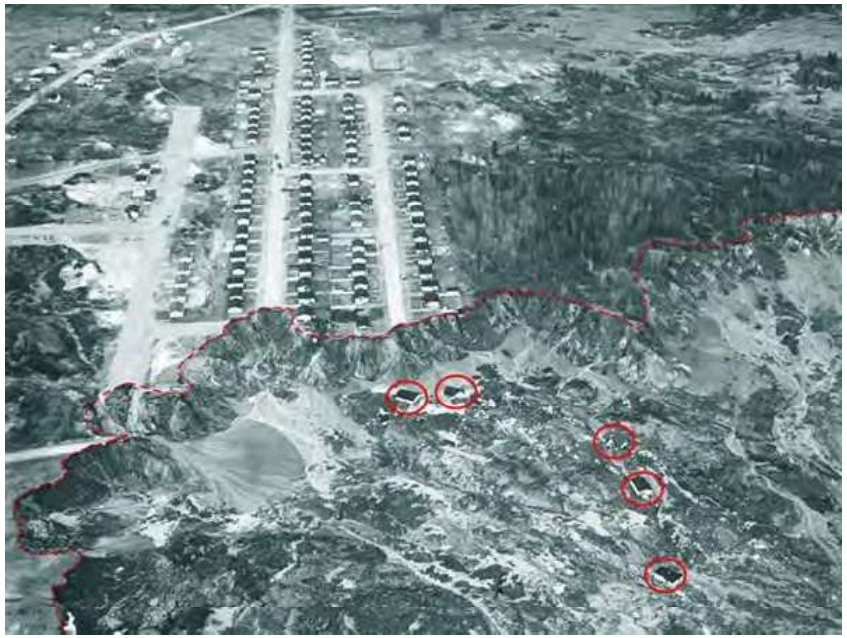
Presumpscot Formation

- A glacial marine sediment consisting of clay, silt and fine sand-size particles deposited in the sea as an ice sheet receded.
- As the ice sheet receded, bedrock rebound resulted in lifting the sediments above the marine limit.
- Resulting deposit is characterized by a low undrained shear strength and significantly reduced remolded shear strength (highly sensitive).

Key Takeaways

- 12 Documented Landslide Events
- Limited Boring Data
- Potential Landslide Vulnerable Areas in Town Designated Growth Areas
- Presumpscot Clay detected along Presumpscot River

Case Study from a Neighbor



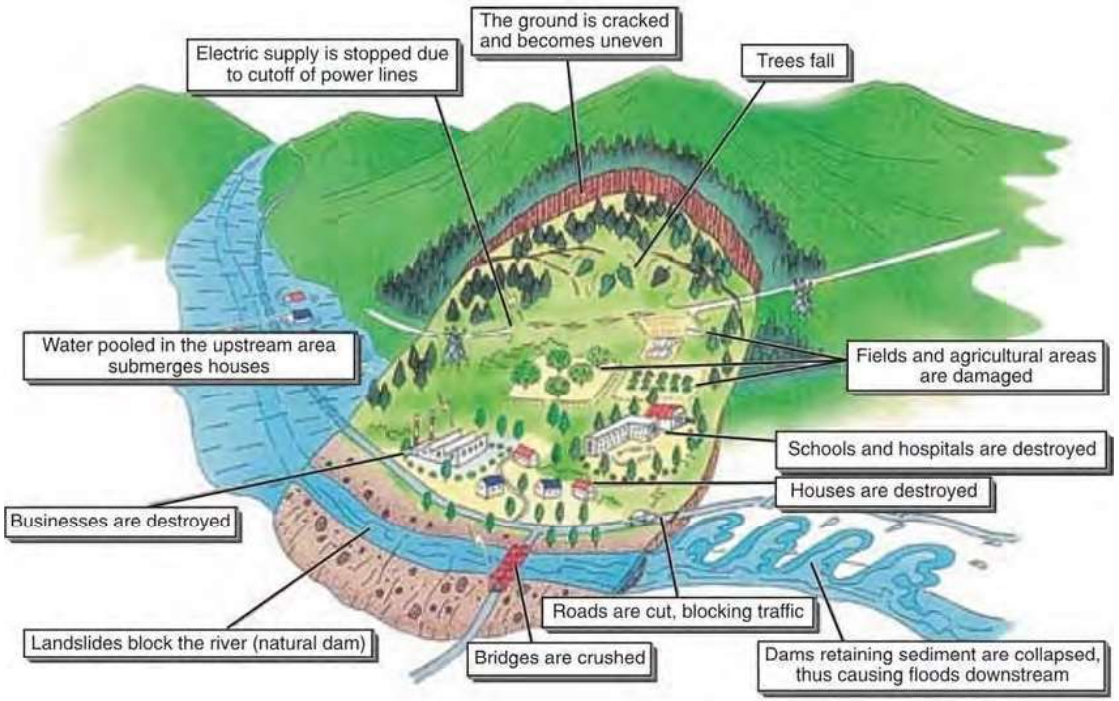


Saint Jean Vianney Landslide, St. Lawrence Waterway, Quebec

Effects of Landslides on Rivers

ENVIRONMENTAL

- River Blockage and Natural Dams
- Alteration of River Courses
- Impact on Water Quality
- Flooding
- Sediment Load and River Morphology



Effects of Landslides on Rivers

SAFETY / ECONOMIC

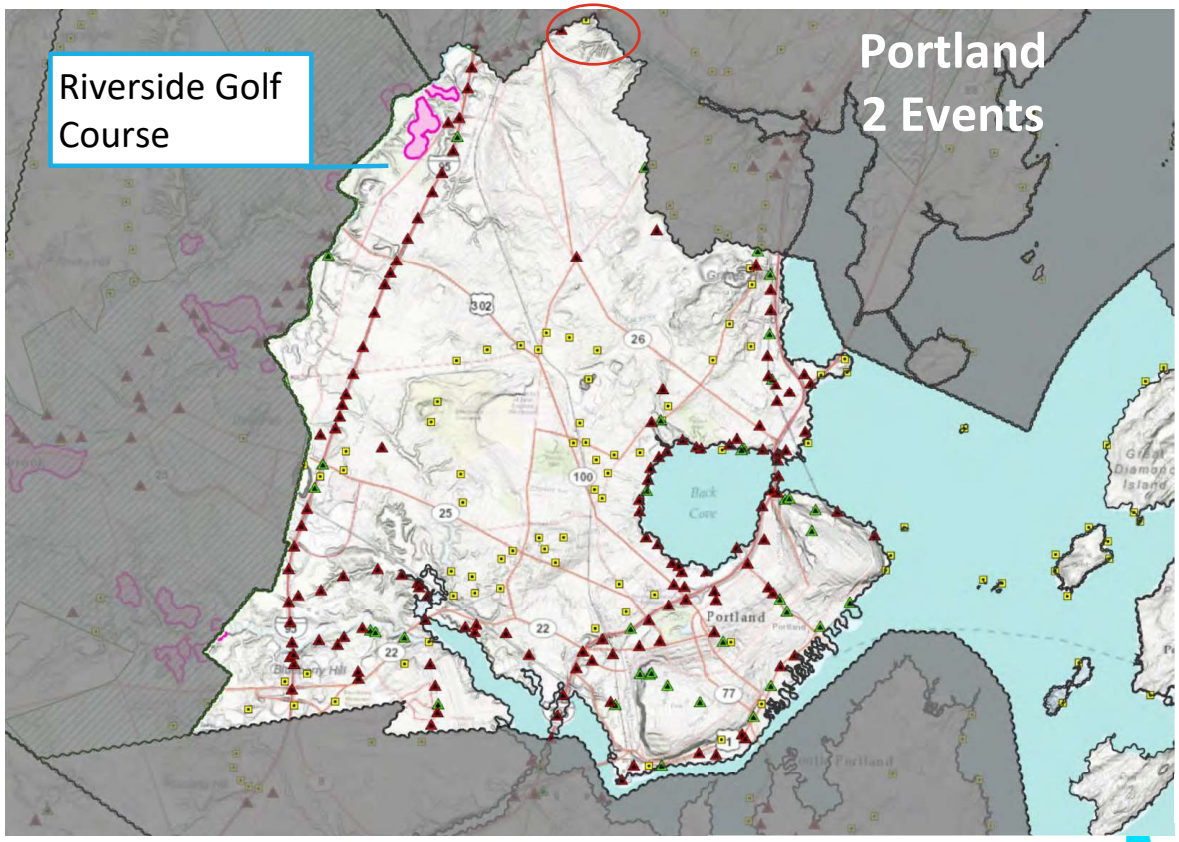
- Projected Increased Frequency of Landslides with Increased Storm Frequency and Intensity
- Unknown Landslide Vulnerabilities = Increased Safety Risk
- Increasing Population Densities = Increased Future Safety Risk
- High Cost Associated w/ Damage to Existing Infrastructure & Property
- Costs for Rehabilitation / Mitigation will only Get Higher in the Future (Maine Disaster Relief Fund)



Westbrook, Maine

Portland

Development Site
w/ Nearby Test Borings Locations
Positive for Presumpscot Formation



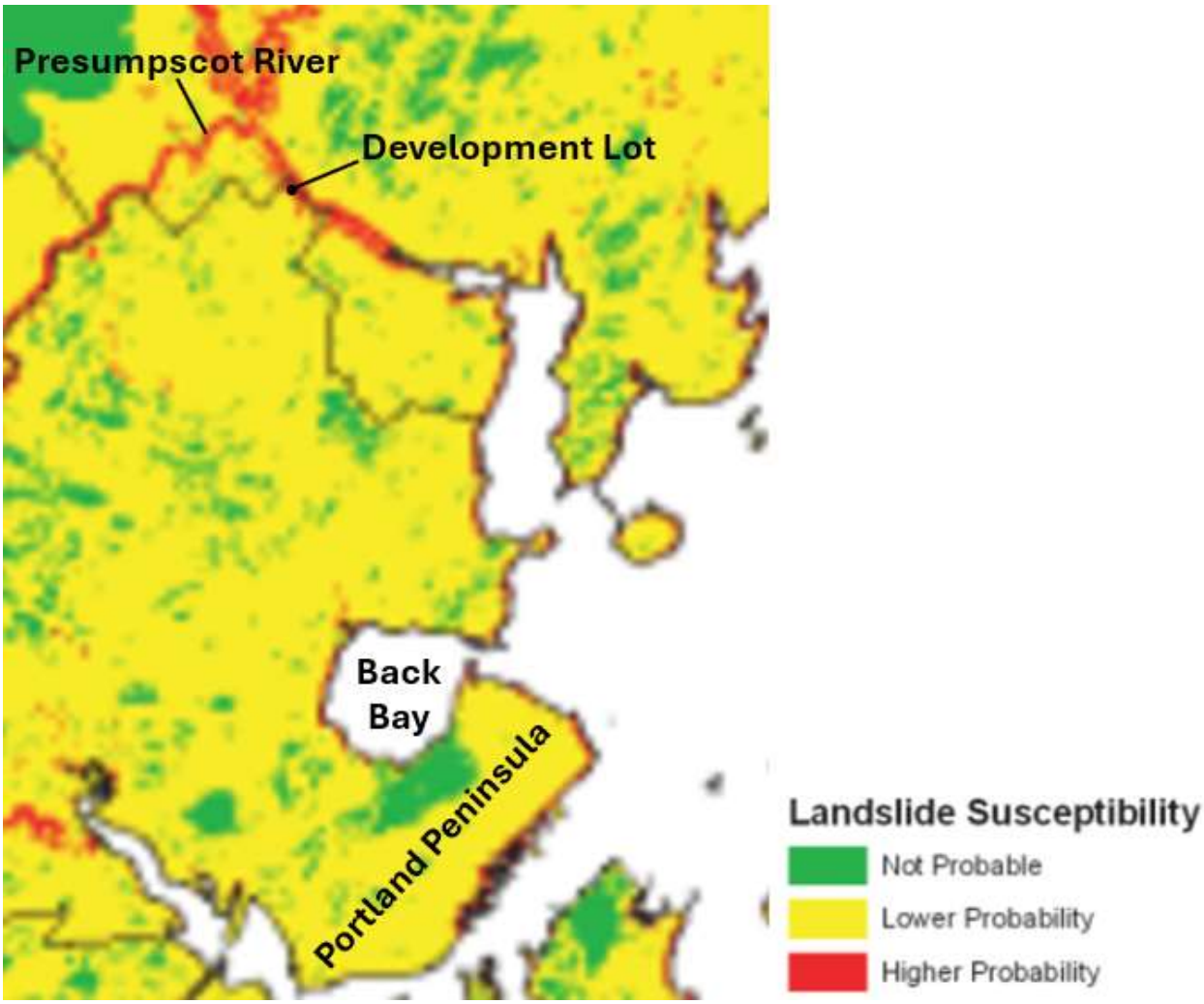
- TEST BORING- NO PRESUMPSCOT
- TEST BORING - PRESUMPSCOT Fm
- BEDROCK OUTCROP
- MGS - MAPPED LANDSLIDE EVENTS
- APPROXIMATE GROWTH AREAS

Landslide Susceptibility Modeling within the Glaciomarine Presumpscot Formation, Southern Maine

By: Justin L. Rich, Christopher Jones, and Irwin D. Novak

University of Southern Maine

Landslide susceptibility Model Map: Portland



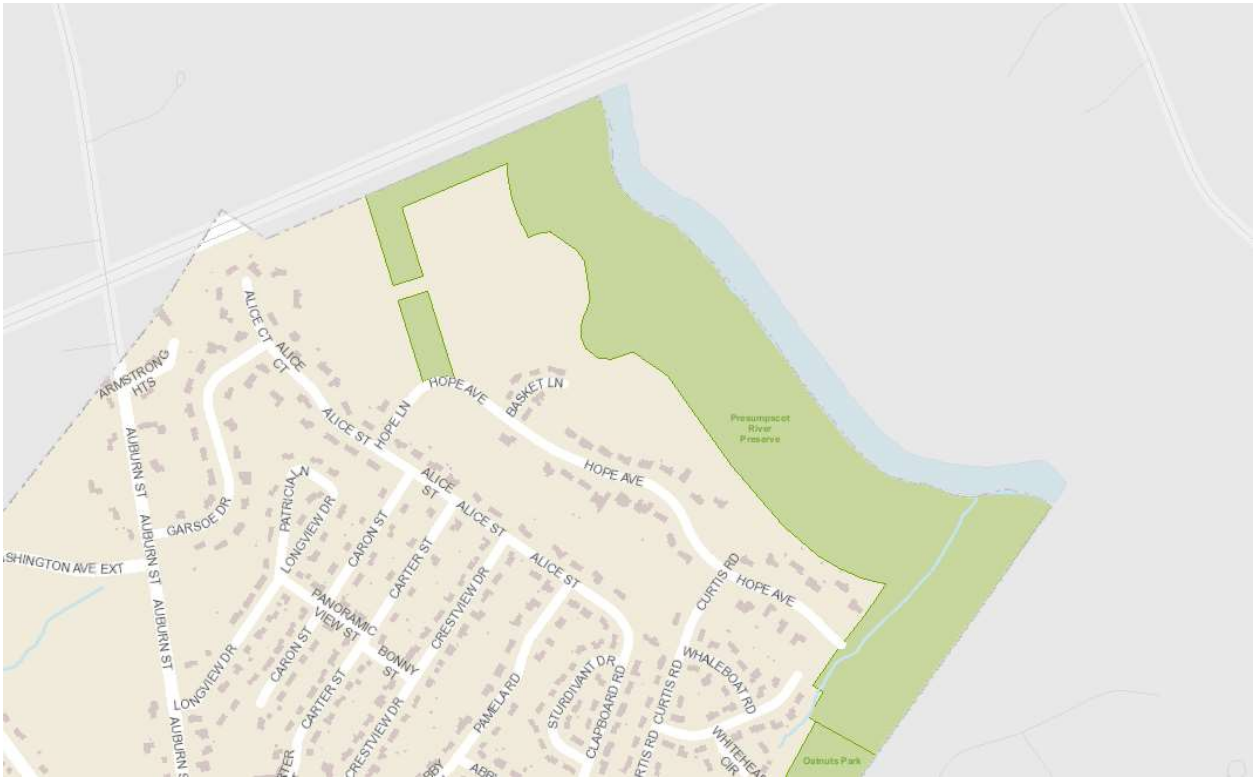
Property: 0 Hope Ave

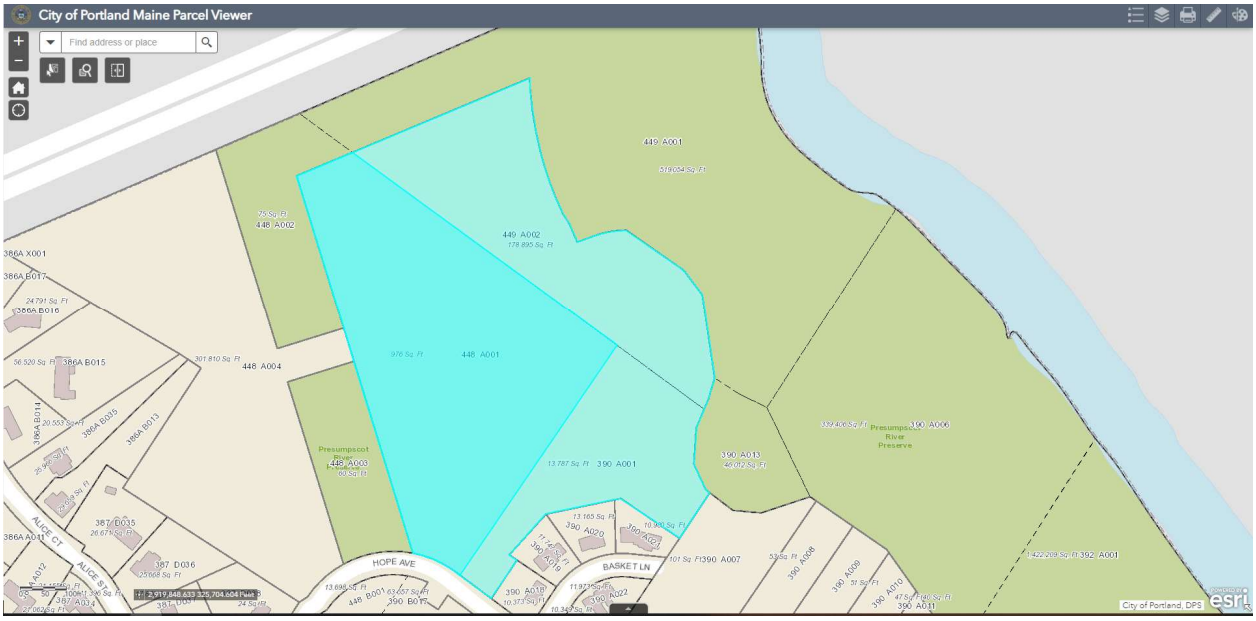
Priorities for Land Bank activities	YES	MAYBE	NO	Notes
Does the property have, or contribute to, healthy forest ecosystem?	x			Currently forested except for CMP line and abuts Falmouth Spur at back edge of property
Does the property have, or contribute to, healthy wetlands, streams, river, ocean, aquifers or other water bodies?	X			Abuts Presumpscot River Preserve and important for minimizing runoff into the river
Does the property help mitigate or adapt to climate change impacts? (CO2 storage, storm impacts, tidal impacts)	X			Minimizes runoff to presumpscot river and impacts from Falmouth Spur (vehicle emissions and noise)
Does the property provide an opportunity to protect or improve an ecosystem?		x		Protect the ecosystem surrounding the presumspcor river preserve and prevents further impacts to the river.
Does the property create a connection or link between nearby Parks, Land Bank, or conserved properties?	x			Adds to the 48 acre Presumpscot River Preserve and proects access from the Portland trails Hope Ave trialhead and easements (includes the Sebago to Sea Trail)
Does protecting the property support Portland's desired sustainable land use pattern of a dense core with developed corridors and nodes?	X			A majority of the surrounding neighborhood is single family homes built in the early 2000s
Does protecting the property support Portland's desire for equal access to undeveloped natural space in every neighborhood? (all residents within a 10 minute walk)	X			Yes, protects access to the presumpscot river preserve from the Hope Ave trailhead.
Does the property provide water access for the fishing industry OR for recreation?	x			Yes, can walk down to river for water access along Portland trails from Hope Ave trailhead
Does the property provide passive recreation opportunities?	x			Area has unofficial trails through it currently for biking, hiking off of actual Portland Trails easement.

Other considerations

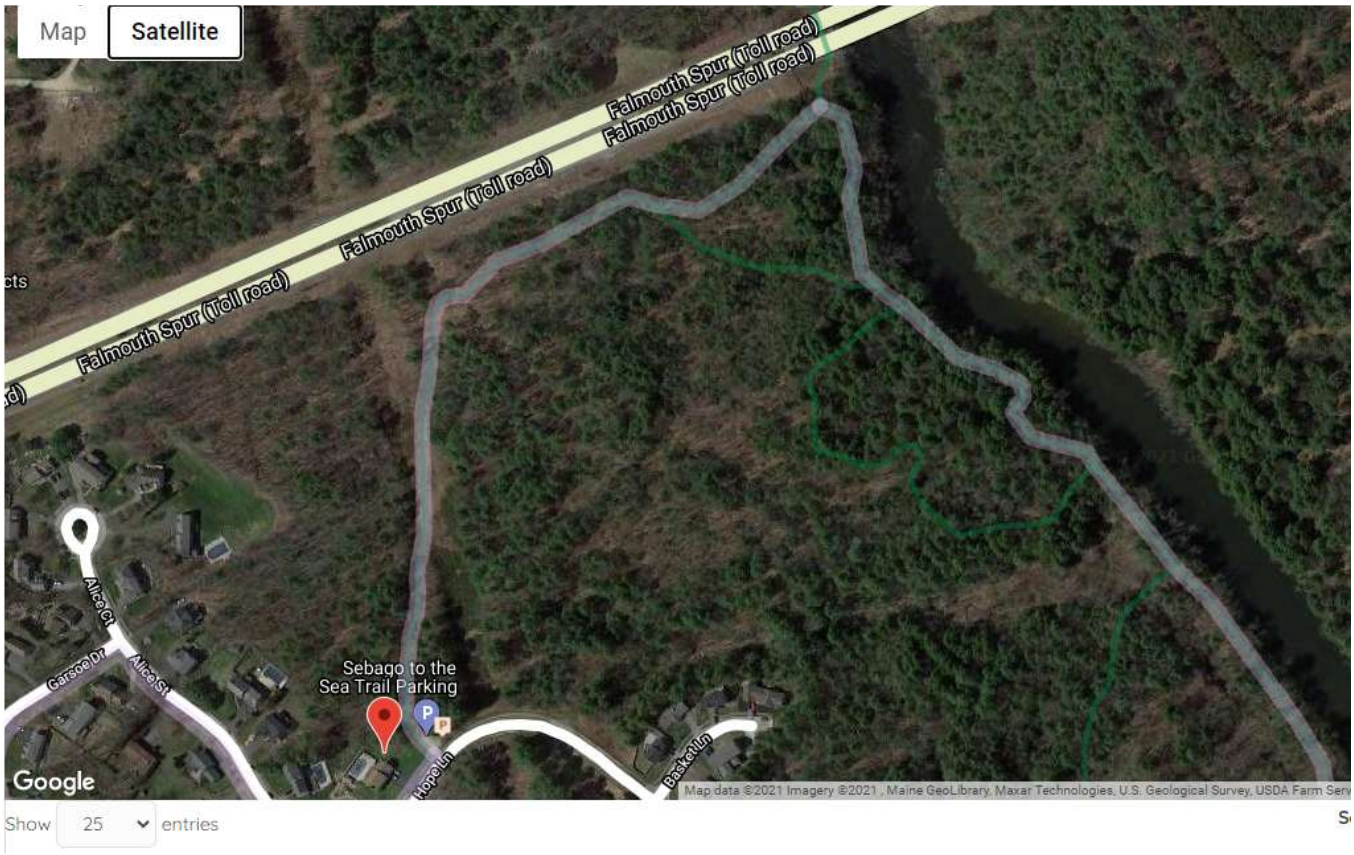
Is this a time-limited opportunity?	Y	Broker Indicated on 3/2/2021 that the property is being pursued at the moment by a couple prospects, one who is more far along. It is not under contract currently
Cost	$975,000	
Maintenance needs, short or long term	Y	Trailwork, making unofficial trails official
Are there opportunities for leverageing collaboration (in purchase, programming and/or maintenance)	Y	Will most likely need involvement from multiple stakeholders due to high cost (Trust for Public Land, Portland Trails, Falmouth Land Truse, etc.)
Is there significant stakeholder support/opposition?	Maybe	**TBD**
Are there other competing land uses?	Y	Conceptual Residential Plans calls for 27 duplex units
Are there opportunities to achieve multiple goals of Land Bank &/or other City entities	Y	
Are there underserved areas where geography is a priority for ecological health or human wellness?	N	
Historical significance (humans)	N	
Geologic significance	N	
Is there potential for urban agricultural use	N	

City of Portland Parcel Viewer





Existing Portland Trails Overlay



Adjacent Land

https://trails.org/our-trails/presumpscot-river-preserve/

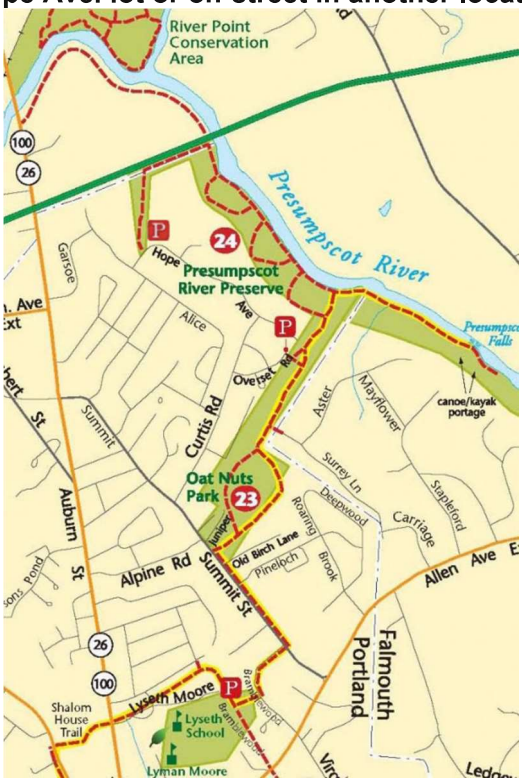
The Presumpscot River flows from Sebago Lake to its outlet at Casco Bay. **In 2001 Portland Trails and the City of Portland Landbank Commission teamed up with the state's Land for Maine's Future program to save this beautiful piece of land along the river by creating a 48-acre public nature preserve.**

The trail follows a deep ravine away from the residential neighborhood and into the Preserve. The trail is very steep in places. Boardwalks and bridges pass over wet areas, while allowing for mountain bike access. Once the trail reaches the river's edge, signs direct the visitor upstream or downstream, both offering spectacular river views. Upstream, the trail features several short loops into wooded, upland areas. That trail continues along the shoreline under the highway overpass for another ¾ mile. Downstream, the trail crosses through property protected by the Falmouth Conservation Trust before it reaches Presumpscot Falls. The trail includes a portage to help paddlers around these swift rapids.

This property is owned collaboratively between the City of Portland, City of Falmouth, Portland Trails and private landowners.
Please respect private property at the end of the trail.

This trail is sponsored by Adopt-A-Trail partners: **L.L. Bean**, **Southworth Products**, and **Martin's Point Healthcare**

Parking: In addition to the two parking areas indicated on the map, parking is available on-street on Summit St. and Hope. Ave. The trailhead on Overset Rd. gets congested and overcrowded at peak times. **Please park in the Hope Ave. lot or on-street in another location during busy times.**



Portland Land Bank Commission
Portland, Maine

November 7, 2024

338 Falmouth Foreside Company, LLC
488 NE 18th St, Unit 4612
Miami, FL 33132

The Portland Land Bank Commission is responsible for identifying and protecting open space resources within the City of Portland. The Commission seeks to preserve a balance between development and conservation of open space important for wildlife, ecological, environmental, scenic, or outdoor recreation values.

The Land Bank Commission would like to express an interest in adding acreage from parcel 448 A001001, 13.7 acre lot off Hope Ave, to the Land Bank's stock of properties for conservation purposes. This property is a high priority based on our ongoing prioritization list, and the conservation value has been assessed and documented using our scoring matrix. The Portland Land Bank regards the following public benefits of conserving all or a portion of this lot including…

- Protecting Presumpscot River and Presumpscot River Preserve water quality and ecosystem characteristics
- Helping to mitigate climate impacts with intact forest cover and carbon sequestration
- Increasing recreational trail access adjoining the Presumpscot River Preserve

Please contact the Portland Land Bank Commission if you have interest in discussing a possible conveyance that would meet the goals of the Commission. We would be glad to discuss this matter and determine if there might be opportunities to collaborate.

Thank you for your consideration.

Jon Kachmar

Jon Kachmar
Portland Land Bank Commission, Chair
860-227-0914
jon.kachmar@gmail.com

Cc: Drew A. Anderson, PO Box 9785, Portland, ME 04104-5085

Zachary Powell <zpowell@portlandmaine.gov>

Public Comment for PL-002454-2023 Hope Ave

Robert <rgbenak@gmail.com> Thu, Mar 6, 2025 at 1:19 PM
To: Zachary Powell <zpowell@portlandmaine.gov>, Planningboard@portlandmaine.gov

Hi Zach,
I am writing to submit public comment for PL-002454-2023. Thank you for your help, again.

You just received access to a Google Drive folder titled Feb 2 GenX Site Disturbances. Here is the link again if that's helpful. This is photographic evidence of the damage the GenX caused to city property while improperly accessing the Hope Ave parcel. This trespass resulted in a $10,000 fine, Concent Judgement, and ultimately in a Motion for Contempt. Those documents have already been submitted to you as part of prior public comment. Please ensure that the Planning Board receives the photographic evidence of the city property damage caused by the applicant.

If you don't mind, please once again confirm receipt and that you were able to download them all successfully. If not, I can help.

thank you,
Robert Benak






WETLAND


WETLAND



Portland Planning Board
C/O Zachary Powell
389 Congress St
4th Floor
Portland, ME 04101

March 5, 2025

RE: Hope Avenue PL-002454-2023 (proposed Presumpscot Woods PRUD)

To members of the Planning Board,

I submitted comments in September 2023 and in April 2024 based on previous submittals by the Applicant for the Presumpscot Woods development. The current comments are based on the plans dated 01/07/25 prepared by Haley Ward. Although the removal of a couple of the proposed buildings from the plan is helpful to allow slightly better locations of the proposed wet ponds, most of my comments still hold. These include the following

- My comment regarding the need for a geotechnical assessment of subsurface conditions in the locations of the wet ponds do not appear to have been addressed. The proposed ponds will be constructed by excavating large amounts of soil to depths of up to 15' below existing ground level within 75 feet of steep slopes that drop up to 30-feet down the highly erodible drainage/stream channels. With the presence of geotechnically sensitive Presumpscot formation soft clays at this location and in most locations along the Presumpscot River corridor, geotechnical borings need to be performed specifically within the footprint of the proposed ponds to ensure that the construction of these ponds is stable and there is a de minimis risk of failure that would be highly damaging to the river and associated natural resources and the structures proposed as part of this development. Soil borings and geotechnical evaluation has been conducted relative to the embankment design for the access road off Hope Avenue, but none has been conducted relative to the wet ponds.
- Full geotechnical assessment of the site is critical when one considers the geology of the location at which the development is proposed. As relayed previously, a 1990 Maine Geologic Society report titled, *Stability of Natural Slopes in the Presumpscot Formation* "Landslides will develop when a slope becomes high and steep enough or is loaded sufficiently to overcome the shear resistance of the soil. With the topographic relief, depth of deposit and shear strength that exists in the Presumpscot Formation of southern and eastern Maine, landslides have occurred in the past at numerous locations." We are all familiar with the landslide that occurred just a few miles upstream that temporarily blocked the Presumpscot River, requiring the Westbrook to declare a state of emergency and damaged water quality with suspended silt and clay particles for the following year. The Applicant should conduct the necessary studies and analysis to ensure that such an incident does not occur particularly where in this case it could take occupies residence with it.
- The proposed wet ponds spillways, particularly Pond A discharge onto steep slopes, and if these outlets are activated, these slopes will be very sensitive to deep erosion despite the rip-rap armored aprons in the proposed design. With the ever-increasing storm intensities that we've experienced in recent years due to climate change spillway discharge may be more common and erosion of that slope with associated embankment soil loss presents adds to the risk of pond failure that could result in rapid release of pond contents.
- Wet ponds A and B are designed with earthen embankments to detain (dam) stormwater prior to releasing it via an underdrain, an overflow standpipe, during large storms, an emergency spillway that releases water from the pond down a steep slope toward the river.

Appendix E, Section 3(c) of Ch. 500, which details the requirements for wet ponds, states that a wet pond's embankment's slopes **may not** be steeper than 3 horizontal to one vertical (3:1). The cross-section on Sheet C505 shows slopes with a grade of 3:1, but this is not consistent with the grades shown on the grading plan (Sheet C103). Sheet C103 shows the proposed embankment interior slope of both embankments is 2:1, which is steeper than the requirements and poses a risk of failure, particularly in larger storms. Failure could result in a rapid flood of eroding, sediment laden water down to the river. The pond designs should be revised.

As I have written previously, the proposed Presumpscot Woods development consists of 60 residential unit that will create 4.05 acres of impervious area and 8.93 acres of total developed area within 500-ft of the Presumpscot River. The developed areas, including buildings, lie at the top of steep deeply eroded drainages slopes down to the Presumpscot river. Stormwater management is a critical and challenging component of such developments particularly when they are located next to an important water resource such as the Presumpscot. If built at all, the development should be required to be designed conservatively to ensure protection of resources that all of Portland and surrounding communities enjoy. Instead, the developers are proposing to squeeze a large number of housing units into a limited area and in so doing compromise the design of the stormwater management.

Thank you for your considering my concerns.

Respectfully,

Mark Arienti, P.E.
110 Alice Street Portland, ME

PC9

Zachary Powell <zpowell@portlandmaine.gov>

PL-002454-2023

Zachary Powell <zpowell@portlandmaine.gov> Fri, Mar 7, 2025 at 9:21 AM
To: planningboard@portlandmaine.gov

FYI.

Zach Powell, AICP (he,him,his |they,them,theirs)
Senior Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101
zpowell@portlandmaine.gov

---------- Forwarded message ---------
From: **Elly Lovin** <ellylovin@gmail.com>
Date: Thu, Mar 6, 2025 at 8:30 PM
Subject: PL-002454-2023
To: <zpowell@portlandmaine.gov>

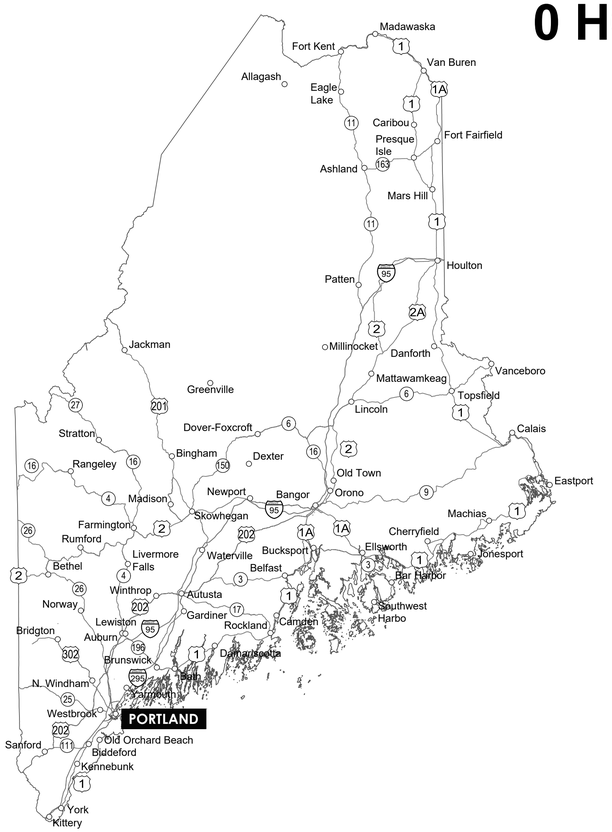
To members of the planning board,
I am writing about PL -002454 - 2023. I am a resident of North Deering with two dogs and an elementary aged child. We are frequent guests at the Presumpscot River Preserve. In autumn, the brilliant colors of the trees reflect off of the river and make it glow. In winter it is quiet, but the smell of snow and evergreens mixed with the mineral river scent is invigorating and healing. In spring, we often avoid using the trails because mud season overuse can damage the roots of the trees. In summer--oh! Summer... we take solace from hot afternoons in the shady swimming nooks. Imagining a developer coming in and potentially causing instability to the river system through erosion and the loss of valuable wetlands is devastating to me. I remember reading about this specific developer and their shoddy work in Saco that impacted retirees attempting to simplify their lives. It's truly shameful to think we'd sell off valuable ecosystems for something like that.
Please listen to your constituents. Portland residents love and cherish the nature we have access to here. We should be preserving and protecting it.
Thank you,
Elly Lovin

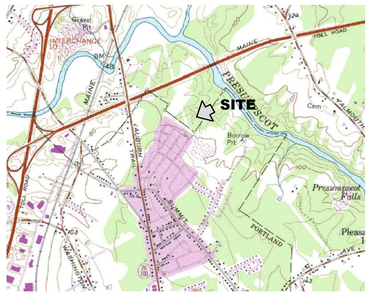
--
Elly Lovin, R-DMT, LCPC-c
BFA Dance, University of Iowa

MA Dance Movement Therapy and Clinical Mental Health Counseling, Lesley University
t: 207.303.5210
Portland, Maine

PRESUMPSCOT WOODS SUBDIVISION

0 HOPE AVENUE, PORTLAND, MAINE





LOCATION MAP: USGS QUADRANGLE: PORTLAND WEST
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™,
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

ISSUED FOR PERMITTING
REVISION #4
2025.01.07

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
www.haleyward.com

shinberg CONSULTING

PROJECT INFORMATION

PROJECT NUMBER:
13773.001

PROJECT ADDRESS:
0 HOPE AVENUE
PORTLAND, MAINE

PROJECT LOCATION:
CUMBERLAND COUNTY

OWNER/APPLICANT
GENX CAPITAL PARTNERS, LLC
2 COTTON STREET
PORTLAND, MAINE 04101

CIVIL ENGINEER
HALEY WARD, INC.
JON H. WHITTEN, JR., P.E. #10414
120 MAIN STREET, SUITE 132
SACO, MAINE 04072

SURVEYOR
OWEN HASKELL, INC.
SAMUEL D. GLIDDEN, PLS
390 US ROUTE ONE, SUITE 10
FALMOUTH, MAINE 04105

LANDSCAPE ARCHITECT
RS LEONARD
LANDSCAPE ARCHITECTURE
REGINA LEONARD, RLA
29 BRIDGE STREET
TOPSHAM, MAINE 04086

TRAFFIC ENGINEER
BARTON & LOGUIDICE, INC.
JOHN Q. ADAMS, P.E.
383 US ROUTE ONE, SUITE 2A, BOX 4
SCARBOROUGH, MAINE 04074

UTILITY PROVIDERS

WATER:
PORTLAND WATER DISTRICT
225 DOUGLASS STREET
PORTLAND, ME 04104-3553
T. 207.774.5961

SEWER:
CITY OF PORTLAND PUBLIC WORKS
SEWER DIVISION
212 CANCO ROAD
PORTLAND, ME 04103-4221
T. 207-874-8801

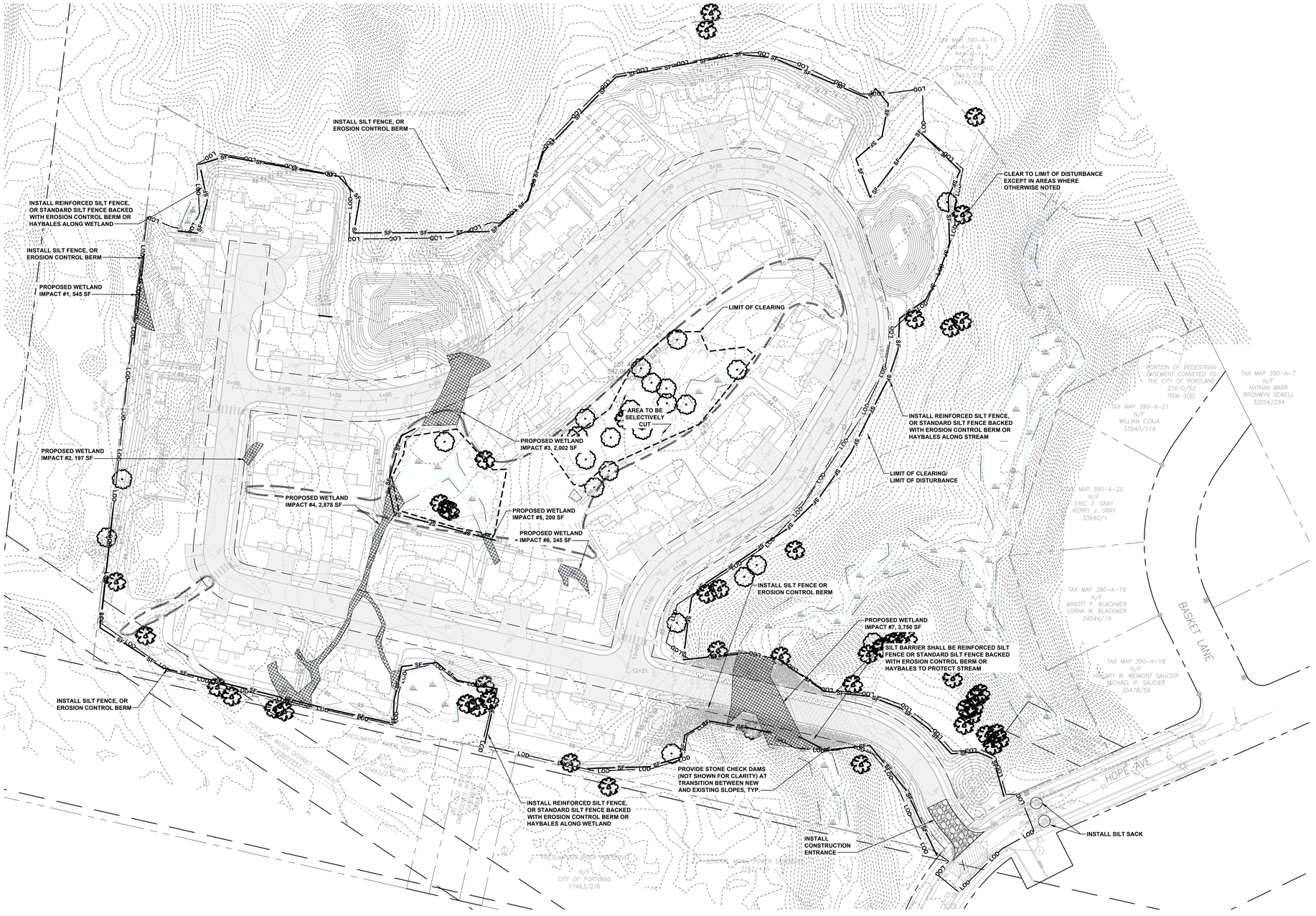
ELECTRIC:
CENTRAL MAINE POWER
T. 800.565.3181

INDEX OF DRAWINGS

C001	EROSION CONTROL, CLEARING LIMITS, LEGEND AND NOTES
C002	CIVIL NOTES
C101	EXISTING CONDITIONS PLAN
C102	PROPOSED SITE PLAN
C103	PROPOSED GRADING AND DRAINAGE PLAN
C104	UTILITIES PLAN
C105	LIGHTING PLAN
C201	MAIN RD PLAN AND PROFILE
C202	LOOP RD PLAN AND PROFILE
C501	DETAILS
C502	DETAILS
C503	DETAILS
C504	DETAILS
C505	DETAILS
C506	DETAILS
C507	DETAILS
C508	DETAILS
C509	DETAILS
C701	PRE DEVELOPMENT HYDROLOGY PLAN
C702	POST DEVELOPMENT HYDROLOGY PLAN
C703	STORMWATER TREATMENT PLAN
LS 101	LANDSCAPE PLAN
LS 102	LANDSCAPE DETAILS

CONSTRUCTION NOTES:

1. REFER TO SHEET LA-100, LANDSCAPE PRESERVATION PLAN FOR TREES TO BE CUT OR PRESERVED.



GRAPHIC SCALE

50 0 25 50 100 150

(IN FEET)
1 inch = 50 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

ABBREVIATIONS

@	AT	GAL	GALLON
		GALV	GALVANIZED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE		
APPROX.±	APPROXIMATELY	GPH	GALLONS PER HOUR
		GPM	GALLONS PER MINUTE
BLDG	BUILDING		
		HDPE	HIGH DENSITY POLYETHYLENE
CL	CENTERLINE		
CB	CATCH BASIN		
		ID	INSIDE DIAMETER
CLR	CLEAR	IN.	INCHES
CMP	CORRUGATED METAL PIPE	INT.	INTERSECTION
CO	CLEANOUT	INV.	INVERT
CPE	CORRUGATED POLYETHYLENE		
		MAX.	MAXIMUM
		MDOT	MAINE DEPT. OF TRANSPORTATION
DI	DUCTILE IRON	MH	MANHOLE
DIA.	DIAMETER	MIN	MINIMUM
E	EASTING	N	NORTHING
EL	ELEVATION	NE	NORTHEAST
EFM	EXISTING FORCE MAIN	N.T.S.	NOT TO SCALE
EPS	EXTRUDED POLYSTYRENE	NWT	NON WOVEN GEOTEXTILE
FM	FORCEMAIN	OD	OUTSIDE DIAMETER
		O.C.	ON CENTER
		OH	OVERHEAD
		OZ	OUNCES
PERF	PERFORATED		
PSF	POUNDS PER SQUARE FOOT		
PSI	POUNDS PER SQUARE INCH		
PVC	POLYVINYL CHLORIDE		
PL	PROPERTY LINE		
POH	PROPOSED OVERHEAD ELECTRIC		
PUGE	PROPOSED UNDERGROUND ELECTRIC		
R	RADIUS		
S	SLOPE		
SCL	STORMWATER COLLECTION LINE		
SCS	STORMWATER COLLECTION SYSTEM		
SDR	STANDARD DIMENSION RATIO		
SE	SOUTHEAST		
SHT	SHEET		
SQ	SQUARE		
SS	STAINLESS STEEL		
SY	SQUARE YARD		
TBM	TEMPORARY BENCH MARK		
TOC	TOP OF CONCRETE		
TYP	TYPICAL		

LEGEND:

DESCRIPTION	EXISTING	PROPOSED
BENCHMARK		
SURVEY STATION		
MANHOLE		
UTILITY POLE		
SIGN		
CATCH BASIN		
HYDRANT		
WATER VALVE		
GATE VALVE		
PROPERTY LINE		NA
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
CENTERLINE		
MAJOR FOOT CONTOUR	100	100
MINOR FOOT CONTOUR	98	98
TREE LINE		

DESCRIPTION	EXISTING	PROPOSED
WATERLINE	W	W
STORM DRAIN	SD	SD
FORCE MAIN		FM
SANITARY SEWER	SS	SS
UNDERGROUND UTILITIES	UGE	UGU
SEDIMENT CONTROL BARRIER	NA	SF
CHAIN LINK FENCE	NA	X
WETLAND BOUNDARY		
STREAM		
LIMIT OF DISTURBANCE	NA	LOD
PAVED SURFACE		
RIP RAP	NA	
WETLAND IMPACT	NA	
SNOW STORAGE		
WETLAND		

SOURCE NOTES:

1. EXISTING CONDITIONS IS BASED UPON BOUNDARY AND TOPOGRAPHIC SURVEY AT HOPE LAND MADE FOR GENX CAPITAL PARTNERS, 2 COTTON STREET, PORTLAND, ME 04101, BY OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS, DATED SEPTEMBER 12, 2022.
2. THIS SURVEY IS ORIENTED TO THE MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83).
3. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4. THERE MAY BE ADDITIONAL UNDERGROUND WIRES, CABLES, UTILITIES, AND/OR STRUCTURES NOT SHOWN ON THIS PLAN. THE LOCATIONS SHOWN HEREON ARE BASED UPON SURFACE FEATURES VISIBLE AT THE TIME OF THE SURVEY. NO EXCAVATIONS WERE MADE DURING THE COURSE OF THIS SURVEY TO VERIFY AND/OR LOCATE ANY UNDERGROUND STRUCTURES.
5. THE EXISTING TOPOGRAPHY IS A COMBINATION OF SURVEY PERFORMED BY OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS AND STATE OF MAINE LIDAR.
6. PROPOSED LAYOUT IS BASED UPON BUILDING FLOOR PLANS FOR PRESUMPSCOT WOODS, PREPARED BY A. MALTESE DESIGN, DATED 07.08.22.
7. NATURAL RESOURCE DATA WAS PROVIDED IN DWG. AND PDF. FORMAT FOR PROJECT GENX CAPITAL PARTNERS, LLC, HOPE AVENUE, PORTLAND, CUMBERLAND COUNTY, MAINE, DELINEATED WETLAND AND WATERCOURSE MAP, PREPARED BY FLYCATCHER, AND DATED JULY 2022.

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

EROSION CONTROL, CLEARING LIMITS, LEGEND AND NOTES

JOHN H. WHITTEN, JR. No. 10414 LICENSED PROFESSIONAL ENGINEER
02/11/2025

DATE	SCALE
2022.08.29	1"=50'
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO
CHECKED BY: JHW	
PROJECT No.: 13773.001	
DRAWING No.: C001	REV.: 4

FILE LOCATION: P:\#E\13773-SHINBERG_CONSULTING\000-HOPE_AVE_DUPLEXES-JAN\02-CAD_DRAWINGS\CIVIL\DSGN_DWGS\13773.001-1-CON.DWG, 2025.02.11, 7:49 AM

EROSION AND SEDIMENTATION CONTROL NOTES

1. EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS)SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OR SOIL DISTURBANCE ACTIVITIES. BMPS SHALL COMPLY WITH THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND REGULATIONS AND MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS: HTTPS://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/ESC_BMP_FIELD.PDF
2. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMPS), PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
3. ALL SEDIMENT BARRIERS AND EROSION CONTROL MEASURES SHALL BE INSTALLED BEFORE THE START OF CONSTRUCTION AS NOTED IN THE WRITTEN EROSION AND SEDIMENT CONTROL PLAN.
4. EROSION CONTROL MEASURES WITHIN 50 FEET OF PROTECTED NATURAL RESOURCES SHALL HAVE A DOUBLE PERIMETER EROSION CONTROL AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.
5. OPEN AREAS THAT ARE STRIPPED OR GRADED SHALL BE LIMITED TO ONE ACRE OR NO LARGER THAN CAN BE MULCHED IN ONE DAY.
6. SEDIMENT BARRIERS SHALL BE PLACED DOWNGRADIENT OF ALL STOCKPILES. STORMWATER RUNOFF SHOULD BE PREVENTED FROM RUNNING INTO STOCKPILES.
7. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE
8. MINIMIZE DISTURBED AREA AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION.
9. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED, AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.
10. PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWN GRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER 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, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.
11. PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRAFFIC FROM TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROWS. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
12. INSTALL SILT FENCES OR SEDIMENT BARRIERS ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED RESOURCES.
13. SILT FENCE AND SEDIMENT BARRIERS WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL (0.5 INCH OR GREATER) OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
14. EROSION CONTROL MIX BERMS SHALL CONSIST OF A MIX OF SHREDDED WOOD FRAGMENTS AND GRIT THAT MUST BE WELL GRADED WITH AN ORGANIC CONTENT THAT IS BETWEEN 50 AND 100% OF WEIGHT. MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO ROCKS GRATER THAN 4-INCHES OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). MIX SHOULD BE FREE OF REFUSE OR MATERIAL TOXIC TO PLANT GROWTH.
15. EROSION CONTROL MIX SHALL BE USED ON SLOPES 3:1 OR SHALLOWER. SLOPES BETWEEN 3:1 AND 2:1 SHALL HAVE EROSION CONTROL BLANKET. SLOPES BETWEEN 2:1 AND 1.5:1 SHALL HAVE RIP RAP. SLOPES GREATER THAN 1.5:1 ARE PROHIBITED.
16. HAYBALES MAY BE INSTALLED IN ADDITION TO SILT FENCE OR USED AROUND CATCH BASINS TO PROVIDE ADDITIONAL SEDIMENT CAPTURE AND CONTROL.
17. EROSION CONTROL BLANKETS INTENDED FOR TEMPORARY SLOPE OR CHANNEL STABILIZATION SIMILAR TO NORTH AMERICAN GREEN ERONET BIODEGRADABLE EROSION CONTROL BLANKET OR SIMILAR.
18. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
19. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
20. A SUITABLE BINDER SUCH AS TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
21. IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15TH OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDING WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
22. IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1ST OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1ST, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
23. ALL CATCH BASINS ARE TO BE PROTECTED BY STRAW BALE OR SILT FENCE IN ACCORDANCE WITH SECTION B-3 STORM DRAIN INLET PROTECTION OF THE MAINE BMP HANDBOOK. SURROUNDING AREAS CAN BE EXCAVATED OR LEFT LOW AS A SEDIMENT TRAP. CURB INLETS SHALL BE PROTECTED BY GUTTERGATORS, OR APPROVED EQUIVALENT.
24. CONTRACTOR TO PROVIDE SEDIMENT SACKS IN ALL EXISTING BASINS PRIOR TO CONSTRUCTION.
25. 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 WATER BODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
26. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.
27. PERMEANT STABILIZATION: IF THE AREA 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 RIP-RAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED 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 RE-STABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.
    A. 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.
    B. 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.
    C. 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.
    D. RIPRAP: FOR AREAS STABILIZED WITH RIP-RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP-RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP-RAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.
    E. 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
    F. 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 RIP-RAP 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.
28. ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
29. IF PERMANENT BMP LOCATIONS ARE TO BE USED AS SEDIMENT TRAPS THEN THE AREAS OF THE AREAS OF THE BMPS SHALL BE RESTORED AS NEEDED TO PREPARE FOR LONG TERM USE, SUCH AS BY REMOVAL OF SEDIMENT, REGRADING ELEVATIONS, INSTALLING UNDERDRAINS (WHERE APPROPRIATE) AND STABILIZING THE AREA.
30. 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 ADDITIONAL MEASURES AND RESTRICTIONS.
    A. SITE STABILIZATION: FOR WINTER 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.
    B. SEDIMENT BARRIERS: ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.
    C. DITCH: ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.
    D. 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.
31. STORMWATER CHANNELS: DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS MUST BE DESIGNED, CONSTRUCTED, AND STABILIZED USING MEASURES THAT ACHIEVE LONG-TERM EROSION CONTROL. DITCHES, SWALES AND OTHER OPEN STORMWATER CHANNELS MUST BE SIZED TO HANDLE, AT A MINIMUM, THE EXPECTED VOLUME RUN-OFF. EACH CHANNEL SHOULD 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.
    A. THE CHANNEL SHOULD RECEIVE ADEQUATE ROUTINE MAINTENANCE TO MAINTAIN CAPACITY AND PREVENT OR CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDE SLOPES.
    B. WHEN THE WATERSHED DRAINING TO A DITCH OR SWALE IS LESS THAN 1 ACRE OF TOTAL DRAINAGE AND LESS THAN ¼ ACRE OF IMPERVIOUS AREA, DIVERSION OF RUNOFF TO ADJACENT WOODED OR OTHERWISE VEGETATED BUFFER AREAS IS ENCOURAGED WHERE THE OPPORTUNITY EXISTS.
32. SEDIMENT BASINS: SEDIMENT BASINS 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 ½ OF THE DESIGN CAPACITY OF THE BASIN.

    THE USE OF CATIONIC TREATMENT CHEMICALS, SUCH AS POLYMERS, FLOCCULANTS, OR OTHER CHEMICALS THAT CONTAIN AN OVERALL POSITIVE CHARGE DESIGNED TO REDUCE TURBIDITY IN STORMWATER MUST RECEIVE PRIOR APPROVAL FROM THE DEPARTMENT. WHEN REQUESTING APPROVAL TO USE CATIONIC TREATMENT CHEMICALS, YOU MUST DESCRIBE APPROPRIATE CONTROLS AND IMPLEMENTATION PROCEDURES TO ENSURE THE USE WILL NOT LEAD TO A VIOLATION OF WATER QUALITY STANDARDS. IN ADDITION, YOU MUST SPECIFY THE TYPE(S) OF SOIL LIKELY TO BE TREATED ON THE SITE, CHEMICALS TO BE USED AND HOW THEY ARE TO BE APPLIED AND IN WHAT QUANTITY, ANY MANUFACTURER'S RECOMMENDATIONS, AND ANY TRAINING HAD BY PERSONNEL WHO WILL HANDLE AND APPLY THE CHEMICALS.
33. CULVERTS: CULVERTS MUST BE SIZED TO AVOID UNINTENDED FLOODING OF UPSTREAM AREAS OR FREQUENT OVERTOPPING OF ROADWAYS. CULVERT INLETS MUST BE PROTECTED WITH APPROPRIATE MATERIALS FOR THE EXPECTED ENTRANCE VELOCITY, AND PROTECTION MUST EXTEND AT LEAST AS HIGH AS THE EXPECTED MAXIMUM ELEVATION OF STORAGE BEHIND THE CULVERT. CULVERT OUTLET DESIGN MUST INCORPORATE MEASURES, SUCH AS APRONS, TO PREVENT SCOUR OF THE STREAM CHANNEL. OUTLET PROTECTION MEASURES MUST BE DESIGNED TO STAY WITHIN THE CHANNEL LIMITS. THE DESIGN MUST TAKE ACCOUNT OF TAILWATER DEPTH.
34. PARKING AREAS: PARKING AREAS MUST BE CONSTRUCTED TO ENSURE RUNOFF IS DELIVERED TO ADJACENT SWALES, CATCH BASINS, CURB GUTTERS, OR BUFFER AREAS WITHOUT ERODING AREAS DOWNSLOPE. THE PARKING AREA'S SUBBASE COMPACTION AND GRADING MUST BE DONE TO ENSURE RUNOFF IS EVENLY DISTRIBUTED TO ADJACENT BUFFERS OR SIDE SLOPES. CATCH BASINS MUST BE LOCATED AND SET TO PROVIDE ENOUGH STORAGE DEPTH AT THE INLET TO ALLOW INFLOW OF PEAK RUNOFF RATES WITHOUT BY-PASS OF RUNOFF TO OTHER AREAS.
35. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

INSPECTION AND MAINTENANCE

THE FOLLOWING STANDARDS MUST BE MET DURING CONSTRUCTION:

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, 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 (0.5" OR MORE IN A CONSECUTIVE 24-HOUR PERIOD), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.
2. IF BEST MANAGEMENT PRACTICES (BMPS) 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. IF ADDITIONAL BMPS OR SIGNIFICANT REPAIR OF BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (0.5" OR MORE IN A CONSECUTIVE 24-HOUR PERIOD). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
3. 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.

HOUSEKEEPING

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER 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.
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. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.
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 (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD 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, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.
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.
5. EXCAVATION DE-WATERING: EXCAVATION DE-WATERING 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 POND AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
6. 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:
    (A) DISCHARGES FROM FIREFIGHTING ACTIVITY;
    (B) FIRE HYDRANT FLUSHINGS;
    (C) VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
    (D) DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX C(3);
    (E) ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
    (F) 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;
    (G) UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
    (H) UNCONTAMINATED GROUNDWATER OR SPRING WATER;
    (I) FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
    (J) UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
    (K) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
    (L) LANDSCAPE IRRIGATION.
7. 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:
    (A) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
    (B) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
    (C) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
    (D) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

STANDARD DESIGN NOTES ON FILTER BASINS

SOIL FILTER MEDIA

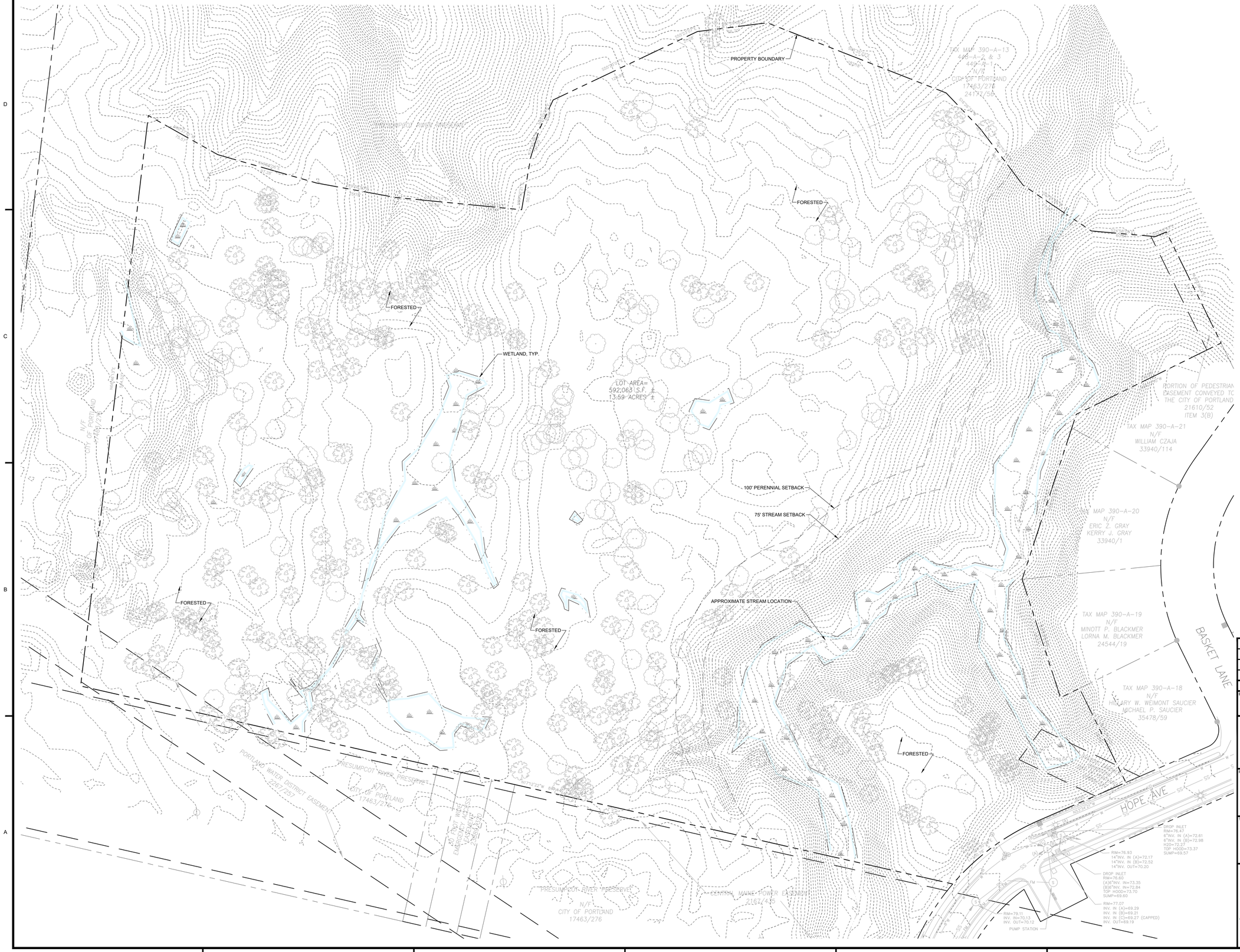
1. THE SOIL FILTER MATERIAL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. NO OTHER MATERIAL OR SUBSTANCE THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRENCE TO THE PLANTING OR MAINTENANCE OPERATION CAN BE MIXED WITH THE FILTER.
2. GRADATION TESTS AND PERMEABILITY TESTING OF THE SOIL FILTER MATERIAL SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE PLACEMENT AND COMPACTION.
3. THE MIXTURE SHALL CONTAIN BY VOLUME THE FOLLOWING:
    A. 50% OF SANDY SOIL - MEDOT #703.01 WILL NOT CONTAIN SUFFICIENT FINE AND TOPSOIL/LOAM WILL HAVE TO COMPENSATE THE DEFICIENCY
    B. 20% OF LOAMY TOPSOIL
    C. 30% OF SUPERHUMUS OR EQUIVALENT COMPOSTED WOODY FIBERS AND FINE SHREDDED BARK
4. THE BLENDED SOIL FILTER MIXTURE OF BARK MULCH, SAND AND LOAM SHALL HAVE 8% TO 12% PASSING THE #200 SIEVE. THE MIXTURE SHALL HAVE A CLAY CONTENT OF LESS THAN 2%. THE TESTING OF ALL MATERIALS SHALL BE PERFORMED BY A QUALIFIED LABORATORY AND SUBMITTED TO THE ENGINEER FOR REVIEW.
5. SOIL FILTER MEDIA MIXTURE SHALL HAVE A PERMEABILITY OF 2.4 IN/HR TO 4 IN/HR UPON COMPACTION BETWEEN 90 AND 92% STANDARD PROCTOR (ASTM D698).

UNDERDRAIN BEDDING

1. THE UNDERDRAIN BEDDING MATERIAL (12 INCHES MINIMUM) SHALL BE CLEAN GRAVEL MEETING THE GRADATION MEDOT SPECIFICATION 703.22 UNDERDRAIN TYPE C GRADATION MEDOT SPECIFICATIONS 703.22 UNDERDRAIN TYPE B.

TRANSITION LAYER

1. THE TRANSITION LAYER (6 INCH MINIMUM) SHALL MEET THE GRADATION MEDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B. THE SAND SHALL HAVE LESS THAN 5% FINES PASSING THE #200 SIEVE.



GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

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PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

EXISTING CONDITIONS PLAN

STATE OF MAINE
JOHN N. WHITTEN JR.
No. 10414
02/11/2025
LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	1"=40'
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO
CHECKED BY: JHW	
PROJECT No.: 13773.001	
DRAWING No.: C101	REV.: 4

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-EX.DWG, 2025.02.11, 7:49 AM

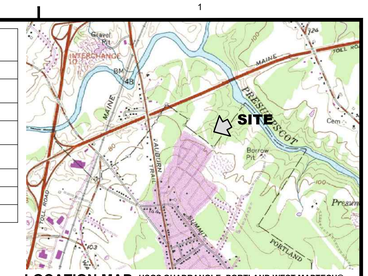
GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

PRUD LAND AREA CALCULATION

TOTAL LAND AREA	592,063 SF
WETLAND & WATERCOURSE AREA	42,951.25 SF
AREA WITH SLOPE >25%	139,230 SF
AREA OF SPECIAL FLOOD HAZARD	N/A
TOTAL NET AREA FOR DEVELOPMENT	409,882 SF
NUMBER OF UNITS	60 UNITS
RESULTING NET AREA/UNIT	6,831 SF
REQUIRED NET AREA/UNIT	6,500 SF



LOCATION MAP
SCALE: 1"=2000'

USGS QUADRANGLE: PORTLAND WEST MAPTECH®
USGS TOPOGRAPHIC SERIES™.
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WWW.MAPTECH.COM/TOPO

PARCEL INFORMATION

MAP / LOT:	390/A001, 448/A001001, 449/A002
LOT AREA:	13.59 ACRES
ZONE OR DISTRICT:	R-3 PRUD
FLOOD ZONE:	ZONE C (MINIMAL HAZARD)
WATER:	MUNICIPAL
SEWER:	MUNICIPAL

SITE DEVELOPMENT DATA

EXISTING IMPERVIOUS SF / AC:	0	0.00
NEW IMPERVIOUS SF/AC:	155,301	3.57
TOTAL IMPERVIOUS SF / AC:	155,301	3.57
TOTAL LANDSCAPED SF / AC:	236,581	5.43
TOTAL DEVELOPED SF / AC:	391,882	9.00
LOT COVERAGE ALLOWED/ PROVIDED:	35%	26%
NEW ROADWAY AND PARKING SF / AC	52,171	1.20
WETLAND IMPACTS SF / AC:	9,916	0.23

DESIGN STANDARDS

	REQUIRED	PROPOSED
R.O.W. WIDTH:	50'	N/A
TRAVELED WAY WIDTH:	20'	20'
MINIMUM GRADE:	0.5%	1%
MAXIMUM GRADE:	8%	4%
ROADWAY CROWN:	3% LOCAL / 2% OTHER	2%
MAX GRADE @ INT.	3% FOR 100'	2.46%
BUILDING HEIGHT:	35 FT	28.5
MINIMUM FRONT SETBACK:	25 FT	340
MINIMUM REAR SETBACK:	25 FT	25
MINIMUM SIDE SETBACK:	25 FT	25
MINIMUM FRONTAGE:	50 FT	191.39
MINIMUM LOT WIDTH:	65 FT	191.39
PARKING REQUIRED	1 PER DWELLING / UNIT	
PARKING PROVIDED	(2) 1 GARAGE / 1 DRIVEWAY	

RECORD OWNER:
GENX CAPITAL PARTNERS, LLC
2 COTTON STREET
PORTLAND, MAINE 04101

THIS IS TO CERTIFY THAT AFTER REVIEWING THE SITE PLAN SUBMISSION INFORMATION FOR THE PROJECT SHOWN ON THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN THE CITY OF PORTLAND'S CODE OF ORDINANCES AND IN ACCORDANCE WITH THE APPLICATION REQUIREMENTS, THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THIS PLAN ALONG WITH ITS ADDITIONAL SUBMISSION INFORMATION (IF APPLICABLE) HAS MET ALL THE CRITERIA SET FORTH AND THEREFORE THE SITE PLAN IS APPROVED.

APPROVED BY THE CITY OF PORTLAND PLANNING BOARD ON: _____

CONDITIONS: _____

PLANNING BOARD SIGNED ON: _____

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

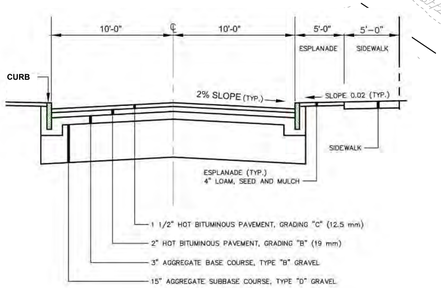
TITLE

PROPOSED SITE PLAN

STATE OF MAINE
CUMBERLAND, SS.
REGISTRY OF DEEDS
RECEIVED AND FILED
20___
h m M.
Attest _____ Register
RECORDED AS MAP FILE:

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
02/11/2025
LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	1"=40'
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO
CHECKED BY: JHW	
PROJECT No. 13773.001	
DRAWING No. C102	REV: 4



LOCAL STREET CROSS SECTION
NOT TO SCALE

FILE LOCATION: P:\#E\13773-SHINBERG_CONSULTING\0001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWING\SITE\CIVIL\DESIGN_DWGS\13773.001-C-SP.DWG, 2025.02.11, 7:46 AM

GENERAL NOTES:

1. DRIP EDGE FILTERS SHALL BE DAYLIGHTED WITH 6" SOLID HDPE PIPE WITH RODENT SCREEN TO REAR OF BUILDINGS, TYP.
2. FOUNDATION DRAINS SHALL BE TIED INTO THE NEAREST CATCH BASIN (BASEMENTS SHALL REQUIRE SUMP PUMPS).
3. CONTRACTOR SHALL USE MEANS AND METHODS NECESSARY TO ENSURE CONSTRUCTION VEHICLES AND ACTIVITIES DO NOT EXTEND BEYOND THE PROPERTY BOUNDARY.

PROPOSED RIP RAP SPILLWAY
OUTLET: 76.65
BIOCELL A REFER TO DETAIL ON SHEET C504
PROPOSED 15" HDPE SD L: 18 LF / S: 0.006
OUTLET: 74.65
BIOCELL B REFER TO DETAIL ON SHEET C504
PROPOSED 15" HDPE SD L: 118 LF / S: 0.015
PROPOSED 10' LEVEL SPREADER W/ RIPRAP SLOPE PROTECTION
OUTLET: 70.23
PROPOSED 24" HDPE PIPE L: 97 LF / S: 0.005
PROPOSED SEDIMENT FOREBAY
WETPOND B OUTLET STRUCTURE REFER TO DETAIL AND TABLE ON SHEET C505
PROPOSED 24" HDPE PIPE L: 84 LF / S: 0.005
WETPOND A OUTLET STRUCTURE REFER TO DETAIL AND TABLE ON SHEET C505
PROPOSED 10' LEVEL SPREADER W/ RIPRAP SLOPE PROTECTION
OUTLET: 71.43
PROPOSED 2:1 RIP RAP SLOPE AND SPILLWAY
PROPOSED 15" HDPE L: 69 LF / S: 0.005 INV. IN: 82.19 INV. OUT: 81.82
WETPOND A
WETPOND B
PROPOSED 24" HDPE L: 45 LF / S: 0.005 INV. IN: 74.95 INV. OUT: 74.72
PROPOSED 24" HDPE SD L: 19 LF / S: 0.006
PROPOSED 15" HDPE SD L: 144 LF / S: 0.010
PROPOSED 12" HDPE L: 34 LF / S: 0.006 INV. IN: 74.54 INV. OUT: 74.34
PROPOSED 15" HDPE SD L: 34 LF / S: 0.006
PROPOSED 15" HDPE SD L: 19 LF / S: 0.061
100' PERENNIAL STREAM SETBACK
PROPOSED 15" HDPE SD L: 111 LF / S: 0.013
PROPOSED 15" HDPE SD L: 72 LF / S: 0.005
PROPOSED 15" HDPE SD L: 132 LF / S: 0.024
PROPOSED 18" HDPE L: 67 LF / S: 0.005 INV. IN: 76.50 INV. OUT: 76.15
PROPOSED 24" HDPE SD L: 95 LF / S: 0.001
PROPOSED 15" HDPE SD L: 18 LF / S: 0.006
PROPOSED 15" HDPE SD L: 18 LF / S: 0.006
PROPOSED 15" HDPE L: 63 LF / S: 0.005 INV. IN: 83.15 INV. OUT: 82.82
PROPOSED 15" HDPE SD L: 18 LF / S: 0.006
PROPOSED 15" HDPE SD L: 18 LF / S: 0.013
PROPOSED GEO-GRID REINFORCED 1:1 RIPRAP SLOPE, SEE GEOTECHNICAL REPORT FROM S.W. COLE ENGINEERING, INC. DATED DECEMBER 10, 2024.
PROPOSED CONCRETE BOX CULVERT 6' H x 6' W x 72' L
PROPOSED 18" HDPE SD L: 96 LF / S: 0.005
PROPOSED 15" HDPE SD L: 55 LF / S: 0.005
PROPOSED 15" HDPE SD L: 62 LF / S: 0.005
PROPOSED 15" HDPE SD L: 42 LF / S: 0.006
PROPOSED 15" HDPE SD L: 18 LF / S: 0.006
PROPOSED 15" HDPE L: 25 LF / S: 0.090 INV. IN: 83.80 INV. OUT: 81.55
PROPOSED 15" HDPE SD L: 19 LF / S: 0.109
OUTLET: 79.65
RIP RAP SPILLWAY AND 2:1 SLOPE
PROPOSED GUSF 1 SOIL GROUP: C FILTER SIZE: 10'x20' REFER TO DETAIL AND TABLE ON SHEET C505
PROPOSED GUSF 2 SOIL GROUP: C FILTER SIZE: 10'x20' REFER TO DETAIL AND TABLE ON SHEET C505
OUTLET: 72.88 W/ OUTLET PROTECTION
PROPOSED RIP RAP SPILLWAY
PROPOSED 15" HDPE SD L: 29 LF / S: 0.001
PROPOSED 15" HDPE SD L: 18 LF / S: 0.006
HOPE AVE
DROP INLET RIM=76.47 6"INV. IN (A)=72.61 6"INV. IN (B)=72.98 H20=72.27 TOP HOOD=73.37 SUMP=69.57
DROP INLET RIM=76.60 (A)6"INV. IN=73.35 (B)6"INV. IN=72.84 TOP HOOD=73.70 SUMP=69.60
RIM=77.07 INV. IN (A)=69.29 INV. IN (B)=69.21 INV. IN (C)=69.27 (CAPPED) INV. OUT=69.19
RIM=79.11 INV. IN=70.13 INV. OUT=70.10
PUMP STATION
EXISTING PUMP STATION

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

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One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

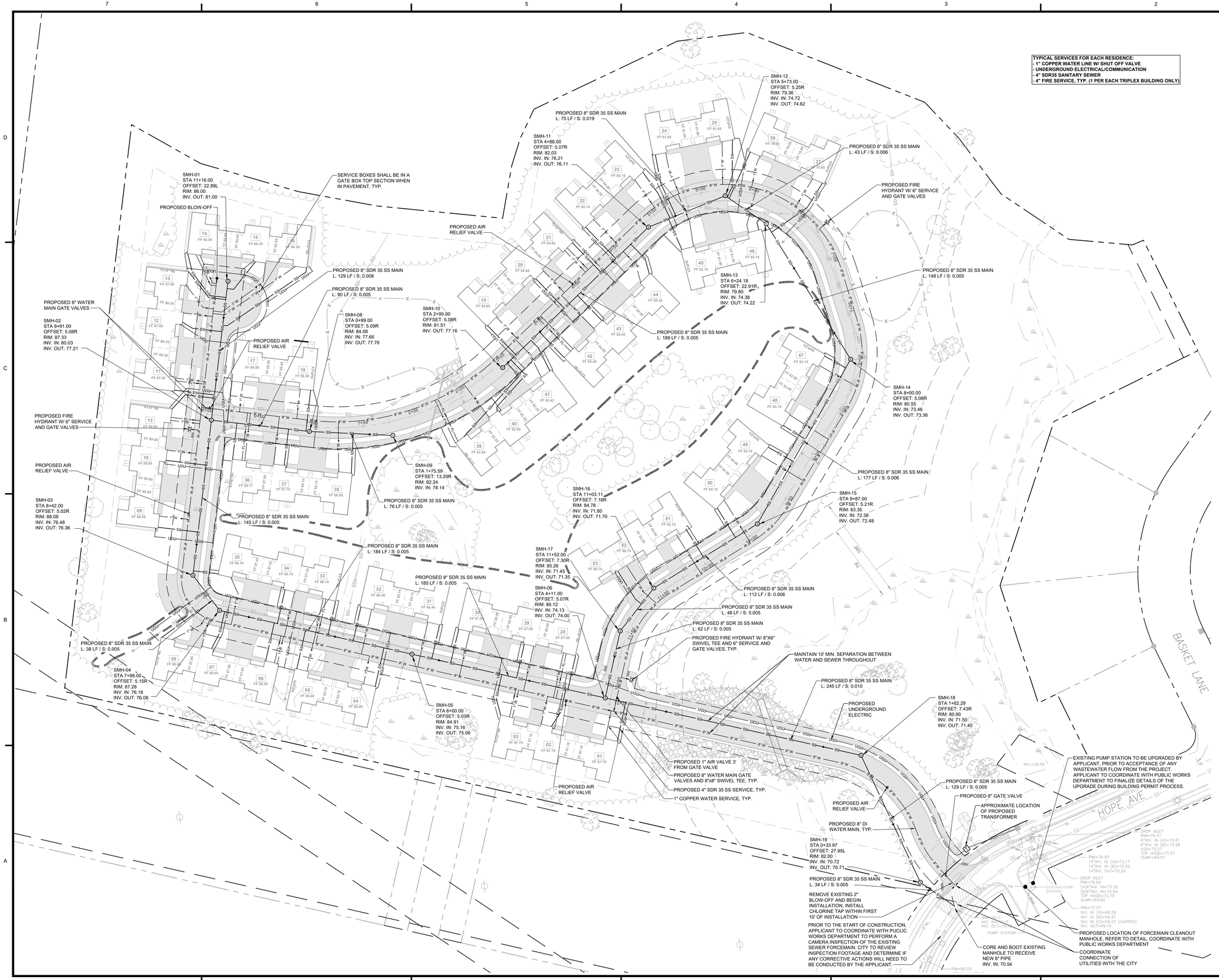
TITLE

PROPOSED GRADING AND DRAINAGE PLAN

STATE OF MAINE
JOHN R. WHITTEN JR.
No. 10414
02.11.2025
LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	1"=40'
DRAWN BY: BLQ/PJM	DESIGNED BY: DSB/DJO
CHECKED BY: JHW	
PROJECT No.: 13773.001	
DRAWING No.: C103	REV.: 4

FILE LOCATION: P:\ME\13773-SHW\ENG_CONSULT\NGS01-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DISIGN_DWGS\13773.001-C-GR.DWG, 2025.02.11, 7:46 AM



TYPICAL SERVICES FOR EACH RESIDENCE:
- **1" COPPER WATER LINE W/ SHUT OFF VALVE**
- **UNDERGROUND ELECTRICAL/COMMUNICATION**
- **4" SDR35 SANITARY SEWER**
- **4" FIRE SERVICE, TYP. (1 PER EACH TRIPLEX BUILDING ONLY)**

UTILITY NOTES:

1. ALL STORM INFRASTRUCTURE SHALL RECEIVE (1) LAYER OF RIGID STYROFOAM INSULATION BETWEEN CROSSINGS, (2) LAYERS AT CROSSING WHERE PIPE DAYLIGHTS.
2. (1) RESTRAINT JOINT GASKET SHALL BE INSTALLED BEFORE AND AFTER ALL BENDS, IN ADDITION TO T-BLOCKS.
3. ALL HYDRANTS SHALL BE SUPPLIED WITH 8"x6" SWIVEL TEES AND GATE VALVES. FACE OF CURB TO FACE OF 4" PORT SHALL BE 3'.
4. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO THE MAIN AT WHICH THEY ARE CONNECTING TO.
5. CURBSTOPS SHALL BE LOCATED 2.5' FROM FACE OF CURB, UNLESS OTHERWISE SHOWN ON PLAN DUE TO CONFLICTS.
6. THE PROPOSED WATER MAIN SHALL HAVE A MINIMUM OF 5.5' OF COVER.
7. A 40' WIDE EASEMENT BENEFITING THE PORTLAND WATER DISTRICT HAS BEEN PROVIDED AND IS NOTED ON THE SITE PLAN.

WATER MAIN SEPARATION:

THE FOLLOWING MINIMUM SEPARATIONS FROM WATER MAINS SHALL BE OBSERVED AT ALL TIMES UNLESS DIRECTED OTHERWISE BY PWD PERSONNEL:

HORIZONTAL
SANITARY SEWERS: 10'
STORM DRAINS: 3' FACE TO FACE, 2' AT CONTACT POINTS FOR CB'S AND DMH'S
GAS MAINS: 6' FACE TO FACE
UNDERGROUND ELECTRIC/COMM: 6' FACE TO FACE
UTILITY POLES: 6' FACE TO FACE

VERTICAL
SANITARY SEWERS: 12" OVER AND UNDER
STORM DRAINS: 6" OVER AND UNDER
ALL OTHER CROSSINGS: 12" MINIMUM

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

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Bangor, Maine 04401
207.989.4824

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

UTILITIES PLAN

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
LICENSED PROFESSIONAL ENGINEER
2/11/2025

DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ/PJM	BLQ/DJO	JHW

PROJECT No. 13773.001

DRAWING No. **C104** REV. **4**

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\00-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\13773.001-CUT.DWG, 2025.02.11, 7:47 AM

Label	QTY	Catalog Number	Description	Lamp	Lamp Lumens	Lumen Multiplier	LLF	Watts	Mounting Height
A	23	EPTT02_06BA30_____-120-277V	EVOLVE POST TOP TOWN & COUNTRY	LED	5750.256	1	1	56	15'

NOTE:
EACH RESIDENTIAL UNIT SHALL HAVE AN INDIVIDUAL LIGHT SOURCE AT ENTRYWAYS THAT ARE NOT INCLUDED ON THIS PLAN.

LIGHTING STANDARDS		
	REQUIRED	PROVIDED
MINIMUM ILLUMINATION LEVEL (fc)*	N/A	0.0 fc
MAXIMUM ILLUMINATION LEVEL (fc)*	N/A	2.7 fc
AVERAGE ILLUMINATION LEVEL (fc)*	0.4 fc	0.6 fc
* ILLUMINATION LEVELS MEASURED IN FOOT CANDLES (fc) AT GRADE		
NOTE: STANDARDS BASED ON THE CITY OF PORTLAND TECHNICAL MANUAL, CHAPTER 8, TABLE 8-E, STANDARDS FOR A RESIDENTIAL/MINOR STREET.		

HOPE AVE

BASKET LANE

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

LIGHTING PLAN

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
LICENSED PROFESSIONAL ENGINEER
2/11/2025

DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ/PJM	DJO	JHW

PROJECT No.
13773.001

DRAWING No.
C105

REV.
4

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\007-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-LITES.DWG, 2025.02.11, 7:47 AM

PROPOSED AIR RELIEF VALVE

PROPOSED 8" DI WATER MAIN, TYP.

PROPOSED 15 MPH SPEED LIMIT SIGN

TRANSITION FROM GRANITE CURB TO CONCRETE SLIP-FORM CURB

PROPOSED 8" GATE VALVE

PROPOSED STOP SIGN R1-1

PROPOSED ADA TIP-DOWN AND DETECTABLE WARNING PANEL, TYP.

REMOVE EXISTING 2" BLOW-OFF AND BEGIN INSTALLATION, INSTALL CHLORINE TAP WITHIN FIRST 10' OF INSTALLATION

EXISTING GRANITE CURB TO BE REMOVED. GRANITE CURBING MAY BE RE-SET IF AUTHORIZED BY CITY ENGINEER

PROPOSED BOULDERS SPACED 6' APART

APPROXIMATE LOCATION OF PROJECT SIGN

GUSF 2

APPROXIMATE LOCATION OF PROPOSED TRANSFORMER

EXTEND PROPOSED SIDEWALK AND CURB, AND MATCH INTO HOPE AVE. SIDEWALK AND CURB.

PROVIDE 5' TRANSITION FROM 2% MAX CROSS SLOPE TO EXISTING GRADE

NEW OR RE-SET GRANITE CURBING TO MATCH INTO STRAIGHT EDGE OF EXIST. CURB. SOME REMOVAL MAY BE NECESSARY TO CREATE THE STRAIGHT EDGE.

HOPE AVE

77.60

77.40

77.90

77.80

77.70

77.82

79.12

77.90

78.20

79.50

79.00

79.40

R20'

20'

SIGHT DISTANCE 240±

SIGHT DISTANCE 300±

BOC=77.10
TOC=77.60

PROPOSED CROSSWALK

BOC=78.88
TOC=79.38

RIM=79.11
INV. IN=70.13
INV. OUT=70.12

PUMP STATION

COORDINATE CONNECTION OF UTILITIES WITH THE CITY

GRIND EXISTING PAVEMENT

DROP INLET
RIM=76.47
6"INV. IN (A)=72.61
6"INV. IN (B)=72.98
H20=72.27
TOP HOOD=73.37
SUMP=69.57

RIM=76.93
14"INV. IN (A)=72.17
14"INV. IN (B)=72.52
14"INV. OUT=70.20

EXISTING PUMP STATION TO BE UPGRADED BY APPLICANT, PRIOR TO ACCEPTANCE OF ANY WASTEWATER FLOW FROM THE PROJECT. APPLICANT TO COORDINATE WITH PUBLIC WORKS DEPARTMENT TO FINALIZE DETAILS OF THE UPGRADE DURING BUILDING PERMIT PROCESS.

DROP INLET
RIM=76.60
(A)6"INV. IN=73.35
(B)6"INV. IN=72.84
TOP HOOD=73.70
SUMP=69.60

RIM=77.07
INV. IN (A)=69.29
INV. IN (B)=69.21
INV. IN (C)=69.27 (CAPPED)
INV. OUT=69.19

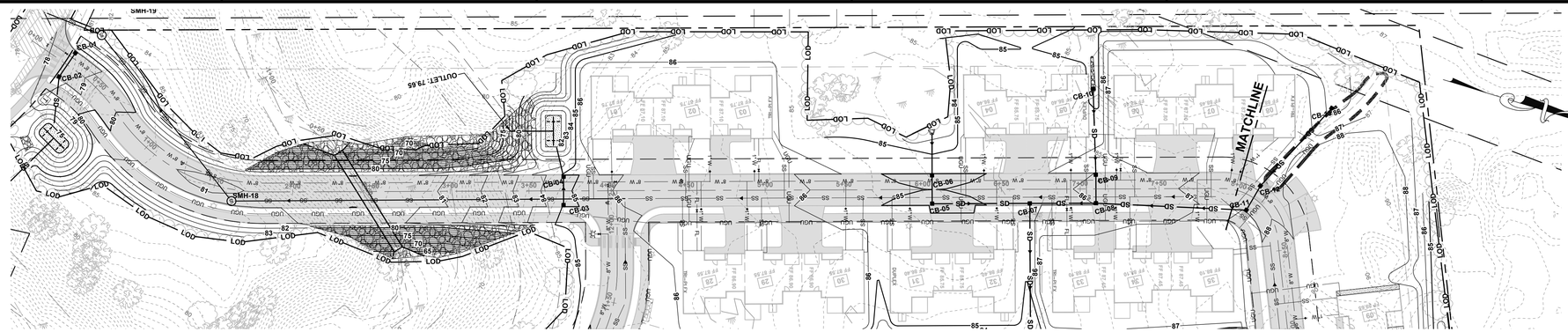
13'

23'

0 20' 40'

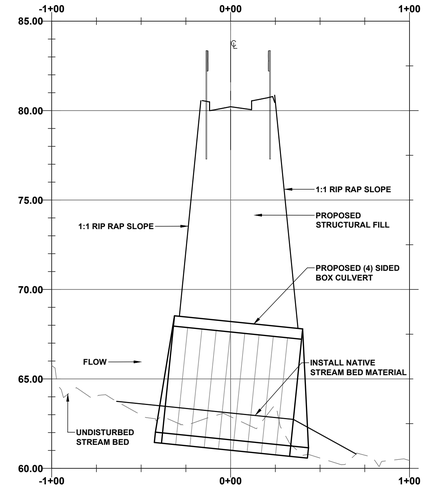
P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSGN_DWGS\13773.001-C-ROW.DWG

PROJECT: **PRESUMPSCOT WOODS SUBDIVISION** **0 HOPE AVENUE, PORTLAND, ME**	DWG No.: **C106**	BY: BLQ/PJM DATE: 2023.07.10	DRAWING STATUS: **NOT FOR CONSTRUCTION**
TITLE: **ENLARGED SITE ENTRANCE PLAN**	JN: 13773.001 SCALE: 1"=20'	REV.: 1 REV. DATE: 2025.02.11	HALEY WARD ENGINEERING | ENVIRONMENTAL | SURVEYING



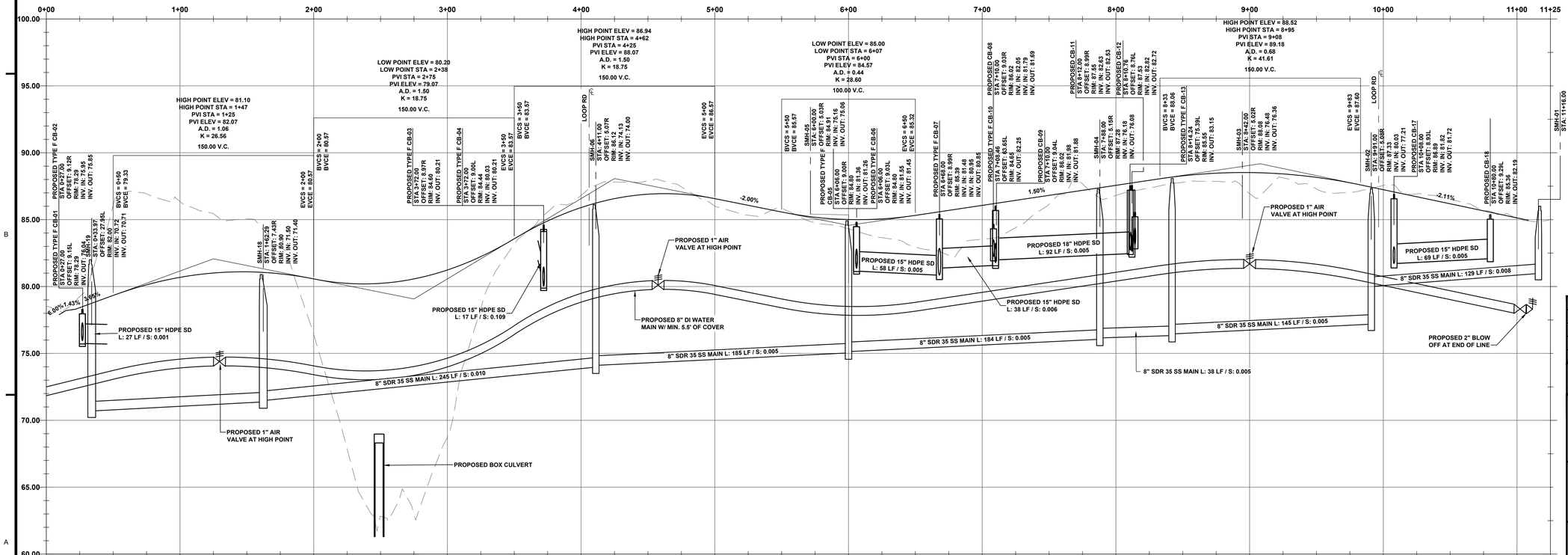
MAIN RD PLAN VIEW STA 0+00 TO 8+00
SCALE: 1"=40'

MAIN RD PLAN VIEW STA 8+00 TO 11+09
SCALE: 1"=40'

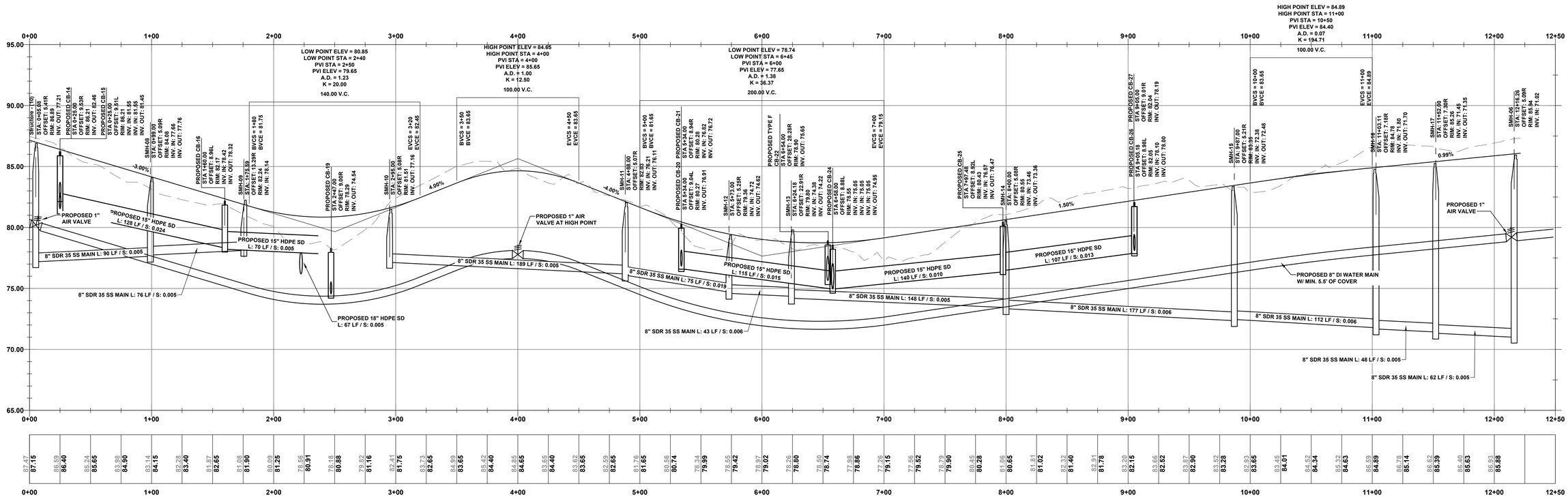


65.75	64.00	62.98	62.39	62.89	60.22	63.51	60.58	60.74	60.44
-1+00				0+00				1+00	

PROFILE VIEW OF STREAM CROSSING - STA -1+00 TO 1+00
SCALE: H: 1"=40' / V: 1"=4'



| 78.49 | 79.25 | 78.42 | 86.07 | 79.33 | 86.92 | 80.13 | 86.36 | 80.69 | 86.44 | 81.01 | 86.05 | 81.10 | 82.93 | 80.95 | 76.41 | 80.57 | 67.87 | 80.24 | 62.92 | 80.24 | 62.68 | 80.57 | 68.75 | 81.24 | 78.34 | 82.24 | 83.17 | 83.55 | 85.58 | 84.90 | 86.81 | 85.50 | 87.81 | 86.67 | 87.90 | 86.90 | 87.45 | 86.90 | 86.92 | 86.67 | 85.53 | 86.07 | 85.85 | 85.57 | 84.75 | 85.18 | 84.31 | 85.01 | 83.66 | 85.05 | 82.95 | 85.32 | 82.33 | 85.69 | 83.54 | 86.07 | 84.40 | 86.44 | 86.46 | 86.82 | 87.67 | 87.19 | 86.81 | 87.56 | 87.36 | 87.94 | 87.78 | 88.28 | 87.87 | 88.47 | 88.05 | 88.52 | 88.12 | 88.42 | 87.30 | 88.16 | 87.04 | 87.76 | 87.66 | 87.24 | 86.92 | 86.71 | 86.54 | 86.18 | 85.71 | 85.66 | 85.07 | 85.13 | 85.01 |
|---|---|---|---|---|---|---|---|---|---



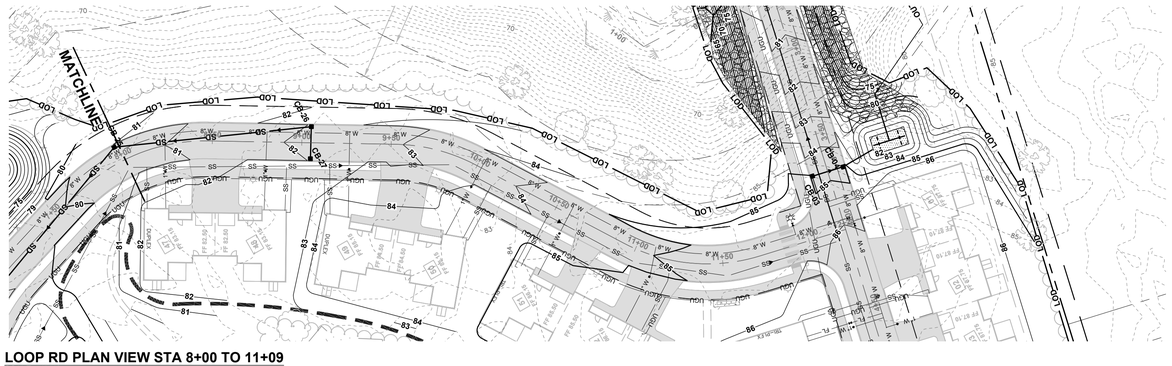
PROFILE VIEW OF CL-LOOP - STA 0+00 TO 12+50

SCALE: H: 1"=40' / V: 1"=4'



LOOP RD PLAN VIEW STA 0+00 TO 8+00

SCALE: 1"=40



LOOP RD PLAN VIEW STA 8+00 TO 11+09

SCALE: 1"=40

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

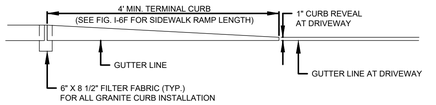
TITLE

LOOP RD
PLAN AND PROFILE

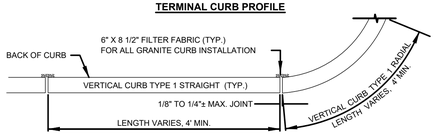
STATE OF MAINE
JOHN WHITTEN JR.
No. 10414
LICENSED PROFESSIONAL ENGINEER
02.13.2025

DATE	SCALE
2022.08.29	1"=40'
DRAWN BY	DESIGNED BY / CHECKED BY
BLQ/PJM	BLQ/PJM / JHW
PROJECT No.	13773.001
DRAWING No.	C202
REV.	4

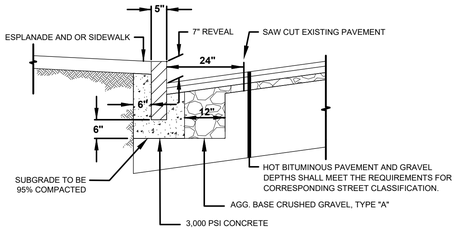
FILE LOCATION: P:\ME\13773-SHWIERD_CONSULTING\00-HOPE_AVE_DUPLEXES-JRW\02-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\13773.001-C-GR.DWG, 2025.02.11, 7:48 AM



TERMINAL CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



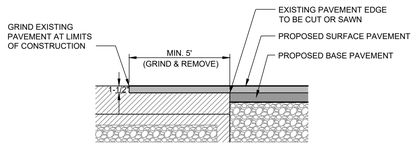
VERTICAL GRANITE CURB CROSS SECTION

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.

VERTICAL GRANITE CURB

NOT TO SCALE

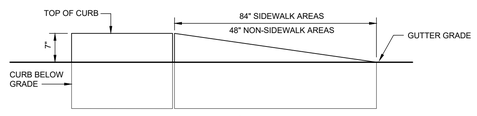
DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	VERTICAL GRANITE CURB		I-12



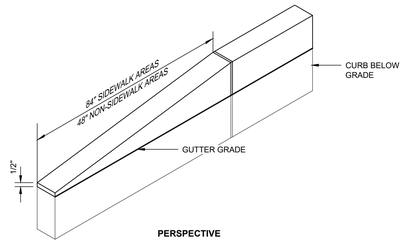
NOTES:
1. EXTEND NEW SURFACE PAVEMENT ACROSS BUTT JOINT IN BASE COURSE.
2. PROVIDE TACK COAT ON ALL SURFACES OF EXISTING PAVEMENT TO BE COVERED.

TYPICAL ASPHALT PAVEMENT GRINDING DETAIL

N.T.S.



ELEVATION



PERSPECTIVE

TYPICAL CURB TERMINATION DETAIL

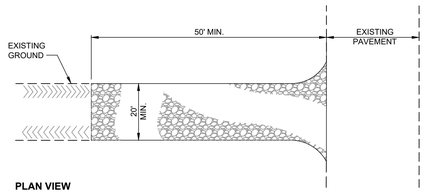
N.T.S.



NOTE:
1. PAYMENT LIMITS SHALL BE 6' WIDE (3' EACH SIDE OF CULVERT)

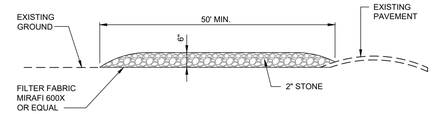
TYPICAL CULVERT TRENCH DETAIL

N.T.S.



PLAN VIEW

NOTE: CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES



SECTION

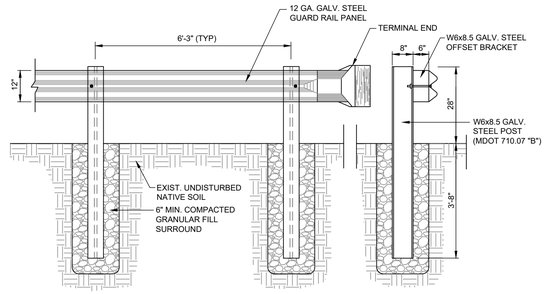
NOTE: VACUUM REMOVAL OF ANY TRACKED SEDIMENTS ONTO ROADWAYS SHALL BE PERFORMED AS NEEDED PRIOR TO A RAIN EVENT.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.

DRIPLINE FILTER BMP DETAIL

N.T.S.



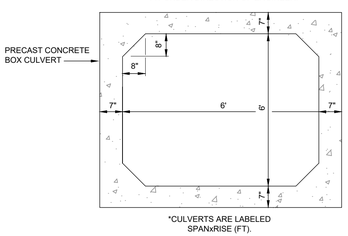
STEEL GUARDRAIL DETAIL

N.T.S.

NOTES:
1. ADJUSTABLE TRUSS ROD AND BRACE RAIL AT CORNER OR END POSTS ONLY, IF REQUIRED PER MANUFACTURER RECOMMENDATION.
2. COLOR SHALL BE BLACK.
3. FENCE SHALL BE ERECTED A MIN. OF 2 FEET FROM INSIDE EDGE OF BERM.

COLORED CHAIN LINK FENCE DETAIL

N.T.S.



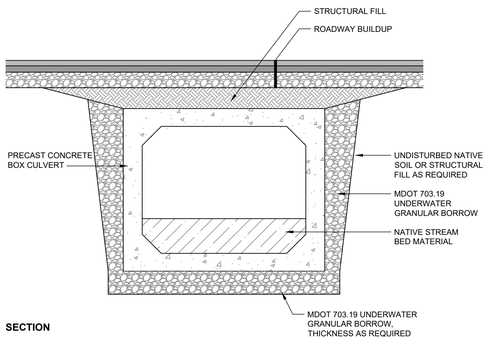
SECTION

GENERAL NOTES:

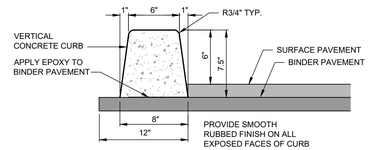
1. WHERE LEDGE IS ENCOUNTERED, CONCRETE SHALL BEAR DIRECTLY ON LEDGE. IN CASES OF PARTIAL LEDGE CONDITIONS, PROVIDE A MINIMUM OF 12 INCHES OF CRUSHED STONE BELOW CONCRETE. IN NO CASE SHALL CONCRETE BEAR PARTIALLY ON LEDGE AND PARTIALLY ON SOIL.
2. PRE-CAST DESIGN SHALL BE BASED ON AN ASSUMED ALLOWABLE BEARING CAPACITY OF 1,500 SF, MODIFIED HL-93.
3. PRE-CAST STRUCTURE SHALL BEAR ON NATURAL UNDISTURBED SOIL OR MDOT 703.19 UNDERWATER GRANULAR BORROW COMPACTED TO 95 PERCENT MAXIMUM DENSITY. LOOSE SOILS SHALL BE OVER-EXCAVATED TO UNDISTURBED SOIL AND REPLACED UNDERWATER GRANULAR SOIL AS SPECIFIED ABOVE. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
4. PRE-CAST RETAINING WALL BLOCKS SHALL BE EQUAL TO REDI-ROCK, STANDARD BLOCK, OR AMERICAN CONCRETE INDUSTRIES OR RUGGED ROCK BLOCK.

TYPICAL BOX CULVERT DETAILS

N.T.S.



SECTION



VERTICAL SLIPFORM CONCRETE CURB DETAIL

N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

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PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

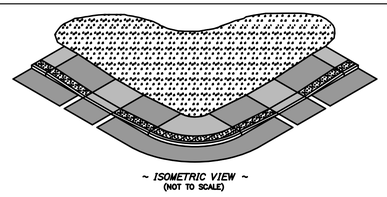
TITLE

SITE DETAILS

STATE OF MAINE JOHN N. WHITTEN, JR. No. 10414 02/11/2025 LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	AS NOTED
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO	CHECKED BY: JHW
PROJECT No.: 13773.001	
DRAWING No.: C501	REV.: 4

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JAW\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-DT.DWG, 2025.02.11, 7:48 AM

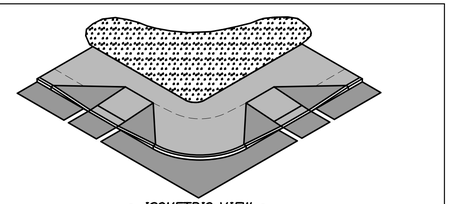


NOTES:
1. THIS DESIGN IS THE PREFERED OPTION WHEN THE SIDEWALK & ESPLANADE WIDTH IS LESS THAN 6.5'. USE OTHER OPTIONS ONLY WHEN REQUIRED BY DESIGN CONSTRAINTS.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

PARALLEL ADA RAMP – SIDEWALK LESS THAN 6.5' WIDE WITH OR WITHOUT ESPLANADE

NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	PARALLEL ADA RAMP FOR SIDEWALK LESS THAN 6.5' WIDE		I-6A

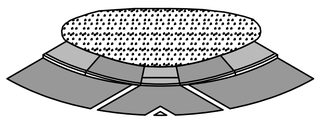


NOTES:
1. THIS DESIGN IS THE PREFERRED OPTION WHEN THE SIDEWALK WIDTH IS GREATER THAN 6.5'. USE OTHER OPTIONS ONLY WHEN REQUIRED BY DESIGN CONSTRAINTS.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

PERPENDICULAR ADA RAMP – SIDEWALK WIDTH GREATER THAN 6.5' WIDE WITH OR WITHOUT ESPLANADE

NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	PERPENDICULAR ADA RAMP FOR SIDEWALK GREATER THAN 6.5'		I-6B

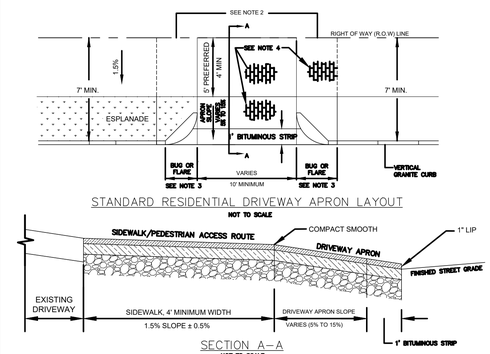


NOTES:
1. THIS LESS DESIRABLE DESIGN SHOULD NOT BE USED UNLESS REQUIRED BY DESIGN CONSTRAINTS. IT DOES NOT PROVIDE DIRECTIONAL CUES.
2. A MINIMUM CURB REVEAL OF 4" IS REQUIRED AT THE APEX OF THE CURB RADIUS.
3. MINIMUM TERMINAL CURB LENGTH SHALL BE 4 FEET.
4. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY.

APEX RAMP – SIDEWALKS LESS THAN 6.5' WIDE WITH NO ESPLANADE

NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	APEX RAMP FOR SIDEWALK LESS THAN 6.5' WIDE		I-6C

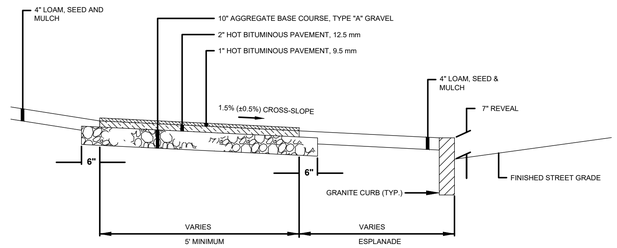


NOTES:
1. MATCH EXISTING GRADE AT R.O.W LINE, WHERE REQUIRED TO MEET A.D.A. AND DRIVEWAY APRON SLOPE REQUIREMENTS, A CONSTRUCTION EASEMENT MAY BE REQUIRED.
2. IF MATCHING THE EXISTING GRADE AT ROW CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%.
3. TWO-FOOT RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW-VOLUME DRIVEWAYS UNLESS OTHERWISE DIRECTED BY DPW. AT OTHER DRIVEWAYS, STANDARD FLARE/TIPDOWN TREATMENTS SHALL BE USED.
4. ALL MATERIALS IN ROW TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY. BRICK IN DRIVEWAY APRONS, WHERE APPLICABLE, SHALL BE ORIENTED IN THE SAME WAY AS THE ADJACENT BRICK SIDEWALK.
5. THIS LAYOUT MAY BE REQUIRED AT MINOR DRIVEWAYS SERVING COMMERCIAL OR INDUSTRIAL USES.

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	RESIDENTIAL DRIVEWAY APRON		I-9A

DATE: NOV. 2022
REVISED:

BITUMINOUS SIDEWALK — CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL — TRANSPORTATION DESIGN STANDARDS SECTION I — FIGURE: I-11C

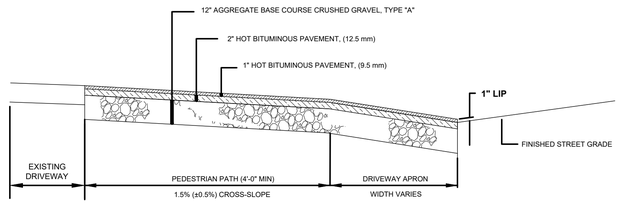


BITUMINOUS SIDEWALK

NOT TO SCALE

DATE: NOV. 2022
REVISED:

BITUMINOUS DRIVEWAY APRON — CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL — TRANSPORTATION DESIGN STANDARDS SECTION I — FIGURE: I-10C



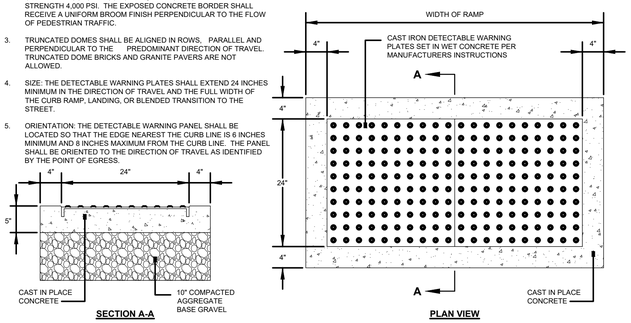
BITUMINOUS DRIVEWAY APRON

NOT TO SCALE

DATE: NOV. 2022
REVISED:

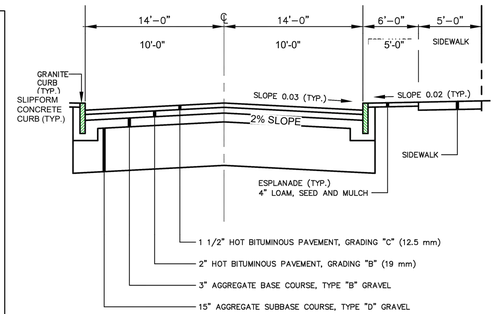
SIDEWALK RAMP DETECTABLE WARNING PANEL — CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL — TRANSPORTATION DESIGN STANDARDS SECTION I — FIGURE: I-7

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.



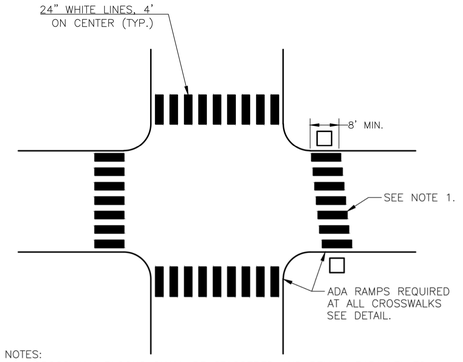
SIDEWALK RAMP DETECTABLE WARNING PANEL

NOT TO SCALE



LOCAL STREET CROSS SECTION

NOT TO SCALE



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.

CROSSWALK MARKINGS

NOT TO SCALE

DATE: NOV. 2022	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	TRANSPORTATION DESIGN STANDARDS SECTION I	FIGURE:
REVISED:	TYPICAL CROSSWALK MARKINGS		I-17

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

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ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

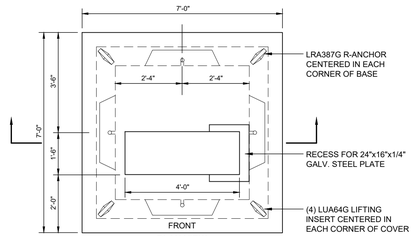
TITLE

SITE DETAILS

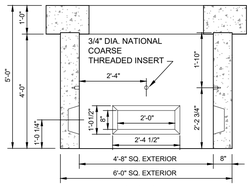
STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
02/11/2025
LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	AS NOTED
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO
CHECKED BY: JHW	
PROJECT No.: 13773.001	
DRAWING No.: C502	REV.: 4

FILE LOCATION: P:\working\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JAW\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-DT.DWG, 2025.02.11, 7:49 AM



PLAN VIEW



SECTION

TRANSFORMER PAD DETAIL

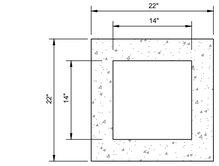
N.T.S.

SITE PREPARATION NOTES:
1.1 PAD SHALL BE SET ON A PROPERLY PREPARED GRAVEL BASE AND ORIENTED SO THE FRONT OF THE TRANSFORMER HAS TRUCK ACCESS AND IS PROTECTED FROM TRAFFIC.
1.2 FINISHED GRADE SHALL BE PREPARED IN SUCH A WAY AS TO SHED WATER AWAY FROM THE PAD.

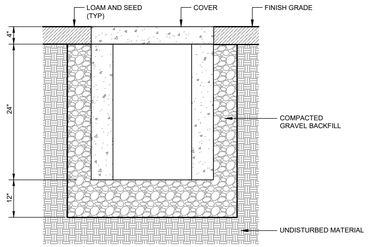
MANUFACTURING NOTES:
2.1 CONCRETE COMPRESSIVE STRENGTH: 4,000 PSI @ 28 DAYS.
2.2 AIR ENTRAINMENT: 4%-6%
2.3 GRADE 60 REINFORCEMENT
2.4 3/4" IDA. NATIONAL COURSE THREADED INSERTS CAST-IN AS SHOWN FOR PULLING EYES

PHYSICAL SPECIFICATIONS
3.1 COVER WEIGHT: 6,290 LBS
3.2 BASE WEIGHT: 8,080 LBS
3.3 TOTAL WEIGHT: 14,370 LBS

*FRONT DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED

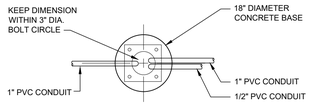


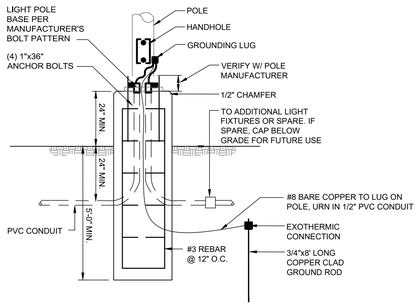
NOTES:
1. CONCRETE: 4000 PSI AT 28 DAYS
2. REINFORCE WITH 6" X 6" 10/10 W.W.M.
3. PROVIDE WITH LIFTING LOOPS
4. END BELL ALL DUCT OPENINGS
5. DUCT SIZES AS SHOWN ON DRAWING
6. INSTALL SO COVER IS AT FINISH GRADE LEVEL
7. "ELECTRIC" IDENTIFICATION ON COVER IN 2" HIGH LETTERS



TYPICAL PULL BOX DETAIL

N.T.S.





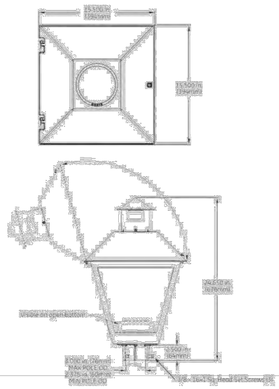
TYPICAL LIGHT POLE BASE DETAIL

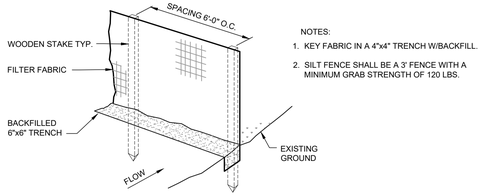
N.T.S.

PORTLAND | me

Street & Sidewalk Lighting
STANDARD - RESIDENTIAL

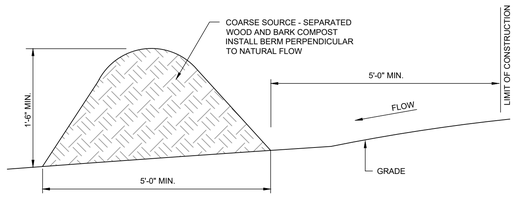
Town & Country Post Top (EPTT)


3.5"OD
2.25"OD
15.00"
2.75"OD
3.75"OD
PLATE OD
10.00"SQ
4 BOLTS ON
10.00"BC
4 HOLES ON
14.00"BC
3.50"
TENON
4.00"
TYP
4 BOLTS ON
10.00"BC
4 HOLES ON
14.00"BC
1.50"
TENON
4.00"
TYP
1.50"
TENON
4.00"
TYP
4 BOLTS ON
10.00"BC
4 HOLES ON
14.00"BC
1.50"
TENON
4.00"
TYP
WINDOW DOOR OPEN SURFACE
1.50"
TENON
4.00"
TYP
4 BOLTS ON
10.00"BC
4 HOLES ON
14.00"BC

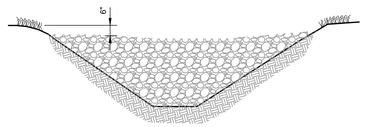


NOTES:
1. KEY FABRIC IN A 4"x4" TRENCH W/BACKFILL.
2. SILT FENCE SHALL BE A 3' FENCE WITH A MINIMUM GRAB STRENGTH OF 120 LBS.

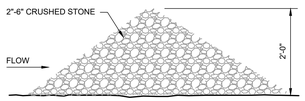
SILT FENCE DETAIL
N.T.S.



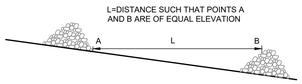
EROSION CONTROL BERM DETAIL
N.T.S. (MAY BE USED AS AN ALTERNATIVE TO SILT FENCE, EXCEPT AT THE BASE OF A SLOPE EXCEEDING 8% OR WHERE WATER IS FLOWING WITHOUT ADDITIONAL MEASURES)



ELEVATION

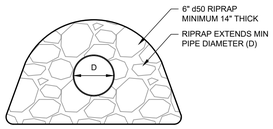


CROSS SECTION

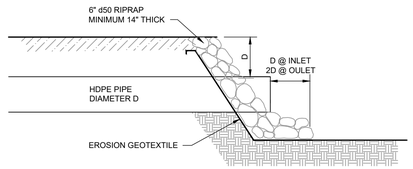


SPACING

STONE CHECK DAM DETAIL
N.T.S.

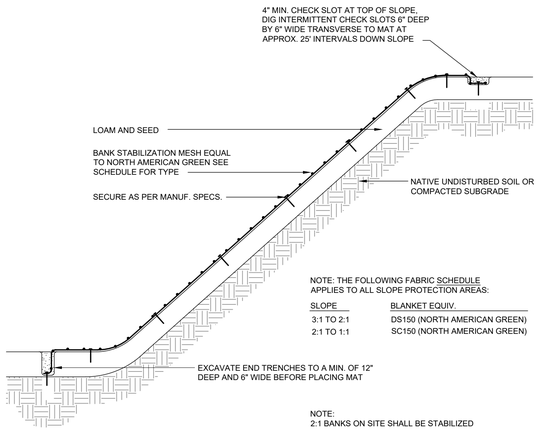


ELEVATION



PROFILE VIEW

TYPICAL INLET/OUTLET PROTECTION DETAIL
N.T.S.

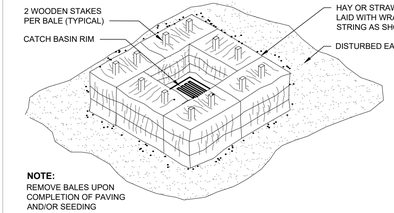


NOTE: THE FOLLOWING FABRIC SCHEDULE APPLIES TO ALL SLOPE PROTECTION AREAS:

SLOPE	BLANKET EQUIV.
3:1 TO 2:1	DS150 (NORTH AMERICAN GREEN)
2:1 TO 1:1	SC150 (NORTH AMERICAN GREEN)

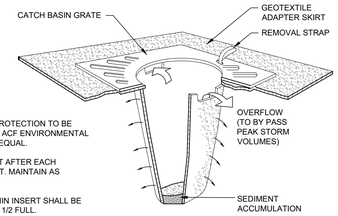
NOTE:
2:1 BANKS ON SITE SHALL BE STABILIZED

BANK STABILIZATION DETAIL
N.T.S.



NOTE:
REMOVE BALES UPON COMPLETION OF PAVING AND/OR SEEDING

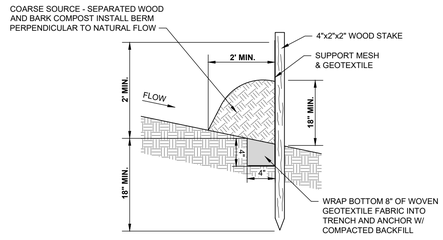
HAYBALES



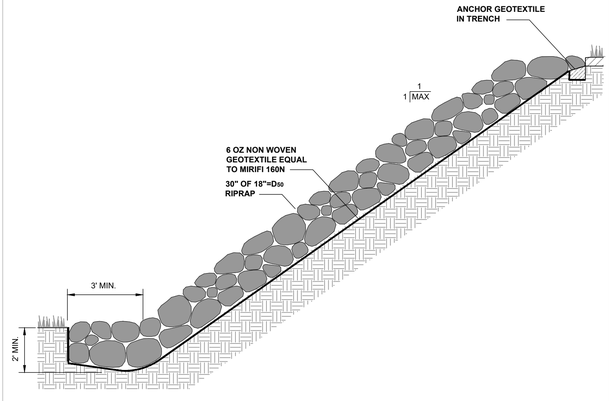
NOTES:
1. CATCH BASIN PROTECTION TO BE "SILTSTACK" BY ACF ENVIRONMENTAL OR APPROVED EQUAL.
2. INSPECT INSERT AFTER EACH RAINFALL EVENT. MAINTAIN AS REQUIRED.
3. SEDIMENT WITHIN INSERT SHALL BE EMPTIED WHEN 1/2 FULL.

SEDIMENT SACK

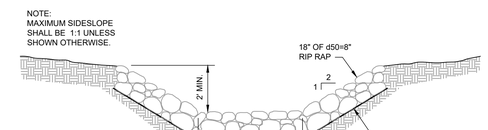
SEDIMENT INLET PROTECTION DETAILS
N.T.S.



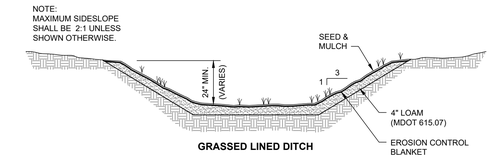
SILT FENCE & EROSION CONTROL MIX BERM DETAIL
N.T.S.



RIP RAPPED SLOPE STABILIZATION DETAIL
N.T.S.



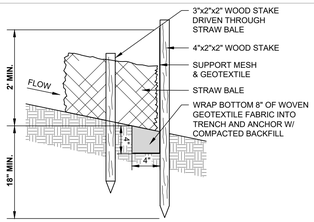
RIPRAP LINED DITCH

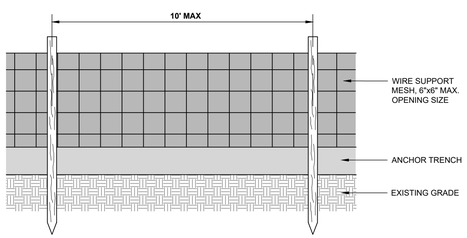


GRASSED LINED DITCH

TYPICAL DITCH DETAILS
N.T.S.

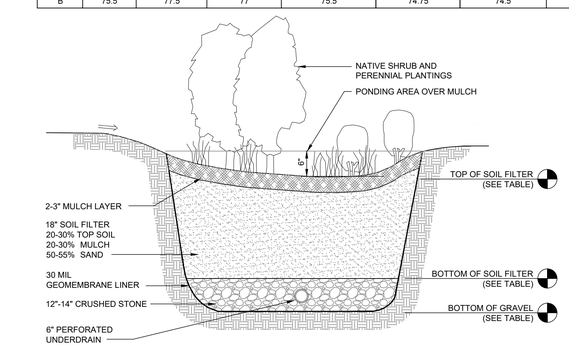
NOTES:
1. THE HEIGHT OF SILT FENCE SHALL NOT EXCEED 36 INCHES.
2. GEOTEXTILE SHALL BE INSTALLED SUCH THAT SEEMS ARE MINIMIZED.
3. SECURE GEOTEXTILE IN 4"x4" TRENCH ON UPSLOPE SIDE OF POSTS.
4. ATTACH WIRE SUPPORT MESH TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. EXTEND SUPPORT MESH INTO THE TRENCH A MINIMUM OF 2".
5. ATTACH GEOTEXTILE TO THE FENCE USING STAPLES OR WIRE. BURY THE BOTTOM 8 INCHES OF THE FABRIC IN THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE EXISTING GRADE.





SILT FENCE & STRAW BALES DETAIL
N.T.S.

BIOFILTER ID	EXISTING ELEVATION (+/-) (FT)	EMERGENCY SPILLWAY ELEVATION (FT)	TOP OF SOIL FILTER (FT)	BOTTOM OF SOIL FILTER/TOP OF GRAVEL (FT)	ELEVATON OF PIPE BED (FT)	BOTTOM OF GRAVEL (FT)	TOP OF BERM (FT)	TREATMENT AREA REQ'D/PROVIDED (SF)	TOTAL STORAGE VOLUME REQ'D/PROVIDED (CF)
A	77.5	79.5	79	77.5	76.75	76.5	80.5	122/140	141/151
B	75.5	77.5	77	75.5	74.75	74.5	78.5	105/116	121/142



TYPICAL BIOCELL DETAIL
N.T.S.

LINER
1. NONWOVEN 30MIL GEOMEMBRANE.

PLANT SPECIES
1. PLANT SPECIES SHALL BE CHOSEN IN ACCORDANCE WITH MAINE DEP CHAPTER 500 BMP'S.

UNDERDRAIN LAYOUT
1. PIPES SHALL BE PLACED AT A MAXIMUM OF 15' APART WITH A POSITIVE GRADIENT.

MAINTENANCE
DURING THE FIRST YEAR, THE BASIN WILL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING MAJOR STORM EVENTS.

1. DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE FOREBAY AND BASIN AS NEEDED. MOWING OF GRASSED BASIN CAN OCCUR SEMI-ANNUALLY TO A HEIGHT OF NO LESS THAN 6 INCHES.
2. ANY BARE AREA OR EROSION RILLS SHALL BE REPAIRED WITH NEW FILTER MEDIA OR SANDY LOAM, SEEDED AND MULCHED OR SODDED.
3. MAINTAINING GOOD GRASS COVER WILL MINIMIZE CLOGGING WITH FINE SEDIMENTS AND IF PONDING EXCEEDS 48 HOURS, THE TOP OF THE FILTER BED MUST BE ROTOTILLED TO REESTABLISH THE SOIL'S FILTRATION CAPACITY.
4. IN BIORETENTION CELLS, RAKING AND REPLACING THE DEGRADED MULCH BETWEEN PLANTS WILL BE NECESSARY ON AN ANNUAL BASIS. PLANTS THAT ARE NOT ESTABLISHED WITH NEED TO BE REPLACED.

CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
- AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED,
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA,
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. BIO-RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%.
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
- ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY	CHK
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS
ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE
SITE DETAILS

STATE OF MAINE — JOHN H. WHITTEN, JR. No. 10414 — 2/11/2025 — LICENSED PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	AS NOTED

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ/PJM	BLQ/DJO	JHW

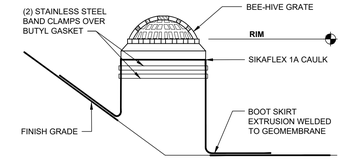
PROJECT No. 13773.001

DRAWING No. **C504** REV. **4**

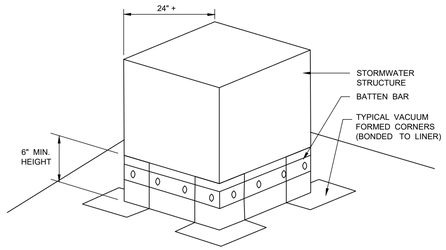
FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JWW\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-DT.DWG, 2025.02.11, 7:49 AM



BATTEN BAR DETAIL

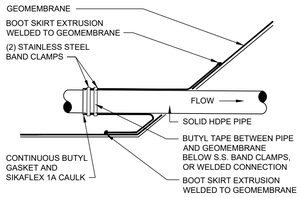


VERTICAL PIPE PENETRATION

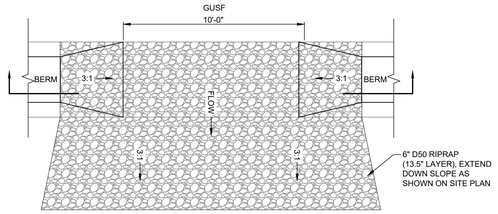


TYPICAL VERTICAL LINER PENETRATION DETAIL

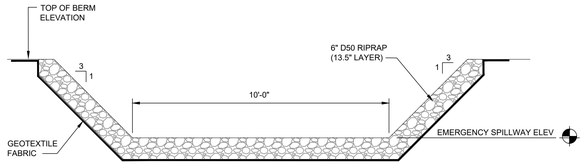
N.T.S.



HORIZONTAL PIPE PENETRATION



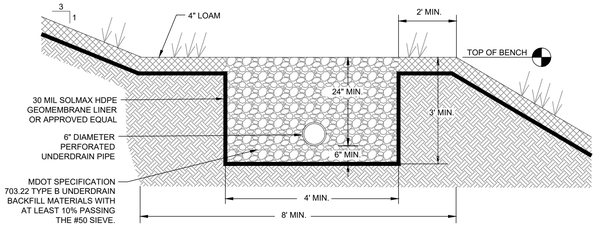
PLAN VIEW



SECTION VIEW

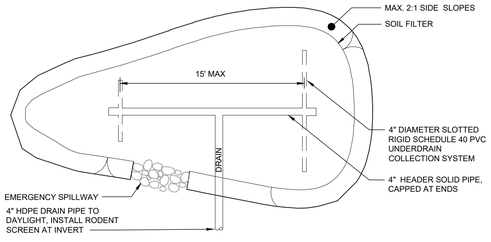
WET POND EMERGENCY SPILLWAY DETAIL

N.T.S.

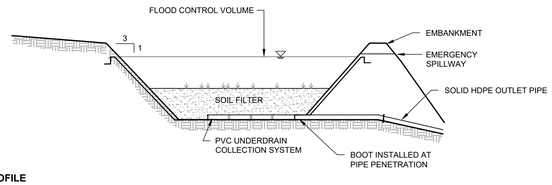


POND BENCH UNDERDRAINED GRAVEL FILTER DETAIL

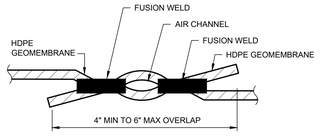
N.T.S.



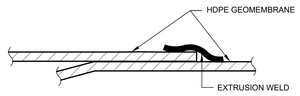
PLAN VIEW



PROFILE



HOT WEDGE DUAL TRACK FUSION WELD DETAIL



FILLET EXTRUSION WELD DETAIL

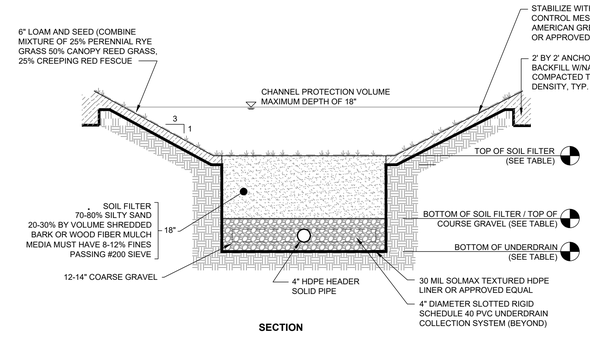
GEOMEMBRANE WELD DETAILS

NTS

POND ID	EXISTING ELEVATION (FT)	PERMANENT POOL ELEVATION (FT)	TOP OF LINER / CHANNEL PROTECTION ELEVATION (FT)	25 YEAR FLOOD ELEVATION (FT)	BOTTOM OF POND (FT)	100 YEAR FLOOD ELEVATION	EMERGENCY SPILLWAY ELEVATION (FT)	TOP OF BERM (FT)	SPILLWAY CREST BREADTH/LENGTH (FT)	OUTLET STRUCTURE		
										RIM (FT)	INLETS	OUTLET IN (FT)
A	79	73.85	75.8	78.67	64.00	79.15	78.9	79.67	10/10	78.5	71.95, 75.80 (6-INCH)	71.85 (24-INCH)
B	74	72.71	74.49	76.21	65.00	76.97	76.7	77.21	6/10	76.5	74.49, 70.81 (6-INCH)	70.71 (24-INCH)

WET POND SECTION

N.T.S.



SECTION

USF NO.	EXISTING ELEVATION (+/-) (FT)	EMERGENCY SPILLWAY ELEVATION (FT)	TOP OF SOIL FILTER (FT)	BOTTOM OF SOIL FILTER/TOP OF COARSE GRAVEL (FT)	ELEVATION OF PIPE BED (FT)	BOTTOM OF COARSE GRAVEL (FT)	TOP OF BERM (FT)	TREATMENT AREA REQ'D/PROVIDED (SF)	TOTAL STORAGE VOLUME REQ'D/PROVIDED (CF)
1	82	83.5	82	80.5	79.75	79.5	84.2	208/210	348/546
2	77	76.73	75.23	73.73	72.98	72.73	77.2	183/192	305/512

GRASSED UNDERDRAIN SOIL FILTER DETAILS

N.T.S.

GENERAL NOTES

1. GUSF (INCLUDING FOREBAYS) SHALL NOT BE USED FOR SNOW STORAGE.
2. ALL COMPONENTS, CONSTRUCTION, INSPECTIONS, AND MAINTENANCE SHALL CONFORM TO THE LATEST EDITION OF MAINE DEP CHAPTER 500 STORMWATER MANAGEMENT RULES.

CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:

- AFTER THE PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED,
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA,
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED. BIO-RETENTION CELLS MUST BE STABILIZED PER THE PROVIDED PLANTING SCHEME AND DENSITY FOR THE CANOPY COVERAGE OF 30 AND 50%,
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS, AND
- ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

LINER

1. 30MIL TEXTURED GEOMEMBRANE.

PLANT SPECIES

1. PLANT SPECIES SHALL BE CHOSEN IN ACCORDANCE WITH MAINE DEP CHAPTER 500 BMP'S.

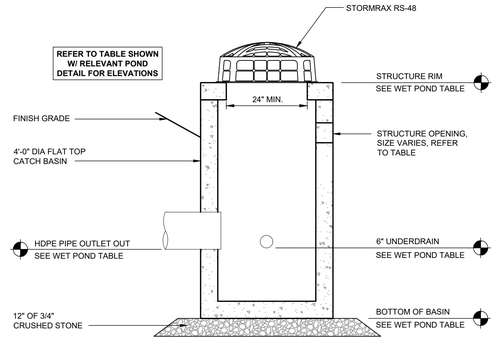
UNDERDRAIN LAYOUT

1. PIPES SHALL BE PLACED AT A MAXIMUM OF 15' APART WITH A POSITIVE GRADIENT.

MAINTENANCE

DURING THE FIRST YEAR, THE BASIN WILL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING MAJOR STORM EVENTS

1. DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE FOREBAY AND BASIN AS NEEDED. MOWING OF GRASSED BASIN CAN OCCUR SEMI-ANNUALLY TO A HEIGHT OF NO LESS THAN 6 INCHES.
2. ANY BARE AREA OR EROSION RILLS SHALL BE REPAIRED WITH NEW FILTER MEDIA OR SANDY LOAM, SEEDED AND MULCHED OR SODDED.
3. MAINTAINING GOOD GRASS COVER WILL MINIMIZE CLOGGING WITH FINE SEDIMENTS AND IF PONDING EXCEEDS 48 HOURS, THE TOP OF THE FILTER BED MUST BE ROTOTILLED TO REESTABLISH THE SOIL'S FILTRATION CAPACITY.



SECTION

WET POND OUTLET STRUCTURE DETAIL

N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
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PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

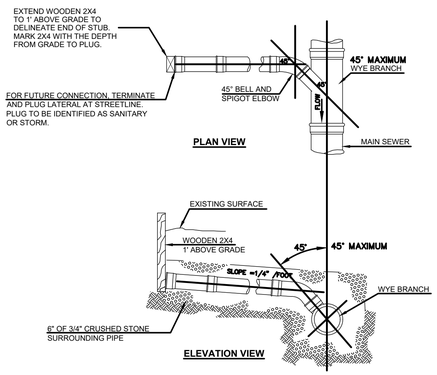
TITLE

SITE DETAILS

STATE OF MAINE
JASON P. WHITTEN JR.
No. 10414
LICENSED PROFESSIONAL ENGINEER
02.11.2025

DATE	SCALE
2022.08.29	AS NOTED
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO
CHECKED BY: JHW	
PROJECT No.: 13773.001	
DRAWING No.: **DETAILS**	REV.: **4**

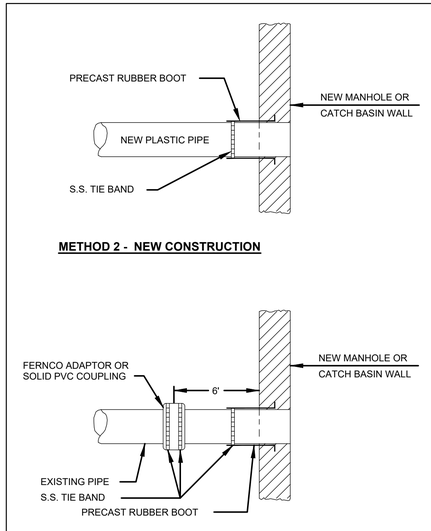
FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\00-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\05SDL_DWGS\13773.001-C-DT.DWG, 2025.02.11, 7:49 AM



TYPICAL HOUSE LATERAL TEE/WYE CONNECTION

NOT TO SCALE

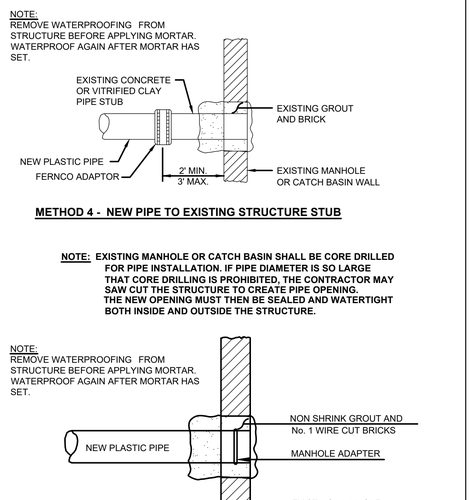
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-17
	TYPICAL HOUSE LATERAL TEE/WYE CONNECTION		



PLASTIC PIPE CONNECTIONS

NOT TO SCALE

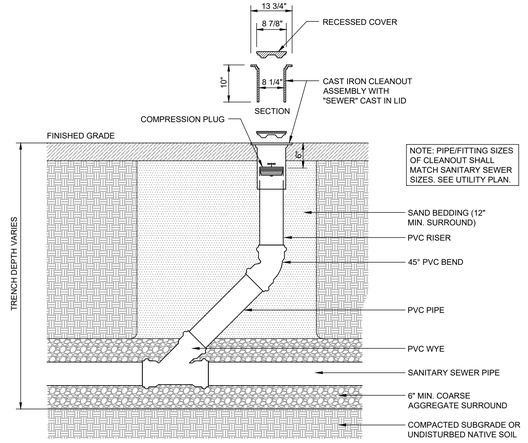
DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-13
	PLASTIC PIPE CONNECTION METHODS 1 & 2		



PLASTIC PIPE CONNECTIONS

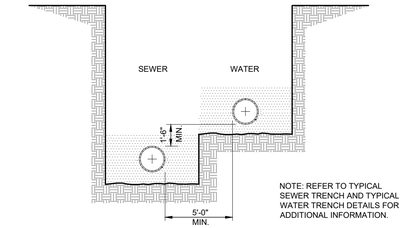
NOT TO SCALE

DATE: AUGUST 2009 REVISED:	CITY OF PORTLAND, MAINE TECHNICAL STANDARDS MANUAL	SANITARY SEWER AND STORM DRAIN DESIGN STANDARDS SECTION II	FIGURE: II-14
	PLASTIC PIPE CONNECTION METHODS 3 & 4		



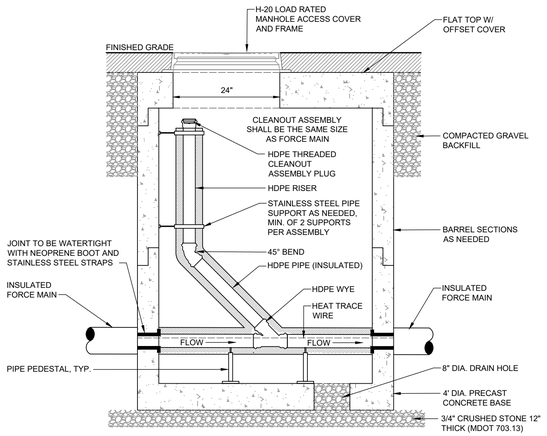
SANITARY SEWER CLEANOUT DETAIL

N.T.S.



TYPICAL SEWER / WATER SEPARATION DETAIL

N.T.S.

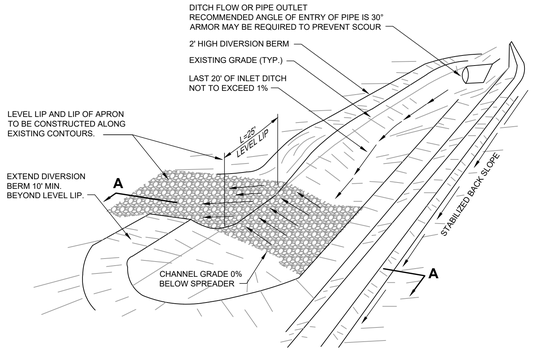


NOTES:

1. THROUGH WALL CONNECTIONS SHALL BE MADE WITH PRESS-SEAL OR KOR-N-SEAL GASKETS WITH STAINLESS STEEL STRAPS TO PERMIT LIMITED DIFFERENTIAL SETTLEMENT.
2. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304L WITH STAINLESS STEEL HARDWARE.
3. ENSURE CONTINUATION OF HEAT TRACE WIRE (IF APPLICABLE).

TYPICAL FORCE MAIN CLEANOUT DETAIL

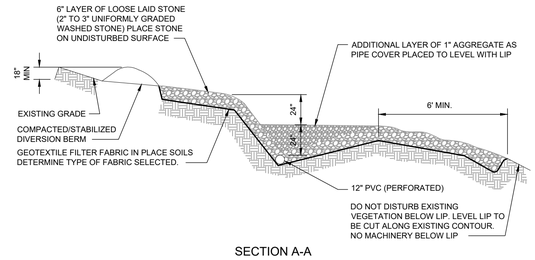
N.T.S.



1. SPREADERS SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL UP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT FILL).
2. SELECT GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SANDS, SILTS, CLAYS, ETC.)
3. PLACE 6" LAYER OF UNIFORMLY GRADED STONE 2" TO 3" IN DIA. RAKE TO FORM SMOOTH UNIFORM SURFACE. DO NOT FILL VOIDS IN STONE.
4. THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE SPREADER.
5. STORM RUN-OFF CONVERTED TO SHEET FLOW ACROSS OUTLET APRON SHALL FLOW ONTO STABILIZED AREAS. RUN-OFF SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF DISCHARGE.

LEVEL LIP SPREADER DETAIL

N.T.S.



SECTION A-A

6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PROVIDED.
7. CONSTRUCTION OF LEVEL UP SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL UP & AREA BELOW SPREADER SHALL BE AT EXISTING GRADES & UNDISTURBED BY EARTHWORK OR EQUIPMENT.
8. CONSTRUCT SPREADER WITH LIP AT EXISTING ELEVATION AS SPECIFIED.
9. DOWNGRADIENT RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.
10. DISCHARGE NOT PERMITTED WITHIN 25' OF A STREAM OR WETLAND. CONSULT DEP IF STRUCTURE MUST BE WITHIN 75' OF STREAM OR WATER BODY.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

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PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

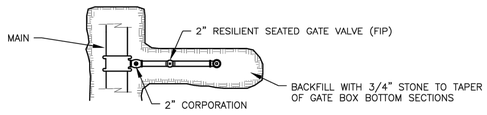
TITLE

SITE DETAILS

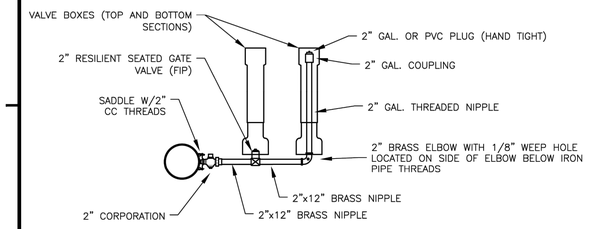
STATE OF MAINE JOHN H. WHITTEN JR. No. 10414 REGISTERED PROFESSIONAL ENGINEER 02/11/2025

DATE	SCALE
2022.08.29	AS NOTED
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO	CHECKED BY: JHW
PROJECT No. 13773.001	
DRAWING No. C506	REV. 4

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\0001-HOPE_AVE_DUPLEXES-JAN\02-CAD_DRAWINGS\CIVIL\DSGN_DWGS\13773.001-C-DT DWG, 2025.02.11, 7:49 AM

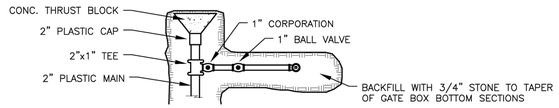


TOP VIEW

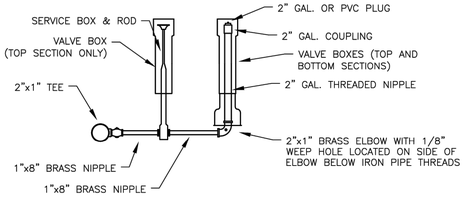


SIDE VIEW

SIDE-ARM BLOW-OFF (4" & LARGER MAINS)

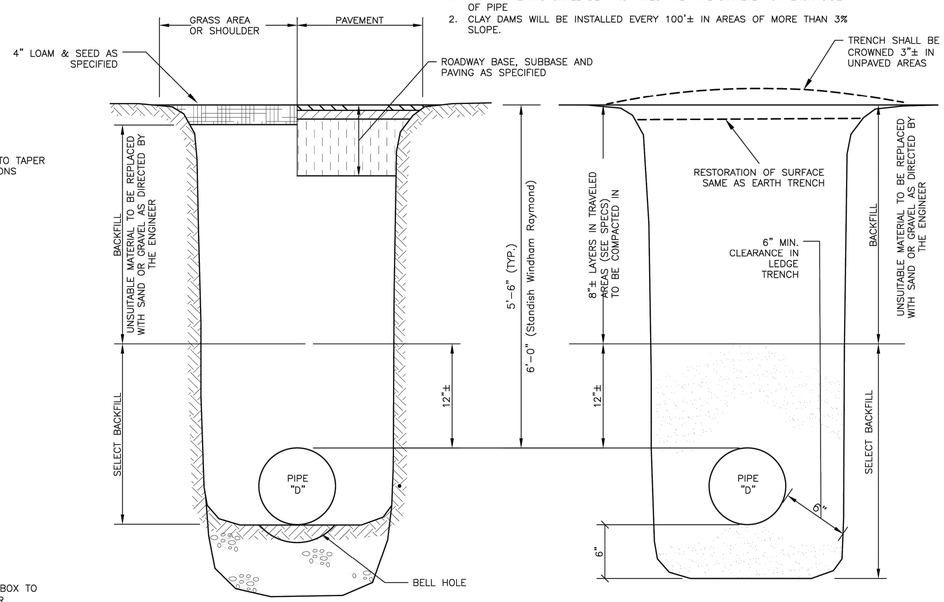


TOP VIEW



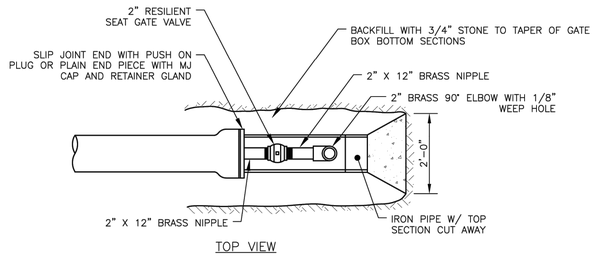
SIDE VIEW

SIDE-ARM BLOW-OFF (2" MAIN)

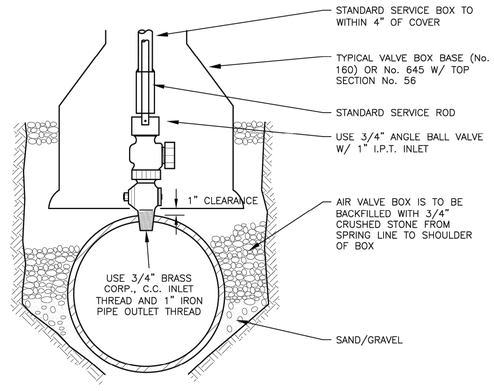


SECTION THRU EARTH TRENCH

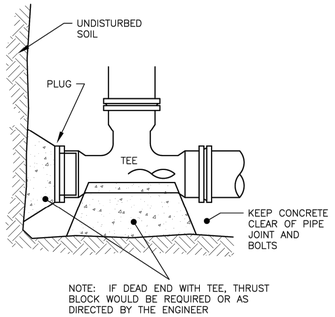
SECTION THRU LEDGE TRENCH

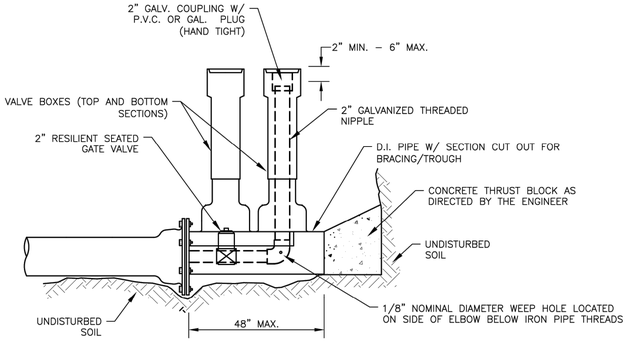


TOP VIEW

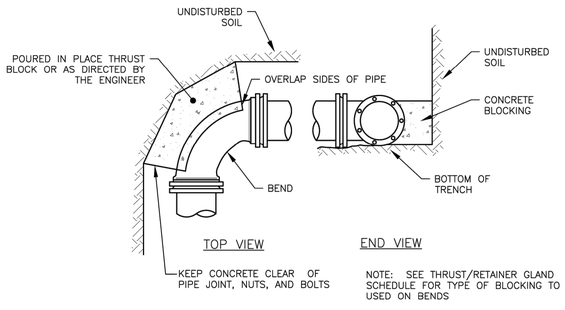


TYPICAL AIR VALVE (1")





STANDARD 2" BLOW OFF

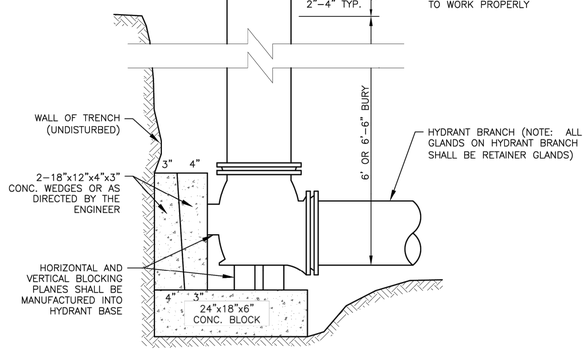


TOP VIEW

END VIEW

NOTE: SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

STANDARD BEND BLOCKING



TYPICAL HYDRANT INSTALLATION DETAIL

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

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PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

SITE DETAILS

JOHN WHITTEN JR. No. 10414 LICENSED PROFESSIONAL ENGINEER
02/11/2025

DATE	SCALE
2022.08.29	AS NOTED
DRAWN BY: BLQ/PJM	DESIGNED BY: BLQ/DJO
CHECKED BY: JHW	

PROJECT No. 13773.001

DRAWING No. **C507** REV. **4**

JOB NO.: 13773.001
DATE: 10/01/2007
SCALE: AS NOTED
SHEET: 1 OF 2

01

PORTLAND WATER DISTRICT

STANDARD DETAILS

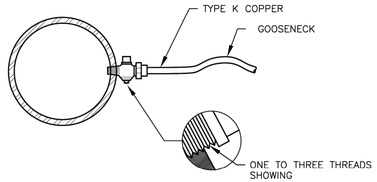
STANDARD WATER DETAILS

REV	DESCRIPTION	DATE
KAW	UPDATED SMALL METER PIT GEOMETRY	12/20
JGH	TYP. OFFSET & CHART ADDED	10/11

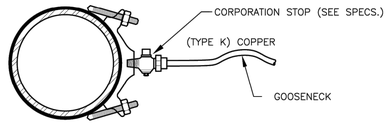
DESIGNED BY: TAW/KAW
CHECKED BY: GSJ
DRAWN BY: SWD-2021.DWG

Portland Water District
225 DOUGLASS STREET, PORTLAND, MAINE 04104

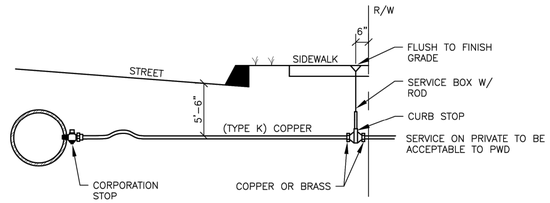
FILE LOCATION: P:\WE\13773-SHINBERG_CONSULTING\000\HOPE_AVE_DUPLEXES\J-JAWG\CAD_DRAWINGS\CIVIL\DGN_DWGS\13773.001-C-DT.DWG, 2025.02.11, 7:49 AM



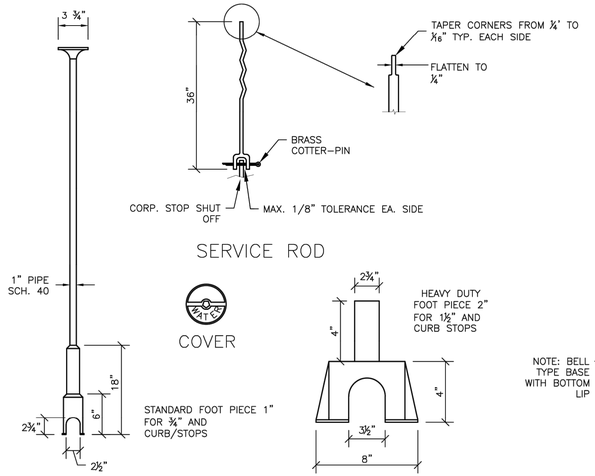
SERVICE TAP
(3/4" AND 1" C.C. THREAD)



SERVICE SADDLE
(1-1/2" AND 2" C.C. THREAD)



TYPICAL SERVICE CONNECTION

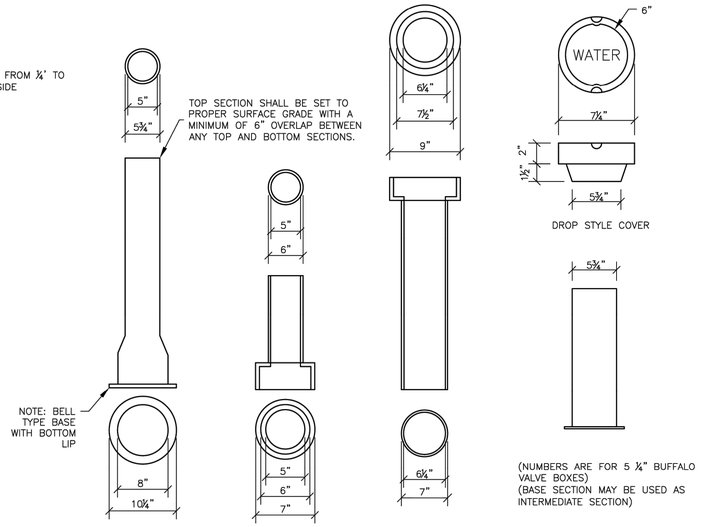


SERVICE ROD

SERVICE BOX

FOOT PIECE

NOTE: ANY EXTENSION OF SERVICE BOX REQUIRES:
1. 1" FEMALE IRON PIPE COUPLING
2. 1" THREADED PIPE (THIS IS TO BE A NON-WELDED, TWO PIECE ARRANGEMENT. SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)

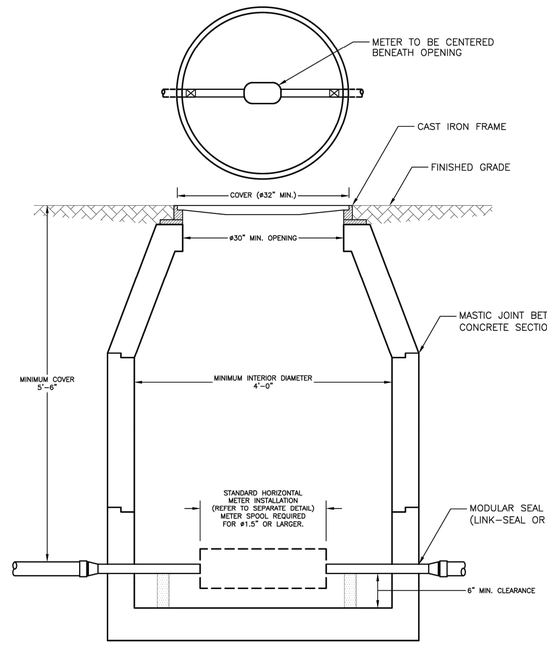


BASE SECTION NO. 645

INTERMEDIATE SECTION NO.58

TOP SECTION NO.56

VALVE BOX & COVER



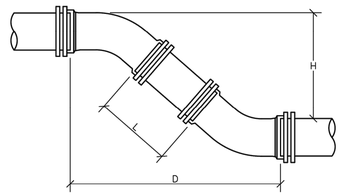
TYPICAL METER PIT – 5/8" TO 2" METER

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 LABELED "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.

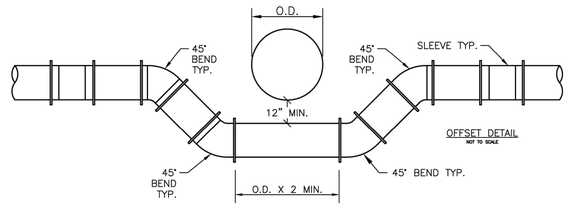
METER INSTALLATION

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 METER 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.



	6" PIPE		8" PIPE		12" PIPE	
H	D	L	D	L	D	L
12"	1' 6-1/2"	0' 10-1/2"	1' 7-1/2"	0' 9-1/2"	1' 11-1/2"	0' 5-1/2"
13"	1' 7-1/2"	0' 11-7/8"	1' 8-1/2"	0' 10-7/8"	2' 0-1/2"	0' 6-7/8"
14"	1' 8-1/2"	1' 1-5/16"	1' 9-1/2"	1' 0-5/16"	2' 1-1/2"	0' 8-5/16"
15"	1' 9-1/2"	1' 2-11/16"	1' 10-1/2"	1' 1-11/16"	2' 2-1/2"	0' 9-11/16"
16"	1' 10-1/2"	1' 4-1/8"	1' 11-1/2"	1' 3-1/8"	2' 3-1/2"	0' 11-1/8"
17"	1' 11-1/2"	1' 5-9/16"	2' 0-1/2"	1' 4-9/16"	2' 4-1/2"	1' 0-9/16"
18"	2' 0-1/2"	1' 6-15/16"	2' 1-1/2"	1' 5-15/16"	2' 5-1/2"	1' 1-15/16"
19"	2' 1-1/2"	1' 8-3/8"	2' 2-1/2"	1' 7-3/8"	2' 6-1/2"	1' 3-3/8"
20"	2' 2-1/2"	1' 9-13/16"	2' 3-1/2"	1' 8-13/16"	2' 7-1/2"	1' 4-13/16"
21"	2' 3-1/2"	1' 11-3/16"	2' 4-1/2"	1' 10-3/16"	2' 8-1/2"	1' 6-3/16"
22"	2' 4-1/2"	2' 0-5/8"	2' 5-1/2"	1' 11-5/8"	2' 9-1/2"	1' 7-5/8"
23"	2' 5-1/2"	2' 2"	2' 6-1/2"	2' 1"	2' 10-1/2"	1' 9"
24"	2' 6-1/2"	2' 3-7/16"	2' 7-1/2"	2' 2-7/16"	2' 11-1/2"	1' 10-7/16"
25"	2' 7-1/2"	2' 4-7/8"	2' 8-1/2"	2' 3-7/8"	3' 0-1/2"	1' 11-7/8"
26"	2' 8-1/2"	2' 6-1/4"	2' 9-1/2"	2' 5-1/4"	3' 1-1/2"	2' 1-1/4"
27"	2' 9-1/2"	2' 7-11/16"	2' 10-1/2"	2' 6-11/16"	3' 2-1/2"	2' 2-11/16"
28"	2' 10-1/2"	2' 9-1/8"	2' 11-1/2"	2' 8-1/8"	3' 3-1/2"	2' 4-1/8"
29"	2' 11-1/2"	2' 10-1/2"	3' 0-1/2"	2' 9-1/2"	3' 4-1/2"	2' 5-1/2"
30"	3' 0-1/2"	2' 11-15/16"	3' 1-1/2"	2' 10-15/16"	3' 5-1/2"	2' 6-15/16"
31"	3' 1-1/2"	3' 1-5/16"	3' 2-1/2"	3' 0-5/16"	3' 6-1/2"	2' 8-5/16"
32"	3' 2-1/2"	3' 2-3/4"	3' 3-1/2"	3' 1-3/4"	3' 7-1/2"	2' 9-3/4"
33"	3' 3-1/2"	3' 4-3/16"	3' 4-1/2"	3' 3-3/16"	3' 8-1/2"	2' 11-3/16"
34"	3' 4-1/2"	3' 5-9/16"	3' 5-1/2"	3' 4-9/16"	3' 9-1/2"	3' 0-9/16"
35"	3' 5-1/2"	3' 7"	3' 6-1/2"	3' 6"	3' 10-1/2"	3' 2"
36"	3' 6-1/2"	3' 8-7/16"	3' 7-1/2"	3' 7-7/16"	3' 11-1/2"	3' 3-7/16"
37"	3' 7-1/2"	3' 9-13/16"	3' 8-1/2"	3' 8-13/16"	4' 0-1/2"	3' 4-13/16"
38"	3' 8-1/2"	3' 11-1/4"	3' 9-1/2"	3' 10-1/4"	4' 1-1/2"	3' 6-1/4"
39"	3' 9-1/2"	4' 0-11/16"	3' 10-1/2"	3' 11-11/16"	4' 2-1/2"	3' 7-11/16"
40"	3' 10-1/2"	4' 2-1/16"	3' 11-1/2"	4' 1-1/16"	4' 3-1/2"	3' 9-1/16"
41"	3' 11-1/2"	4' 3-1/2"	4' 0-1/2"	4' 2-1/2"	4' 4-1/2"	3' 10-1/2"
42"	4' 0-1/2"	4' 4-7/8"	4' 1-1/2"	4' 3-7/8"	4' 5-1/2"	3' 11-7/8"
43"	4' 1-1/2"	4' 6-5/16"	4' 2-1/2"	4' 5-5/16"	4' 6-1/2"	4' 1-5/16"
44"	4' 2-1/2"	4' 7-3/4"	4' 3-1/2"	4' 6-3/4"	4' 7-1/2"	4' 2-3/4"
45"	4' 3-1/2"	4' 9-1/8"	4' 4-1/2"	4' 8-1/8"	4' 8-1/2"	4' 4-1/8"
46"	4' 4-1/2"	4' 10-9/16"	4' 5-1/2"	4' 9-9/16"	4' 9-1/2"	4' 5-9/16"
47"	4' 5-1/2"	4' 11-15/16"	4' 6-1/2"	4' 10-15/16"	4' 10-1/2"	4' 6-15/16"
48"	4' 6-1/2"	5' 1-3/8"	4' 7-1/2"	5' 0-3/8"	4' 11-1/2"	4' 8-3/8"
49"	4' 7-1/2"	5' 2-13/16"	4' 8-1/2"	5' 1-13/16"	5' 0-1/2"	4' 9-13/16"
50"	4' 8-1/2"	5' 4-3/16"	4' 9-1/2"	5' 3-3/16"	5' 1-1/2"	4' 11-3/16"
51"	4' 9-1/2"	5' 5-5/8"	4' 10-1/2"	5' 4-5/8"	5' 2-1/2"	5' 0-5/8"
52"	4' 10-1/2"	5' 7-1/16"	4' 11-1/2"	5' 6-1/16"	5' 3-1/2"	5' 2-1/16"
53"	4' 11-1/2"	5' 8-7/16"	5' 0-1/2"	5' 7-7/16"	5' 4-1/2"	5' 3-7/16"
54"	5' 0-1/2"	5' 9-7/8"	5' 1-1/2"	5' 8-7/8"	5' 5-1/2"	5' 4-7/8"
55"	5' 1-1/2"	5' 11-5/16"	5' 2-1/2"	5' 10-5/16"	5' 6-1/2"	5' 6-5/16"

TYPICAL MAIN OFFSET



NOTE: DIMENSIONS APPLICABLE FOR SIGMA COMPACT BENDS. FOR TYLER COMPACT BENDS, ADD 1/2" TO "D" DIMENSION AND SUBTRACT 1/2" FROM "L" DIMENSION. FOR OTHER FITTINGS REFER TO MANUFACTURER'S RECOMMENDATIONS.

GSJ	VALVE BOX COVER NOTE	12/20
GSJ	MAIN OFFSET	12/16
GSJ	METER PIT DETAIL	03/15
JGH	TYP. OFFSET & CHART	10/11
REV	DESCRIPTION	DATE

DESIGNED BY:	CHECKED BY: GSJ
DRAWN BY: TAW/KAW	SMD-2021.DWG

4	2024.01.07	REVISED PER CITY COMMENTS	PJM / JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ / JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ / JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM / JHW
REV.	DATE	DESCRIPTION	BY / CHK

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

SITE DETAILS

STATE OF MAINE — JON H. WHITTEN, JR. No. 10414 — 01/07/2025 — LICENSED PROFESSIONAL ENGINEER

DATE	2022.08.29
SCALE	AS NOTED
DRAWN BY	BLQ/PJM
DESIGNED BY	BLQ/DJO
CHECKED BY	JHW
PROJECT No.	13773.001
DRAWING No.	C508
REV.	4

02
SHEET: 2 OF 2
SCALE: AS NOTED
DATE: 01/07/2025
JOB NO.

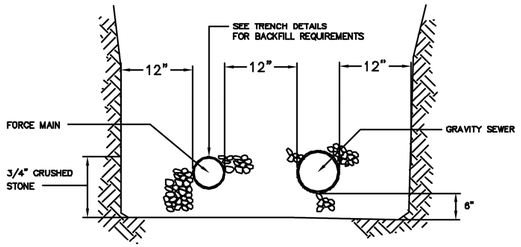
PORTLAND WATER DISTRICT

STANDARD DETAILS

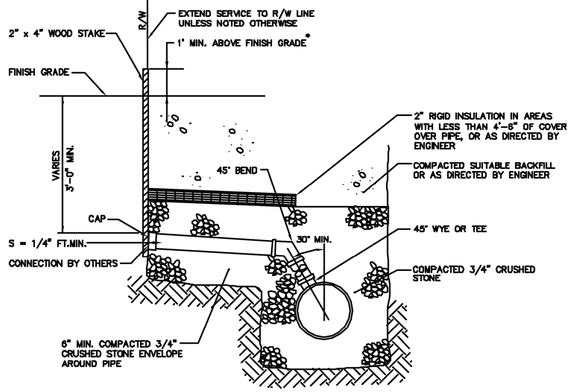
STANDARD WATER DETAILS

Portland Water District
225 DOUGLASS STREET, PORTLAND, MAINE 04104

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JWW20-CAD_DRAWINGS\CIVIL\DSIGN_DWGS\13773.001-C-07.DWG, 2025-01-07, 2:19 PM



TWO PIPE TRENCH DETAIL

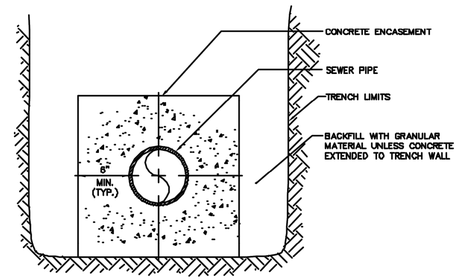


NOTES:

- PIPE DIAMETERS MAY VARY, SEE TYPICAL PIPE TRENCH DETAIL, THIS SHEET.
- WHERE 30° MINIMUM ANGLE BETWEEN SEWER CONNECTION AT THE SEWER MAIN AND THE VERTICAL CANNOT BE MAINTAINED, PROVIDE A PRECAST SEWER CHIMNEY.
- IF STAKE IS CUT OFF FLUSH OR SLIGHTLY BELOW GRADE, PROVIDE MIN. OF TWO 16d. GALV. SPIKES DRIVEN INTO TOP OF 2" x 4" TO PROVIDE METAL DETECTABILITY.

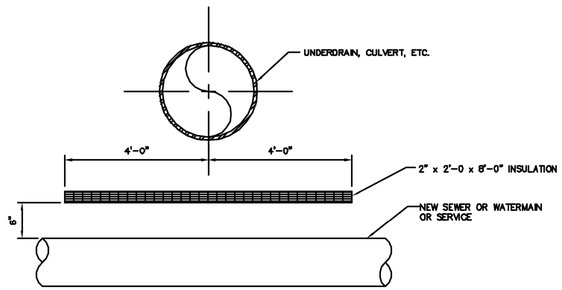
HORIZONTAL SEWER CONNECTION

N.T.S.



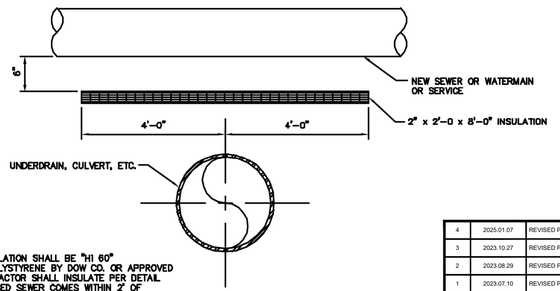
CONCRETE ENCASEMENT FOR SEWER MAINS

N.T.S.



INSULATION DETAIL "A"

N.T.S.

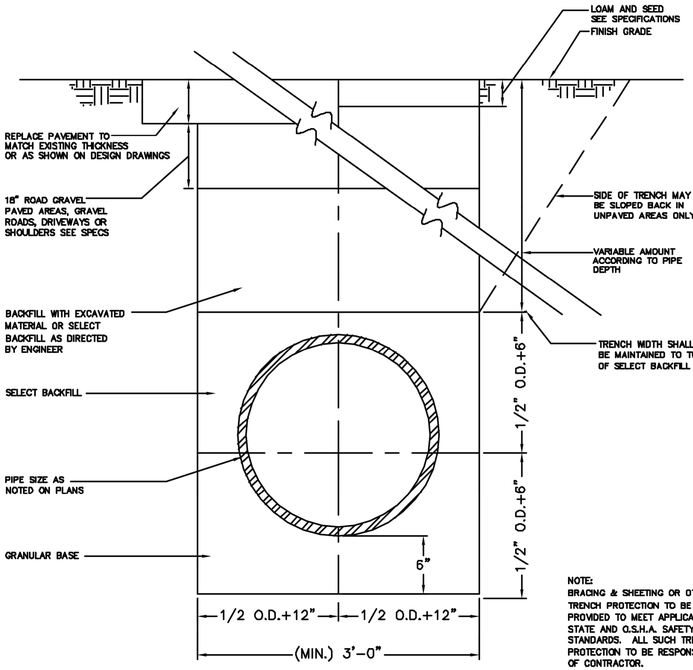


NOTE:

- 2" RIGID INSULATION SHALL BE "HI 60" EXTRUDED POLYSTYRENE BY DOW CO. OR APPROVED EQUAL CONTRACTOR SHALL INSULATE PER DETAIL WHEN PROPOSED SEWER COMES WITHIN 2' OF EXISTING CULVERT

INSULATION DETAIL "B"

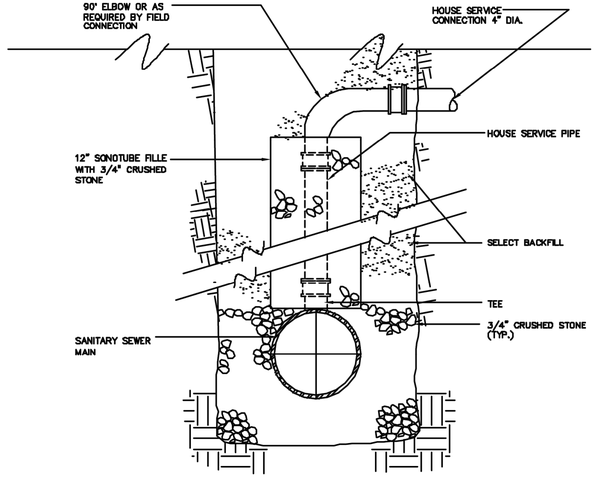
N.T.S.



NOTE:
BRACING & 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 RESPONSIBILITY OF CONTRACTOR.

TRENCH SECTION

N.T.S.



CHIMNEY DETAIL

N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS
ISSUED FOR PERMITTING NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
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Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE
SITE DETAILS

SEWER TRENCH DETAILS

Portland Water District
ASSET MANAGEMENT & PLANNING DEPT.
225 DOUGLASS STREET P.O. 3553 PORTLAND, MAINE 04104-3553

REVISIONS | DESIGN | CHECK

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
02/11/2025
LICENSED PROFESSIONAL ENGINEER

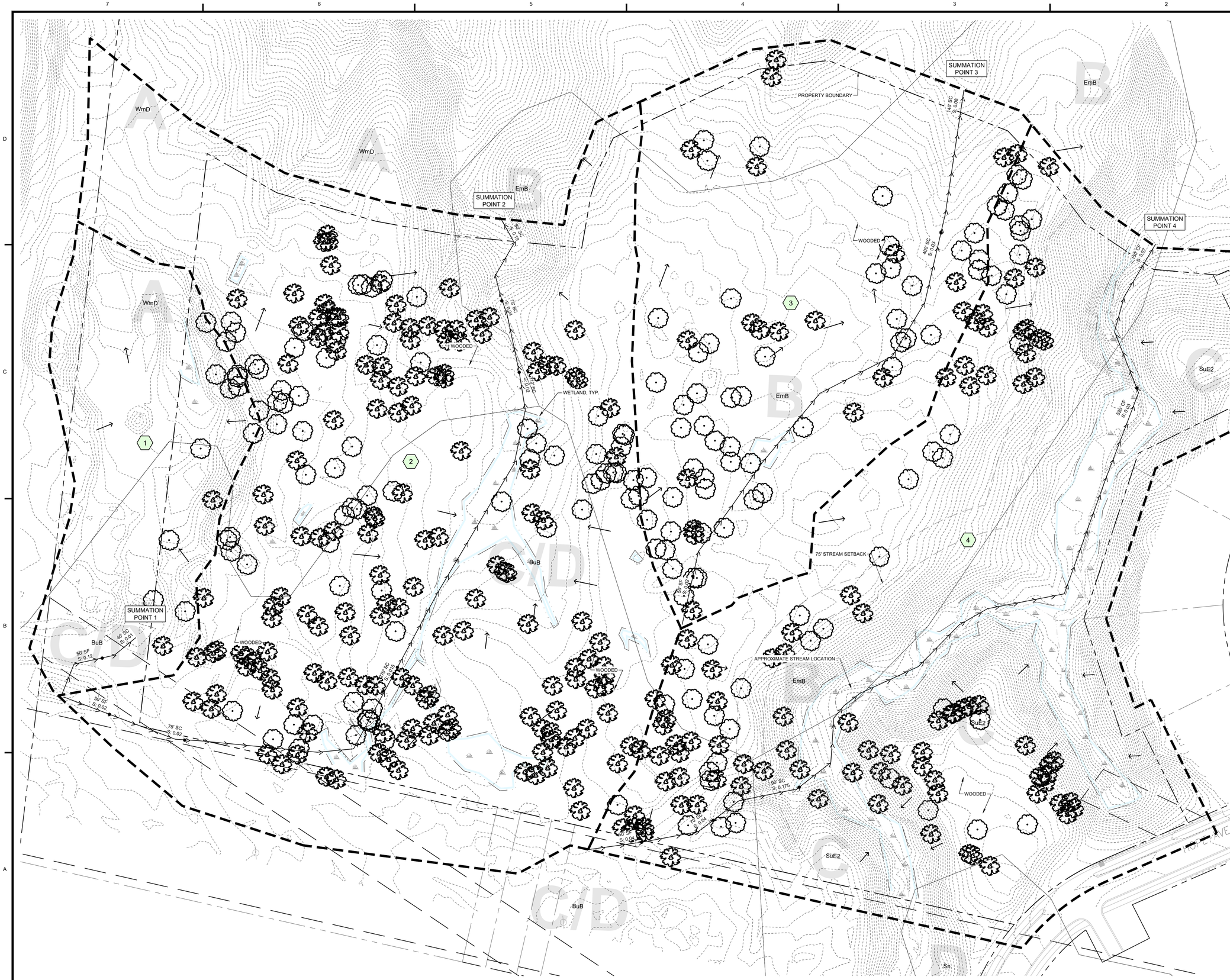
DATE	SCALE
2022.08.29	AS NOTED

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ/PJM	BLQ/DJO	JHW

PROJECT No.
13773.001

DRAWING No. **C509** REV. **4**

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JAW\02-CAD_DRAWINGS\CIVIL\DESIGN_DWGS\13773.001-C-DT.DWG, 2025.02.11, 7:49 AM



LEGEND:

	PROPERTY LINE
	WATERSHED BOUNDARY LINE
6F	WATERSHED DESIGNATION
	TIME OF CONCENTRATION FLOW PATH
50' SF	FLOW PATH DESCRIPTION
SF	SHEET FLOW
SC	SHALLOW CONCENTRATED FLOW
CF	CHANNEL FLOW
PF	PIPE FLOW
	STORMWATER FLOW DIRECTION
EmB	SOIL I.D.
	SOILS BOUNDARY

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
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Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

PRE-DEVELOPMENT HYDROLOGY PLAN

STATE OF MAINE
JON H. WHITTEN, JR.
No. 10414
02/11/2025
LICENSED
PROFESSIONAL ENGINEER

DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ/PJM	BLQ/DJO	JHW

PROJECT No. 13773.001

DRAWING No. **C701** REV. **4**

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSGN_DWGS\13773.001-C-PRE_HY.DWG, 2025.02.11, 7:49 AM



LEGEND:

	PROPERTY LINE
	WATERSHED BOUNDARY LINE
6F	WATERSHED DESIGNATION
	TIME OF CONCENTRATION FLOW PATH
50' SF	FLOW PATH DESCRIPTION
SF	SHEET FLOW
SC	SHALLOW CONCENTRATED FLOW
CF	CHANNEL FLOW
PF	PIPE FLOW
	STORMWATER FLOW DIRECTION
EmB	SOIL I.D.
	SOILS BOUNDARY

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
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Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

POST DEVELOPMENT HYDROLOGY PLAN

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
02/11/2025
LICENSED
PROFESSIONAL ENGINEER

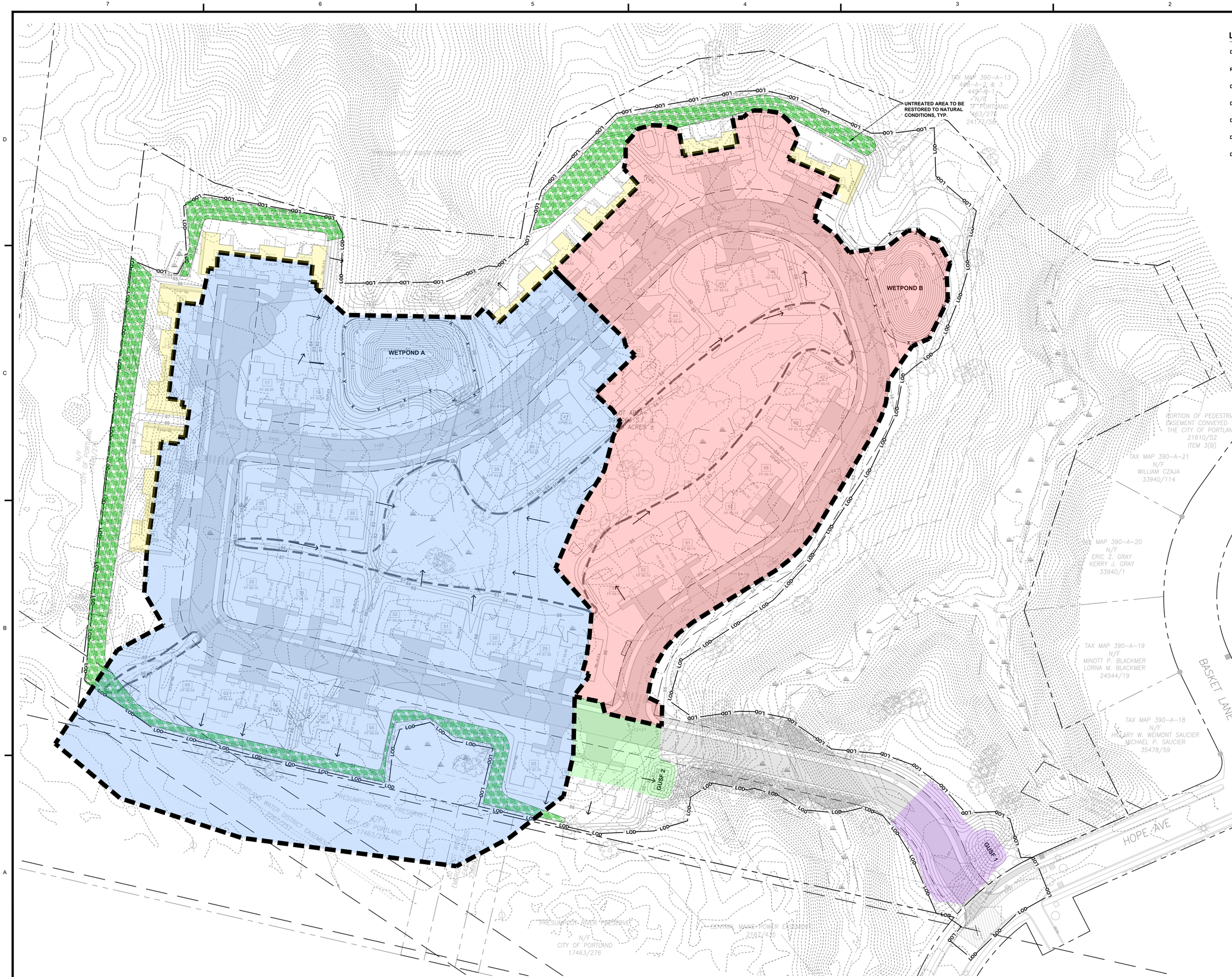
DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ/PJM	BLQ/DJO	JHW

PROJECT No. 13773.001

DRAWING No. **C702** REV. **4**

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSGN_DWGS\13773.001-C-POST_HY.DWG, 2025.02.11, 7:50 AM



LEGEND:

- DRAINAGE AREA
- RESTORATION AREA
- DRAINING TO WETPOND A
- DRAINING TO WETPOND B
- DRAINING TO DRIP FILTER BMP
- DRAINING TO GUSF 1
- DRAINING TO GUSF 2

GRAPHIC SCALE

40 0 20 40 80 120

(IN FEET)
1 inch = 40 ft.

REV.	DATE	DESCRIPTION	BY	CHK.
4	2025.01.07	REVISED PER CITY COMMENTS	PJM	JHW
3	2023.10.27	REVISED PER CITY COMMENTS	BLQ	JHW
2	2023.08.29	REVISED PER CITY COMMENTS	BLQ	JHW
1	2023.07.10	REVISED PER CITY COMMENTS	PJM	JHW

DRAWING ISSUE STATUS

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824
WWW.HALEYWARD.COM

PROJECT

PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

TITLE

STORMWATER TREATMENT PLAN

STATE OF MAINE
JOHN H. WHITTEN, JR.
No. 10414
02/11/2025
LICENSED
PROFESSIONAL ENGINEER

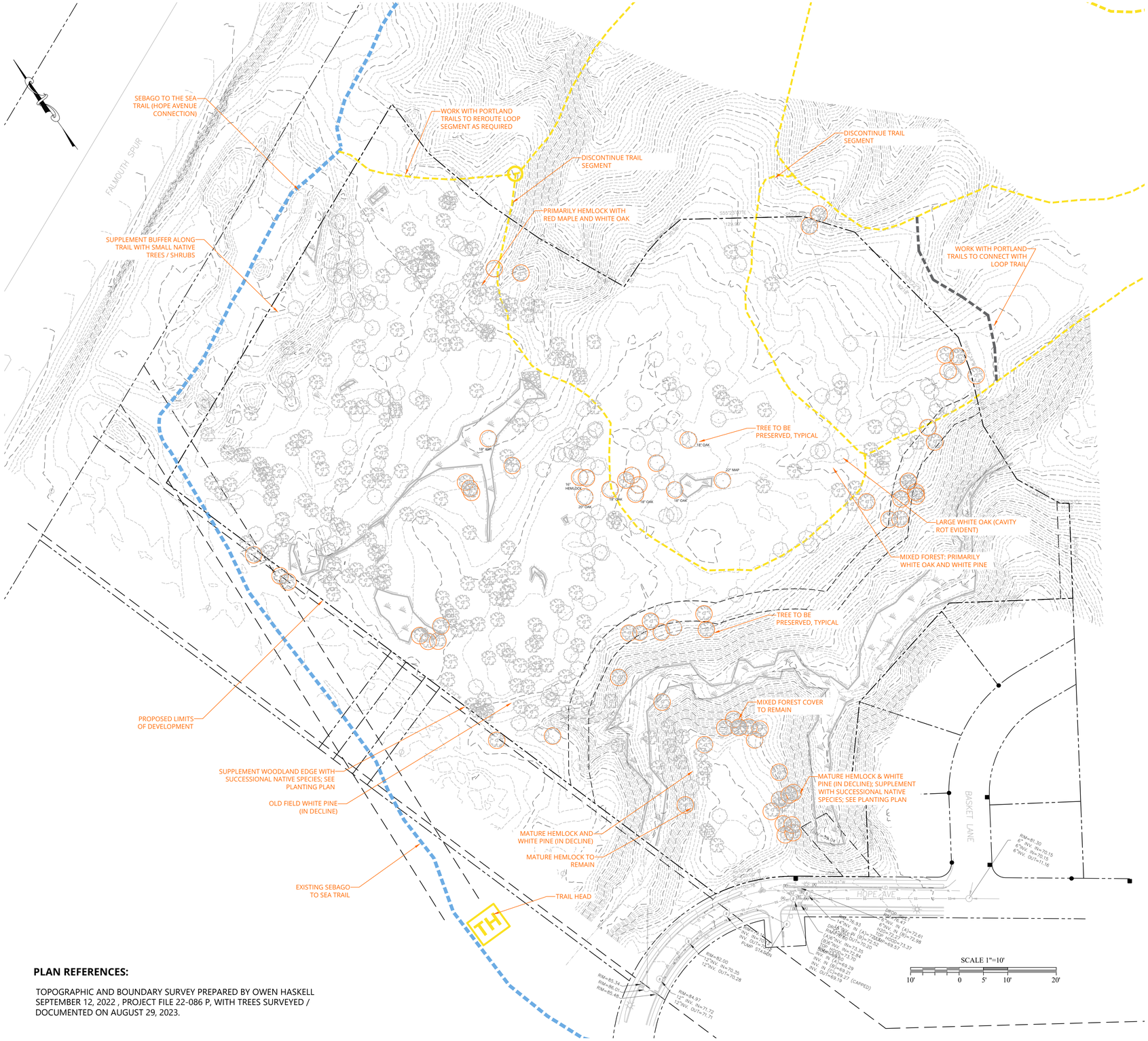
DATE	SCALE
2022.08.29	1"=40'

DRAWN BY	DESIGNED BY	CHECKED BY
BLQ	DSB/BLQ	JHW

PROJECT No. 13773.001

DRAWING No. **C703** REV. **4**

FILE LOCATION: P:\ME\13773-SHINBERG_CONSULTING\001-HOPE_AVE_DUPLEXES-JHW\02-CAD_DRAWINGS\CIVIL\DSGN_DWGS\13773.001-C-TREAT.DWG, 2025.02.11, 7:50 AM



EXISTING LAND CHARACTERISTICS

The project site is a forested parcel (13.7 acres) with mix of native hardwood and softwoods. A steep ravine traverses the southern third of the site with mature hemlock, white pine, and oak. The site abuts the Presumpscot River Preserve, conservation land owned by the City of Portland, to the west, north, and east. The Falmouth spur runs west to east north of the property, and traffic noise is evident in the northern third of the site. The Presumpscot River is located to the east. a portion of the Sebago to Sea Trail runs along an existing Portland Water District right-of-way to the west, and a portion of the trail cuts across the northwest corner of the property, and several loop trails are located within the project site.

Hemlock and beech species were documented on site. Future decline of these species is anticipated due to beech bark disease and hemlock woolly adelgid, both of which are widespread along the southern coast (per Maine Forest Service). White pine throughout the site are generally old field pine that are now being shaded out by forest species. Most of the existing pines have evident die back and would be expected to decline further with forest succession.

Oak is the prevalent deciduous species and large, mature trees over 16" caliper are located throughout the site. the largest recorded oak, 30" diameter, is located north of the ravine in the site's interior. this tree is in decline with and a large trunk cavity evident. Other deciduous tree species include ash, birch, serviceberry, and hornbeam.

There is little understory overall, and past disturbance of the site is evident in the random series of berms and abandoned farm roads, particularly within the western and northern portions of the site.

Flatter land area with several small wetlands is located within the site interior. Most of the mature trees in this area are white pine supplemented with ash, maple, and oak. Successional growth was observed with smaller tree growth and understory in areas with filtered sun.

APPROACH TO LANDSCAPE PRESERVATION

Due to its steep slopes, mature vegetation, and wetland habitat, the ravine should be preserved in its current state to the extent possible. Trees within this area should be preserved, and any trees along the perimeter of the area to be developed should be protected during construction.

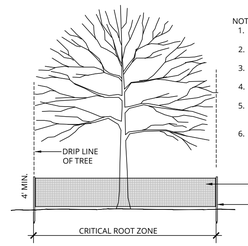
The center of the site, because of its flatter terrain, is more appropriate for development. Wetlands and trees within this area should be preserved, to the extent possible, as open space, and trees-to-remain should be protected during construction. The regulatory wetland setbacks should be supplemented with small successional trees and shrubs to enhance the buffer.

A new trail connection should be extended from the tie-in with the Sebago-to-Sea Trail at the western corner of the site, and a trail with connected central open space and active recreational features should be coordinated with the central open space. On-site smaller loop trails will need to be discontinued and the internal trail network focus on major connection points to the Presumpscot Preserve at the west corner near the trail head and at the east side toward the river. Most of the external trail traffic is anticipated to be via the Sebago-to-Sea trail route along the site's perimeter. The buffer between the trail and subdivision should be enhanced as needed to preserve the character of the trail and to ensure privacy for the homes.

White pine within forested areas would be expected to decline as the canopy becomes denser and sunlight less available. In areas adjacent to clearing, mature pine will benefit from increased sun exposure and should be saved where possible. These trees should be protected during construction, as noted.

Hemlock outside of the development area should be preserved to the extent possible because they provide important habitat despite their threatened status. Hemlock exposed to clearing and construction activities should be removed unless they are properly shaded. Where necessary, vegetated buffers should be enhanced to mitigate clearing/ sunlight impacts to existing trees.

Where possible, oak trees should be preserved and supplemented with additional oaks and native species. the remaining woodland buffer should be further assessed following site preparation activities and supplemented, where needed, with small successional species such as gray birch, serviceberry, white pine, which will help to mitigate clearing impacts on remaining trees.



NOTES:
1. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY.
2. INSTALL FENCING TO LIMIT OF CRITICAL ROOT ZONE / DRIP EDGE OF TREE.
3. DO NOT STORE CONSTRUCTION EQUIPMENT, MATERIALS, TOOLS, ETC. WITHIN PROTECTIVE FENCING.
4. MAINTAIN FENCING IN A NEAT AND ORDERLY FASHION THROUGHOUT THE CONSTRUCTION PERIOD.
5. TREE PROTECTION MATERIALS SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS OR AS APPROVED BY OWNER.
6. LANDSCAPE PRESERVATION / TREE PROTECTION MEASURES SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND'S TECHNICAL STANDARDS, SECTION 4.

TREE PROTECTION DETAIL

NOT TO SCALE

PLAN REFERENCES:

TOPOGRAPHIC AND BOUNDARY SURVEY PREPARED BY OWEN HASKELL SEPTEMBER 12, 2022 , PROJECT FILE 22-086 P, WITH TREES SURVEYED / DOCUMENTED ON AUGUST 29, 2023.

RS LEONARD Landscape Architecture

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REVISION - DATE - DESCRIPTION - DRAWN BY - CHECKED BY							
1	2/12/2025	UPDATED FOR REVISED LAYOUT	RSLLA	BK-HW			
2							
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PROJECT & CLIENT

PRESUMPSCOT WOODS SUBDIVISION

0 HOPE AVENUE, PORTLAND, MAINE

SHEET TITLE:

LANDSCAPE PRESERVATION PLAN

REGINALD LEONARD 5123 LANDSCAPE ARCHITECT 2/12/2025 STATE OF MAINE

SCALE:
AS NOTED

ISSUE DATE:
10/26/2023

DSGN/DRWN	CHECK
RSL	HW

PROJECT NO.
HW-HOPE AVENUE

SHEET 1 OF 3

LA-100



PASSIVE & ACTIVE RECREATION / OPEN SPACE:

1. REQUIREMENTS: 18,000 SF OPEN SPACE FOR ACTIVE & PASSIVE RECREATIONAL ACTIVITIES (PRUD WITH WORKFORCE HOUSING).
2. DESCRIPTION OF PROVISIONS: OVER 1,000 LINEAR FEET OF EXISTING / PROPOSED TRAILS (3,000 SF) THROUGH THE SITE WITH OPEN LAWN AREAS AND WOODS, AS WELL AS PLAY / FITNESS FEATURES AND SEATING PLACED ALONG TRAIL (APPROX. 1,500 SF) MARKED AS A, B, C ON THE PLAN) AT THE CENTER OF THE SITE BETWEEN UNITS 47-54 TO THE NORTH AND UNITS 55-60 TO THE SOUTH.REFERENCE PLAN DETAIL & CUT SHEETS IN SITE PLAN RESPONSE PACKET.
3. FEATURES: A) LOG PLAY STACK, B) ROPE CLIMBER, 3) STEPPING COLUMNS; TIMBERFORM LINE BY COLUMBIA CASCADE OR APPROVED EQUAL.

PLANTING NOTES:

1. ALL MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
2. IN THE CASE OF ANY DISCREPANCIES BETWEEN SPECIES AND QUANTITIES CALLED OUT IN THE PLANTING KEY AND THOSE SHOWN ON THE PLAN, QUANTITIES AND SPECIES SHOWN ON THE PLAN SHALL OVER-RIDE.
3. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES.
4. ALL PLANTS SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTINGS THAT DO NOT CONFORM TO THE DRAWINGS OR SPECIFICATIONS OUTLINED HEREIN.
5. EXISTING TREES TO REMAIN SHALL BE PROTECTED BY PVC FENCING PLACED AT THE DRIP-LINE OR AS SHOWN ON THE PLANS TO PREVENT DAMAGE AND COMPACTION OF THE ROOT SYSTEM. NO GRADING, SOIL DISTURBANCE, OR STORAGE OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN THE DRIP-LINE UNLESS OTHERWISE SHOWN ON PLANS. ANY EXCAVATION WITHIN SUCH AREAS SHALL BE PERFORMED BY HAND TO AVOID DAMAGE OF THE ROOT SYSTEM.
6. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. FINISH GRADE OF PLANTINGS SHALL MATCH ADJACENT FINISH GRADES UNLESS OTHERWISE NOTED ON DRAWINGS OR DIRECTED AND/OR APPROVED BY THE LANDSCAPE ARCHITECT.
7. PLANTING BEDS CONSIST OF 3 PARTS FERTILE, FRIABLE LOAM AMENDED WITH 1 PART ORGANIC COMPOST: EARTHLIFE BY NEW ENGLAND ORGANICS, FALMOUTH, ME, TEL. 207-781-5011, OR APPROVED EQUAL. THE PREPARED SOIL SHALL BE SPREAD UNIFORMLY, AT A 12 INCH MINIMUM DEPTH IN PLANTING BEDS AND 4" IN AREAS TO BE SEEDED, AS SHOWN ON PLANS
8. LANDSCAPE ARCHITECT SHALL APPROVE FINAL PLACEMENT OF ALL PLANT MATERIALS AND RESERVES THE RIGHT TO MAKE FIELD ADJUSTMENTS TO PLANTINGS AS NECESSARY.
9. ALL PLANTS SHALL BE SET PLUMB UNLESS OTHERWISE SPECIFIED.
10. ALL PLANTINGS SHALL BE TOPPED WITH A MINIMUM OF 3" OF WELL COMPOSTED, DARK PINE BARK MULCH. SEEDED AREAS SHALL BE MULCHED WITH SHREDDED STRAW OR APPROVED MULCH.
11. ALL DISTURBED AREAS NOT OTHERWISE PLANTED SHALL BE SEEDED AS SHOWN ON THE PLANS OR AS APPROVED. SEEDING AREAS SHALL BE LIGHTLY MULCHED WITH A LAYER OF CLEAN, WEED-FREE STRAW.
6. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED AS REQUIRED THEREAFTER TO ENSURE SURVIVAL AND GROWTH THROUGH THE FIRST GROWING SEASON.
7. SEEDED LAWN AREAS SHALL BE WATERED REGULARLY AND MAINTAINED THROUGH ESTABLISHMENT AND/OR FIRST MOWING.
8. PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION. DURING THE ONE YEAR GUARANTEE, THE CONTRACTOR SHALL REPLACE, IN KIND, ANY DEAD, DISEASED, OR SUBSTANDARD PLANT MATERIAL AT NO COST TO THE OWNER.
9. SATISFACTORY CONSERVATION COVER: AT END OF MAINTENANCE PERIOD, A HEALTHY, WELL-ROOTED, DENSE COVER (90%) OF THE APPROPRIATE SPECIES HAS BEEN ESTABLISHED.
10. THE CONTRACTOR SHALL RECEIVE FINAL ACCEPTANCE FROM THE OWNER FOLLOWING THE ONE YEAR GUARANTEE, PROVIDED THE PROVISIONS OF THE PLANT GUARANTEE HAVE BEEN SATISFACTORILY MET.

PLANTING SCHEDULE - SITE LANDSCAPING

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE/COND.
TREES				
11	CBF	CARPINUS B. 'FASTIGIATA'	UPRIGHT HORNBEAM	2" CAL.
12	CCN	CERCIS C. 'NORTHERN STRAIN'	EASTERN REDBUD	7-8' HT.
6	CVS	CHIONANTHUS V. 'SPRING FLEECING'	WHITE FRINGETREE	7-8' HT.
8	CAL	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	7-8' HT.
8	CXS	CORNUS X 'STELLAR PINK'	RUTGERS HYBRID DOGWOOD	7-8' HT.
11	OSV	OSTRYA VIRGINIANA	AMERICAN HOP HORNBEAM	7-8' HT.
8	PGD	PICEA G. 'DENSATA'	WHITE SPRUCE	5-6' HT.
7	PST	PINUS STROBUS	EASTERN WHITE PINE	5-6' HT.
18	QBR	QUERCUS B. 'REGAL PRINCE'	SWAMP WHITE OAK	2.5" CAL.
21	QR	QUERCUS RUBRA	NORTHERN RED OAK	2.5" CAL.
14	UAJ	ULMUS A. 'JEFFERSON'	AMERICAN ELM HYBRID	2.5" CAL.
14	UPA	ULMUS P. 'ALLEE'	LACEBARK ELM	2.5" CAL.
SHRUBS				
17	AAB	ARONIA A. BRILLIANTISSIMA	RED CHOKEBERRY	#5 POT
18	DIL	DIERVILLA LONICERA	NORTHERN BUSH HONEYSUCKLE	#3 POT
15	IGC	ILEX GLABRA 'COMPACTA'	INKBERRY	#3 POT
19	PJP	PRUNUS 'JADE PARADE'	SPREADING SAND CHERRY	#3 POT
15	VTR	VIBURNUM T. 'REDWING'	AMERICAN CRANBERRYBUSH	#3 POT

NOTE:
REFERENCE SHEET LA-102 FOR TYPICAL UNIT PLANTINGS AND RAIN GARDEN SPECIES LIST

SEED MIXES

LAWN MIX . PREMIUM LAWN MIXTURE, SEEDWAY, WALES, ME; TEL. 207-933-2109. APPLICATION RATE: 8 LBS/SF

CONSERVATION WILDLIFE MIX. ERNST CONSERVATION SEEDS, INC.; TEL. 814-336-2404. APPLICATION RATE: 10 LBS/ACRE WITH 30 LBS/ACRE COVER CROP. SEEDED SLOPES OVER 3:1 SHALL BE STABILIZED WITH BIODEGRADABLE, EROSION CONTROL FABRIC.

PLANTING SCHEDULE - BUFFER PLANTINGS (FIELD PLACED)

APPROACH: THE FOLLOWING SPECIES WILL BE FIELD PLACED WITHIN NOTED BUFFER AREAS - TOTALING APPROXIMATELY 0.4 ACRE - TO SUPPLEMENT THE FORESTED EDGE. QUANTITIES ARE PROVIDED FOR GUIDANCE AND ARE ESTIMATED BASED ON 50% (TREES) / 25% (SHRUBS) COVERAGE (BASED ON EXPECTED MATURE CANOPY SIZE) WITHIN THE TARGETED BUFFER AREAS SHOWN ON PLANS. FINAL QUANTITIES TO BE DETERMINED BASED ON FIELD CONDITIONS.

PLANTS INCLUDE A RANGE OF SIZES FOR IMMEDIATE VISUAL IMPACT AS WELL AS SUCCESSIONAL GROWTH ALONG THE WOODLAND BUFFER. IT IS ASSUMED THAT ALL PLANTS WILL BE MULCHED AND REMAINING BUFFER AREAS SEEDED WITH THE SPECIFIED CONSERVATION WILDLIFE MIX.

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE/COND.
CANOPY LAYER SPECIES				
10		ACER SACCHARUM	SUGAR MAPLE	#7 POT
10		BETULA PAPYRIFERA	PAPER BIRCH	#7 POT
10		PINUS STROBUS	EASTERN WHITE PINE	#7 POT
15		QUERCUS RUBRA	RED OAK	#7 POT
SAPLING / SHRUB LAYER SPECIES				
10		ACER PENSYLVANICUM	STRIPED MAPLE	#3 POT
15		CORYLUS CORNUTA	BEAKED HAZELNUT	#1 POT
15		GAYLUSSACIA BACCATA	BLACK HUCKLEBERRY	#1 POT
20		HAMAMELIS VIRGINIANA	AMERICAN WITCHHAZEL	#1 POT
20		PINUS STROBUS	EASTERN WHITE PINE	#3 POT
10		VIBURNUM ACERIFOLIUM	MAPLELEAVED VIBURNUM	#1 POT

SCALE 1"=40'
40' 0 20' 40' 80'

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REVISION - DATE - DESCRIPTION - DRAWN BY - CHECKED BY								
1	11/20/23	UPDATED PER COMMENTS FROM PEER REVIEW	-					-
2	2/12/25	UPDATED PLANTINGS FOR ADJUSTED LAYOUT						
3								
4								
5								
6								
7								

PROJECT & CLIENT
PRESUMPSCOT WOODS SUBDIVISION
1 HOPE AVENUE, PORTLAND, MAINE

SHEET TITLE:
LANDSCAPE PLAN & DETAILS



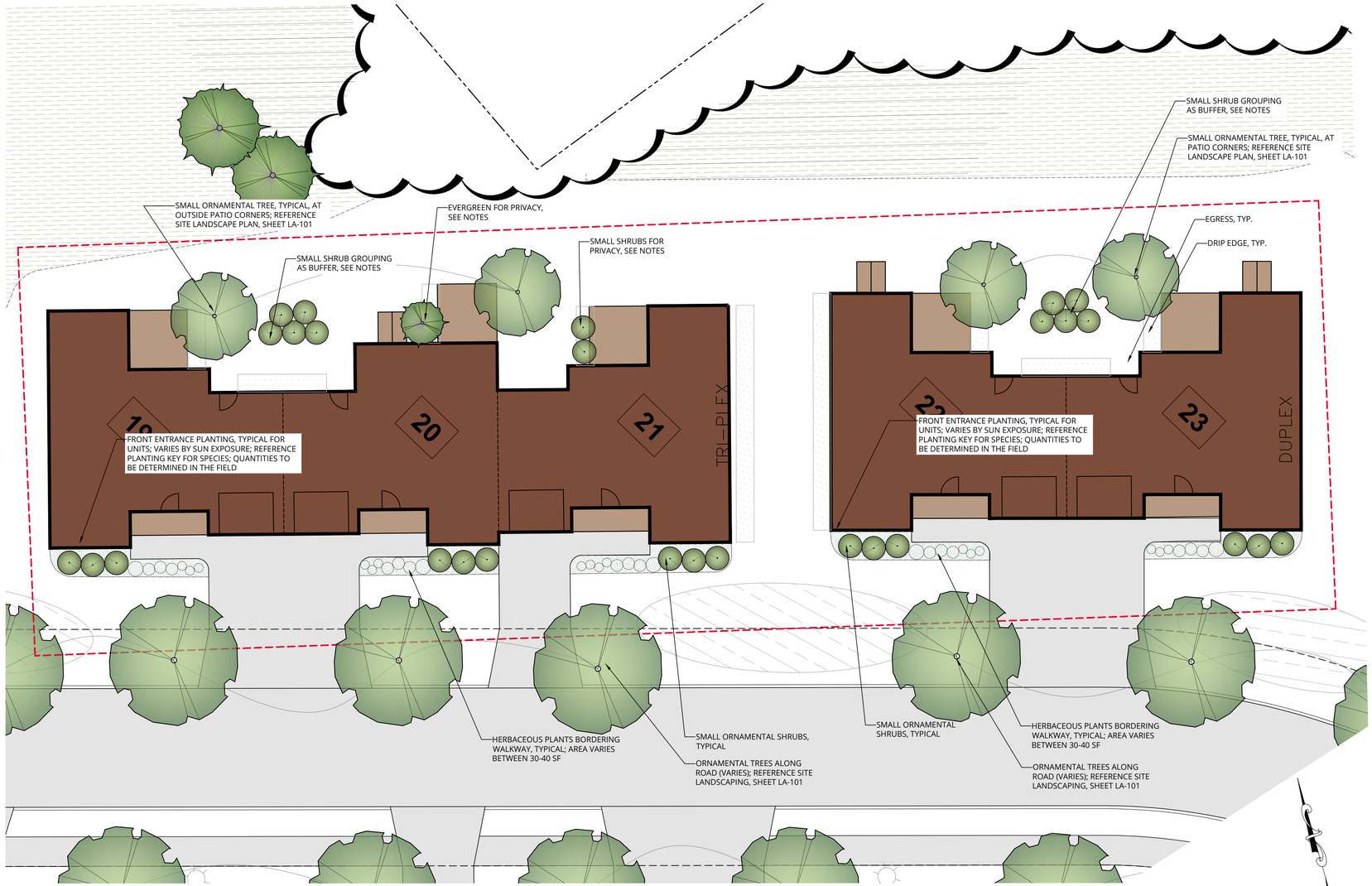
SCALE:
AS NOTED

ISSUE DATE:
6/15/23

DSGN/DRWN RSL | CHECK HW

PROJECT NO.
HW-HOPE AVENUE

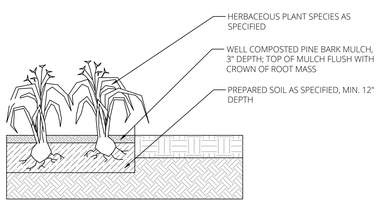
SHEET 2 OF 3
LA-101



TYPICAL UNIT PLANTINGS, BY BUILDING TYPE

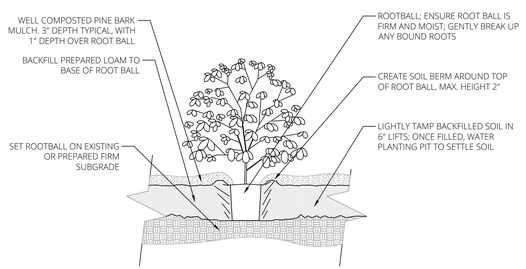
SCALE 1"=10'

10' 0 5' 10' 20'



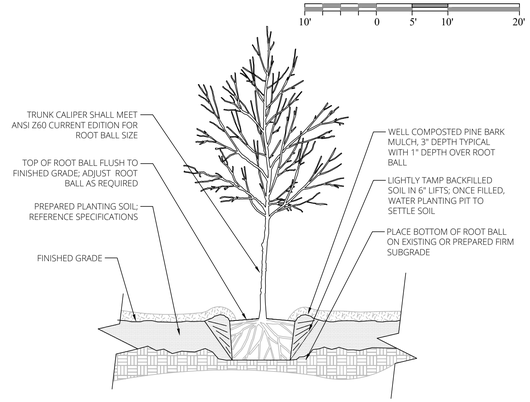
PERENNIALS INSTALLATION DETAIL

NOT TO SCALE



SHRUB INSTALLATION DETAIL

NOT TO SCALE



TREE INSTALLATION DETAIL - BALL & BURLAP

NOT TO SCALE

PLANTING LIST - UNITS (FRONT YARDS)

BOTANICAL NAME	COMMON NAME	SIZE/COND.
FULL SUN PLANTINGS		
GROUP SELECTION #1:		
CARYOPTERIS X 'DARK KNIGHT'	BLUE MIST SPIREA	#5 POT
DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	#3 POT
COREPOSIS V. 'ZESTY ZINGER'	THREADLEAF COREOPSIS	#3 POT
GROUP SELECTION #2:		
SPIRAEA X 'ANTHONY WATERER'	BUMALD SPIREA	#5 POT
PENNISETUM A. 'HAMELN'	DWARF FOUNTAIN GRASS	#3 POT
COREOPSIS V. 'MOONBEAM'	THREADLEAF COREOPSIS	#3 POT
PARTIAL SHADE PLANTINGS		
GROUP SELECTION #1:		
HYDRANGEA P. 'LITTLE QUICKFIRE'	DWARF QUICKFIRE HYDRANGEA	#5 POT
CAREX O. 'EVERCOLOR EVERSHEEN'	JAPANESE SEDGE	#3 POT
GERANIUM X. 'ROZANNE'	CRANESBILL GERANIUM	#3 POT
GROUP SELECTION #2:		
RHODODENDRON X 'MARDI GRAS'	HYBRID DWARF RHODODENDRON	#5 POT
HAKONECHLOA M. 'AUREOLA'	JAPANESE HAKONE GRASS	#3 POT
DICENTRA X. 'KING OF HEARTS'	FRINGED BLEEDING HEART	#3 POT

PLANTING LIST - UNITS (BACK YARDS)

BOTANICAL NAME	COMMON NAME	SIZE/COND.
SMALL SHRUBS (SPECIES SELECTION): *GROUPINGS OF (5): 24* *GROUPINGS OF (2): 14*		
CLETHRA A. 'VANILLA SPICE'	VANILLA SPICE SUMMERSWEET	#3 POT
CLETHRA A. 'RUBY SPICE'	RUBY SPICE SUMMERSWEET	#3 POT
FOTHERGILLA X. 'BLUE SHADOW'	BLUE SHADOW FOTHERGILLA	#3 POT
HYDRANGEA A. 'ANNABELLE'	ANNABELLE HYDRANGEA	#3 POT
HYDRANGEA A. 'INVINCIBELLE RUBY'	INVINCIBELLE RUBY HYDRANGEA	#3 POT
VIBURNUM D. 'BLUE MUFFIN'	BLUE MUFFIN ARROWWOOD	#3 POT
EVERGREENS *(9) TOTAL*		
THUJA O. 'SMARAGD'	EASTERN ARBORVITAE	5-6' HT.

UNIT PLANTINGS NOTES:

1. UNIT PLANTINGS ARE SHOWN TO DEMONSTRATE INTENT ONLY. ACTUAL PLANTINGS WILL VARY DEPENDING ON FIELD CONDITIONS, INCLUDING AVAILABLE SPACE, SOILS, AND SUN EXPOSURE.
2. SPECIES FOR UNIT PLANTINGS SHALL BE SELECTED FROM THE UNIT PLANTINGS KEY SHOWN IN THE DRAWINGS. QUANTITIES TO BE DETERMINED.
3. QUANTITIES FOR UNIT PLANTINGS ARE ESTIMATED AS SHOWN IN THE TYPICAL EXAMPLE.
4. ALL MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
5. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES.
6. PROPOSED SUBSTITUTIONS TO THE LISTED UNIT PLANTINGS SPECIES LIST HEREIN SHALL BE APPROVED BY LANDSCAPE ARCHITECT.
7. LANDSCAPE ARCHITECT SHALL APPROVE FINAL PLACEMENT OF ALL PLANT MATERIALS AND RESERVES THE RIGHT TO MAKE FIELD ADJUSTMENTS TO PLANTINGS AS NECESSARY.
8. PLANT MATERIALS AND PLANTING METHODS SHALL CONFORM TO THE PLANTING NOTES/SPECIFICATIONS OUTLINED ON SHEET LA-101.

PLANTING LIST - RAIN GARDENS

BOTANICAL NAME	COMMON NAME	SIZE/COND.
PERENNIAL SPECIES		
AQUILEGIA CANADENSIS	COLUMBINE	PLUG
ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG
ASTER NOVAE ANGLIAE	NEW ENGLAND ASTER	PLUG.
CHELONE GLABA	WHITE TURTLEHEAD	PLUG
EUTROCHIUM PURPUREUM	JOE PYE WEED	PLUG.
LOBELIA CARDINALIS	HELENS FLOWER	PLUG.
MONARDA FISTULOSA	WILD BERGAMOT	PLUG
PENSTEMON DIGITALIS	FOXGLOVE BEARDTONGUE	PLUG
RUDBECKIA FULGIDA	BLACK EYED SUSAN	PLUG
VERBENA HASTATA	BLUE VERVAIN	PLUG
GRASS SPECIES		
CAREX STRICTA	TUSSOCK SEDGE	PLUG
JUNCUS EFFUSUS	COMMON RUSH	PLUG
PANICUM V. 'HANS HELMS'	SWITCH GRASS	PLUG.
PANICUM V. 'NORTHWIND'	SWITCH GRASS	PLUG
SHRUB SPECIES		
CLETHRA ALNIFOLIA	SUMMERSWEET	SEEDLING
CORNUS RACEMOSA	GRAY DOGWOOD	SEEDLING
ILEX VERTICILLATA	WINTERBERRY	SEEDLING
VIBURNUM DENTATUM	ARROWWOOD VIRBURNUM	SEEDLING

RAIN GARDEN NOTES:

1. REFERENCE CIVIL DRAWINGS FOR RAIN GARDEN FILTER MEDIA SPECIFICATIONS AND DETAILS.
2. RAIN GARDEN SPECIES LIST TO DEMONSTRATE INTENT. SPECIES, IF SUBSTITUTED, SHALL BE SELECTED BASED ON NATIVE ORIGIN, BENEFICIAL VALUES TO WILDLIFE, AND/OR CULTURAL REQUIREMENTS.
3. PLANT MATERIALS, INCLUDING SPECIES AND CONDITIONS TO BE DETERMINED BASED ON FIELD CONDITIONS.
4. RAIN GARDEN INSTALLATION SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS AS WELL AS ALL LOCAL AND ENVIRONMENTAL REGULATORY REQUIREMENTS.
5. PLANTINGS / RAIN GARDEN ESTABLISHMENT (90 PERCENT COVERAGE OR AS REQUIRED BY REGULATORY AGENCIES) SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION.

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REVISION - DATE - DESCRIPTION - DRAWN BY - CHECKED BY

			RSLLA	BK-HW
1	5/20/22	PLANTING ADJUSTMENTS		
2	2/12/25	PLANTING ADJUSTMENTS FOR UPDATED LAYOUT		
3				
4				
5				
6				
7				

PROJECT & CLIENT
PRESUMPSCOT WOODS SUBDIVISION
0 HOPE AVENUE, PORTLAND, MAINE

SHEET TITLE:
LANDSCAPE DETAILS

LICENSED LANDSCAPE ARCHITECT
REGINA S. LEONARD
3123
2/12/2025
STATE OF MAINE

SCALE:
AS NOTED

ISSUE DATE:
6/15/2023

DSGN/DRWN	CHECK
RSL	HW

PROJECT NO.
HW-HOPE AVENUE

SHEET 3 OF 3
LA-102



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RS LEONARD Landscape Architecture

PROJECT & CLIENT
PRESUMPSCOT WOODS SUBDIVISION
1 Hope Ave., Portland, ME

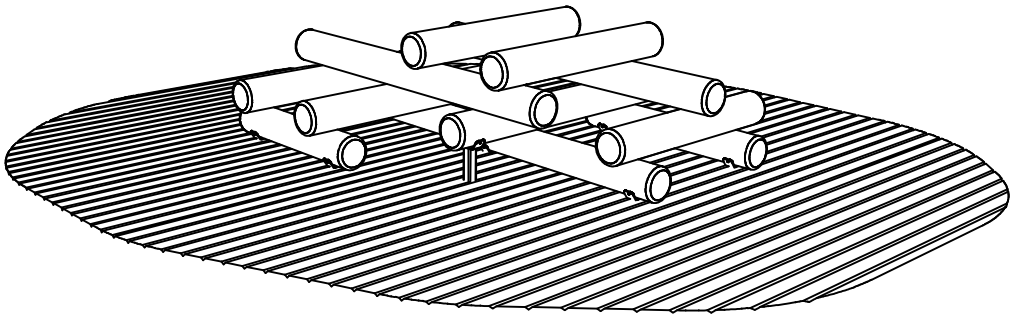
SHEET TITLE:
PUBLIC OPEN SPACE AREA

SCALE:
AS NOTED

ISSUE DATE:
8/18/23; REV 2/12/25

DSGN/DRWN
RSLLA

SHEET 1 OF 1
LA-B



ISO VIEW
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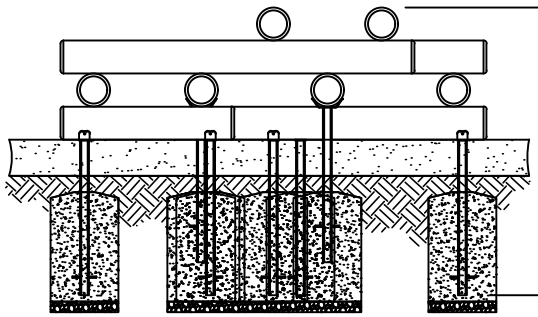
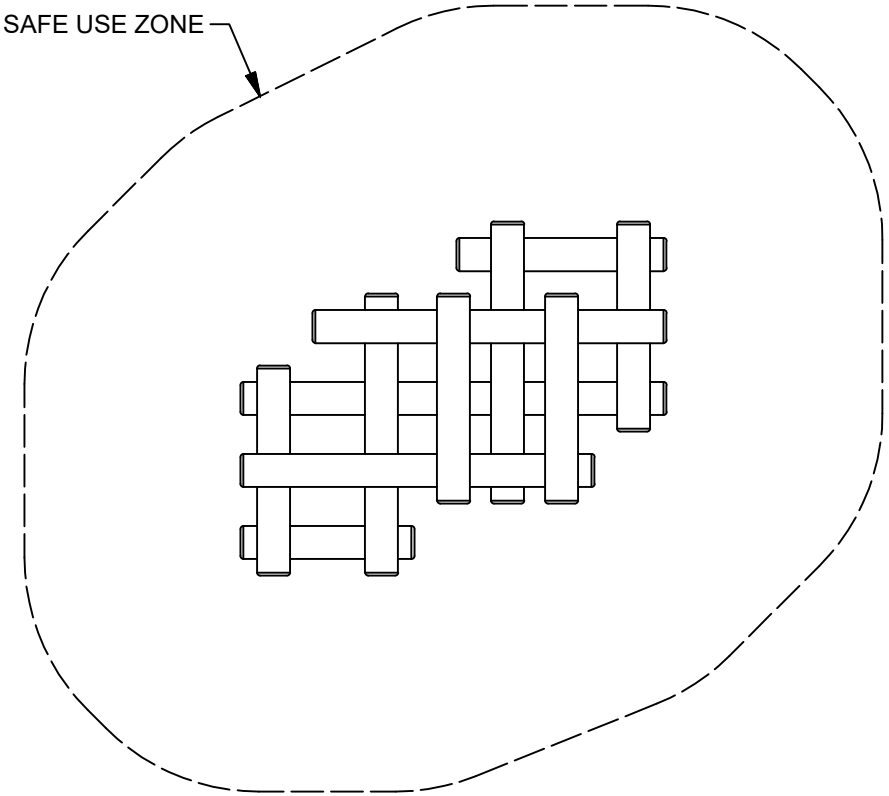


FRONT VIEW
SCALE 3/16"=1'-0"



EQUIPMENT ONLY:
11'-10" x 9'-10" (3.7m x 3m)

MINIMUM SAFE USE ZONE:
23'-10" x 21'-10" (7.3m x 6.7m)

PLAN VIEW WITH USE ZONE
SCALE 3/16"=1'-0"

0' 2' 4' 6' 8' 10'

NOTE:
CONCRETE FOOTING AND NO. 4 REBAR (BY OTHERS) PER LOCAL SOIL CONDITIONS. CONSULT PROJECT ENGINEER FOR EXACT REQUIREMENTS.

Date	Revision	By
△		
△		
△		
△		

Scale: NOTED
Drawn by: DGR 03-30-18
Ck'd by: CL 03-30-18

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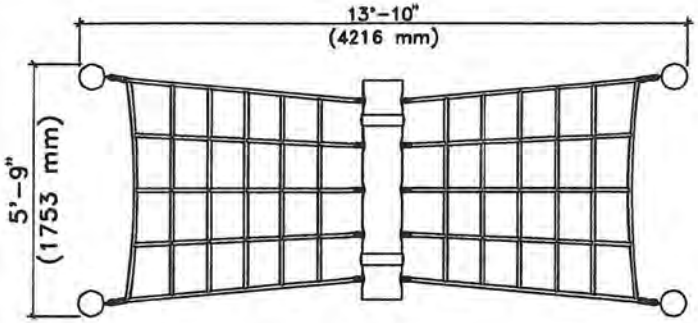
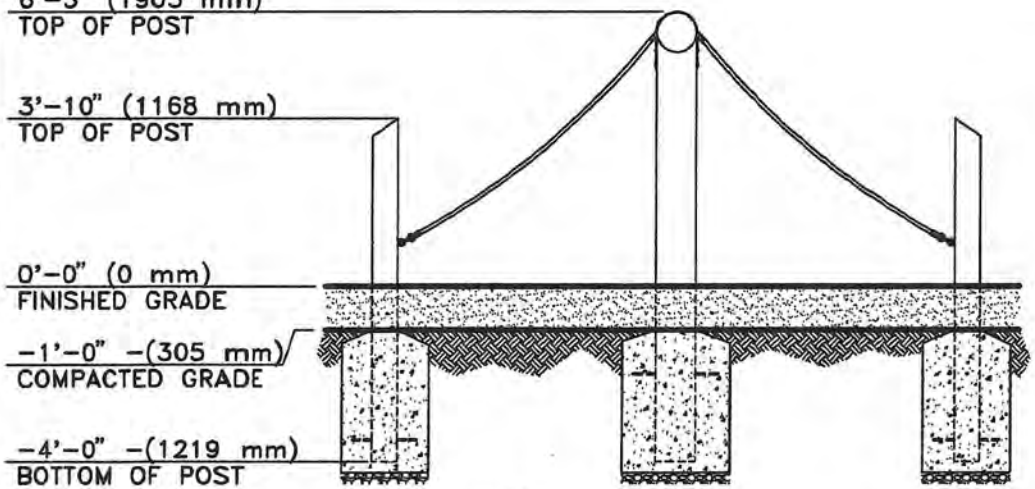
Title:
CLASSIC TIMBERFORM
MODEL NO. 4500-401
PLAY STACK

Drawing No.: W-4500-401
Sheet: 1 of 1

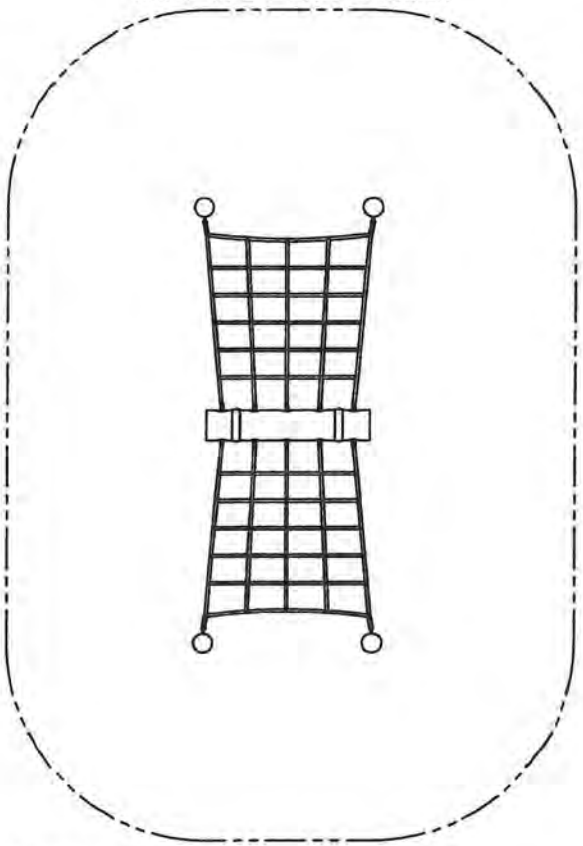


TOP VIEW
SCALE: 1/4"=1'-0"



NOTE:
CONCRETE FOOTING AND NO. 4 REBAR (BY OTHERS) PER LOCAL SOIL CONDITIONS. CONSULT PROJECT ENGINEER FOR EXACT REQUIREMENTS.

FRONT VIEW
SCALE: 1/4"=1'-0"



EQUIPMENT ONLY:
6' x 14' (1.8m x 4.3m)

MINIMUM SAFE USE ZONE:
18' x 26' (5.5m x 7.9m)

PLAN VIEW WITH USE ZONE
SCALE: 3/16"=1'-0"

0' 2' 4' 6' 8'

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NOTED	Ck'd by: CL	12-08-16

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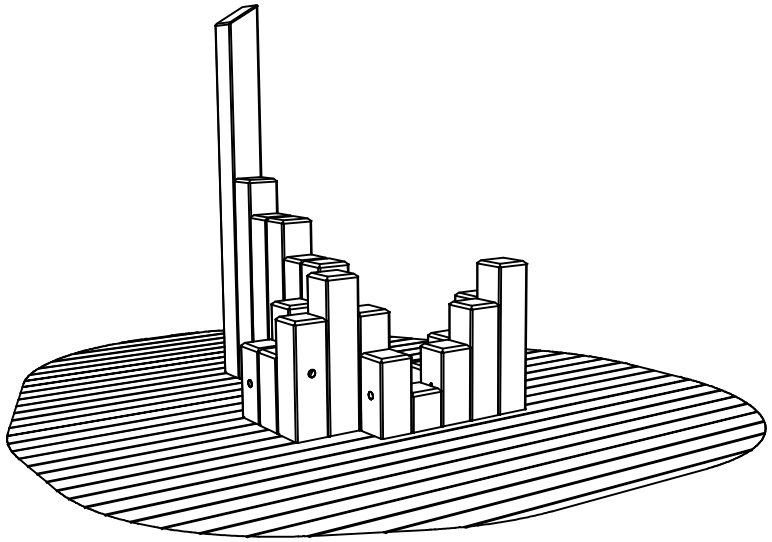
Title:
CLASSIC TIMBERFORM
MODEL NO. 4500-021
ROPE NET CLIMBER

Drawing No. W-4500-021

Sheet 1 of 1



ISOMETRIC VIEW
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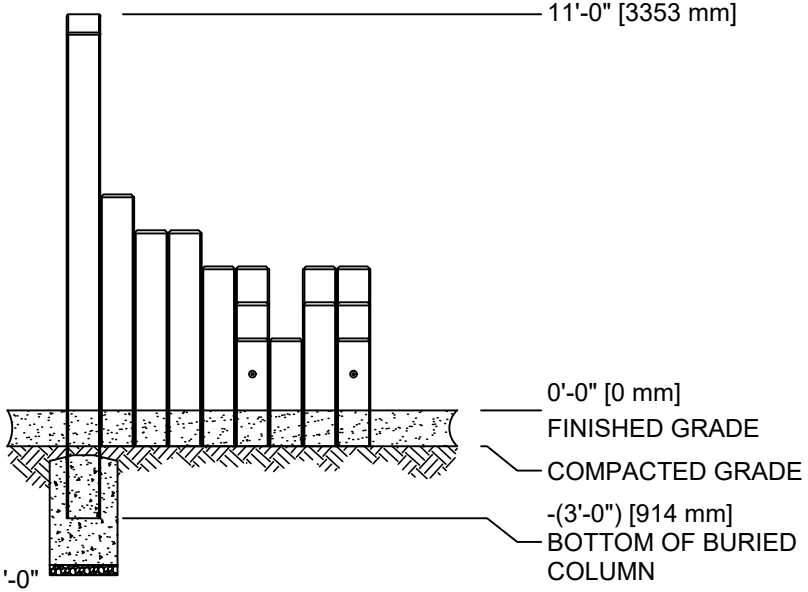
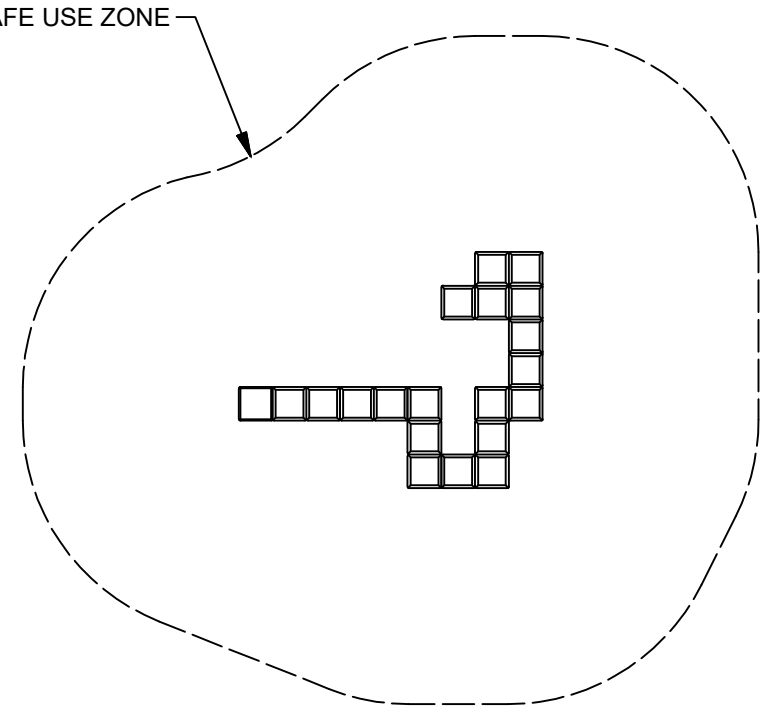


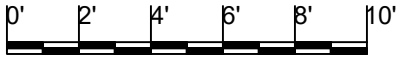
FRONT VIEW
SCALE 3/16"=1'-0"



EQUIPMENT ONLY:
8'-6" x 6'-7" (2.7m x 2m)

MINIMUM SAFE USE ZONE:
20'-6" x 18"-7" (6.8m x 5.8m)

PLAN VIEW WITH USE ZONE
SCALE 3/16"=1'-0"



NOTE:
CONCRETE FOOTING AND NO. 4 REBAR (BY OTHERS) PER LOCAL SOIL CONDITIONS. CONSULT PROJECT ENGINEER FOR EXACT REQUIREMENTS.

Date	Revision	By
△		
△		
△		
△		

Scale: NOTED

Drawn by: DGR 05-14-18
Ck'd by: CL 05-14-18

COLUMBIA CASCADE COMPANY
Makers of TimberForm®, PipeLine®, RePlay®

1300 S.W. Sixth Avenue, Suite 310
Portland, Oregon 97201-3464
U.S.A.

Telephone 503/223-1157
Facsimile 503/223-4530

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WWW.TIMBERFORM.COM

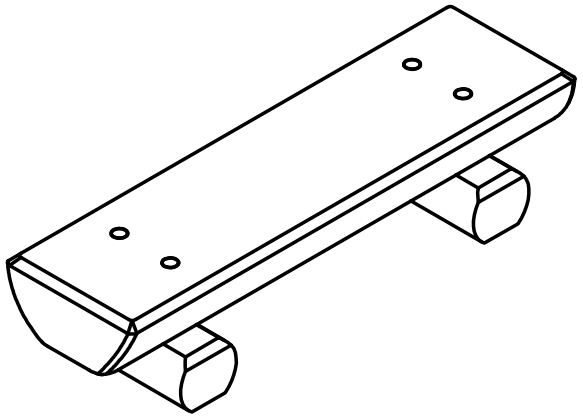
Title:
CLASSIC TIMBERFORM
MODEL NO. 4500-515
STEPPING COLUMNS

Drawing No.
W-4500-515

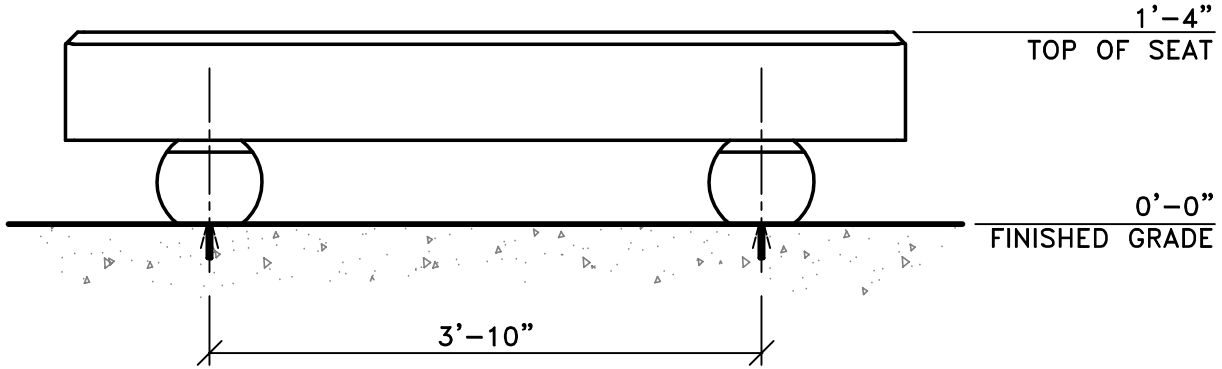
Sheet
1 *of* 1



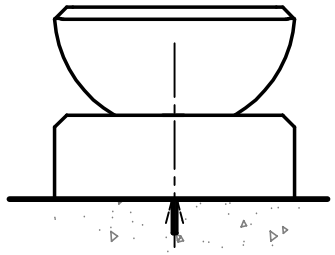
PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW



END VIEW

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Authorization for use is hereby granted to architects, landscape architects and similar design professionals solely for the purpose of specifying TimberForm products.

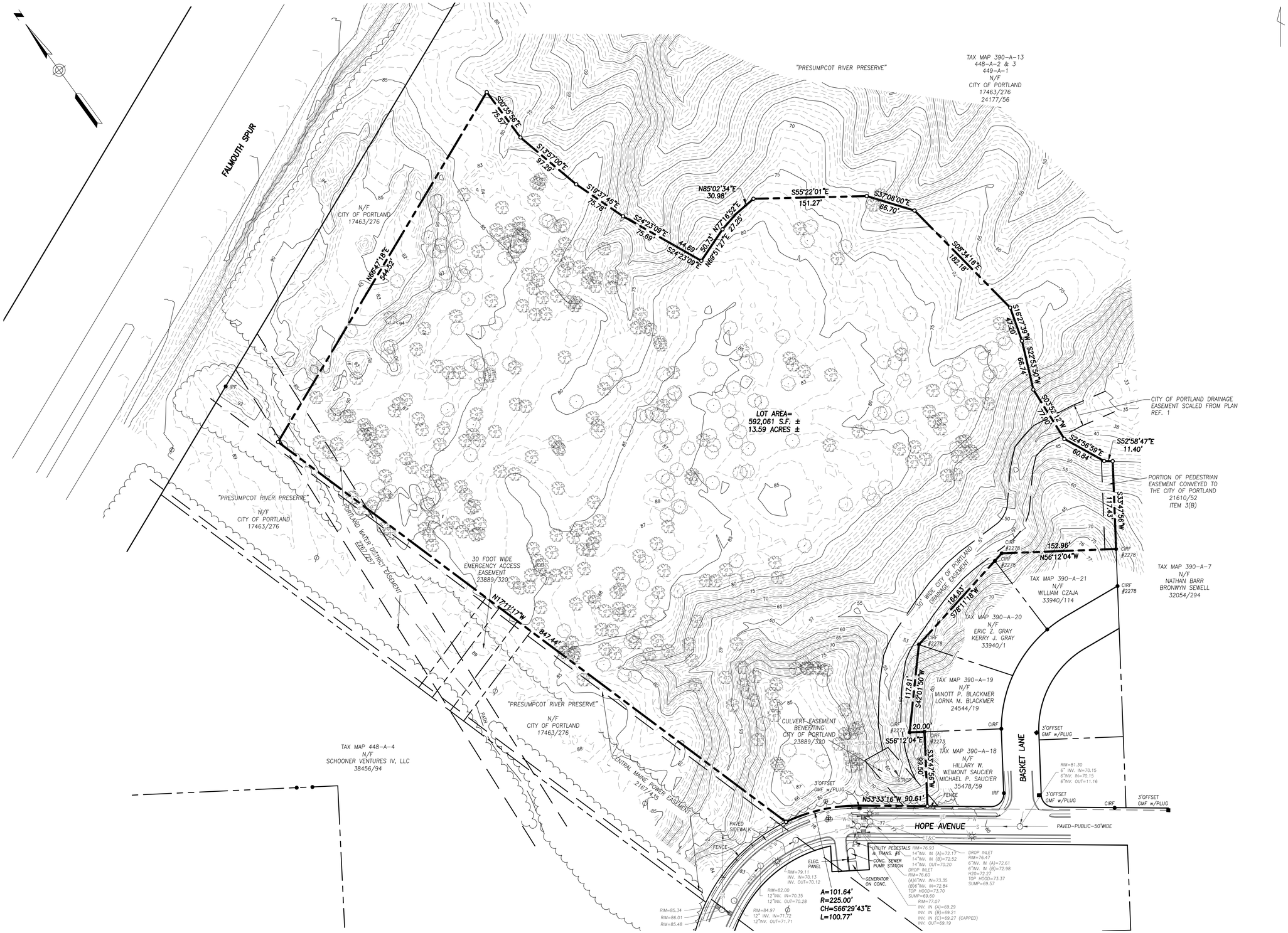
△

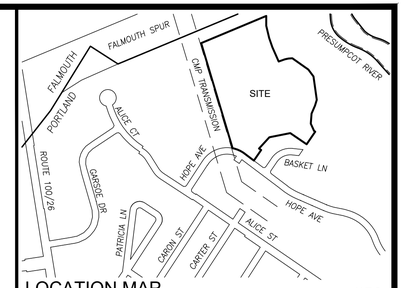
Scale	Drawn by: GH	04-19-19
NOTED	Ck'd by: JK	04-19-19

COLUMBIA CASCADE COMPANY
Makers of TimberForm®, PipeLine® RePlay,® TimberForm®-2, InterPlay® CycLoops® and CycLocker® Products.
1300 S.W. Sixth Avenue, Suite 310 Telephone 503/223-1157
Portland, Oregon 97201-3464 Facsimile 503/223-4530
U.S.A.
WWW.TIMBERFORM.COM

Title:
TIMBERCRAFT
MODEL NO. 2215-6
HALF ROUND LOG SEAT

Drawing No.	Sheet
W-2215-6	1 of 1





LOCATION MAP N.T.S.

LEGEND

- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- CAPPED IRON ROD TO BE SET
- UTILITY POLE
- MANHOLE
- CATCH BASIN
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- FENCE
- GUARDRAIL
- CURB
- 80 — 1' CONTOUR
- IPF/IRF — IRON PIPE/ROD FOUND
- N/F — NOW OR FORMERLY
- 000/000 — DEED BOOK / PAGE

PLAN REFERENCES

1. "RIVERWALK SUBDIVISION PLAN" MADE FOR GORRILL–PALMER DATED OCTOBER 25, 2005 AND REVISED FEBRUARY 24, 2006 AS RECORDED IN PLAN BOOK 206, PAGES 412 & 413.

2. "PLAN OF BRANDY LANE SUBDIVISION PLAT" MADE FOR LBW, LLC DATED JANUARY 15, 2018 AND REVISED THROUGH JUNE 7, 2021 AS RECORDED IN PLAN BOOK 221, PAGE 435.

3. "PLAN OF PROPERTY FOR ROBERT ADAM" MADE BY LAND USE CONSULTANTS DATED AUGUST, 1978 AS RECORDED IN PLAN BOOK 125, PAGES 45 & 46.

4. "PRESUMPSCOT RIVER PLACE III SUBDIVISION PLAN" MADE FOR ROBERT ADAM AND BURT WOLF BY TITCOMB ASSOCIATES DATED DECEMBER 4, 2001 AND REVISED THROUGH OCTOBER 21, 2002 AS RECORDED IN PLAN BOOK 202, PAGE 650.

GENERAL NOTES

1. OWNER OF RECORD: ESTELLE ESTATES, LLC
   TAX MAP: 448 BLOCK A LOT 1
   409 BLOCK A LOT 2
   390 BLOCK A LOT 1
   C.C.R.D. BOOK 35303 PAGE 331

2. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD83 PER GPS OBSERVATION.

3. ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM BASED UPON GPS OBSERVATION. THE ELEVATION BENCHMARK FROM PLAN REFERENCE 2 APPEARS TO BE 0.76 FEET HIGH COMPARED TO THIS SURVEY.

4. CONTOUR INFORMATION IS A COMPOSITE OF GROUND SURVEYING AND 2020 LIDAR DATA AVAILABLE FROM THE MAINE OFFICE OF G.I.S. THE LIDAR DATA HAS BEEN FIELD VERIFIED BY OWEN HASKELL, INC., YIELDING AN OVERALL R.M.S.E. OF 0.09 FEET AT THE SAMPLE POINTS TAKEN AROUND THE SITE. THE CONTOURS IN THE DEVELOPED PORTION OF HOPE AVENUE ARE THE RESULT OF A TOTAL STATION SURVEY.

5. SITE BENCHMARK IS A PLUG IN A GRANITE MONUMENT LOCATED 3 FOOT OFFSET OF THE POINT OF CURVATURE OF THE STREET LINE OF THE SUBJECT PROPERTY. THE ELEVATION IS 77.35 FEET.

6. ALL TREES 16" OR GREATER WITHIN OR NEAR THE AREA PROPOSED TO BE DEVELOPED ARE SHOWN HEREON AND ARE BASED ON A GROUND SURVEY.

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

11/21/23
DATE

STATE OF MAINE — SAMUEL D. GLIDDEN — 2520 — PROFESSIONAL LAND SURVEYOR

REV. 1	11-27-23	ADD TREES

Boundary and Topographic Survey
On
Hope Avenue, Portland, Maine
Made for
GenX Capital Partners
2 Cotton Street, Portland, ME 04101

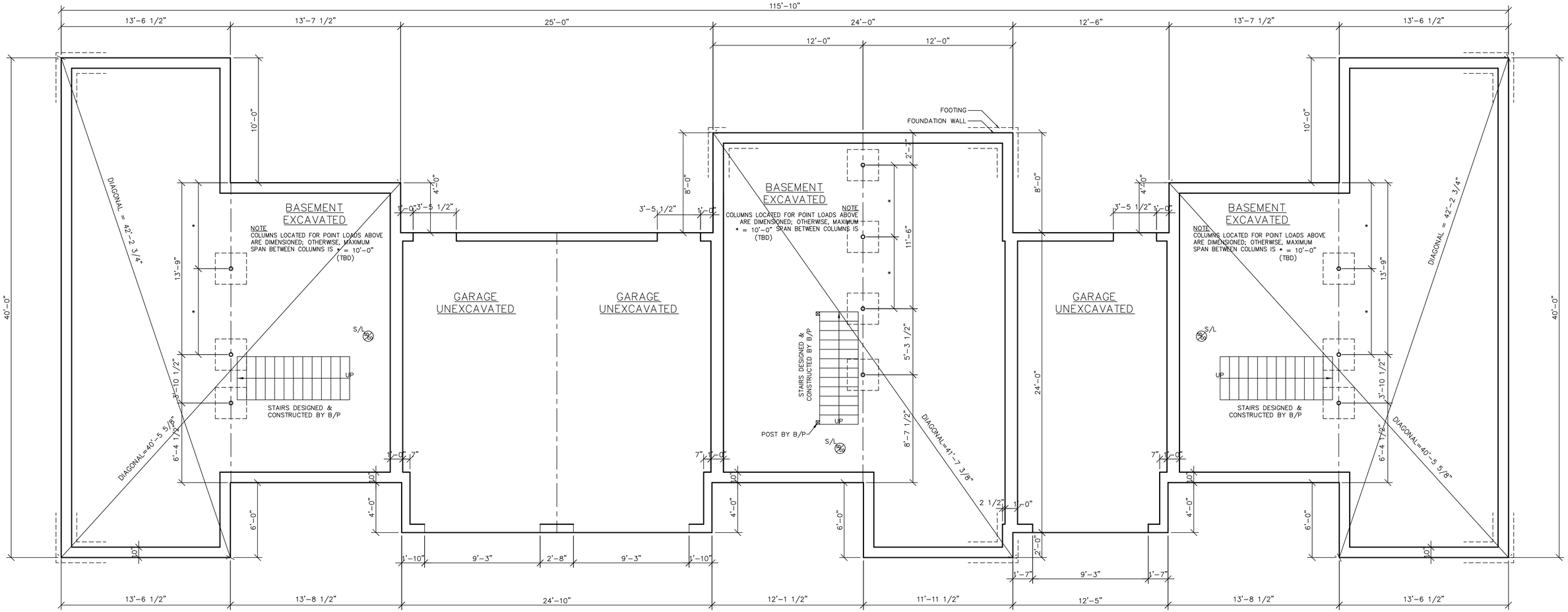
OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG	DATE: SEPT. 12, 2022	JOB NO. 2022-086 P
CHECKED BY: RCJ	SCALE: 1" = 60'	DRWG. NO. 1



THIRD PARTY INSPECTION AGENCY	PE / RA
NOTICE Please review these Preliminary Plans carefully. Your order can not be processed any further until Westchester Modular Homes Order. Processing Department receives a signed and dated set returned from you. Approved for construction as drawn Approved for construction as I have marked-up Builders Signature Date	

SERIAL No. 23162-64	BUILDER: ACME DEVELOPMENT LLC 7 PAIGE AVE OLD ORCHARD BEACH, ME 04064	HOMEOWNER: HOPE AVE SITE: HOPE AVE PORTLAND, ME 04103	USE GROUP: TOWNHOUSE
PRODUCTION No.			CONST. TYPE: VB
REVISION / DATE	TOWNHOUSE CTM-R ELEVATIONS		DESIGNER: RC
			DATE: 10/13/23
			SCALE: 3/16"=1'-0"
DATE / CHECK	Westchester Modular Homes Inc 30 Reagans Mill Road, Wingdale, New York, 12594 Tel (845)832-9400 Fax (845)832-6698		PAGE: 1



FOUNDATION NOTES:
1) THE FOUNDATION PLAN IS PROVIDED FOR FOUNDATION DESIGN PARAMETERS ONLY. COMPLETE FOUNDATION ENGINEERING BASED ON SPECIFIC SITE CONDITIONS, APPLICABLE LOCAL AND STATE CODES, TO BE REVIEWED AND APPROVED BY A REGISTERED ARCHITECT OR ENGINEER IN THE STATE OF HOUSE DESIGNATION.

2) THE BUILDER/PURCHASER SHALL BE RESPONSIBLE FOR DESIGN, CONSTRUCTION AND CODE COMPLIANCE OF ALL FOUNDATION ELEMENTS INCLUDING (BUT NOT LIMITED TO) STRUCTURAL, PLUMBING, ELECTRICAL, HEATING, ENERGY CONSERVATION AND FIRE SEPARATION.

3) LALLY COLUMN SHALL BE MINIMUM 3 1/2"ø STEEL PIPE WITH 8"x8" TOP PLATE. THICKNESS OF THE TOP PLATE SHALL BE DESIGNED BY PE/RA TO SUPPORT LOADS GIVEN.

4) MINIMUM COLUMN FOOTING SIZE SHALL BE 2'-6" x 2'-6" x 10" DEEP.

5) CONCRETE STRENGTH TO BE A MINIMUM 3000 PSI.

6) FOUNDATION SILL SHALL BE PRESERVATIVE TREATED LUMBER (SUPPLIED AND INSTALLED BY B/P PRIOR TO HOUSE DELIVERY AND SET). THERE SHALL BE NO PROTRUSION ABOVE TOP OF SILL PLATE.

7) FOUNDATION ANCHOR BOLTS TO BE 1/2"ø MINIMUM AND SHALL BE EMBEDDED A MINIMUM OF 7" INTO CONCRETE OR GROUTED CELLS OF CONCRETE FOUNDATION, LOCATED WITHIN 6" TO 12" OF EACH END OF THE SILL PLATE AND SPACED @ 72"O.C. (OR ANCHOR STRAP EQUIVALENT) PER R403.1.6

8) THE BUILDER/PURCHASER SHALL BE RESPONSIBLE FOR ENCLOSING THE BASEMENT STAIRS AND INSULATING THE BASEMENT STAIR WALLS IN ACCORDANCE WITH ALL APPLICABLE ENERGY CODE REQUIREMENTS

THIRD PARTY INSPECTION AGENCY	PE / RA
NOTICE Please review these Preliminary Plans carefully. Your order can not be processed any further until Westchester Modular Homes Order Processing Department receives a signed and dated set returned from you. —— Approved for construction as drawn —— Approved for construction as I have marked-up Builders Signature _____ Date	

SERIAL No. 23162-64
PRODUCTION No.

REVISION	DATE
DATE	CHECK

BUILDER:
ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

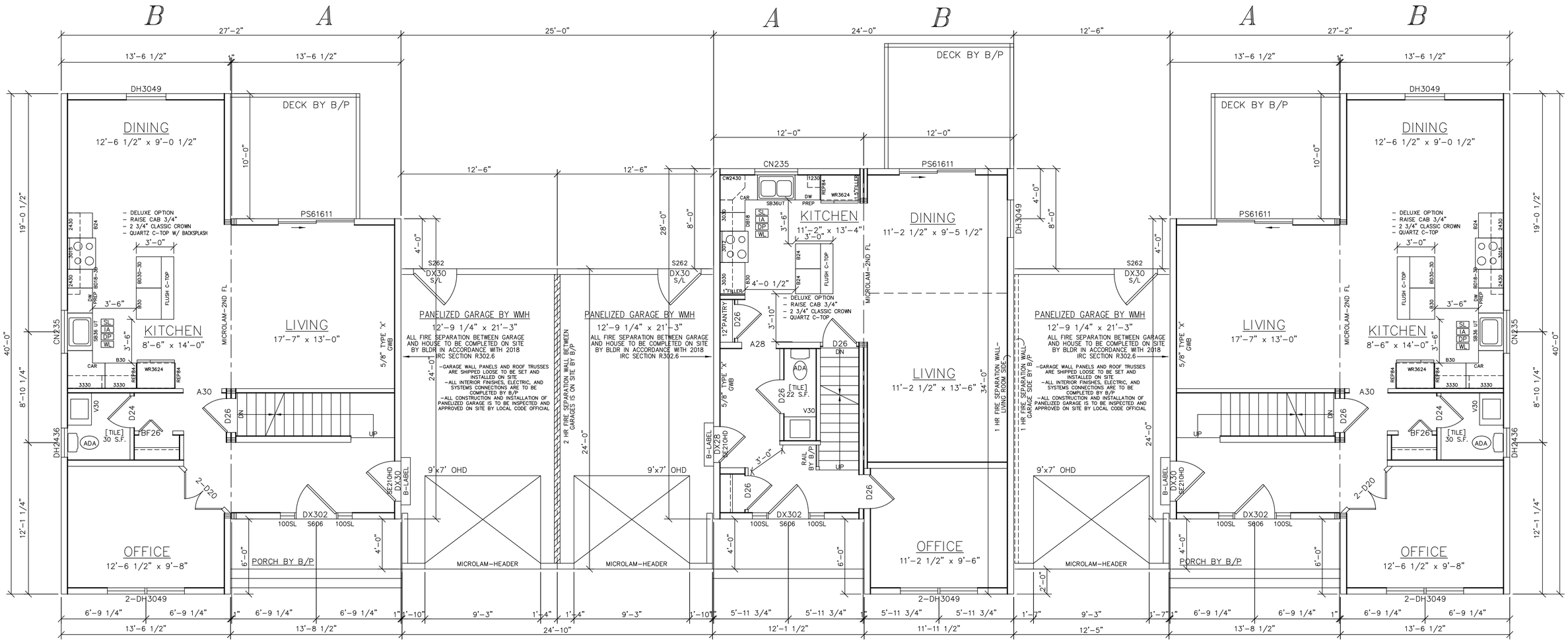
HOMEOWNER:
HOPE AVE

SITE:
HOPE AVE
PORTLAND, ME 04103

USE GROUP: TOWNHOUSE
CONST. TYPE: VB
DESIGNER: RC
DATE: 10/13/23
SCALE: 1/4" = 1'-0"
PAGE: 2

TOWNHOUSE CTM-R
FOUNDATION PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698



(23162)
UNIT #1

(23163)
UNIT #2

(23164)
UNIT #3

NOTES:
- ZIP EXT./ OSB MARRIAGE WALL SHEATHING
- ANDERSEN 200 SERIES WINDOWS, (6/1 GRILLES) SILLS AND STOOLS
- R49 ROOF INSULATION
- SMOOTH SOLID CORE, 6-PANEL INTERIOR DOORS
- 5 1/4" NECK
- 3 1/2" COLONIAL CASING

NOTE:
ALL WINDOWS WITH A SILL HEIGHT LESS THAN 24" ABOVE FINISHED FLOOR AND WITH A EXT. HEIGHT OF GREATER THAN 6'-0" TO GRADE SHALL BE EQUIPPED WITH FALL PROTECTION SUPPLIED AND INSTALLED ON SITE BY B/P IN ACCORDANCE W/ R312.2

UNITS #1 & #3

LIGHT & VENTILATION SCHEDULE (SF)

ROOM	AREA	LIGHT SUPPLIED	VENT SUPPLIED	
LIVING	229	32.4	15.56	COMBINE
DINING	113	9.91	5.96	
KITCHEN	119	8.0	7.2	
OFFICE	121	19.8	11.52	
.	.	.	.	

UNIT #2

LIGHT & VENTILATION SCHEDULE (SF)

ROOM	AREA	LIGHT SUPPLIED	VENT SUPPLIED	
LIVING	151	0.0	0.0	COMBINE
DINING	106	42.3	21.32	
KITCHEN	149	8.0	7.2	
OFFICE	106	19.8	11.52	
.	.	.	.	

THIRD PARTY INSPECTION AGENCY

PE / RA

NOTICE
Please review these Preliminary Plans carefully. Your order can not be processed any further until Westchester Modular Homes Order, Processing Department receives a signed and dated set returned from you.

Approved for construction as drawn

Approved for construction as I have marked-up

Builders Signature

Date

SERIAL No. 23162-64

PRODUCTION No.

REVISION	DATE
DATE	CHECK

BUILDER:
ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

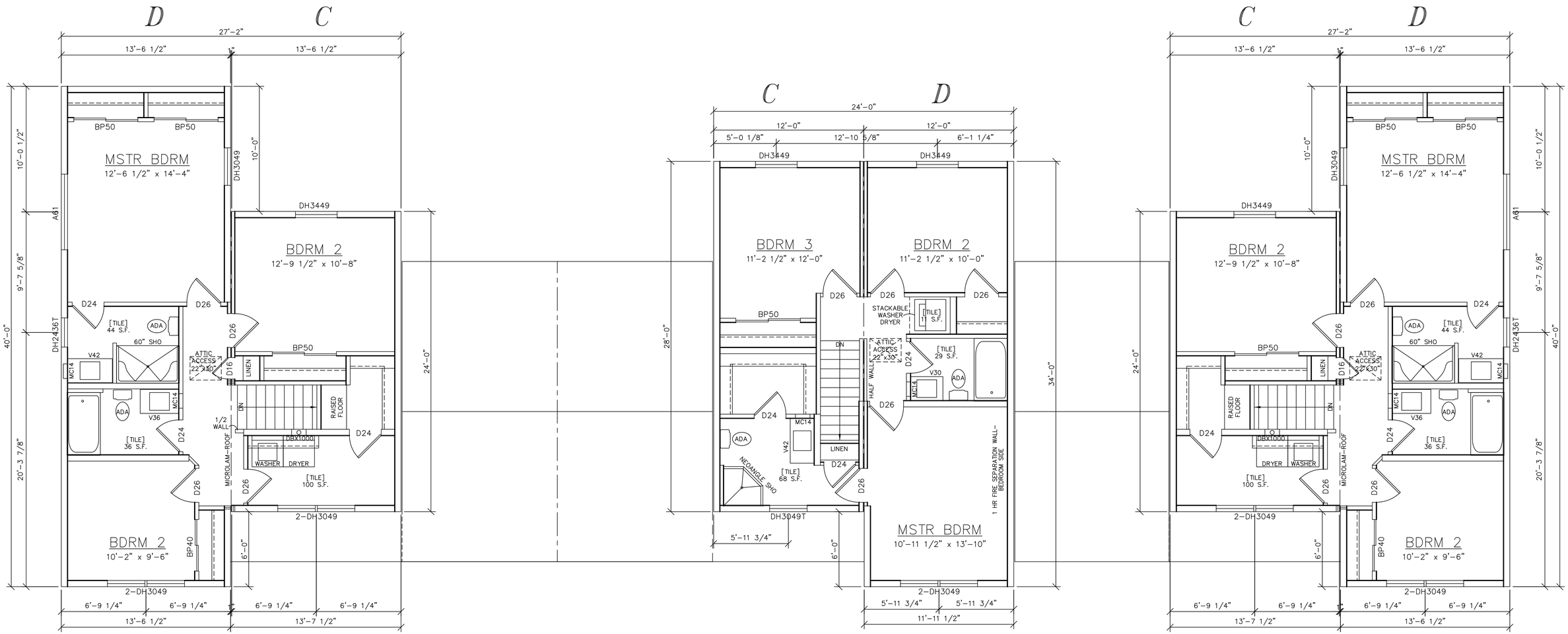
HOMEOWNER:
HOPE AVE

SITE:
HOPE AVE
PORTLAND, ME 04103

USE GROUP: TOWNHOUSE
CONST. TYPE: VB
DESIGNER: RC
DATE: 10/13/23
SCALE: 1/4" = 1'-0"
PAGE: 3A

TOWNHOUSE CTM-R
FIRST FLOOR PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698



(23162)
UNIT #1

(23163)
UNIT #2

(23164)
UNIT #3

UNITS #1 & #3

LIGHT & VENTILATION SCHEDULE (SF)			
ROOM	AREA	LIGHT SUPPLIED	VENT SUPPLIED
MSTR BDRM	180	19.1	8.76
BDRM 2	136	11.25	6.48
BDRM 3	97	19.8	11.52

UNIT #2

LIGHT & VENTILATION SCHEDULE (SF)			
ROOM	AREA	LIGHT SUPPLIED	VENT SUPPLIED
MSTR BDRM	152	19.8	1.52
BDRM 2	102	11.25	6.48
BDRM 3	135	11.25	6.48

THIRD PARTY INSPECTION AGENCY

Builders Signature _____ Date

NOTICE

Please review these Preliminary plans carefully. Your order can not be processed any further until Westchester Modular Homes Order Processing Department receives a signed and dated set returned from you.

—— Approved for construction as drawn

—— Approved for construction as I have marked-up

PE / RA

SERIAL No. 23162-64

PRODUCTION No.

REVISION	DATE
DATE	CHECK

BUILDER:
ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

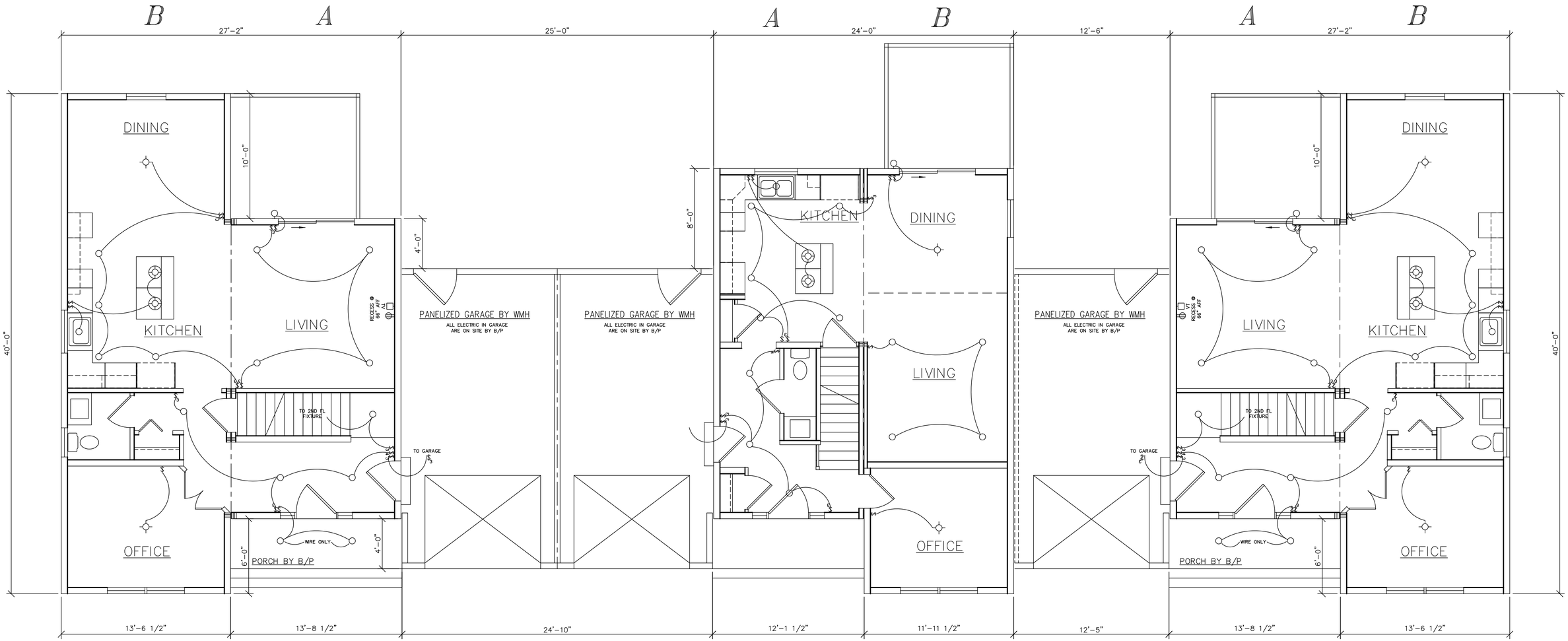
HOMEOWNER:
HOPE AVE

SITE:
HOPE AVE
PORTLAND, ME 04103

USE GROUP: TOWNHOUSE
CONST. TYPE: VB
DESIGNER: RC
DATE: 10/13/23
SCALE: 1/4" = 1'-0"
PAGE: 3B

TOWNHOUSE CTM-R
SECOND FLOOR PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698



(23162)
UNIT #1

(23163)
UNIT #2

(23164)
UNIT #3

THIRD PARTY INSPECTION AGENCY

Builders Signature _____ Date

—— Approved for construction as drawn

—— Approved for construction as I have marked-up

NOTICE

Please review these Preliminary Plans carefully. Your order can not be processed any further until Westchester Modular Homes Order Processing Department receives a signed and dated set returned from you.

PE / RA

SERIAL No. 23162-64

PRODUCTION No.

REVISION	DATE
DATE	CHECK

BUILDER:
ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

HOMEOWNER:
HOPE AVE

SITE:
HOPE AVE
PORTLAND, ME 04103

USE GROUP: TOWNHOUSE

CONST. TYPE: VB

DESIGNER: RC

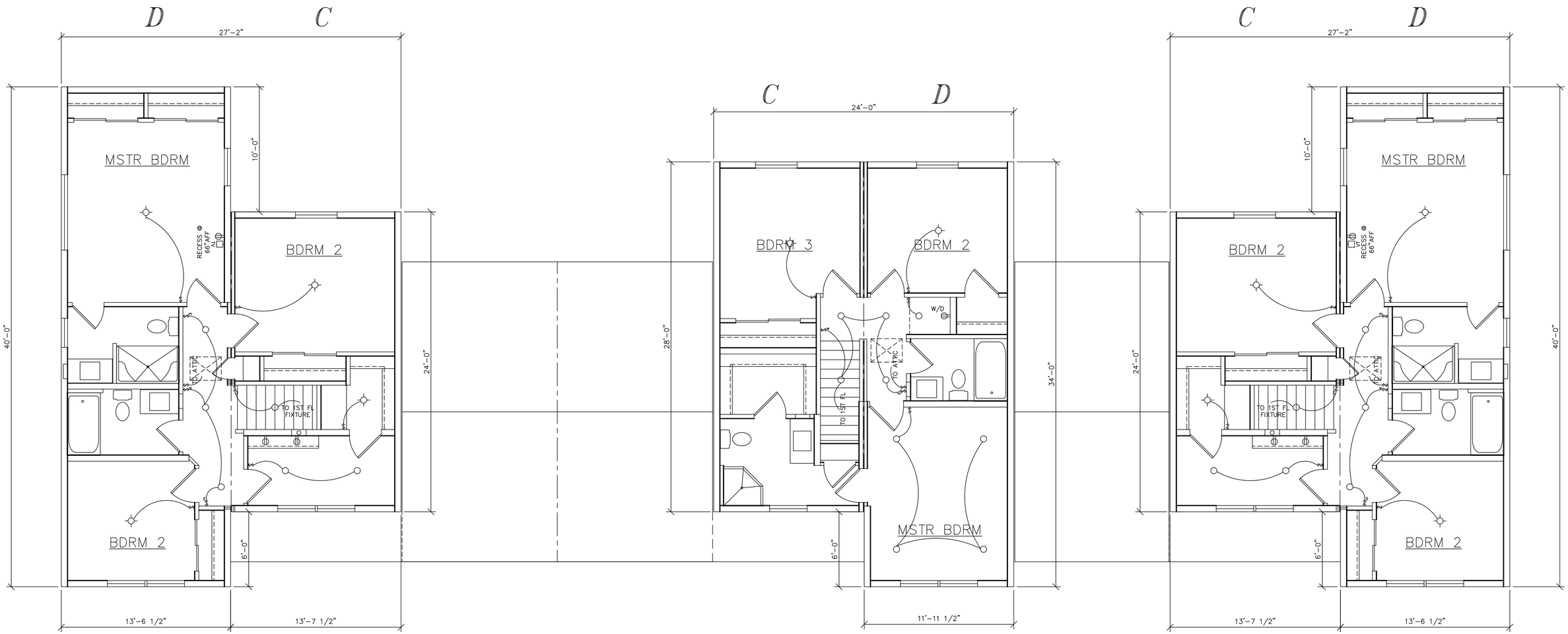
DATE: 10/13/23

SCALE: 1/4" = 1'-0"

PAGE: 6A

TOWNHOUSE CTM-R
1st.FL ELECTRICAL PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698



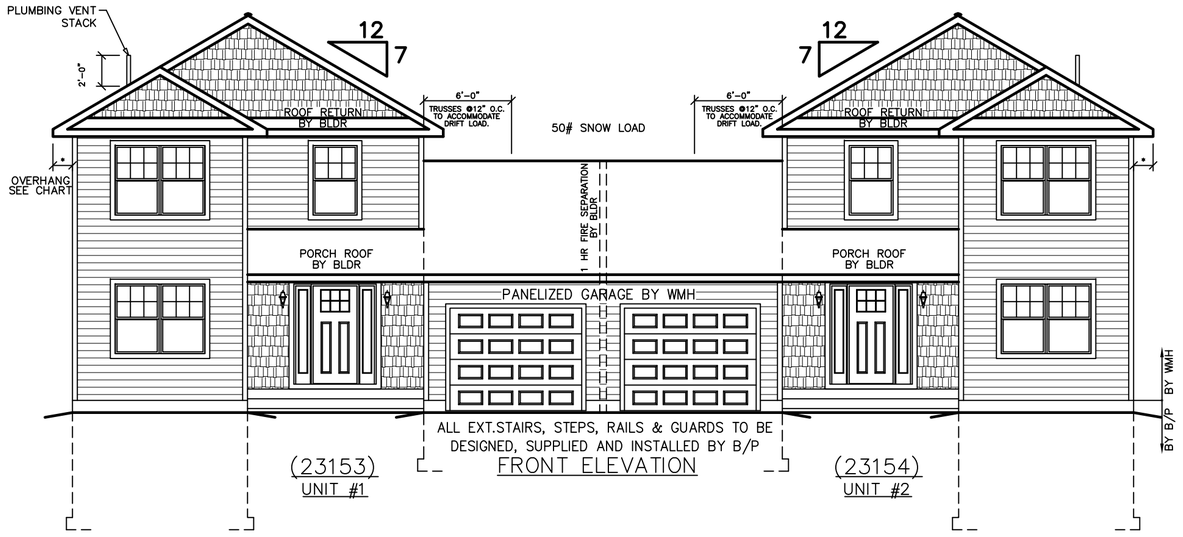
(23162)
UNIT #1

(23163)
UNIT #2

(23164)
UNIT #3

THIRD PARTY INSPECTION AGENCY	PE / RA	SERIAL No. 23162-64	BUILDER: ACME DEVELOPMENT LLC 7 PAIGE AVE OLD ORCHARD BEACH, ME 04064	HOMEOWNER: HOPE AVE	USE GROUP: TOWNHOUSE
NOTICE Please review these Preliminary Plans carefully. Your order can not be processed any further until Westchester Modular Homes Order. Processing Department receives a signed and dated set returned from you.		PRODUCTION No.		SITE: HOPE AVE PORTLAND, ME 04103	CONST. TYPE: VB
Approved for construction as drawn		REVISION / DATE	TOWNHOUSE CTM-R 2nd.FL ELECTRICAL PLAN		DESIGNER: RC
Approved for construction as I have marked-up					DATE: 10/13/23
Builders Signature / Date		DATE / CHECK	Westchester Modular Homes Inc 30 Reagans Mill Road, Wingdale, New York, 12594 Tel (845)832-9400 Fax (845)832-6698		SCALE: 1/4" = 1'-0"
					PAGE: 6B

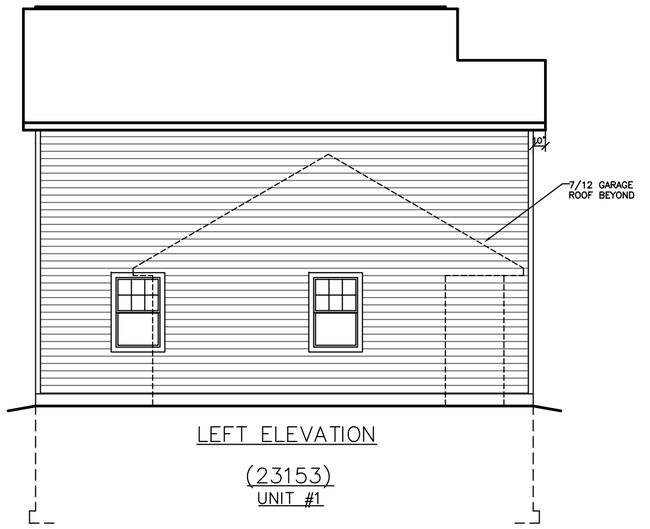
OVERHANG DIMENSION (*)			
ROOF PITCH	HOUSE WIDTH		
	24'-0"	26'-0"/30'-0"	27'-8"/31'-8"
5/12	16"	11"	16"
7/12	16"	11"	16"
9/12	12"	11"	12"
12/12	8 3/4"	8 3/4"	8 3/4"



FRONT ELEVATION

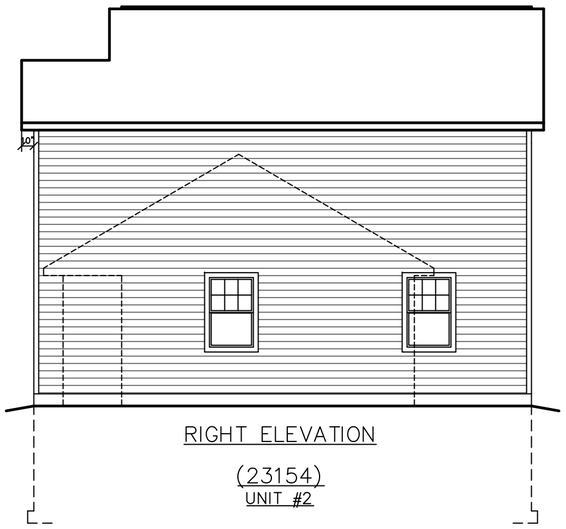
(23153) UNIT #1

(23154) UNIT #2



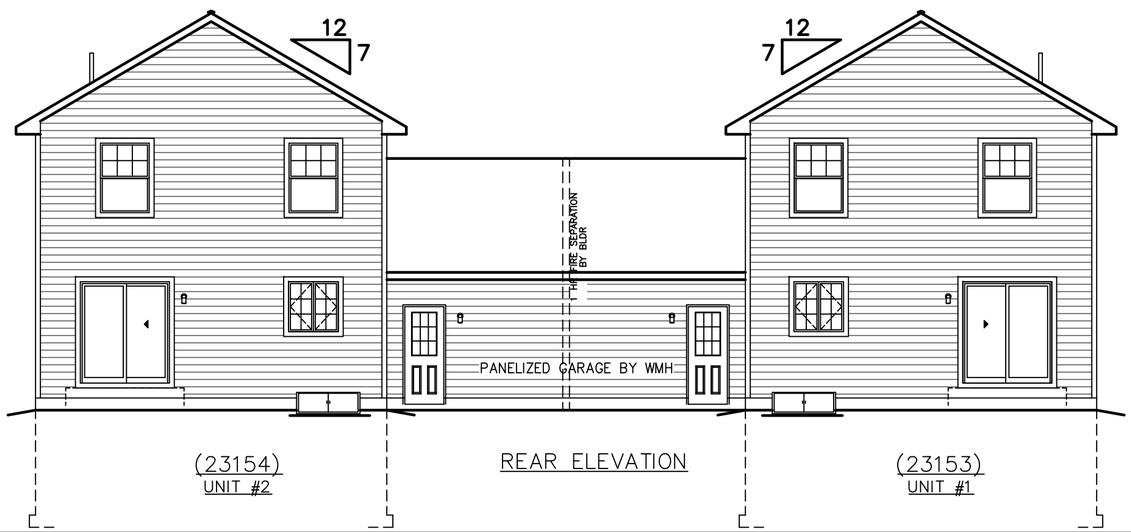
LEFT ELEVATION

(23153) UNIT #1



RIGHT ELEVATION

(23154) UNIT #2



(23154) UNIT #2

REAR ELEVATION

(23153) UNIT #1

SEE STANDARD NOTES & DETAILS DWG #8

THIRD PARTY INSPECTION AGENCY

NOTICE

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____ Approved for construction as drawn

____ Approved for construction as I have marked-up

Builders Signature Date

PE / RA

SERIAL No. 23153-54

PRODUCTION No.

REVISION	DATE
.	.

CHECK	DATE
STD REVISION	01/10/15

BUILDER: ACME DEVELOPMENT LLC, 7 PAIGE AVE, OLD ORCHARD BEACH, ME 04064

HOMEOWNER: HOPE AVE-SMALL

SITE: HOPE AVENUE PORTLAND, ME 04103

DUPLEX CTM-L ELEVATIONS

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698

USE GROUP: TWO FAMILY

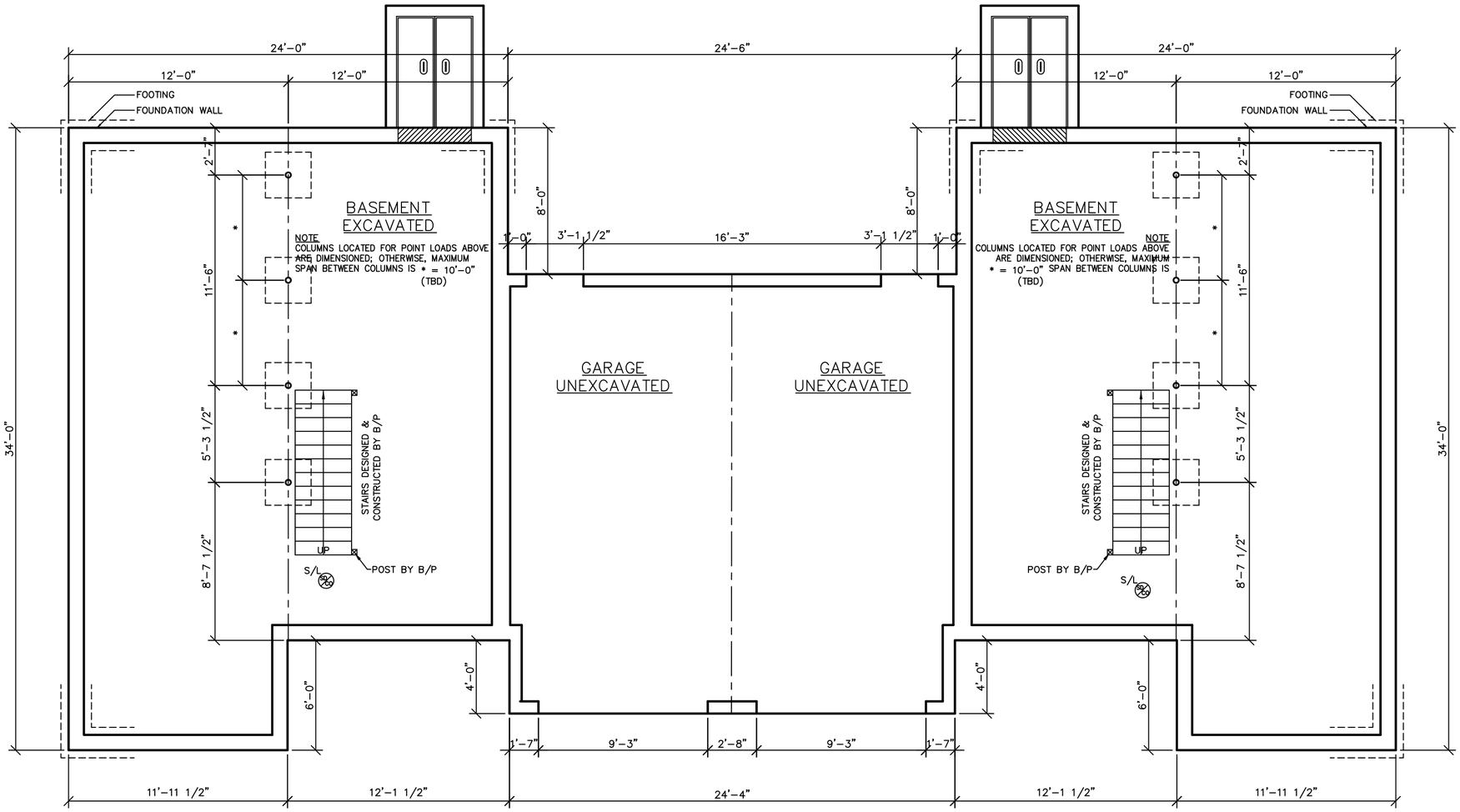
CONST. TYPE: VB

DESIGNER: RC

DATE: 09/21/23

SCALE: 1/8"=1'-0"

PAGE: 1



FOUNDATION NOTES:
1) THE FOUNDATION PLAN IS PROVIDED FOR FOUNDATION DESIGN PARAMETERS ONLY. COMPLETE FOUNDATION ENGINEERING BASED ON SPECIFIC SITE CONDITIONS, APPLICABLE LOCAL AND STATE CODES, TO BE REVIEWED AND APPROVED BY A REGISTERED ARCHITECT OR ENGINEER IN THE STATE OF HOUSE DESIGNATION.

2) THE BUILDER/PURCHASER SHALL BE RESPONSIBLE FOR DESIGN, CONSTRUCTION AND CODE COMPLIANCE OF ALL FOUNDATION ELEMENTS INCLUDING (BUT NOT LIMITED TO) STRUCTURAL, PLUMBING, ELECTRICAL, HEATING, ENERGY CONSERVATION AND FIRE SEPARATION.

3) LALLY COLUMN SHALL BE MINIMUM 3 1/2"ø STEEL PIPE WITH 8"x8" TOP PLATE. THICKNESS OF THE TOP PLATE SHALL BE DESIGNED BY PE/RA TO SUPPORT LOADS GIVEN.

4) MINIMUM COLUMN FOOTING SIZE SHALL BE 2'-6" x 2'-6" x 10" DEEP.

5) CONCRETE STRENGTH TO BE A MINIMUM 3000 PSI.

6) FOUNDATION SILL SHALL BE PRESERVATIVE TREATED LUMBER (SUPPLIED AND INSTALLED BY B/P PRIOR TO HOUSE DELIVERY AND SET). THERE SHALL BE NO PROTRUSION ABOVE TOP OF SILL PLATE.

7) FOUNDATION ANCHOR BOLTS TO BE 1/2"ø MINIMUM AND SHALL BE EMBEDDED A MINIMUM OF 7" INTO CONCRETE OR GROUTED CELLS OF CONCRETE FOUNDATION, LOCATED WITHIN 6" TO 12" OF EACH END OF THE SILL PLATE AND SPACED @ 72"O.C. (OR ANCHOR STRAP EQUIVALENT) PER R403.1.6

8) THE BUILDER/PURCHASER SHALL BE RESPONSIBLE FOR ENCLOSING THE BASEMENT STAIRS AND INSULATING THE BASEMENT STAIR WALLS IN ACCORDANCE WITH ALL APPLICABLE ENERGY CODE REQUIREMENTS

THIRD PARTY INSPECTION AGENCY

NOTICE

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____ Approved for construction as drawn

____ Approved for construction as I have marked-up

Builders Signature Date

PE / RA

SERIAL No. 23153-54

PRODUCTION No.

REVISION	DATE
.	.

CHECK	DATE
STD REVISION	01/10/15

SEE STANDARD NOTES & DETAILS DWG #8

BUILDER: ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

HOMEOWNER: HOPE AVE-SMALL

SITE: HOPE AVENUE
PORTLAND, ME 04103

USE GROUP: TWO FAMILY

CONST. TYPE: VB

DESIGNER: RC

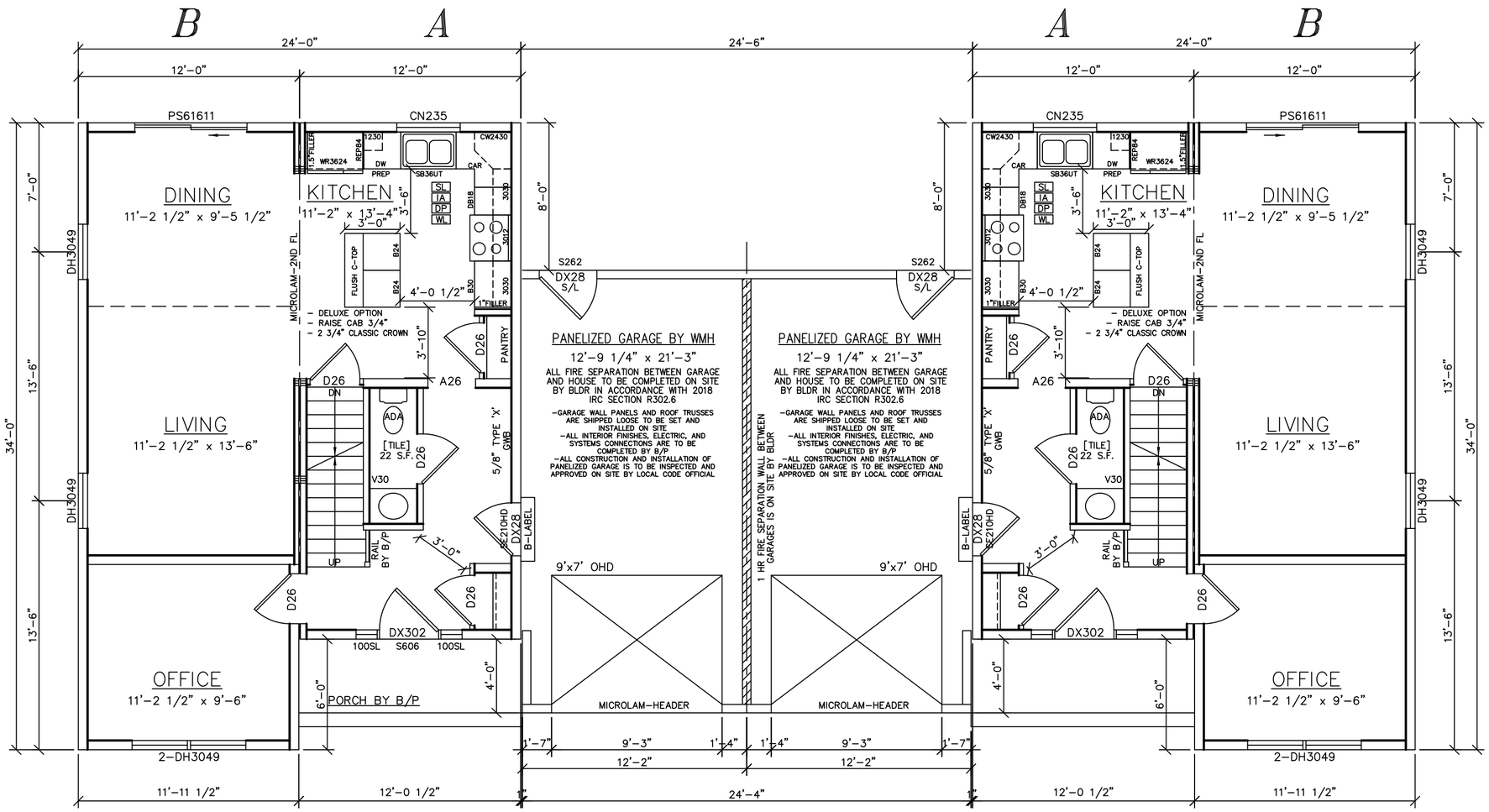
DATE: 09/21/23

SCALE: 3/16" = 1'-0"

PAGE: 2

DUPLEX CTM-L
FOUNDATION PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698



(23153)
UNIT #1

NOTE: UNIT # 1 IS TYPICAL FOR BOTH UNITS

(23154)
UNIT #2

NOTES:
- ZIP EXT./ OSB MARRIAGE WALL SHEATHING
- ANDERSEN 200 SERIES WINDOWS, (6/1 GRILLES) SILLS AND STOOLS
- R49 ROOF INSULATION
- SMOOTH SOLID CORE, 6-PANEL INTERIOR DOORS
- 5 1/4" NECK
- 3 1/2" COLONIAL CASING

LIGHT & VENTILATION SCHEDULE (SF)			
ROOM	AREA	LIGHT SUPPLIED	VENT SUPPLIED
FAMILY	151	9.91	5.76
DINING	106	42.3	21.32
KITCHEN	149	8.0	7.2
OFFICE	106	19.8	11.52
.	.	.	.

COMBINE

THIRD PARTY INSPECTION AGENCY

PE / RA

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PRODUCTION No.

REVISION	DATE
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STD REVISION	01/10/15

SEE STANDARD NOTES & DETAILS DWG #8

BUILDER: ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

HOMEOWNER: HOPE AVE-SMALL

SITE: HOPE AVENUE
PORTLAND, ME 04103

USE GROUP: TWO FAMILY

CONST. TYPE: VB

DESIGNER: RC

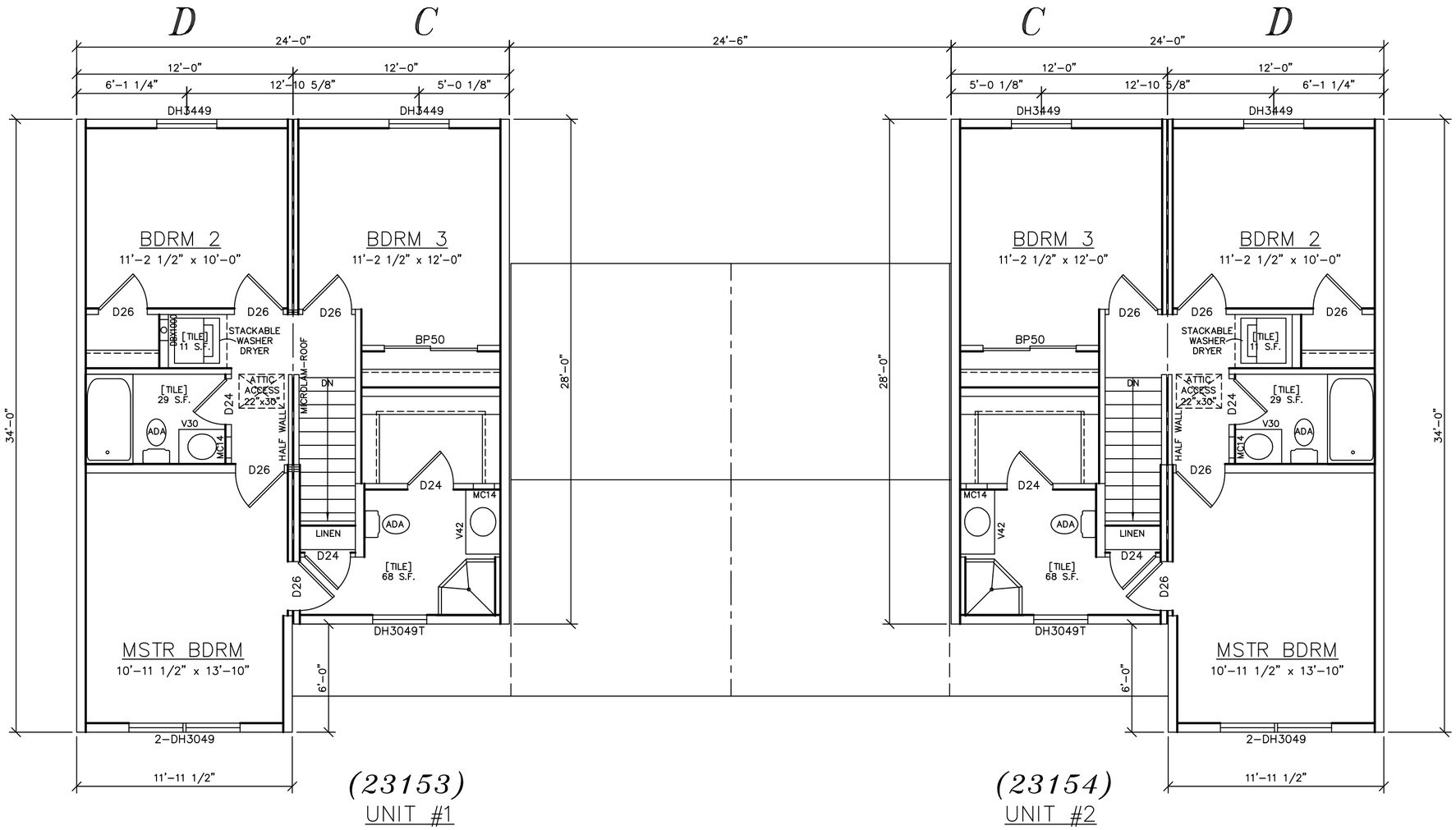
DATE: 09/21/23

SCALE: 3/16" = 1'-0"

PAGE: 3A

DUPLEX CTM-L
FIRST FLOOR PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698



LIGHT & VENTILATION SCHEDULE (SF)			
ROOM	AREA	LIGHT SUPPLIED	VENT SUPPLIED
MSTR BDRM	152	19.8	1.52
BDRM 2	102	11.25	6.48
BDRM 3	135	11.25	6.48

SEE STANDARD NOTES & DETAILS DWG #8

THIRD PARTY INSPECTION AGENCY

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PE / RA

SERIAL No. 23153-54

PRODUCTION No.

REVISION	DATE
.	
CHECK	DATE
STD REVISION	01/10/15

BUILDER: ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

HOMEOWNER: HOPE AVE-SMALL

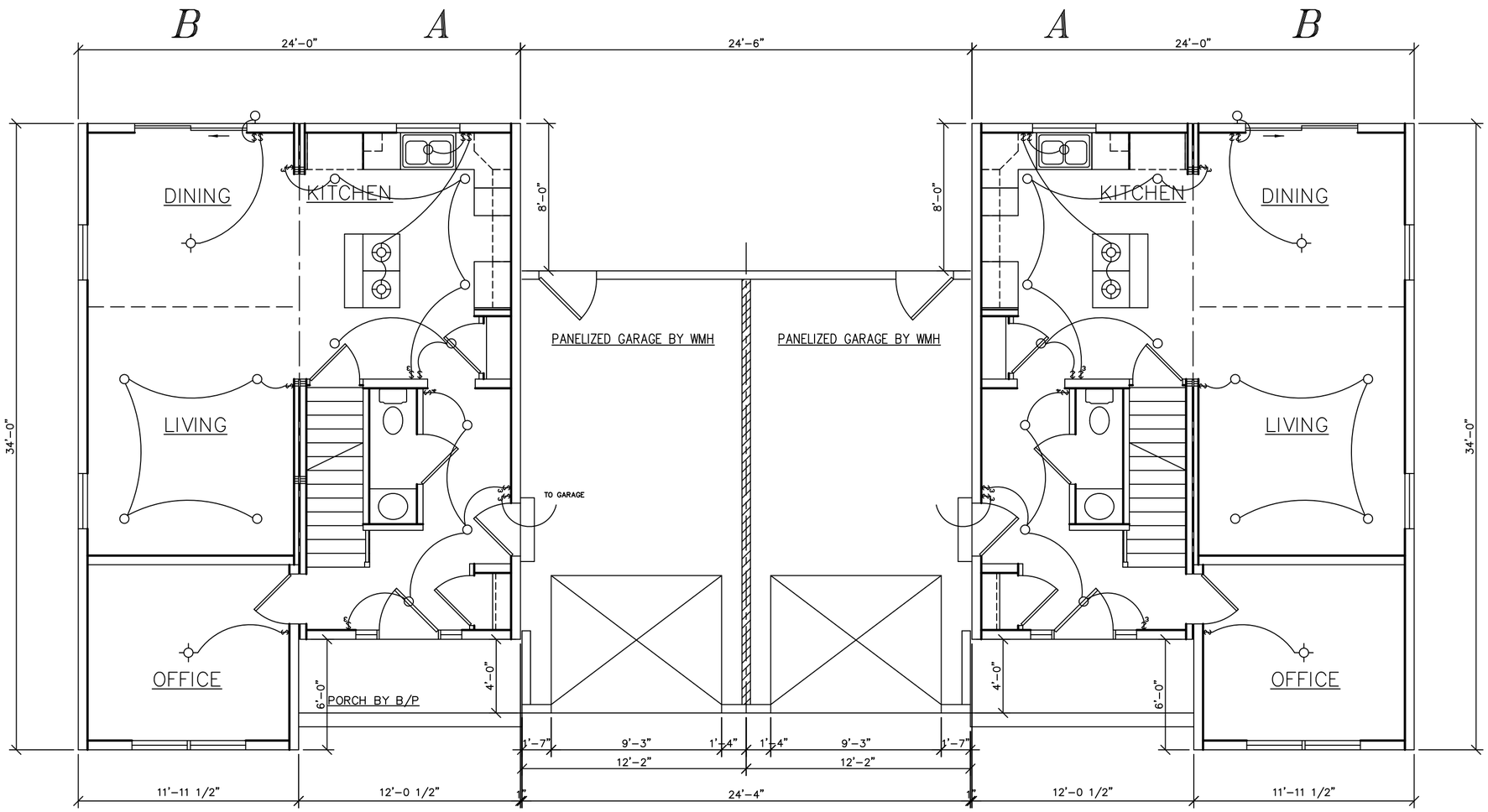
SITE: HOPE AVENUE
PORTLAND, ME 04103

DUPLEX CTM-L
SECOND FLOOR PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698

USE GROUP: TWO FAMILY
CONST. TYPE: VB

DESIGNER: RC
DATE: 09/21/23
SCALE: 3/16" = 1'-0"
PAGE: 3B



(23153)
UNIT #1

NOTE: UNIT # 1 IS TYPICAL FOR BOTH UNITS

(23154)
UNIT #2

2017 N.E.C.

* ALL OUTLETS TO BE TAMPER RESISTANT *
* ALL LIGHT FIXTURE BOXES TO BE HEAVY DUTY [50# MIN.] *
* ALL EXT. GFI RECEPTACLES TO BE UV RATED *
* FOAM GASKETS ON ALL EXT. WALLS *

SEE STANDARD NOTES & DETAILS DWG #8

THIRD PARTY INSPECTION AGENCY

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PE / RA

SERIAL No. 23153-54

PRODUCTION No.

REVISION	DATE
.	.
CHECK	DATE
STD REVISION	01/10/15

BUILDER:
ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

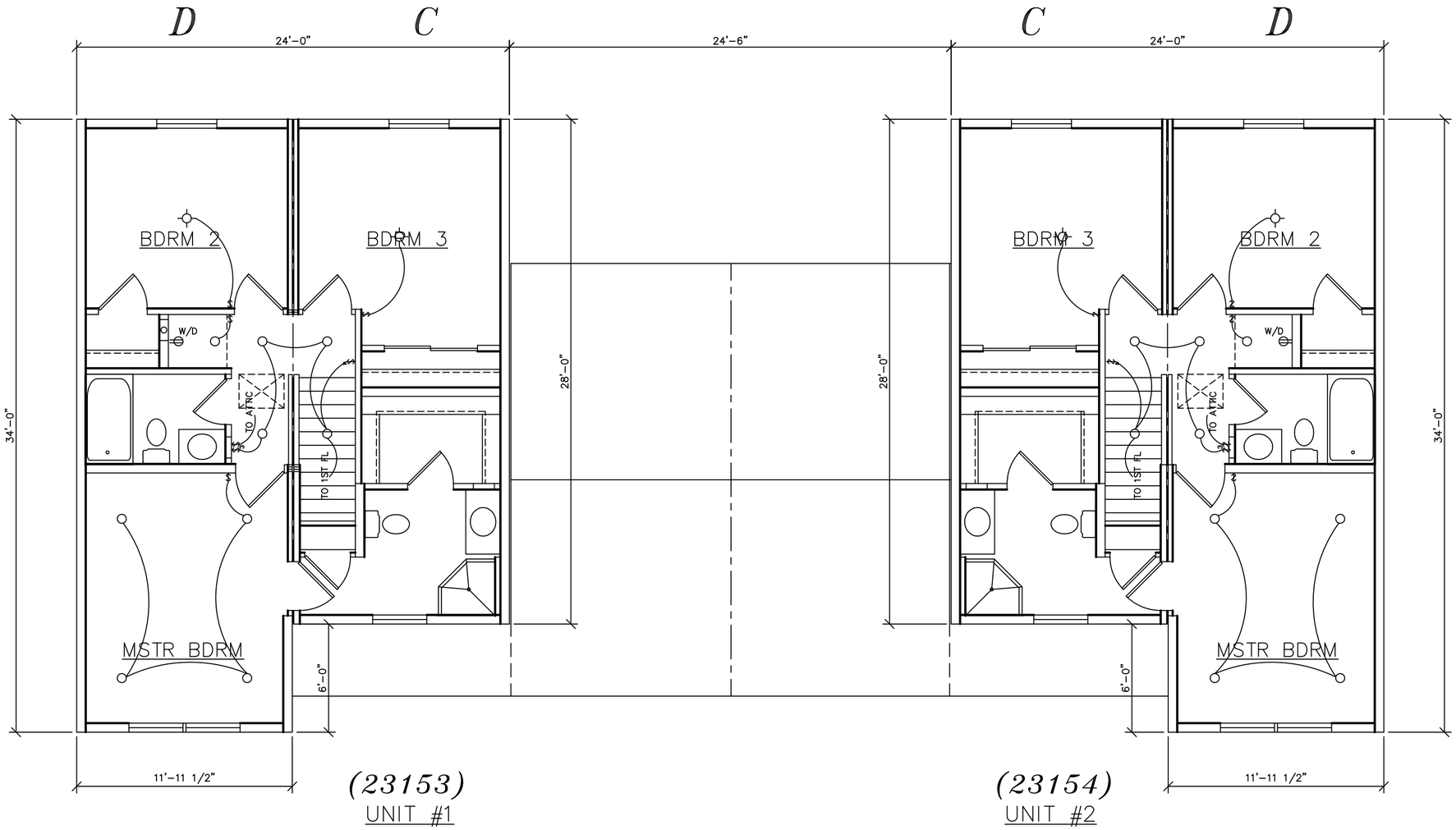
HOMEOWNER:
HOPE AVE-SMALL

SITE:
HOPE AVENUE
PORTLAND, ME 04103

DUPLEX CTM-L
1st.FL ELECTRICAL PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698

USE GROUP: TWO FAMILY
CONST. TYPE: VB
DESIGNER: RC
DATE: 09/21/23
SCALE: 3/16" = 1'-0"
PAGE: 6A



(23153)
UNIT #1

(23154)
UNIT #2

SEE STANDARD NOTES & DETAILS DWG #8

THIRD PARTY INSPECTION AGENCY

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SERIAL No. 23153-54

PRODUCTION No.

REVISION	DATE
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CHECK	DATE
STD REVISION	01/10/15

BUILDER:
ACME DEVELOPMENT LLC
7 PAIGE AVE
OLD ORCHARD BEACH, ME 04064

HOMEOWNER:
HOPE AVE-SMALL

SITE:
HOPE AVENUE
PORTLAND, ME 04103

USE GROUP:
TWO FAMILY

CONST. TYPE:
VB

DUPLEX CTM-L
2nd.FL ELECTRICAL PLAN

Westchester Modular Homes Inc
30 Reagans Mill Road, Wingdale, New York, 12594
Tel (845)832-9400 Fax (845)832-6698

DESIGNER: RC
DATE: 09/21/23
SCALE: 3/16" = 1'-0"
PAGE: 6B