PLANNING BOARD

Tuesday, March 26, 2024 at 4:30 PM
Hybrid Meeting, Room 24, Basement Level of City Hall and Zoom

MEMBERS
Brandon Mazer, Chair
Justin Barker, Vice Chair
Marpheen Chann
Sean Murphy
David Silk
Austin Smith
Maggie Stanley

The Planning Board invites the public to attend the meeting in person or Zoom pursuant to the Remote Meeting Policy adopted by the Planning Board. Prior to the meeting, please check the Agenda Center (https://portlandme.portal.civicclerk.com) to view memos and reports which will be posted by the end of the day on the Friday before the Planning Board meeting. To submit written public comment on an agenda item, email planningboard@portlandmaine.gov. Submissions must be received by 12:00 pm the day before the Planning Board meeting to guarantee their inclusion in the agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

REMOTE PARTICIPATION
Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend either in person or via Zoom, a recording will be available in the Agenda Center following the meeting.

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+1 309 205 3325 US; +1 346 248 7799 US (Houston); +1 360 209 5623 US; +1 386 347 5053 US; +1 507 473 4847 US; +1 564 217 2000 US; +1 669 444 9171 US; +1 669 900 6833 US (San Jose); +1 689 278 1000 US; +1 719 359 4580 US
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AGENDA:

WORKSHOP - 4:30 PM

i. Major Site Plan and Conditional Use; 246 Eastern Promenade; ECK Realty, LLC, Applicant. The Planning Board will hold a hybrid workshop to consider a major site plan and conditional use application for inclusionary zoning to facilitate the redevelopment of 246 Eastern Promenade and 15 Turner Street. The project would involve demolition of a 12-unit residential building and the construction of a new 13-unit building along with 17 off-street parking spaces. The subject property is 27,706 square feet in area, and is zoned R-6 Residential. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002490-2023.

PUBLIC HEARING - 5:30 PM

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATION AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON MARCH 12, 2024

Workshop
64 Pine Street: Barker, Chann, Mazer, Murphy, Silk, Smith present. Stanley absent
244 Cumberland Ave: Barker, Chann, Mazer, Murphy, Silk, Smith present. Stanley absent

Public Hearing
2 West Commercial Street: Barker, Chann, Mazer, Murphy, Silk, Smith present. Stanley absent

4. REPORTS OF DECISIONS AT THE MEETING HELD ON MARCH 12, 2024

i. Major Site Plan; 56 Cumberland Ave; Fafnir Cumberland, LLC, Applicant. Barker motioned, and Smith seconded a motion to adopt the approval letter as drafted and to authorize the Board Chair to sign the approval letter. Vote 6-0, Stanley absent.

ii. Historic District Designation; 142 Free Street; Portland Museum of Art, Applicant. Barker motioned, and Murphy seconded a motion to adopt an amended Findings of Fact, striking finding # 6 as drafted by Corporation Counsel, as the Planning Board's decision, and to authorize the Board Chair to sign the amended Findings of Fact. Vote 5-0, Smith recused, and Stanley absent.

iii. Major Site Plan; 2 West Commercial Street; MDOT Port Authority, Applicant. Barker motioned, and Murphy seconded a motion to table the public hearing to a date certain of March 26, 2024. Vote 6-0, Stanley absent.

5. UNFINISHED BUSINESS

i. Major Site Plan; 2 West Commercial Street; MDOT Port Authority, Applicant. The Planning Board will continue its hybrid public hearing, tabled at the Board's March 12th meeting to March 26th, to consider a major site plan application intended to facilitate the redevelopment of a portion of the International Marine Terminal site to allow for the installation of twelve, 50-foot tall, refrigerated container racking systems (reefer racks). The project will result in approximately five acres of site disturbance, which will involve removal of existing bituminous and pervious pavement, and resurfacing in a new heavy-duty pavement to accommodate heavier traffic volumes. The subject property totals 18.6 acres and is zoned Waterfront Port Development Zone (WPDZ) and is located within the Shoreland 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-002443-2023.

6. NEW BUSINESS

i. Text Amendments to Articles 3 and 12 of the Land Use Code: Floodplain Management and Definitions, City of Portland, Applicant. The Planning Board will hold a hybrid public hearing to review text amendments to the Land Use Code within Articles 3 and 12 related to revisions to the State of Maine's model floodplain ordinance and the adoption of the new Flood Insurance Rate Maps (FIRMs) in Cumberland County. FEMA (Federal Emergency Management Agency) conducted a coastal study and generated the new FIRMs with updated flood hazard risk information and flood zone boundaries. The FIRMs are available on the City's website using our on-line GIS mapping system. An electronic copy (PDF) of the preliminary maps are also available at FEMA's website. The draft text amendments and all other application materials will be available on the City's Agenda Center for this meeting.

ii. Major Site Plan; 186 Woodford Street; Community Housing of Maine Development Corporation, Applicant. The Planning Board will hold a hybrid public hearing to consider a proposal by Community Housing of Maine Development Corporation to construct a new building with 42 age-restricted affordable units, and redevelopment of the existing Parish House at the Woodford Congregational Church property into 40 age restricted affordable units. The project also includes various parking, utility and landscaping improvements. The church on the property will continue to function as a place of workshop under the existing ownership authority. The subject property totals 1.92 acres, and is zoned B-2 Community Business. A project and plan summary are available for viewing on the city's CSS Portal (https://css.portlandmaine.gov/) by referencing Plan Number PL-002753-2023.

To:	Chair Brandon Mazer & Members of the Planning Board
From:	Sean King
Date:	March 22, 2024
Re:	246 Eastern Promenade
Project ID:	PL-002490-2023
CBL:	CBL 014 I012001
Meeting Date:	March 26, 2024

I. INTRODUCTION

Terradyn Consultants, LLC, on behalf of ECK Realty LLC, has submitted a Major Site Plan and Inclusionary Zoning Conditional Use application to facilitate the construction of a multi-family building containing 13 residential units, along with covered and surface parking at 246 Eastern Promenade in the Munjoy Hill neighborhood. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, Section 14.6 and Inclusionary Zoning Conditional Use Standards, Section 18.2.3.

The Planning and Urban Development Department mailed 151 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the March 16 and 19, 2024 editions of the *Portland Press Herald*.

Applicant:	Michael E. Tadema-Wielandt, Terradyn Consultants. LLC
Applicant Representatives:	Greg Shinberg, Shinberg Consulting, LLC; Carol Morrissette, RDS Architects; Samuel Glidden, Owen Haskell Inc.

Figure 1: Aerial of development site looking towards the Eastern Promenade

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 14.6
Inclusionary Zoning Conditional Use	Section 18.2.3
Design Review	City of Portland Design Manual (i) Multi-family

Waiver Requests	*Applicable Standards*
To modify the minimum drive aisle requirements of the *Technical Manual, Section 1.10.3*, which requires a minimum two-way drive aisle width of 24 feet. The Applicant requests a waiver to allow a two-way drive aisle width of 18 feet within the proposed garage under the 13-unit building due to constraints by the building structure.	*Technical Manual, Section 1.10.3 – Parking lot and parking space design:* Vehicular access provided by a two-way drive aisle shall have a minimum width of 24 feet for standard, right-angle parking.

III. PROJECT DATA

Existing Zoning	R-6
Property Size	27,206 Square feet
Existing Use	Residential, surface parking lot
Proposed Use	Residential
Proposed Development Program	One multi-family buildings totaling 13 residential units

	Existing	*Proposed*	*Net Change*
Building Footprint	3,000 square feet	14,286 square feet	+11,286 square feet
Building Floor Area	6,000 square feet	43,936 square feet	+37,936 square feet
Impervious Surface Area	16,596 square feet	19,262 square feet	+2,666 square feet
Residential Units	12	13	+1 residential units
Parking Spaces	39	17	-22
Bicycle Parking Spaces	0	6	+6
EV Charging Stations	0	14	+14

IV. EXISTING CONDITIONS AND SURROUNDING AREA

The subject property is located at 246 Eastern Promenade (CBL 014 I012) in the Munjoy Hill neighborhood of Portland and is located within 100 feet of the Munjoy Hill Historic District and Eastern Promenade Historic Landscape. The subject property is approximately 27,200 square feet in total lot area and is currently occupied by an existing two-story, 12-unit apartment building and surface parking lot with 39 parking spaces, that are utilized by residents in the vicinity of this property. The existing building on site has been operating as a multi-family apartment building since roughly the 1950s.

Land uses in the surrounding area are primarily residential, including single-family, and multi-family buildings ranging in height from between two and four stories. Immediately to the north is the Eastern Promenade, a 78-acre park that includes sweeping views of Casco Bay, direct access to the waterfront, the Eastern Prom multi-use trail, playground, public boating ramps, East End Beach, and community garden. The site is well

served by public transit. METRO provides service along the Eastern Promenade with a METRO Route 1 stop located at the corner of Turner Street and Eastern Promenade.

Figure 2: Aerial of surrounding neighborhood context

V. PROPOSED DEVELOPMENT

The proposed Major Site Plan application would facilitate the development of a multi-family residential building, to include a four-story, 13-unit building with frontage on the Eastern Promenade. In total, the residential building would contain 43,936 square feet of building floor area.

A total of 17 parking spaces would be provided on site, including two surface parking spaces and 15 parking spaces located in a garage within the multi-family building. According to the Applicant, the extra surface parking not allocated for residents will be reserved for the Applicant-owned building at 119 Morning Street. All parking would be accessed from an 18-foot wide curb cut along Turner Street. The development would include 14 EV chargers all located within the garage.

The proposed project would include street trees along Turner Street and landscape buffers along the perimeter of the property. The applicant is proposing to construct a low retaining wall along the Turner Street property line, stairs at the Eastern Promenade property and walkways that provide residents with direct pedestrian access to existing public sidewalks as shown on the overall site plan (Plan 6).

In order to facilitate this development, the applicant would demolish the existing 12-unit residential building. As the proposed project will result in more residential units being created than lost, the City's Housing Preservation and Replacement ordinance (Sec. 18.1.3) does not apply.

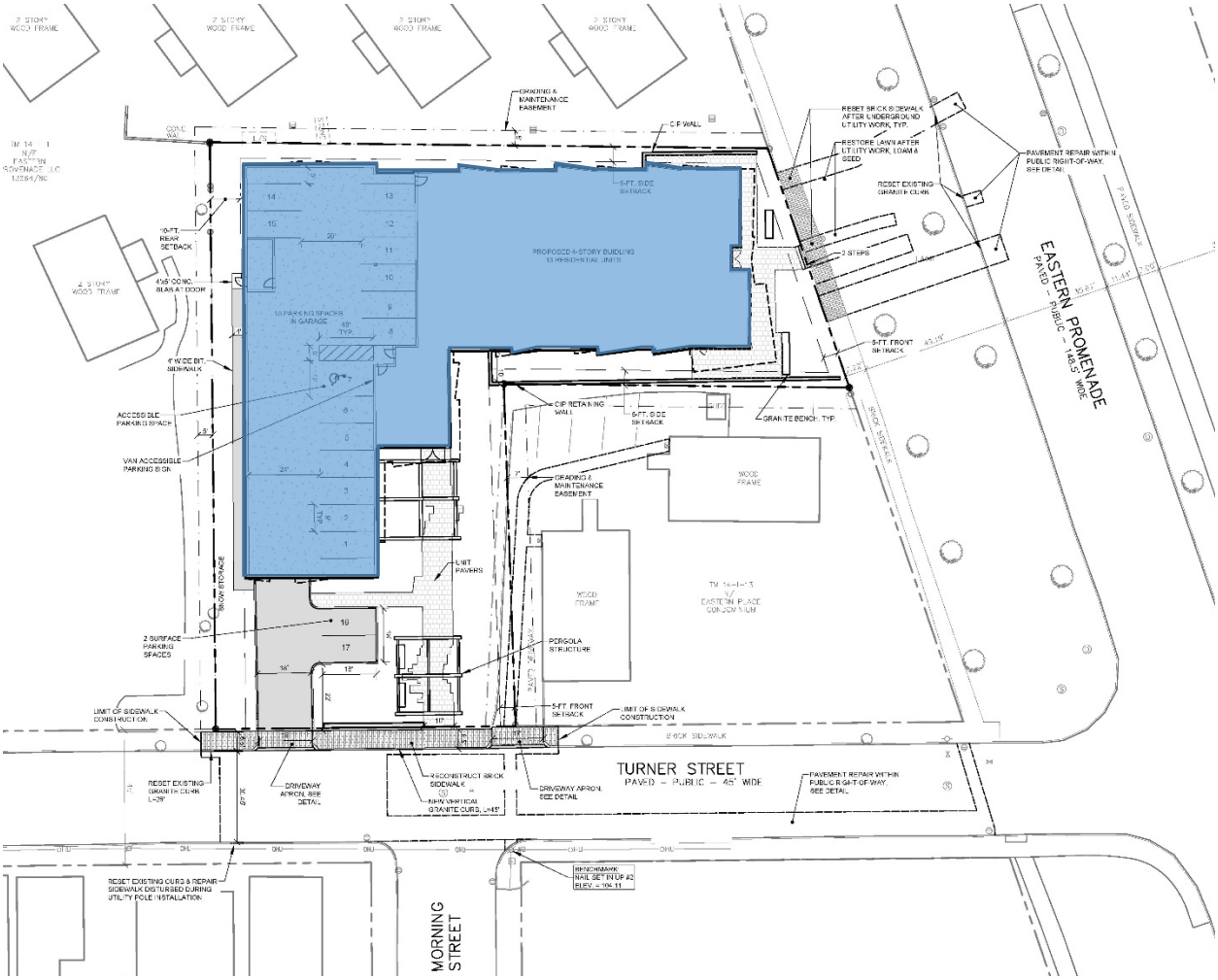


Figure 3: Proposed development site plan

Figure 4: Proposed Turner Street rendering

Figure 5: Proposed Eastern Promenade rendering

VI. PREVIOUS WORKSHOPS

The Planning Board held a workshop on August 15, 2023. During Board clarifying questions, the Board requested clarification on existing tree removals and historic preservation advisory review per the design review requirement.

During deliberation, the Board recommended that the proposed architectural design fit within the neighborhood context, specifically the window selection and exterior materials, and that the Applicant compare surrounding building heights to the proposed building heights.

Since the previously held workshop, the Applicant has revised the development plan to remove the three-unit multi-family building that faced Turner Street and has expanded the building footprint, architectural style and arrangement of bedroom within the proposed Elle-shaped building.

VII. RIGHT, TITLE, & INTEREST

The owner of the property is Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (Applicant Submittal D). The property is managed for Ellie & Chaya, Inc. by E.C.K. Realty LLC.

VIII. FINANCIAL & TECHNICAL CAPACITY

The Applicant has submitted a letter of financial capacity from Gorham Savings Bank (Applicant Submittal I) and supplied supporting information related to the technical capacity of the Applicant team (Applicant Submittal J).

IX. ZONING ANALYSIS

The site is located within the R-6 (Residential) zone. Relevant sections of the R-6 purpose statements include:

- ***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.*

As submitted, the Major Site Plan is consistent with the R-6 zoning requirements. Multi-family uses are permitted in the R-6 zone (Table 6-A Permitted Uses in Residential Zones), with unit density being limited by a lot area per dwelling unit requirement of 725 square feet. Additionally, the proposed project is consistent with the R-6 dimensional standards per §7.3 Dimensional Standards, (Table 7-A Residential Zone Dimensional Standards). A zoning analysis of the proposed project is provided in the table below:

R-6 Residential Zone	*Permitted*	*Proposed*
Lot Area (min.)	2,000 Square feet	27,206 Square feet
Lot area per dwelling unit (min.)	725 Square feet	2,093 Square feet
Lot coverage (max.)	60%	54.5%
Street Frontage (min.)	20 feet	184 feet
Lot Width (min.)	20 feet	186 feet
Front Setback (min.)	5 feet	6 feet
Rear Setback (min.)	10 feet	10 feet
Side setback (min.)	5 feet	6 feet
Stepbacks (above 35 feet when property line abuts a residential zone) (min.)	10 feet from side property line and 15	10 feet side, 15 feet rear

	feet from rear property line	
Structure Height (max.)	45 feet	40.16 feet
Landscaped open space ratio (min.)	20%	29%
Width of garage opening on front façade (max.)	9 feet or 40% of the front façade.	Not applicable

X. INCLUSIONARY ZONING (Section 18.2.3)

New residential projects totaling 10 or more residential units are subject to the City's Inclusionary Zoning (IZ) requirements per Section 18.2.3 to provide a minimum of 25 percent of new dwelling units be workforce housing units, affordable to households earning 80 percent of the area median income (AMI). Given the project proposes a total of 13 units, a minimum of 3.25 workforce housing units are required to meet the IZ requirement.

The Applicant has indicated they intend to meet the Inclusionary Zoning requirements by paying a fee in lieu to the Jill C. Duson Housing Trust Fund for the required 3,25 workforce housing units. Section 18.2.3.C.2 requires where a fee-in-lieu is being paid, that it be paid based upon the fractional requirement, the 2024 rate is $177,559 per unit.

XI. SITE PLAN REVIEW STANDARDS (Section 14.6)

The proposed development has been reviewed by Staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 14.6. Staff comments are below.

1. Transportation Standards (Section 14.6.1)

A. Impact on surrounding street systems

The proposed development is located on an Elle-shaped lot with the property having frontage on both Turner Street and Eastern Promenade. The Applicant proposes to have all vehicular access into the property from Turner Street. The City's consulting Traffic Engineer finds that the new traffic volumes from the proposed project would not impact existing levels of service on area-wide streets or result in unsafe conditions.

The Applicant has proposed improvements within the public right-of-way, including new granite curbing, and reconstructed brick sidewalk and driveway apron that Staff finds to meet Technical Manual Standard section 1. Staff has provided additional requirements to repair the Turner Street roadway with an asphalt overlay from curb face to curb face to include the gap between proposed trenches for utilities.

B. Access and circulation

The proposed development would access parking on the site by a new driveway at Turner Street. The City's Consulting Traffic Engineer has evaluated the turning templates and finds accessibility to be reasonable to address vehicle maneuvering at the garage and surface parking spaces.

The Applicant has indicated that pedestrians will access building entrances from Turner Street and the Eastern Promenade.

C. Public transit access

Not applicable. There is an existing Greater Portland METRO local service Route 1 transit stop at the corner of Turner Street and Eastern Promenade, and the proposed development does not exceed 20 dwelling units. Therefore, the project is not required to provide a transit shelter.

D. Parking

In general, a residential development is required to provide one parking space per dwelling unit unless a project is eligible for parking exceptions as listed in Table 19-B of the Land Use Code. No exceptions are being sought for this application. The proposed development plan meets the minimum parking with the first three units exempt for a total requirement of ten parking spaces, the Applicant seeks to provide 17 parking spaces for a reduction of 22 from the existing surface lot.

The project is meeting the minimum bicycle parking requirement, which requires that two spaces be provided for every five units. As there are a total of 13 residential units being proposed, a minimum of six bicycle parking spaces is required, and six are proposed to be located within the garage.

The Applicant has indicated that 14 parking spaces in the garage would include new electrical vehicle (EV) chargers to meet the minimum EV charger requirements of three EV chargers (20% of 17 parking spaces times = 3.4) per Section 1.14 of the City of Portland Technical Manual.

E. Transportation demand management (TDM)

Not applicable. A TDM plan is not required as the proposed development is a residential use.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

The site is currently developed with a multi-family building and surface parking lot with no significant natural features including wetlands, vernal pools or other protected wildlife habitats.

B. Landscape preservation

The survey (Plan 2) depicts existing trees with a diameter at breast height (dbh) abutting the property, Staff is requesting the applicant indicate existing trees with a dbh greater than ten inches within the property boundary per section 4.3.1 of the City's technical manual. Per Section 14.6.2.B.3, the requirement is that 30% of all trees 10" DBH or greater, which are located within required zoning setback areas, be preserved. The standard also requires that existing vegetation be incorporated into the project's site design, with an effort to limit disturbance to such trees during the course of construction.

C. Site landscaping and buffers

The Applicant submitted a revised landscape plan (Plan 18) that include nine trees and densely planted native shrubs along the property frontage on Eastern Promenade to meet section 14.6.2.C that require one tree or six shrub plantings per 30 linear feet of frontage.

The creation of 13 residential units requires either the planting of 13 street trees or an acceptable alternative under Technical Manual section 4.6.4. The Applicant has proposed to provide ten trees within twenty feet of the property line, which is an acceptable alternative per the Technical Manual standards. The Applicant will be required to indicate how the remaining three street trees will be

met, either as an acceptable alternative or a contribution to the City of Portland Tree Fund in the amount of $400 per tree.

D. Water quality/storm water management/erosion control
The Applicant has submitted a stormwater management report, a grading and drainage plan to indicate erosion and sedimentation control measures and stormwater treatment for the proposed development. The City's Consulting Stormwater Reviewer finds the updated design complies with the Maine Department of Environmental Protection (DEP) Chapter 500 for redevelopment general standard to significantly reduce the amount of non-roof impervious surface area under 5,000 square feet to not require specific treatment measures.

Under DEP Chapter 500 flooding standard, the Applicant is providing an R-Tank subsurface storage system to maintain or reduce flows in each of the modeled storm events. The City's Consulting Stormwater Reviewer has requested additional manufacturer information for the R-tank system proposed.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)

A. Consistency with City Master Plans
Portland's Plan 2030 Comprehensive Plan goals and policies (state and local) relevant to the proposed development align with these vision statements and goals, by creating a new well-connected housing development accessible to public transit supporting the Plans goal of *increasing, preserving, and modifying the overall supply of housing city-wide*.

One Climate Future identifies strategies relevant to the proposed development including encouraging transit-oriented infill development to support travel by walking, biking, and public transportation as well as increasing the housing stock in areas proximate to jobs and public transit. Furthermore, One Climate Future prioritizes infill development through redevelopment over greenfield development to ensure the protection of the state's forest, wetlands, and healthy soils.

B. Public safety and fire prevention
The City's Fire Marshall has reviewed the application materials and finds that the proposed plan to allow firetruck access at both Turner Street and the Eastern Promenade is acceptable.

C. Availability and capacity of public utilities
The Department of Public Works has provided a wastewater capacity authorization letter to serve the anticipated wastewater flows. (Report Attachment 6) Ability to serve letters from the Portland Water District and electrical utility provider has not been provided, with the Applicant stating discussions with CMP and utility companies have been initiated.

City Staff has provided comments to the Applicant related to the existing utility easement 1694/437 for the existing utility pole and overhead utility wire that currently spans across the property and existing access easement 25665/101 to maintain or replace the existing overhead utility wire for the abutting property at 236 Eastern Promenade.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The proposed four-story multi-family building with 13 dwelling units meets all applicable dimensional requirements of the R-6 zone, including setbacks, stepbacks, lot coverage and building height, and is not expected to adversely impact abutting structures or properties. City Staff has reviewed the resubmitted plans to provide comments regarding the deck intrusions into the side setback that the applicant has indicated they will adjust as part of a later resubmission.

B. Shadows
The proposed building height does not exceed 45 feet. Per the City's technical manual section 11.3, a preliminary shadow analysis is not applicable as the proposed building height does not exceed 45 feet.

C. Snow and ice loading
The Applicant is requested to indicate snow storage areas on site plans.

D. View corridors
There are no designated view corridors within the project vicinity. This standard is not applicable.

E. Historic resources
The proposed development is within 100 feet of the Munjoy Hill historic district and the Eastern Promenade historic landscape and requires an advisory Staff review by the Historic Preservation program, that occurred as part of the project's design review. The Historic Preservation staff finds the latest building design to be generally compatible with the surrounding neighborhood context for a multi-family structure setback from the street.

F. Exterior lighting
The Applicant has submitted a photometric lighting plan and proposed lighting fixture cut sheets that complies with Section 12.5 in the City of Portland's Technical Manual.

G. Noise and vibration
Staff has requested that the Applicant resubmit plans that indicate any proposed rooftop mechanical equipment, and specifications for such units in order to confirm compliance with the noise and vibration standard.

H. Signage and wayfinding
Not applicable, there is no signage beyond property addressing.

I. Zoning-related design standards
The proposed development plan is subject to the site design standards, Land Use Code section 14.6.4.I Design standards per the City of Portland Design Manual under section (i.) multi-family. The project is also within 100 feet of a historic district and is subject to an advisory design review by Historic Preservation Program Manager, which occurred as part of the overall project design review.

The Applicant has resubmitted architectural plans and elevations that indicate adjustments to the building design with a consolidation of residential units into one structure. Staff finds that previous comments to visually divide the multi-family building into two parts facing the Eastern Promenade are addressed in the latest submission and recommends that the Applicant explore a more

symmetrical arrangement of projecting window at the side elevations that abut neighboring properties.

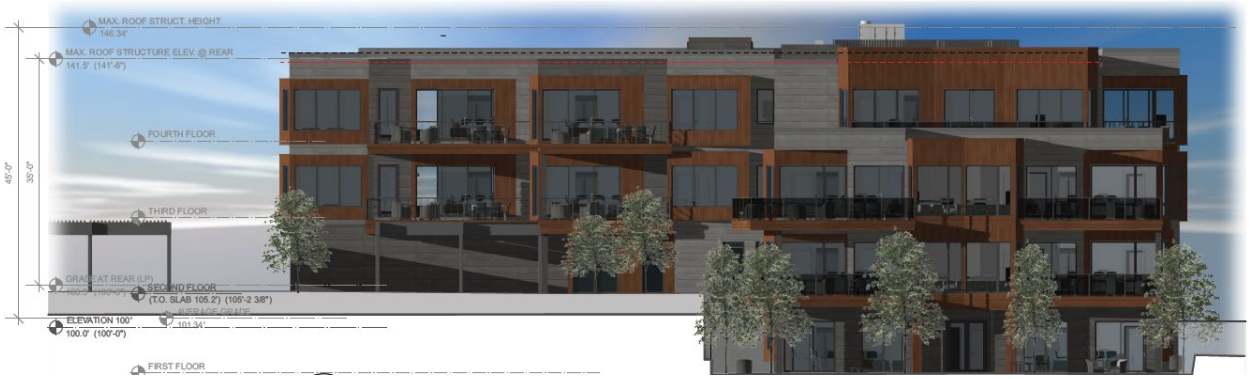


Figure 6: Front elevation at Eastern Promenade

Figure 7: Side elevation facing abutting property

Figure 8: Side elevation facing Turner Street

Figure 9: Rear elevation facing abutting property

XII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The Applicant held a neighborhood meeting on Friday, June 7, 2023 (Applicant Submittal O, P). Invitations for the in-person meeting were sent to properties within 500 feet of the proposed development. Attendees of the meeting inquired about the loss of parking spaces on private property, proposed architectural character, building heights, and construction schedule.

Written public comments are included for the Planning Board.

XIII. NEXT STEPS

Staff will continue to review resubmitted plans and documents to ensure the proposed project complies with all applicable standards, and specifically:

1. Address staff comments related to architectural design and prepare a design review memo.
2. Address additional comments from the Planning Board.
3. Prepare final plan submission.
4. Schedule and hold planning board public hearing.

XIV. ATTACHMENTS

PUBLIC COMMENTS

PC 1 Mary Roy – 06/20/2023
PC 2 Abutters – 08/08/2023
PC 3 David Bannon – 08/10/2023
PC 4 David Bannon – 08/15/2023

REPORT ATTACHMENTS

Att. 1 City review comment letter – 03/14/2024

APPLICANT SUBMITTAL

A. Project description
B. Architectural Narrative
C. Major Site Plan checklist
D. Right, Title & Interest
E. Summary of Existing Easements
F. Proposed easements

G. Zoning analysis table
H. Site Plan standards assessment
I. Financial capacity
J. Technical capacity
K. Waiver request
L. Stormwater report
M. Site Utilities
N. Construction management plan narrative
O. Neighborhood meeting attendance
P. Neighborhood meeting certificate
Q. Comment response letter 07/28/2023
R. Certificate of Notice of public meeting 08/03/2023
S. Certificate of Notice of public meeting 03/18/2023
T. Recorded easement agreement – Promenade Place Condo Association
U. Recorded easement agreement – Tree and Maintenance
V. Comment response letter 09/08/2023
W. CMP Quote to serve
X. Condominium bylaws
Y. Condominium declaration
Z. Condominium public offering statement
AA. Comment response letter 03/19/2024

PLANS AND DRAWINGS

Plan 1. Cover
Plan 2. Survey
Plan 3. General Notes
Plan 4. Demolition Plan
Plan 5. Construction Management Plan
Plan 6. Site Plan
Plan 7. Grading and Drainage Plan
Plan 8. Detailed Grading Plan
Plan 9. Erosion Sedimentation Control Notes and Details
Plan 10. Utility Plan
Plan 11. Photometric Plans
Plan 12. Site Lighting Fixtures
Plan 13. Site Details
Plan 14. Stormwater details
Plan 15. Utility and drainage details
Plan 16. Turning template
Plan 17. Turning template
Plan 18. Landscape Cover Sheet
Plan 19. Landscape Material Plan
Plan 20. Planting Plan
Plan 21. Architecture Cover
Plan 22. Architecture Area and Unit Calculations
Plan 23. Basement Plan
Plan 24. First floor plan

Plan 25. Second floor plan
Plan 26. Third floor plan
Plan 27. Fourth floor plan
Plan 28. Roof plan
Plan 29. Elevations
Plan 30. Elevations
Plan 31. Elevations with labels
Plan 32. Elevations with labels
Plan 33. Building sections
Plan 34. Building sections

Review Comments Round 3 | 03/14/2023 |PL-002490-2023 | 246 Eastern Promenade

Sean King, Urban Designer (sking@portlandmaine.gov) | 207-874-8901

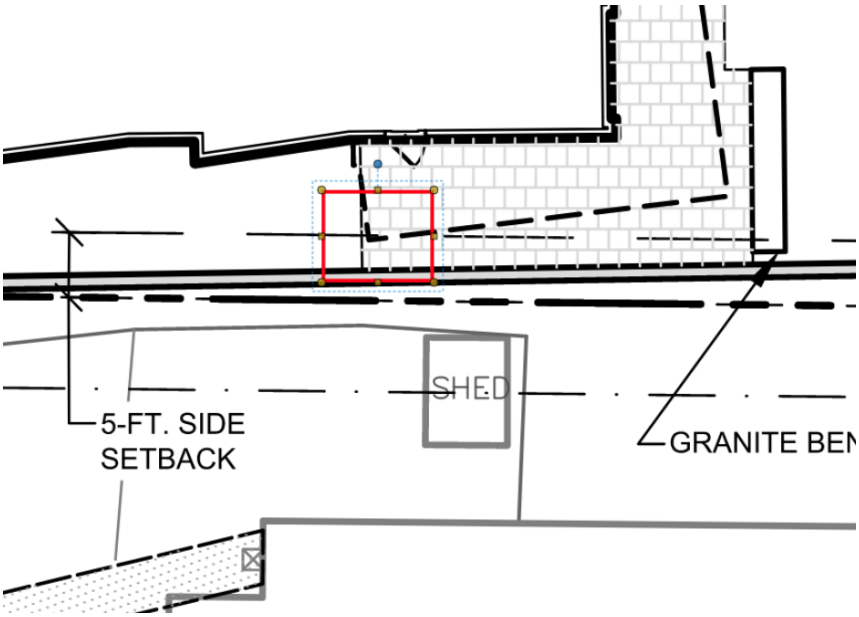
City Staff and Third-Party Peer Reviewers have completed the latest review of this application based off of the most recent submissions. Comments below have been provided to the Planning & Urban Development Department from the Department of Public Works, Water Resources, Zoning, Parks Department and Third-Party Consulting Engineers (Stormwater + Traffic).

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

Be advised that additional comments may be forthcoming and other changes may still be required if the comments are not addressed adequately. If you have any questions, please do not hesitate to ask.

General Review Comments		
Review	***Discussion***	***Status***
RTI	Overview: The owner of the property is Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (Applicant Submittal D). The property is managed for Ellie & Chaya, Inc. by E.C.K. Realty LLC. The applicant's existing conditions survey (Plan 2) indicates the property has one utility easement present on site which was granted by Public Works in 2016 to Northern Utilities, Inc. for an anode bed (Book 33292, Page 266). The anode bed easement is currently in the process of being amended by the City's attorney to accommodate the development proposal as part of the sale of the property. Applicant has prepared preliminary condominium documents to indicate site maintenance and operations. Comments: • Applicant to provide signed easement agreements or is required to proceed as a condition of approval prior to applying for building permits.	Not met
Financial & Technical Capacity	Overview: The applicant has submitted a letter of financial capacity from Gorham Savings Bank and supplied supporting information related to the technical capacity of the Applicant team. Comments: •	Met
Permits / Other Requirements	Overview: The applicant has indicated they intend to meet the Inclusionary Zoning requirements by paying a fee in lieu to the Jill C. Duson Housing Trust Fund for the required 4 workforce housing units. Comments: • Applicant to pay fee-in-lieu as a condition of approval prior to certification of occupancy.	Not met
Zoning	Overview: The Major Site Plan is consistent with the R-6 zoning requirements. Multi-family uses are permitted use in the R-6 zone (Table 6-A Permitted Uses in Residential Zones) and are permitted at a lot area per dwelling unit of 725 square feet. Additionally, the proposed project is consistent with the R-6 dimensional standards per §7.3 Dimensional Standards, (Table 7-A Residential Zone Dimensional Standards). Average grade shown to meet standards for maximum structure height Comments:	Met

- Concerns about the 5′ setback for the front left side where the deck extends out. The site plan shows the corner of the deck extending beyond the 5′ setback, the Applicant is required to meet dimensional standards for decks as structures projecting from building.



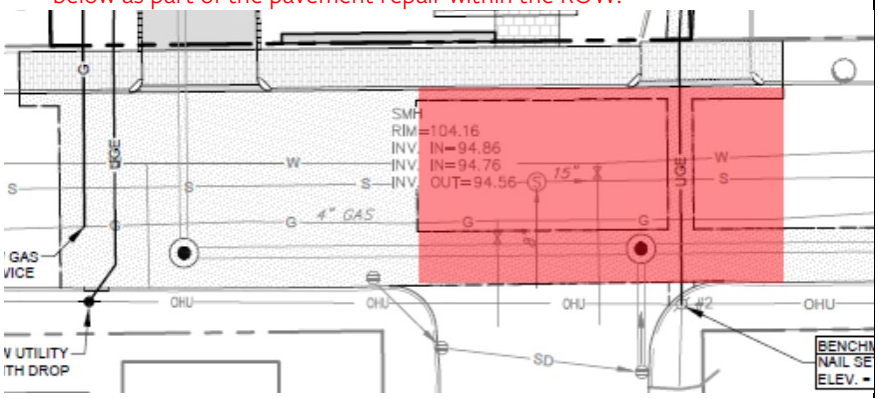
- The Applicant to submit an average grade calculation

Additional Submissions Requested:

-

14.6.1: Transportation Standards

Standard	*Discussion*	*Status*
Impact on Surrounding Street Systems	Overview: The applicant has proposed public right-of-way improvements including reconstructing granite curbing, brick sidewalk, and driveway apron. Comments: • The applicant shall mill (2") then overlay (with 2" of asphalt) Turner Street from curb face to curb face to include the gap between trenches as shown below as part of the pavement repair within the ROW.	Not met



Access and Circulation	Overview: The proposed development would access parking on the site by a new driveway at Turner Street. The City's Consulting Traffic Engineer will evaluate the turning templates and two-way driveway dimensioned at 18'. The technical manual 1.5 driveway design requires 20' minimum for two-way driveways for residential uses. Comments: • Two-way drive isle from Turner Street dimensions at 18', the Applicant is required to meet Technical Manual standards 1.5 for 20' minimum or provide sufficient justification with a waiver request.	Not met
Public Transit Access	Overview: While there is a Greater Portland METRO local service Route 1 transit stop at the corner of Turner Street and Eastern Promenade the proposed development does not exceed 20 dwelling units and therefore is not required to provide a transit shelter. Comments: •	Not applicable
Parking	Overview: In general, a residential development is required to provide one parking space per dwelling unit unless a project is eligible for parking exceptions as listed in Table 19-B of the Land Use Code. No exceptions are being sought for this application. The proposed development plan meets the minimum parking with the first three units exempt for a total requirement of 10 parking spaces, the applicant seeks to provide 17 parking spaces for a reduction of 22 from the existing surface lot. Comments: • The applicant is requested to indicate the minimum bicycle parking requirement, which requires that two spaces be provided for every five units, this requires the development to include a total of six bicycle parking spaces on the plan based on the proposed 13 dwelling units. • The applicant has indicated 14 parking spaces in the garage and 2 surface parking spaces, Staff is requesting the applicant indicate where on the plan new Level 2 electrical vehicle (EV) chargers are proposed, to meet the minimum EV charger requirements of 3 EV chargers (20% of 17 parking spaces = 3 (rounded down to nearest whole number) and EV-ready locations per Section 1.14 of the City of Portland Technical Manual.	Not met
Transportation Demand Management	Overview: Not applicable, no parking study is required for a redevelopment project reducing current parking Comments: •	Not applicable
Additional Submissions Requested: •		

14.6.2: Environmental Quality Standards		
Standard	***Discussion***	***Status***
Preservation of Significant Natural Features	Overview: The site is currently developed with a multi-family building and surface parking lot with no significant natural features including wetlands, vernal pools or other protected wildlife habitats. Comments: •	Not applicable
Landscape Preservation	Overview: The survey indicates existing trees with a diameter at breast height (dbh) under 24 inches do not require preservation under City's technical manual section 4 Landscaping and Landscape Preservation standards. The Applicant has	Met

	incorporated landscaping to screen the parking areas and buildings from adjacent properties. Comments: •	
Site Landscaping and Buffers	Overview: The creation of 13 residential units requires either the planting of 13 street trees or an acceptable alternative under Technical Manual section 4.6.4. The applicant has proposed to provide 10 trees within twenty feet of the property line, which is an acceptable alternative per the Technical Manual standards. Comments: • The applicant will be required to indicate how the remaining 3 street trees will be met, either as an acceptable alternative or a contribution to the City of Portland Tree Fund in the amount of $400 per tree. • The applicant is requested to provide screening from the proposed transformer at the east property line from the abutting property as it appears that the existing trees will not be preserved due to excavation in the critical root zone.	Not met
Water Quality, Stormwater Management and Erosion Control	Overview: The layout of the project has changed, but the general approach to compliance with the stormwater standards has stayed the same, and they will be in compliance. Redevelopment/General Standard: As a redevelopment project, they will be significantly reducing the amount of non-roof impervious surface, and will have just under 5,000 SF of non-roof redeveloped impervious area. No specific treatment measures are required. Flooding Standard: They are providing an R-Tank subsurface storage system, and are now maintaining or reducing flows in each of the modeled storm events. Comments: • The Applicant to confirm manufacturer's design of the R-Tank system, and resubmit information for review. The Applicant will need a stormwater maintenance agreement for the proposed system. • The Applicant has also noted that they will be providing ability to serve confirmation when received from utilities. Comments: •	Not met
Additional Submissions Requested: •		

14.6.3: Public Infrastructure + Community Safety Standards		
Standard	***Discussion***	***Status***
Consistency with City Master Plans	Overview: **Portland's Plan 2030** Comprehensive Plan goals and policies (state and local) relevant to the proposed development align with these vision statements and goals, by creating a new well-connected housing development accessible to public transit supporting the Plans goal of *increasing, preserving, and modifying the overall supply of housing city-wide.* **One Climate Future** identifies strategies relevant to the proposed development including encouraging transit-oriented infill development to support travel by	

	walking, biking, and public transportation as well as increasing the housing stock in areas proximate to jobs and public transit. Furthermore, One Climate Future prioritizes infill development through redevelopment over greenfield development to ensure the protection of the state's forest, wetlands, and healthy soils. Comments: •	
Public Safety and Fire Prevention	Overview: The City's Fire Marshall has reviewed the application materials and finds that the proposed plan to allow firetruck access at both Turner Street and the Eastern Promenade is acceptable. Comments: •	
Public Utilities	Overview: Wastewater capacity letter sent to Applicant. City Staff has provided comments to the Applicant related to the existing utility easement 1694/437 for the existing utility pole and overhead utility wire that currently spans across the property and existing access easement 25665/101 to maintain or replace the existing overhead utility wire for the abutting property at 236 Eastern Promenade. The Applicant has indicated a meeting with Central Maine Power (CMP) on site and will provide written acceptance for Staff review. The Department of Public Works, which includes the Water Resource Division, has reviewed and determined that the downstream sewers from the project address have the capacity to convey the estimated dry weather wastewater flows that will be generated from this development. You are also reminded that new connections into the combined sewer system shall be equipped with backflow prevention in accordance with Section 2.6.10 of the City's Technical Manual • Staff is requesting the Applicant provide appropriate clearance for the proposed gas line along west property line within close proximity to the proposed transformer.	Met
Additional Submissions Requested: •		

14.6.4: Site Design Standards		
Standard	***Discussion***	***Status***
Massing, Ventilation and Wind Impact	Overview: The proposed four-story multi-family building with 13 dwelling units is required to meet the R-6 setback requirements to not adversely impact abutting structures or properties. Comments: • Dimensional standards for stepbacks in the R-6 zone require a 15' stepback from rear property line for structures above 35'. How are the stepbacks being met? The elevations on sheet A2.1 show the 35' line above the average grade.	Not Met

	On the rear, right side the height needs to be measured to the roof beam for a flat roof. The roof beam needs to be indicated on the elevations. The average grade and the height of the roof beam also need to be shown on the elevations on sheet A2.2.	
Shadow	**Overview:** No shadow study is required as the proposed development plan and building height is consistent with adjacent properties that face the Eastern Promenade right-of-way. The proposed 13-unit building will be four-stories. **Comments:** •	Not applicable
Snow and Ice Loading	**Overview:** Snow storage required is limited to drive aisle and two surface parking spaces **Comments:** • Applicant to show snow storage on site plan	Not Met
View Corridors	**Overview:** There are no designated view corridors within the project vicinity. **Comments:** •	Not applicable
Historic Resources	**Overview:** The proposed development is within 100 feet of the Munjoy Hill historic district and the Eastern Promenade historic landscape and requires an advisory staff review by the Historic Preservation (HP) program that is captured within the design review memo. **Comments:** • HP staff has reviewed the resubmitted plans and finds the latest building design to be generally compatible with the surrounding neighborhood context for a multi-family structure setback from the street.	Met
Exterior Lighting	**Overview:** The applicant has resubmitted a photometric lighting plan and proposed lighting fixture cut sheets that meets section 12.5 in the City of Portland's Technical Manual. **Comments:** •	Met
Noise and Vibration	**Overview:** 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 **Comments:** • The Applicant to indicate any rooftop mechanical equipment for noise and vibration to be reviewed by Staff.	Not Met
Signage and Wayfinding	**Overview:** There is no signage beyond property addressing. **Comments:** •	Not applicable
Design Standards	**Overview:** The proposed development plan is subject to the site design standards, Land Use Code section 14.6.4.I Design standards per the City of Portland Design Manual under section (i.) multi-family. **Comments:**	Not met

	• Staff is requesting that the Applicant indicate all proposed building materials onto elevation plans for Staff review. • The Applicant is requested to indicate all rooftop appurtenances onto roof plan and elevations for Staff review. • Staff is requesting the Applicant explore a greater symmetrical arrangement of projecting windows along the side elevations that abut neighboring properties • Staff is requesting the Applicant adjust the main entry to provide additional privacy from Level 3, Unit 303, that allows for the communal entry to not pass under the private deck above. • Staff is requesting the Applicant add the proposed landscape and building lighting to the elevations. • Staff is requesting the Applicant adjust the northeast elevation to match the proposed grading and adjust the building design as needed due to swale along north property line. • Staff recommends the addition of a trellis system along the southeast and northeast walls at ground level to allow for trailing vines (as indicated on the renderings) to grow independent of the building façade and reduce the visual impact of blank facades facing the street.	
Additional Submissions Requested: •		

SHINBERG CONSULTING, LLC
181 State Street, Suite 303
PO Box 4424
Portland, Maine 04101
207-772-7070

April 25, 2023

To: Christine Gamando, Director, Portland Planning and Urban Development
From: Greg Shinberg, Owner's Representative
RE: Project Description 246 Eastern Promenade and 15 Turner Street condominiums

Dear Director Gramando, Planning Board Members and City Staff:

On behalf of ECK Realty LLC, we are pleased to present this condominium project for your review.

The 13 condominiums will be constructed in one building with an elevator and internal trash and recycling room plus an enclosed parking garage that affronts on Eastern Promenade.

Careful consideration has been given to designing a building that is attractive, functional and energy efficient, one that utilizes authentic materials and one that compliments the existing multi-family buildings located nearby.

This project benefits the city and the Munjoy Hill neighborhood in several ways by aligning with certain goals laid out in the city's strategic vision, including: Utilizing an urban infill strategy by establishing more housing in this desirable but densely populated neighborhood.

Replacing an old surface parking lot with housing and structured parking. Erecting a structure that is extremely energy efficient and will meet or exceed local and state energy standards.

Residents of the new building will be within a quarter mile of the Munjoy Hill bus route and is within walking distance of the downtown and Old Port areas.

ECK Realty, LLC also owns a 28-unit building located nearby at 119 Morning Street. The extra surface parking not allocated to the building will be reserved for the existing nearby apartment building.

This parcel is located entirely in the R-6 zone. It is located across the street from the designated historic zone that ends at the east side of Turner Street.

Some of the key items to note are as follows:

- The building will not exceed 45 feet in height.
- The enclosed parking garage will have 15 parking spaces, one of which will be reserved for a handicap space.
- The building will likely have 2 designated surface parking spaces.
- A draft construction and maintenance easement has been agreed to between ECK Realty, LLC and the two abutting property owners.
- Shinberg Consulting has met with Central Maine Power (CMP) to discuss how to provide power to the two buildings and refeed the power to the existing 10 condominiums located next door. The field rep has confirmed that CMP will provide an Ability to Serve Letter.
- Initial discussions are ongoing with the water district, sewer district and other utilities.

We look forward to working together to ensure that this project will be a welcome addition to the community.

RDS ARCHITECTS

February 20, 2024

Sean King and Planning Board
Planning Department
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

Dear Sean and Members of the Planning Board,

On behalf of ECK Realty LLC, we present the attached informational packet regarding the redevelopment of 246 Eastern Promenade and 15 Turner Street for your review.

Since your first introduction to the project, the general concept and approximate density remains unchanged. The project now consists of only one building, not two, to accommodate a total of 13 condominiums and enclosed parking for 15 vehicles, with two additional surface parking spaces.

The building has been designed to address the natural slope of the site, allowing the four-story building to feel predominantly like a three story structure when approaching from Turner Street, while maintaining the well-established three- and four-story feel of the area while experiencing the building from the Eastern Prom. Significant attention has been given to breaking up the massing of the building by utilizing angled walls, varied parapet heights, cantilevered decks, and an overall floor plan layout to minimize long, unbroken walls, resulting in an appropriately scaled building for the neighborhood.

As mentioned in Greg Shinberg's previous letter introducing the project, the benefits of the City and Munjoy Hill remain the same and now include a pocket park fronting Turner Street. While encouraging neighborly interaction, this also helps preserve any down-the-street water views that nearby neighbors may have along Turner Street toward the Prom.

The existing, old surface parking lot and the rather boxy 12-unit apartment building will be replaced with an energy efficient building, fully-enclosed parking, and an inviting pocket park. Residents will have access to Metro Route 1, as it runs along the Eastern Prom and access to the Recreational Open Space could not be any closer.

As Greg had mentioned previously, ECK Realty, LLC is also the owner of the 28-unit apartment building at 119 Morning Street. The parking provided on this lot for review is presented with all parking to be allocated to the condominiums being constructed.

The parcel is within the R-6 Zone, abutting the ROS (Recreational Open Space) and is within 100' of the Historic District.

150 Middle Street, Unit 2F Portland, Maine 04101 T 207.387.1313 C 207.671.7965

In an effort to design and construct a desirable project in the neighborhood and to allow for streamlined reviews, the following items are highlighted:

- Zoning setbacks are met.
- Average grade is calculated at 8' intervals around the perimeter of the building.
- Building height does not exceed 45' above average grade.
- Stepbacks are provided along the side (and front) yards when the building exceeds 35' above grade.
- Lot area coverage requirements are met.
- ADA access is provided at the primary entry from Turner Street, directly into the elevator lobby.
- One ADA parking space is provided in the garage
- A variety of bedroom counts are provided
- Workforce housing will be provided via fee-in-lieu
- 13 covered parking spaces are provided
- 2 surface parking spaces are provided
- A pocket park is integrated into the design, addressing Turner Street
- Building materials, proportions, scale, and detailing have considered the scale of the neighborhood buildings, fenestration patterns (and sometimes lack thereof), boxiness of some 3- and 4-story buildings, and in particular, the very common multi-story bay windows in the area.
- Trash and Recycling is internal (accessed from within the Garage)
- Construction and maintenance easements with abutters have been agreed upon
- Shinberg Consulting continues to work with CMP to address power concerns for the removal of a service pole.
- Fire hydrant pressures and sub-grade utilities continue to be documented and accommodated, as the project progresses.
- Capacity to serve letters are in process.

In summary, we look forward to working with you and to presenting the updated project at an upcoming Planning Board meeting.

The efforts of both the Planning Staff and Members of the Board are applauded — we hope this proposal helps make your review process relatively easy.

Sincerely,

Carol A. Morrissette, RA

Principal

RDS ARCHITECTS

February 20, 2024

Sean King and Planning Board
Planning Department
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

Dear Sean and Members of the Planning Board,

The following is presented to address the Design Principle and Standards for an infill development project, which provides a solid outline for any project constructed in an established neighborhood. Using the Infill Development Criteria of Chapter 14 as a guide, it is a nice formwork for explaining how the proposed design fits into the area:

Principle A - Overall Context

Standard A-1 - Scale & Form

The proposed scale and form of the development is in keeping with typical 3 & 4 story multi-family buildings in the area. This is achieved through the use of bay windows and decks at each principle facade facing the Eastern Promenade and Turner Street that breakup the facades into distinct portions, breaking down the scale, both vertically and horizontally.

Standard A-2 - Composition of Principle Facades

The composition of the principle facades use window/ exterior door openings that are scaled to reflect the size of this development and the interior activities they are providing light and views from. The facades incorporate angled bays and decks to create a distinct, but complimentary design aesthetic to the bays and decks in the neighborhood. All facades have most of their openings stacked above each other with the heads and sills also aligned within the same floor plate.

Standard A-3 - Relationship to the street

The composition of the principle facades help to create an experience from the street that is more in keeping with the neighborhood by removing the boxy appearance that can occur with a 3-4 story building. The multi-story bays commonly used in the neighborhood inspired the multi-story bays along the Eastern Prom.

Principle B - Massing

Standard B-1 - Massing

The size, volume, scale, shape and form are in keeping with larger buildings in the area. This development is unusual as it has an L-shaped site and building footprint, and due to this, the building needed to be scaled so that it doesn't extend to all allowable setbacks of the buildable envelope, which would have created a significantly more massive feel. Instead the building provides room at both property lines that abut the corner lot and between the building and both street frontages that provide either active patios at the first floor of the Eastern Promenade side or a pocket park at the Turner Street side.

Standard B-2 - Roof Forms

A flat roof form is incorporated into the building with the occasional taller parapet in specific areas to provide some relief to the main roof height at the Turner Street portion of the building.
The flat roof has a step-back at the front and both sides of the 4th floor roof creating a 3 story affect at the Eastern Promenade portion of the building. The flat roof is a very common roof form in the neighborhood.

Standard B-3 - Main Roofs and Subsidiary Roofs

The flat roof forms follow the height restrictions of the zone and was also stepped back from the Eastern Promenade to provide the look of a 3- story building, even though a setback at the Prom was not required per Zoning.

Standard B-4 - Roof Pitch

A flat roof was used to compliment the existing flat roofs in the neighborhood and to minimize the greater impact of a pitched roof atop a four story building.

Standard B-5 - Facade Articulation

To create variety in the massing of the building we have incorporated covered/ recessed entries at the two principle facades, covered/ open decks and angled bay windows on the principle facades and the remaining facades.

Standard B-6 - Garages

The Garage is approached from Turner Street and is set back to incorporate minimal exterior parking (2-spaces) and a pocket park that creates a pleasant entry experience into the main lobby. There are two residential units stacked above the entry of the garage, each with their own deck facing the pocket park.

Principle C - Orientation to the Street

Standard C-1 - Entrances

There are two entrances to the building, but the main entrance is from Turner Street. Both street entrances are covered, recessed and have a walkway that clearly directs people into the building, either via active patios at the first floor of the Eastern Promenade side or a pocket park and landscaped pathway at the Turner Street side.

Standard C-2 - Visual Privacy

The first floor dwelling units on the first floor at the Eastern Promenade are set back the depth of a private patio on each side of the entry walkway. The walkway and building entrance is 1'-0" above the

sidewalk. The dwelling units on the Turner Street side are all on floor above grade, so they are above the garage and main entry lobby.

Standard C-3 - Transition Space

The transition spaces at both entry facades incorporate covered, recessed entries with gardens on each side of the sidewalk.

Principle D - Proportion and Scale

Standard D-1 - Windows

The windows in all facades predominantly use rectangular, vertical windows while keeping the larger windows in Living spaces, as all are proportionally scaled to reflect the size of the building. All facades have most of their openings stacked above each other with the heads and sills also aligned within the same floor plate.

Standard D-2 - Fenestration

The windows and doors in all facades are proportionally scaled to reflect the size of the building.

Standard D-3 - Porches

Porches (Covered and uncovered decks) are incorporated into both principle facades and are at least 20% of that facade, greater than 6'-0" deep and greater than 48 s.f.

Principle E - Balance

Standard E-1 - Windows and Door Height

The majority of window and door head heights align along a common horizontal datum.

Standard E-2 - Window and Door Alignment

The majority of windows and doors stack, so their centerlines align vertically.

Standard E-3 - Symmetrically

The windows in the principle facades are arranged in a symmetrical manner along the centerline of the center bay on the Eastern Promenade and on the upper two floors of the Turner Street side. Symmetry is not found on all four facades of buildings in the neighborhood but the proposed building provides visual balance on all facades.

Principle F - Articulation

Standard F-1 - Articulation

Building articulations are consistent on all facades and across all types of building components, such as window reveals, outside corner conditions, etc., however there are a few varieties of details that are repeated throughout the facades to reinforce visual interest, balance, and to reduce the overall scale of the building.

Standard F-2 - Window Types

The majority of windows are of two types and sizes with variations dependent on the type of adjacent space and function.

Standard F-3 - Visual Cohesion

Visual cohesion is accomplished by providing a darker base, lighter middle and an upper that is either light or darker depending on the location of the building on the site. Repeated detailing of the angled bays provides a visual balance for each facade.

Standard F-4 - Delineation between Floors

Delineation between floors is accomplished through the horizontal deck structure or the tops of the bay windows.

Standard F-5 - Porches, etc.

Only two levels of decks are incorporated on both principle facades and elsewhere on the second and third floors. The deck on the fourth floor penthouse facing the Eastern Promenade is set back behind the third floor roof parapet to help diminish the overall height of the building from the Prom.

Standard F-6 - Main Entries

Both entries are oriented toward the street, are setback from the sidewalk and are covered & recessed.

Standard F-7 - Articulation

Articulations to the building will be contemporary in nature and will be incorporated on all facades.

Principle G - Materials

Standard G-1 - Materials

Main materials for the building will be fiber cement panels in either horizontal or vertical directions. The main facade surfaces will be installed horizontally and the window bays will be installed vertically.

Standard G-2 - Materials and Facade Design

The facade material and its installation direction shall be appropriate to the building elements and the materials nature. The vertical panels at the angled bays will be of a slightly contrasting, natural wood tone, to visually reinforce the angled wall as a design element.

Standard G-3 - Chimneys

Although chimneys are not required for this project, as the design progresses, careful consideration will be given to the placement of any mechanical equipment on the roof. Currently, the mechanical equipment is expected to be located near the elevator, close to the center of the building.

Standard G-4 - Window Types

The majority of windows are of two types with variations dependent on the type of adjacent space and function. Window detailing shall be consistent on all facades.

Standard G-5 - Patios and Plazas

All patios and walkways to both entries shall be of a permanent material such as, concrete or stone.

Thank you, again, for your time.

Sincerely,

Carol A. Morrissette, RA
Principal

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** See Site Plan Standards Assessment	**Impact on Surrounding Street Systems (14-14.6.1(A))** ● Describe incremental volume of traffic impacts and mitigation measures. If needed
Yes **NA** See Site Plan Standards Assessment	**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** See Site Plan Standards Assessment	**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** See Site Plan Standards Assessment	**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** See Site Plan Standards Assessment	**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** See Site Plan Standards Assessment	**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** See Site Plan Standards Assessment	**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 See Site Plan Standards Assessment	**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 See Site Plan Standards Assessment	**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 See Architectural Narrative	**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** See Architectural Narrative	**Shadows (14-14.6.4(B)), if applicable** ● Provide shadow analysis of impacts on publicly accessible open space (Technical Manual, Section 11)
Yes NA See Architectural Narrative	**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** See Architectural Narrative	**View Corridors (14-14.6.4(D)), if applicable** ● Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
Yes NA See Architectural Narrative	**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** See Photometric Plan	**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** See Architectural Narrative	**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** See Site Plan Standards Assessment	**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** See Architectural Narrative	**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

NORMAN HANSON DETROY

Norman Hanson & DeTroy, LLC
Attorneys at Law
Two Canal Plaza
P.O. Box 4600
Portland, ME 04112-4600

T 207.774.7000
F 207.775.0806
www.nhdlaw.com
pdriscoll@nhdlaw.com

Paul F. Driscoll

April 17, 2023

Mr. Harry M. Krigman
24 Wildwood Drive
Cape Elizabeth, ME 04107

Premises: 246 Eastern Promenade and 119 Morning Street, Portland, Maine
Record Owner: Ellie & Chaya, Inc.
Sole Shareholder of Ellie & Chaya, Inc.: Harry M. Krigman
Property Manager: E.C.K. Realty LLC
Sole Member of E.C.K. Realty LLC: Harry M. Krigman
Tap Map and Lot No. 014-1-012-001

Dear Harry:

Per your request, this is confirmation that Ellie & Chaya, Inc. is the record owner of the land, buildings and improvements located at 246 Eastern Promenade and 119 Morning Street, Portland, Maine (collectively, the "Property"). Ellie & Chaya, Inc. acquired the Property under (a) the Quitclaim Deed of Perlin Realty, LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 and (b) the Quitclaim Deed of Esther Albert Realty LLC to Ellie & Chaya, Inc. also dated November 12, 2021 and recorded in the Registry of Deeds in Book 38884, Page 115. The separate properties acquired under these deeds are contiguous to one another.

The Property is managed for Ellie & Chaya, Inc. by E.C.K. Realty LLC.

This further confirms that you personally are the sole shareholder of Ellie & Chaya, Inc. and the sole member of E.C.K. Realty LLC.

Very truly yours,

Paul F. Driscoll

PFD/pfd

MAINE REAL ESTATE TAX-Paid

DLN#1002140171617

QUITCLAIM DEED

Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS, That **Perlin Realty LLC**, a Maine limited liability company with a mailing address of 160 East 38th St., #24E, New York, NY 10016, for consideration paid, grant to **Ellie & Chaya, Inc.**, a Maine corporation with a mailing address is 24 Wildwood Drive, Cape Elizabeth, Maine 04107, with **QUITCLAIM COVENANT**, the real property situated in the City of Portland, County of Cumberland and State of Maine more particularly described in Exhibit A attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, Mark Perlin, in his capacity as Manager of Perlin Realty LLC has hereunto set his hand and seal this 12th day of November, 2021.

Perlin Realty LLC

Witness

By: _____
Mark Perlin, Manager

State of Maine
County of Cumberland

November 12, 2021

Personally appeared before me the above named Mark Perlin, Manager of Perlin Realty LLC and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of Perlin Realty LLC.

Robert E. Danielson
Attorney At Law

DOC :81204 BK:38884 PG:118
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
11/12/2021, 01:53:50P
Register of Deeds Jessica M. Spaulding E-RECORDED

Exhibit A

A certain lot or parcel of land, with the buildings thereon, situated in Portland, County of Cumberland and State of Maine, and being more particularly described as follows:

A certain lot or parcel of land, situated on the northwesterly side of Turner Street in said Portland, bounded and described as follows:

Beginning at a stake on the northwesterly side of said Turner Street, which stake is distant one hundred forty-nine and forty-three hundredths (149.43) feet from the intersection of the northwesterly side line of Turner Street and the southerly side line of the Eastern Promenade measured on said line of said Turner Street; thence running north thirty-three degrees and twenty minutes west (N 33° 20' W), one hundred ninety-three and four tenths (193.4) feet to a point in a boulder marked by a drill hole and to the land now or formerly of the J. B. Brown heirs; thence running south fifty-nine degrees and ten minutes west (S 59° 10' W), ninety-five and sixty-four hundredths (95.64) feet by land of said Brown heirs to an iron set in the ground marking the westerly corner of the lot hereby conveyed (this course has been added to correct an omission in prior deeds. See correct legal description in deed recorded in Book 1333, Page 318); thence running south thirty-two degrees and four hundredths minutes east (S 32° 0.04' E), one hundred ninety-five and forty-one hundredths (195.41) feet to said Turner Street; thence running north fifty-seven degrees and fifty-six minutes east (N 57° 56' E) by said Turner Street one hundred (100) feet to the stake marking the point of the beginning.

The courses and distance used herein were prepared by E. C. Jordan & Co., Civil Engineers, October, 1929.

Also, a certain lot or parcel of land, together with the buildings thereon, situated on the southwesterly side of the Eastern Promenade in said Portland, bounded and described as follows:

Beginning at a point on the southwesterly side of the Eastern Promenade where the line of land now or formerly belonging to Gould and Clark intersects the Eastern Promenade between Quebec Street and Turner Street; thence running southeasterly by the said Eastern Promenade to the northeasterly end of the division line fixing the south and west boundaries as established by deed of Elias Thomas and others to Albert E. Neal, trustee, and others, dated September 1, 1925 and recorded in the Cumberland County Registry of Deeds, Book 1224, Page 137; thence southwesterly to the southwesterly end of said division line as above described; thence northwesterly at right angles to the said Gould and Clark land eighty-four (84) feet, more or less, to the said Gould and Clark division line; thence northeasterly by said Gould and Clark division line ninety-six (96) feet, more or less, to the said Eastern Promenade and the point of beginning.

Being the same premises conveyed to Perlin Realty LLC by deed of Esther Albert Realty LLC, dated December 21, 2004, recorded in the Cumberland County Registry of Deeds in Book 22172, Page 136.

MAINE REAL ESTATE TAX-Paid

DLN#1002140171614

QUITCLAIM DEED

Maine Statutory Short Form

KNOW ALL PERSONS BY THESE PRESENTS, That **Esther Albert Realty LLC,** a Maine limited liability company with a mailing address of 160 East 38th St., #24E, New York, NY 10016, for consideration paid, grant to **Ellie & Chaya, Inc.,** a Maine corporation with a mailing address is 24 Wildwood Drive, Cape Elizabeth, Maine 04107, with **QUITCLAIM COVENANT**, the real property situated in the City of Portland, County of Cumberland and State of Maine more particularly described in Exhibit A attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, Mark Perlin, in his capacity as Manager of Esther Albert Realty LLC has hereunto set his hand and seal this 12th day of November, 2021.

Esther Albert Realty LLC

Witness

By: _____
Mark Perlin, Manager

State of Maine
County of Cumberland

November 12, 2021

Personally appeared before me the above named Mark Perlin, Manager of Esther Albert Realty LLC and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of Esther Albert Realty LLC.

_____
Robert E. Danielson
Attorney At Law

DOC :81203 BK:38884 PG:116
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
11/12/2021, 01:50:31P
Register of Deeds Jessica M. Spaulding E-RECORDED

Exhibit A

A certain lot or parcel of land, together with the buildings thereon, situated on the easterly side of Morning Street in said Portland, bounded and described as follows:

Beginning at a point on the easterly side line of said Morning Street at the northwesterly corner of a lot of land conveyed by Henry Deering and others to Albert E. Perry by their warranty deed recorded May 19, 1892 in the Cumberland County Registry of Deeds, Book 590, Page 409, said point of beginning being eighty (80) feet northwesterly from the point of intersection of said side line of Morning Street with the northwesterly line of Congress Street; thence at right angles and northeasterly ninety-seven and eighty-two hundredths (97.82) feet, more or less, to a point; thence at right angles and northwesterly eighty-two and fifty hundredths (82.50) feet to a point; thence at right angles and southwesterly ninety-seven and eighty-two hundredths (97.82) feet to the easterly side line of Morning Street; thence southeasterly and along said line eighty-two and fifty hundredths (82.50) feet to the point of beginning; said lot having an area of 8070 feet, be the same more or less, and being lots numbered 7 and 8 in block "C" on a plan of land recorded in said Registry of Deeds, Plan Book 4, Page 18.

Being a portion of the same premises conveyed to Esther Albert Realty LLC by deed of Diane R. Perlin and Esther R. Albert and Diane R. Perlin, Trustees of the Trust established on December 23, 1965 by Diane R. Perlin, dated April 4, 1998, recorded in the Cumberland County Registry of Deeds in Book 13748, Page 281.

SHINBERG CONSULTING, LLC
181 State Street, Suite 303
PO Box 4424
Portland, Maine 04101
207-772-7070

April 19, 2023

Christine Gramando
Director, Planning and Urban Development Department, City of Portland
and the City of Portland Planning Board Members
389 Congress Street
Portland, Maine 04101

RE: Summary of Existing Easements: 246 Eastern Promenade and 15 Turner Street condominiums

Based on the survey provided by Owen Haskell, Inc there are no existing easements that encumber the property owned by ECK Realty, LLC located at 246 Eastern Promenade and 15 Turner Street.

As shown on the survey there is an access easement for the Eastern Place Condominiums listed as 25665 / 101. This provides access for the 10 condominiums located next door to the rear yard.

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT is made this ____ day of July, 2023 by and between PROMENADE PLACE CONDOMINIUM ASSOCIATION, a Maine nonprofit corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantor"), and ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantee").

For valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in consideration of the mutual promises and covenants set forth herein, the parties agree as follows:

1. GRANT OF EASEMENT:

Grantor, acting as the condominium association for Promenade Place Condominium, a condominium declared under the Declaration noted below, pursuant to the provisions of the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes (the "Act"), and specifically Section 1603-102(9) of the Act, for consideration paid, grants to Grantee, to be appurtenant to the land of the Grantee described in the Quitclaim Deed of Perlin Realty LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117, (the "Ellie & Chaya Property"), the following perpetual rights and easements over, under and upon a portion of the land described in the Declaration of Condominium of Promenade Place Condominium dated August 13, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31710, Page 234, such portion being more particularly described in Schedule A annexed hereto and incorporated herein by reference (the "Easement Area"):

The perpetual right and easement over, under and upon the Easement Area to construct, maintain, repair and replace a retaining wall (or similar structure, including but not limited to a boundary wall, or fence) (the "Improvements") in accordance with City of Portland land use approval requirements, along the boundary line between the Ellie & Chaya Property and the land described in the Declaration (the "Condominium Property"), including the right to enter upon the Easement Area with workers and heavy equipment for all of the purposes stated above. The foregoing rights and easements shall be appurtenant to the Ellie & Chaya Property and shall burden the Easement Area. Grantor reserves the use and enjoyment of the Easement Area for any purpose that does not unreasonably interfere with Grantee's rights under this Easement Deed.

Notwithstanding anything to the contrary, Grantee shall not interfere with Grantor's use and enjoyment of and access to the paved drive off Turner Street and the parking areas shown on the plan titled "Promenade Place Condominium Plan" prepared by Northeast Civil Solutions dated 07-02-2104 and recorded on August 12, 2014 in Cumberland County Registry of Deeds in Plan Book 214, Page 270. Grantor's use and enjoyment of the paved drive off Turner Street and parking areas shall specifically include but not be limited to vehicular ingress and egress over

such paved drive to access the parking areas by Grantor and residents and guests of the Promenade Place Condominium. The grant of this Easement shall not be construed to reduce the easement rights granted to Grantor pursuant to that certain Easement Deed dated October 22, 2007 and recorded in Deed Book 25665, Page 103 of the Cumberland County Registry of Deeds (the "Access Easement"). The Access Easement and rights granted to Grantor thereunder shall continue in full force and effect.

2. OBLIGATIONS OF GRANTEE:

Prior to or upon execution of this Easement Deed, Grantee shall pay Grantor the sum of three thousand dollars ($3,000.00) to cover legal costs incurred by Grantor in connection with this Easement.

Grantee shall not install the Improvements without first obtaining the written approval from Grantor of the design, size, and appearance of the Improvements, which shall not be unreasonably withheld, conditioned, or delayed. Grantor may reasonably request engineering reports from Grantee confirming the structural soundness and safety of the proposed design of the Improvements prior to granting its approval.

Grantor shall perform vibration monitoring on Grantor's two condominium buildings during heavy construction on the Ellie & Chaya Property or the Easement Area. This shall include Grantee's performance of a written pre-construction vibration assessment on the condominium buildings' structure, and delivering a copy of the same to Grantor, prior to Grantee commencing construction on the Ellie & Chaya Property or performing any work on the Improvements and/or in the Easement Area. Prior to the commencement of any construction of the Improvements, the Easement Area or Ellie & Chaya Property and until the Improvements and all construction on the Ellie & Chaya Property is fully complete, Grantee shall install and maintain on Grantor's condominium buildings a seismograph of a type commonly used in the construction industry for purposes of measuring construction vibrations on buildings. The seismograph shall be installed and monitored by a contractor knowledgeable in construction vibration monitoring and the vibration data stored. The vibration monitoring data shall be made available to the Grantor upon request.

Grantee, at its sole cost and expense, shall (i) install the Improvements; (ii) keep and maintain the Improvements in good order, condition and appearance; and (iii) promptly repair any damage caused by Grantee to the Easement Area, the Improvements or any other part of the Condominium Property.

All work performed by Grantee hereunder: (i) shall be performed in good and workmanlike manner by skilled contractors insured as required herein and in accordance with sound engineering principles and practices; (ii) conducted between the hours of 8:00 AM and 6:00 PM on weekdays, unless otherwise agreed to by Grantor in advance, (iii) for maintenance or repair work, completed to equal or better than existing standards, and (iv) upon commencement, be pursued to completion as diligently and expeditiously as reasonably possible. Grantee shall be solely responsible for obtaining any and all necessary permits and other approvals that may be

required by any federal, State or local authorities for use of the Easement Area by Grantee as set forth above.

Except in an emergency situation in which immediate work is necessary to prevent harm to person or property, Grantee shall provide Grantor with at least 3 days' notice whenever it intends to have contractors access the Easement Area for purposes of performing any work within the Easement Area. Grantee shall also provide Grantor with at least seven (7) days' notice prior to the commencement of any pile driving or other noisy heavy construction. Notification hereunder may be done by telephone or email to such person as may be designated by Grantor.

To the fullest extent permitted by law, Grantee shall defend, indemnify and hold harmless Grantor, including Grantor's directors, officers, members, property managers, employees and agents (the "Grantor Indemnified Parties"), from and against any and all claims, damages, losses and expenses, including but not limited to attorney's fees and costs, arising out of, relating to or resulting from: (1) the Improvements; or (2) the use of the Easement Area and/or the work performed hereunder, or anyone directly or indirectly employed by Grantee, contracted by Grantee or anyone for whose acts Grantee may be liable. Notwithstanding the foregoing, Grantee's obligation to indemnify hereunder does not extend to any claims, damages, losses and expenses caused by the gross negligence, or willful misconduct, of Grantor.

Grantee's use of the Easement Area is at Grantee's sole risk. In no event shall Grantor or any Grantor Indemnified Party be responsible for any injury of Grantee's employees, contractors, or agents, and Grantee waives the right to any claims against the Grantor related to on-the-job injuries. Grantee agrees to indemnify and hold harmless Grantor from all claims, losses or attorney's fees due to property damage caused by the negligence or intentional misconduct of Grantee's employees, contractors, or agents.

Grantee and any contractors of Grantee performing work within the Easement Area or on any other Condominium Property (a) shall be insured up to at least $2,000,000 ($1,000,000 per occurrence) of liability insurance, covering claims for bodily injury, occupational sickness, death, and motor vehicle liability, as well as, for Grantee, contractual indemnity coverage sufficient to cover Grantee's indemnity obligations hereunder; and (b) shall provide Workers Compensation as required by Maine law, including disability benefit or similar employee benefit acts which are applicable to the work for all persons employed by Grantee or any of its contractors. Grantee shall add and maintain Grantor, Grantor's property management company, Directors, Officers, and agents as additional named insureds on all liability policies carried by Grantee. Before Grantee or any of its contractors commences any work hereunder, and upon request by Grantor at any time, Grantee shall provide Grantor with Certificates of Insurance and proof of Grantor's additional insured status demonstrating that Grantee and its contractors carry insurance meeting these requirements.

If Grantee fails to maintain the Improvements as specified in this Agreement, or damages the Easement Area or any other part of the Condominium Property and fails to repair it within a 7 day period, and if the Grantee does not cure such failure within thirty (30) days after written notice from Grantor, then Grantor may perform any maintenance it reasonably deems required

and shall bill the Grantee the cost of said maintenance. If the Grantee shall fail to pay such costs within thirty (30) days of receipt of said bill for costs, then such amounts shall bear interest at the rate of ten percent (10%) per annum and Grantor shall have all of the remedies available to the Grantor pursuant to applicable law, and in addition shall have the right to collect Grantor's attorneys' fees if Grantor prevails in any lawsuit for collection of such sums.

Once the Improvements are constructed in the Easement Area, Grantee, its successors and assigns, will not place or store construction equipment or materials within the Easement Area.

3. ASSUMPTION BY CONDOMINIUM ASSOCIATION:

Prior to selling the first dwelling unit in the Ellie & Chaya Property, Grantee shall form a condominium association (the "Condominium Association") in connection with the Ellie & Chaya Property in which all dwelling unit owners in the Ellie & Chaya Property shall become members and which will succeed to Grantee's rights and obligations under this Agreement and shall be bound thereby.

Grantee shall cause the Condominium Association to assume and be bound by this Agreement pursuant to a recorded instrument, but such actions shall not release Grantee from its obligations hereunder. Upon assumption of this Agreement by the Condominium Association as provided in the preceding sentence, and provided Grantee has complied with its obligations under this Agreement and upon the turn over of control of the Condominium Association from Grantee, the Grantor shall look solely to the Condominium Association for performance of the obligations of Grantee.

4. GENERAL:

The invalidity of any clause, part or provision of this agreement shall not affect the validity of the remaining portions thereof.

This Agreement is created pursuant to, and shall be construed in accordance with and governed by the laws of the State of Maine.

Notices shall be in writing and shall be deemed to have been duly delivered the next day after mailing if sent by certified mail or by recognized overnight courier, addressed to the recipient at its last known address and, if applicable to the registered agent for such party on file with the Maine Secretary of State.

This Agreement shall run with the land and shall both benefit and burden the Ellie & Chaya Property and the Condominium Property. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns. This Agreement may not be modified except in a written instrument executed by both parties and recorded in the Cumberland County Registry of Deeds.

IN WITNESS WHEREOF, PROMENADE PLACE CONDOMINIUM ASSOCIATION ("Grantor") and ELLIE & CHAYA, INC ("Grantee") have caused this instrument to be executed and acknowledged by their duly-authorized representatives, on this ____ day of _____, 2023.

PROMENADE PLACE
CONDOMINIUM ASSOCIATION

_____ By:_____
Witness Mike Hutchinson
Its President

[Acknowledgement Located on Following Page]

STATE OF MAINE _____ ___, 2023
Cumberland, ss.

Personally, appeared the above-named Mike Hutchinson, President of Promenade Place Condominium Association, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

ELLIE & CHAYA, LLC

_____ By:_____
Witness

_____

Its: _____

[Acknowledgement Located on Following Page]

STATE OF MAINE _____ ___, 2023
Cumberland, ss.

Personally, appeared the above-named _____, _____ of _____, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

SCHEDULE A

The legal description of the Easement Area is as follows:

Beginning at a point at the westerly sideline of the Eastern Promenade at the point where the Ellie & Chaya Property and the land described in the Declaration meet.

THENCE, S 42° 37’ 32” W a distance of 115.32 feet to a capped iron rod.

THENCE S 49° 57’ 19” E a distance of 114.28 feet to an iron rod found in the northerly sideline of Turner Street.

THENCE easterly along the northerly sideline of Turner Street a distance of 5.0 feet to a point.

THENCE N 49° 57’ 19” W a distance of 109.28 feet, more or less, to a point.

THENCE N 42° 37’ 32” E a distance of 110.32 feet, more or less, to the westerly sideline of the Eastern Promenade.

THENCE N 66° 49; 28’ W along the westerly sideline of the Eastern Promenade a distance of 5.0 feet, more or less, to the point of beginning.

TREE INSTALLATION AND MAINTENANCE AGREEMENT

THIS TREE INSTALLATION AND MAINTENANCE AGREEMENT (the "Agreement") is made and entered into on this 16th day of June, 2023 by and between ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine ("ECI") and EASTERN PROMENADE LIMITED LIABILITY COMPANY, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine ("Eastern").

Recitals:

A. ECI is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of Turner Street and Morning Street described in (i) the Quitclaim Deed of Esther Albert Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 115 and (ii) the Quitclaim Deed of Perlin Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (as described in such deeds collectively, the "ECI Property");

B. The parcels of land comprising the ECI Property are contiguous to one another and constitute a single parcel for purposes of this Agreement;

C. Eastern is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of the Eastern Promenade, Québec Street, Emerson Street and Turner Street described in the Warranty Deed to Eastern dated March 10, 1998 and recorded in the Cumberland County Registry of Deeds in Book 13664, Page 80 (as described in such deed, the "Eastern Property");

D. The Eastern Property is bounded on the northwest and southwest by the ECI Property as depicted on the Plan entitled "Boundary & Topographical Survey at 246 Eastern Promenade, Portland, Maine" made for Shinberg Consulting, LLC dated March 31, 2022 and recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan"), a reduced copy of which is annexed here to as Exhibit A;

E. In connection with ECI's intention to develop and construct a condominium on the ECI Property in accordance with City of Portland land-use requirements for the project, ECI has requested that Eastern grant it an easement to be appurtenant to the ECI Property and to encumber Eastern Property to allow ECI, its successors and assigns, to install evergreen trees on the northwesterly line of the Eastern Property and ornamental and maples trees on the southwesterly line of the Eastern Property, all in accordance with the depiction of such trees on the Plan;

F. Eastern is willing to grant the easement to ECI referred to in Recital E on the following conditions: (i) ECI, its successors and assigns, shall install and maintain the trees depicted on the Plan at its sole cost and expense and in a good and healthy state at all times, (ii) ECI shall grant Eastern an easement to be appurtenant to the Eastern Property and to encumber ECI Property to allow Eastern, its successors and assigns, to enter upon the ECI Property to maintain the trees in a good and healthy state at all times in the event that ECI fails to do so, and (iii) ECI shall grant Eastern an easement over, under and upon a strip of land five (5) feet in width on and within that portion of the ECI Property that is immediately contiguous to the Eastern Property, for the length of the common boundary (all such land, the "Five-Foot Strip"), such easement to be for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or any of condominium units declared or to be declared on the ECI Property;

G. ECI is willing to accept the conditions required by Eastern set forth in Recital F for the reciprocal easement rights;

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which the parties do hereby acknowledge, ECI and Eastern agree as follows:

1. Accuracy of Recitals. Recitals A through G, inclusive, of this Agreement are true and accurate in all respects.

2. Grant of Easement by Eastern to ECI.

(a) Eastern hereby grants ECI the perpetual right and easement, to be appurtenant to the ECI Property and to encumber the Eastern Property, to allow ECI to install, maintain, prune and replace at its sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A. ECI shall install and maintain the trees depicted on the Plan and in a good and healthy state at all times.

(b) To exercise its rights under the granted herein, ECI shall provide Eastern with ten (10) days prior written notice of its intention to enter onto the Eastern Property to install, maintain, prune or replace the trees depicted on the Plan. ECI shall make use of only that portion of the Eastern Property that is reasonably necessary for ECI to exercise its rights under the easement granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to Eastern and its tenants to the maximum extent possible. After exercising its rights under this easement, ECI shall immediately restore the

condition of the Eastern Property to the condition it was in before such exercise of the easement rights granted hereby.

(d) ECI shall defend and indemnify Eastern, its members, successors and assigns, of and from any and claims, demands, actions or losses asserted against Eastern by any third party arising out of the exercise by ECI of the easement rights granted hereby, or arising out of the alleged negligence of Eastern relating to the trees and land under them depicted on the Plan.

(e) In advance of ECI entering on the land of Eastern to exercise the easement rights granted hereby, ECI shall provide Eastern with an insurance certificate naming Eastern as additional insured and providing Eastern with commercially reasonable property and liability insurance coverage against property damage and liability for any losses or damages arising from ECI's exercise of the easement rights.

3. Grant of Easements by ECI to Eastern.

(a) ECI hereby grants Eastern the following perpetual rights and easements, to be appurtenant to the Eastern Property and to encumber the ECI Property:

(i) The perpetual right and easement to allow Eastern to install, maintain, prune and replace at ECI's sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times; and

(ii) The perpetual right and easement over, under and upon the Five-Foot Strip, for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or with any condominium units declared or to be declared on the ECI Property.

(b) To exercise its rights under the granted herein, Eastern shall provide ECI with ten (10) days prior written notice of its intention to enter onto the ECI Property to install, maintain, prune or replace the trees depicted on the Plan or for temporary access over, under and upon the Five-Foot Strip in support and during the course of construction or development of the Eastern Property. Eastern shall make use of only that portion of the ECI Property that is reasonably necessary for Eastern to exercise its rights under the easements granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to ECI and condominium unit owners on the ECI Property to the maximum extent possible. After exercising its rights under these easements,

Eastern shall immediately restore the condition of the ECI Property to the condition it was in before such exercise of the easement rights granted hereby, provided, however, that ECI, its successors and assigns, shall be solely responsible for all costs and expenses incurred by Eastern in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times.

4. Covenants Running with the Land.

(a) For the avoidance of doubt, the parties intend that all obligations and undertakings under this Agreement, to the extent that they are not deemed grants of a real property right, are covenants running with the land and shall be just as binding on and just as enforceable by any future owners of the Eastern Property and the ECI Property, as the case may be, as if granted by any such future owner of either property.

IN WITNESS WHEREOF, ELLIE & CHAYA, INC. and EASTERN PROMENADE LIMITED LIABILITY COMPANY have executed, acknowledged and delivered this Agreement by their duly authorized officers as of the date first above written.

[Signatures and Acknowledgements Located on Following Page]

ELLIE & CHAYA, INC.

Witness

By: _____
Harry Krigman
Its President

EASTERN PROMENADE LIMITED LIABILITY COMPANY

Witness

By: _____
Lloyd L. Lathrop, III
Its Sole Member

STATE OF MAINE
Cumberland, ss.

June 20, 2023

Personally appeared the above-named Harry Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Ellie & Chaya, Inc.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028

STATE OF MAINE
Cumberland, ss.

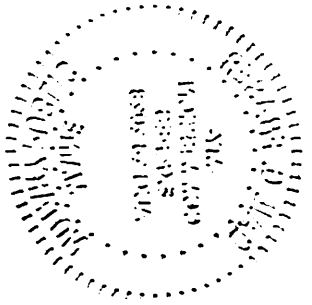
June 16, 2023

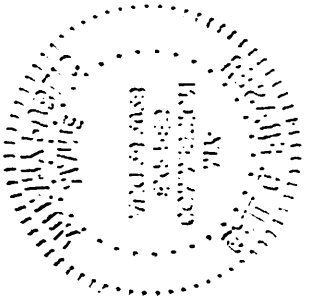
Personally appeared the above-named Lloyd L. Lathrop, III. Sole Member of Eastern Promenade Limited Liability Company, and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Eastern Promenade Limited Liability Company.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028





Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) R-6

All Projects:

	Required	Proposed
Lot Size	None	27,206 S.F.
Area Per Dwelling Unit	725 SF	2,093 S.F.
Minimum Street Frontage	20 ft.	184 ft.
Front Yard Minimum	5 ft.	6.38 ft.
Front Yard Maximum	None	-
Rear Yard	10 ft.	10.5 ft.
Yard Right	5 ft.	10.4 ft.
Yard Left	5 ft.	6.6 ft.
Side Street Setback	0 ft.	50 ft.
Step Back	10' side, 15' rear	10' side, 15' rear
Maximum Lot Coverage	60%	54.50%
Minimum Lot Coverage	None	-
Maximum Height	45 ft.	
Open Space	20%	29.2%
Maximum Impervious Area	None	-
Pavement Setback	None	-
Floor Area Ratio	None	-
Off Street Parking Spaces	11	17
Loading Bays	None	-
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density			
Height			
Setback Reduction			
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional):			
Explanatory Text 2 (optional):			
Explanatory Text 3 (optional):			

SITE PLAN STANDARDS ASSESSMENT

14.1 OVERVIEW

This project conforms to all applicable Site Plan Standards of Section 14.6 of the city's Land Use Ordinance as described in the following narrative.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

The project will not have a significant impact on the surrounding street system. Vehicles will access the site and parking areas from existing access points and the estimated number of new vehicle trips generated by the project is insignificant compared to existing trips on surrounding streets.

B. Access and Circulation:

1. In General
   a. Vehicle access to the site will be from Turner Street, which carries less traffic than Eastern Promenade. The project will not create conflicts with existing turning movements and traffic flows.

   b. Pedestrian access to the site will be provided via public sidewalks along the Eastern Promenade and Turner Street frontages. Continuous internal walkways provide pedestrian access from the proposed building to the surrounding public sidewalks. Door controlled access will be provided at each of the building entry locations.

   c. Vehicle access to the site will be from Turner Street, which carries less traffic than Eastern Promenade. The project will not create conflicts with existing turning movements and traffic flows.

   d. Vehicle stacking is not expected on the site.

2. Loading and Servicing
   Service vehicles are not expected to enter the site regularly.

3. Curb and Sidewalks.
   a. Granite curb and brick sidewalks exist along the site's Eastern Promenade and Turner Street frontages. The Turner Street sidewalk is proposed to be reconstructed across the site frontage. All sidewalk improvements shall conform to the City of Portland Technical Manual as shown on the project drawings.

   b. Sections of sidewalk located along Turner Street will be replaced in accordance with City of Portland Technical Design Standards.

c. No waiver is requested for sidewalk installation.

d. No waiver is requested for curb installation.

C. Public Transit Access:

1. A transit stop for Metro Bus Route 1 (Congress Street) is located at the corner of Eastern Promenade and Turner Street. The project features less than 20 dwelling units, so a new transit shelter is not required.

2. The closest transit stop is located on public sidewalks, which will be accessed directly from the project site.

3. No waiver is requested from the Public Transit Access standards.

D. Parking:

1. Vehicular Parking:

a. Article 19 of the Land Use Code requires one parking space per residential unit in multifamily developments. In the R6 Zone, no parking is required for the first three dwelling units. The proposed project includes 13 residential units, which requires 10 off-street parking spaces to meet the code.

The site will feature 17 off-street parking spaces broken down as follows:

- 15 enclosed parking spaces in the 13-unit building (246 Eastern Prom).
- 2 uncovered single parking spaces.

b. A TDM plan is not required for this project.

c. The number of off-street parking spaces exceeds the required number of spaces for the proposed on-site residential units by 6. However, the project will reduce surface parking on the site by 22 spaces, and excess spaces will be used by the residents of 119 Morning Street, who currently use the existing surface parking lot.

d. The proposed parking spaces meet the minimum dimensional standards of the City of Portland Technical Manual. The proposed access aisle varies from 20’ to 24’ due to physical constraints of the site and parking garage.

2. Bicycle Parking:

a. The project requires 2 bicycle parking spaces for every 5 dwelling units, or 6 spaces. Bicycle spaces will be provided within the basement of the proposed building.

b. No waiver is requested from the bicycle parking requirements.

3. Snow Storage:

a. Snow removal on the site will only be necessary within the paved access drive and surface parking area. Limited areas at the head of the proposed parking spaces will be used for snow storage. When snow accumulates to the point that it encroaches on parking spaces, it will be removed from the site needed.

b. Snow will not be stored in parking areas and will not affect stormwater management systems.

4. Electric Vehicle (EV) Charging:

a. Fourteen of the parking spaces within the garage will feature EV chargers. In total, 82% of the proposed parking spaces on the site will have EV charging infrastructure. This exceeds the requirements of Section 1.14 of the City of Portland Technical Manual.

E. Transportation Demand Management (TDM): A TDM plan is not required for this project.

14.6.2 Environmental Quality Standards

A. Preservation of Significant Natural Features:

1. The development site has been entirely developed and does not contain any significant natural features including wetlands, vernal pools or other protected resources or wildlife habitats.

2. No preservation areas are located adjacent to the project site.

3. No waiver is required.

B. Landscaping Preservation:

1. A limited number of trees will be removed to accommodate the proposed buildings. Trees will only be removed when necessary to redevelop the site.

2. Limited vegetation currently exists on the project site, and little vegetation will be preserved. The proposed landscaping plan incorporates significant planting areas.

3. A small number of trees within the building setback areas will be removed. With proposed buildings located within approximately 5' of the property line, preserving large trees in the setback is impractical.

4. The plan includes planting 28 new trees, as shown on the Planting Plan (Sheet L1-00). This exceeds the requirement for replacement of existing trees to be removed.

5. Replacement trees will be planted in accordance with this standard. A contribution to the City of Portland Tree Fund is not required.

C. Site Landscaping and Buffers:

1. The total frontage for this property is 795 linear feet. Code requires 1 tree or 6 plantings per 30 linear feet of frontage. This project requires 27 trees or 159 plantings. The Planting Plan (Sheet L1-00) indicates both trees and plantings well in excess of the code-required minimum.

2. Buffers

   a. The Planting Plan (Sheet L1-00) indicates a ground mounted transformer pad at the northwest interior corner of the parking lot. Additionally, trash and storage areas will be located behind and/or within the buildings. The Landscape Architect and design team have coordinated closely on the location of all utility, trash, and storage areas so as to minimize visual presence from the street. Sheet L1-00 indicates dense planting around the electrical transformer.

   b. The project is a residential development. This standard is not applicable.

   c. Evergreen vegetated buffers are not necessary to screen the project from detrimental impacts of existing surrounding development.

3. Parking and Vehicle Display Lot Landscaping:

   a. The proposed surface parking lot includes 2 uncovered parking spaces. The landscaping plan includes 14 trees in and around the parking lot.

   b. Not applicable. The proposed parking lot includes less than 40 parking spaces.

c. The proposed project includes planting that exceeds the requirements for parking lot planting. No waiver is required.

4. Street Trees:

a. Street trees and alternative plantings intended to meet the objectives of the street tree requirements are proposed on the project site and are described below.

b. The relatively narrow sidewalks and frequency of underground utilities adjacent to the proposed building make the installation of street trees impractical within the Turner Street right-of-way. Seven trees are proposed within 20' of the property boundary and will be visible from the right-of-way. See the Planting Plan (Sheet L1-00) for the location and species of proposed street trees.

D. Water Quality, Stormwater Management and Erosion Control:

1. The existing project site contains approximately 16,596 square feet of impervious surface, comprised of a paved surface parking lot and the existing building. Redevelopment of the project site will result in approximately 19,262 square feet of impervious surface, an increase of approximately 2,666 square feet. A summary of existing and proposed impervious surfaces on the site are presented in the table below.

	Existing Condition	Proposed Condition	Difference
Total Site Area	27,206 sf	27,206 sf	0 sf
Impervious Area	16,596 sf	19,262 sf	2,666 sf
Roof Area	3,345 sf	14,340 sf	10,995 sf
Non-Roof Impervious	13,251 sf	4,922 sf	-8,329 sf

In the existing condition, runoff from the entire site drains into the public separated storm drain network in Eastern Promenade. In the post-development condition, runoff from part of the building will be conveyed directly to the Middle Street combined sewer via a roof drain. Runoff from the remainder of the site will continue to drain overland to Middle Street, where it will be collected in the combined sewer system.

a. The project will not result in flooding of adjacent lots.

b. The volume and rate of runoff onto adjacent lots will not increase as a result of the project.

c. The volume and rate of stormwater runoff onto adjacent properties are expected to remain very similar to the existing condition. The project will not create ponding, flooding, or other drainage problems on adjacent lots or within the surrounding streets.

d. The volume and rate of stormwater runoff entering the city's separated storm drain network are expected to remain very similar to the existing condition. The project will not create problems downstream or exceed the capacity of the system.

2. The project meets the applicable standards of Section 5 of the Technical Manual. A Stormwater Permit from the Maine Department of Environmental Protection is not required due to the project's relatively small size.

   In accordance with the City of Portland Technical Manual, the project is required to meet the Basic and Flooding standards. A site-specific erosion and sedimentation control plan has been developed for the project with an emphasis on perimeter control, limiting disturbance, and rapid stabilization. The locations of proposed erosion control measures are shown on the Grading and Drainage Plan (Sheet C-5.0), and erosion control notes and details area shown on Sheet C-5.2.

   A Stormwater Management Report has been provided separately. The report includes required submission materials, including subcatchment plans, pre and post development hydrologic models, and analysis of the flooding standard.

3. The project will not pose a risk of groundwater contamination. No hazardous materials will be stored on site, and stormwater will not be directly infiltrated into the ground.

14.6.3 Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans:

1. The project has been designed to be consistent with the City of Portland Land Use Ordinance and off-premises infrastructure.

2. No easements, rights, and improvements to connect or continue off-premises public infrastructure is required.

B. Public Safety and Fire Prevention:

1. The site has been designed to promote safety and security for residents and their guests. The parking garage will be accessed through a remote-activated door, and site lighting will provide added security.

2. The buildings may be accessed by emergency vehicles from Eastern Promenade and Turner Street.

C. Public Utilities:

1. The project will be served by public water and sewer utilities. Terradyn Consultants has been coordinating on the design of domestic and fire protection services with the Portland Water District (PWD). PWD is currently waiting for sprinkler system calculations before it issues a letter stating that a sufficient and healthful water supply exists. A Wastewater Capacity Application has been completed and will be forwarded to the Public Works Department for review.

2. Underground power will be provided to the proposed buildings from a new pad mounted transformer located near the garage entrance.

3. All proposed utility infrastructure meets the standards of the Technical Manual.

4. The project will be connected to the public sewer system in Eastern Promenade and Turner Street. Each proposed building will include a separate sanitary sewer service.

5. This standard is not applicable. The project includes less than 20 residential units.

14.6.4 Site Design Standards

A. Massing, Ventilation and Wind Impact:

1. The bulk, location and height of the proposed building will not result in adverse impacts to abutting properties.

2. The bulk, location and height of the proposed building will not substantially reduce the value or utility of adjacent structures.

3. HVAC systems will be located on the roof of the building and will not be visible from the street. Venting is proposed to be directed away from public spaces and adjacent residential sites.

B. Shadows:
The project is not expected to cause shadows on publicly available open space or have an adverse effect on vegetation as a result of shadows cast from the proposed buildings.

C. Snow and Ice Loading:
The proposed buildings will have flat roofs. Accumulated snow and ice will not fall onto adjacent properties or public ways.

D. View Corridors:
The project site is located outside of any protected view corridors.

E. Historic Resources:

1. The development is not within a designated historic district.

2. The project is within 100' of a historic district. See the Architectural Narrative for information on how the project is compatible with the major character-defining elements of the historic district in the immediate vicinity of the project.

3. There are no known archaeological resources on the site.

F. Exterior Lighting:

1. Site Lighting

   a. Site lighting will be provided by building and pole mounted lights. All fixtures will feature full cut-off optics to prevent unintended light pollution. Proposed lighting is shown on the Lighting Photometric Plan (Sheet C-7.0).

   b. House-side shielding is not necessary on the project.

2. Architectural and Specialty Lighting:

   a. No architectural or specialty lighting is proposed.

   b. No up-lighting is proposed.

3. Street Lighting:
   No new street lights are proposed.

G. Noise and Vibration:
Noise levels are expected to meet the permitted levels for the R-6 Zone.

a. HVAC and Mechanical Equipment
   (i) HVAC equipment will be located on the roof and will meet all applicable state and federal emissions requirements. The units will not be visible from the surrounding streets or adjacent sites.

H. Signage and Wayfinding:

1. For 246 Eastern Promenade, street numbers for public safety identification will be applied on the main entrance door transoms facing Eastern Promenade, and relief street numbers will be attached facing Turner Street. For 15 Turner Street, street numbers will be applied facing Turner Street. All street numbers are shown on the architectural elevations provided. A free-standing project sign is not proposed.

2. Directional signage on the site will be limited to parking signs and will meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 20 of the Land Use Code.

I. Design Standards:

1. See the Architectural Narrative prepared by Mark Muller Architects for a description of how the project meets these standards.

Gorham Savings Bank

April 18, 2023

Portland Planning Board
389 Congress Street, 4th Floor
Portland, ME 04101

RE: 246 Eastern Promenade and 17 turner Street

Dear Sir or Madam:

I am currently reviewing a request for financing from Harry Krigman for the development of condominiums at 246 Eastern Promenade and 17 Turner Street in Portland.

I have reviewed plans for the proposed development. Based on the review and my knowledge of Mr. Krigman and the work of Shinberg Consulting, in my opinion the developer has the technical expertise and financial capacity to complete the project as the development is currently structured.

If you need additional information, do not hesitate to contact me.

Sincerely,

Todd Abbotoni

Todd Abbotoni
Vice President, Commercial Lending

181 State Street, PO Box 4424, Portland, Maine 04101
(207) 772-7070 Office | info@shinbergconsulting.com

Property Location:	246 Eastern Promenade & 15 Turner Street
Subject:	Major Site Plan Application
General Application Documents:	Technical Capability

The following are key members of the development team:

1) Shinberg Consulting
2) RDS Architects
3) Structural Integrity
4) Bennett Engineering
5) Jeanne Handy Interior Design
6) Aceto Landscape Architects
7) Terradyn Consultants LLC Civil Engineers
8) Owen Haskell, Inc Land Surveyors

Shinberg Consulting has provided Owners Representative services to private and public entities since 2004.

We have provided both Owners Representative services in addition to acting at the Developer / Owner for many projects in the greater Portland area for over 35 years.

Some of the notable projects that Shinberg Consulting has provided Owner's Representative Services include:

- The Intermed Building, 84 Marginal Way, Portland
- Hyatt Hotel Old Port, Portland
- The Press Hotel, Portland
- 63 Marginal Way, Portland
- 645 Congress Street, Portland
- 135 Sheridan Street Condominiums, Portland
- 959 Congress Street, Portland
- The Mina Building, Portland
- 50 Portland Pier, Portland
- 154 Clark St. for Shalom House, Portland
- Randall Place for The Opportunity Alliance, Portland
- Two Lights Dental, Cape Elizabeth
- Ocean House Commons, Cape Elizabeth
- Just for Kids Dental, Scarborough
- 600 to 606 Congress Street, Portland
- 59 State Street Portland
- 655 Congress Street, Portland
- 169 / 171 State Street, Portland
- 5 Points Shopping Center, Biddeford
- 100 Foden Road, South Portland
- The Mark, Cumberland Foreside
- Brunswick Technologies, Brunswick
- Bishop Farm Residential Subdivision, Freeport

Standard to be Waived: Cite Ordinance or Technical Manual Standard	**Cite Standard Language:** Cite specific language of applicable Ordinance or Technical Manual Standard	**Waiver Being Sought:** Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	**Justification for Waiver:** Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Technical Manual Standard 1.10.3 - Parking Lot and Parking Space Design	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...	Waiver requested to allow a 20' two-way drive aisle width for parking within the proposed garage under the 11-unit building.	The garage dimensions are constrained by the building structure. Parking will be for residents, not for the public. Attached is a figure showing how vehicles can maneuver into and out of all spaces within the garage.
Technical Manual Standard 1.5.1(B) - Driveway Design minimum/maximum driveway width for driveways serving >10 residential parking spaces	For two-way driveways (preferred) -20 feet minimum, 24 feet maximum	We are requesting a two way driveway width of 18'.	The garage door is 18' wide, and the driveway is very short. 18' in width is adequate for 2-way traffic in this situation.

TERRADYN CONSULTANTS, LLC

207.926.5111
info@terradynconsultants.com
www.terradynconsultants.com

STORMWATER MANAGEMENT REPORT
246 Eastern Promenade

The following information is provided in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14.6.2.D.

1. OVERVIEW

ECK Realty, LLC intends to redevelop the project site located at 246 Eastern Promenade and 15 Turner Street in Portland, Maine. The project includes removal of an existing 12-unit residential building and construction of two new residential buildings with associated site and utility improvements. This narrative describes the stormwater runoff patterns and methods of stormwater management for the existing (pre-development) and proposed (post-development) conditions.

2. EXISTING CONDITIONS

The project site is 27,206 square feet in area and is currently developed with an existing 12-unit apartment building and a 40-space (+/-) surface parking lot. The existing site has 16,596 square feet of impervious surface comprised of roof and paved areas.

246 Eastern Prom Existing Conditions	
Total Site Area	27,206 sf
Impervious Area	16,596 sf
Roof Area	3,345 sf
Non-Roof Impervious	13,251 sf

The L-shaped lot has frontage on both Eastern Promenade and Turner Street in Portland. The site generally slopes from south to north, towards Eastern Promenade. No formal stormwater management infrastructure exists on the site. Runoff currently drains overland onto the abutting property to the north (Eastern Place Condominium) and into Eastern Promenade. All site runoff is ultimately tributary to the public storm drain network in Eastern Promenade.

The NRCS Medium Intensity Soil Survey identifies native soils on the site as Hinkley Loamy Sand, an excessively drained, HSG A soil.

3. PROPOSED PROJECT

The proposed project includes removal of the existing building and construction of one new building with associated site improvements. The majority of the parking for residents of the proposed buildings will be located within or under the new building. The existing surface parking lot will be reduced in size. The proposed post-development condition will have 19,262 square feet of impervious area.

246 Eastern Prom Proposed Conditions	
Total Site Area	27,206 sf
Impervious Area	19,262 sf
Roof Area	14,340 sf
Non-Roof Impervious	4,922 sf

Stormwater runoff in the proposed condition will continue to ultimately drain to the public stormdrain system in Eastern Promenade. The proposed building will feature a flat roof and will drain by internal roof drains. A new on-site storm drain network will collect runoff from the surface parking area and part of the proposed roof, and will convey it into a new public storm drain in Turner Street. A subsurface stormwater retention system with outlet control is proposed to help attenuate peak flows before entering the public storm drain system. The new public storm drain will connect to the existing system at the intersection of Turner Street and Eastern Promenade.

Approximately 7,340 sf of the roof of the building will drain directly into the existing storm drain network in Eastern Promenade, 7,000 sf of the building will drain toward the R-Tank System within the site driveway.

The proposed development will result in a reduction in non-roof impervious area by approximately 8,329 square feet. Per Section 5.II.D of the City of Portland Technical Manual, the project is not required to provide stormwater treatment in accordance with the General Standard.

4. FLOODING STANDARD

Stormwater Quantity control is required as part of city requirements for this project. The proposed development has been designed to minimize stormwater runoff from the site in excess of the natural pre-development conditions. A hydrologic analysis of pre-development and post-development conditions was conducted based upon the methodology contained in the USDA Soil Conservation Service's Technical Releases No. 20 and 55 (SCS TR-20 and TR-55). For Cumberland County, Maine a 24-hour SCS Type III Storm distribution was used for the analysis using the following storm frequencies and rainfall amounts, per Maine DEP Chapter 500:

Storm Event	24-Hour Rainfall
2–Year Storm	3.1 inches
10–Year Storm	4.6 inches

25–Year Storm	5.8 inches

Runoff curve numbers, time of concentration, and travel time data were established based on methods outlined in the USDA TR-55 manual. A minimum time of concentration of 5 minutes and a maximum sheet flow distance of 150 linear feet was used in the models.

4.1 Pre-Development Conditions

The pre-development HydroCAD model includes three sub-catchments, draining to a single Study Point representing the existing public storm drain system in Eastern Promenade.

The Pre-Development Watershed Map (Sheet WS-1) shows sub-watershed boundaries, time of concentration flow paths, and study points and is attached in Appendix 1.

The Pre-Development HydroCAD model is attached in Appendix 3.

Pre-Development peak rates of runoff at the Study Point are listed in the table below.

Pre-Development Peak Rates of Runoff (cfs)	
Storm Event	**Peak Rate of Runoff**
2–Year Storm	0.81
10–Year Storm	1.83
25–Year Storm	2.73

4.2 Post-Development Conditions

The post-development HydroCAD model includes five sub-catchments, tributary to the same Study Point described in Section 4.1. The Post-Development Watershed Map (Sheet WS-2) and HydroCAD model are attached in Appendix 2 and 4, respectively.

Post-Development peak rates of runoff at the Study Point are listed in the table below.

Post-Development Peak Rates of Runoff (cfs)	
Storm Event	**Peak Rate of Runoff**
2–Year Storm	0.81
10–Year Storm	1.69
25–Year Storm	2.46

4.3 Peak Flow Analysis

In order to determine the impact of the proposed site re-development on the peak rate of runoff leaving the project site, the results of the pre-development

and post-development stormwater models were directly compared and are compiled in the table below.

Peak Runoff Flow Rates Comparison		
Storm Event	**Pre-Development (cfs)**	**Post-Development (cfs)**
2-Year	0.81	0.81
10-Year	1.83	1.69
25-Year	2.73	2.46

The results of the analysis indicate that the proposed chamber system effectively controls peak flow rates in the 10-year and 25-year storms.

5. CONCLUSIONS

The proposed redevelopment project will create approximately 2,666 square feet of additional impervious area. The project includes expansion of and improvements to the public storm drain system in Turner Street and installation of an on-site subsurface stormwater retention system to mitigate for the proposed increase in impervious surface.

The stormwater management system was designed to ensure:

- Stormwater draining onto or across the project site in the pre-development condition will not be impeded or redirected so as to create ponding on, or flooding of, adjacent lots.

Appendices
1 Pre-Development Watershed Map
2 Post-Development Watershed Map
3 Pre-Development HydroCAD Model
4 Post-Development HydroCAD Model

Prepared By:
Michael Tadema-Wielandt, P.E.
Maine License #11567
TERRADYN CONSULTANTS, LLC

APPENDIX 1

Pre-Development Watershed Map

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11687
LICENSED
PROFESSIONAL ENGINEER

DATE: 5/5/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS

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TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
PRE-DEVELOPMENT WATERSHED PLAN

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1"=20'
JOB NO: 22-144
SHEET: WS-1

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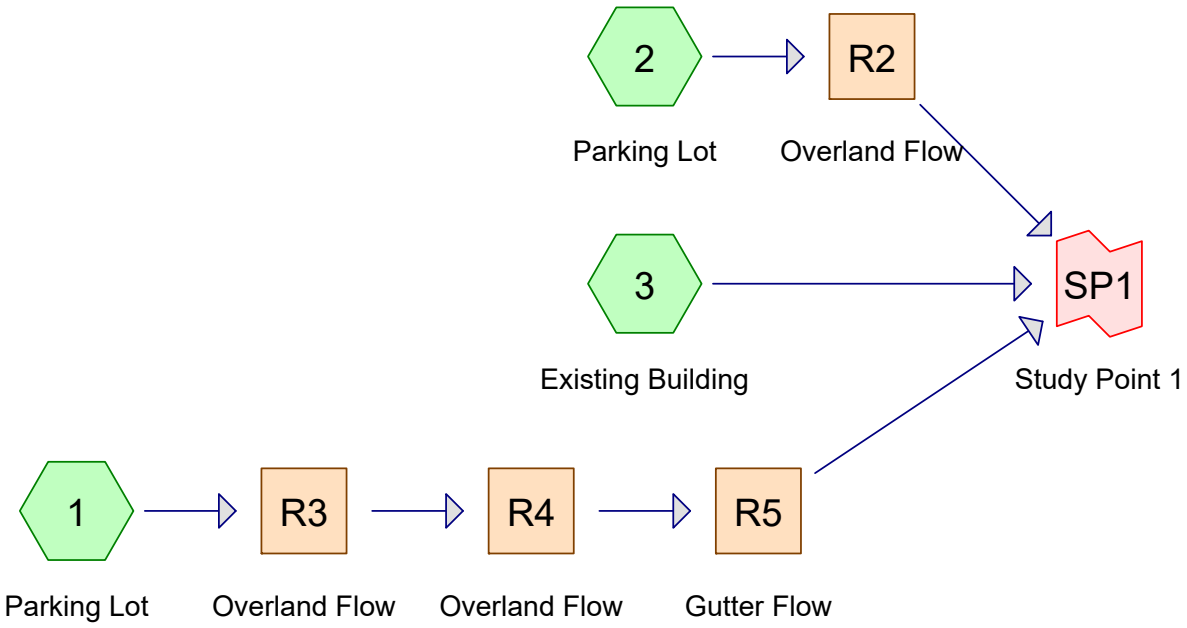
APPENDIX 2

Pre-Development HydroCAD Model



Subcat Reach Pond Link

Routing Diagram for 22-144-PRE
Prepared by Terradyn Consultants, Printed 2/20/2024
HydroCAD® 10.10-6a s/n 12055 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.319	39	>75% Grass cover, Good, HSG A (1, 2, 3)
0.497	98	Unconnected pavement, HSG A (1, 2, 3)
0.816	**75**	**TOTAL AREA**

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 1: Parking Lot Runoff Area=5,923 sf 77.51% Impervious Runoff Depth>1.56"
Flow Length=100' Tc=5.0 min CN=85 Runoff=0.27 cfs 0.018 af

Subcatchment 2: Parking Lot Runoff Area=13,894 sf 61.38% Impervious Runoff Depth>0.94"
Tc=5.0 min CN=75 Runoff=0.37 cfs 0.025 af

Subcatchment 3: Existing Building Runoff Area=15,734 sf 54.30% Impervious Runoff Depth>0.74"
Tc=5.0 min CN=71 Runoff=0.32 cfs 0.022 af

Reach R2: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.80 fps Inflow=0.37 cfs 0.025 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.35 cfs 0.025 af

Reach R3: Overland Flow Avg. Flow Depth=0.01' Max Vel=1.02 fps Inflow=0.27 cfs 0.018 af
n=0.013 L=160.0' S=0.0281 '/' Capacity=8.57 cfs Outflow=0.25 cfs 0.018 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.68 fps Inflow=0.25 cfs 0.018 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.24 cfs 0.018 af

Reach R5: Gutter Flow Avg. Flow Depth=0.06' Max Vel=1.58 fps Inflow=0.24 cfs 0.018 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.23 cfs 0.018 af

Link SP1: Study Point 1 Inflow=0.81 cfs 0.065 af
Primary=0.81 cfs 0.065 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.065 af Average Runoff Depth = 0.95"
39.07% Pervious = 0.319 ac 60.93% Impervious = 0.497 ac

Summary for Subcatchment 1: Parking Lot

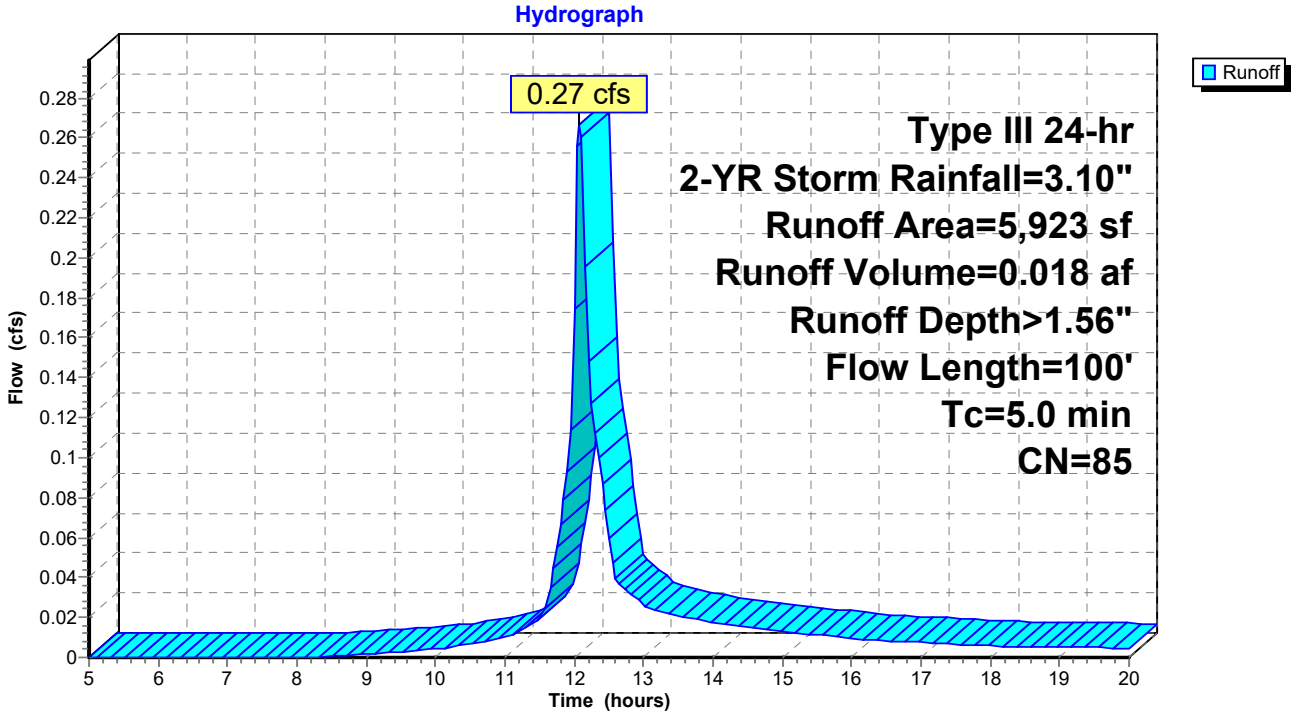
Runoff = 0.27 cfs @ 12.08 hrs, Volume= 0.018 af, Depth> 1.56"
Routed to Reach R3 : Overland Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
4,591	98	Unconnected pavement, HSG A
1,332	39	>75% Grass cover, Good, HSG A
5,923	85	Weighted Average
1,332		22.49% Pervious Area
4,591		77.51% Impervious Area
4,591		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	85	0.5300	4.86		**Sheet Flow, A-B** Smooth surfaces n= 0.011 P2= 3.10"
0.0	15	0.1600	6.44		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
4.7					**Direct Entry, 5 Minute Minimum**
5.0	100	Total			

Subcatchment 1: Parking Lot



Summary for Subcatchment 2: Parking Lot

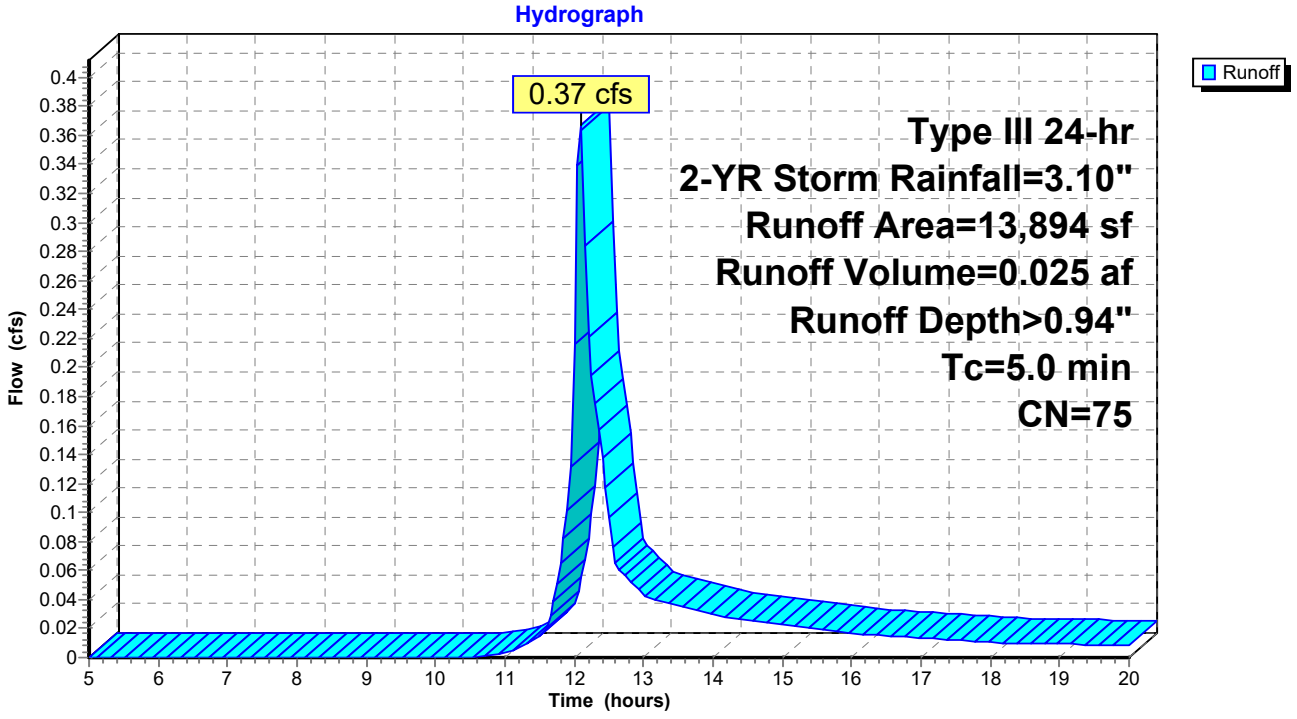
Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.025 af, Depth> 0.94"
Routed to Reach R2 : Overland Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
8,528	98	Unconnected pavement, HSG A
5,366	39	>75% Grass cover, Good, HSG A
13,894	75	Weighted Average
5,366		38.62% Pervious Area
8,528		61.38% Impervious Area
8,528		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 2: Parking Lot



Summary for Subcatchment 3: Existing Building

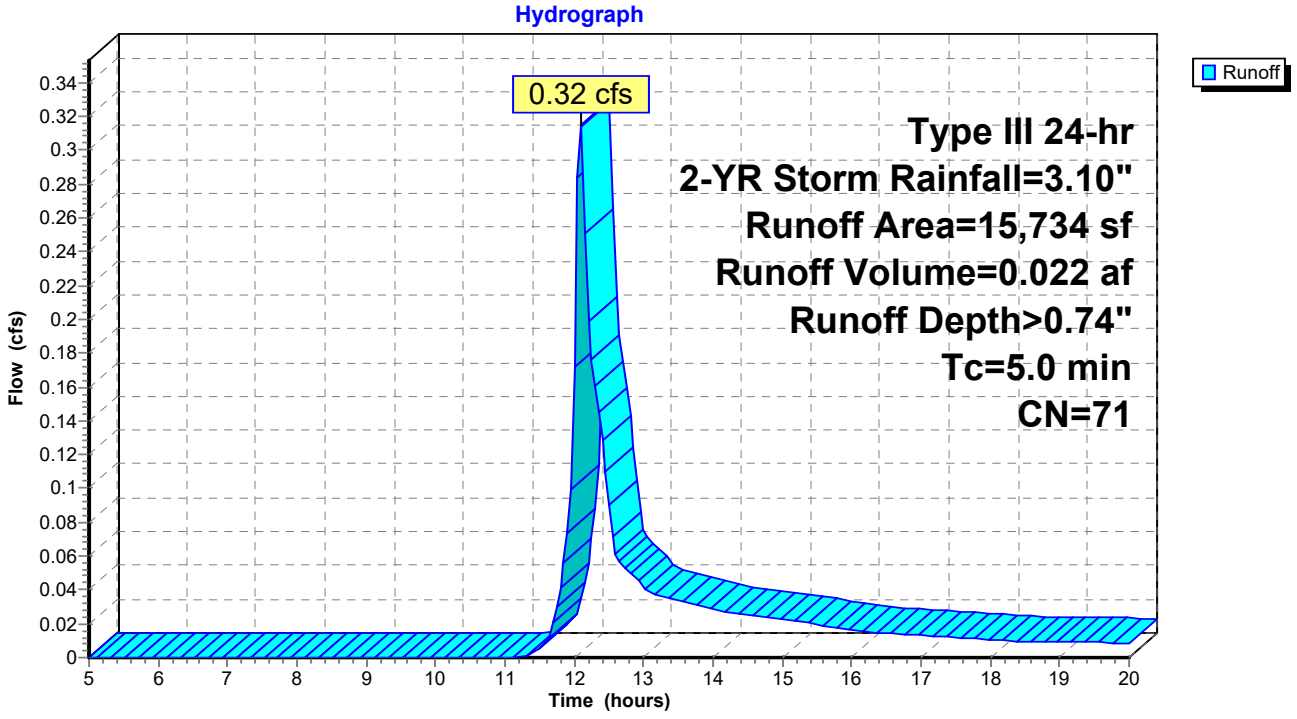
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 0.74"
Routed to Link SP1 : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
8,544	98	Unconnected pavement, HSG A
7,190	39	>75% Grass cover, Good, HSG A
15,734	71	Weighted Average
7,190		45.70% Pervious Area
8,544		54.30% Impervious Area
8,544		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 3: Existing Building



Summary for Reach R2: Overland Flow

Inflow Area = 0.319 ac, 61.38% Impervious, Inflow Depth > 0.94" for 2-YR Storm event
Inflow = 0.37 cfs @ 12.09 hrs, Volume= 0.025 af
Outflow = 0.35 cfs @ 12.12 hrs, Volume= 0.025 af, Atten= 4%, Lag= 1.8 min
Routed to Link SP1 : Study Point 1

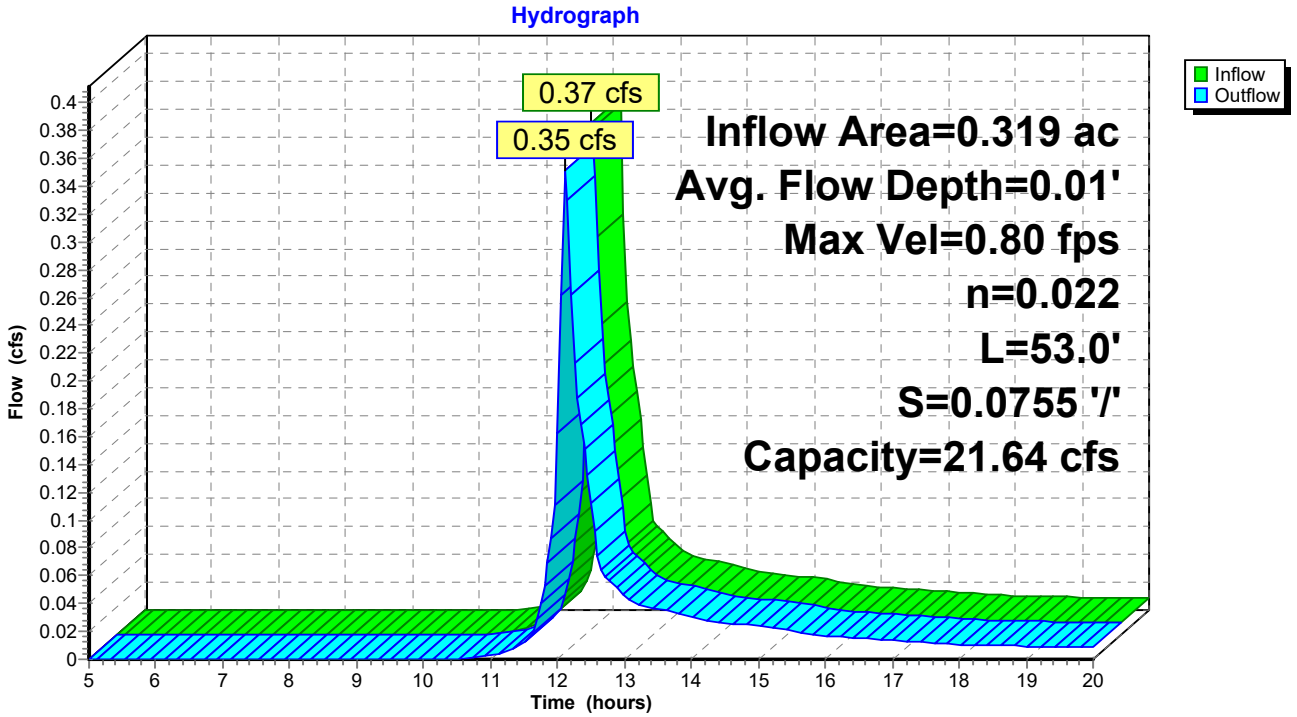
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.80 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 0.27 fps, Avg. Travel Time= 3.3 min

Peak Storage= 24 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.01' , Surface Width= 51.81'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'

‡

Reach R2: Overland Flow



Summary for Reach R3: Overland Flow

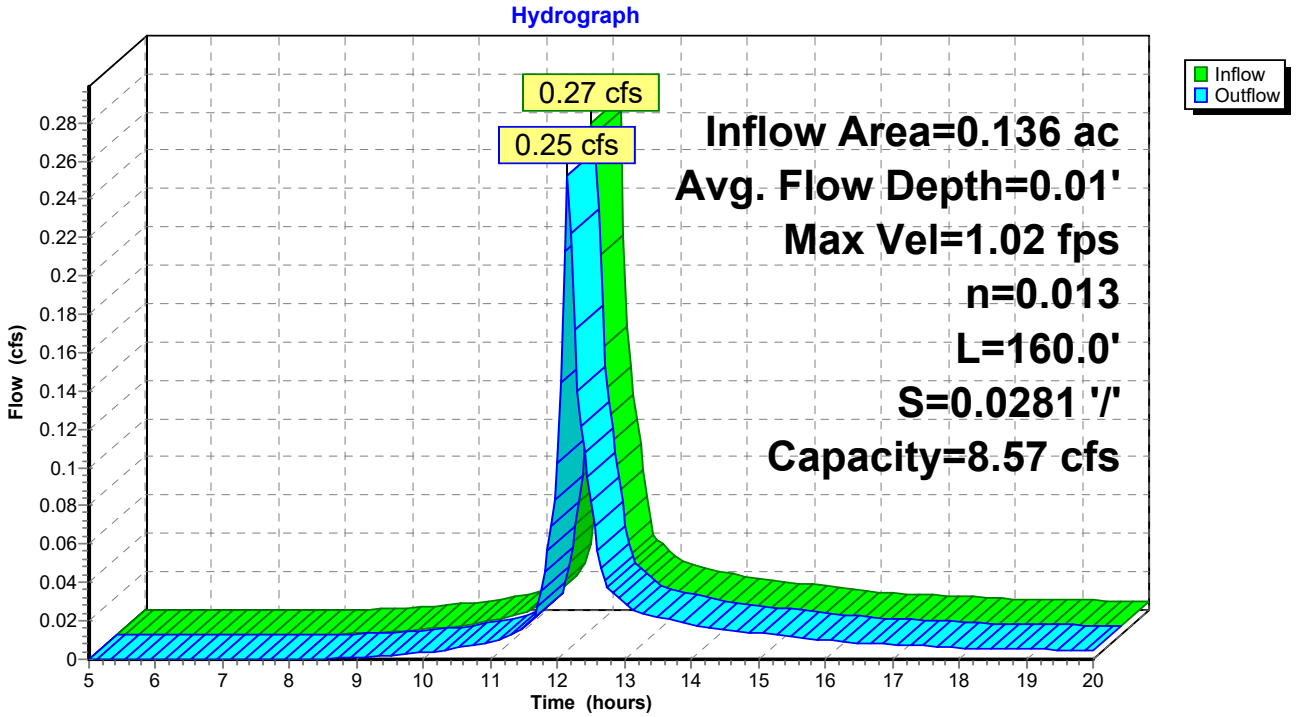
Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 1.56" for 2-YR Storm event
Inflow = 0.27 cfs @ 12.08 hrs, Volume= 0.018 af
Outflow = 0.25 cfs @ 12.15 hrs, Volume= 0.018 af, Atten= 5%, Lag= 4.5 min
Routed to Reach R4 : Overland Flow

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= 2.6 min
Avg. Velocity = 0.31 fps, Avg. Travel Time= 8.6 min

Peak Storage= 40 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.01' , Surface Width= 20.50'
Bank-Full Depth= 0.10' Flow Area= 2.2 sf, Capacity= 8.57 cfs

20.00' x 0.10' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 24.00'
Length= 160.0' Slope= 0.0281 '/'
Inlet Invert= 101.50', Outlet Invert= 97.00'

Reach R3: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 1.55" for 2-YR Storm event
Inflow = 0.25 cfs @ 12.15 hrs, Volume= 0.018 af
Outflow = 0.24 cfs @ 12.20 hrs, Volume= 0.018 af, Atten= 5%, Lag= 2.6 min
Routed to Reach R5 : Gutter Flow

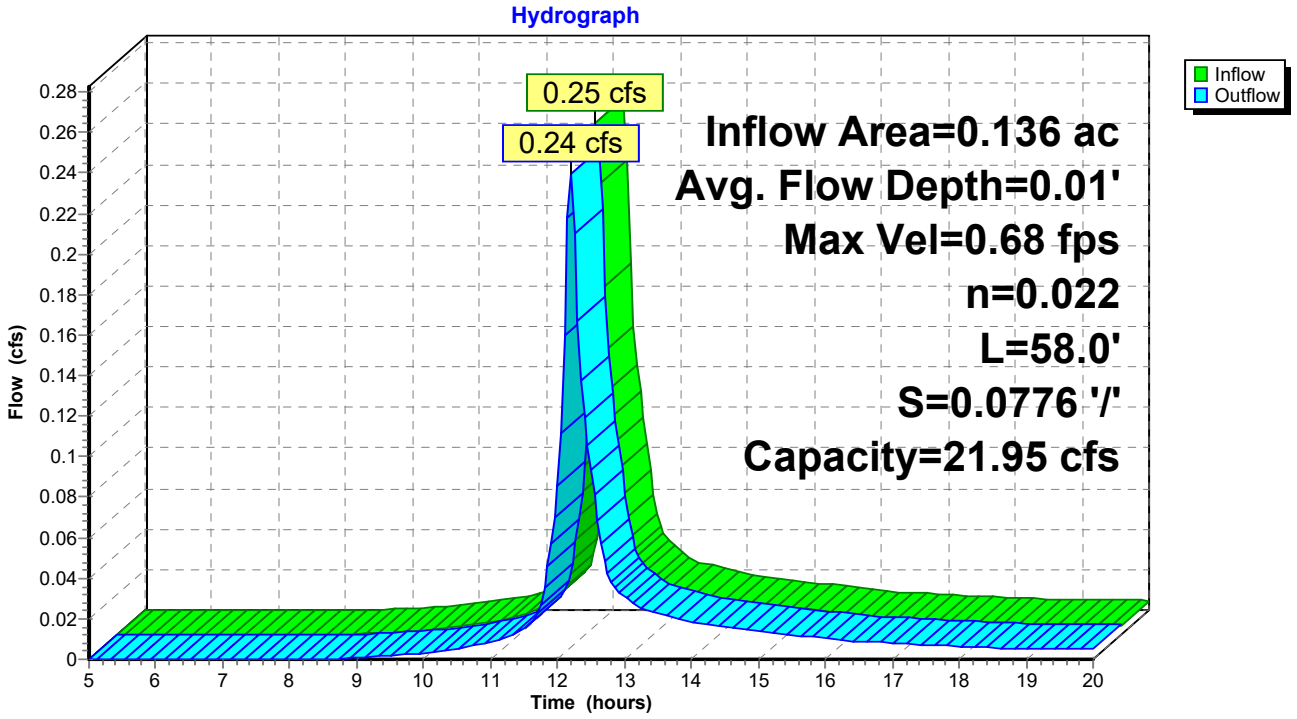
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.68 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.23 fps, Avg. Travel Time= 4.2 min

Peak Storage= 21 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.01' , Surface Width= 51.42'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'

‡

Reach R4: Overland Flow



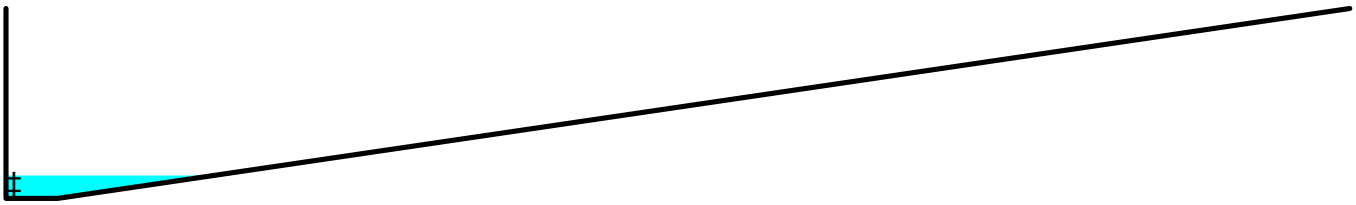
Summary for Reach R5: Gutter Flow

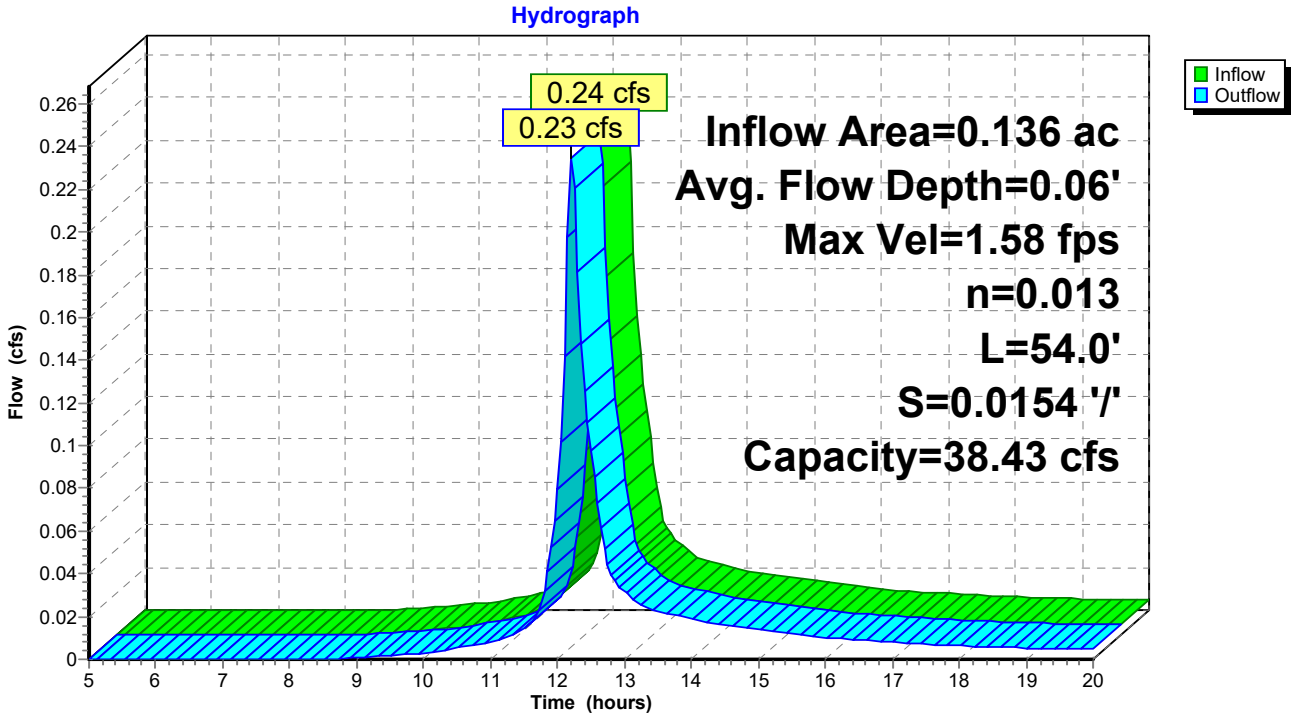
Inflow Area = 0.136 ac, 77.51% Impervious, Inflow Depth > 1.55" for 2-YR Storm event
Inflow = 0.24 cfs @ 12.20 hrs, Volume= 0.018 af
Outflow = 0.23 cfs @ 12.21 hrs, Volume= 0.018 af, Atten= 2%, Lag= 0.9 min
Routed to Link SP1 : Study Point 1

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.58 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 1.4 min

Peak Storage= 8 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 4.02'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'



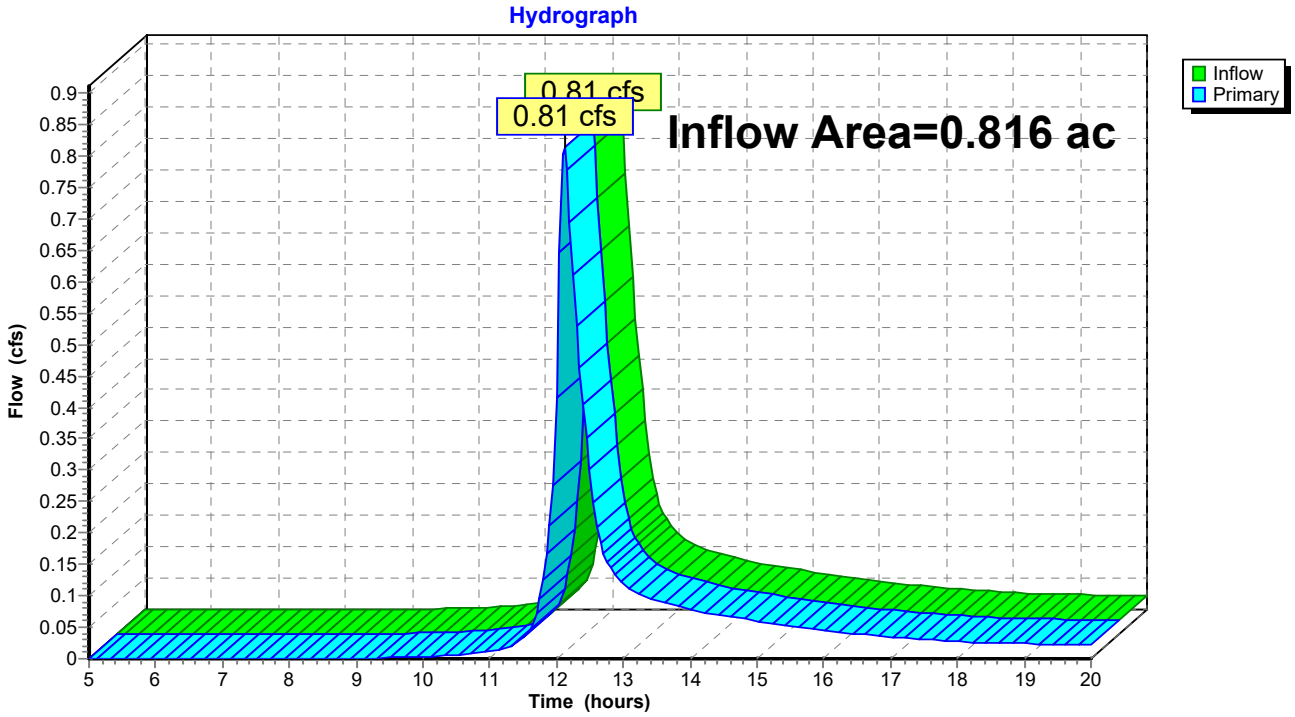


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 60.93% Impervious, Inflow Depth > 0.95" for 2-YR Storm event
Inflow = 0.81 cfs @ 12.12 hrs, Volume= 0.065 af
Primary = 0.81 cfs @ 12.12 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



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 1: Parking Lot Runoff Area=5,923 sf 77.51% Impervious Runoff Depth>2.82"
Flow Length=100' Tc=5.0 min CN=85 Runoff=0.48 cfs 0.032 af

Subcatchment 2: Parking Lot Runoff Area=13,894 sf 61.38% Impervious Runoff Depth>1.97"
Tc=5.0 min CN=75 Runoff=0.79 cfs 0.052 af

Subcatchment 3: Existing Building Runoff Area=15,734 sf 54.30% Impervious Runoff Depth>1.67"
Tc=5.0 min CN=71 Runoff=0.76 cfs 0.050 af

Reach R2: Overland Flow Avg. Flow Depth=0.01' Max Vel=1.08 fps Inflow=0.79 cfs 0.052 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.77 cfs 0.052 af

Reach R3: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.29 fps Inflow=0.48 cfs 0.032 af
n=0.013 L=160.0' S=0.0281 '/' Capacity=8.57 cfs Outflow=0.45 cfs 0.032 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.87 fps Inflow=0.45 cfs 0.032 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.43 cfs 0.032 af

Reach R5: Gutter Flow Avg. Flow Depth=0.08' Max Vel=1.82 fps Inflow=0.43 cfs 0.032 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.42 cfs 0.032 af

Link SP1: Study Point 1 Inflow=1.83 cfs 0.134 af
Primary=1.83 cfs 0.134 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.135 af Average Runoff Depth = 1.98"
39.07% Pervious = 0.319 ac 60.93% Impervious = 0.497 ac

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 1: Parking Lot Runoff Area=5,923 sf 77.51% Impervious Runoff Depth>3.88"
Flow Length=100' Tc=5.0 min CN=85 Runoff=0.65 cfs 0.044 af

Subcatchment 2: Parking Lot Runoff Area=13,894 sf 61.38% Impervious Runoff Depth>2.90"
Tc=5.0 min CN=75 Runoff=1.16 cfs 0.077 af

Subcatchment 3: Existing Building Runoff Area=15,734 sf 54.30% Impervious Runoff Depth>2.54"
Tc=5.0 min CN=71 Runoff=1.16 cfs 0.076 af

Reach R2: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.25 fps Inflow=1.16 cfs 0.077 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=1.14 cfs 0.077 af

Reach R3: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.45 fps Inflow=0.65 cfs 0.044 af
n=0.013 L=160.0' S=0.0281 '/' Capacity=8.57 cfs Outflow=0.60 cfs 0.044 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.97 fps Inflow=0.60 cfs 0.044 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.59 cfs 0.044 af

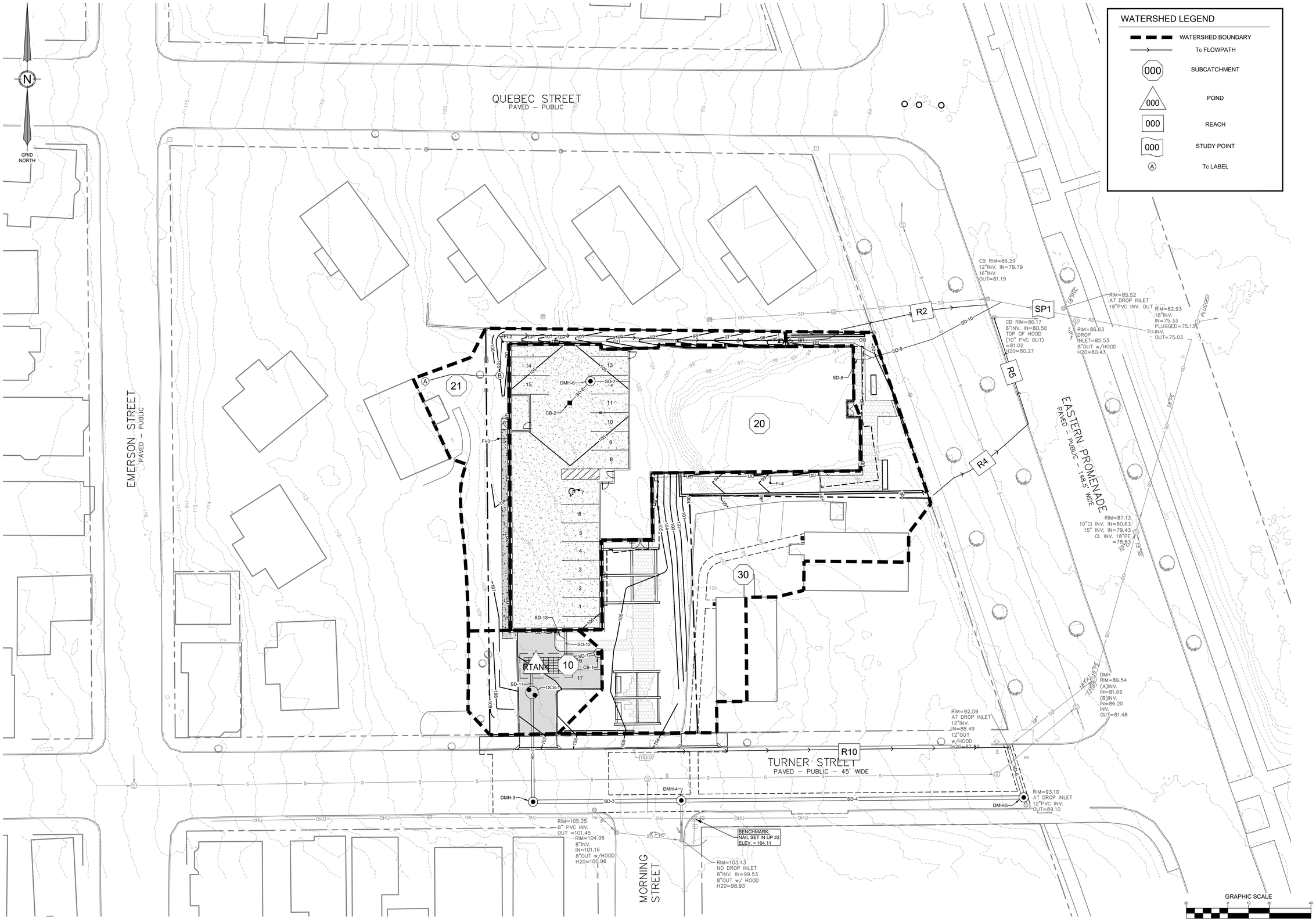
Reach R5: Gutter Flow Avg. Flow Depth=0.09' Max Vel=1.98 fps Inflow=0.59 cfs 0.044 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.57 cfs 0.044 af

Link SP1: Study Point 1 Inflow=2.73 cfs 0.197 af
Primary=2.73 cfs 0.197 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.197 af Average Runoff Depth = 2.90"
39.07% Pervious = 0.319 ac 60.93% Impervious = 0.497 ac

APPENDIX 3

Post-Development Watershed Map



STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11687
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
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PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: POST-DEVELOPMENT WATERSHED PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1"=20'
JOB NO: 22-144
SHEET: WS-2

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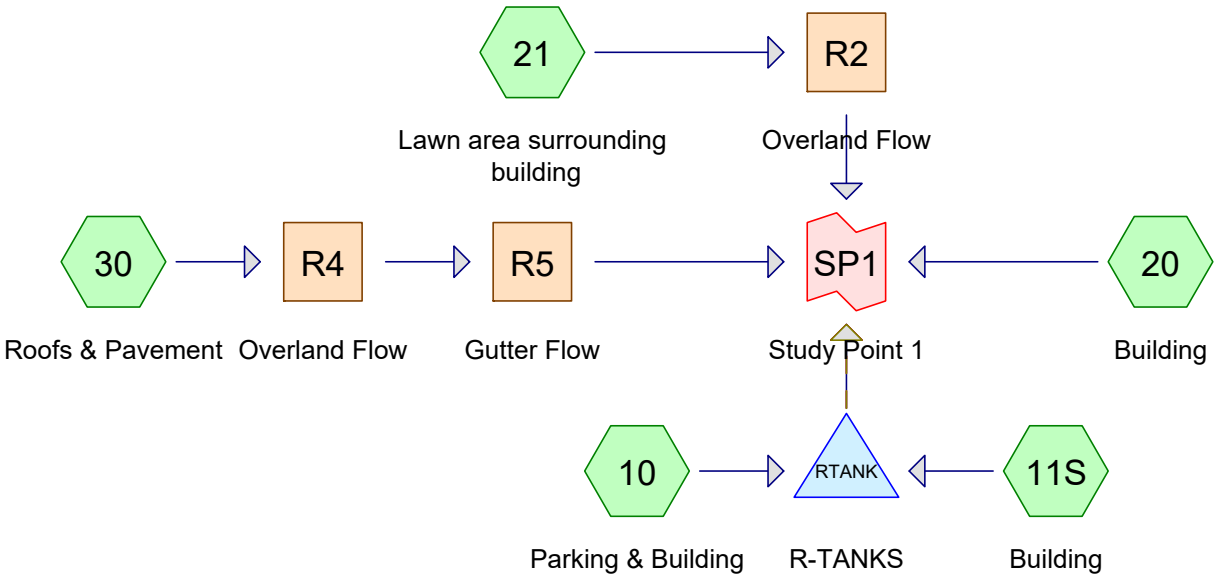
APPENDIX 4

Post-Development HydroCAD



Subcat Reach Pond Link

Routing Diagram for 22-144-POST_V3
Prepared by Terradyn Consultants, Printed 2/20/2024
HydroCAD® 10.10-6a s/n 12055 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.276	39	>75% Grass cover, Good, HSG A (10, 21, 30)
0.329	98	Roofs, HSG A (11S, 20)
0.211	98	Unconnected pavement, HSG A (10, 21, 30)
0.816	**78**	**TOTAL AREA**

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 10: Parking & Building Runoff Area=2,878 sf 52.71% Impervious Runoff Depth>0.69"
Tc=5.0 min CN=70 Runoff=0.05 cfs 0.004 af

Subcatchment 11S: Building Runoff Area=7,000 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=0.49 cfs 0.036 af

Subcatchment 20: Building Runoff Area=7,340 sf 100.00% Impervious Runoff Depth>2.68"
Tc=5.0 min CN=98 Runoff=0.51 cfs 0.038 af

Subcatchment 21: Lawn area surrounding Runoff Area=4,803 sf 12.89% Impervious Runoff Depth>0.01"
Flow Length=218' Tc=5.0 min UI Adjusted CN=43 Runoff=0.00 cfs 0.000 af

Subcatchment 30: Roofs & Pavement Runoff Area=13,539 sf 52.17% Impervious Runoff Depth>0.69"
Tc=5.0 min CN=70 Runoff=0.25 cfs 0.018 af

Reach R2: Overland Flow Avg. Flow Depth=0.00' Max Vel=0.19 fps Inflow=0.00 cfs 0.000 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.00 cfs 0.000 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.69 fps Inflow=0.25 cfs 0.018 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.23 cfs 0.018 af

Reach R5: Gutter Flow Avg. Flow Depth=0.06' Max Vel=1.57 fps Inflow=0.23 cfs 0.018 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.23 cfs 0.018 af

Pond RTANK: R-TANKS Peak Elev=101.24' Storage=449 cf Inflow=0.54 cfs 0.040 af
Outflow=0.15 cfs 0.040 af

Link SP1: Study Point 1 Inflow=0.81 cfs 0.095 af
Primary=0.81 cfs 0.095 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.095 af Average Runoff Depth = 1.40"
33.80% Pervious = 0.276 ac 66.20% Impervious = 0.540 ac

Summary for Subcatchment 10: Parking & Building

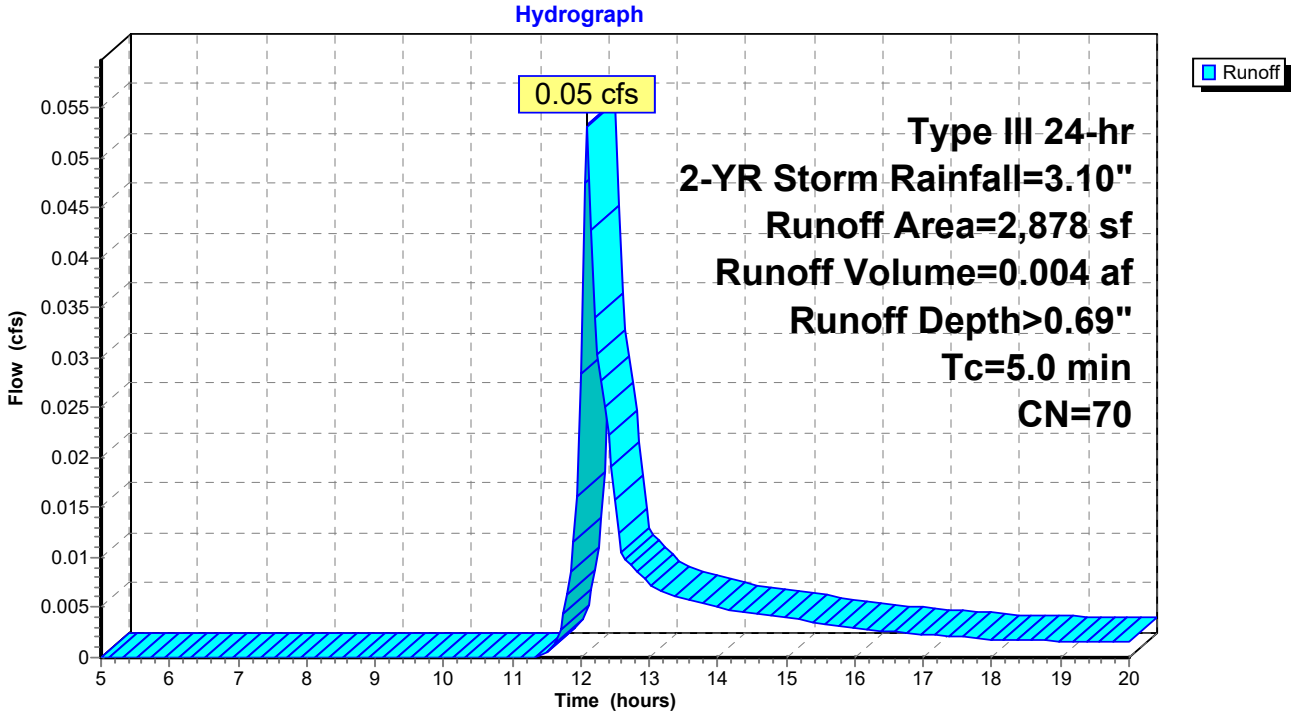
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.69"
Routed to Pond RTANK : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
1,517	98	Unconnected pavement, HSG A
1,361	39	>75% Grass cover, Good, HSG A
2,878	70	Weighted Average
1,361		47.29% Pervious Area
1,517		52.71% Impervious Area
1,517		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 10: Parking & Building



Summary for Subcatchment 11S: Building

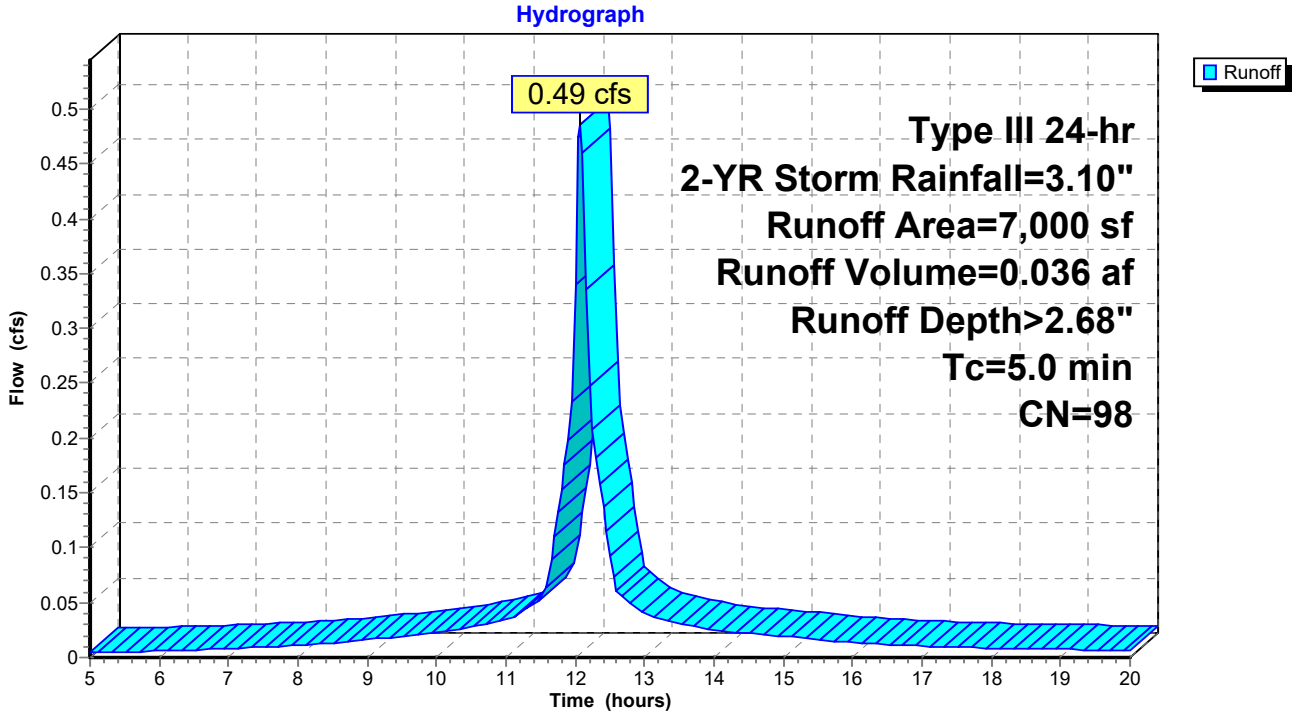
Runoff = 0.49 cfs @ 12.07 hrs, Volume= 0.036 af, Depth> 2.68"
Routed to Pond RTANK : R-TANKS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
7,000	98	Roofs, HSG A
7,000		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 11S: Building



Summary for Subcatchment 20: Building

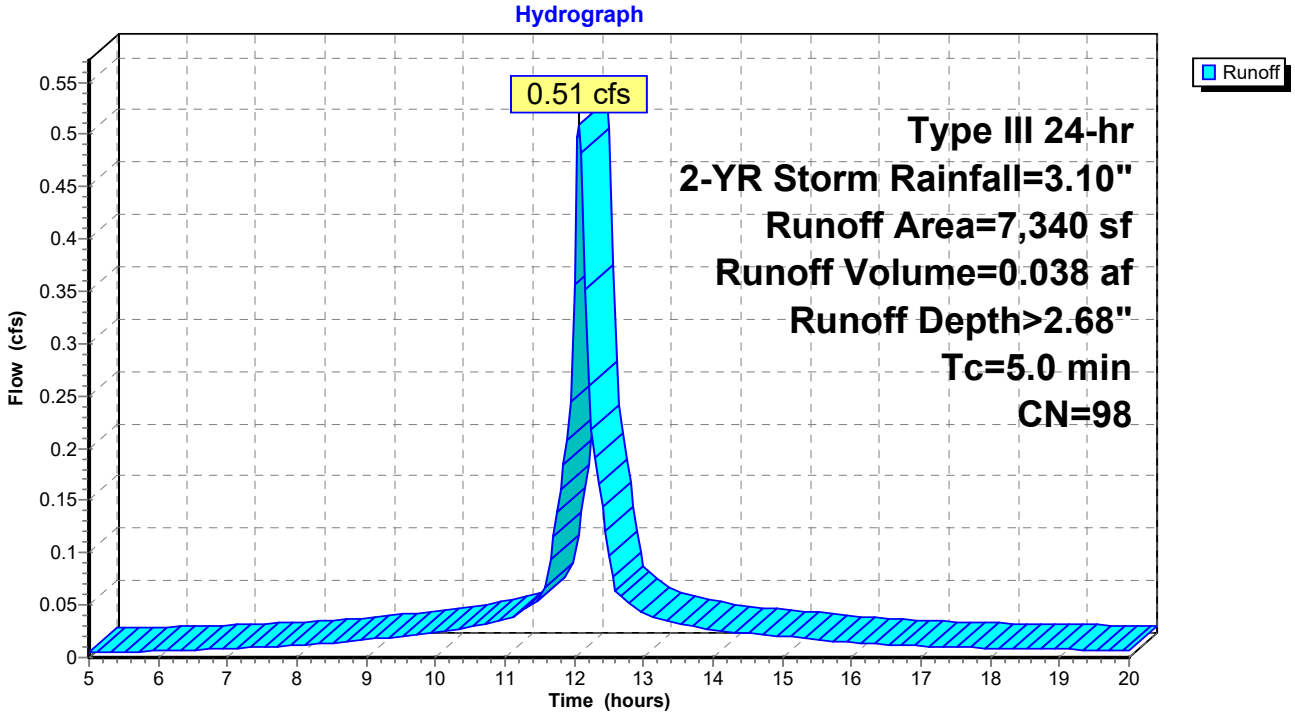
Runoff = 0.51 cfs @ 12.07 hrs, Volume= 0.038 af, Depth> 2.68"
Routed to Link SP1 : Study Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
7,340	98	Roofs, HSG A
7,340		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 20: Building



Summary for Subcatchment 21: Lawn area surrounding building

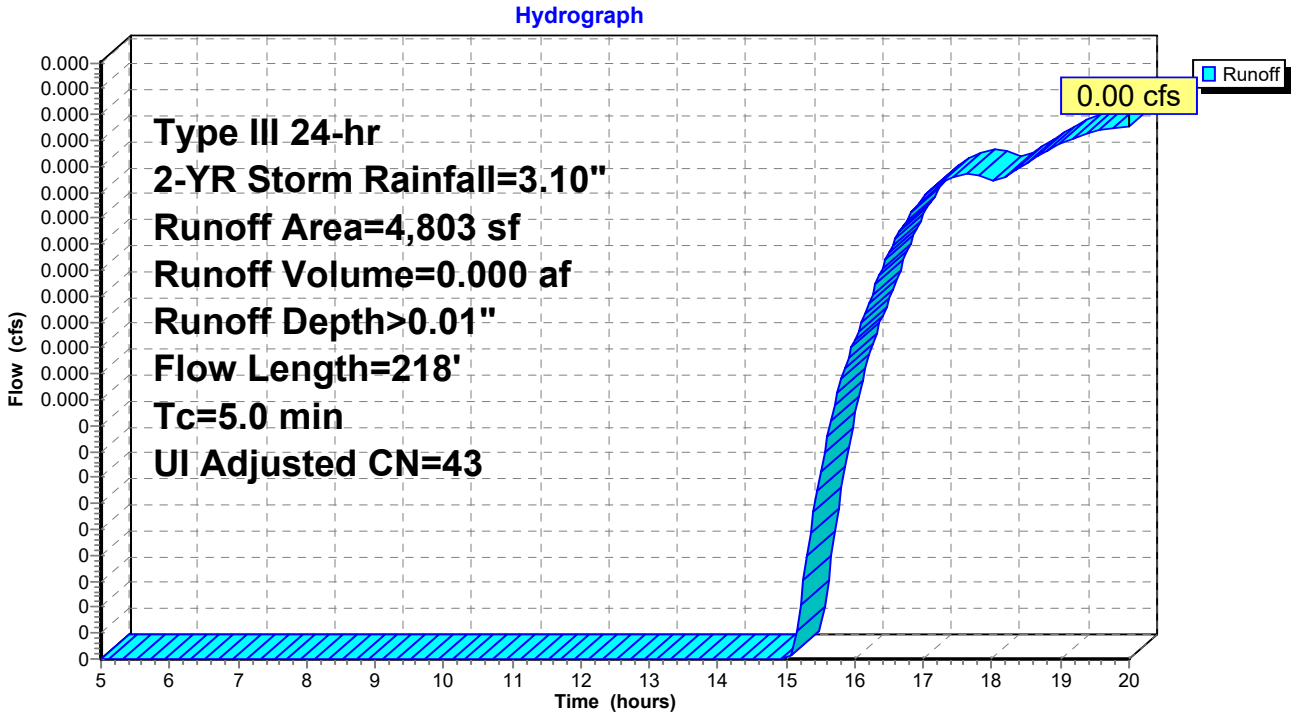
Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.01"
Routed to Reach R2 : Overland Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Adj	Description
619	98		Unconnected pavement, HSG A
4,184	39		>75% Grass cover, Good, HSG A
4,803	47	43	Weighted Average, UI Adjusted
4,184			87.11% Pervious Area
619			12.89% Impervious Area
619			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	36	0.0970	0.26		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
1.4	182	0.0570	2.19	0.28	**Trap/Vee/Rect Channel Flow, B-C** Bot.W=1.00' D=0.10' Z= 3.0 '/' Top.W=1.60' n= 0.030 Earth, grassed & winding
1.3					**Direct Entry, 5 Minute Minimum**
5.0	218	Total			

Subcatchment 21: Lawn area surrounding building



Summary for Subcatchment 30: Roofs & Pavement

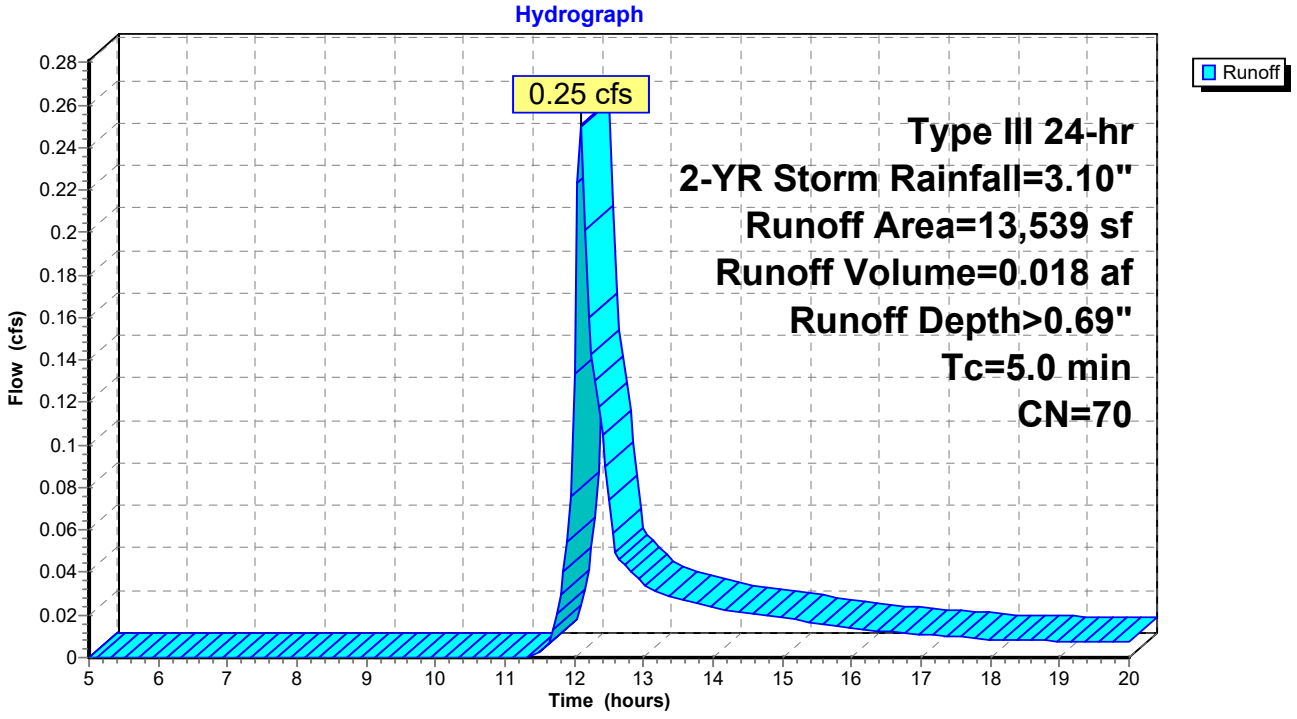
Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth> 0.69"
Routed to Reach R4 : Overland Flow

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Storm Rainfall=3.10"

Area (sf)	CN	Description
7,063	98	Unconnected pavement, HSG A
6,476	39	>75% Grass cover, Good, HSG A
13,539	70	Weighted Average
6,476		47.83% Pervious Area
7,063		52.17% Impervious Area
7,063		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, 5 Minute Minimum**

Subcatchment 30: Roofs & Pavement



Summary for Reach R2: Overland Flow

Inflow Area = 0.110 ac, 12.89% Impervious, Inflow Depth > 0.01" for 2-YR Storm event
Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Link SP1 : Study Point 1

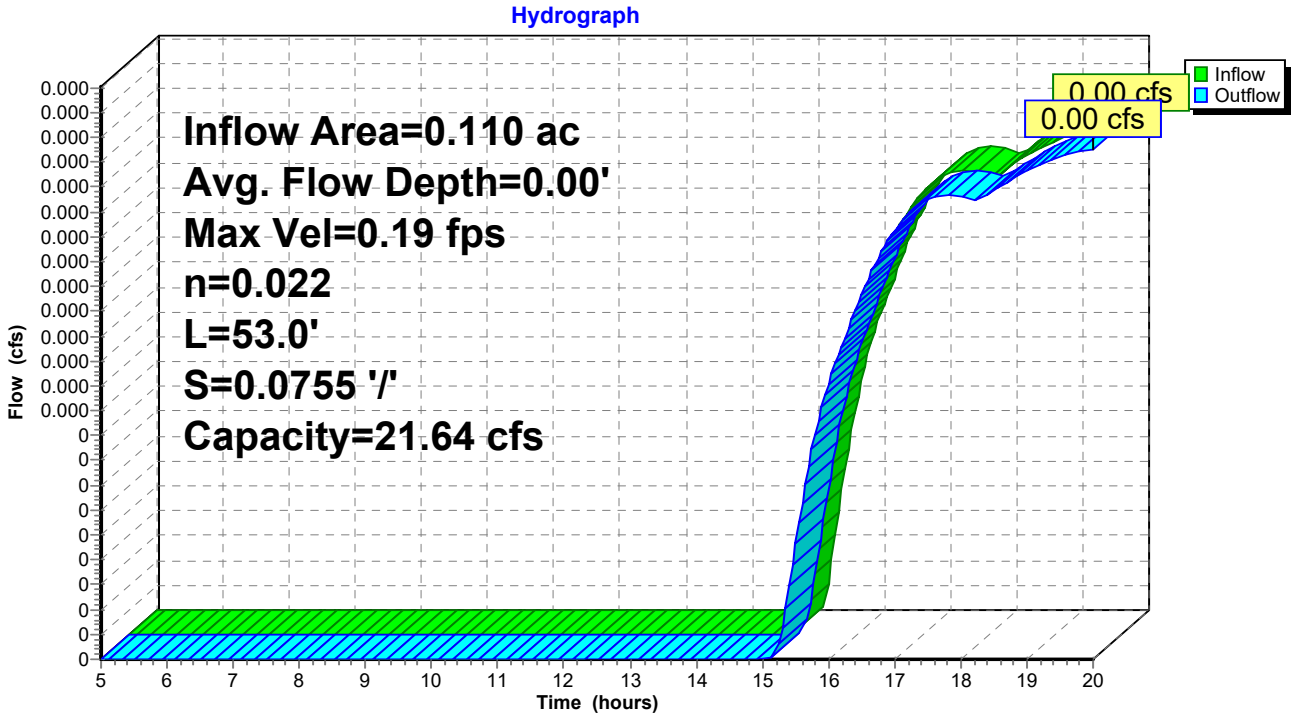
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.19 fps, Min. Travel Time= 4.8 min
Avg. Velocity = 0.19 fps, Avg. Travel Time= 4.8 min

Peak Storage= 0 cf @ 20.00 hrs
Average Depth at Peak Storage= 0.00' , Surface Width= 50.00'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.64 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 53.0' Slope= 0.0755 '/'
Inlet Invert= 91.00', Outlet Invert= 87.00'

‡

Reach R2: Overland Flow



Summary for Reach R4: Overland Flow

Inflow Area = 0.311 ac, 52.17% Impervious, Inflow Depth > 0.69" for 2-YR Storm event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.23 cfs @ 12.14 hrs, Volume= 0.018 af, Atten= 6%, Lag= 2.6 min
Routed to Reach R5 : Gutter Flow

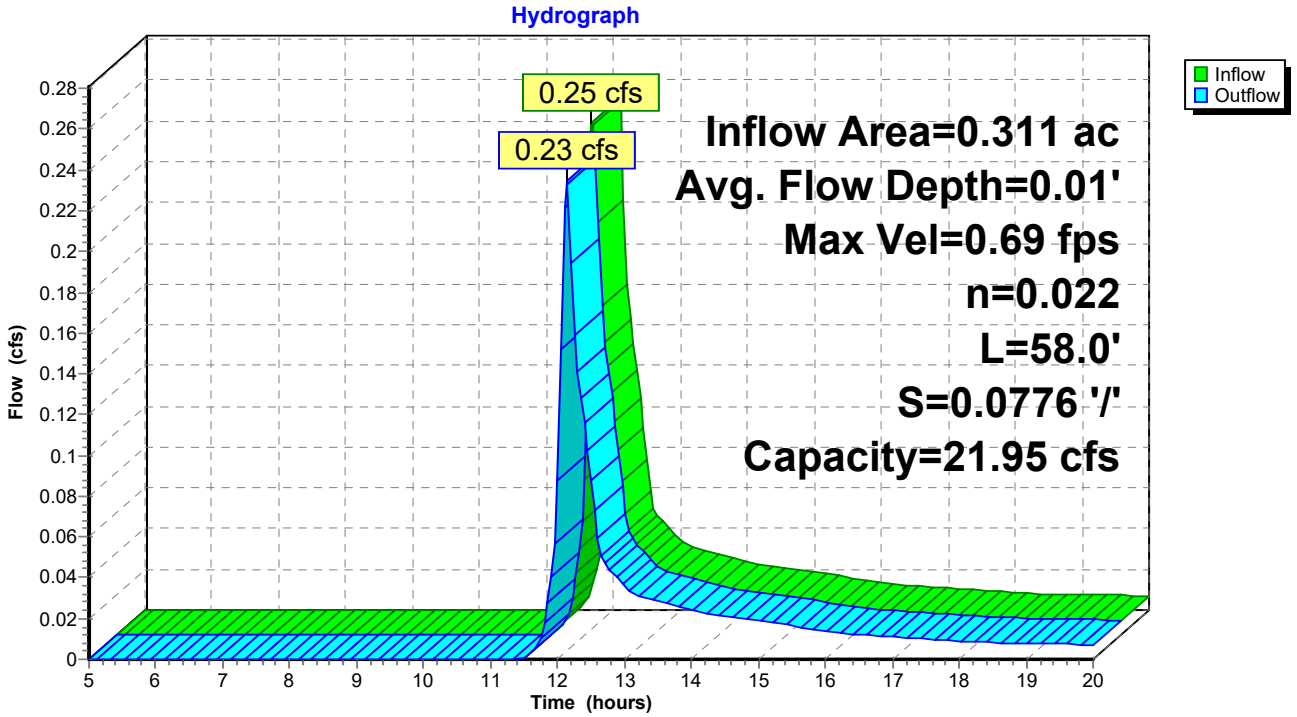
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.69 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.26 fps, Avg. Travel Time= 3.8 min

Peak Storage= 21 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.01' , Surface Width= 51.43'
Bank-Full Depth= 0.10' Flow Area= 6.0 sf, Capacity= 21.95 cfs

50.00' x 0.10' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 100.0 '/' Top Width= 70.00'
Length= 58.0' Slope= 0.0776 '/'
Inlet Invert= 92.00', Outlet Invert= 87.50'

‡

Reach R4: Overland Flow



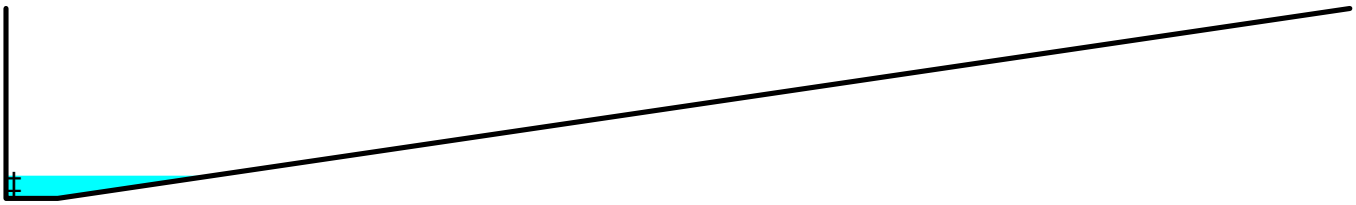
Summary for Reach R5: Gutter Flow

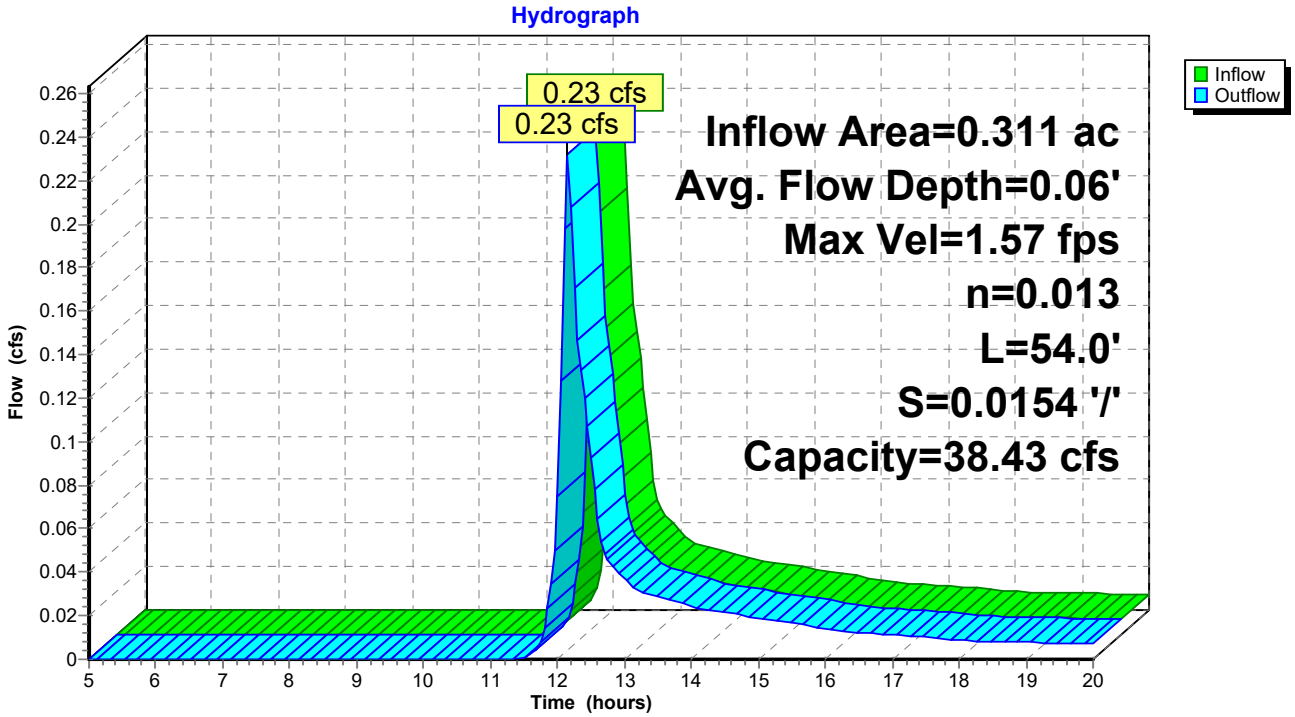
Inflow Area = 0.311 ac, 52.17% Impervious, Inflow Depth > 0.69" for 2-YR Storm event
Inflow = 0.23 cfs @ 12.14 hrs, Volume= 0.018 af
Outflow = 0.23 cfs @ 12.15 hrs, Volume= 0.018 af, Atten= 2%, Lag= 1.1 min
Routed to Link SP1 : Study Point 1

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.57 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.77 fps, Avg. Travel Time= 1.2 min

Peak Storage= 8 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 4.00'
Bank-Full Depth= 0.50' Flow Area= 6.8 sf, Capacity= 38.43 cfs

1.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 0.0 50.0 '/' Top Width= 26.00'
Length= 54.0' Slope= 0.0154 '/'
Inlet Invert= 87.00', Outlet Invert= 86.17'





Summary for Pond RTANK: R-TANKS

Inflow Area = 0.227 ac, 86.22% Impervious, Inflow Depth > 2.10" for 2-YR Storm event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 0.040 af
Outflow = 0.15 cfs @ 12.41 hrs, Volume= 0.040 af, Atten= 71%, Lag= 20.1 min
Primary = 0.15 cfs @ 12.41 hrs, Volume= 0.040 af
Routed to Link SP1 : Study Point 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 101.24' @ 12.41 hrs Surf.Area= 298 sf Storage= 449 cf

Plug-Flow detention time= 27.1 min calculated for 0.039 af (99% of inflow)
Center-of-Mass det. time= 24.8 min (771.7 - 746.9)

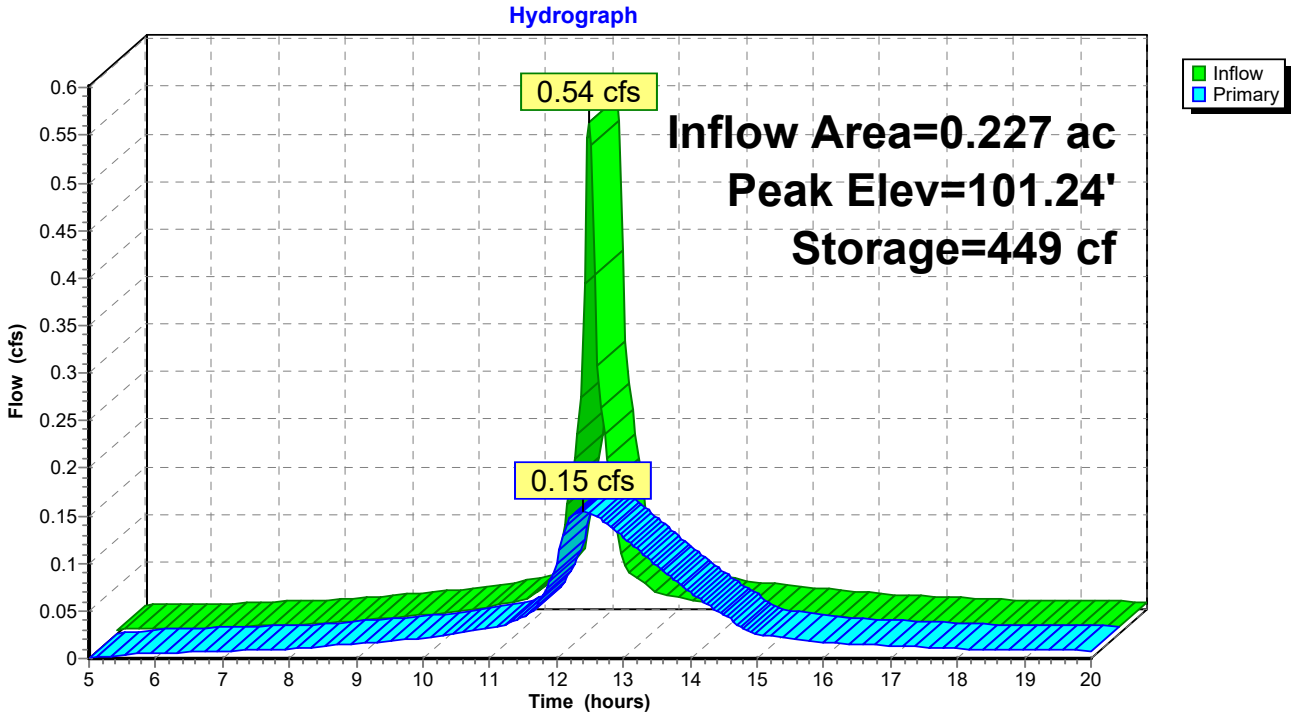
Volume	Invert	Avail.Storage	Storage Description
#1A	99.00'	298 cf	**11.87'W x 25.11'L x 4.07'H Field A** 1,214 cf Overall - 469 cf Embedded = 745 cf x 40.0% Voids
#2A	99.25'	446 cf	**ACF R-Tank HD 2** x 54 Inside #1 Inside= 15.7"W x 33.9"H => 3.52 sf x 2.35'L = 8.3 cf Outside= 15.7"W x 33.9"H => 3.70 sf x 2.35'L = 8.7 cf 54 Chambers in 6 Rows
		744 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 4	99.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Device 4	101.24'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 4	103.00'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Primary	99.00'	**12.0" Round Culvert** L= 49.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 99.00' / 96.81' S= 0.0447 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.15 cfs @ 12.41 hrs HW=101.24' (Free Discharge)
└**4=Culvert** (Passes 0.15 cfs of 3.94 cfs potential flow)
  ├**1=Orifice/Grate** (Orifice Controls 0.15 cfs @ 7.07 fps)
  ├**2=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.04 fps)
  └**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond RTANK: R-TANKS

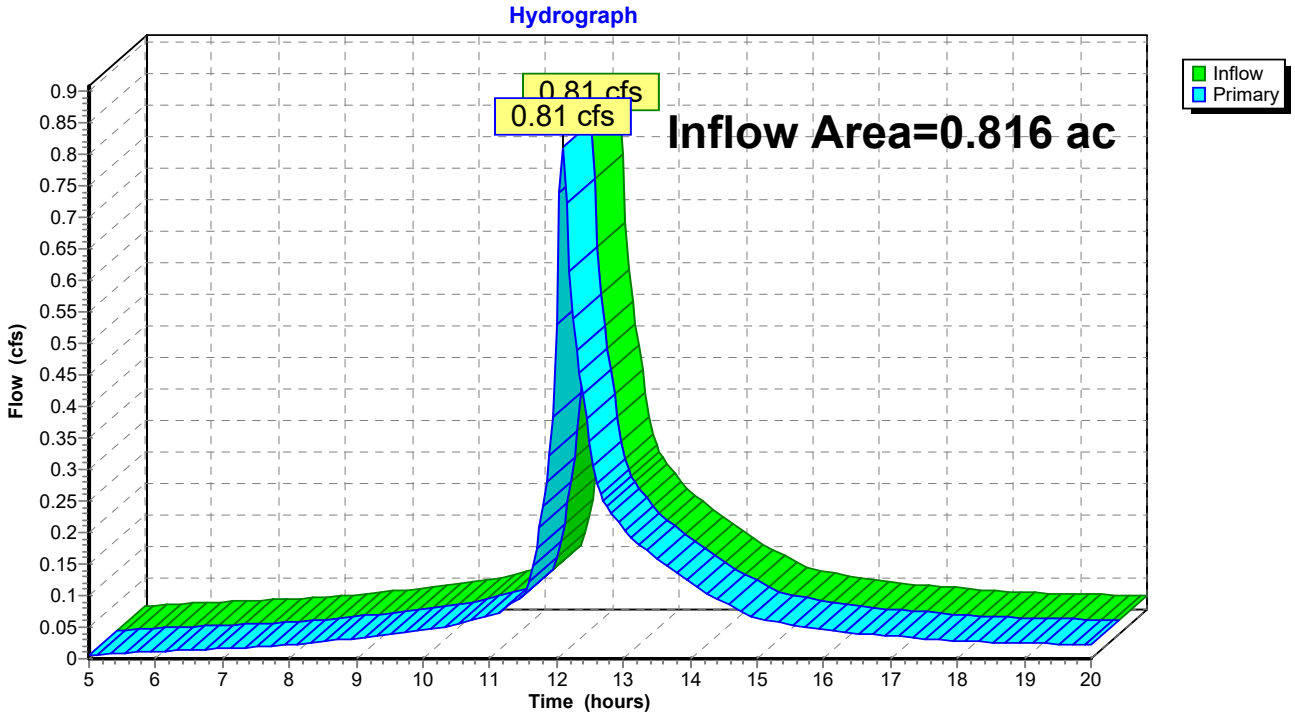


Summary for Link SP1: Study Point 1

Inflow Area = 0.816 ac, 66.20% Impervious, Inflow Depth > 1.40" for 2-YR Storm event
Inflow = 0.81 cfs @ 12.10 hrs, Volume= 0.095 af
Primary = 0.81 cfs @ 12.10 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link SP1: Study Point 1



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 10: Parking & Building Runoff Area=2,878 sf 52.71% Impervious Runoff Depth>1.60"
Tc=5.0 min CN=70 Runoff=0.13 cfs 0.009 af

Subcatchment 11S: Building Runoff Area=7,000 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.73 cfs 0.054 af

Subcatchment 20: Building Runoff Area=7,340 sf 100.00% Impervious Runoff Depth>4.05"
Tc=5.0 min CN=98 Runoff=0.76 cfs 0.057 af

Subcatchment 21: Lawn area surrounding Runoff Area=4,803 sf 12.89% Impervious Runoff Depth>0.20"
Flow Length=218' Tc=5.0 min UI Adjusted CN=43 Runoff=0.01 cfs 0.002 af

Subcatchment 30: Roofs & Pavement Runoff Area=13,539 sf 52.17% Impervious Runoff Depth>1.60"
Tc=5.0 min CN=70 Runoff=0.62 cfs 0.042 af

Reach R2: Overland Flow Avg. Flow Depth=0.00' Max Vel=0.19 fps Inflow=0.01 cfs 0.002 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.01 cfs 0.002 af

Reach R4: Overland Flow Avg. Flow Depth=0.01' Max Vel=0.99 fps Inflow=0.62 cfs 0.042 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.60 cfs 0.041 af

Reach R5: Gutter Flow Avg. Flow Depth=0.09' Max Vel=1.99 fps Inflow=0.60 cfs 0.041 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.58 cfs 0.041 af

Pond RTANK: R-TANKS Peak Elev=101.95' Storage=598 cf Inflow=0.86 cfs 0.063 af
Outflow=0.49 cfs 0.063 af

Link SP1: Study Point 1 Inflow=1.69 cfs 0.163 af
Primary=1.69 cfs 0.163 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.163 af Average Runoff Depth = 2.40"
33.80% Pervious = 0.276 ac 66.20% Impervious = 0.540 ac

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 10: Parking & Building Runoff Area=2,878 sf 52.71% Impervious Runoff Depth>2.45"
Tc=5.0 min CN=70 Runoff=0.20 cfs 0.013 af

Subcatchment 11S: Building Runoff Area=7,000 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=0.92 cfs 0.069 af

Subcatchment 20: Building Runoff Area=7,340 sf 100.00% Impervious Runoff Depth>5.15"
Tc=5.0 min CN=98 Runoff=0.96 cfs 0.072 af

Subcatchment 21: Lawn area surrounding Runoff Area=4,803 sf 12.89% Impervious Runoff Depth>0.52"
Flow Length=218' Tc=5.0 min UI Adjusted CN=43 Runoff=0.04 cfs 0.005 af

Subcatchment 30: Roofs & Pavement Runoff Area=13,539 sf 52.17% Impervious Runoff Depth>2.45"
Tc=5.0 min CN=70 Runoff=0.96 cfs 0.063 af

Reach R2: Overland Flow Avg. Flow Depth=0.00' Max Vel=0.31 fps Inflow=0.04 cfs 0.005 af
n=0.022 L=53.0' S=0.0755 '/' Capacity=21.64 cfs Outflow=0.03 cfs 0.005 af

Reach R4: Overland Flow Avg. Flow Depth=0.02' Max Vel=1.17 fps Inflow=0.96 cfs 0.063 af
n=0.022 L=58.0' S=0.0776 '/' Capacity=21.95 cfs Outflow=0.93 cfs 0.063 af

Reach R5: Gutter Flow Avg. Flow Depth=0.11' Max Vel=2.23 fps Inflow=0.93 cfs 0.063 af
n=0.013 L=54.0' S=0.0154 '/' Capacity=38.43 cfs Outflow=0.91 cfs 0.063 af

Pond RTANK: R-TANKS Peak Elev=102.94' Storage=727 cf Inflow=1.12 cfs 0.082 af
Outflow=0.73 cfs 0.082 af

Link SP1: Study Point 1 Inflow=2.46 cfs 0.222 af
Primary=2.46 cfs 0.222 af

Total Runoff Area = 0.816 ac Runoff Volume = 0.223 af Average Runoff Depth = 3.28"
33.80% Pervious = 0.276 ac 66.20% Impervious = 0.540 ac

UTILITIES

11.1 OVERVIEW

The proposed project will involve installation of new utility services to the new building. All new utility services will be provided from the franchise utilities available within Turner Street and Eastern Promenade. The proposed locations of the new utility services are shown on the Site Utility Plan (Sheet C-6.0).

11.2 WATER SUPPLY

The proposed project will receive its water supply from the Portland Water District's (PWD) public water supply system. Separate fire and domestic services will be installed to each building from PWD's existing main in Eastern Promenade. The existing water service to the site will be retired as part of the project. Terradyn Consultants has been coordinating the design of the new water services with PWD. The sprinkler designer is currently preparing flow calculations requested by PWD. The applicant will provide an Ability to Serve letter from PWD when it is available.

11.2.1 TOTAL PROJECT WATER USAGE

The total average daily water demand for the proposed project is estimated to be 3,270 gallons per day, based on design flows published in the State of Maine Subsurface Wastewater Disposal Rules.

3 x 1 Bedroom Residential Units at 120 gpd/unit	= 120 gpd
10 x 2 Bedroom Residential Units at 180 gpd/unit	= 720 gpd
Total:	= 3,270 gpd

11.3 WASTEWATER DISPOSAL

The proposed project will be connected to the Portland Water District's and City of Portland's wastewater collection and conveyance systems. The City of Portland Wastewater Capacity Application has been completed and forwarded to Brad Roland of the City's Water Resources Department.

The overall project is anticipated to generate an average daily flow of approximately 3,270 gpd. The existing 12-residential units on the site generated approximately 1,440 gpd. The net increase in wastewater flows is expected to be approximately 1,830 gpd. Based on the existing sewer system in the area, there appears to be adequate capacity to handle these projected flow amounts.

11.4 ELECTRICITY SUPPLY

CMP currently maintains overhead and underground utilities in the area. Electrical power for the project will be fed from a pad-mounted transformer that will be installed near the proposed garage entrance.

shinberg
CONSULTING, LLC

Property Location: 246 Eastern Promenade & 15 Turner Street

Subject: Construction Management Plan

Date: April 17, 2023

On behalf of ECK Realty, Shinberg Consulting will hire the General Contractor ("GC") to perform all site work and the building.

Construction Management Document

1) The GC will be required to install a construction fence around the perimeter of the areas affected within the lot. Signage will be affixed to the fencing to assure that all safety measures are met.

2) Shinberg Consulting will coordinate a site meeting with the city of Portland Inspections Department representative(s) and the city of Portland Department of Public Works ("DPW") and the GC with their site contractor.

3) The GC will contact Dig Safe prior to any work commencing on the site.

4) Temporary erosion control measures will be installed in any areas that feed into the city combined sewer and storm drains.

5) The GC will contact the Portland Water Department prior to work commencing.

6) Temporary signage will be installed as required by the city of Portland DPW.

7) The GC will contact CMP to protect any overhead or underground wires prior to work commencing.

8) All work will be performed during the hours of operation outlined in the city of Portland's guidelines.

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	RUDINARG@gmail.com
Kaili Moore	kaili@presumptslotpm.com
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NAME	EMAIL
Elizabeth Harrington	Lizharrington@LIVE.com
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	gls@shinbergconsulting.com
EVAN DEMERS	evan@mullerarchitects.com
mark mueller	mark@muellerarchitects.com

246 Eastern Promenade and 15 Turner Street Condominiums

Notes compiled by Evan Demers of Mark Mueller Architects and Greg Shinberg of Shinberg Consulting

Neighborhood Meeting

June 7, 2023, 5:00-7:00 PM – East End Community School, Portland, ME

Developer and Consultant Team in Attendance:

- Greg Shinberg - Shinberg Consulting, LLC (“GS”)
- Nick Aceto - Aceto Landscape Architects (“NA”)
- Mark Mueller - Mark Mueller Architects (“MM”)
- Evan Demers - Mark Mueller Architects (“ED”)
- Harry Krigman - ECK Realty, LLC (“HK”)

Members of Public in Attendance:

- Approximately 18, see sign-in sheet attached. GS asked members of the public to share their initials when asking questions or making comments. (The members of the public opted to not share their initials when speaking.)

Team Notes:

1. GS presented an overview of the project. GS then introduced the development team and gave a description of the process to date, summarizing approximately 1.5 years of preliminary design work.

2. GS presented the approximate time frame for the anticipated Planning Board entitlements, additional design, and construction. GS anticipates that, after entitlements, it will take approximately 18 months to complete construction.

3. GS informed the neighbors that the owner has opted to pay the fee in lieu of building 25% affordable condos, as required under the Green New Deal, which totals $603,698, based on the

current fee of $172,485 for each of 3.5 units. GS noted that this fee is paid into the City of Portland Housing Trust Fund. GS has been told by City staff that their goal is to use these funds to build approximately 5-7 new units of affordable housing based on a cost of approximately $350,000 per unit.

4. NA presented an overall project description.

5. MM presented an overall project description.

6. During the presentations by NA and MM, several neighbors asked questions. GS asked the neighbors to wait until NA and MM finished their presentation.

7. GS asked the neighbors whether they would be comfortable providing their initials when making a comment or asking a question. The neighbors continued making comments and asking questions but did not offer their initials.

Questions and Comments from Neighbors:

8. There appears to be a loss of parking, where will all of the current users park?

9. Where will the other users (Morning St tenants) park when it is reduced?

   - GS: At present, there are no long term parking leases. The residents in both 246 Eastern Prom and 119 Morning Street currently use some of the parking lot. At present, many of the residents park on the street, rather than in the parking lot.

10. How tall will the new street trees on Turner St be when installed?

    - NA: The trees will be smaller in scale than some of the large trees that are currently located in the neighborhood. The reason for this is to keep the trees from overwhelming the new buildings when they are fully grown.

11. Are there any variances you will need to complete the proposed project as presented?

    - GS: No

12. How tall is the Turner St building?

    - MM: The building is well below the 35’ maximum height allowed.

13. What goals were set forth while approaching this project?

    - NA: Good urban design following the goals established in the City of Portland Comprehensive

Plan. This includes porches facing the street, appropriate landscaping with retaining walls and hardscape, and less surface parking. Our goal is to assure that we are consistent with the other buildings nearby and that we create a streetscape that is inviting. Public streets are public places. We try to reduce the impact of vehicles and reduce parking where we can. We also try to utilize the City infrastructure wherever possible.

- MM: We walked around the neighborhood prior to starting the design.

14. People park on the street and this project will create more competition for that parking.

15. Why was the color red chosen to appear on the Turner St building?

    - MM: We chose a salmon color that we thought would be a good compliment to the neighborhood. However, we are open to other color choices.

16. What is the timeframe of the construction process?

    - GS: We anticipate that obtaining the Planning Board approvals will take several months. After approvals, there will be a process to complete the drawings and submit to the City an application for a building permit. Once the building permit is issued, we anticipate approximately 15-18 months to construct the project.

17. Why is the Eastern Promenade building four stories and not shorter?

    - MM: We felt that this was in character with the other houses along the Prom and in the neighborhood.

    - NA: It is important to note that our proposed design has a garden-level entrance from the Prom that is 6'-7' lower than the five-unit condominium building to the east. The current building code requires that this entrance meets all ADA requirements. To keep the design in character with the neighborhood, it is important to design this main entry with a small ramp that allows for wheelchair access. It is also important to note that the building is designed to meet the maximum height allowance of 45', as determined by the Average Grade Plane. This is a 4-story building that is similar to other buildings that fall within the 45' height restriction.

18. An additional floor was added to the condominiums next door sometime in the past.

19. What precedents were used in designing this building?

    - MM: Turner Street is the line of the historic district. We take our cues from the rooflines, siding, colors, porches, parking, heights, windows and doors, and other exterior elements.

20. Why was a more traditional approach not taken when designing? Not in character with neighbors.

- MM: We believe that it is in character with the neighborhood.

21. Could the red color of the Turner ST building be changed?

    - MM: Yes, we will consider changing this color.

22. Why is there so much glass on the Eastern Prom façade, seems “airlifted from Miami”?

    - MM: We disagree. There are many homes along the Prom that have large windows and doors to bring in the beauty of the Prom and the ocean beyond.

23. Is a potential 3D aerial Model available to be rendered for scale?

    - MM and ED showed the perspective drawing to the neighbors.

24. Where will the HVAC be located?

    - ED showed the location of the HVAC units at different roofs.

25. What will the site planting be like?

    - NA and ED showed the neighbors the site planting plan.

26. Why are the decks so large? Can you reduce size?

    - MM: We believe that this helps to create good design for the building with shadow lines and interesting fenestration. We believe that the decks are appropriately sized.

27. The roof top units will extend the height of the overall building?

    - MM: The rooftop units may extend no more than 5’ above the overall building height, as shown on the plans. (The HVAC units may reach a maximum height of 50’, as permitted, utilizing the average grade plane.)

28. Were there other designs brought forward in this process or are there any other designs to be presented?

    - MM: Yes, as a team we spent close to 18 months reviewing several design options.

29. The building resembles a “Lego” house, it looks modular.

30. Will there need to be any sheet piling work done on the project?

- GS and ED showed the neighbors where the sheet piling will be needed.

31. How long will the sheet piling take to complete?

    - GS: We are not certain. It depends on the site conditions. However, we have already completed geotechnical borings and, based on this information, we anticipate the pilings will take approximately two weeks.

32. What is the procedure to ensure the neighboring homes will not endure any issues during and after construction?

    - GS: We will require the General Contractor (TBD) to document the existing conditions of any properties located nearby.

33. How can we be sure that nothing will happen to our properties during blasting / driving?

    - GS: We do not anticipate any blasting based on the geotechnical information. We cannot assure you that nothing will happen during construction. However, we all carry adequate insurance for unforeseen issues and must present a construction management plan to the City prior to any work commencing.

34. Driving down the street all you will see is a massive building, the perspective does not seem accurate.

35. Is there any consideration surrounding existing and aging infrastructure? What will happen if anything breaks?

    - GS: As stated before, we will do everything possible to prevent any adverse effect on the existing infrastructure.

36. Is there any consideration for a pitched roof?

    - MM: We believe that a flat roof is more in character with many of the homes in the neighborhood.

37. What will the noise be like from the HVAC system?

    - ED: As shown on the plan, the rooftop units are located as close as possible to the center of the roof to reduce any impact on the neighbors.

    - GS: The City has an ordinance that states that the decibel level of HVAC units cannot exceed a certain level at the property line. This is a rule that must be followed to obtain a building permit.

38. Could you reduce the deck / balcony size?

    - MM: As stated earlier, we believe that the decks and balconies add important shadow lines and fenestration.

39. Can you lighten the color of the building to be more congruent with the neighbors?

    - MM: We can look at alternatives.

40. How many units are there in the new project compared to the existing building?

    - GS: The building that faces the Prom will have a total of 11 units with 14 enclosed parking spaces. The building located on Turner Street will have a total of three units. The project will have a total of 14 units. At present there are 12 units in the building facing the Prom.

41. How many people are parking there now? Where will they park after the project?

    - HK: Some people in both 246 Eastern Prom and 119 Morning Street rent parking on a month-to-month basis. At this time, we have about half of the 40 spaces in the existing parking lot leased.

TERRADYN CONSULTANTS, LLC

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July 28, 2023

RESPONSE TO REVIEW COMMENTS

PL-002490-2023 | 246 Eastern Promenade
Portland, Maine 0410
Project #22-144

Sean King, PLA Urban Designer
389 Congress Street, 4th Floor
Portland, ME 04101

Dear Sean:

We have received and reviewed staff comments on the proposed redevelopment of 246 Eastern Promenade (City of Portland Project #PL-002490-2023), dated June 6, 2023 and updated on June 14, 2023. The project design team has prepared the following responses to the comments. For clarity, each comment is repeated below, followed by our response in **bold text**.

INCLUSIONARY ZONING CONDITIONAL USE

- The applicant shall indicate how the development will provide requirements for workforce housing under Land Use Code 18.2.3.

  Applicant Response: The applicant intends to pay a fee-in-lieu of providing workforce units within the development in accordance with Section 18.2.3.C.6.

SITE REVIEW

- The applicant shall submit ability to serve for all respective utility services under 14.6.3.C.1.

  Applicant Response: Request for confirmation of ability to serve has been sent to the Portland Water District and the Department of Public Works (DPW). Final confirmation will be provided when received.

- Applicant shall provide boundary of excavation, replacement of grades, brick sidewalk and seeded loam for new sewer and storm drainage connection at Eastern Promenade. In addition, utility trenching and installation of utilities shall not significantly impact existing mature trees and root systems at the Eastern Promenade.

  Applicant Response: The drawings have been updated to include the information described in this comment.

- The applicant shall address the existing utility easement 1694/437 for the existing utility pole and overhead utility wire that currently spans across the property. The applicant shall provide acceptance of proposed removal from Cumberland County Power and Light Company and its successors.

  Applicant Response: Shinberg Consulting met with Central Maine Power ("CMP") in April and again in early July to review the design for providing power to the transformer that will provide power to the 2 buildings. The current overhead lines that serve the existing 12-unit building will be removed and new underground conduit and utilities will get installed.

- The applicant shall address the existing access easement 25665/101 to maintain or replace the existing overhead utility wire for the abutting property at 236 Eastern Promenade.

  Applicant Response: At the meetings with CMP, we discussed how to remove the overhead lines that feed the existing buildings located at 236 Eastern Promenade and replace them with underground conduit and utilities from an existing pole on the southeast side of Turner Street at the corner of Morning Street. We are working with the Owners of the Condominiums to relocate the utilities. ECK Realty, LLC will pay for the cost of the improvements.

- The applicant shall indicate snow storage areas on site plans under 14.6.4.C.

  Applicant Response: Snow storage areas have been added to the Site Plan (Sheet C-4.0). The site features limited areas to store snow. When the capacity of the storage areas is exceeded, snow will be removed from the site.

- The applicant shall submit preliminary condominium documents for buildings, shared spaces, parking and all site operations.

  Applicant: We have commenced the draft of the condominium documents. It is reasonable to anticipate that there may be feedback at the workshop that will provide guidance to complete the Preliminary Condominium Documents.

- The applicant shall indicate EV charger symbols for each parking space required and/or proposed in addition to on-site plans under Technical Manual 1.14.

  Applicant Response: The project includes 27 total parking spaces. Section 1.14 of the Technical Manual requires 5 of the spaces to have Level 2 chargers and an additional 13 spaces to be made EV-ready with conduit and sufficient electrical supply. The applicant proposes to provide Level 2 EV chargers for 16 parking spaces using dual-head chargers located between spaces. EV charger symbols have been added to the Site and Utility Plans.

- The applicant shall indicate any existing parking lease agreements that would impact the proposed development program.

  Applicant Response: There are no parking leases at the existing parking lot.

- The applicant has provided a Construction Management Plan and narrative, staff finds the following:

  - Construction management plan shall utilize the existing conditions plan to include site management, erosion control, construction staging areas, parking during construction, dewatering and other special measures. See attached template

    Applicant Response: The Construction Management Plan (Sheet C-3.1) has been updated with the requested information.

  - All temporary crosswalks require ADA compliance and cannot utilize the existing abutting property driveway, staff recommends the temporary crosswalk relocate to the corner of Turner Street and to observe street occupancy permit requirements.

    Applicant Response: The Construction Management Plan (Sheet C-3.1) has been updated. Sidewalk closure signs and temporary crosswalks have been updated accordingly.

  - Proposed grading and maintenance easement must be acceptable in writing from abutting properties. Construction activity shall not occur on abutting properties without prior authorization.

    Applicant Response: The Tree Installation and Maintenance Agreement is complete between ECK Realty LLC and Eastern Promenade Limited Liability Company, and a DRAFT Tree Installation and Maintenance Agreement has been presented to the Owners of Promenade Place Condominium Association. The details of this agreement are under discussion now. Copies of the agreements are attached for review.

    No construction activity will occur on abutting properties without prior authorization.

  - Utility construction and sidewalk replacement at Eastern Promenade shall require an appropriate sidewalk closure to reroute pedestrians for any work within City's right of way, staff recommends temporary crosswalks redirect pedestrians to north sidewalk at Eastern Promenade.

    Applicant Response: The Construction Management Plan (Sheet C-3.1) has been updated. Sidewalk closure signs and temporary crosswalks have been updated accordingly.

  - Traffic control plans shall be provided and 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.

    Applicant Response: A note has been added to the Construction Management Plan (Sheet C-3.1) referencing the requirement for an Occupancy Permit.

DESIGN REVIEW

- The Applicant should consider darker (heavier) materials at the base of the 11-unit building and lighter tone materials to terminate the building's upper floor.

  Applicant Response: Please see the revised building elevations with updated material colors to reflect staff comments.

- Staff recommends a front façade composition that segments the building into two parts to further reduce the scale of the building's width. Staff suggests the elimination of the deck overhang and façade projection located in the middle of the front elevation along with stacked balconies that carry to the top floor. In addition, the Applicant shall be aware that stepbacks in the R-6 are only required for building heights above 35 feet to be 10 feet from the side property line and 15 feet from the rear property line. The current stepback distance at the right elevation is approximately 17'-4" and at the left elevation is approximately 21'-4".

  Applicant Response: Please see the revised building elevations with updated front deck composition to reflect staff comments. We have received stepback zoning definition clarification from John Sullivan in zoning to confirm the step is from the building at the ground level, not from the setbacks. Stepbacks remain as originally proposed with added dimensional clarity on elevation sheets.

- The proposed three-unit building with frontage on Turner Street fits within the surrounding context as a two-story height structure. Staff finds the building recession at the front elevation for bicycle storage does not contribute to a balanced front elevation, the Applicant should consider an alternative storage location to provide a more balanced front elevation composition.

  Applicant Response: Please see the revised Turner Street building elevation with updated corner infill to reflect staff comments.

- Staff recommends the applicant consider a shared entry and stairway for the three-unit building facing Turner Street to allow for direct access to the public street for each dwelling unit that is consistent with the surrounding neighborhood context.

  Applicant Response: The Turner Street building entry remains with a pedestrian entry consistent with the Design Review Standards and the neighborhood; minor revisions to this area to further enhance the entry have been implemented (see elevations). Internal circulation within requires a rear access point for the upper units, being consistent with the associated covered rear parking with each unit.

ZONING

- The applicant needs to provide the average grade for both buildings. They need to provide the finished grade at the major corners of each building and then add the average grade line to the elevations for each building.

Applicant Response: The average grade for the two proposed buildings are as follows:

246 Easter Promenade: 99.58'
15Turner Street: 105.56'

Spot grades are provided at each building corner on the Detailed Grading Plan (Sheet C-5.1)

TRAFFIC CONSULTANT

- The applicant shall provide information in support of a waiver for parking lot aisle width proposed for the 11-unit building. This shall include vehicle turning templates for all parking spaces.

  Applicant Response: A waiver request has been uploaded to the E-Plan document section. Parking Turning Analysis plans have been added to the plan set.

- The applicant shall provide information on how the tandem parking spaces will be managed.

  Applicant Response: The 4 of the tandem parking spaces will be sold to Units 200 and 300 in the stand-alone 3-unit building located at 15 Turner Street. 4 of the tandem parking spaces will be leased to 2 separate apartments located nearby at 119 Morning Street. This property is owned by ECK Realty, LLC.

- The applicant should provide information that the elimination of existing parking spaces is not associated with an existing site plan approval.

  Applicant Response: The existing parking lot is not associated with an existing site plan approval.

DEPARTMENT OF PUBLIC WORKS – ENGINEERING & TRANSPORTATION

- The City's Technical Manual has been recently updated and approved. After reviewing the proposed details for this project it is clear that you are using the outdated details. The applicant shall update all proposed details (Site, Sewer, Stormwater, Landscape, …. details) to meet the requirements of the recently approved technical manual update. CAD files can be obtained upon request.

  Applicant Response: Applicable details have been updated to reflect the latest version of the Technical Manual.

- The applicant shall label all improvements in the ROW. Improvements and existing conditions in the ROW shall be dimensions on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths as well as when a width changes.

  Applicant Response: Additional dimensions have been added to existing conditions and improvements within the right-of-way.

- The applicant shall update the plans to label and or provide spot grades and slopes for the proposed sidewalks and driveway improvements at grade breaks.

  Applicant Response: Additional spot grades and notes have been added to the proposed sidewalk and driveway apron. See Sheet C-5.1.

- The proposed brick sidewalk cross slope shall not exceed 2% at the property line. If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope.

  Applicant Response: Additional spot grades and notes have been added to the Detailed Grading Plan (Sheet C-5.1) to ensure the Turner Street sidewalk is constructed in accordance with this comment.

- The plans need to show and label existing and proposed curb. Is the applicant planning to reset the existing granite curb? If the existing Granite Curb will be reset the applicant shall insure that the existing granite is free of any defects such as but not limited to chipping and cracking. Be aware that Public Works may require the use of new granite curb upon inspection of the existing granite curb prior to installation / during construction.

  Applicant Response: The project will include resetting existing curb and installing new curb within public rights-of-way. These locations have been noted clearly on the Site Plan (C-4.0). A note regarding the condition of the existing curb has been added to the Existing Conditions & Demolition Plan (Sheet C-3.0).

- On the site plan note the location of the curb that will be removed and reset or new curb installed per the current City standards.

  Applicant Response: The project will include resetting existing curb and installing new curb within public rights-of-way. These locations have been noted clearly on the Site Plan (C-4.0).

- It is the City's standard to have the sidewalk material continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope. The applicant shall depict the proposed sidewalk and driveway on the plans to meet the current City standards. The sidewalk and driveway shall be constructed in accordance with the City's Sidewalk and Driveway Apron Material Policy and the granite curb installed per the current City standards. The applicant shall update the plans and provide spot grades and slopes for the proposed sidewalk. The sidewalk material shall be continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope per the current City standards.

  Applicant Response: The most recent driveway apron detail from the City of Portland Technical Manual has been added to the drawings (Sheet C-8.0). Spot grades have also been added to the Detailed Grading Plan (Sheet C-5.1) to ensure proper cross slope of the pedestrian route.

- All pavement cuts in the City ROW shall be repaired per the Minor Excavation Pavement Repair Details (prior to paving the finished surface) found in the Rules and Regulations for Excavation Activity.

  Applicant Response: Details for pavement repairs within the city right-of-way are located on Detail Sheet C-8.0.

- The applicant is required to get an excavation permit and coordinate with the Department of Public Works prior to any work within the street Right of Way.

  Applicant Response: A note regarding the requirement for an excavation permit is located on General Notes Sheet C-1.1.

- If during the proposed renovations the applicant's contractor requires occupying the City's right of way for placing a dumpster, staging, additional parking spaces and or parking / using vehicles for construction purposes (for example), then the applicant will be required to apply for a Street Occupancy Permit or a Sidewalk Occupancy Permit. Also, be aware that a traffic control plan is required with the submission of an occupancy permit impacting pedestrian routing and or the normal movement of vehicles.

  Applicant Response: A note regarding the need for a Street and/or Sidewalk Occupancy Permit has been added to the Construction Management Plan (Sheet C-3.1).

- The applicant shall reconstruct the existing driveway aprons to be compliant per the City's Technical Manual Section 1, Figure I-9C and the City's Sidewalk and Driveway Apron Material Policy.

  Applicant Response: We believe that the plans reflect the most recent driveway apron and sidewalk details and material policies of the City of Portland.

DEPARTMENT OF PUBLIC WORKS – WATER RESOURCES

- The applicant shall submit a wastewater capacity application to DPW water resources for review and approval.

  Applicant Response: A wastewater capacity application was submitted to Brad Roland at the Department of Public Works, Water Resources Department via email on May 8, 2023.

- Flows from the grassed swale running along the northerly and westerly edge of the property should be conveyed into the site's proposed storm drain network to prevent concentrated flows from discharging across eastern promenade esplanade. The concern would be nuisance erosion occurring on City park land downstream of the proposed development site.

  Applicant Response: A field inlet has been added at the eastern terminus of the proposed swale to collect runoff prior to discharging it onto the esplanade.

- The applicant shall add City standard details from the most current version of section # 2 of the Tech Manual for private sewer lateral connections into public sewers.

  Applicant Response: The most recent detail for a private sewer lateral connection has been added to Detail Sheet C-8.1.

- It is requested that the applicant add a note to the plans pertaining to existing catch basin structures impacted by the proposed storm drain work in Turner street: "The Contractor and City of Portland DPW to assess the condition of existing catch basin structures in the field to determine if reuse is acceptable."

  Applicant Response. The requested note regarding the condition of existing catch basins has been added to the Grading & Drainage Plan (Sheet C-5.0).

- DPW does not have a hydraulic model of the existing City storm drain system in this project area to fully understand the impacts of the increased stormwater runoff flows this project is proposing to add into the system. The applicant should provide stormwater management in order for the project to meet the flooding standard to ensure the flow increases don't cause or contribute to existing capacity issues in the system.

  Applicant Response: More information on how the project will meet the flooding standard will be provided in a subsequent submission.

- DPW is requesting that SD-5 and SD-6 be upsized to 18" storm drains.

  Applicant Response: The requested changes to the storm drain network have been made on the Grading & Drainage Plan (Sheet C-5.0).

- DPW is requesting that the applicant upsize the existing 12" storm drain pipe connecting DMH-5 to the existing City CB on the northerly side of Turner to a 18" storm drain. City records indicate the outlet pipe from the City catch basin on the northerly side of Turner Street is an 18" PVC pipe.

  Applicant Response: The requested change has been made to the Grading & Drainage Plan (Sheet C-5.0).

- The existing City storm drain outlet pipe at DMH-7 is a 10" ID pipe according to City mapping records. SD-8 shall be downsized such that it isn't larger than the outlet pipe.

  Applicant Response: Proposed storm drain pipe SD-8 has been downsized to 6" diameter. This change is shown on the Grading & Drainage Plan (Sheet C-5.0).

STORMWATER

- The project is required to provide for stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. The project is a redevelopment project and is reducing the amount of non-roof impervious surface.

- The Applicant has calculated a slight increase in stormwater runoff amounts. It should be confirmed that there is not concern with downstream stormwater system capacities. The project also includes installation of new stormwater infrastructure in the ROW, and this should be coordinated with the Department of Public Works.

  Applicant Response: More information on how the project will meet the flooding standard will be provided in a subsequent submission.

- The project is proposing to direct stormwater along the western edge of the site onto the adjacent property. A grading easement has been identified along the western edge of the property. The Applicant should confirm with the neighboring property that there are no concerns with the proposed grading. The amount of flow is anticipated to be very small, but will be within a defined swale that did not exist based on existing conditions grades. Further evaluation and coordination with the neighboring property is required.

  Applicant Response: The grading on the western and northern property boundaries has been revised. No new grading is proposed on abutting properties, and runoff in the proposed grass swale is now designed to be collected on the project site in a field inlet and piped into the site's storm drain system.

- The demolition and site plans should reflect the pavement impact in the Eastern Promenade due to the proposed stormwater infrastructure installation and the water service retiring.

  Applicant Response: The drawings have been updated to reflect the proposed impacts within the Eastern Promenade right-of-way.

- The grading plan shows grades within the parking area. The collection of runoff in this area should be clarified – drainage from within covered parking areas must be sent through an oil water separator and to the sanitary sewer separate from site stormwater and sewer.

  Applicant Response: A new catch basin and oil/grit separator has been added within the garage to collect water and direct it to the internal building sewer. See Sheets C-5.0 and C-5.1.

- The grading plan shows grades that encroach into abutting properties, the Applicant is required to document any drainage easement with abutting property owners. The Applicant shall handle stormwater drainage on site to not require drainage problems onto the City right of way or adjacent lots under 14.6.2.D.1.b.

  Applicant Response: Grading and maintenance easements shown on the drawings have been agreed upon with abutting land owners. Final executed easements will be provided to the city planning department when complete.

  The project will not cause drainage or erosion problems within the city right-of-way or on adjacent lots. The only stormwater runoff from the site onto an adjacent lot is at the eastern property line adjacent to Eastern Place Condominium. A large portion

of the existing parking lot drains across this property line today. In the proposed condition, the area tributary to the Easter Place Condominium parcel is greatly reduced. The existing slope located on this property line will be regraded and stabilization will be improved with plantings shown on the Planting Plan (Sheet L 1-00).

LANDSCAPING & ENVIRONMENTAL QUALITY

- General comment - ensure any additional planting / street tree requirements for the number of housing units meet waiver standards in section 4.6 of city technical manual. Provide information on any tree fund donations that will occur for unit requirements that are unable to be met with new plantings proposed.

  Applicant Response: The project includes 14 residential units. Section 4.6 of the Technical Manual requires that one street tree be provided within the city right-of-way for each unit of multi-family housing. Planting street trees within adjacent city rights-of-way is not feasible given site constraints. The sidewalk on Turner Street is only 6.5' wide, which is not wide enough for street trees, and the Eastern Promenade vegetated esplanade already features trees that the applicant is not proposing to alter.

  The applicant proposes to provide alternatives to street trees in accordance with Section 4.6.4 of the Technical Manual as follows:

  - **3 existing healthy trees are located within the Eastern Promenade right-of-way along the site frontage. Tree protection notes for these trees have been added to the project drawings.**

  - **6 new trees will be planted within 20' of the public right-of-way. The trees are shown on the Landscape Plan (Sheet L 1-00).**

  - **The applicant proposes to contribute $2,000 to the City of Portland Tree Fund for the 5 remaining street trees required under this section ($400 per tree).**

- C-3.1 CMP V1 - Please show tree protection, limits of work, laydown and delivery storage locations on CMP. Any removal of significant trees that are unable to be replaced and require waiver request / approval shall be done under guidance of 4.3.8 for replacement tree cost contributions.

  Applicant Response: The information on tree protection, limits of work, laydown and delivery storage locations has been added to the Construction Management Plan (Sheet C-3.1). Ten trees on the site and one tree in the Turner Street right-of-way will be removed for construction. It is believed that no feature mature trees are located on the site, and no existing trees on the site will be protected. The proposed landscaping plan includes replacement trees for the ten trees that will be removed.

- C-3.1 CMP V1 - Include notes or other means of referencing tree and site protection standards that meet sections 4.2 and 4.3 of Chapter 4 in the city technical manual. These standards are for preservation of existing vegetation and significant site features.

Applicant Response: Applicable notes have been added to the Construction Management Plan (Sheet C-3.1).

- C-5.1 Detailed Grading plan - show TOW elevation at eastern walkway edge along east side of building and for retaining wall along Eastern Promenade sidewalk area.

  Applicant Response: Information on retaining wall heights and step locations will be provided in a subsequent submission.

- C - 5.1 Detailed Grading plan - label all existing walkways, streets, and significant on site or adjacent structures

  Applicant Response: The information referenced has been added to the Detailed Grading Plan (Sheet C-5.1).

- L 1-00 Planting Plan - Provide labels and quantities for specific tree species proposed.

  Applicant Response: The Landscape Plan has been updated to indicate proposed quantities and species.

- L 1-00 Planting Plan - shed is referenced in plan notes as being relocated. Update note to reference specific plan within larger plan submittal set and/ or show actual relocation of shed.

  Applicant Response: The plan note has been updated/removed as the specific construction and maintenance access easement agreement between the applicant and adjacent property owner will spell out specific measures for replacing and/or relocating existing conditions and structures where not specifically indicated on plan, such as the shed.

- L 1-00 Planting Plan - NF is shown along turner street under new street tree plantings. Is this meant to be NE - walkers low catmint? Please clarify.

  Applicant Response: The Landscape Plan has been updated, removing Nepeta and replacing it with more suitable species. All plan notes and schedule have been updated.

- L100 Planting Plan - ensure plantings along accessible walkways are species with compact or non ranging growth habit that do not encroach into these areas. Concern with Rhus aromatica adjacent to such spaces. The species is a fine selection for massing or naturalizations, but should be planted with generous clearance from pedestrian pathways.

  Applicant Response: The Landscape Plan has been updated accordingly.

- L100 Planting Plan - Clarify shrub species at western surface parking spaces adjacent to transformer planting bed and on the west side of entrance driveway. Recommend cornus sericea species not be in areas that will obstruct site lines for vehicular drivers or in circumstances where pedestrians might be screened from vehicular traffic view. Any woody stemmed plants in areas that impact vehicular sight lines for drivers parking or

entering/exiting sites should be species with mature growth dimensions that will not create visibility concerns.

Applicant Response: The project team has analyzed sight lines with proposed planting and feels comfortable with the updated plan and species selections.

- L100 Planting Plan - Indicate height of retaining walls proposed and ensure plantings along walls and abutting boundaries comply with 4.5.7 and 4.5.2 of the site buffer requirements in chapter 4 of the technical manual.

  Applicant Response: Confirmed. Additional planting has been included and species adjusted to create additional and enhanced buffering conditions, particularly along the southern and eastern frontages.

We look forward to meeting with the Planning Board for a workshop on this project on August 15th. In the interim, please contact me with additional questions or comments.

Sincerely,
TERRADYN CONSULTANTS, LLC

Michael Tadema-Wielandt, P.E.
Vice President

Attachments:
Easement Agreements

cc. Harry Krigman
Mark Muller Architects
Nick Aceto
Greg Shinberg

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT is made this ____ day of July, 2023 by and between PROMENADE PLACE CONDOMINIUM ASSOCIATION, a Maine nonprofit corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantor"), and ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantee").

For valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in consideration of the mutual promises and covenants set forth herein, the parties agree as follows:

1. GRANT OF EASEMENT:

Grantor, acting as the condominium association for Promenade Place Condominium, a condominium declared under the Declaration noted below, pursuant to the provisions of the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes (the "Act"), and specifically Section 1603-102(9) of the Act, for consideration paid, grants to Grantee, to be appurtenant to the land of the Grantee described in the Quitclaim Deed of Perlin Realty LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117, (the "Ellie & Chaya Property"), the following perpetual rights and easements over, under and upon a portion of the land described in the Declaration of Condominium of Promenade Place Condominium dated August 13, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31710, Page 234, such portion being more particularly described in Schedule A annexed hereto and incorporated herein by reference (the "Easement Area"):

The perpetual right and easement over, under and upon the Easement Area to construct, maintain, repair and replace a retaining wall (or similar structure, including but not limited to a boundary wall, or fence) (the "Improvements") in accordance with City of Portland land use approval requirements, along the boundary line between the Ellie & Chaya Property and the land described in the Declaration (the "Condominium Property"), including the right to enter upon the Easement Area with workers and heavy equipment for all of the purposes stated above. The foregoing rights and easements shall be appurtenant to the Ellie & Chaya Property and shall burden the Easement Area. Grantor reserves the use and enjoyment of the Easement Area for any purpose that does not unreasonably interfere with Grantee's rights under this Easement Deed.

Notwithstanding anything to the contrary, Grantee shall not interfere with Grantor's use and enjoyment of and access to the paved drive off Turner Street and the parking areas shown on the plan titled "Promenade Place Condominium Plan" prepared by Northeast Civil Solutions dated 07-02-2104 and recorded on August 12, 2014 in Cumberland County Registry of Deeds in Plan Book 214, Page 270. Grantor's use and enjoyment of the paved drive off Turner Street and parking areas shall specifically include but not be limited to vehicular ingress and egress over

such paved drive to access the parking areas by Grantor and residents and guests of the Promenade Place Condominium. The grant of this Easement shall not be construed to reduce the easement rights granted to Grantor pursuant to that certain Easement Deed dated October 22, 2007 and recorded in Deed Book 25665, Page 103 of the Cumberland County Registry of Deeds (the "Access Easement"). The Access Easement and rights granted to Grantor thereunder shall continue in full force and effect.

2. OBLIGATIONS OF GRANTEE:

Prior to or upon execution of this Easement Deed, Grantee shall pay Grantor the sum of three thousand dollars ($3,000.00) to cover legal costs incurred by Grantor in connection with this Easement.

Grantee shall not install the Improvements without first obtaining the written approval from Grantor of the design, size, and appearance of the Improvements, which shall not be unreasonably withheld, conditioned, or delayed. Grantor may reasonably request engineering reports from Grantee confirming the structural soundness and safety of the proposed design of the Improvements prior to granting its approval.

Grantor shall perform vibration monitoring on Grantor's two condominium buildings during heavy construction on the Ellie & Chaya Property or the Easement Area. This shall include Grantee's performance of a written pre-construction vibration assessment on the condominium buildings' structure, and delivering a copy of the same to Grantor, prior to Grantee commencing construction on the Ellie & Chaya Property or performing any work on the Improvements and/or in the Easement Area. Prior to the commencement of any construction of the Improvements, the Easement Area or Ellie & Chaya Property and until the Improvements and all construction on the Ellie & Chaya Property is fully complete, Grantee shall install and maintain on Grantor's condominium buildings a seismograph of a type commonly used in the construction industry for purposes of measuring construction vibrations on buildings. The seismograph shall be installed and monitored by a contractor knowledgeable in construction vibration monitoring and the vibration data stored. The vibration monitoring data shall be made available to the Grantor upon request.

Grantee, at its sole cost and expense, shall (i) install the Improvements; (ii) keep and maintain the Improvements in good order, condition and appearance; and (iii) promptly repair any damage caused by Grantee to the Easement Area, the Improvements or any other part of the Condominium Property.

All work performed by Grantee hereunder: (i) shall be performed in good and workmanlike manner by skilled contractors insured as required herein and in accordance with sound engineering principles and practices; (ii) conducted between the hours of 8:00 AM and 6:00 PM on weekdays, unless otherwise agreed to by Grantor in advance, (iii) for maintenance or repair work, completed to equal or better than existing standards, and (iv) upon commencement, be pursued to completion as diligently and expeditiously as reasonably possible. Grantee shall be solely responsible for obtaining any and all necessary permits and other approvals that may be

required by any federal, State or local authorities for use of the Easement Area by Grantee as set forth above.

Except in an emergency situation in which immediate work is necessary to prevent harm to person or property, Grantee shall provide Grantor with at least 3 days' notice whenever it intends to have contractors access the Easement Area for purposes of performing any work within the Easement Area. Grantee shall also provide Grantor with at least seven (7) days' notice prior to the commencement of any pile driving or other noisy heavy construction. Notification hereunder may be done by telephone or email to such person as may be designated by Grantor.

To the fullest extent permitted by law, Grantee shall defend, indemnify and hold harmless Grantor, including Grantor's directors, officers, members, property managers, employees and agents (the "Grantor Indemnified Parties"), from and against any and all claims, damages, losses and expenses, including but not limited to attorney's fees and costs, arising out of, relating to or resulting from: (1) the Improvements; or (2) the use of the Easement Area and/or the work performed hereunder, or anyone directly or indirectly employed by Grantee, contracted by Grantee or anyone for whose acts Grantee may be liable. Notwithstanding the foregoing, Grantee's obligation to indemnify hereunder does not extend to any claims, damages, losses and expenses caused by the gross negligence, or willful misconduct, of Grantor.

Grantee's use of the Easement Area is at Grantee's sole risk. In no event shall Grantor or any Grantor Indemnified Party be responsible for any injury of Grantee's employees, contractors, or agents, and Grantee waives the right to any claims against the Grantor related to on-the-job injuries. Grantee agrees to indemnify and hold harmless Grantor from all claims, losses or attorney's fees due to property damage caused by the negligence or intentional misconduct of Grantee's employees, contractors, or agents.

Grantee and any contractors of Grantee performing work within the Easement Area or on any other Condominium Property (a) shall be insured up to at least $2,000,000 ($1,000,000 per occurrence) of liability insurance, covering claims for bodily injury, occupational sickness, death, and motor vehicle liability, as well as, for Grantee, contractual indemnity coverage sufficient to cover Grantee's indemnity obligations hereunder; and (b) shall provide Workers Compensation as required by Maine law, including disability benefit or similar employee benefit acts which are applicable to the work for all persons employed by Grantee or any of its contractors. Grantee shall add and maintain Grantor, Grantor's property management company, Directors, Officers, and agents as additional named insureds on all liability policies carried by Grantee. Before Grantee or any of its contractors commences any work hereunder, and upon request by Grantor at any time, Grantee shall provide Grantor with Certificates of Insurance and proof of Grantor's additional insured status demonstrating that Grantee and its contractors carry insurance meeting these requirements.

If Grantee fails to maintain the Improvements as specified in this Agreement, or damages the Easement Area or any other part of the Condominium Property and fails to repair it within a 7 day period, and if the Grantee does not cure such failure within thirty (30) days after written notice from Grantor, then Grantor may perform any maintenance it reasonably deems required

and shall bill the Grantee the cost of said maintenance. If the Grantee shall fail to pay such costs within thirty (30) days of receipt of said bill for costs, then such amounts shall bear interest at the rate of ten percent (10%) per annum and Grantor shall have all of the remedies available to the Grantor pursuant to applicable law, and in addition shall have the right to collect Grantor's attorneys' fees if Grantor prevails in any lawsuit for collection of such sums.

Once the Improvements are constructed in the Easement Area, Grantee, its successors and assigns, will not place or store construction equipment or materials within the Easement Area.

3. ASSUMPTION BY CONDOMINIUM ASSOCIATION:

Prior to selling the first dwelling unit in the Ellie & Chaya Property, Grantee shall form a condominium association (the "Condominium Association") in connection with the Ellie & Chaya Property in which all dwelling unit owners in the Ellie & Chaya Property shall become members and which will succeed to Grantee's rights and obligations under this Agreement and shall be bound thereby.

Grantee shall cause the Condominium Association to assume and be bound by this Agreement pursuant to a recorded instrument, but such actions shall not release Grantee from its obligations hereunder. Upon assumption of this Agreement by the Condominium Association as provided in the preceding sentence, and provided Grantee has complied with its obligations under this Agreement and upon the turn over of control of the Condominium Association from Grantee, the Grantor shall look solely to the Condominium Association for performance of the obligations of Grantee.

4. GENERAL:

The invalidity of any clause, part or provision of this agreement shall not affect the validity of the remaining portions thereof.

This Agreement is created pursuant to, and shall be construed in accordance with and governed by the laws of the State of Maine.

Notices shall be in writing and shall be deemed to have been duly delivered the next day after mailing if sent by certified mail or by recognized overnight courier, addressed to the recipient at its last known address and, if applicable to the registered agent for such party on file with the Maine Secretary of State.

This Agreement shall run with the land and shall both benefit and burden the Ellie & Chaya Property and the Condominium Property. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns. This Agreement may not be modified except in a written instrument executed by both parties and recorded in the Cumberland County Registry of Deeds.

IN WITNESS WHEREOF, PROMENADE PLACE CONDOMINIUM ASSOCIATION ("Grantor") and ELLIE & CHAYA, INC ("Grantee") have caused this instrument to be executed and acknowledged by their duly-authorized representatives, on this ____ day of _____, 2023.

PROMENADE PLACE
CONDOMINIUM ASSOCIATION

_____ By:_____
Witness Mike Hutchinson
Its President

[Acknowledgement Located on Following Page]

STATE OF MAINE
Cumberland, ss.

_____ ___, 2023

Personally, appeared the above-named Mike Hutchinson, President of Promenade Place Condominium Association, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

ELLIE & CHAYA, LLC

_____
Witness

By:_____

_____

Its: _____

[Acknowledgement Located on Following Page]

STATE OF MAINE _____ ___, 2023
Cumberland, ss.

Personally, appeared the above-named _____, _____ of _____, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

_____
Notary Public/Attorney-at-Law

SCHEDULE A

The legal description of the Easement Area is as follows:

Beginning at a point at the westerly sideline of the Eastern Promenade at the point where the Ellie & Chaya Property and the land described in the Declaration meet.

THENCE, S 42° 37’ 32” W a distance of 115.32 feet to a capped iron rod.

THENCE S 49° 57’ 19” E a distance of 114.28 feet to an iron rod found in the northerly sideline of Turner Street.

THENCE easterly along the northerly sideline of Turner Street a distance of 5.0 feet to a point.

THENCE N 49° 57’ 19” W a distance of 109.28 feet, more or less, to a point.

THENCE N 42° 37’ 32” E a distance of 110.32 feet, more or less, to the westerly sideline of the Eastern Promenade.

THENCE N 66° 49; 28’ W along the westerly sideline of the Eastern Promenade a distance of 5.0 feet, more or less, to the point of beginning.

TREE INSTALLATION AND MAINTENANCE AGREEMENT

THIS TREE INSTALLATION AND MAINTENANCE AGREEMENT (the "Agreement") is made and entered into on this 16th day of June, 2023 by and between ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine ("ECI") and EASTERN PROMENADE LIMITED LIABILITY COMPANY, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine ("Eastern").

Recitals:

A. ECI is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of Turner Street and Morning Street described in (i) the Quitclaim Deed of Esther Albert Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 115 and (ii) the Quitclaim Deed of Perlin Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (as described in such deeds collectively, the "ECI Property");

B. The parcels of land comprising the ECI Property are contiguous to one another and constitute a single parcel for purposes of this Agreement;

C. Eastern is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of the Eastern Promenade, Québec Street, Emerson Street and Turner Street described in the Warranty Deed to Eastern dated March 10, 1998 and recorded in the Cumberland County Registry of Deeds in Book 13664, Page 80 (as described in such deed, the "Eastern Property");

D. The Eastern Property is bounded on the northwest and southwest by the ECI Property as depicted on the Plan entitled "Boundary & Topographical Survey at 246 Eastern Promenade, Portland, Maine" made for Shinberg Consulting, LLC dated March 31, 2022 and recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan"), a reduced copy of which is annexed here to as Exhibit A;

E. In connection with ECI's intention to develop and construct a condominium on the ECI Property in accordance with City of Portland land-use requirements for the project, ECI has requested that Eastern grant it an easement to be appurtenant to the ECI Property and to encumber Eastern Property to allow ECI, its successors and assigns, to install evergreen trees on the northwesterly line of the Eastern Property and ornamental and maples trees on the southwesterly line of the Eastern Property, all in accordance with the depiction of such trees on the Plan;

F. Eastern is willing to grant the easement to ECI referred to in Recital E on the following conditions: (i) ECI, its successors and assigns, shall install and maintain the trees depicted on the Plan at its sole cost and expense and in a good and healthy state at all times, (ii) ECI shall grant Eastern an easement to be appurtenant to the Eastern Property and to encumber ECI Property to allow Eastern, its successors and assigns, to enter upon the ECI Property to maintain the trees in a good and healthy state at all times in the event that ECI fails to do so, and (iii) ECI shall grant Eastern an easement over, under and upon a strip of land five (5) feet in width on and within that portion of the ECI Property that is immediately contiguous to the Eastern Property, for the length of the common boundary (all such land, the "Five-Foot Strip"), such easement to be for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or any of condominium units declared or to be declared on the ECI Property;

G. ECI is willing to accept the conditions required by Eastern set forth in Recital F for the reciprocal easement rights;

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which the parties do hereby acknowledge, ECI and Eastern agree as follows:

1. Accuracy of Recitals. Recitals A through G, inclusive, of this Agreement are true and accurate in all respects.

2. Grant of Easement by Eastern to ECI.

(a) Eastern hereby grants ECI the perpetual right and easement, to be appurtenant to the ECI Property and to encumber the Eastern Property, to allow ECI to install, maintain, prune and replace at its sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A. ECI shall install and maintain the trees depicted on the Plan and in a good and healthy state at all times.

(b) To exercise its rights under the granted herein, ECI shall provide Eastern with ten (10) days prior written notice of its intention to enter onto the Eastern Property to install, maintain, prune or replace the trees depicted on the Plan. ECI shall make use of only that portion of the Eastern Property that is reasonably necessary for ECI to exercise its rights under the easement granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to Eastern and its tenants to the maximum extent possible. After exercising its rights under this easement, ECI shall immediately restore the

condition of the Eastern Property to the condition it was in before such exercise of the easement rights granted hereby.

(d) ECI shall defend and indemnify Eastern, its members, successors and assigns, of and from any and claims, demands, actions or losses asserted against Eastern by any third party arising out of the exercise by ECI of the easement rights granted hereby, or arising out of the alleged negligence of Eastern relating to the trees and land under them depicted on the Plan.

(e) In advance of ECI entering on the land of Eastern to exercise the easement rights granted hereby, ECI shall provide Eastern with an insurance certificate naming Eastern as additional insured and providing Eastern with commercially reasonable property and liability insurance coverage against property damage and liability for any losses or damages arising from ECI's exercise of the easement rights.

3. Grant of Easements by ECI to Eastern.

(a) ECI hereby grants Eastern the following perpetual rights and easements, to be appurtenant to the Eastern Property and to encumber the ECI Property:

(i) The perpetual right and easement to allow Eastern to install, maintain, prune and replace at ECI's sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times; and

(ii) The perpetual right and easement over, under and upon the Five-Foot Strip, for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or with any condominium units declared or to be declared on the ECI Property.

(b) To exercise its rights under the granted herein, Eastern shall provide ECI with ten (10) days prior written notice of its intention to enter onto the ECI Property to install, maintain, prune or replace the trees depicted on the Plan or for temporary access over, under and upon the Five-Foot Strip in support and during the course of construction or development of the Eastern Property. Eastern shall make use of only that portion of the ECI Property that is reasonably necessary for Eastern to exercise its rights under the easements granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to ECI and condominium unit owners on the ECI Property to the maximum extent possible. After exercising its rights under these easements,

Eastern shall immediately restore the condition of the ECI Property to the condition it was in before such exercise of the easement rights granted hereby, provided, however, that ECI, its successors and assigns, shall be solely responsible for all costs and expenses incurred by Eastern in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times.

4. Covenants Running with the Land.

(a) For the avoidance of doubt, the parties intend that all obligations and undertakings under this Agreement, to the extent that they are not deemed grants of a real property right, are covenants running with the land and shall be just as binding on and just as enforceable by any future owners of the Eastern Property and the ECI Property, as the case may be, as if granted by any such future owner of either property.

IN WITNESS WHEREOF, ELLIE & CHAYA, INC. and EASTERN PROMENADE LIMITED LIABILITY COMPANY have executed, acknowledged and delivered this Agreement by their duly authorized officers as of the date first above written.

[Signatures and Acknowledgements Located on Following Page]

ELLIE & CHAYA, INC.

Witness

By: _____
Harry Krigman
Its President

EASTERN PROMENADE LIMITED LIABILITY COMPANY

Witness

By: _____
Lloyd L. Lathrop, III
Its Sole Member

STATE OF MAINE
Cumberland, ss.

June 20, 2023

Personally appeared the above-named Harry Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Ellie & Chaya, Inc.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028

STATE OF MAINE
Cumberland, ss.

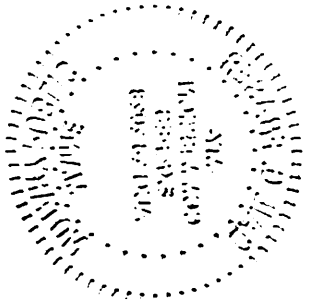
June 16, 2023

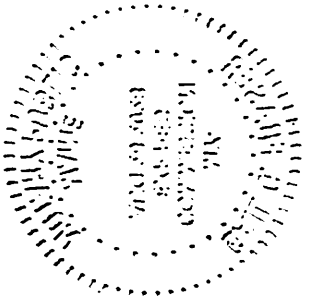
Personally appeared the above-named Lloyd L. Lathrop, III. Sole Member of Eastern Promenade Limited Liability Company, and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Eastern Promenade Limited Liability Company.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028





246
246 EASTERN PROM 8/15/2023
APPLICATION ID: PL-002490-2023
NOTICE OF
PUBLIC MEETING
CITY OF PORTLAND
PLANNING BOARD
Find agenda at: www.portlandmaine.gov/agendas
For more information, call (207) 874-8719

246 EASTERN PROM 8/15/2023
APPLICATION ID PL-002490-2023
NOTICE OF
PUBLIC MEETING
CITY OF PORTLAND
PLANNING BOARD

246

PROJECT ADDRESS: 246 EASTERN PROM. MEETING DATE: 3/26/24
APPLICATION ID: PL-002490-2023

NOTICE OF
PUBLIC MEETING
CITY OF PORTLAND
PLANNING BOARD

Find agenda at: www.portlandmaine.gov/agendas
For more information, call (207) 874-8719

PROJECT ADDRESS: 246 EASTERN PROM
MEETING DATE: 3/26/24
APPLICATION ID: PL-002490-2023

NOTICE OF
PUBLIC MEETING
CITY OF PORTLAND
PLANNING BOARD

Find agenda at: www.portlandmaine.gov/agendas
For more information, call (207) 874-8719

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT is made this 17th day of August, 2023 by and between PROMENADE PLACE CONDOMINIUM ASSOCIATION, a Maine nonprofit corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantor"), and ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine (the "Grantee").

For valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in consideration of the mutual promises and covenants set forth herein, the parties agree as follows:

1. GRANT OF EASEMENT:

Grantor, acting as the condominium association for Promenade Place Condominium, a condominium declared under the Declaration noted below, pursuant to the provisions of the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes (the "Act"), and specifically Section 1603-102(9) of the Act, for consideration paid, grants to Grantee, to be appurtenant to the land of the Grantee described in the Quitclaim Deed of Perlin Realty LLC to Ellie & Chaya, Inc. dated November 12, 2021 and recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117, (the "Ellie & Chaya Property"), the following perpetual rights and easements over, under and upon a portion of the land described in the Declaration of Condominium of Promenade Place Condominium dated August 13, 2014 and recorded in the Cumberland County Registry of Deeds in Book 31710, Page 234, such portion being more particularly described in Schedule A annexed hereto and incorporated herein by reference (the "Easement Area"):

The perpetual right and easement over, under and upon the Easement Area to construct, maintain, repair and replace a retaining wall (or similar structure, including but not limited to a boundary wall, or fence) (the "Improvements") in accordance with City of Portland land use approval requirements, along the boundary line between the Ellie & Chaya Property and the land described in the Declaration (the "Condominium Property"), including the right to enter upon the Easement Area with workers and heavy equipment for all of the purposes stated above. The foregoing rights and easements shall be appurtenant to the Ellie & Chaya Property and shall burden the Easement Area. Grantor reserves the use and enjoyment of the Easement Area for any purpose that does not unreasonably interfere with Grantee's rights under this Easement Agreement.

Notwithstanding anything to the contrary, Grantee shall not interfere with Grantor's use and enjoyment of and access to the paved drive off Turner Street and the parking areas shown on the plan titled "Promenade Place Condominium Plan" prepared by Northeast Civil Solutions dated 07-02-2104 and recorded on August 12, 2014 in Cumberland County Registry of Deeds in Plan Book 214, Page 270. Grantor's use and enjoyment of the paved drive off Turner Street and

parking areas shall specifically include but not be limited to vehicular ingress and egress over such paved drive to access the parking areas by Grantor and residents and guests of the Promenade Place Condominium. The grant of this Easement shall not be construed to reduce the easement rights granted to Grantor pursuant to that certain Easement Deed dated October 22, 2007 and recorded in Deed Book 25665, Page 103 of the Cumberland County Registry of Deeds (the "Access Easement"). The Access Easement and rights granted to Grantor thereunder shall continue in full force and effect.

2. **OBLIGATIONS OF GRANTEE:**

Prior to or upon execution of this Easement Agreement, Grantee shall pay Grantor the sum of three thousand dollars ($3,000.00) to cover legal costs incurred by Grantor in connection with this Easement.

Grantee shall not install the Improvements without first obtaining the written approval from Grantor of the design, size, and appearance of the Improvements, which shall not be unreasonably withheld, conditioned, or delayed. Grantor may reasonably request engineering reports from Grantee confirming the structural soundness and safety of the proposed design of the Improvements prior to granting its approval.

Grantor shall perform vibration monitoring on Grantor's two condominium buildings during heavy construction on the Ellie & Chaya Property or the Easement Area. This shall include Grantee's performance of a written pre-construction vibration assessment on the condominium buildings' structure, and delivering a copy of the same to Grantor, prior to Grantee commencing construction on the Ellie & Chaya Property or performing any work on the Improvements and/or in the Easement Area. Prior to the commencement of any construction of the Improvements, the Easement Area or Ellie & Chaya Property and until the Improvements and all construction on the Ellie & Chaya Property is fully complete, Grantee shall install and maintain on Grantor's condominium buildings a seismograph of a type commonly used in the construction industry for purposes of measuring construction vibrations on buildings. The seismograph shall be installed and monitored by a contractor knowledgeable in construction vibration monitoring and the vibration data stored. The vibration monitoring data shall be made available to the Grantor upon request.

Grantee, at its sole cost and expense, shall (i) install the Improvements; (ii) keep and maintain the Improvements in good order, condition and appearance; and (iii) promptly repair any damage caused by Grantee to the Easement Area, the Improvements or any other part of the Condominium Property.

All work performed by Grantee hereunder: (i) shall be performed in good and workmanlike manner by skilled contractors insured as required herein and in accordance with sound engineering principles and practices; (ii) conducted between the hours of 8:00 AM and 6:00 PM on weekdays, unless otherwise agreed to by Grantor in advance, (iii) for maintenance or repair work, completed to equal or better than existing standards, and (iv) upon commencement, be pursued to completion as diligently and expeditiously as reasonably possible. Grantee shall be solely responsible for obtaining any and all necessary permits and other approvals that may be

required by any federal, State or local authorities for use of the Easement Area by Grantee as set forth above.

Except in an emergency situation in which immediate work is necessary to prevent harm to person or property, Grantee shall provide Grantor with at least 3 days' notice whenever it intends to have contractors access the Easement Area for purposes of performing any work within the Easement Area. Grantee shall also provide Grantor with at least seven (7) days' notice prior to the commencement of any pile driving or other noisy heavy construction. Notification hereunder may be done by telephone or email to such person as may be designated by Grantor.

To the fullest extent permitted by law, Grantee shall defend, indemnify and hold harmless Grantor, including Grantor's directors, officers, members, property managers, employees and agents (the "Grantor Indemnified Parties"), from and against any and all claims, damages, losses and expenses, including but not limited to attorney's fees and costs, arising out of, relating to or resulting from: (1) the Improvements; or (2) the use of the Easement Area and/or the work performed hereunder, or anyone directly or indirectly employed by Grantee, contracted by Grantee or anyone for whose acts Grantee may be liable. Notwithstanding the foregoing, Grantee's obligation to indemnify hereunder does not extend to any claims, damages, losses and expenses caused by the gross negligence, or willful misconduct, of Grantor.

Grantee's use of the Easement Area is at Grantee's sole risk. In no event shall Grantor or any Grantor Indemnified Party be responsible for any injury of Grantee's employees, contractors, or agents, and Grantee waives the right to any claims against the Grantor related to on-the-job injuries. Grantee agrees to indemnify and hold harmless Grantor from all claims, losses or attorney's fees due to property damage caused by the negligence or intentional misconduct of Grantee's employees, contractors, or agents.

Grantee and any contractors of Grantee performing work within the Easement Area or on any other Condominium Property (a) shall be insured up to at least $2,000,000 ($1,000,000 per occurrence) of liability insurance, covering claims for bodily injury, occupational sickness, death, and motor vehicle liability, as well as, for Grantee, contractual indemnity coverage sufficient to cover Grantee's indemnity obligations hereunder; and (b) shall provide Workers Compensation as required by Maine law, including disability benefit or similar employee benefit acts which are applicable to the work for all persons employed by Grantee or any of its contractors. Grantee shall add and maintain Grantor, Grantor's property management company, Directors, Officers, and agents as additional named insureds on all liability policies carried by Grantee. Before Grantee or any of its contractors commences any work hereunder, and upon request by Grantor at any time, Grantee shall provide Grantor with Certificates of Insurance and proof of Grantor's additional insured status demonstrating that Grantee and its contractors carry insurance meeting these requirements.

If Grantee fails to maintain the Improvements as specified in this Agreement, or damages the Easement Area or any other part of the Condominium Property and fails to repair it within a 7 day period, and if the Grantee does not cure such failure within thirty (30) days after written notice from Grantor, then Grantor may perform any maintenance it reasonably deems required

and shall bill the Grantee the cost of said maintenance. If the Grantee shall fail to pay such costs within thirty (30) days of receipt of said bill for costs, then such amounts shall bear interest at the rate of ten percent (10%) per annum and Grantor shall have all of the remedies available to the Grantor pursuant to applicable law, and in addition shall have the right to collect Grantor's attorneys' fees if Grantor prevails in any lawsuit for collection of such sums.

Once the Improvements are constructed in the Easement Area, Grantee, its successors and assigns, will not place or store construction equipment or materials within the Easement Area.

3. ASSUMPTION BY CONDOMINIUM ASSOCIATION:

Prior to selling the first dwelling unit in the Ellie & Chaya Property, Grantee shall form a condominium association (the "Condominium Association") in connection with the Ellie & Chaya Property in which all dwelling unit owners in the Ellie & Chaya Property shall become members and which will succeed to Grantee's rights and obligations under this Agreement and shall be bound thereby.

Grantee shall cause the Condominium Association to assume and be bound by this Agreement pursuant to a recorded instrument, but such actions shall not release Grantee from its obligations hereunder. Upon assumption of this Agreement by the Condominium Association as provided in the preceding sentence, and provided Grantee has complied with its obligations under this Agreement and upon the turn over of control of the Condominium Association from Grantee, the Grantor shall look solely to the Condominium Association for performance of the obligations of Grantee.

4. GENERAL:

The invalidity of any clause, part or provision of this agreement shall not affect the validity of the remaining portions thereof.

This Agreement is created pursuant to, and shall be construed in accordance with and governed by the laws of the State of Maine.

Notices shall be in writing and shall be deemed to have been duly delivered the next day after mailing if sent by certified mail or by recognized overnight courier, addressed to the recipient at its last known address and, if applicable to the registered agent for such party on file with the Maine Secretary of State.

This Agreement shall run with the land and shall both benefit and burden the Ellie & Chaya Property and the Condominium Property. This Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and assigns. This Agreement may not be modified except in a written instrument executed by both parties and recorded in the Cumberland County Registry of Deeds.

IN WITNESS WHEREOF, PROMENADE PLACE CONDOMINIUM ASSOCIATION ("Grantor") and ELLIE & CHAYA, INC ("Grantee") have caused this instrument to be executed and acknowledged by their duly-authorized representatives, on this 14th day of August, 2023.

PROMENADE PLACE
CONDOMINIUM ASSOCIATION

Witness

By: _____
Mike Hutchinson
Its President

EXP 7-31-2025

[Acknowledgement Located on Following Page]

KIMBERLY STEPCZYK
NOTARY PUBLIC
MY COMMISSION EXPIRES
JULY 31, ~~2029~~ 2025

August 14th
8/14, 2023

STATE OF MAINE
Cumberland, ss.

Personally, appeared the above-named Mike Hutchinson, President of Promenade Place Condominium Association, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Promenade Place Condominium Association.

Before me,

Notary Public/Attorney-at-Law

KIMBERLY STEPCZYK
NOTARY PUBLIC
MY COMMISSION EXPIRES
JULY 31, ~~2020~~ 2025

Witness

ELLIE & CHAYA, LLC

By:

HARRY KRIGMAN

Its: PRESIDENT

[Acknowledgement Located on Following Page]

STATE OF MAINE
Cumberland, ss.

August 17, 2023

Personally, appeared the above-named Harry Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Ellie & Chaya, Inc.

Before me,

~~Notary Public~~/Attorney-at-Law
PAUL F. DRISCOLL
Maine Bar No. 2396

DOC :28740 BK:40310 PG:111
RECEIVED - RECORDED, CUMBERLAND COUNTY REGISTER OF DEEDS
08/18/2023, 10:51:41A
Register of Deeds Jessica M. Spaulding E-RECORDED

SCHEDULE A

The legal description of the Easement Area is as follows:

Beginning at a point at the westerly sideline of the Eastern Promenade at the point where the Ellie & Chaya Property and the land described in the Declaration meet.

THENCE, S 42° 37' 32" W a distance of 115.32 feet to a capped iron rod.

THENCE S 49° 57' 19" E a distance of 114.28 feet to an iron rod found in the northerly sideline of Turner Street.

THENCE easterly along the northerly sideline of Turner Street a distance of 5.0 feet to a point.

THENCE N 49° 57' 19" W a distance of 109.28 feet, more or less, to a point.

THENCE N 42° 37' 32" E a distance of 110.32 feet, more or less, to the westerly sideline of the Eastern Promenade.

THENCE N 66° 49; 28' W along the westerly sideline of the Eastern Promenade a distance of 5.0 feet, more or less, to the point of beginning.

TREE INSTALLATION AND MAINTENANCE AGREEMENT

THIS TREE INSTALLATION AND MAINTENANCE AGREEMENT (the "Agreement") is made and entered into on this 16th day of June, 2023 by and between ELLIE & CHAYA, INC., a Maine corporation with its principal place of business in Portland, County of Cumberland and State of Maine ("ECI") and EASTERN PROMENADE LIMITED LIABILITY COMPANY, a Maine limited liability company with its principal place of business in Portland, County of Cumberland and State of Maine ("Eastern").

Recitals:

A. ECI is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of Turner Street and Morning Street described in (i) the Quitclaim Deed of Esther Albert Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 115 and (ii) the Quitclaim Deed of Perlin Realty LLC to ECI dated November 12, 2021 recorded in the Cumberland County Registry of Deeds in Book 38884, Page 117 (as described in such deeds collectively, the "ECI Property");

B. The parcels of land comprising the ECI Property are contiguous to one another and constitute a single parcel for purposes of this Agreement;

C. Eastern is the owner of the land, buildings and improvements, and all appurtenances thereof, situated in said Portland at and in the vicinity of the Eastern Promenade, Québec Street, Emerson Street and Turner Street described in the Warranty Deed to Eastern dated March 10, 1998 and recorded in the Cumberland County Registry of Deeds in Book 13664, Page 80 (as described in such deed, the "Eastern Property");

D. The Eastern Property is bounded on the northwest and southwest by the ECI Property as depicted on the Plan entitled "Boundary & Topographical Survey at 246 Eastern Promenade, Portland, Maine" made for Shinberg Consulting, LLC dated March 31, 2022 and recorded in the Cumberland County Registry of Deeds in Plan Book _____, Page _____ (the "Plan"), a reduced copy of which is annexed here to as Exhibit A;

E. In connection with ECI's intention to develop and construct a condominium on the ECI Property in accordance with City of Portland land-use requirements for the project, ECI has requested that Eastern grant it an easement to be appurtenant to the ECI Property and to encumber Eastern Property to allow ECI, its successors and assigns, to install evergreen trees on the northwesterly line of the Eastern Property and ornamental and maples trees on the southwesterly line of the Eastern Property, all in accordance with the depiction of such trees on the Plan;

F. Eastern is willing to grant the easement to ECI referred to in Recital E on the following conditions: (i) ECI, its successors and assigns, shall install and maintain the trees depicted on the Plan at its sole cost and expense and in a good and healthy state at all times, (ii) ECI shall grant Eastern an easement to be appurtenant to the Eastern Property and to encumber ECI Property to allow Eastern, its successors and assigns, to enter upon the ECI Property to maintain the trees in a good and healthy state at all times in the event that ECI fails to do so, and (iii) ECI shall grant Eastern an easement over, under and upon a strip of land five (5) feet in width on and within that portion of the ECI Property that is immediately contiguous to the Eastern Property, for the length of the common boundary (all such land, the "Five-Foot Strip"), such easement to be for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or any of condominium units declared or to be declared on the ECI Property;

G. ECI is willing to accept the conditions required by Eastern set forth in Recital F for the reciprocal easement rights;

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which the parties do hereby acknowledge, ECI and Eastern agree as follows:

1. Accuracy of Recitals. Recitals A through G, inclusive, of this Agreement are true and accurate in all respects.

2. Grant of Easement by Eastern to ECI.

(a) Eastern hereby grants ECI the perpetual right and easement, to be appurtenant to the ECI Property and to encumber the Eastern Property, to allow ECI to install, maintain, prune and replace at its sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A. ECI shall install and maintain the trees depicted on the Plan and in a good and healthy state at all times.

(b) To exercise its rights under the granted herein, ECI shall provide Eastern with ten (10) days prior written notice of its intention to enter onto the Eastern Property to install, maintain, prune or replace the trees depicted on the Plan. ECI shall make use of only that portion of the Eastern Property that is reasonably necessary for ECI to exercise its rights under the easement granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to Eastern and its tenants to the maximum extent possible. After exercising its rights under this easement, ECI shall immediately restore the

condition of the Eastern Property to the condition it was in before such exercise of the easement rights granted hereby.

(d) ECI shall defend and indemnify Eastern, its members, successors and assigns, of and from any and claims, demands, actions or losses asserted against Eastern by any third party arising out of the exercise by ECI of the easement rights granted hereby, or arising out of the alleged negligence of Eastern relating to the trees and land under them depicted on the Plan.

(e) In advance of ECI entering on the land of Eastern to exercise the easement rights granted hereby, ECI shall provide Eastern with an insurance certificate naming Eastern as additional insured and providing Eastern with commercially reasonable property and liability insurance coverage against property damage and liability for any losses or damages arising from ECI's exercise of the easement rights.

3. Grant of Easements by ECI to Eastern.

(a) ECI hereby grants Eastern the following perpetual rights and easements, to be appurtenant to the Eastern Property and to encumber the ECI Property:

(i) The perpetual right and easement to allow Eastern to install, maintain, prune and replace at ECI's sole cost and expense the trees depicted on the Plan annexed hereto as Exhibit A in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times; and

(ii) The perpetual right and easement over, under and upon the Five-Foot Strip, for temporary access to the Eastern Property in support and during the course of any construction or development of the Eastern Property, all so as not to unreasonably interfere with the ECI Property or with any condominium units declared or to be declared on the ECI Property.

(b) To exercise its rights under the granted herein, Eastern shall provide ECI with ten (10) days prior written notice of its intention to enter onto the ECI Property to install, maintain, prune or replace the trees depicted on the Plan or for temporary access over, under and upon the Five-Foot Strip in support and during the course of construction or development of the Eastern Property. Eastern shall make use of only that portion of the ECI Property that is reasonably necessary for Eastern to exercise its rights under the easements granted hereby.

(c) All work shall be done in an orderly, neat and efficient manner so as to minimize any inconvenience to ECI and condominium unit owners on the ECI Property to the maximum extent possible. After exercising its rights under these easements,

Eastern shall immediately restore the condition of the ECI Property to the condition it was in before such exercise of the easement rights granted hereby, provided, however, that ECI, its successors and assigns, shall be solely responsible for all costs and expenses incurred by Eastern in the event that ECI fails to install, maintain, prune and replace the trees and to keep them in a healthy condition at all times.

4. Covenants Running with the Land.

(a) For the avoidance of doubt, the parties intend that all obligations and undertakings under this Agreement, to the extent that they are not deemed grants of a real property right, are covenants running with the land and shall be just as binding on and just as enforceable by any future owners of the Eastern Property and the ECI Property, as the case may be, as if granted by any such future owner of either property.

IN WITNESS WHEREOF, ELLIE & CHAYA, INC. and EASTERN PROMENADE LIMITED LIABILITY COMPANY have executed, acknowledged and delivered this Agreement by their duly authorized officers as of the date first above written.

[Signatures and Acknowledgements Located on Following Page]

ELLIE & CHAYA, INC.

Witness

By: _____
Harry Krigman
Its President

EASTERN PROMENADE LIMITED LIABILITY COMPANY

Witness

By: _____
Lloyd L. Lathrop, III
Its Sole Member

STATE OF MAINE
Cumberland, ss.

June 20, 2023

Personally appeared the above-named Harry Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Ellie & Chaya, Inc.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028

STATE OF MAINE
Cumberland, ss.

June 16, 2023

Personally appeared the above-named Lloyd L. Lathrop, III. Sole Member of Eastern Promenade Limited Liability Company, and acknowledged the foregoing Agreement to be his free act and deed in his said capacity and the free act and deed of Eastern Promenade Limited Liability Company.

Before me,

_____
Notary Public/~~Attorney-at-Law~~

GAIL G. FRASER
NOTARY PUBLIC
State of Maine
My Commission Expires
August 26, 2028

TERRADYN CONSULTANTS, LLC

207.926.5111
info@terradynconsultants.com
www.terradynconsultants.com

September 8, 2023

RESPONSE TO REVIEW COMMENTS

PL-002490-2023 | 246 Eastern Promenade
Portland, Maine 04101
Project #22-144

Sean King, PLA Urban Designer
389 Congress Street, 4th Floor
Portland, ME 04101

Dear Sean:

We have received and reviewed a second round of staff comments on the proposed redevelopment of 246 Eastern Promenade (City of Portland Project #PL-002490-2023), dated June August 11th. The project design team has prepared the following responses to the comments. For clarity, each comment is repeated below, followed by our response in **bold text**.

DESIGN REVIEW COMMENTS:

- Architectural style - Staff finds the suspended second story of the three-unit at the rear to be unique to the surrounding context and recommends the landscape plan include additional screening from parked vehicles at the adjacent 236 Eastern Promenade property.

  Applicant Response: Please see landscape plans for additional information. Grading is steep condition within the noted area from the cover parking area down to the adjacent driveway. The project maximizes the landscaping in this complex area while maintaining the slope with appropriate species for the difficult condition.

- Building form and height - Staff recommends a further reduce the cornice line above ground level at Eastern Promenade and pull the building entry canopy closer to the building's facade.

  Applicant Response: Please see the revised Architectural Building Elevations which show a reduction in the Eastern Promenade Entry Canopy and revised siding material composition.

- Staff finds the transition open space areas between the sidewalk and three-unit building entry at Turner Street to be too densely planted with trees and recommends a reduction that is more compatible with the existing relationship of buildings to public streets. The resubmitted plans show a shared building entry at the rear of the three-unit building where

building columns and a bike hitch reduce pedestrian access, Staff continues to recommend a shared entry and stairway at the three-unit building with frontage on Turner Street to access second-floor dwelling units directly from the public street.

Applicant Response: Please see the revised Civil Engineering and Landscape set. The bike hitch has been relocated however the landscape design mostly remains. Architecturally the building facades remain as proposed; functionally a rear entry works well with the space program. The exterior architecture would remain should the interior space programing or design be revised at a later date.

LANDSCAPE AND SITE PRESERVATION COMMENTS:

- Planting Plan - please specify tree species along Turner street in front of the building. Ensure street tree plantings conform with section 4.6.1 for Residential development street tree spacing standards of 25' to 35' spacing on center. Current trees proposed appear to be 9' spacing OC and 11' O.C along Turner street, which, depending upon specific species proposed, will be overly dense for mature tree development.

  Applicant Response: Street Tree Planting along Turner Street has been revised to conform with 4.6.1 tree spacing. Species selected are appropriate for layout and spacing.

- Planting Plan - turner street trees -Applicant should be credited for the six street trees described in response letter for new trees planted within 20' of R.O.W, and also a seventh tree shown in the planting plan at the end of the first parking space on lower left area of plan. A similar tree on the corner of the multi-unit building, if feasible/ compatible with the building, would also be a sufficient relocation of a street tree replacement to accommodate more generous spacing for the six trees shown along Turner street. Current spacing of 9' for deciduous trees along the street in front of building is of concern without further understanding of species selection and intent.

  Applicant Response: Trees have been relocated along Turner Street.

- CMP - Some existing trees in abutting properties to the west of Turner Street (along sidewalk and at south east corner of western abutting property) may merit additional caution to ensure proposed tree removals or various construction access and activities within the site do not impact root zones or structural elements of those trees. Please ensure no laydown of materials or compaction of these species root zones that might extend into project work areas occur and those areas are protected from damage.

  Applicant Response: Additional tree protection notes have been added to the Existing Conditions & Demolition Plan (Sheet C-3.0) and Construction Management Plan (Sheet C-3.1) to ensure protection of the trees in question.

- CMP - Tree protection note for tree within Eastern Promenade lawn. Trenching / sawcut limit line appears to come within structural root plate of existing tree. Please adjust trenching and utilities to protect existing trees. If utility work must be done within tree root zone (either feeder root zone or structural root plate) consider boring under roots once contractors are safe enough distance away from gas lines or other utilities within area.

Applicant Response: The utility work in question is related to an existing water service for the existing building that will be retired as part of the project. To ensure that the adjacent tree is not damaged, the water service will be cut at the main in Eastern Promenade, but the service will be abandoned in place rather than removed within the root zone of the tree. The Existing Conditions & Demolition Plan (Sheet C-3.0) and Construction Management Plan (Sheet C-3.1) have been updated with this information.

- C - 5.1 SD-7 and proposed water line - please adjust waterline location if at all possible further away from existing tree within Eastern Promenade esplanade. For portions of new lines that are clear of existing sewer and gas lines shown, and are within feeder roots and structural root plates of existing trees within esplanade, please consider boring those portions of new utilities under root systems to preserve the health and longevity of existing trees if lines can not be adjusted further away from tree roots.

  Applicant Response: The water line in the vicinity of the existing tree in Eastern Promenade is existing and will be abandoned in place. See response above. Installation of SD-7 is not expected to impact the root zone of the existing tree. Notes have been added to the Existing Conditions & Site Demolition Plan (Sheet C-3.0) and the Construction Management Plan (Sheet C-3.1) to avoid the root zone of the tree.

TRAFFIC COMMENTS:

- Turning Templates - Revise the turning template for space #23 assuming a vehicle is occupying space #10 and bicycles occupy the storage space.

  Applicant Response: Turn templates for space #23 were revised to reflect a vehicle occupying space 10 and bicycles occupying the storage space. There is still adequate space for a parking maneuver.

- Turning Templates - Adjust all turning templates such that the wheel path does not travel through a column (#18 is an example).

  Applicant Response: All turning templates were reviewed such that the wheel path does not travel through any objects, including columns, walls, etc. and revised as necessary. All Turning Analysis Drawings have been updated.

- Turning Templates - Space #9 (and the space behind it) has less aisle width area for maneuvering which will make maneuvering very difficult. I expect vehicles to enter head-in and back out of the space toward Turner Street. And either turn around in the handicap marked area or back out into Turner Street. I need to review this with other city staff and provide final direction in the future. My initial opinion is that I would find backing maneuvers into Turner Street to be acceptable given low volumes and speeds.

  Applicant Response: The applicant acknowledges that Parking Space #9 and the space behind it have limited area to maneuver in and out. The spaces will be used exclusively by a resident who will understand the limitations and the spaces are not expected to cause a nuisance or dangerous condition.

STORMWATER COMMENTS:

- For this project we are asking the developer to meet the flooding standard for the 2, 10 and 25 year, 24 hour storm events to ensure that post development flow rates entering the Eastern Prom storm drainage system are equal to or less than the pre development flow rates.

  Applicant Response: A subsurface stormwater detention system has been designed and added to the project drawings to mitigate for the increase in impervious area and limit post-development peak rates of runoff entering the city's storm drain network. The proposed system is shown on the revised project drawings C-5.0, C-5.1, and C-8.2, and an updated stormwater management report has been uploaded for review.

We look forward to the upcoming Public Hearing on this project. In the interim, please contact me with additional questions or comments.

Sincerely,
TERRADYN CONSULTANTS, LLC

Michael Tadema-Wielandt, P.E.
Vice President

Updated Plans:
C-3.0 Existing Conditions & Demolition Plan
C-3.1 Construction Management Plan
C-4.0 Site Plan
C-5.0 Grading & Drainage Plan
C-5.1 Detailed Grading Plan
C-6.0 Utility Plan
C-8.2 Stormwater Details
C-9.0 Parking Turning Analysis
C-9.1 Parking Turning Analysis
C-9.2 Parking Turning Analysis
L 1-00 Preliminary Planting Plan
Various Architectural Plans

Updated Reports:
Stormwater Management Report

cc. Harry Krigman
Mark Muller Architects
Nick Aceto
Greg Shinberg

Att.
W

Quote

Company Data

CENTRAL MAINE POWER COMPANY
83 EDISON DRIVE
AUGUSTA , ME 04336-0001
USA

Central Maine Power
An Avangrid company

0250070740

Customer Data

ECK LLC
24 WILDWOOD DR
CAPE ELIZABETH, ME 04107-1155
USA

Service Location:

ECK LLC
246 EASTERN PROM
PORTLAND, ME 04101
USA

Quote

Quote Number: 0882931023001697
Quote Date: 08/17/2023
Customer Number: 0001594009-0001594009
Description: 3 PHASE SERVICE

Work Order: 801000557501
PO Number: 10300961099

Description		Amount	Tax Amount
Contractors		10,996.80	0.00
Coordination Charges/Credits	cr	181.00	0.00
Labor		37,261.80	0.00
Mat Transformer, Regulator, Capacitor		18,437.37	0.00
Material		12,858.90	0.00
Replacement Credits - Labor	cr	65.77	0.00
Replacement Credits - Material	cr	269.62	0.00
Replacement Credits - Vehicle	cr	13.32	0.00

Payment Method

Work will not be scheduled until payment is received. The estimate is valid for 90 days from the quote date. Request for additional design changes may require a new estimate. If you have any questions regarding this quote, please call 1-800-750-4000 .

For check please detach and return this stub with payment in enclose envelope.

Central Maine Power
An Avangrid company

ECK LLC
24 WILDWOOD DR
CAPE ELIZABETH, ME 04107-1155
USA

CENTRAL MAINE POWER COMPANY
PO BOX 847811
BOSTON, MA 02284-7811

Quote Number
0882931023001697
Customer Number
0001594009-0001594009
Amount Due
$80,425.21
Amount Paid
$

Do not write below this line

93100882931023001697000008042521

Quote

Central Maine Power
An Avangrid company

0250070740

Description	Amount	Tax Amount
Vehicle	1,400.05	0.00

Quote Charge	80,425.21	Tax Charge	0.00
Amount Due	$80,425.21		

WORK TO BE DONE ON SITE.
ONLY CHECKS ARE TO GO TO THE ADDRESS BELOW. **DO NOT OVERNIGHT OR SEND ELECTRONIC PAYMENT** SENDING OVERNIGHT OR INCLUDING ADDITIONAL DOCUMENTS WILL CAUSE DELAYS. ***PAYMENT IN FULL IS REQUIRED*** INCLUDE STUB WITH YOUR CHECK AND MAIL TO BOSTON.

246 EASTERN PROMENADE CONDOMINIUM ASSOCIATION

BYLAWS

THESE BYLAWS are established this _____ day of August, 2023, by ELLIE & CHAYA, INC., a Maine corporation ("Declarant") and 246 EASTERN PROMENADE CONDOMINIUM ASSOCIATION, a Maine non-profit corporation formed as a condominium association by Declarant and the Association of Unit Owners in the 246 Eastern Promenade Condominium. Capitalized terms used herein, if not defined herein, shall be defined as set forth in the Condominium Declaration or in the Maine Condominium Act, 33 Maine Revised Statutes, Chapter 31, §§ 1601-101, et seq., as now and as may be hereinafter amended (hereinafter referred to as the "Condominium Act").

ARTICLE I

Name of Association

The Association hereby governed shall be known as 246 Eastern Promenade Condominium Association (the "Association"), a Maine non-profit, non-stock, mutual benefit corporation, and under that name, as far as legal, all activities shall be carried on by the Executive Board of such Association.

ARTICLE II

The Association and its Purpose; Unit Owners' Organization

All of the rights and powers in and with respect to the common elements and facilities and exterior and structural portions of the Units of 246 Eastern Promenade Condominium, a condominium located in Portland, Maine (the "Condominium") established by a Declaration of Condominium (the "Declaration") of even date and recorded herewith in the Cumberland County Registry of Deeds, which are conferred upon or exercisable by the organization of Owners of the Condominium and all property, real and personal, tangible and intangible, conveyed to or held by the Association (the "Association Property") hereunder shall vest in the Association to exercise, manage, administer and dispose of the same and to receive the income thereof in accordance with the provisions of the Condominium Act.

ARTICLE III

The Executive Board

Section 3.1. Number. Until the "Transition Date" described in Section 3.4 below, the Executive Board shall be appointed by the Declarant and its successors and assigns as described in said Section 3.4. After the Transition Date, there shall be an Executive Board (the "Board") consisting of five (5) persons, who shall be elected as hereinafter provided.

Section 3.2. Terms. After the Transition Date, and except as provided in Section 3.4 below, the term of each Board Member shall be for a period of three (3) years from the annual meeting of Owners at which such Board Member is elected. Such terms shall be on a staggered basis, so that in each year the term of either one or two Board Members will expire. A Board Member whose term has expired shall continue in office until a successor is elected or appointed as hereinafter provided.

Section 3.3. Vacancies, Election, Appointment and Acceptance of Board Members. After the Transition Date, if and when the number of Board Members shall become less than five (5) due to death, disability, removal or resignation, a vacancy shall be deemed to exist, whereupon a special meeting of the Unit Owners shall be duly convened within sixty (60) days of the creation of such vacancy to elect a successor Board Member. The expiration of a term shall also create a vacancy which, however, shall be filled at the annual meeting of the Unit Owners. At such meeting, Board Member(s) shall be elected by the Unit Owners present in person or by proxy, provided that a quorum is present, such that the person(s) receiving the largest number of votes, even if not a majority, shall be elected. There shall be no cumulative voting in such election. In such event as the Unit Owners should fail to elect a successor Board Member within said sixty (60) day period, then the Board Members then remaining may appoint a natural person to fill such vacancy. The election or appointment of Board Members shall become effective upon such election or appointment.

Section 3.4. Executive Board During Initial Period of Condominium; Transition Provisions, Qualification to Serve on Board. Despite the foregoing, during the period from the date of the first conveyance of a Unit to a person other than the Declarant until 60 days after the conveyance by the Declarant to third-party purchasers of ten (10) Units in the Condominium, or if sooner, seven (7) years from the date of the first conveyance of a Unit to a person other than the Declarant (the "Transition Date"), there shall be three (3) Board Members appointed by the Declarant, its successors or assigns. The original Board Members appointed by the Declarant are the persons whose names and signatures appear at the conclusion of these Bylaws. Upon any vacancy existing in such Board, its or their successor(s) shall be appointed solely by the Declarant, its successors or 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 who shall serve as described above. Such Board shall be elected by the vote, in person or by proxy, of the Unit Owners as provided in these Bylaws.

Notwithstanding the foregoing, the Declarant may, at its election, voluntarily surrender the right to appoint and remove Board Members prior to the Transition Date, and in such event the Declarant may require, as a condition thereof, that certain specified actions of the Association or Executive Board, as described in a recorded instrument executed by the Declarant, be approved by the Declarant, all as provided in Section 1603-103(d) of the Condominium Act.

Board Members not appointed by the Declarant 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 officer, partner, member, manager, or trustee thereof.

Section 3.5.

A. Board Action. In any matter relating to the administration of the Condominium and the exercise of the powers herein conferred, the Board may act by majority vote of its number at any duly called meeting at which a quorum is present as hereinafter provided. The Board may also act without a meeting by instrument or instruments executed by all of its Members.

B. Power to Act When Vacancy Exists. Notwithstanding anything contained herein to the contrary, despite any vacancy, however caused and for whatever duration, the then remaining or surviving Board Member(s) shall continue to exercise and discharge all of the powers, discretions and duties hereby conferred or imposed upon the Board.

Section 3.6. Board Meetings; Quorum; Minutes. Until the Transition Date, regular Board meetings shall not be necessary, but may be called by any Board Member upon seven (7) days' written notice to any and all other Board Members. After the Transition Date, the Board shall meet annually following the annual meeting of the Unit Owners, and at such meeting shall elect a President, Treasurer and a Secretary, and any other officers they deem expedient. The Board shall thereafter meet at such regular interval, time and place as determined by the President, and specially upon the request of any two Board Members; provided, however, that written notice of each such special meeting setting the place, day, hour and purpose thereof shall be given at least seven (7) days before such meeting to each Board Member, unless such notice is waived by all Board Members. A majority of the number of Board Members then in office shall constitute a quorum at all meetings, and such meetings shall be conducted in accordance with such rules as the Board may adopt. The establishment of a quorum shall be determined at the beginning of a meeting, and once established shall continue throughout such meeting, as provided in Section 1603-109(b) of the Condominium Act. Minutes of all Board meetings shall be taken by a person designated by the Board, or if no such designation is made, by the Secretary, and shall be maintained by the Board as part of the records of the Association.

Section 3.7. Officers; Committees. There shall be appointed by the Board Members, in addition to such other officers as they may elect, the following officers (the "Officers") who shall have the following listed duties:

A. President. The President must be a Board Member and shall be the chief executive officer of the Association. He or she shall preside at all meetings of the Unit Owners and of the Board. The President shall have the power to appoint committees from among the Owners from time to time as he or she may in his or her discretion decide is appropriate to assist in the conduct of the affairs of the Condominium. If the President is unable to act at any time, the Treasurer shall act in the place of the President on an interim basis.

B. Treasurer. The Treasurer shall have the responsibility for overseeing Association's funds and securities and shall be responsible for maintaining full and accurate financial records and books of account showing all receipts and disbursements, and for the preparation of all required financial data. He or she shall be responsible for the deposit of all monies and other valuable effects in the name of the Association in such depositories as may from time to time be designated by the Board.

C. Secretary. The Secretary shall maintain the minutes of all meetings of the Unit Owners and of the Board; he or she shall have charge of such books and papers of the Association; and he or she shall, in general, perform all the duties incident to the office of clerk or secretary of a business corporation organized under Maine law.

The above-described Officers may be removed and elected by the Board from time to time at any Board meeting at which a quorum is present, and such officers shall continue to serve in their capacities until they resign or are removed from such office.

Any two or more of the above-described Officers may prepare, execute, certify, and record amendments to the Declaration and these Bylaws on behalf of the Association.

Section 3.8. Resignation; Removal. Any Board Member may resign at any time by an instrument in writing, signed and delivered to the remaining Board Members. Such resignation shall take effect upon such delivery, unless specified to be effective at some other time in said instrument. Any Board Member appointed by the Declarant may be removed by the Declarant. After the Transition Date, any Board

Member may, with or without cause, be removed by a vote of fifty-one percent (51%) of the Unit Owners at a special meeting duly called therefor and after being afforded the opportunity to be heard. The vacancy so resulting shall be filled in the manner provided in Section 3.3 hereof. In no case may the original Board Members or successor Board Member(s) appointed by the Declarant, its successors or assigns, be removed except by the Declarant, its successors or assigns.

Section 3.9. Bond or Surety. No Board Member elected or appointed as hereinbefore provided, whether as original Board Member or as successor to or as substitute for another, shall be obliged to give any bond or surety or other security for the performance of any of his duties hereunder; provided, however, that the Unit Owners by a vote of fifty-one percent (51%) may at any time require that any one or more of the Board Members, except a Declarant or Court-appointed Board Member, shall give bond in such amount and with such sureties as shall be specified in such vote. All expenses incident to any such bond shall be charged as a Common Expense of the Condominium. The foregoing shall not affect any fidelity coverages hereinafter required under the insurance provisions of these Bylaws.

Section 3.10. Compensation of Board Member(s), Officers, and Committee Members. No Board Member, Officer or Committee Member shall receive remuneration (which term shall not be deemed to include reimbursement for expenses incurred by such person in connection with his duties, which reimbursement shall be permitted and charged as a Common Expense) for his services unless so provided for by a vote of fifty-one percent (51%) of the. Unit Owners and any remuneration so provided shall be from time to time fixed by said Unit Owners and shall be a Common Expense of the Condominium. With the approval of a majority of the Board, any Board Member, Officer, or Committee Member may receive reasonable remuneration for extraordinary or unusual services, professional or otherwise, rendered by him to the Association, all as shall be from time to time fixed and determined by said Board, and such remuneration shall be a Common Expense of the Condominium.

Section 3.11. No Personal Liability. No Board Member, Officer, or Committee Member shall under any circumstances or in any event be held liable or accountable out of his or her personal or company assets or be deprived of compensation, if any, by reason of any action taken, suffered or omitted, or for allowing one or more of the other Board Member(s), Officers, or Committee Members to have possession of the Association books or property, or be so liable, accountable or deprived by reason of honest errors of judgment or mistakes of fact or law or by reason of anything unless he or she is adjudicated to have acted with intentional and willful misconduct. No Unit Owner or parties seeking monetary relief from the Association, whether in an action based in contract, tort or otherwise, may bring an action against the. Board Member(s) in their individual, LLC or corporate capacity.

Section 3.12. Board Members, Officers, and Unit Owners May Deal with the Condominium. No Board Member or Unit Owner shall be disqualified by his office, or status, from contracting or dealing, directly or indirectly, with the Board or with one or more Unit Owners as vendor, purchaser or otherwise because of his, the Board Member's, Officers', or any Unit Owner's interest in any corporation, firm, Association, partnership or other organization connected with such contracting or dealing, nor shall any such dealing, contract or arrangement entered into in which any Board Member, Officer, or Unit Owner, shall in any way be interested be avoided nor shall any Board Member, Officer, or Unit Owner, so dealing or contracting or being so interested be liable to account for any profit realized by any such dealing, contact or arrangement by reason of such Board Member's or Officer's holding office or of the fiduciary relationship, if any, hereby established, or by reason of such Unit Owner's status, unless the Board Member, Officer or Owner shall be adjudicated by a court of competent jurisdiction to have acted in bad faith and failed to disclose the nature of his interest to the Board before the dealing, contract or arrangement is entered into.

Section 3.13. Indemnification. The Association shall, to the extent legally permissible, indemnify and shall have a duty to defend each of its Board Members, Officers and Committee Members against all liabilities and expenses, including amounts paid in satisfaction of judgments, in compromise or as fines and penalties, and counsel fees, reasonably incurred by him in connection with the defense or disposition of any action, suit or other proceeding, whether civil or criminal, in which he may be involved or with which he may be threatened, while in office, or thereafter, by reason of his being or having been such a Board Member, Officer or Committee Member, except with respect to any matter as to which he shall have been adjudicated in any proceeding to have acted with willful misconduct or reckless disregard of his duties or not to have acted in good faith in the reasonable belief that his action was in the best interests of the Condominium. The right of indemnification hereby provided shall not be exclusive of or affect any other rights to which any Board Member, Officer or Committee Member may be entitled herein or by contract or otherwise under applicable law.

ARTICLE IV

Members and Meetings

Section 4.1. Members. The Members of the Association shall be the Unit Owners of the Condominium as they may be from time to time.

Section 4.2. Voting on Behalf of Units Owned by More than One Person or by Entities. Whenever any of the Units is owned of record by more than one person, voting shall be carried out as provided in Section 1603-110 of the Condominium Act. For Units to which title is held by a fiduciary, the fiduciary shall be the designated individual to vote. For Units to which title is held by a corporation, a duly authorized officer of such corporation shall be the designee, and as to a limited liability company, any Manager or Member of such company shall be the designee.

Section 4.3. Meetings of Unit Owners. Meetings of the Unit Owners shall be held as hereafter provided:

A. Annual Meeting. There shall be an annual meeting of Unit Owners on the first Saturday of August at 10:00 A.M. at the Condominium or at such other reasonable date, place and time as may be designated by the Board (the "Annual Meeting"). If that day is a legal holiday, the meeting shall be held on the next succeeding day. The Board shall give written notice thereof to the Unit Owners at least ten (10) days and not more than sixty (60) days prior to said date, which notice shall include an agenda and a full description of all matters to be voted upon, if any. At the Annual Meeting, the Board shall submit reports of the management and finances of the Condominium, conduct elections as are necessary, and conduct such other business as is proper.

B. Special Meetings. Special meetings (including a meeting in lieu of an annual meeting not held) of the Unit Owners may be called at any time by the Board and shall be called by them upon the written request of Unit Owners holding at 20% of the Undivided Interests ("Special Meeting"). Special Meetings may also be called as provided in the Maine Nonprofit Corporation Act. A request for such a Special Meeting from the Unit Owners shall be accompanied by a delineation of the items the requestors wish to have considered at said meeting, including the text of any proposed amendment to the Condominium documents. Written notice of any Special Meeting designating the place, day, and hour thereof, together with a full description of the matter(s) to be considered and/or voted upon, shall be given by the Board to the Unit Owners in the same manner as written notice of Annual Meetings.

C. Text of Proposed Amendment. At any meeting of the Unit Owners at which a proposed amendment to the Condominium documents is to be considered, the notice of such meeting shall include the full text of such proposed amendment.

D. Voting. Each Unit shall have one vote, which vote shall be weighted in relation to the Undivided Interest of the Unit to which it appertains, as established in the Declaration, as amended from time to time. Unless otherwise specifically provided in the Declaration or the Condominium Act, the vote of a majority of the Undivided Interests of Unit Owners (weighted as described above) present in person or by proxy at a duly convened meeting of the Unit Owners at which a quorum is present ("Majority Vote") shall be binding as to those matters within the purview of the Unit Owners.

E. Quorum. A quorum for the conduct of business at meetings of the Unit Owners shall equal representation in person or by proxy of at least 25% of the Undivided Interests. The establishment of a quorum shall be determined at the beginning of the meeting, and once established shall continue throughout such meeting, as provided in Section 1603-109(a) of the Condominium Act.

F. Proxies. A Unit Owner may vote by written proxy pursuant to Section 1603110(b) of the Condominium Act.

G. Minutes. Minutes of all Unit Owner meetings shall be taken by a person designated by the Board, or if no designation is made, by the Secretary, and shall be maintained by the Secretary as part of the records of the Association.

ARTICLE V

Board Powers and Duties; Financial Reporting

Section 5.1. Powers and Duties of Board. The Executive Board shall, subject to all limitations and provisions of applicable laws, the Declaration, and these Bylaws, have the absolute control and management of the Condominium Property and shall have all of the powers necessary for the administration of the affairs of the Condominium, and may do all such acts and things in connection therewith. The powers and duties of the Board shall include, but shall not be limited to, the following, all of which shall be exercised subject to the provisions hereof:

A. Operating, regulating, maintaining, repairing, replacing, managing, leasing, improving, and modifying the Common Elements or maintaining, repairing, or replacing the exterior wall and structural portions of the Units.

B. Owning, conveying, encumbering, leasing and otherwise dealing with Units conveyed to or purchased by the Association as a result of enforcement of the lien for Common Expenses.

C. Instituting, defending, or intervening in litigation or administrative proceedings involving the Association or other matters affecting the Condominium.

D. Determining and budgeting of the Common Expenses required for the affairs of the Condominium and assessing such Common Expenses to the Unit Owners as provided in the Declaration and these Bylaws.

E. Collecting the Common Charges (which for the purposes of these Bylaws shall mean such portion of the Common Expenses as are payable by the respective Unit Owners) from Unit Owners.

F. Employing and dismissing managing agents, independent contractors, employees, and other personnel necessary for the maintenance and operation of the Condominium.

G. Opening and utilizing bank accounts on behalf of the Association and designating the signatories required therefor.

H. Obtaining insurance.

I. Imposing and receiving any payments, fees or charges for the use, rental, or operation of the Common Elements and for services provided to Unit Owners.

J. Incurring obligations and paying, compromising, or adjusting all obligations incurred and rights acquired in the administration of the Association.

K. Adopting and amending rules and regulations covering the operation and use of the Common Elements and the occupancy of Units.

L. Obtaining advice of counsel and relying thereon, and employing, appointing, and removing such other persons, agents, officers, brokers, engineers, architects, employees, servants, and assistants as they shall deem advisable, and defining their respective duties and fixing their pay and compensation.

M. Granting permits, concessions, licenses, and easements and/or leases over, under, through and/or to the Common Elements.

N. Altering the nature and/or the use of any of the Common Elements and making installations therein.

O. Enforcing obligations of the Unit Owners, including, but not limited to, the levying of general and special assessments for Common Expenses and the providing of adequate remedies for failure to pay such assessments, assessing interest on unpaid sums, levying reasonable fines (after notice and opportunity to be heard), attorneys' fees, costs and expenses against the Unit Owner(s) for violations by the Unit Owner(s), or persons for whom a Unit Owner is responsible, of the Rules and Regulations or of the provisions of these Bylaws or the Declaration, and in the case of persistent violations of the Rules and Regulations or of these Bylaws or the Declaration by a Unit Owner, or persons for whom an Owner is responsible, requiring such Unit Owner to post a bond to secure adherence thereto.

P. Investing and reinvesting the funds of the Condominium, or any part or parts thereof, and from time to time and as often as they shall deem appropriate to change investments, including power to invest in all types of securities, and other property, of whatsoever nature and however denominated, all to such extent as they shall deem appropriate, and without liability for loss, even though such property or such investment shall be of a character or in an amount not customarily considered proper for the investment of Association funds, or which does not or may not produce income.

Q. Selling, purchasing, and exchanging property or any interest therein for such consideration and upon such terms as they deem advisable; provided, however, that the Common Elements may only be conveyed or subjected to a security interest pursuant to Section 1603-112 of the Condominium Act.

R. Imposing reasonable charges for the preparation and recordation of amendments to the Declaration, resale certificates and/or statements of unpaid assessments.

S. Borrowing money and mortgaging, assigning, or pledging all or any part of the Association Property, and/or the Condominium's funds and/or future income, and issuing bonds, notes, or other evidence of indebtedness.

T. Incurring such liabilities, obligations, and expenses, making such contracts, and paying from the principal or the income of the Condominium's funds all such sums, as they shall deem necessary or proper, for the furtherance of the purposes of the Association.

U. Entering into and having such access to Units and Limited Common Elements as shall be reasonably necessary to the performance and exercise of the duties, obligations, rights, and powers of the Board hereunder.

V. Executing any and all instruments incidental or necessary to carry out any of the foregoing powers.

W. Generally, in all matters not herein otherwise specified, exercising any and all other executive board powers described in the Condominium Act, the Declaration of these Bylaws, exercising any and all other powers as may be exercised by legal entities of the same or similar type as the Association, and the exercising of any other powers necessary and proper for the governance and operation of the Association, subject only to the limitations on the Board set forth herein, in the Declaration or in the Condominium Act.

The powers described in Subsections A, E, H, I, J, L, O and R, T and U above may be delegated by the Board to a managing agent or to one of its Officers or committees.

Section 5.2. Financial Reports to Unit Owners. The Association or its managing agent shall keep financial statements (including balance sheets, and income and expense statements) sufficiently detailed to comply with Sections 1603-118 and 1604-108 of the Condominium Act. The Board may also arrange for the keeping of such other financial records and reports as it deeds prudent. All financial records shall be made reasonably available for inspection by Unit Owners, mortgagees, and their authorized agents.

Section 5.3. Fiscal Year. The fiscal year of the Association shall end each year on December 31, or such other date as may from time to time be determined by the Board.

ARTICLE VI

Rights and Obligations of Third Parties Dealing with the Board

Section 6.1. Third Parties' Reliance. No purchaser, mortgagee, lender, or other person dealing with the Board shall be bound to ascertain or inquire further as to the identity of said Board Members or of any changes therein. The receipts of the Board Members, or any one of them, for moneys or things paid or delivered to them, or him, shall be effectual discharges therefrom to the persons paying or delivering the same and no person from whom the Board Members, or any one or more of them, shall receive any money, property or other credit shall be required to see to the application thereof. No purchaser, mortgagee, lender

or other person dealing with the Board or with any real or personal property which then is or formerly was Association Property shall be bound to ascertain or inquire as to the existence or occurrence of any event or purpose in or from which sale, mortgage, pledge or charge is herein authorized or directed, nor otherwise as to the purpose or regularity of any of the acts of the Board Member, or any one or more of them, purporting to be done in pursuance of any of the provisions or powers herein contained, nor as to the regularity of the resignation, election or appointment of any Board Member.

Section 6.2. Personal Liability Excluded. No recourse shall at any time be had under or upon any note, bond, contract, order, instrument, certificate, undertaking, obligation, covenant or agreement, whether oral or written, made, issued or executed by the Board or by any Board Member or officer on behalf of the Board, or by reason of anything done or omitted to be done by or on behalf of them, or any of them, against the Board Members individually, either directly or indirectly, by legal or equitable proceeding, or by virtue of any suit or otherwise, and all persons extending credit to, contracting with or having any claim against the Board, shall look only to the Association Property for payment under contract or claim, or for the payment of any debt, damage, judgment or decree, or of any money that may otherwise become due or payable to them from the Board, so that neither the Board Member(s) nor the Owners, present or future, shall be personally liable therefore except as otherwise provided in the Condominium Act.

Section 6.3. All Instruments Subject to Terms Hereof. Every note, bond, contract, order, instrument, certificate, undertaking, obligation, covenant or agreement, whether oral or written, made, issued or executed by the Board, or by any agent or employee of the Board, shall be deemed to have been entered into subject to the terms, conditions, provisions and restrictions hereof, whether or not express reference shall have been made to this instrument.

Section 6.4. Recording. These Bylaws and any amendments hereto and any certificate herein required to be recorded and any other certificate or instrument which may be deemed desirable to record shall be recorded with the Registry of Deeds and such recording shall be deemed conclusive evidence of the contents and effectiveness thereof according to the tenor thereof; and all persons dealing in any manner whatsoever with the Board, the Property and/or the Association Property or any Member hereunder shall be held to have notice of any alteration or amendment of these Bylaws, or change of Board Member(s), when the same shall be recorded with said Registry of Deeds. Any certificate signed by any Officer, or by a majority of the Board in office at the time (or one Board Member if there be but one), setting forth as facts any matters affecting the Association, when duly acknowledged and recorded with said Registry of Deeds, shall be conclusive evidence as to the existence of such alleged facts in favor of all third persons, including the Board, acting in reliance thereon. Any certificate executed by any Officer or any Board Member hereunder, setting forth the existence of any facts, the existence of which is necessary to authorize the execution of any instrument or the taking of any action by such Association or majority, as the case may be, shall as to all persons acting in good faith in reliance thereon be conclusive evidence of the truth of the statements made in such certificate and of the existence of the facts therein set forth.

ARTICLE VII

Amendment and Termination

Section 7.1. Amendments to Bylaws. The Board may at any time and from time to time amend, alter, add to or change these Bylaws in any manner or to any extent, provided such amendment, alteration, addition, or change is consented to in writing by the Unit Owners holding at least 67% of the Undivided Interests provided, always, however, that no such amendment, alteration, addition or change (a) made without the written consent of the Declarant and Declarant's mortgagee(s) prior to the Transition Date

hereunder; or (b) made without the written consent of the Declarant and Declarant's mortgagee(s) according to the purpose of which, the Declarant's rights hereunder, or under the Declaration, are changed in any way; or (c) according to the purpose of which, the percentage of the Undivided Interests hereunder of any Unit Owner would be altered, or in any manner or to any extent whatsoever modified or affected so as to be different than the percentage of the Undivided Interest of such Owner in the Common Elements as set forth in said Declaration without unanimous consent; or (d) which would render these Bylaws contrary to or inconsistent with any requirements or provisions of the Condominium Act, shall be valid or effective.

Section 7.2. Effective Date of Amendment. Any amendment, alteration, addition or change pursuant to the foregoing provisions of this Section shall become effective upon the recording in the Registry of Deeds an instrument of amendment, alteration, addition or change, as the case may be, signed, sealed and acknowledged by an Officer of the Association, setting forth in full the amendment, alteration, addition or change and reciting the consent of the Unit Owners herein required to consent thereto. Such instrument, when so executed and recorded, shall be conclusive evidence of the existence of all facts and of compliance with all prerequisites to the validity thereof, whether stated in such instrument or not, upon all questions as to title or affecting the rights of third persons, and for all other purposes.

Section 7.3. Special Amendments. The foregoing notwithstanding, the Declarant shall have the authority to amend these Bylaws to (1) correct any scrivener's or technical error made herein; or (2) to make these Bylaws comply with the Condominium Act, and other applicable local, state or federal law or regulation; or (3) to satisfy applicable insurance requirements; or to make these Bylaws comply with the provisions of the Condominium 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 insurer or guarantor of Unit mortgages. This authority may be exercised not only to add additional provisions or modify existing provisions, but also to delete theretofore required provisions should such no longer be required. This right to specially amend shall automatically be transferred to the Board upon the conveyance of all Units by the Declarant.

Section 7.4. Termination. The Association hereby created shall terminate only upon the removal of the Condominium from the provisions of the Condominium Act as provided therein.

ARTICLE VIII

Construction, Interpretation and Waiver

In the construction hereof, whether or not so expressed, words used in the singular or in the plural, respectively, include both the plural and the singular, words denoting males include females words denoting females including males, and words denoting persons include individuals, firms, associations, companies (joint stock or otherwise), associations and corporations, unless a contrary intention is to be inferred from them or required by the subject matter or context. The title headings of different parts hereof are inserted only for the convenience of reference and are not to be taken to be any part hereof nor to control or affect the meaning, construction, interpretation or affect hereof. All of the Association's powers and provisions contained herein shall take effect and be construed according to the laws of the State of Maine. Unless the context otherwise indicates, words defined in the Condominium Act shall have the same meaning herein and to the extent of any conflict between the terms hereof and the requirements of said Condominium Act, the latter shall govern. The invalidity of any part of these Bylaws shall not impair or affect in any manner the validity, enforceability, or effect of the balance of these Bylaws. No restriction, condition, obligation,

or provision contained in these Bylaws shall be deemed to have been abrogated or waived by reason of any failure to enforce the same, irrespective of the number of violations or breaches thereof which may occur.

IN WITNESS WHEREOF the undersigned have hereunto set their hands and seals on this _____ day of August, 2023.

DECLARANT:

ELLIE & CHAYA, INC.

By:_____
Harry M. Krigman
Its President

CONDOMINIUM ASSOCIATION:

246 EASTERN PROMENADE
CONDOMINIUM ASSOCIATION

By:_____
Harry M. Krigman
Its Board Member

Exhibit A

RULES AND REGULATIONS FOR
246 EASTERN PROMENADE CONDOMINIUM

Pursuant to the provisions of the Bylaws of 246 Eastern Promenade Condominium Association, the following rules and regulations are adopted:

1. There shall be no obstruction of the Common Elements, nor shall anything be stored in the Common Elements (other than in a storage area or parking space constituting a Limited Common Element assigned to a particular Unit) without the prior consent of the Executive Board of the Association, except as expressly provided herein or in the Declaration or Bylaws. Each Owner shall be obligated to maintain and keep in good order and repair his own Unit (except the structural walls and exterior walls of a Unit) and any area or facility the exclusive use of which is provided to said Owner, in accordance with the provisions of the Bylaws and the Declaration.

2. Nothing shall be done or kept in any Unit or in the Common Elements which will materially increase the rate of insurance of the building of the Condominium (the "Condominium Building"), or contents thereof without the prior written consent of the Executive Board. No Owner shall permit anything to be done, or kept in his Unit, or in the Common Elements, which will result in the cancellation of insurance on the Condominium Building or the contents thereof, or which would be in violation of any law. No waste shall be committed in the Common Elements.

3. No Unit Owner shall cause or permit anything to be hung or displayed on the outside of windows or placed on the outside walls or doors of the Condominium Building or Units, and no sign shall be affixed to or placed upon the exterior walls or doors, roof or any part thereof, or exposed on or at any window, without the prior consent of the Executive Board.

4. Household pets permitted pursuant to the terms and provisions of the Declaration and/or Bylaws shall be subject to the following Rules and Regulations:

(a) Such pets may not be kept, bred, or maintained for any commercial purposes;

(b) No pets shall be allowed loose in Common Elements, nor shall pets be allowed to loiter in the Common Elements;

(c) Owners of household pets shall be permitted to walk such pets on a leash only in areas specified by the Executive Board for such purpose;

(d) Owners of pets shall immediately clean up and remove any defecation on the Common Elements; and

(e) Each Unit Owner or resident keeping such a pet which violates any of said rules and regulations or causes any damage to or requires the clean-up of any Unit (other than the Unit of the owner of such pet) or the Common Elements, is offensive, or causes or creates any nuisance or unreasonable disturbance or noise, may in the discretion of the Executive Board be:

(i) fined in an amount determined by the Executive Board or assessed by the Executive Board for the cost of the repair of such damage or cleaning or elimination of such nuisance, and/or

(ii) required by the Executive Board to permanently remove such pet from the Condominium upon three (3) days' written notice from the Executive Board.

5. No Owner or resident shall engage in or permit any noxious or offensive activities, or make or permit any unreasonable noises by himself, his family, servants, employees, agents, visitors, lessees, licensees, or household pets, nor do himself or permit anything to be done by such persons or pets, either willfully or negligently, which:

(a) May be or become an annoyance or nuisance to the other Owners or occupants;

(b) Will interfere with the rights, comforts, or conveniences of other Owners;

(c) May or does cause damage to any other Unit or to the Common Elements, or

(d) Results in the removal of any article or thing of value from any other Owner's Unit or from the Common Elements.

(e) The Owner making or permitting such nuisance, interference, damage, or removal shall be responsible for the elimination of such nuisance or interference and for the costs of the repair of such damage or replacement of the item removed.

(f) Total volume of noise-producing instrumentalities such as, but not limited to, television sets, radios, CD players, phonographs, and musical instruments, shall be turned down after 10:00 p.m. and shall at all times be kept at a sound level to avoid disturbing other residents of the Condominium.

6. No clothes, sheets, blankets, laundry, rugs of any kind or other articles shall be hung out of the windows or sliding doors or on the balconies of any Unit or exposed on or in any part of the Common Elements. The Common Elements shall be kept free and clear of all rubbish, debris, and other unsightly materials, and any large items of rubbish or materials
for disposal must be removed from the Condominium by the Unit Owner responsible for such items. Any cardboard boxes or cartons disposed of in Condominium dumpster(s) shall first be broken down and flattened by the Unit Owner or occupant.

7. Nothing shall be altered in, constructed in, or removed from the Common Elements except upon the written consent of the Executive Board.

8. No smoke detector, heat detector, fire sprinkler, fire alarm or other fire alarm system device or component shall be tampered with, modified, disconnected, or disabled by any Owner, whether or not such device or component is in a Unit or the Common Elements.

9. No part of the Common Elements of the Condominium shall be decorated or furnished by any Unit Owner in any manner without the prior written consent of the Executive Board, except as otherwise provided in the Declaration or Bylaws.

10. Each Owner shall keep his Unit and any Limited Common Elements, the exclusive use of which is provided to such Unit, in a good state of preservation and cleanliness, except for the structural walls and the exterior walls of a Unit. The water closets and other water apparatus shall not be used for any purpose other than that for which they were constructed, and no sweepings, rubbish, rags, paper, ashes,

or other substances shall be thrown therein. Any damage to plumbing systems of the Condominium Building resulting from such misuse shall be paid for by the Owner who shall have caused it. Bicycles, baby carriages, carts and the like may be stored only in areas designated by the Executive Board and in such a manner so as not to obstruct any Common Elements.

11. All radio, television or other electrical equipment of any kind or nature installed or used in each Unit shall fully comply with all rules, regulations, requirements, or recommendations of the Board of Fire Underwriters and the public authorities having jurisdiction, and the Unit Owner alone shall be liable for any damage or injury caused by any radio, television, or other electrical equipment in such Unit.

12. No exterior lighting equipment, fixtures, or facilities shall be attached to or utilized for any Unit, deck, patio, or terrace without the prior consent of the Executive Board.

13. Any maintenance, repair or replacement of Common Elements which is the responsibility of Unit Owners pursuant to the Declaration or the Bylaws shall be done only by contractors or workmen approved by the Executive Board.

14. No Unit Owner or occupant or any of his agents, servants, employees, licensees, lessees, or visitors shall at any time bring into or keep in his Unit any flammable, combustible, or explosive fluid, material, chemical, or substance, except such paints, lighting, and cleaning fluids as are customary for residential or artistic use.

15. Wood, propane and coal stoves or similar devices are prohibited in Condominium Units and fire pits/bowls or similar devises are prohibited from balconies and patios.

16. If any key or keys are entrusted by the Unit Owner or occupant or by any member of his family, or by his agent, servant, employee, licensee, lessee, or visitor, to a member of the Executive Board, agent or employee of the Executive Board, whether for such Unit or an automobile, trunk, or other item of personal property, the acceptance of the key shall be at the sole risk of such Unit Owner or occupant, and such member of the Executive Board, agent or employee and the Executive Board shall not be liable for injury, loss, or damage of any nature whatsoever directly or indirectly resulting therefrom or connected therewith.

17. The Executive Board, or their designated agent, may retain a pass key to each Unit. No Unit Owner shall alter any lock or install a new lock or a knocker on any door of a Unit without the written consent of the Executive Board. In case such consent is given, the Unit Owner shall provide the Executive Board, or their designated agent, with an additional key pursuant to its right of access to the Unit.

18. All personal property of the Owners in the Units, or Limited Common Elements, the exclusive use of which is provided to the Unit, and elsewhere, shall be kept therein at the sole risk and responsibility of the respective Owners, and neither the Executive Board, the Building management, nor their respective successors or assigns, shall bear any responsibility therefor.

19. Each Owner assumes responsibility for his own safety, actions, and conduct, and that of his family, guests, agents, servants, employees, licensees, lessees, and household pets.

20. Except as provided in the Declaration, outdoor grills shall only be allowed upon the advance written consent of the Executive Board and subject to any conditions imposed by the Executive Board, and only to the extent allowed by law and only to the extent that such outdoor grills do not adversely affect the

insurance maintained by the Association. Owners are advised that the City of Portland currently does not allow gas, charcoal or wood outdoor grills and heaters on balconies and patios of multifamily buildings.

21. Installation and programming of keyless entry systems will be undertaken only with the permission of the Executive Board and at the sole cost of the Unit Owner.

22. Any consent or approval given by the Executive Board under these Rules and Regulations may be added to, amended, or repealed at any time by the Executive Board.

23. Each Owner utilizing a parking space shall park only within such designated space and in a manner which does not interfere with or impede any other person parking in the parking area or driving in the travel aisles and each Owner will cooperate with other entitled parkers to facilitate the use of the parking spaces.

24. Owners shall provide written notification to the Association of their intention to lease/rent their Unit. Upon notification, the Owner shall complete a Condominium Rental Information Form provided by the Association. The Condominium Rental Information Form shall be signed by the Owner and the tenant and returned to the Association office prior to the tenant occupying the Unit and/or parking space. A copy of the Condominium Rental Information Form shall be attached to, and become a part of, the lease between the Owner and tenant. The Association office shall be notified of any changes in the information on the Condominium Rental Information Form as those changes occur. An additional Condominium Rental Information Form shall be completed and returned to the Association office for each new lease, a terminated lease, and extended lease, and/or renewed leases. For sale/lease signs will not be displayed on the Condominium property or in Unit windows or doors.

25. In the event of a default by any Owner in paying to the Executive Board the Common Charges as determined by the Executive Board, such Owner shall be obligated to pay a late charge at a rate of $50.00 Dollars for each payment not made within 10 days of the due date.

26. There shall be no riding of bicycles, skate boarding, roller skating or rollerblading in the common hallways, lobby areas, parking garage, or other common areas of any Condominium Building or grounds.

27. Any and all furniture and furnishings placed on any balcony, deck, patio, or terrace will be subject to the prior approval of the Executive Board, and will be moveable, high quality, outdoor “patio” type furniture of a proper weight to consider wind and storm conditions.

28. Unit Owners shall be responsible for completely closing behind them all doors providing ingress to and egress from the Units and common areas of the buildings and shall at no time place articles in doorways or otherwise impede the complete closing of such doors behind them, for security purposes.

29. Violations of these Rules and Regulations by any Owner, Tenant, Family Member, Servant, Employee, Agent, or Visitor shall be subject to the assessment of fine(s), and any other remedies available.

If the alleged violator or the Executive Board requests, a hearing will be held.

(a) A hearing notice will be sent to the alleged violator stating the nature of the alleged violation; the time and place of a hearing; an invitation to attend the hearing.

(b) An invitation may also be sent to any person or persons originating the complaint inviting them to the hearing in order to produce evidence to substantiate their complaint.

(c) A Board Representative will preside over the hearing with a quorum of the Executive Board in attendance and will hear testimony from both sides at the hearing and then excuse both parties and the Executive Board will render a decision.

30. Move-In and Move-Out Rules.

(a) There will be a $100.00 non-refundable fee paid by residents moving in or out of Units. This fee is necessary to account for the wear and tear that occurs during every move. The fee is payable to the Association and is required at least five (5) days in advance of a move in or move out.

(b) There will be a $250.00 refundable deposit required to cover damages beyond normal wear and tear and not covered by a moving company's insurance. If a moving company is not used, a refundable deposit of $500.00 is required. This deposit is due at the same time (5 business days) of the non-refundable fee and should be made on a separate check.

(c) Prior to a move, the management company will do a walk-through and list any damages that exist prior to a tenant or owner's move. The tenant/owner will sign off on the list to ensure he or she is not held responsible for pre-existing conditions. After the move, the management company will conduct a walk-through to make note of any new damage resulting from the move. The appropriate actions will be taken to recoup the cost of fixing these damages from the moving company's insurance, or in the case where a mover is not used, from the tenant/owner's $500.00 deposit. If it is not possible to recoup damages from the insurance and/or deposit, then the tenant and owner will be charged the difference. Those who rent their units are responsible for their tenant's actions and thus should notify their tenants of the fee.

(d) Certificates of Insurance must be obtained if the resident is using a professional moving company. The managing agent must receive this certificate at least five (5) days in advance, as well.

(e) Tt is the resident's responsibility to notify the managing agent of any damages to the common areas prior to the move, so that he or she is not held responsible.

(f) Common area doors are never to be left ajar or unsupervised at any time. The building's security is of the utmost importance. If it is necessary to hold the door open, the proper devise should be used so as not to damage the door or hinges.

(g) Failure to follow the procedure above will result in a $400.00 fine imposed on the owner.

(h) Moving is restricted to the hours of 8:00 a.m. and 5:00 p.m.

31. Rules and Regulations relating to satellite dishes and antennas are attached hereto as an Addendum.

32. Use of Outside Contractors. The use of outside contractors by Unit Owners and Tenants can potentially affect the Condominium in a number of ways. Accordingly, the following Rules shall apply:

(a) All workers using the garage should be aware that the garage doors may not be left open or ajar for extended periods of time without being physically monitored.

(b) Work hours are Monday through Friday only, from 8:00 a.m. to 5:00 p.m. No weekend or holiday work is allowed, without express permission from the Executive Board. Note: Domestic cleaners are exempt from this rule.

(c) Construction personnel are not allowed on the private balconies or terraces unless directly related to the Unit they are working on.

(d) Contractors and/or workers must provide the managing agent with appropriate Certificate of Insurance for general liability and workers compensation coverage prior to beginning any work in the Building. A minimum limits policy of $1 million dollars is required, and the Certificate of Insurance must list 246 Eastern Promenade Condominium and its management company as "additional insureds."

(e) All demolition and construction materials, including paint, sheet rock, and other hazardous materials, must be removed from the premises. Building trash receptacles are not to be used by construction personnel. In addition, contractors should be careful not to allow dust from a Unit to disperse into common areas, potentially setting off smoke detectors. Domestic smoke detectors are tied into the main fire panel and cannot be disabled without setting off the system. During construction, domestic smoke detectors and sprinklers should be protected.

(f) All common areas must be kept clean during the course of the workday, and at the end of each workday. Common areas must be kept clear of construction tools and materials, and they must be vacuumed as necessary by the responsible construction crew.

(g) Any and all damage to the Building or Common Elements caused by contractors and/or workers will be repaired by the Condominium Association at the cost of the Unit Owner who hired the company, who shall be deemed responsible for said damages.

(h) Large/lengthy deliveries of furniture, appliances, goods and/or materials that require the elevator must be scheduled prior to the delivery date through the managing agent. Construction deliveries must be received during normal construction hours.

(i) The Rules apply not only to contractors and workers, but also to Unit Owners, their family and friends who undertake to do construction work within the Building.

33. Owners or residents requiring access to common utility rooms in the Building must arrange for such access at least five (5) days in advance, through the managing agent. A reasonable fee may be charged for such access, and reasonable conditions and/or restrictions may also be imposed.

246 EASTERN PROMENADE CONDOMINIUM
Portland, Cumberland County, Maine

DECLARATION OF CONDOMINIUM

ELLIE & CHAYA, INC., a Maine corporation with a principal place of business in Portland, County of Cumberland, and State of Maine (hereinafter with its successors and assigns, referred to as the "Declarant"), being the owner of that certain real property located in 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 (hereinafter collectively called 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 (hereinafter referred to as 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 Condominium 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 246 EASTERN PROMENADE CONDOMINIUM (hereinafter sometimes referred to as the "Condominium"). Capitalized terms used herein, if not defined herein, shall have the meanings defined in the Condominium 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 246 EASTERN PROMENADE CONDOMINIUM ASSOCIATION, a Maine non-profit corporation governed by Bylaws of near or even date and referenced herein (hereinafter sometimes referred to as 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 Condominium 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 Condominium Act. The names of the original Declarant-appointed members of the Association's Executive Board are as follows:

Harry M. Krigman
_____; 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 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 successors, 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.

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 in 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 fourteen (14) Units (the "Units").

Recorded herewith is a certain site plan or plat (the "Condominium Plat" or "Site Plan") entitled "Condominium Plat of 246 Eastern Promenade Condominium" prepared by Terradyne Consultants last revised _____, 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 "Condominium Plans, 246 Eastern Promenade Condominium" (_____ Sheets) prepared by Mark Mueller Architects 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, the parking spaces described below, certain Limited Common Elements appurtenant to certain Units (such as parking spaces, balconies, and storage closets).

4. Description of the Building. As described above, the Condominium consists of fourteen (14) Units in two (2) Buildings (collectively, the "Buildings"), one located at 246 Eastern Promenade and the other located at 15 Turner Street. The Building at 246 Eastern Promenade has four (4) levels above a half basement and contains eleven (11) residential condominium units and fourteen (14) parking spaces in an enclosed, climate-controlled garage. The Building located at 15 Turner Street has two (2) levels and contains three (3) residential condominium units. 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 of the Units with respect to the floors, ceilings, and the walls, doors and windows thereof are as follows:

(i) Floors. The upper surface of the slab or structural joists below the sub-flooring of the Unit or the Unit's floor.

(ii) Ceiling. The lower plane of the slab or structural joists supporting the next level above the Unit, except that upper boundary shall be the lower surfaces of all ceiling concrete.

(iii) Exterior and Demising Walls. The plane of the outside of exterior walls; the plane of the middle of partition walls provided, however, that regardless of such unit boundaries, maintenance, repair and replacement of such exterior walls and partition walls, commencing from the plane of

the wall framing facing the Unit and then proceeding outward, shall be performed by the Association rather than the Unit Owner, as provided elsewhere in this Declaration). The vertical boundaries of the parking space units shall be as depicted on the Floor Plans, which boundaries do not necessarily correspond to a physical feature such a wall.

(iv) Doors and Windows. As to doors leading to the exterior of the Building or to interior of a Unit, the exterior surface of the door and of the door frame; as to windows, the exterior surface of the glass (and screens if any) and of the window frame (or in the case of storm windows, the exterior surface of the storm window glass and frame).

provided, however, that no pipes, wires, conduits, ducts, flues, shafts, structural beams, structural walls, exterior facade, structural supports, or public utility lines situated within a Unit shall be deemed to be a part of said Unit.

B. Alteration of Units. Unit Owners, including Declarant, may alter, combine and/or subdivide Units, and/or relocate the boundaries between adjoining Units, provided, however, that: (1) the terms and provisions of Sections 1602-111, 1602-112 and/or 1602-113 of the Condominium Act (as applicable) are complied with, (2) the advance written consent of the Executive Board is obtained, which consent shall not be unreasonably withheld or delayed, and (3) any reasonable conditions imposed by the Executive Board are complied with in all material respects.

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 or previously granted by the Declarant). 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 Condominium Act:

(i) 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.

(ii) Any shutters, awnings, window boxes, doorsteps, porches, balconies, patios 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.

(iii) The Floor Plans recorded herewith depict various private terraces or private patios, with access thereto from adjacent Units. Such private terrace areas or patios are Limited Common

Elements for the exclusive use by the occupants of such adjacent Units subject to the terms of this Declaration and the Condominium Act.

(iv) 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: parking spaces in the allocated to specific Units by Declarant in the Unit Deeds or in the Plat and Plans, and storage areas located within the Buildings.

(v) 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.

(vi) Unit Owners having the exclusive right to use terraces and/or balcony areas may, at their sole cost and expense, install certain planters and/or privacy barriers with the prior written consent of the Executive Board, which consent shall not be unreasonably withheld, conditioned, or delayed.

C. Parking Spaces. The Declarant, as one of its Development Rights, hereby retains and reserves the right to establish and thereafter use, allocate, convey, and assign an exclusive right to use each of the parking spaces in Condominium as shown on the Plans recorded herewith. Subject to the terms and provisions of the Condominium Act, the parking spaces (i) may only be used by the Declarant and by occupants of the Condominium and their guests, invitees, and licensees, and (ii) may thereafter be transferred to other Unit Owners pursuant to Section 1602-108(b) of the Condominium Act.

D. Parking Restrictions. The following additional restrictions and regulations shall apply to the use and occupancy of the parking spaces (none of the following restrictions and regulations shall apply to any parking spaces in the parking space units):

(i) The parking spaces shall be used only for the storage 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 parking spaces except with the written consent of the Executive Board. Any storage of personal property in or on the parking spaces shall only be in enclosed storage facilities approved in writing, in advance, by the Executive Board.

(ii) All vehicles shall be parked or exist wholly within their respective parking spaces.

(iii) A Unit Owner entitled to use a parking space may permit any Unit tenant, guest, invitee, or licensee the right to use the parking space which said Owner is entitled to use, but all parties using said parking space shall comply with the provisions relating to such use and occupancy contained in this Declaration, the Condominium Bylaws, Rules, and Regulations.

(iv) A Unit Owner entitled to use a parking space who permits any Unit tenant, guest, invitee, or licensee to use a parking space to which said holder is entitled to use shall be responsible for the compliance by such other user with provisions of this Declaration, the Condominium Bylaws, Rules, and Regulations, to the extent the same may be applicable.

(v) In instances where vehicles using the parking spaces and other facilities of the Condominium do not comply with this Declaration, the Executive Board is authorized to allow the towing of the offending vehicles at the expense of the owners of such vehicles and the parking space holder.

(vi) Any user of a parking space may do so only in a cautious manner, and any Owner(s) or other party holding the right to use a parking space, by acceptance of their Unit Deed or other right to use, thereby agrees to both release and indemnify the Declarant, the Condominium Association, its Executive Board from and against any and all claims, losses, costs, expenses, or damages said parties may incur (including, without limitation, reasonable attorneys' and paralegals' fees and costs) or be hereafter subjected to and arising from the acts or omissions of the Owner or other party holding the right to use such parking spaces, unless arising from the indemnified party's gross negligence, willful misconduct, or violation of the terms and provisions of this Declaration, the Condominium's Bylaws, Rules or Regulations.

E. Maintenance and Repair of Units and Common Elements. Except as otherwise provided in the Condominium 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:

(i) Unit Owners shall keep their appurtenant balconies, patios, and terraces in a clean and neat condition.

(ii) 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 elements, exterior walls, or interior partition walls. As such, Unit Owners shall not modify, maintain, repair, replace or alter such elements in any manner.

(iii) 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.

(iv) 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 therefor.

(v) The Association shall be responsible for causing the sidewalks surrounding the Property to be cleared of snow in accordance with the City or Portland's snow removal ordinance, the cost of which shall be a Common Expense.

(vi) 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 Unit Common Expense; no Unit Owner shall attempt to utilize curb-side trash pick-up services provided by the City of Portland, and the City has no intention or obligation to provide such service.

(vii) The Association shall be responsible for ensuring that, in connection with any repair, maintenance, or replacement work performed by the Association, the screening of exterior HVAC equipment complies with applicable ordinance and code and further that the external HVAC equipment meets the maximum allowable noise requirements under applicable ordinance and code. The Association shall further provide the City of Portland with all required documentation of such compliance on a timely basis.

(viii) The Association shall maintain all components of the storm water drainage and management system serving the Property as provided in the "Stormwater Drainage Maintenance Agreement" given by Declarant for the benefit of the City of Portland dated _____, 2023, and recorded in the Cumberland County Registry of Deeds in Book _____, Page _____, the costs of which maintenance shall be a Common Expense.

7. 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, except for the parking spaces, to which a fair and reasonable allocation has been made. 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.

8. Other Matters Relating to Condominium Association.

A. Allocation of Undivided Interests. Each Unit's percentage of the Undivided Interests set forth herein has 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 Condominium Act.

B. Common Expense Assessments.

(i) Assessments for Common Expenses shall be levied as provided in this Declaration and the relevant sections of the Condominium 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 Condominium 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 Condominium 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 Condominium 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.

9. Common Easements and Right of Access. To the fullest extent allowed by the Condominium 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.

10. 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.

11. Intended Use and Restrictions on Use of the Buildings and Units.

A. Use Restriction. The purposes for which the Buildings and the Units and Common Elements are intended to be used only for residential purposes, subject, in all events, to the further restrictions set forth below in this Section 11, provided, however, that such Units may be used by the Declarant for other purposes pursuant to the provisions of Section 11. This restriction shall not be construed to prohibit Unit Owners from leasing their Units, so long as any such leases are for an initial term of at least six (6) months and require any lessees to adhere to the provisions of this Declaration, the Association's Bylaws and the Rules and Regulations, 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. Additional Restrictions. 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 his 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 or two (2) cats or one (1) dog and one (1) cat (i.e., two animals total), no animals, reptiles, birds, or pets of any kind (except fish) shall be raised, bred, or kept in the Units or in the Common Elements without the approval of the Executive Board, which approval will be required for each specific animal, reptile, or pet.

(iii) No Unit Owner shall alter his or her 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 for an initial term of less than six (6) months, any such leases or tenancies shall be pursuant to a written lease which shall specifically provide that the tenant/lessee is subject to the terms of this Declaration and the Bylaws 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 Building 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.

(xv) Owners of Units on the second floor or higher shall be required to cover at least 60% of the floor area of the Units (not including kitchens or bathrooms) with rugs or carpeting, or to take other reasonable measures as established by the Executive Board aimed at lessening sound transmission to Units below.

C. Declarant's Use of Units. 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.

12. 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.

13. Units Subject to Declaration and Condominium 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.

14. Amendment of Declaration.

A. Declarant's Consent. 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. General Amendments. Amendments to this Declaration are governed generally by Section 1602-117 of the Condominium Act, this Section 15 of the Declaration, and Section 16 below. Except as may be required by the Condominium Act, and except as otherwise provided in Section 16 below or in this Section 15, 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. Special Amendments. 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 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 Condominium 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 by Declarant 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.

15. Provisions Protecting Rights of Secured Lenders. Subject to the limitations set forth in Section 1602-119(a) of the Condominium 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. First Mortgagees. 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; (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. Foreclosure by First Mortgagee. 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 Condominium 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. Lien for Common Expenses. 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. Notice to Eligible Mortgage Holders. As provided in Section 1602-119 of the Condominium 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 Condominium 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 Condominium Act for purposes other than the repair or restoration of the damaged property; and

(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.

In the event of any proposed actions described in Subsection D, 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 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 (1) to (6) above.

E. Restrictions in Favor of Eligible Mortgage Holders. 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 Condominium Act, 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. Priority. 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. Additional Rights of Eligible Mortgage Holders. 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. Restriction Against Amendment. 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:

(i) Assessments, assessment liens, or subordination of such liens;

(ii) Reserves for maintenance, repair, and replacement of the common areas;

(iii) Insurance;

(iv) Rights to use of the Common Elements;

(v) Responsibility for maintenance and repair of the Property;

(vi) Expansion or contraction of the Condominium or the addition, annexation, or withdrawal of property to or from the Condominium;

(vii) Boundaries of any Unit;

(viii) The apportionment of Undivided Interests in the Common Elements;

(ix) Convertibility of Units into Common Elements or of Common Elements into Units;

(x) Leasing of Units;

(xi) 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 or their Unit estate; and

(xii) 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 Condominium 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 Condominium 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 Condominium 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 proper notice of the proposal, provided the notice was delivered by certified mail, return receipt requested.

16. 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 Condominium Act. Once a Common Expense assessment is made, Unit Owners shall be liable for Common Expenses as provided in this Declaration, as amended. The following shall apply:

A. Budget for Common Expenses. 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. 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. Each Unit's assessments for expenses set forth in the Budget will be based upon a fraction, the numerator of which shall be that Unit's Undivided Interest in the Common Elements and the denominator of which shall be the aggregate Undivided Interest of all Units, or, in the Executive Board's reasonable discretion, based upon benefits received.

B. Adoption by Association. 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 Condominium 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 required above, 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.

C. Payment and Collection of Common Expenses. The Executive Board shall, as 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.

D. 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.

17. 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: "246 Eastern Promenade Condominium 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 Condominium 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 $1,000,000/$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 Trustees. The Executive Board (i) shall have exclusive authority to negotiate all losses as herein provided, (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 Maine Condominium 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, her or its 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 Maine Condominium Act.

20. Rebuilding, Restoration and Condemnation.

A. Casualty Loss. Except as provided in Section 1603-113(h) of the Condominium 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 Trustees 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.

B. Emergency Work. 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.

C. Cost of Repair a Common Expense. 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.

D. 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 Condominium Act.

18. 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 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.

19. 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.

20. 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.

21. 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.

22. Conflicting Provisions. If any provisions of this Declaration shall be invalid or shall conflict with the Condominium 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. Conflict with the Condominium Act. In the event of a conflict between the Declaration and said Condominium Act, as amended, the provisions of the Condominium Act shall control; and

B. Conflict with the Bylaws. In the event of a conflict between this Declaration and the Bylaws, this Declaration shall control.

23. 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.

24. 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.

25. 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.

26. 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.

Witness the execution hereof under seal this ____ day of August, 2023.

ELLIE & CHAYA, INC.

_____ By:_____

Witness Harry M. Krigman
Its President

STATE OF MAINE August _____, 2023
Cumberland, ss.

Personally appeared the above-named Harry M. Krigman, President of Ellie & Chaya, Inc., and acknowledged the foregoing Declaration to be his free act and deed in his said capacity and the free act and deed of said Ellie & Chaya, Inc.

Before me,

_____
Paul F. Driscoll, Maine Bar No. 2396
Attorney-at-Law

246 EASTERN PROMENADE CONDOMINIUM
SCHEDULE A

[Insert Legal Description of the Property]

246 EASTERN PROMENADE CONDOMINIUM
SCHEDULE B

[Insert Unit-by-Unit Allocated Interests and Common Expense Liabilities]

246 EASTERN PROMENADE CONDOMINIUM
LIMITED JOINDER AND AGREEMENT OF MORTGAGEE

[Insert Form of Limited Joinder and Agreement of Mortgagee Required by Lender]

PROJECT APPROVALS

[Insert Copies of All Required Approvals for the Condominium]

246 EASTERN PROMENADE CONDOMINIUM
PUBLIC OFFERING STATEMENT
Last Revised August 1, 2023

General Project Description

246 Eastern Promenade Condominium (the "Condominium") is a newly constructed residential condominium project located in two buildings, one at 246 Eastern Promenade and the other at 15 Turner Street in Portland, Maine. The project consists of fourteen (14) residential condominium units in these two buildings.

The developer of the Condominium (the "Developer" or "Declarant") is Ellie & Chaya, Inc., a Maine corporation with an address c/o Harry M. Krigman, 24 Wildwood Drive, Cape Elizabeth, ME 04107.

Subject to the development rights described below, the Condominium comprises two (2) buildings (the "Buildings"), one located at 246 Eastern Promenade and the other located at 15 Turner Street. The properties are contiguous. The Building at 246 Eastern Promenade has four (4) levels and contains eleven (11) residential condominium units served by an elevator and fourteen (14) parking spaces in an enclosed, climate-controlled garage. Each Unit owner in this Building will receive a designated parking space for the unit owner's exclusive use, subject to the Declaration and Bylaws of the Association, as defined below. The three (3) unallocated parking space units in this garage will be available for other unit owners, guests, and invitees on a first-come, first-served basis. Each Unit in this Building will have a designated storage area in the basement as a limited common element. The second Building located at 15 Turner Street has two (2) levels and contains three (3) residential condominium units. Each Unit owner in 15 Turner Street will have a single parking space as shown on the Plat and Plans of the Condominium. Each of the Buildings contains , basement storage, internal trash, and recycling room. All units include private outdoor living spaces via decks or at grade patios.

The Condominium also includes thirteen (13) exterior parking space units. Of these, five (5) will be allocated to Units 100, 200, and 300 in the Building at 15 Turner Street as depicted on the Plat and Plans. The remaining eight (8) exterior parking space units will be retained by the Developer to serve as parking for tenants of the Developer's property at 119 Morning Street. None of the twenty-seven (27) parking spaces in the Condominium are formal condominium units but instead are (i) limited common elements appurtenant to Units in 246 Eastern Promenade, (ii) limited common elements appurtenant to Units 100, 200, and 300 in the Building at 15 Turner Street, or (iii) parking spaces reserved by the Developer to serve 119 Morning Street.

All of the residential condominium units in both Buildings will be served by public water, sewer, gas, electricity, and Internet. The utilities will run underground from Turner Street to the transformer located on-site near the entrance to the garage as shown on the Plat and Plans for the project. There will be a single sewer/water connection for 246 Eastern Promenade and a single sewer/water connection for 15 Turner Street. Both properties have stormwater management plans approved by the City of Portland.

As of the date hereof, the Condominium building is substantially complete, and a certificate of occupancy has been issued for the common elements and the fourteen (14) Units.

The Declarant acquired the Condominium land on November 12, 2021. The Declarant obtained Level III Master Plan Development approval on _____ ("Master Plan Approval"). Declarant obtained conditional site plan and subdivision approval for the construction of the Condominium from the City of Portland Planning Board on _____, 2023, as evidenced by the approval letter dated _____, ("Site Plan and Subdivision Approval").

Significant Features of Condominium Documents

The Condominium's primary legal documents consist of the following: (a) Declaration of Condominium (the "Declaration," a copy of the draft of which is attached hereto as Exhibit A); (b) the Bylaws of 246 Eastern Promenade Condominium Association (the "Bylaws," a copy of which is attached hereto as Exhibit B); (c) a Property Management Agreement; (d) the Condominium's Rules and Regulations (a copy of which is attached to the Bylaws in Exhibit B); (e) the Condominium Plat and Condominium Plans (reduced copies of which are attached hereto as Exhibit D) and (f) the Purchase and Sale Agreement (the "P&S" or "Sales Agreement").

The following is a brief narrative description of each of the above-described documents:

(a) Declaration of Condominium

The Declaration of Condominium is the legal document that has been executed by the Declarant and recorded at the Cumberland County Registry of Deeds which formally dedicated the Condominium property to the condominium form of ownership. Because the Declaration has been recorded, the Condominium is divided into various individual "Units," as well as various common elements and limited common elements (which are common elements reserved for the exclusive use of a unit or units). The common elements will be owned by the Unit owners as tenants in common based on the allocated interests of the Units as set forth in the Declaration. The Declaration also includes various other rights, obligations, easements, covenants, and restrictions relating to the Declarant, the Units, and the common elements, as well as a method to carry out any future amendments to the Declaration.

(b) Bylaws

The Bylaws set forth the governance, operation and functioning of 246 Eastern Promenade Condominium Association (the "Association"). The Association exists as a non-profit, non-stock, mutual benefit corporation pursuant to Maine law. The Association is governed by an Executive Board (the "Board"), and the Bylaws provide for the size of the Board, the method of the Board's election, general Board powers, the removal of Board members, the required officer positions, and the appointment and removal of officers. The Bylaws also provide that the Board initially shall be composed of three members appointed by the Declarant. Subsequent to the period of Declarant control of the Board, the Board will be composed of five members, all elected at-large by vote of all of the Unit owners.

(c) Property Management Agreement

The Property Management Agreement addresses with the day-to-day management of the Condominium by a managing agent engaged by the Board for the benefit of the Unit Owners and occupants.

The Association has entered into a Property Management Agreement with [to be determined]. Because the Property Management Agreement was entered into during the period of Declarant control of the Board, that Agreement is terminable upon the expiration or termination of the Declarant control period.

(d) Rules and Regulations

These are a series of additional restrictions and requirements relating to use of common elements and occupancy of Units adopted by the Association for the benefit of Unit owners generally. The Rules and Regulations may be modified from time to time by the Board.

(e) Purchase and Sale Agreement

The Sales Agreement (if signed by Declarant and a purchaser) constitutes the contractual agreement between the Declarant and the purchaser, setting forth the purchase price and other important terms and conditions related to the purchase of a Unit.

Association Budget

The Condominium documents provide for common expenses to be assessed pursuant to an annual budget. The Budget accounts for all of the Condominium expenses and services which benefit the Condominium. Examples include snow removal from the sidewalks, fire insurance premiums, association legal fees, building structure maintenance and repair, stormwater management expenses, and property management fees. The Budget will also include expenses and services for common area repairs and maintenance, interior lobby, stairway and hallway maintenance and janitorial services, life safety maintenance, testing and licensing, reserves, janitorial services, natural gas, sewer and water services, snow removal, bulk cable television and internet services, and landscaping and grounds maintenance.

The expenses in the Budget are assessed based on the allocated interest of each Unit as set forth in the Declaration. Each Unit's assessments for expenses set forth in the Budget will be based upon its proportionate share, which is calculated as a fraction, the numerator of which shall be that Unit's percentage interest in the common elements and the denominator of which shall be the aggregate percentage interest of all Units.

The Association's Budget for the first full year of operation is attached hereto as Exhibit E. The Budget was prepared with guidance from the property management company for the Association. The Budget contains line items for funding a 10% reserve to the extent required by Fannie Mae underwriting requirements. The Developer shall make a $15,000.00 contribution to the working capital reserve as its sole and final contribution to reserves for the Condominium. Thereafter, the Developer shall have no further obligation to contribute to reserves for any Units owned by it. The Association will have a working capital reserve that will be funded as described in "Initial or Special Fees" below. The first-year Assessments for each Unit are also included in Exhibit E, except that each Unit that has allocated parking spaces will be assessed an additional $_____ per month per parking space. Because the Association was only recently formed, there currently is no balance sheet for the Association.

Other Association Services

To the best of the Declarant's knowledge and belief, there are no services to be provided to the Association which are not reflected in the Budget, which the Declarant will initially provide, and which might become a common expense of the Association in future years, except to the extent that Declarant performs certain work to accommodate Declarant's construction activities while such activities are underway (e.g., snow plowing, janitorial services).

Initial or Special Fees

In addition to customary closing costs, Unit purchasers must contribute at closing to the Association's working capital reserve fund, in an amount equal to two times the Unit's budgeted monthly assessment for common expenses. This contribution is non-refundable and is not a prepayment of regular monthly common expense assessments or any special assessments. For the avoidance of doubt, this obligation to contribute to reserves does not apply to the Developer beyond the $15,000.00 contribution referred to above.

Liens and/or Title Encumbrances

There are various covenants, conditions, easements, and restrictions of record relating to the Condominium, which are referenced in the Declaration.

Financing Offered by the Declarant

The Declarant is not currently offering any financing for Unit purchasers.

Warranties

The Declarant will provide each purchaser of a Unit with a Limited Warranty to protect against possible construction or design problems. This Limited Warranty will also be part of the Sales Agreement and will be acknowledged and signed by both the Declarant and the Unit purchaser by the closing. In order to assert a claim under the Limited Warranty, an action must be initiated within two years after the purchaser's closing of the purchase of the Unit. The Limited Warranty is transferable to subsequent Unit owners. Maine law also provides certain express and implied warranties of quality which are set forth in Sections 1604-112 and 1604-113 of the Maine Condominium Act. As to any item covered by Maine's statutory express or implied warranty provisions, the statute of limitations for assertion of a claim shall be limited by the Limited Warranty Certificate to two (2) years from the date of closing.

Cancellation Rights

(a) Unless a purchaser has received and reviewed a copy of this Public Offering Statement prior to the execution of a contract for sale, a purchaser, before conveyance, may cancel the contract for purchase of a Unit from the Declarant. If the purchaser elects to cancel, the purchaser may do so by hand-delivering a Notice of Cancellation or by mailing the notice by pre-paid United States mail, to the Declarant. The cancellation rights conferred hereby are without penalty, and any earnest money deposit made by the purchaser will be promptly refunded in its entirety upon such cancellation as described above.

(b) If a purchaser accepts the conveyance of a Unit or waives the cancellation right prior to closing, the purchaser thereafter may not cancel the contract.

Absence of Unsatisfied Judgments

There are no unsatisfied judgments or pending lawsuits against the Association, nor are there any pending lawsuits material to the Condominium of which the Declarant has actual knowledge.

Escrow of Deposits

Any earnest money deposit made in connection with the purchase of a Unit will be held in an escrow account until closing and will be returned to the purchaser if the purchaser cancels the contract pursuant to its terms and Section 1604-107 of the Maine Condominium Act. The name and address of said escrow agent is: _____. Prepayments for upgrades are not earnest money deposits and will not be held in escrow; rather, they are prepayments for specific upgrades to the unit requested by the purchaser and such funds may be used by the Declarant to purchase materials and perform work on the unit in connection with such upgrades.

No Restraints on Transfer

The Declarant is not aware of any restraints on transfer that will apply to any Units in the Condominium; the common elements will be subject to the restrictions on transfer that are provided in Section 1603-112 of the Condominium Act.

Contracts to be Signed by Unit Purchaser at Closing

In addition to signing the Limited Warranty Certificate at closing, as indicated above under the discussion of Warranties, any unit owner for whom Declarant has agreed to provide licensed rights to use a parking space for a period of time will enter into a parking license agreement with Declarant.

Insurance

The Association and/or the Condominium's property management company will keep the Condominium and units insured against loss by fire and standard extended coverage events, as well as with commercial general liability insurance. Further details regarding the insurance coverage required to be maintained are set forth in the Declaration. Evidence of the Association's insurance is available upon request. Each purchaser is advised to obtain his or her own condominium unit owner's insurance policy, in order to insure against matters not covered by the Association's policy.

Absence of Fees for Use of Facilities

The assessments paid by a Unit purchaser to the Association cover the use and enjoyment of the Condominium's common elements, facilities and amenities, and no further fees are anticipated to be charged for such use, except for service charges for use of common elements by Unit owners for events that preclude the use of such common elements by others.

Alienation of Common Elements

No portion of the Condominium's common elements may be alienated or sold, except as expressly allowed by Section 1603-112 of the Maine Condominium Act.

Zoning and Land Use Requirements

All of the condominium property is located in the R-6 zone under the City of Portland Zoning Ordinance, which allows residential and certain commercial uses. The Condominium also is subject to all the conditions of approval for the Master Plan Approval and for the Site Plan and Subdivision Plan Approval.

246 EASTERN PROMENADE CONDOMINIUM
EXHIBITS TO PUBLIC OFFERING STATEMENT

A.	Declaration of Condominium
B.	Site and Subdivision Plan Approval Letter
C.	Bylaws of 246 Eastern Promenade Condominium Association and Condominium Rules and Regulations
D.	Reduced Copies of Condominium Plat and Condominium Plans
E.	Annual Budget and Monthly Dues Per Unit

TERRADYN CONSULTANTS, LLC

207.926.5111
info@terradynconsultants.com
www.terradynconsultants.com

March 19, 2024

RESPONSE TO REVIEW COMMENTS

PL-002490-2023 | 246 Eastern Promenade
Portland, Maine 04101
Project #22-144

Sean King, PLA Urban Designer
389 Congress Street, 4th Floor
Portland, ME 04101

Dear Sean:

We have received and reviewed a second round of staff comments on the proposed redevelopment of 246 Eastern Promenade (City of Portland Project #PL-002490-2023), dated March 14th 2024. The project design team has prepared the following responses to the comments. For clarity, each comment is repeated below, followed by our response in **bold text**.

GENERAL REVIEW COMMENTS:

- RTI - Applicant to provide signed easement agreements or is required to proceed as a condition of approval prior to applying for building permits.

  Applicant Response: The utility easement is expected to be completed before a building permit is applied for and is acceptable as a condition of approval.

- Permits/Other Requirements - The applicant has indicated they intend to meet the Inclusionary Zoning requirements by paying a fee in lieu to the Jill C. Duson Housing Trust Fund for the required 4 workforce housing units.

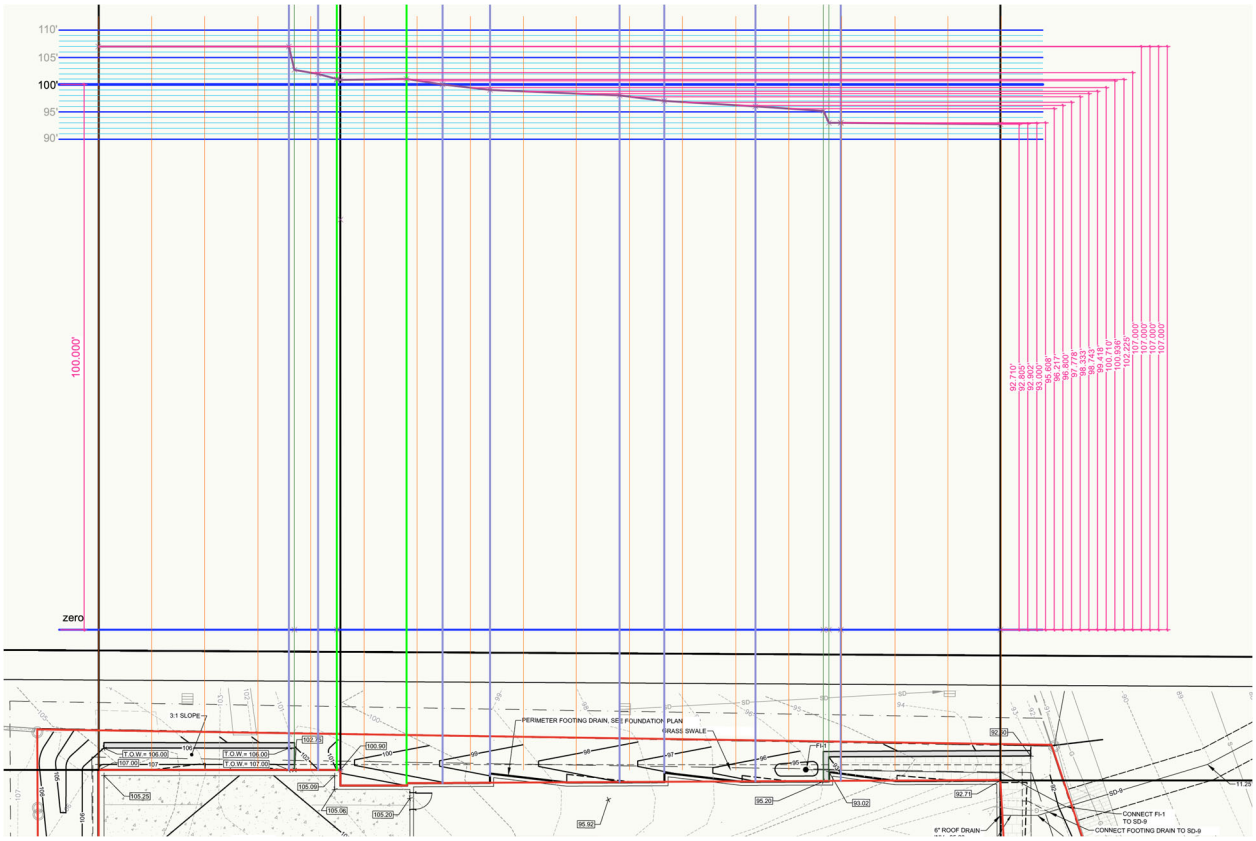
  Applicant Response: Applicant to pay fee-in-lieu as a condition of approval prior to certification of occupancy.

- Zoning - Concerns about the 5' setback for the front left side where the deck extends out. The site plan shows the corner of the deck extending beyond the 5' setback, the Applicant is required to meet dimensional standards for decks as structures projecting from building. The applicant to submit average grade calculation.

  Applicant Response: The architectural drawings have revised the dimensions of the deck to be within the 5' setback. This change will be reflected in the site plan for the next submission.

Although grading is still being developed and coordinated with the building, average grade calculations were made as follows:

Spot grades at no less than 10' intervals (except for one elevation which left us with two 10'-1"+/- intervals) were measured where grade meets the building's foundation. This was done the old fashioned way of projecting grades directly from the plan, establishing the interval of measurement, and dimensioning each elevation height above the 0'-0" datum. A measurement of each height was then transferred into a spreadsheet and an average grade was calculated based on average of each elevation height. This approach resulted in 68 measurements resulting in an average grade as indicated in the attached drawings.



These calculations will be repeated prior to final submittal of the drawings.

TRANSPORTATION STANDARDS COMMENTS:

- Impact on Surrounding Street Systems - The applicant shall mill (2") then overlay (with 2" of asphalt) Turner Street from curb face to curb face to include the gap between trenches as shown below as part of the pavement repair within the ROW.

Applicant Response: The mill and overlay sections have been updated to extend through the gap between trenches and is shown on the updated civil plan sheets.

- Access and Circulation - Two-way drive isle from Turner Street dimensions at 18', the Applicant is required to meet Technical Manual standards 1.5 for 20' minimum or provide sufficient justification with a waiver request.

  Applicant Response: A waiver request has been included in this response to comments, the entry to the garage is 18' and the width of the drive has been proposed to match.

- Parking - The applicant is requested to indicate the minimum bicycle parking requirement, which requires that two spaces be provided for every five units, this requires the development to include a total of six bicycle parking spaces on the plan based on the proposed 13 dwelling units. The applicant has indicated 14 parking spaces in the garage and 2 surface parking spaces, Staff is requesting the applicant indicate where on the plan new Level 2 electrical vehicle (EV) chargers are proposed, to meet the minimum EV charger requirements of 3 EV chargers (20% of 17 parking spaces = 3 (rounded down to nearest whole number) and EV-ready locations per Section 1.14 of the City of Portland Technical Manual.

  Applicant Response: More than 6 bicycle parking spaces will be provided in the basement. C-6.0 has been updated to show 7 EV Level 2 chargers providing service for 14 vehicles.

ENVIRONMENTAL QUALITY STANDARDS COMMENTS:

- Site Landscaping and Buffers - The applicant will be required to indicate how the remaining 3 street trees will be met, either as an acceptable alternative or a contribution to the City of Portland Tree Fund in the amount of $400 per tree. The applicant is requested to provide screening from the proposed transformer at the east property line from the abutting property as it appears that the existing trees will not be preserved due to excavation in the critical root zone.

  Applicant Response: Landscape Architect will work with team to provide additional street tree planting and/or fee in lieu for remaining 3-tree deficit. Landscape Architect will revise plans to augment screening at transformer in conformance with CMP standards.

- Water Quality, Stormwater Management and Erosion Control - The Applicant to confirm manufacturer's design of the R-Tank system, and resubmit information for review. The Applicant will need a stormwater maintenance agreement for the proposed system. The Applicant has also noted that they will be providing ability to serve confirmation when received from utilities.

  Applicant Response: We are currently working with the manufacturer to provide site specific details and design of the R-Tank System, a stormwater maintenance agreement will be provided with the next submission. We have received feedback from sewer and water, and are incorporating their design comments for the next submission, ability to serve confirmation will also be included then.

SITE DESIGN STANDARDS COMMENTS:

- Massing, Ventilation and Wind Impact- Dimensional standards for stepbacks in the R-6 zone require a 15’ stepback from rear property line for structures above 35’. How are the stepbacks being met? The elevations on sheet A2.1 show the 35' line above the average grade. On the rear, right side the height needs to be measured to the roof beam for a flat roof. The roof beam needs to be indicated on the elevations. The average grade and the height of the roof beam also need to be shown on the elevations on sheet A2.2.

  Applicant Response: The elevations and building sections have been updated to illustrate proposed grade where it touches the building’s foundation, the top of the roof beams, and the top of fascia at the parapet.

  The rear portion of the building and its corner wrapping to the north, have been updated to correctly illustrate grade in this area, providing a low point (LP) of 106.5’ at the rear elevation and 107’ to the north. The top of the roof beams in this area are illustrated in relation to this 106.5’ low point on the elevations and building sections.

  Although exact roof beam sizes and layouts are yet to be finalized, the attached attempts to clearly illustrate design intent and compliance with the Site Design Standards’ setbacks and stepbacks.

- Snow and Ice Loading - Applicant to show snow storage on site plan.

  Applicant Response: Snow storage is shown on C-4.0, if additional snow storage is needed, it will be collected and removed from the site.

- Noise and Vibration - The Applicant to indicate any rooftop mechanical equipment for noise and vibration to be reviewed by Staff.

  Applicant Response: Elevations, building sections, and the roof plan have been updated to provide a schematic arrangement of rooftop mechanical units. These include 13 compressors for heat pumps within each unit and an ERV for the common spaces. These have been located away from roof edges and clustered toward the center of the building to minimize both sound and visibility from abutters.

  Please refer to the attached cut sheet for the condenser, to illustrate the basis of design.

  Screening around the rooftop mechanical equipment is illustrated in a conceptual form, as the final layout of the units is yet to be finalized. The visual screening material is likely to be metal or a combination of metal and a composite, in a color to minimize visual impact, such as the winter-sky-gray shown in the elevations. Mechanical equipment for the Garage will be housed within the building.

- Design Standards - Staff is requesting that the Applicant indicate all proposed building materials onto elevation plans for Staff review.

  The Applicant is requested to indicate all rooftop appurtenances onto roof plan and elevations for Staff review.

Staff is requesting the Applicant explore a greater symmetrical arrangement of projecting windows along the side elevations that abut neighboring properties.

Staff is requesting the Applicant adjust the main entry to provide additional privacy from Level 3, Unit 303, that allows for the communal entry to not pass under the private deck above.

Staff is requesting the Applicant add the proposed landscape and building lighting to the elevations.

Staff is requesting the Applicant adjust the northeast elevation to match the proposed grading and adjust the building design as needed due to swale along north property line.

Staff recommends the addition of a trellis system along the southeast and northeast walls at ground level to allow for trailing vines (as indicated on the renderings) to grow independent of the building façade and reduce the visual impact of blank facades facing the street.

Applicant Response:

Landscape Architect will work with the team to provide a suitable landscape design solution to mitigate blank facades where noted.

Although final layout and manufacturer of the fiber cement cladding is still being resolved, the elevations have been updated to identify the predominant exterior materials.

Rooftop vent stacks and pipes are not yet illustrated on the roof plan but it is something that we're coordinating with the Mechanical Engineer, with consideration given to visibility, odor from residential kitchen hoods, and proper ventilation clearances. Prior to the final submittal, these items will be illustrated on the roof plans, elevations, and building sections.

The contemporary aesthetic of the building provides a sensitive contrast to the early 1900's buildings of The Hill, while respecting and reinterpreting many of their design concepts. Although many of the early 1900's buildings are seemingly massive 3- or 4-story rectangular boxes with flat roofs, 5" exposure wood siding, corner boards, and large unadorned walls, symmetry is typically not a predominant design element of their side and rear facades. Although the lack of exact symmetry is similar to the old vernacular, the contemporary interpretation exemplifies that asymmetry with some angled bays that do not stack vertically on all floors, allowing for an intentional placement of the bays that provide both visual interest (via angled walls, fenestration patterns, and material changes) and an overall balance of the facade's composition, which is also providing a functional way to minimize the overall scale of the building. By repetitive use of the same angle throughout the building, a cohesive composition is provided, bringing balance to the building. Slight variations in the overall roof line also differs from the big, boxy rectangular buildings of yore — but the effect of reducing the scale of the building requires this new approach of manipulating parapet heights. The old vernacular buildings frequently have multi-story, stacked bay windows either flanking, or offset to one side, of a small entry porch on their front facade — the Eastern Prom elevation

reenvisions that multi-story bay aesthetic with familiar proportions and materials of today.

The main entry has been updated to illustrate with a bit more detail, the intended experience of walking toward the lobby, under the "pergola". Although we have yet to develop a more impressive name for the structures near Turner Street and along the path to the main entry, they are designed to provide way-finding, path illumination via recessed LED strip lights in a comfortable and pleasing intensity, and to additional privacy from the upper decks near the main entry. Upon final approach to the main entry, the steel-colored lightweight pergola structure includes horizontal wood slats to provide additional privacy from the upper decks and a modest amount of weather protection.

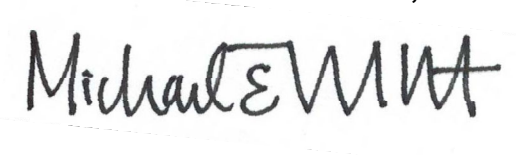
Elevations have been updated to include the trees of the landscape plan but do not yet include any exterior lighting. While we continue to work on exterior lighting, we are not intending to include any uplighting or architectural lighting that would highlight the building's texture. As indicated previously, recessed low-voltage LED lights are being considered for the pergolas. Lighting for the private covered decks will be recessed lights, eliminating the need for exterior sconces at the covered decks.
Elevations will include all exterior lighting, prior to final submittal.

Although grading is still being coordinated and developed for specific building requirements, such as emergency egress windows, Accessibility, proper drainage, and general aesthetics, the building elevations have been updated to illustrate the grading shown in the Civil drawings, specifically where the grade meets the foundation. Given the challenges of two dimensional elevations that provide a view that we'd never experience in reality, some creative license has been taken with illustrating a slope "beyond" but the hard-lines illustrate grade at the foundation of the building.

We continue to work on coordination and design of landscaping and the building, along with cladding material layouts, to minimize the impression of blank facades along any of the walls of the building.

We look forward to the upcoming Public Hearing on this project. In the interim, please contact me with additional questions or comments.

Sincerely,
TERRADYN CONSULTANTS, LLC



Michael Tadema-Wielandt, P.E.
Vice President

Updated Plans:

C-4.0 Site Plan
C-5.0 Grading & Drainage Plan
C-5.1 Detailed Grading Plan
C-6.0 Utility Plan
Various Architectural Plans

cc. Harry Krigman
RDS Architects
Nick Aceto
Greg Shinberg

Mary Roy

56 Wilson St. - Unit #3
Portland, ME 04101
mroy122@gmail.com

Christine Grimando, Director
Planning & Urban Development
389 Congress St. – 4th FL
Portland, ME 04101

June 20, 2023

Regarding: 246 Eastern Promenade and 15 Turner Street.

Dear Ms. Grimando,

I am writing this letter to express my support for the project proposed by ECK Realty located at 246 Eastern Promenade and 15 Turner Street.
I have been a resident of Munjoy Hill for the past 20 years. Back in 2003, my husband and I did a massive renovation of our home on North St. Since then, I have watched the neighborhood change over the years, increasing in density with the development of several new condominium projects. I have made many friends through these new housing options and appreciate the creative and practical use of space to provide for much needed housing in Portland and especially on the Hill.

ECK Realty has proposed a development that will also add more housing to our community and my neighborhood with their plan for 246 Eastern Promenade and 15 Turner Street. Much care and thoughtful planning has been made to assure that the new multi-unit construction (1) creates much needed housing units and (2) fits into the neighborhood aesthetically. I fully support this proposal for more housing on Munjoy Hill.

Sincerely,

Mary Roy

Cc: Brandon Mazer, Chair
Justin Barker, Vice-Chair

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Planning Board City of Portland Maine

389 Congress Street

Portland, ME 04101

August 7, 2023

Subject: Concerns about Proposed Real Estate Developments by ECK Realty LLC / Ellie + Chaya on Eastern Promenade

Dear Members of the Planning Board,

We hope this letter finds you well. We are writing as concerned residents of the Eastern Promenade neighborhood to express our apprehensions regarding the proposed real estate developments by ECK Realty LLC / Ellie + Chaya. We deeply cherish the historical significance and aesthetics of our neighborhood and believe that the modern design of the proposed buildings does not harmonize well.

Munjoy Hill and more specifically, the Eastern Promenade, are more than just a collection of buildings; they are a tapestry of history, culture, and community. The unique architectural styles of our homes and structures reflect the evolution of our neighborhood over time. They narrate stories of generations past and encapsulate the character and identity that make Eastern Promenade a cherished place to live and a unique destination for people from all around the world to visit.

The modern design of the current development proposal proposed buildings will disrupt this harmonious blend of history and culture. The charm of our neighborhood lies in the Victorian, Colonial, and other historic architectural styles that have stood the test of time (some of which survived the Great Fire). Continuing to develop modern buildings that do not complement this existing fabric will compromise the unique sense of place of the Eastern Promenade and its iconic views of Casco Bay.

The architecture of a city also plays a crucial role in its identity and tourism appeal. Historic and scenic neighborhoods, like Eastern Promenade, draw visitors from far and wide, not only for their unique charm but also for the stories they tell. Disrupting the architectural harmony of such

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neighborhoods risks diluting their appeal and eroding their uniqueness.

As cities grow and evolve, it is essential for planners, developers, and city officials to approach economic growth in a thoughtful and intentional manner. While we realize development is necessary for progress, it doesn't have to come at the cost of sacrificing a neighborhood's character and heritage. Surely we can find a way to strike a balance between embracing progress and preserving the elements that make Portland and its neighborhoods so special.

Therefore, we kindly request the Planning Board to consider the significance of architecture and its role in fostering a strong sense of community identity as this project moves through approvals. We urge you to evaluate the proposed developments with a critical eye on how well they align with the existing architectural fabric of Eastern Promenade and the values of our community.

It is our hope that the Planning Board, in collaboration with developers like ECK Realty LLC / Ellie + Chaya, will support projects that respect and enhance the character of historic neighborhoods like ours. By doing so, we can ensure a sustainable and harmonious growth for our city while preserving the essence of what makes Eastern Promenade a cherished place for its residents and visitors alike.

Thank you for your attention to our concerns, and for all of your hard work. We trust that you will give careful consideration to the impact of these proposed developments on our beloved neighborhood. If you require any further information or would like to discuss this matter further, please feel free to contact us.

Respectfully,

DocuSigned by:
Helen Coyne
8DC0A8B9E29843D...

Helen Coyne
236 Eastern Promenade Unit 1

DocuSigned by:
F6FAA5B161CA496...

Rudina Gribizis
236 Eastern Promenade Unit 3

DocuSigned by:
29963F8076784B6...

Cami Wolff
234 Eastern Promenade Unit 1

Sean King <sking@portlandmaine.gov>

246 Eastern Prom Public Hearing - Abutting Neighbor Input

david bannon <davidbannon@yahoo.com> Thu, Aug 10, 2023 at 2:57 PM
To: "planning@portlandmaine.gov" <planning@portlandmaine.gov>
Cc: "sking@portlandmaine.gov" <sking@portlandmaine.gov>, "b.vestal@munjoyhill.org" <b.vestal@munjoyhill.org>

Dear Planning Board Members & Ms. Grimando

I am traveling and will not be available for the public hearing that you are sponsoring for the August 15th meeting to discuss the 246 Eastern Prom development so I wanted to offer my input herein. I did initially write the usual letter (below) that you would expect a bordering neighbor to write in objecting to the development but after reading it over, there is nothing compelling or unusual that would impact the Planning Board's decision.... the usual blah, blah, blah.

With the experience on the Planning Board, I am sure that you appreciate that the 246 Eastern Prom development is overly ambitious for that plot of land. It is unnecessarily large in scale and scope and represents the equivalent of wedging a Walmart-sized building into that small area.

And while there are no specific Munjoy Hill development guidelines embedded within the 2030 Portland Development Plan, I believe that the Planning Board, as stewards of the Eastern Prom and Munjoy Hill neighborhood, can appreciate the impact of how such a large development will detract from the beauty and character of what is one of the most majestic attributes of Portland - the Eastern Prom.

The scope of this project is just an example of profit maximization by a real estate developer. The proposed development doesn't have to be of that proposed size and could very easily be designed to better fit into the neighborhood and Eastern Prom frontage.

I advocate that the Portland Planning Board deny the project as proposed and subsequently work with the developer to reduce the height of the buildings and scale back the development to some degree. This approach is in the best interest of all constituents and demonstrates how the City Planning organization can work in support shared neighborhood interests and planned development.

Thank you for your consideration.

++

David P Bannon
32 Turner Street
Portland Maine 04101

August 2, 2023

Planning & Urban Development Department
Planning Division, 4th Floor
389 Congress Street
Portland, Maine 04101

Subject: Concerns Regarding Proposed Building Variance in 246 East Promenade Family Neighborhood

Dear Members of the Portland Planning & Urban Development Board,

As a concerned citizen and longtime resident of the Munjoy Hill family neighborhood, I am writing to express my deep apprehensions regarding the proposed building variance for the construction of a tall 4-story development in our cherished community. I believe it is crucial for the Planning Board to consider the following concerns before making a decision that could significantly impact our neighborhood's character and quality of life. Recognizing that affordable housing is a strategic necessity for the City of Portland, this scope and scale of this project should be a major concern all residents of Munjoy Hill as well as City Planners.

First and foremost, the proposed development has the potential to substantially alter the character that makes our family neighborhood unique – it is just too large a development for the proposed location. The charm, scale, and aesthetic appeal of our community could be irreversibly affected, leading to a sense of displacement and loss among residents who have called this area their home for years.

Furthermore, the introduction of a taller building would undoubtedly increase population density in our neighborhood. This heightened density could bring about various challenges, particularly with regards to traffic congestion and parking scarcity. Our streets are already strained during peak hours, and an influx of residents and vehicles could exacerbate the situation, making it increasingly difficult for families to navigate their own neighborhood safely.

One of the cherished aspects of our community is the abundant natural light that fills our homes and outdoor spaces on Munjoy Hill and along the Eastern Prom. Unfortunately, the proposed tall building has the potential to cast long shadows over neighboring properties, significantly reducing the amount of sunlight available. This reduction in natural light could impact the quality of life for families, affecting our mental well-being, and diminishing the enjoyment of our outdoor spaces.

Privacy is another critical concern for families in Munjoy Hill as the density increases. The proposed development's height may compromise the privacy of adjacent homes, balconies, and yards. This invasion of privacy could have a detrimental effect on the sense of security and tranquility that families in the area currently enjoy.

Moreover, the increased population density resulting from the development could put strain on our existing amenities, such as parks, schools, and community facilities. These resources are already valued and utilized by residents, and an influx of new residents might compromise their accessibility and quality. It is important to ensure that our neighborhood's amenities can adequately serve both existing and future residents.

Lastly, I am deeply concerned about the potential impact this tall development could have on property values in our neighborhood. Many residents have invested their hard-earned resources into their homes, relying on the stability and desirability of our community. The introduction of a taller building nearby could create uncertainty and potentially lower property values, which would be a significant blow to homeowners and the overall stability of our neighborhood.

In light of these concerns, I kindly request that the Planning Board takes into account the objections outlined above when evaluating the proposed building variance. It is crucial that the long-term well-being and satisfaction of the residents in the East Promenade family neighborhood are given due consideration.

I appreciate your attention to these matters and thank you for your dedication to preserving the integrity and character of our community. Please do not hesitate to contact me if you require any additional information or if there is an opportunity for public engagement where I can voice my concerns in person.

Yours sincerely,

David P. Bannon

david bannon <davidbannon@yahoo.com> 8:06 AM (1 hour ago)
to planningboard@portlandmaine.gov

Dear Planning Board Members,

I am traveling and will likely not be available for the public hearing that you are sponsoring for the August 15th meeting to discuss the 246 Eastern Prom development so I wanted to offer my input herein. I did initially write the usual letter (below) that you would expect a bordering neighbor to write in objecting to the development but after reading it over, there is nothing compelling or unusual that would impact the Planning Board's decision.... the usual blah, blah, blah.

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I advocate that the Portland Planning Board deny the project as proposed and subsequently work with the developer to reduce the height of the buildings and scale back the development to an appropriate degree. This approach is in the best interest of all constituents and demonstrates how the City Planning organization can work in support shared neighborhood interests and planned development.

Thank you for your consideration.

David & Joan Bannon
32 Turner Street
Portland, ME

02.20.2024 PLANNING BOARD SUBMISSION

SHEET INDEX
LANDSCAPE DRAWINGS

	▪	L0-00	COVER SHEET
	▪	L0-01	NOTES
	▪	L1-00	MATERIALS PLAN
	▪	L2-00	PLANTING PLAN
	▪		

VICINITY MAP:

LANDSCAPE ARCHITECT

ACETO LANDSCAPE ARCHITECTS
CAITLIN ACETO
207.221.3390
ca@acetola.com

ARCHITECT

RDS ARCHITECTS
CAROL MORRISSETTE
207.387.1313
carol@rdsarchs.com

CIVIL ENGINEER

TERRADYN CONSULTANTS LLC
MICHAEL TADEMA-WIELANDT
207.926.5111
mtw@terradynconsultants.com

ACETO LANDSCAPE ARCHITECTS
207.221.3390 | ACETOLA.COM

SEAL

PROJECT TITLE

246 E. PROM.

PREPARED FOR

ECK PROPERTIES

SHINBERG CONSULTING
181 STATE STREET
PORTLAND, ME 04101

REVISIONS DATE

SITE PLAN REV. 02/20/2024

ISSUE DATE

02/20/2024

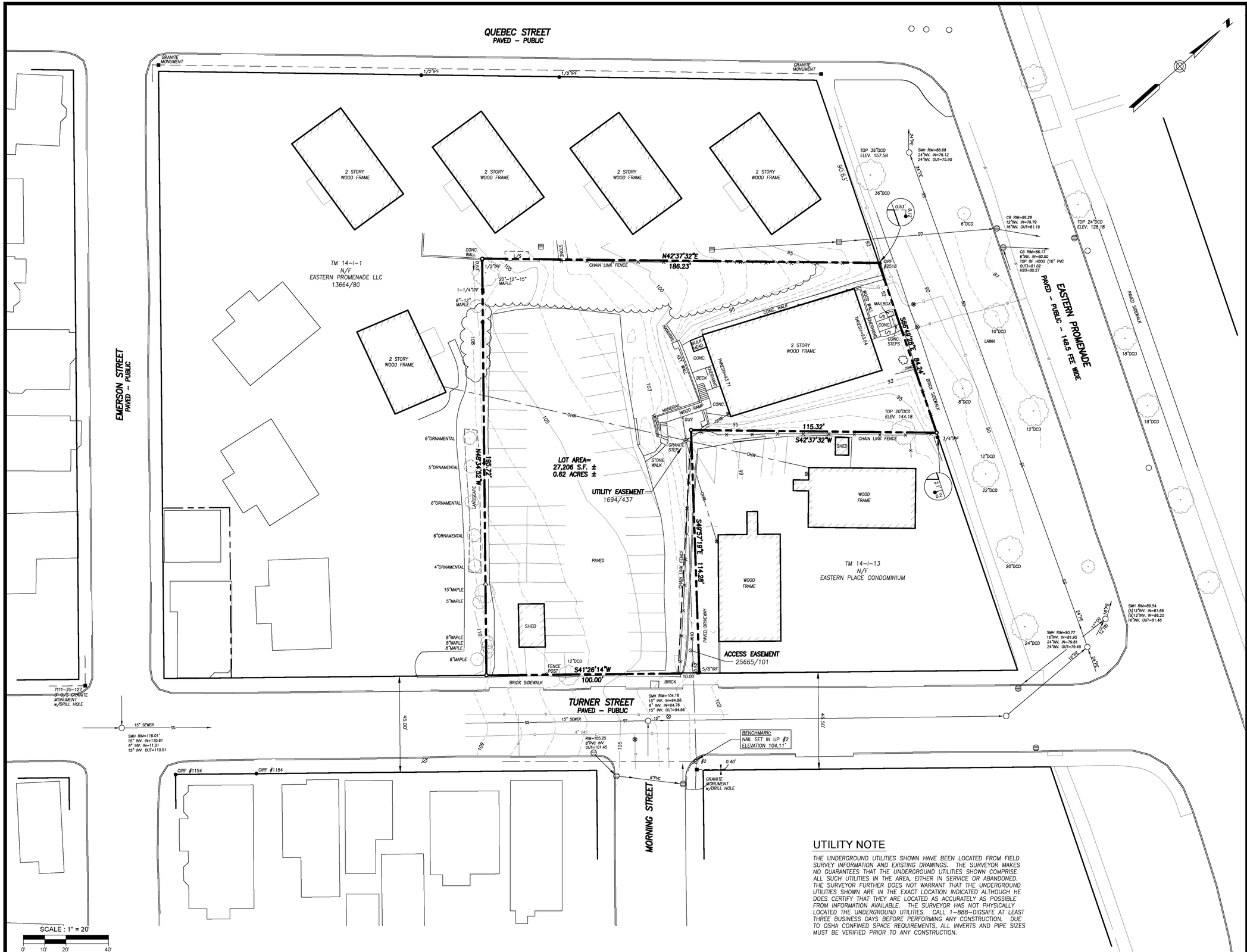
SHEET TITLE

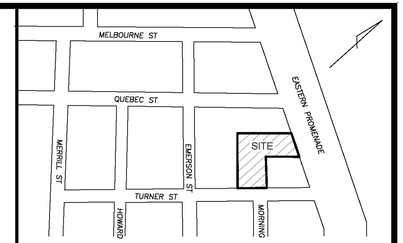
COVER

SHEET INFORMATION

L 0-00

NOT FOR CONSTRUCTION





LOCATION MAP

N.T.S

LEGEND

CAPPED IRON ROD SET	FENCE
IRON PIPE OR ROD FOUND	CURB
MONUMENT FOUND	OHW — OVERHEAD WIRES
UTILITY POLE	W — WATER LINE
MANHOLE	G — GAS LINE
EM ELECTRIC METER	SS — SANITARY SEWER
SIGN	100 — 1' CONTOUR
CATCH BASIN	IPF/IRF — IRON PIPE OR ROD FOUND
WATER VALVE OR SHUTOFF	N/F — NOW OR FORMERLY
GAS VALVE	000/000 — DEED BOOK / PAGE
DECIDUOUS TREE	L/S — LANDSCAPED AREA
SHRUB / BUSH	CONC. — CONCRETE

PLAN REFERENCES

1. "SITE PLAT AT 33 TURNER STREET, PORTLAND, MAINE MADE FOR RECORD OWNER CHARLTON SMITH" JULY 28, 2017 BY OWEN HASKELL, INC. OHI JOB# 2017–072P.

2. "PROMENADE PLACE CONDOMINIUM PLAN PREPARED FOR G.O. ENTERPRISES, LLC," BY NORTHEAST CIVIL SOLUTIONS, DATED DECEMBER 22, 2005 AND REVISED THROUGH JULY 2, 2014. RECORDED IN PLAN BOOK 214, PAGE 270.

3. "LAND TITLE SURVEY MADE FOR EASTERN PROMENADE LIMITED LIABILITY COMPANY" MARCH 4, 1998, REVISED THRU MARCH 10, 1998 BY OWEN HASKELL, INC.

4. "STANDARD BOUNDARY SURVEY ON QUEBEC, EMERSON & TURNER STREET, PORTLAND, MAINE MADE FOR JOHN QUIRK" OCT. 14, 1994 BY OWEN HASKELL, INC.

5. "PLAN OF BOUNDARY SURVEY, 246 EASTERN PROMENADE, PORTLAND, MAINE, MADE FOR DIANE & MARK PERLIN," BY TITCOMB ASSOCIATES, DATED AUGUST 31, 2020.

GENERAL NOTES

1. OWNER OF RECORD: ELLIE & CHAYA, INC.
24 WILDWOOD DRIVE, CAPE ELIZABETH, MAINE
TAX MAP 14 BLOCK I LOT 12
C.C.R.D. BOOK 38884 PAGE 117

2. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83. CITY MONUMENTS USED:

T111–25–127	T111–25–129
N:304431.88	N:304776.37
E: 2931512.49	E:2931122.91

3. ELEVATIONS ARE BASED ON OFFICIAL CITY BENCHMARK T102–67–1, MONUMENT AT THE CORNER OF WILSON AND MORNING STREETS. ELEVATION = 114.63'.

4. MAPPING OF NEIGHBORHOOD BUILDINGS ARE PROVIDED BY CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS.

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

9–13–22
DATE

STATE OF MAINE · SAMUEL D. GLIDDEN · 2520 · PROFESSIONAL LAND SURVEYOR

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1–888–DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

REV. 1	09-13-2022	ADDITIONAL UTILITIES, INVERTS

Boundary & Topographic Survey
At
246 Eastern Promanade, Portland, Maine
Made for
Shinberg Consulting, LLC
181 State Street, Suite 303, Portland, Maine
c/o Eck Realty, LLC

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY: SDG / JLW	DATE: MARCH 31, 2022	JOB NO. 2022-009 P
CHECKED BY: SDG	SCALE: 1" = 20'	DRWG. NO. 1

GENERAL NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
2. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXITS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS.
3. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
4. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-DIGSAFE). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO EXTRA EXPENSE TO THE OWNER.
5. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
6. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
7. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS, WHICHEVER IS MORE STRINGENT.
8. TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY OWEN HASKELL, INC. ELEVATIONS ARE BASED ON. "M" MONUMENT AT THE NORTHEAST CORNER OF HILL AND BRAMHALL ST. ELEVATION=133.54' CITY DATUM.
9. FEMA MAP COMMUNITY PANEL NUMBER 230051 0013 B. THE SITE IS LOCATED IN A C ZONE.
10. THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED IN THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL THE PROPERTY WHICH APPEARS IN THE RECORD OF THE PLANNING BOARD PROCEEDINGS ARE CONDITIONS OF THE APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVALS IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING AUTHORITY.
11. ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
12. ALL CURB SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AS NOTED ON THE PLANS: GRANITE CURB SHALL MEET THE REQUIREMENTS OF MaineDOT SPECIFICATIONS 609.03 AND CITY OF PORTLAND TECHNICAL STANDARDS.
13. ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
14. THE FACILITY IS SERVICED BY PUBLIC WATER, SEWER, AND UNDERGROUND POWER. THE PROJECT INCLUDES UPDATES TO THE POWER SERVICE INCLUDING THE INSTALLATION OF NEW UNDERGROUND SYSTEM. SEE SITE ELECTRICAL PLANS FOR DETAILS.
15. THE CONTRACTOR IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PUBLIC WORKS INSPECTION SERVICES DIVISION (874-8300 EXT. 8838), CODE ENFORCEMENT OFFICE AND DEVELOPMENT REVIEW COORDINATOR IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING MAY BE REQUIRED TO INCLUDE THE PUBLIC WORKS AUTHORITY OR DEVELOPMENT REVIEW COORDINATOR.
16. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
17. WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN MUST BE EMPLOYED ON ADJACENT STREETS AS NECESSARY. THE CONTRACTOR SHALL COORDINATE AND SEEK APPROVAL FROM THE PUBLIC SERVICE DIVISION FOR THE PLACEMENT/PARKING OF EQUIPMENT WITHIN THE PUBLIC RIGHT OF WAY.
18. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12. ALL DEMOLITION MATERIAL FROM THE PROJECT SITES SHALL BE TAKEN TO THE RIVERSIDE RECYCLING FACILITY OR AS OTHERWISE DIRECTED PENDING THE RESULTS OF A HAZARDOUS BUILDING MATERIALS SURVEY AS AUTHORIZED AND COORDINATED BY THE OWNER. ALL SALVAGED MATERIAL WITHIN THE PUBLIC R.O.W.(SIDEWALKS, BRICKS, GRANITE CURB) NOT REUSED SHALL BE DISPOSED OF AS DIRECTED BY THE PORTLAND PUBLIC SERVICES DEPARTMENT AT NO EXTRA COST TO THE OWNER.
19. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
20. PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR'S EXPENSE.
21. THE OWNER SHALL BE RESPONSIBLE TO COORDINATE THE PERFORMANCE OF A HAZARDOUS MATERIALS INSPECTION OF THE PROPERTY.
22. A STREET OPENING PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COMPLETED IN CONFORMANCE TO THE CITY'S RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN PUBLIC RIGHT OF WAYS.
23. CONTRACTOR MUST MAINTAIN THROUGH TRAFFIC ON ADJACENT STREETS AT ALL TIMES.
24. ALL METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS IDENTIFIED HEREIN SHALL CONFORM TO THE CITY OF PORTLAND CONSTRUCTION AND TECHNICAL STANDARDS AND SPECIFICATIONS AND/OR CURRENT MaineDOT STANDARDS AND SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
25. SITE WORK FOR BUILDING SHALL INCLUDE GRADING THE BUILDING PAD AREA (DEFINED AS THE BUILDING FOOTPRINT PLUS 5'-0" BEYOND THE EXTERIOR WALL) TO A GRADE 18" BELOW THE GROUND FLOOR FINISH ELEVATION. ALL WORK SHALL INCLUDE EXCAVATION (INCLUDING ROCK REMOVAL AND EXISTING FOUNDATION DEMOLITION) AND BACKFILL OF ALL FOOTINGS AND FOUNDATIONS, INSTALLATION OF PERIMETER FOUNDATION DRAINS, EXCAVATION AND BACKFILL OF ALL UNDERSLAB UTILITIES AND PLACEMENT OF ALL AGGREGATES BELOW THE FLOOR SLAB AND ADJACENT FOUNDATION WALLS IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. (SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR ADDITIONAL DETAILS PERTAINING TO ANY BUILDING RELATED FOUNDATION WORK).
26. RECORD DRAWINGS MUST INCLUDE ALL BURIED UTILITIES INCLUDING, BUT NOT LIMITED TO, BENDS, APPURTENANCES, AND OTHER FEATURES, TO BE LOCATED IN THE FIELD BY GIS AND RECORDED AS AN AS-BUILT PLAN BY THE CONTRACTOR AT THE END OF THE PROJECT. THIS PLAN SHALL ALSO BE PROVIDED TO THE OWNER.
27. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS PREPARED BY RYAN SENATORE ARCHITECTURE FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE POINTS.
28. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
29. CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITIES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST THREE (3) BUT NOT MORE THAN (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A.

GRADING AND DRAINAGE NOTES:

1. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF $n = 0.013$ OR LESS. UNLESS A SPECIFIC PIPE MATERIAL IS CALLED FOR ON THE CONTRACT DRAWINGS. PVC PIPING SHALL NOT BE USED IN AREAS OF EXPOSED SUNLIGHT.
2. SLOPE PROTECTION IS TO BE PROVIDED PER THE DESIGN PLANS AND MAY INCLUDE RIPRAP, SOD OR MULCH.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
4. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
5. ALL PAVING WITHIN THE PUBLIC R.O.W. SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF PORTLAND RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC R.O.W.
6. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
7. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
8. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES AND PHYSICAL FEATURES THAT ARE OUTSIDE THE SCOPE OF WORK. THE CONTRACTOR SHALL MAINTAIN SITE STABILITY DURING CONSTRUCTION TO AVOID EROSION AND SEDIMENT TRANSPORT. CONTRACTOR SHALL RESTORE ALL AREAS TO A FINAL STABILIZED CONDITION AS DIRECTED BY DESIGN DRAWINGS.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
10. EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.

CONSTRUCTION MANAGEMENT NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH 2009 NFPA 1 CHAPTER 16 SAFE GUARDS DURING BUILDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS.
2. ANY CUTTING AND WELDING WORK PERFORMED ONSITE SHALL REQUIRE A "HOT WORK" PERMIT FROM THE PORTLAND FIRE DEPARTMENT.
3. THE GENERAL CONTRACTOR SHALL POST EMERGENCY CONTACT INFORMATION ON THE PROJECT SITE PROPERTY DURING CONSTRUCTION IN THE EVENT OF AN AFTER HOURS EMERGENCY. THIS CONTACT INFORMATION SHALL ALSO BE PROVIDED TO THE PORTLAND FIRE DEPARTMENT.
4. IF THE SITE IS SECURED BY TEMPORARY OR PERMANENT FENCING WITH LOCKED GATES, THEN THE APPLICANT OR ASSIGNED REPRESENTATIVE SHALL PURCHASE A KNOX PADLOCK FROM THE PORTLAND FIRE DEPARTMENT TO ALLOW ACCESS BY THE PORTLAND FIRE DEPARTMENT.
5. STREETS SHALL MAINTAIN A 20' WIDTH FOR FIRE DEPARTMENT ACCESS AT ALL TIMES.
6. FIRE HYDRANTS SHALL NOT BE BLOCKED OR ENCLOSED BY FENCING. A 3' CLEARANCE SHALL BE MAINTAINED AT ALL TIMES AROUND FIRE HYDRANTS.

UTILITY NOTES:

1. ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED BETWEEN THE SITE WORK CONTRACTOR AND DIVISION 22/26 CONTRACTOR(S). THE SITE WORK CONTRACTOR SHALL BE RESPONSIBLE TO EXTEND ALL PROPOSED UTILITIES TO WITHIN FIVE (5) FEET OF THE BUILDING TO A LOCATION COORDINATED WITH THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES WITHIN FIVE (5) FEET AND INSIDE THE BUILDING OR UNDER SLAB.
2. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH FAIRPOINT COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.
3. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER, THE TELECOMMUNICATIONS SERVICE WITH FAIRPOINT COMMUNICATIONS, AND THE CABLE SERVICE WITH SPECTRUM. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS OR UTILITY COMPANY STANDARDS, WHICHEVER IS MORE STRINGENT.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
6. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO COMPLETION OF THE PROJECT.
7. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL, AT NO EXTRA EXPENSE TO THE OWNER.
8. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. A 12 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
9. THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOBSITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER, AND AFFECTED BUSINESSES.
10. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ELECTRICAL SERVICES IN CONDUIT TO SITE LIGHTING, COMPLYING WITH APPLICABLE CODES. COORDINATE WITH OWNER, SITE ELECTRICAL, ARCHITECTURAL AND CMP PLANS.
11. ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT. ALL SANITARY SERVICES AND APPURTENANCES TO BE ABANDONED SHALL BE PROPERLY RECORDED WITH PORTLAND PUBLIC WORKS ENGINEERING DEPARTMENT. A DIGITAL VIDEOTAPE SHALL BE MADE OF SANITARY SEWER SYSTEMS TO BE UTILIZED PRIOR TO CONSTRUCTION; UPSTREAM PIPES INTENDED FOR ABANDONMENT SHALL BE INSPECTED TO VERIFY THAT THEY NO LONGER SERVE OTHER FACILITIES.
12. THE PORTION OF THE 6" WATER SERVICE WITHIN THE RIGHT OF WAY SHALL BE DUCTILE IRON WITH RESTRAINED JOINTS IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.
13. THE 2" WATER SERVICE SHALL BE TYPE K COPPER TUBING

PERMITTING NOTES:

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

DIMENSIONAL REQUIREMENTS (R-6 ZONE)		
STANDARD	R-6 ZONE REQUIRED	PROVIDED
MIN. LOT SIZE	NONE	27,206 SF
MIN. LOT AREA PER DWELLING UNIT	725 SF	2,093 SF
MAX. LOT COVERAGE	60%	54.50%
STREET FRONTAGE	20 FT	184 FT
FRONT YARD	5 FT	6.38 FT
MIN. SIDE YARD	5 FT	6.14 FT
MIN. REAR YARD	10 FT	10.5 FT
MAX. BUILDING HEIGHT	45 FT	40.65 Ft
STEP BACK	15 FT REAR, 10 FT SIDE	15 FT REAR, 10 FT SIDE
OPEN SPACE	20%	29.20%
PARKING	1 SPACE PER UNIT, FIRST 3 UNITS EXEMPT (10 SPACES)	17
BICYCLE PARKING	2 SPACES FOR EVERY 5 UNITS (6 SPACES)	>6 SPACES

LEGEND

Symbol	Description
	EXISTING PROPERTY LINE
	PROJECT SITE BOUNDARY
	SETBACK LINE
	PROPOSED EASEMENT
124	EXISTING MINOR CONTOUR
124	EXISTING MAJOR CONTOUR
124	PROPOSED CONTOUR
SD	EXISTING STORMDRAIN
SD	PROPOSED STORMDRAIN
S	EXISTING SANITARY SEWER
S	PROPOSED SANITRY SEWER
W	EXISTING WATER LINE
W	PROPOSED WATER LINE
G	EXISTING GAS
G	PROPSED GAS
OHE	EXISTING OVERHEAD ELECTRIC & TELEPHONE
UGE	EXISTING UNDERGROUND ELECTRIC
UGE	PROPOSED UNDERGROUND ELECTRIC
UGT	EXISTING UNDERGROUND TELEPHONE
UGT&C	PROPOSED UNDERGROUND TELEPHONE & CABLE TV
	EXISTING EDGE OF PAVEMENT
	PROPOSED EDGE OF PAVEMENT
	EXISTING EDGE OF GRAVEL
	PROPOSED EDGE OF GRAVEL
	EXISTING CURB
	PROPOSED CURB
	PROPOSED DECORATIVE METAL FENCE
	PROPOSED PRIVACY FENCE
SF	SILT FENCE
TP-A	TEST PIT
	EXISTING VALVE
	PROPOSED VALVE
	EXISTING HYDRANT
	EXISTING LIGHT POLE
	PROPOSED BUILDING LIGHT
	EXISTING UTILITY POLE
	EXISTING CATCH BASIN
	PROPOSED CATCH BASIN
D	EXISTING DRAIN MANHOLE
D	PROPOSED DRAIN MANHOLE
S	EXISTING SEWER MANHOLE
30.20	EXISTING SPOT GRADE
30.20	PROPOSED SPOT GRADE
	SURVEY CONTROL POINT
	EXISTING MONUMENT
	EXISTING IRON PIPE
	EXISTING SIGN
	PROPOSED SIGN
	EXISTING BUILDING
	PROPOSED BUILDING
	PROPOSED CONCRETE
	PROPOSED PAVEMENT
	PROPOSED BRICK

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11587
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
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PHONE:
(207) 926-5111
WEB SITE:
www.terradynconsultants.com
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
GENERAL NOTES AND LEGEND

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-1.1

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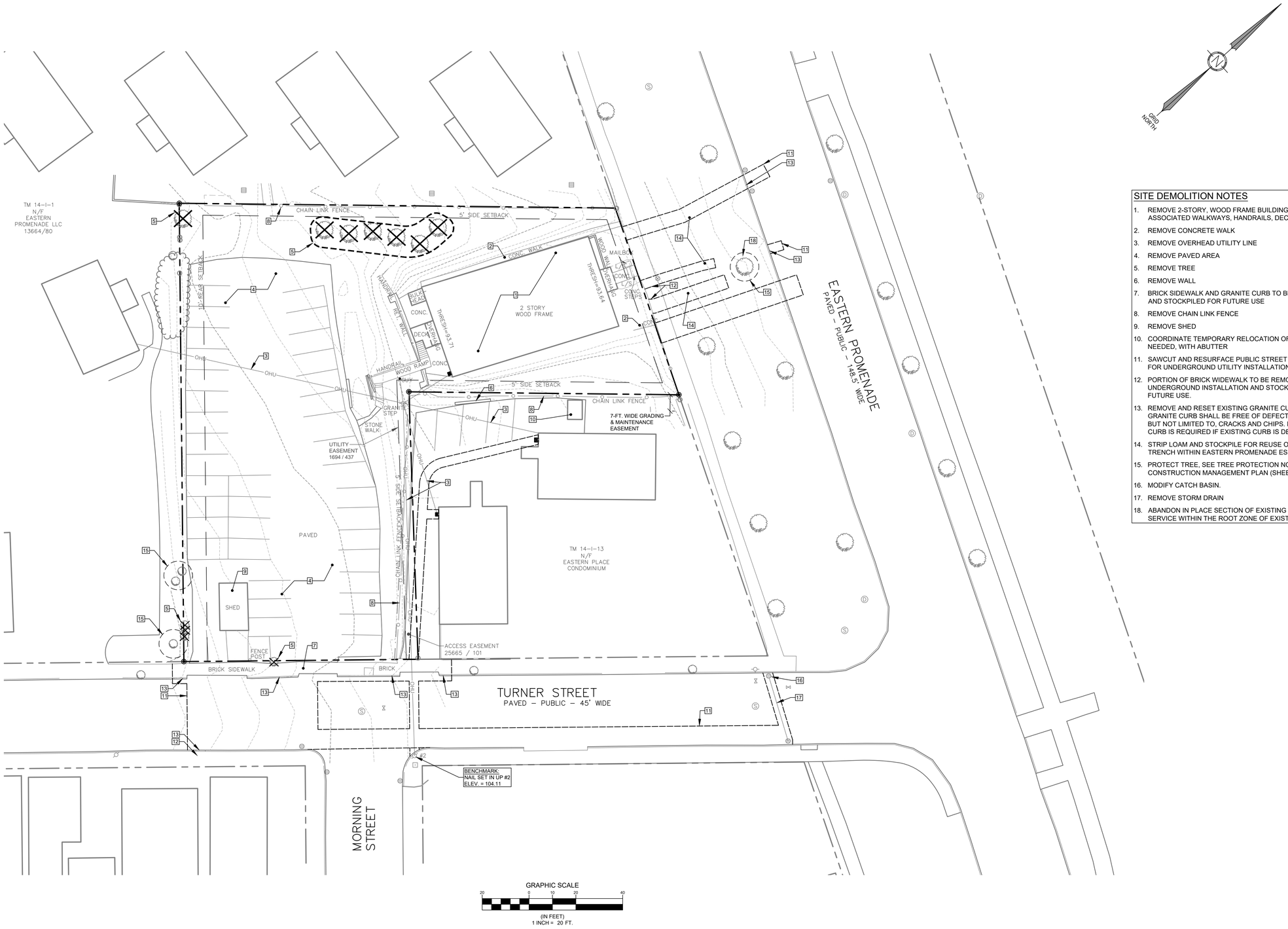

SITE DEMOLITION NOTES

1. REMOVE 2-STORY, WOOD FRAME BUILDING AND ALL ASSOCIATED WALKWAYS, HANDRAILS, DECKS AND STEPS
2. REMOVE CONCRETE WALK
3. REMOVE OVERHEAD UTILITY LINE
4. REMOVE PAVED AREA
5. REMOVE TREE
6. REMOVE WALL
7. BRICK SIDEWALK AND GRANITE CURB TO BE REMOVED AND STOCKPILED FOR FUTURE USE
8. REMOVE CHAIN LINK FENCE
9. REMOVE SHED
10. COORDINATE TEMPORARY RELOCATION OF SHED, AS NEEDED, WITH ABUTTER
11. SAWCUT AND RESURFACE PUBLIC STREET TO ALLOW FOR UNDERGROUND UTILITY INSTALLATION.
12. PORTION OF BRICK WIDEWALK TO BE REMOVED FOR UNDERGROUND INSTALLATION AND STOCKPILED FOR FUTURE USE.
13. REMOVE AND RESET EXISTING GRANITE CURB. EXISTING GRANITE CURB SHALL BE FREE OF DEFECTS SUCH AS, BUT NOT LIMITED TO, CRACKS AND CHIPS. NEW GRANITE CURB IS REQUIRED IF EXISTING CURB IS DEFECTIVE.
14. STRIP LOAM AND STOCKPILE FOR REUSE OVER UTILITY TRENCH WITHIN EASTERN PROMENADE ESPLANADE.
15. PROTECT TREE, SEE TREE PROTECTION NOTES ON CONSTRUCTION MANAGEMENT PLAN (SHEET C-3.1)
16. MODIFY CATCH BASIN.
17. REMOVE STORM DRAIN
18. ABANDON IN PLACE SECTION OF EXISTING WATER SERVICE WITHIN THE ROOT ZONE OF EXISTING TREE.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13687
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
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PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
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PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: EXISTING CONDITIONS & DEMOLITION PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-3.0

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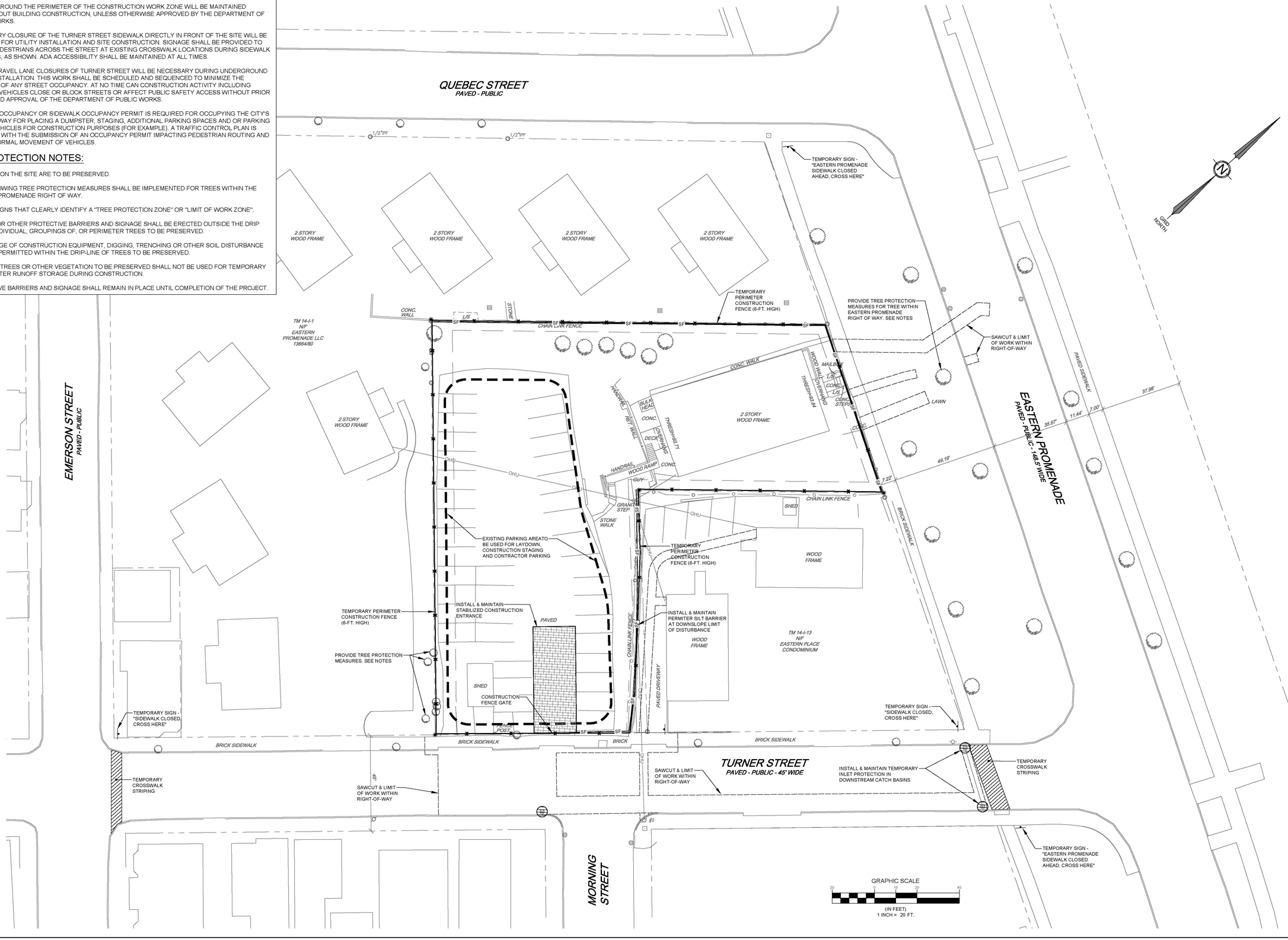
CONSTRUCTION MANAGEMENT NOTES

1. THE CONSTRUCTION GATE SHALL SWING INTO THE PROJECT SITE
2. FENCING AROUND THE PERIMETER OF THE CONSTRUCTION WORK ZONE WILL BE MAINTAINED THROUGHOUT BUILDING CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
3. TEMPORARY CLOSURE OF THE TURNER STREET SIDEWALK DIRECTLY IN FRONT OF THE SITE WILL BE REQUIRED FOR UTILITY INSTALLATION AND SITE CONSTRUCTION. SIGNAGE SHALL BE PROVIDED TO DIRECT PEDESTRIANS ACROSS THE STREET AT EXISTING CROSSWALK LOCATIONS DURING SIDEWALK CLOSURES, AS SHOWN. ADA ACCESSIBILITY SHALL BE MAINTAINED AT ALL TIMES.
4. PARTIAL TRAVEL LANE CLOSURES OF TURNER STREET WILL BE NECESSARY DURING UNDERGROUND UTILITY INSTALLATION. THIS WORK SHALL BE SCHEDULED AND SEQUENCED TO MINIMIZE THE DURATION OF ANY STREET OCCUPANCY. 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.
5. A STREET OCCUPANCY OR SIDEWALK OCCUPANCY PERMIT IS REQUIRED FOR OCCUPYING THE CITY'S RIGHT OF WAY FOR PLACING A DUMPSTER, STAGING, ADDITIONAL PARKING SPACES AND OR PARKING / USING VEHICLES FOR CONSTRUCTION PURPOSES (FOR EXAMPLE). A TRAFFIC CONTROL PLAN IS REQUIRED WITH THE SUBMISSION OF AN OCCUPANCY PERMIT IMPACTING PEDESTRIAN ROUTING AND OR THE NORMAL MOVEMENT OF VEHICLES.

TREE PROTECTION NOTES:

1. NO TREES ON THE SITE ARE TO BE PRESERVED.
2. THE FOLLOWING TREE PROTECTION MEASURES SHALL BE IMPLEMENTED FOR TREES WITHIN THE EASTERN PROMENADE RIGHT OF WAY.
3. POSTED SIGNS THAT CLEARLY IDENTIFY A "TREE PROTECTION ZONE" OR "LIMIT OF WORK ZONE".
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.
5. NO STORAGE OF CONSTRUCTION EQUIPMENT, DIGGING, TRENCHING OR OTHER SOIL DISTURBANCE SHALL BE PERMITTED WITHIN THE DRIP-LINE OF TREES TO BE PRESERVED.
6. AREAS OF TREES OR OTHER VEGETATION TO BE PRESERVED SHALL NOT BE USED FOR TEMPORARY STORMWATER RUNOFF STORAGE DURING CONSTRUCTION.
7. PROTECTIVE BARRIERS AND SIGNAGE SHALL REMAIN IN PLACE UNTIL COMPLETION OF THE PROJECT.



Page 244

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10121
LICENSED PROFESSIONAL ENGINEER
DATE: 9/8/2023
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
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Stormwater Design | Land Planning | Environmental Permitting
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PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: CONSTRUCTION MANAGEMENT PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-3.1

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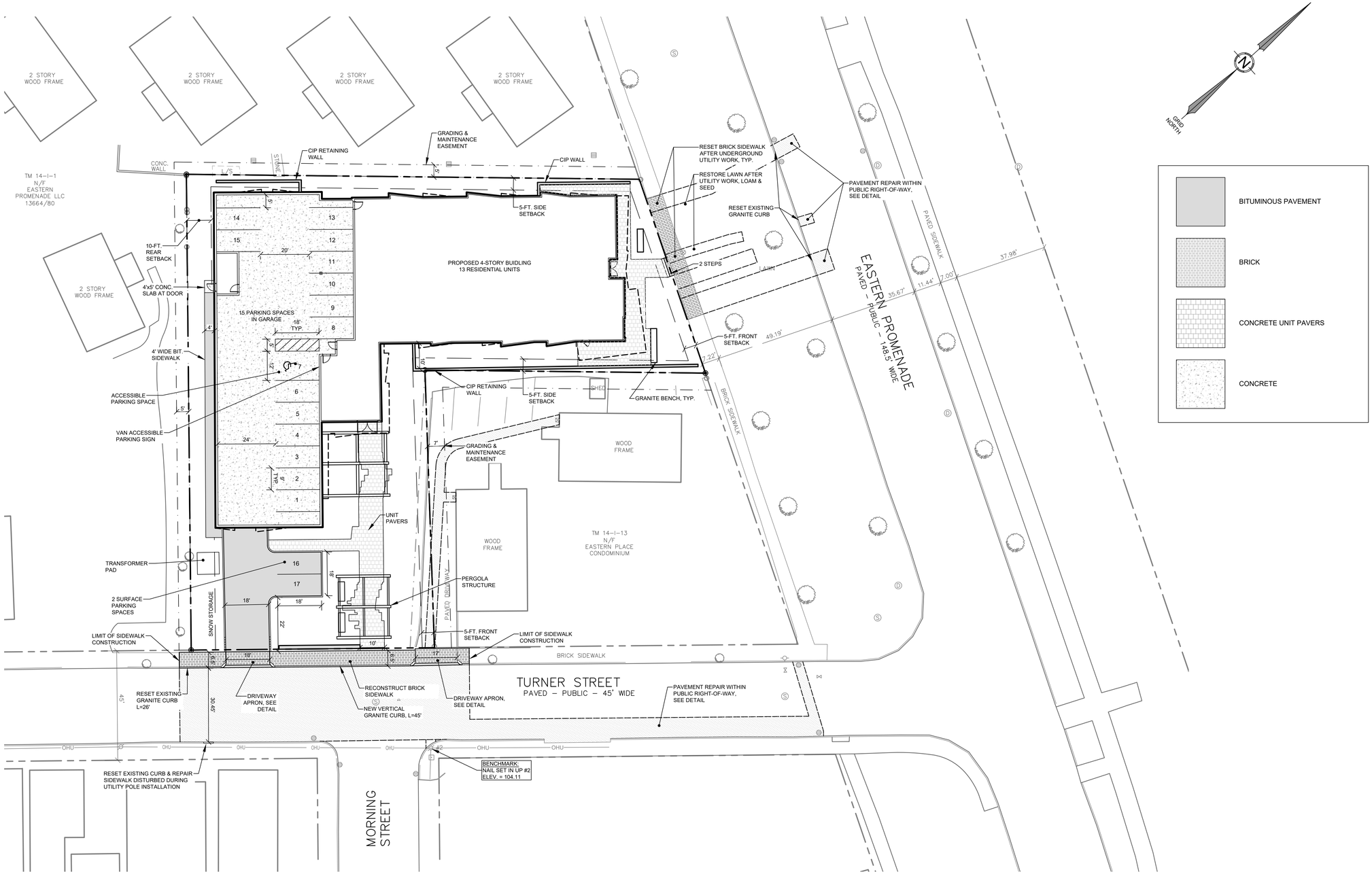

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13687
LICENSED
PROFESSIONAL ENGINEER

DATE: 3/18/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
4	3/18/2024	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
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PERMIT DRAWING
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PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: SITE LAYOUT PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-4.0

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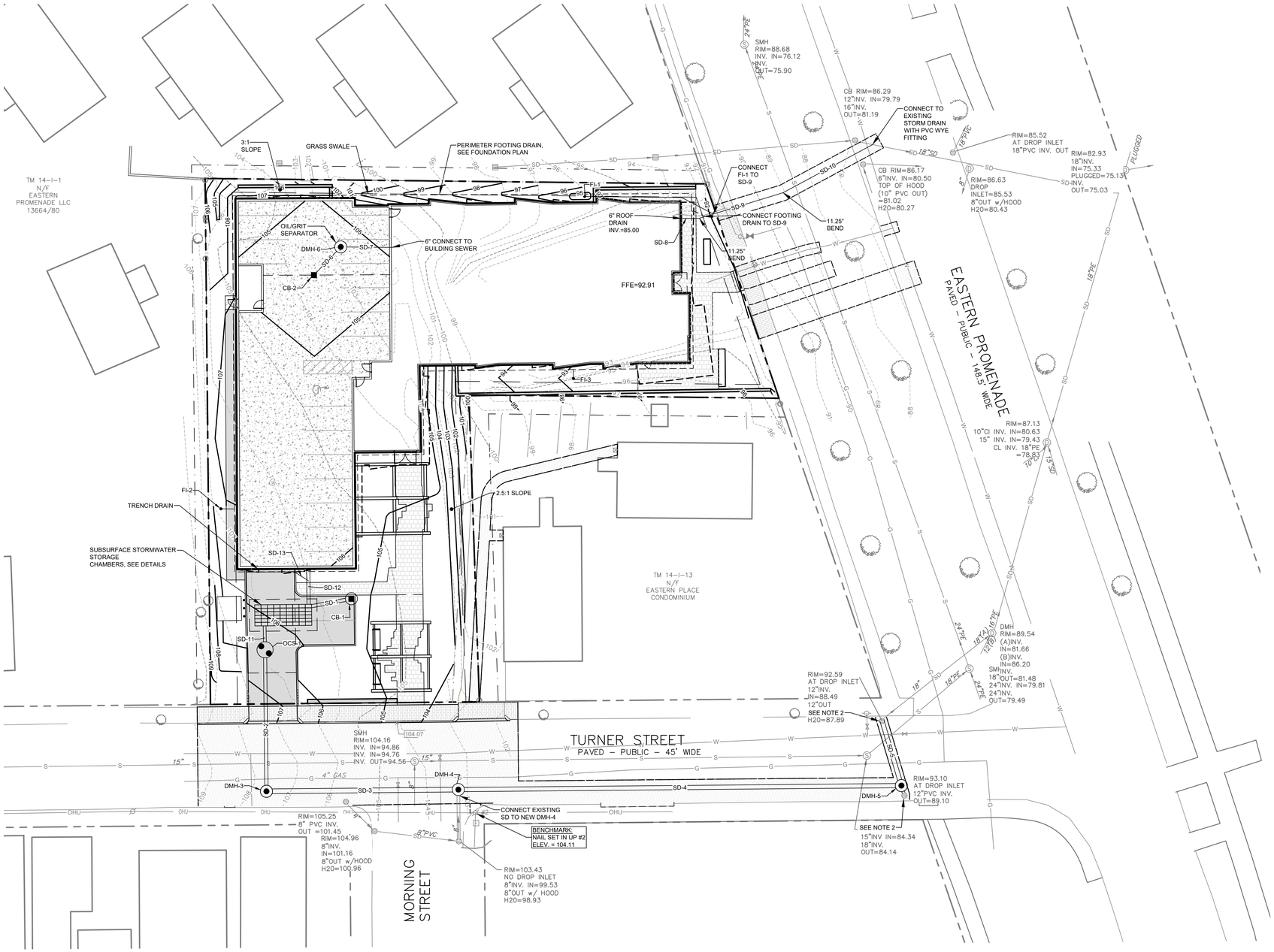

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STORM DRAIN STRUCTURE DATA

STRUCTURE	RIM	INV. IN	INV. OUT:
CB-1	103.39		101.45 (SD-1)
CB-2	104.55		100.19 (SD-6)
DMH-3	107.57	96.80 (SD-2)	96.70 (SD-3)
DMH-4	103.24	95.10 (SD-3) 95.10 (E-SD)	95.00 (SD-4)
DMH-5	92.00	81.67 (SD-4) 82.48 (ESD-1)	82.38 (SD-5)
DMH-6	104.67	99.91 (SD-6)	99.81 (SD-7)
FI-1	94.50		
FI-2	106.50		
FI-3	93.50		
OCS-1	106.81	99.10 (SD-11)	99.00 (SD-2)

STORM DRAIN PIPE DATA

NAME	SIZE	LENGTH	SLOPE
SD-1	12"	13'	3.41%
SD-2	12"	48'	4.60%
SD-3	18"	67'	2.38%
SD-4	18"	161'	8.29%
SD-5	18"	23'	3.63%
SD-6	6"	11'	2.52%
SD-7	6"	17'	2.00%
SD-8	6"	7'	0.00%
SD-9	6"	33'	2.51%
SD-10	6"	38'	1.57%
SD-11	12"	6'	2.53%
SD-12	12"	13'	3.79%
SD-13	6"	6'	2.60%

NOTES:
1. SEE SHEET C-5.1 FOR DETAILED SITE GRADING INFORMATION
2. FOR CATCH BASIN STRUCTURES WITHIN TURNER STREET THAT WILL BE IMPACTED BY THE PROPOSED STORM DRAIN INSTALLATION, THE CONTRACTOR AND CITY OF PORTLAND DPW SHALL ASSESS THE CONDITION OF EXISTING CATCH BASIN STRUCTURES IN THE FIELD TO DETERMINE IF REUSE IS ACCEPTABLE.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13061
LICENSED PROFESSIONAL ENGINEER

DATE: 3/18/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
4	3/18/2024	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
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Civil Engineering | Land Surveying | Geomatics
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PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: GRADING AND DRAINAGE PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-5.0

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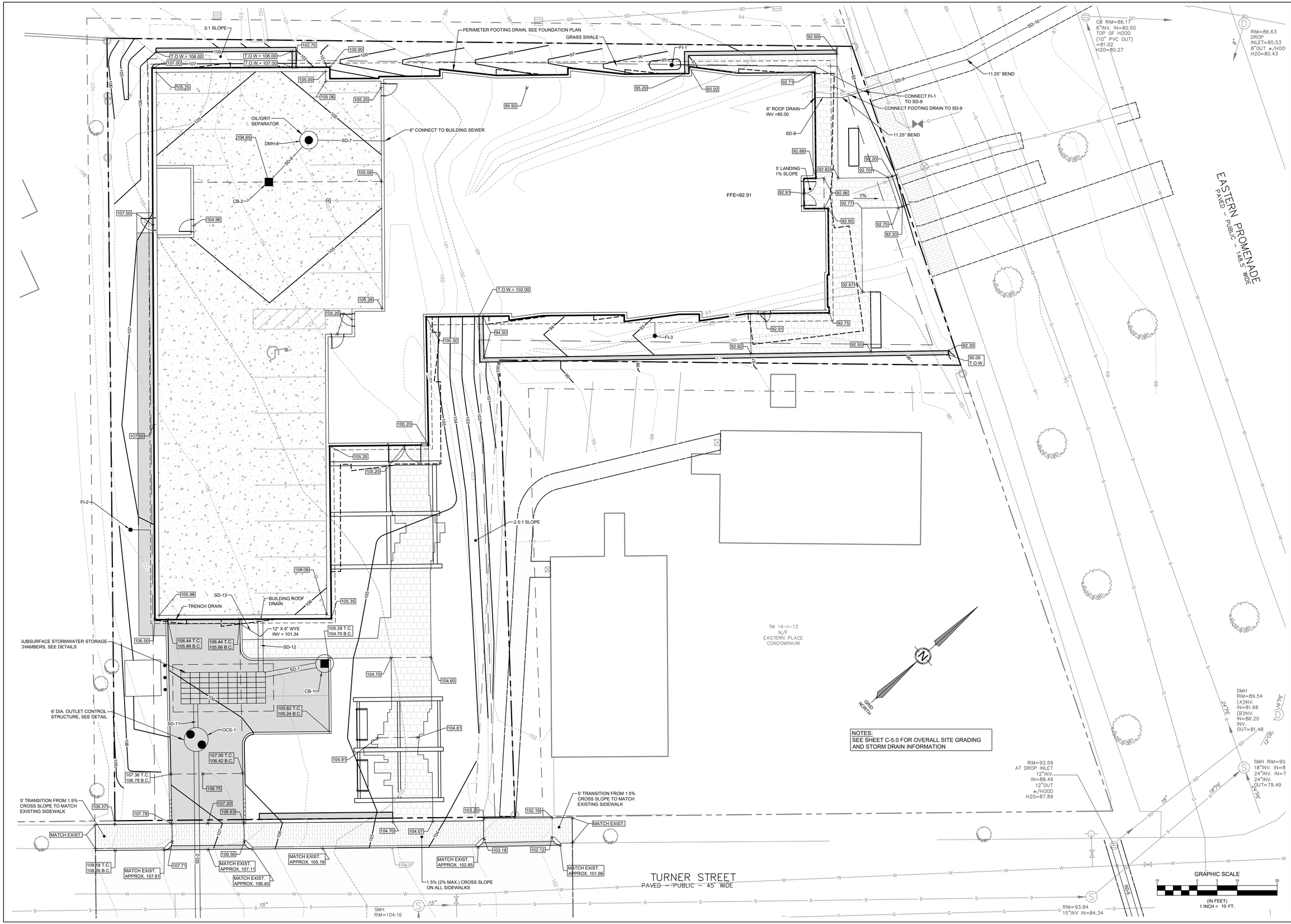

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 14587
LICENSED PROFESSIONAL ENGINEER

DATE: 3/18/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
4	3/18/2024	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

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TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: DETAILED GRADING PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1"=10'
JOB NO: 22-144
SHEET: C-5.1

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EROSION AND SEDIMENT CONTROL PLAN

PRE-CONSTRUCTION PHASE
A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEYOND THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN 38 MRSA § 480-B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN. THE SITE MUST BE MAINTAINED TO PREVENT UNREASONABLE EROSION AND SEDIMENTATION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE.

BMP CONSTRUCTION PHASE
A. SEDIMENT BARRIERS. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE EDGE OF ANY DOWNGRADIENT DISTURBED AREA AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE PROPOSED DISTURBED AREA. MAINTAIN THE SEDIMENT BARRIERS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

B. CONSTRUCTION ENTRANCE: PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE INTERSECTION WITH THE PROPOSED ACCESS DRIVE AND THE EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

C. RIPRAP: SINCE RIPRAP IS USED WHERE EROSION POTENTIAL IS HIGH, CONSTRUCTION MUST BE SEQUENCED SO THAT THE RIPRAP IS PUT IN PLACE WITH THE MINIMUM DELAY. DISTURBANCE OF AREAS WHERE RIPRAP IS TO BE PLACED SHOULD BE UNDERTAKEN ONLY WHEN FINAL PREPARATION AND PLACEMENT OF THE RIPRAP CAN FOLLOW IMMEDIATELY BEHIND THE INITIAL DISTURBANCE. WHERE RIPRAP IS USED FOR OUTLET PROTECTION, THE RIPRAP SHOULD BE PLACED BEFORE OR IN CONJUNCTION WITH THE CONSTRUCTION OF THE PIPE OR CHANNEL SO THAT IT IS IN PLACE WHEN THE PIPE OR CHANNEL BEGINS TO OPERATE. MAINTAIN TEMPORARY RIPRAP, SUCH AS TEMPORARY CHECK DAMS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

D. TEMPORARY STABILIZATION. STABILIZE WITH TEMPORARY SEEDING, MULCH, OR OTHER NON-ERODABLE COVER ANY EXPOSED SOILS THAT WILL REMAIN UNWORKED FOR MORE THAN 14 DAYS EXCEPT, STABILIZE AREAS WITHIN 100 FEET OF A WETLAND OR WATERBODY WITHIN 7 DAYS OR PRIOR TO A PREDICTED STORM EVENT, WHICHEVER COMES FIRST. IF HAY OR STRAW MULCH IS USED, THE APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SF OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. HAY MULCH MUST BE KEPT MOIST OR ANCHORED TO PREVENT WIND BLOWING. AN EROSION CONTROL BLANKET OR MAT SHALL BE USED AT THE BASE OF GRASSED WATERWAYS, STEEP SLOPES (15% OR GREATER) AND ON ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS AND WETLANDS. GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE SECOND PHASE, AND SO ON.

E. VEGETATED WATERWAY. UPON FINAL GRADING, THE DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED TO PERMANENT VEGETATION AND MULCHED AND WILL NOT BE USED AS OUTLETS UNTIL A DENSE, VIGOROUS VEGETATIVE COVER HAS BEEN OBTAINED. ONCE SOIL IS EXPOSED FOR WATERWAY CONSTRUCTION, IT SHOULD BE IMMEDIATELY SHAPED, GRADED AND STABILIZED. VEGETATED WATERWAYS NEED TO BE STABILIZED EARLY DURING THE GROWING SEASON (PRIOR TO SEPTEMBER 15). IF FINAL SEEDING OF WATERWAYS IS DELAYED PAST SEPTEMBER 15, EMERGENCY PROVISIONS SUCH AS SOD OR RIPRAP MAY BE REQUIRED TO STABILIZE THE CHANNEL. WATERWAYS SHOULD BE FULLY STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

PERMANENT STABILIZATION DEFINED
A. SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS AN 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 RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

E. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

F. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

G. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN-CUTTING OF THE CHANNEL.

GENERAL CONSTRUCTION PHASE
THE FOLLOWING EROSION CONTROL MEASURES SHALL BE FOLLOWED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION OF THIS PROJECT:

A. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3 POUNDS/1,000 SF AND MULCHED, AND REUSED AS REQUIRED. SILT FENCING SHALL BE PLACED DOWN GRADIENT FROM THE STOCKPILED LOAM. STOCKPILE TO BE LOCATED BY DESIGNATION OF THE OWNER AND INSPECTING ENGINEER.

B. THE INSPECTING ENGINEER AT HIS/HER DISCRETION, MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND/OR SUPPLEMENTAL VEGETATIVE PROVISIONS TO MAINTAIN STABILITY OF EARTHWORKS AND FINISH GRADED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY SUPPLEMENTAL MEASURES AS DIRECTED BY THE INSPECTING ENGINEER. FAILURE TO COMPLY WITH THE ENGINEER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.

C. EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISH SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.

D. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE ADEQUATELY STABILIZED.

E. ALL EROSION, AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

F. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS.

G. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL.

H. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

I. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.

J. EXCEPT FOR APPROVED LANDFILLS OR NON-STRUCTURAL FILLS, FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

K. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS.

L. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.

M. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY.

N. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

O. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

PERMANENT VEGETATION
PERMANENT VEGETATIVE COVER SHOULD BE ESTABLISHED ON DISTURBED AREAS WHERE PERMANENT, LONG LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL, TO REDUCE DAMAGES FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE ENVIRONMENT.

SEEDBED PREPARATION
A. GRADE AS FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.

B. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P2O5-K2O) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQ. FT).

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.D. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

E. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

F. PERMANENT SEEDING SHOULD BE MADE 45 DAYS PRIOR TO THE FIRST KILLING FROST OR AS A DORMANT SEEDING WITH MULCH AFTER THE FIRST KILLING FROST AND BEFORE SNOWFALL. WHEN CROWN VETCH IS SEEDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, MULCH ACCORDING TO THE TEMPORARY MULCHING BMP AND OVERWINTER STABILIZATION AND CONSTRUCTION TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

G. FOLLOWING SEED BED PREPARTATION, SWALE AREAS, FILL AREAS AND BACK SLOPES SHALL BE SEEDED AT A RATE OF 3 LBS./1,000 S.F. WITH A MIXTURE OF 35% CREEPING RED H. FESCUE, 6% RED TOP, 24% KENTUCKY BLUEGRASS, 10% PERENNIAL RYEGRASS, 20% ANNUAL RYEGRASS AND 5% WHITE DUTCH CLOVER.

I. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING.

J. AREAS WHICH CANNOT BE SEEDED WITHIN THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION AND THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE GROWING SEASON.

WINTER CONSTRUCTION PHASE
IF AN AREA IS NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES BY NOVEMBER 15, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES.

A. PERMANENT STABILIZATION CONSISTS OF AT LEAST 90% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.

B. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.

C. APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF). THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.

D. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR ALL SLOPES GREATER THAN 8 % OR OTHER AREAS EXPOSED TO DIRECT WIND.

E. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGEWAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3 %.

F. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

G. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SO THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

H. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.

I. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.

J. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THAT SAME DAY.

K. IF SNOWFALL IS GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.

L. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

M. 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.

MAINTENANCE AND INSPECTION PHASE
A. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT 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

B. A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPS THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.

DEWATERING
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.

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.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

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.

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.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

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 PONDED 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 ENGINEER AND OWNER.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

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 SECTION 3 ABOVE;

(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 SECTION 5 ABOVE);

(k) POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND

(l) LANDSCAPE IRRIGATION.

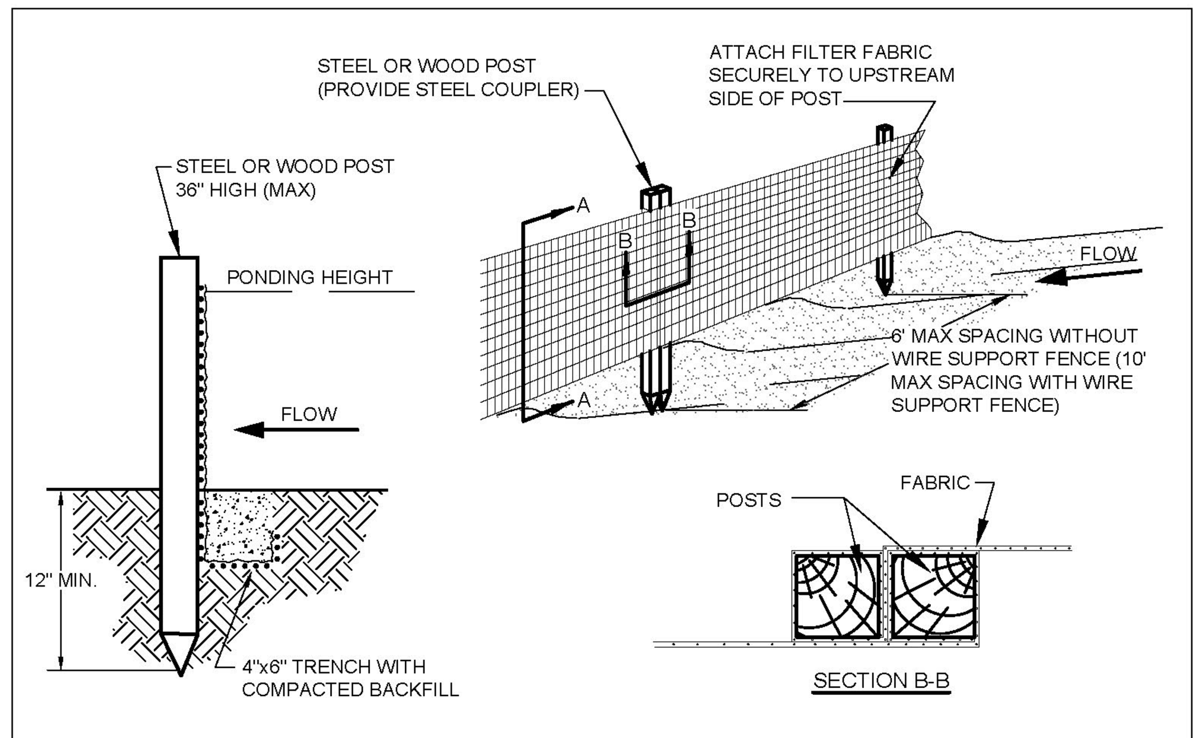
7. UNAUTHORIZED NON-STORMWATER DISCHARGES . THE FOLLOWING NON-STORMWATER DISCHARGES ARE PROHIBITED:

(a) WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;

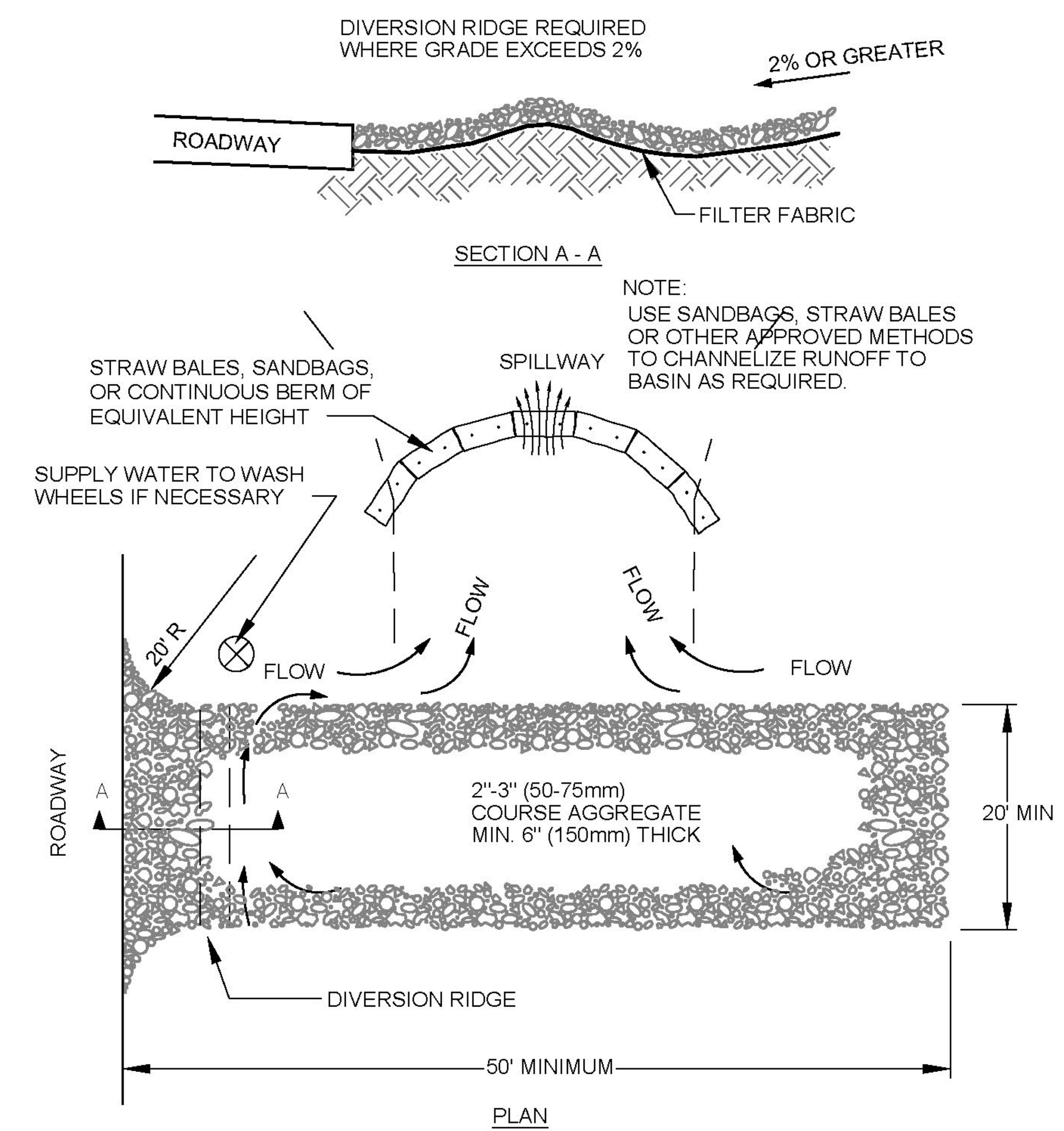
(b) FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;

(c) SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND

(d) TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.



SILT FENCE
NOT TO SCALE

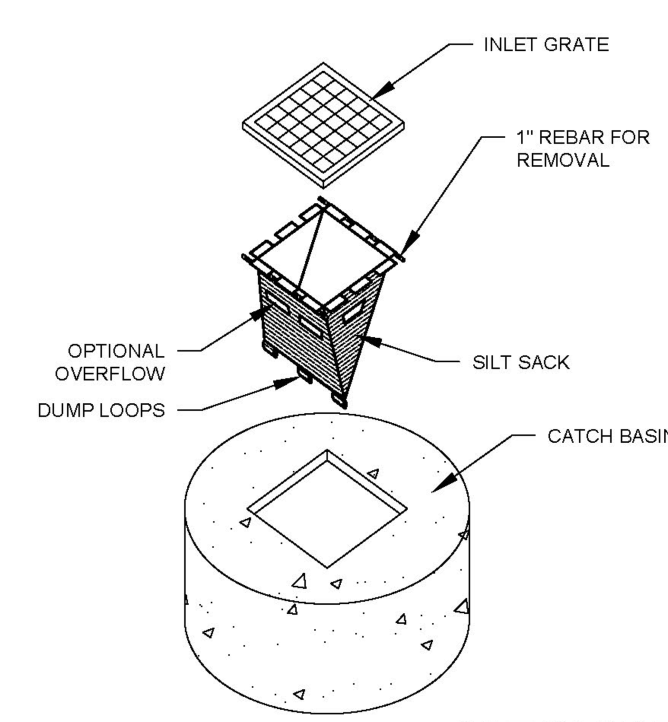


NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



NOTES:
1. SILT SACKS TO BE INSTALLED IN ALL CATCH BASINS RECEIVING RUNOFF FROM DISTURBED AREA
2. SILT SACK TO BE MAINTAINED UNTIL TRIBUTARY ARE IS FULLY STABILIZED

SILT SACK DETAIL
NOT TO SCALE

STATE OF MAINE
MICHAEL E.
TADEMA-WIELANDT
No. 11587
LICENSED
PROFESSIONAL ENGINEER

DATE: 5/5/2023
PE: **MICHAEL TADEMA-WIELANDT**

NO.	DATE	REVISIONS

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:
www.terradynconsultants.com

TERRADYN
CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
EROSION CONTROL NOTES AND DETAILS

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-5.2

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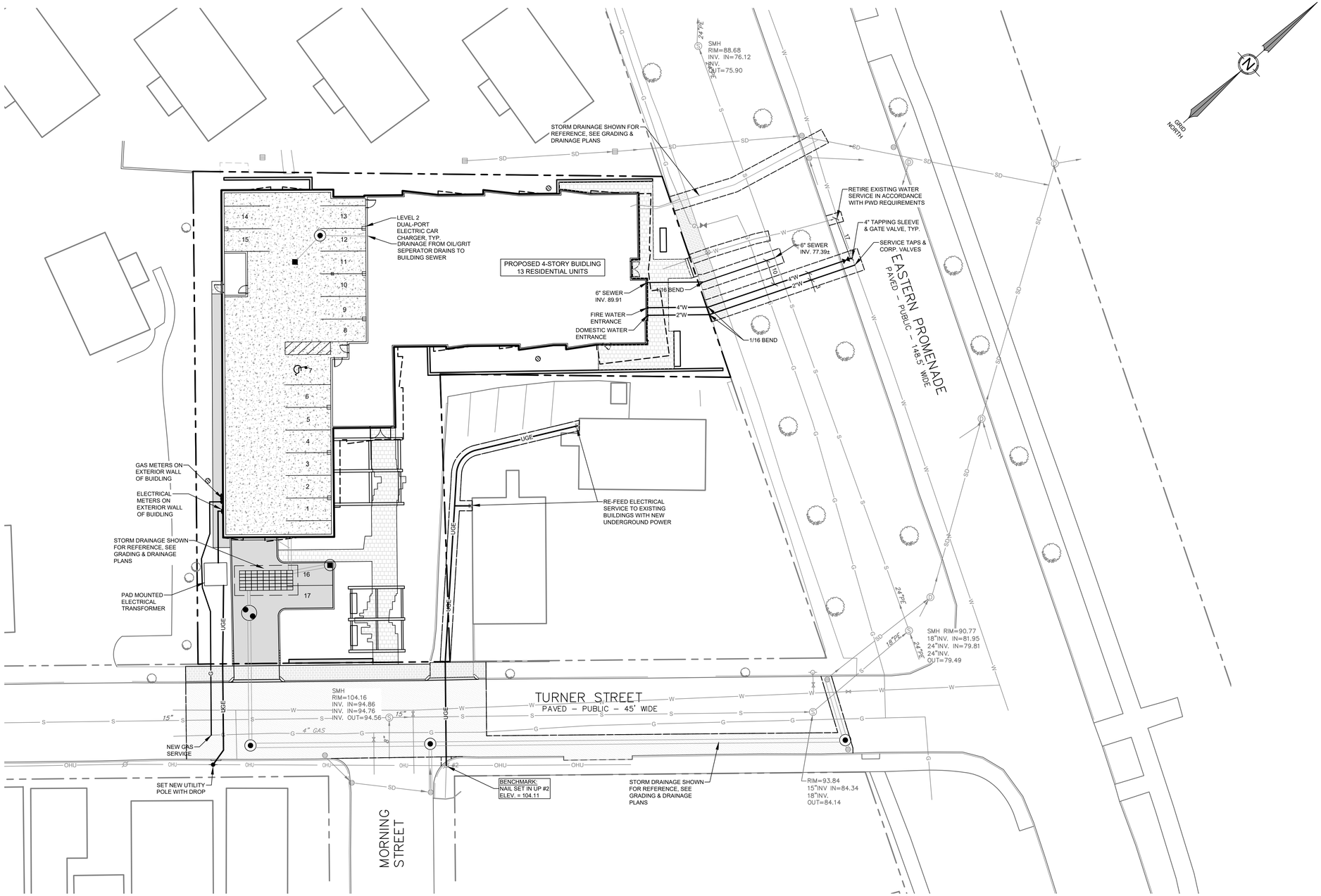

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 14587
LICENSED
PROFESSIONAL ENGINEER

DATE: 3/18/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
4	3/18/2024	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

ADDRESS:
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WEB SITE:
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TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
SITE UTILITY PLAN

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-6.0

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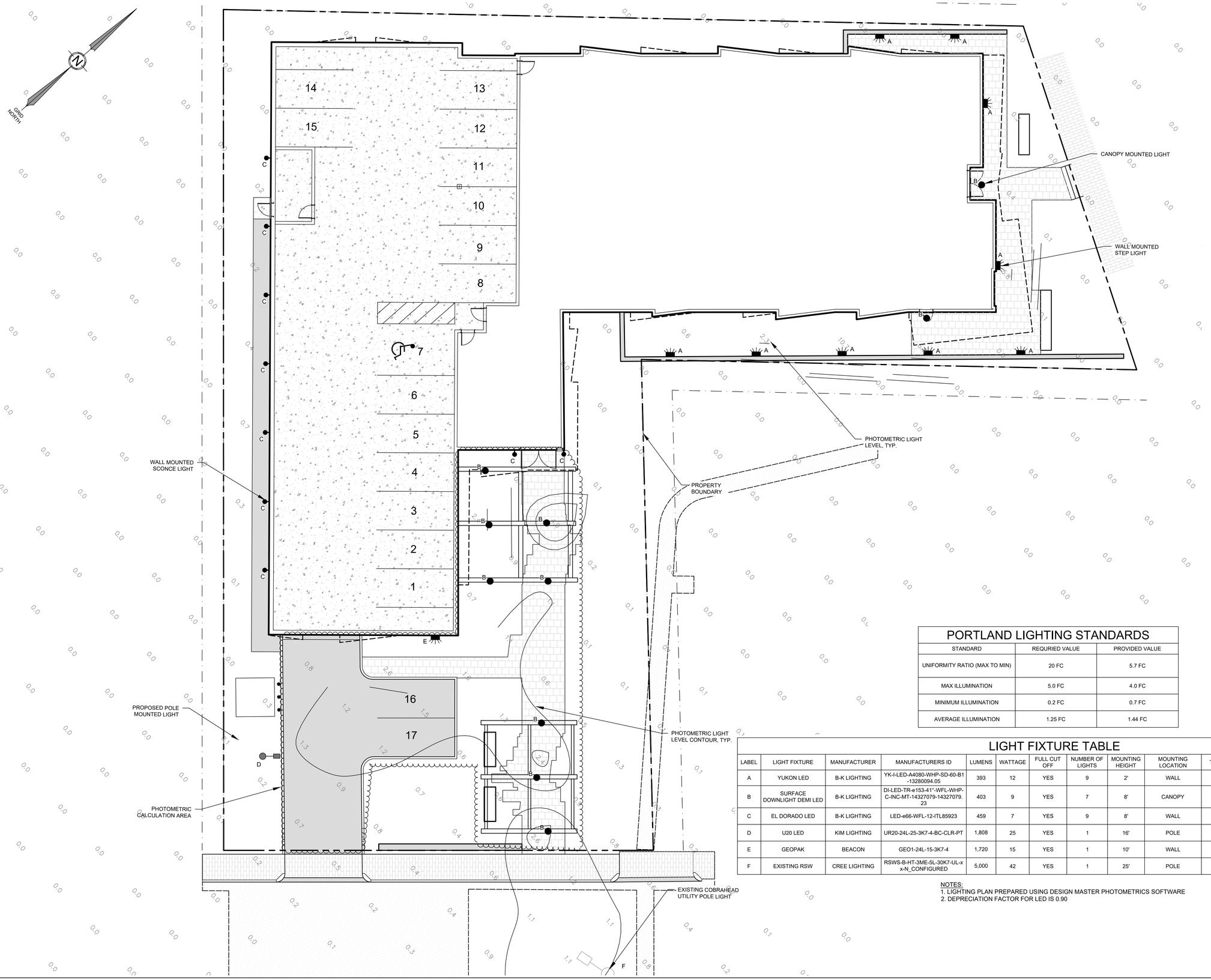

PORTLAND LIGHTING STANDARDS

STANDARD	REQURIED VALUE	PROVIDED VALUE
UNIFORMITY RATIO (MAX TO MIN)	20 FC	5.7 FC
MAX ILLUMINATION	5.0 FC	4.0 FC
MINIMUM ILLUMINATION	0.2 FC	0.7 FC
AVERAGE ILLUMINATION	1.25 FC	1.44 FC

LIGHT FIXTURE TABLE

LABEL	LIGHT FIXTURE	MANUFACTURER	MANUFACTURERS ID	LUMENS	WATTAGE	FULL CUT OFF	NUMBER OF LIGHTS	MOUNTING HEIGHT	MOUNTING LOCATION	TIMING DEVICE	PROPOSED HOURS	PROPERTY LINE OFFSET
A	YUKON LED	B-K LIGHTING	YK-I-LED-A4080-WHP-SD-60-B1-13280094.05	393	12	YES	9	2'	WALL	TIMER	DUSK TO DAWN	8'
B	SURFACE DOWNLIGHT DEMI LED	B-K LIGHTING	DI-LED-TR-e153-41°-WFL-WHP-C-INC-MT-14327079-14327079.23	403	9	YES	7	8'	CANOPY	TIMER	DUSK TO DAWN	10'
C	EL DORADO LED	B-K LIGHTING	LED-e66-WFL-12-ITL85923	459	7	YES	9	8'	WALL	TIMER	DUSK TO DAWN	19'
D	U20 LED	KIM LIGHTING	UR20-24L-25-3K7-4-BC-CLR-PT	1,808	25	YES	1	16'	POLE	PHOTOCELL	DUSK TO DAWN	4'
E	GEOPAK	BEACON	GEO1-24L-15-3K7-4	1,720	15	YES	1	10'	WALL	TIMER	DUSK TO DAWN	49'
F	EXISTING RSW	CREE LIGHTING	RSWS-B-HT-3ME-5L-30K7-UL-x x-N_CONFIGURED	5,000	42	YES	1	25'	POLE	N/A	N/A	N/A

NOTES:
1. LIGHTING PLAN PREPARED USING DESIGN MASTER PHOTOMETRICS SOFTWARE
2. DEPRECIATION FACTOR FOR LED IS 0.90

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 INCH = 10 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11587
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting
ADDRESS: 41 CAMPUS DRIVE, SUITE 301 NEW GLOUCESTER, ME 04260
PHONE: (207) 926-5111
WEB SITE: www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: PHOTOMETRIC PLAN

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 10'
JOB NO: 22-144
SHEET: C-7.0

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SURFACE DOWNLIGHT DEMI LED (INTEGRAL) — IP66 RATED

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:

**120V only.*

CATALOG NUMBER LOGIC
Example: SM-DI - LED - TR - 6 - e150 - SP - 9 - 11 - C - INC - MT - BLP
MATERIAL
Aluminum
SERIES
SM-DI - Surface Downlight Demi
SOURCE
LED
HOUSING
TR - Integral Driver
STEM LENGTH
0"
3", 6", 12", 18", 24", 30", 36", 42", or 48" length
LED TYPE
e150 - 9W LED/2700K/80CRI   e152 - 9W LED/3500K/80CRI
e151 - 9W LED/3000K/80CRI   e153 - 9W LED/4000K/80CRI
OPTICS
VNSP - Very Narrow Spot (7°)   NSP - Narrow Spot (10°)
SP - Spot (17.5°)   NFL - Narrow Flood (30°)   WFL - Wide Flood (41°)
LENS
9 - Clear (Standard)   13 - Rectilinear
SHIELDING
11 - Honeycomb Baffle
CAP STYLE
C - Flush
D - 45° Less Weep Hole
E - 90° Less Weep Hole
CONTROL
ELV - Dimming Driver (For use with Electronic Low Voltage Dimmer)*
INC - Dimming Driver (For use with Incandescent Dimmer)*
010 - Dimming Driver (For use with 0-10 Dimmer)
INPUT VOLTAGE
MT - 120-277 VAC
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes

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01/26/2023 SKU-1445
SUB-2872-00

EL DORADO LED

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:

**Requires magnetic low voltage dimmer.*

***Please see Adjust-e-Lume photometry to determine desired intensity.*

****Accommodates up to 2 lens/shielding media. Two lens/shielding prices required.*

CATALOG NUMBER LOGIC
Example: B - ED - LED - e65/e65 - NSP/MFL - A9/A9 - BLP - 12/12 - 11/11 - B
MATERIAL
(Blank) - Aluminum   B - Brass   S - Stainless Steel
SERIES
ED - El Dorado
SOURCE
LED - with Integral Dimming Driver (25W min. load when dimmed)*
LED TYPE
e64 - 7W LED/2700K   e79 - 7W LED/2700K 90CRI
e65 - 7W LED/3000K   e80 - 7W LED/3000K 90CRI
e66 - 7W LED/4000K   e81 - 7W LED/3500K 80CRI
e74 - 7W LED/Amber
OPTICS
NSP - Spot (13°)   MFL - Medium Flood (23°)
SP - Spot (16°)   WFL - Wide Flood (31°)
ADJUST-E-LUME OUTPUT INTENSITY**
A9 (Standard), A8, A7, A6, A5, A4, A3, A2, A1
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
LENS TYPE***
12 - Soft Focus   13 - Rectilinear
SHIELDING***
11 - Honeycomb Baffle x 2
CAP STYLE
A - 45°
B - 90°
C - Flush
D - 45° Less Weephole (Interior use only)
E - 90° Less Weephole (Interior use only)
F - 90° with Flush
MOD OPTIONS
5 - 5 Ft Leads
25 - 25 Ft Leads

B-K LIGHTING | MADE IN THE USA | 559.438.5800 | INFO@BKLIGHTING.COM | BKLIGHTING.COM

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12/06/2022 SKU-777
SUB000943

KIM LIGHTING®

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

UR20 - Post Top

ARCHITECTURAL AREA/SITE

Ouro™

Ouro Post Top

FEATURES

- 20" size in single/dual arm post top, pole and wall mount
- High performance optics up to 16,874 delivered lumens
- Elegant form factor
- Diffusion lens option
- UL/cUL listed for wet locations, IP66 and 4G/1.5G vibration rated

3000K and warmer CCTs only

See Certification Specifications

CONTROL TECHNOLOGY

NX LIGHTING CONTROLS   wiSCAPE

RELATED PRODUCTS

Ouro Small Arm Mount   Ouro Large Post Top   Ouro Large Arm Mount

SPECIFICATIONS

CONSTRUCTION
- Low copper aluminum alloy die-casting is designed as one-piece.
- Molded silicone gasket throughout insures the sealing between the two compartments and provides ingress protection.
- All external fasteners are stainless steel.
- Cover is secured to Lens frame by the latch and hinge.

OPTICS
- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.
- Optional Backlight Control on each LED module to completely control unwanted backlight.
- Optional fixture finish optical surfaces will not exceed BUG ratings of the standard white finish.

LENS
- Standard lens (CLR) IK08
- Clear Polycarbonate Lens (CP) IK10

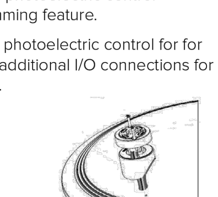
INSTALLATION
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

ELECTRICAL
- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver has a 0-10V dimming interface for multi-level illumination options. Driver is Underwriters Laboratories listed.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments.
- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 10,000k in parallel, 20,000k in series
- Wiring: No. 18AWM rated 105°C, wet rating.

CONTROLS

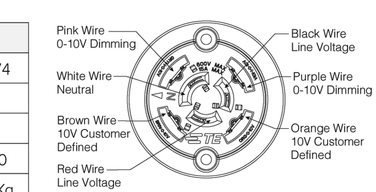
7PR
- Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:
- Traditional on/off photoelectric control.
- 5-pin wireless photoelectric control for added dimming feature.
- 7-pin wireless photoelectric control for for dimming and additional I/O connections for customer use.



7-Pin receptacle placement

KEY DATA	
Lumen Range	2694 – 16874
Wattage Range	25 – 150
Efficacy Range (LPW)	95 – 133
Reported Life (Hours)	L70/>60,000
Weight	35 lbs – 15.8 Kg
EPA	0.608



[1]Clear Polycarbonate Lens (CP) IK10, Standard lens (CLR) IK08, Consult factory for details

(Specifications continued on page 3)

Current

currentlighting.com/kimlighting

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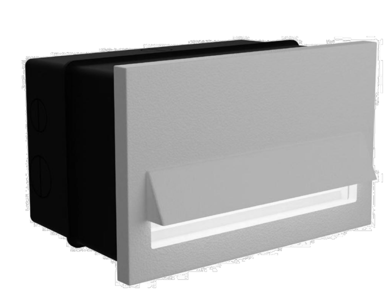
YUKON LED (INDIRECT) — IP66 RATED

DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:



Housing may be shipped ahead upon request.

**Yields up to 60% loss in output*

***120V only*

CATALOG NUMBER LOGIC
Example: YK - I - LED - A2790 - BLP - SD - B1 - BLW - 010 - MT
MATERIAL
(Blank) - Aluminum   B - Brass   S - Stainless Steel
SERIES
YK - Yukon Commercial Steplight
STYLE
I - Indirect
SOURCE
LED - Linear Array
LED TYPE
A2780 - 12W/2700K/80CRI   A2790 - 12W/2700K/90CRI
A3080 - 12W/3000K/80CRI   A3090 - 12W/3000K/90CRI
A3580 - 12W/3500K/80CRI   A3590 - 12W/3500K/90CRI
A4080 - 12W/4000K/80CRI   A4090 - 12W/4000K/90CRI
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
FACEPLATE
SD - Standard   LD - Louvered   VR - Visor
BACKPLATE
B1 - Stepped (For use with SD and VR Faceplate)
B2 - Curved (For use with SD and LD Faceplate)
BACKPLATE FINISH
(Blank) - Backplate finish matches faceplate finish
BLW* - Black Wrinkle finish for glare reduction
CONTROL TYPE
ELV - 12W Dimming Driver (For use with Electronic Low Voltage Dimmer)**
INC - 12W Dimming Driver (For use with Incandescent Dimmer)**
010 - 12W Dimming Driver (For use with 0-10 Dimmer)
INPUT VOLTAGE
MT - 120-277 VAC

B-K LIGHTING | MADE IN THE USA | 559.438.5800 | INFO@BKLIGHTING.COM | BKLIGHTING.COM

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02/27/2023 SKU-1342
SUB-2820-00

RSW Series

RSW™ LED Street Luminaire – Small, Medium, Large & Extra Large

Rev. Date: V8 09/02/2022

Product Description

The RSW Series, utilizing WaveMax® Technology, will transform the way utilities and municipalities light their residential streets, interchanges, and expressways. With the first viable LED streetlight at warm CCT, the RSW Series delivers up to 144 LPW, enhanced visual comfort with reduced glare and high color contrast leading to improved overall illumination using less energy. The RSW Series provides warm, inviting dark sky friendly lighting that makes good economic sense.
Applications: Residential roads, collector roads, multi-lane freeways, express ways, major roads, parking lots, and general area spaces

Performance Summary

WaveMax® Technology

Assembled in the USA by Cree Lighting from US and imported parts

Initial Delivered Lumens: 3,000 - 32,000

Efficacy: Up to 144 LPW

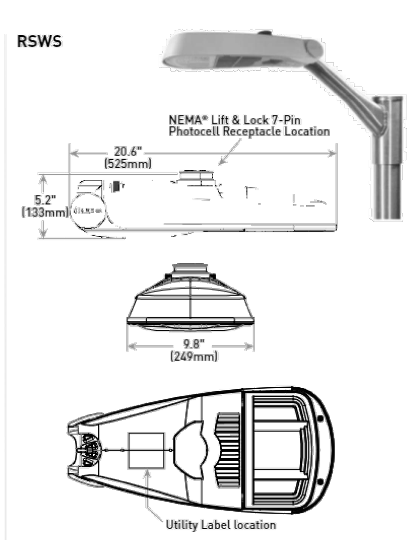
CRI: Minimum 70 CRI (3000K, 4000K & 5000K); 80 CRI (2700K, 3000K & 4000K; 3L/5L/9L lumen packages only)

CCT: 2700K, 3000K, 4000K, 5000K

Limited Warranty†: 10 years on luminaire; up to 5 years for Synapse® accessories; 1 year on luminaire accessories

† See http://creelighting.com/warranty for warranty terms. For Synapse accessories, consult Synapse spec sheets for details on warranty terms.

RSWS



Luminaire	Weight*
RSWS	9.4 lbs. (4.3kg)

* RSW-BLSS, RSW-CLSS, or RSW-FLSS Accessories: add 0.4 lbs. (0.2kg)

RSWM/RSWL/RSWX Luminaire - See page 14 for photos & dimensions

Ordering Information

Example: RSWS-B-HT-2ME-3L-27K8-UL-GY-N

Luminaire										
RSW		B	HT						N	
Family	Size	Series	Mounting*	Optic	Lumen Package***	CCT/CRI	Voltage	Color Options	Utility Label/Receptacle	Options
RSW	**S** Small **M** Medium **L** Large **X** Extra Large	B	**HT** Horizontal Tenon	**2LG**** Type II Long **2ME**** Type II Medium **3ME**** Type III Medium	<u>Small</u> **3L** 3,000 Lumens **5L** 5,000 Lumens **7L** 7,000 Lumens <u>Medium</u> **9L** 9,000 Lumens <u>Large</u> **14L** 14,000 Lumens <u>Extra Large</u> **24L** 24,000 Lumens **32L** 32,000 Lumens	**27K8** 2700K, 80 CRI - Available only with 3L, 5L, or 9L lumen packages **30K7** 3000K, 70 CRI **30K8** 3000K, 80 CRI - Available only with 3L, 5L, or 9L lumen packages **40K7** 4000K, 70CRI **40K8** 4000K, 80 CRI - Available only with 3L, 5L, or 9L lumen packages **50K7** 5000K, 70CRI	**UL** Universal 120-277V **UH** Universal 347-480V - Available only with medium, large or extra large lumen packages	**BK** Black **BZ** Bronze **GY** Grey	**N Utility Label and NEMA® Lift & Lock 7-Pin Photocell Receptacle** - External utility label per ANSI C136.15-2020 - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Requires photocell or shorting cap by others	**4BLT Four Bolt Mounting** - Mounts to 1.25" (32mm) IP, 1.66" (42mm) O.D. or 2" (51mm) IP, 2.375" (60mm) O.D. horizontal tenon - Available only with large or extra large lumen packages **20KV 20kV/10kA Surge Suppression** - Replaces standard 10kV/5kA surge protection **PP Pallet Packaging** - Available only with small and medium luminaires - Multiple luminaires (up to 26 maximum per pallet for small; up to 22 maximum per pallet for medium **Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1 Field Adjustable Lumen Output** - Must select Q4, Q3, Q2, or Q1 for small lumen package - Must select Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 for medium lumen package - Must select Q9, Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 for large or extra large lumen packages - Offers full range lumen adjustability - Includes wattage label for setting selected - Refer to pages 7-13 for power and lumen values - Luminaire may also be dimmed through 7-Pin receptacle with use of dimming control by others **SS Stainless Steel Bolts** **X8/X7/X6/X5/X4/X3/X2/X1 Locked Lumen Output** - Must select X3, X2, or X1 for small lumen packages - Must select X7, X6, X5, X4, X3, X2, or X1 for medium lumen package - Must select X8, X7, X6, X5, X4, X3, X2, or X1 for large or extra large lumen packages - Lumen output is permanently locked to the setting selected - Includes wattage label for setting selected - Refer to pages 7-13 for power and lumen values - Dimming is only available through 7-Pin receptacle with use of dimming control by others

* Reference EPA and pole configuration suitability data on page 6
** Available with Backlight Shield when ordered with field-installed accessory (see table on page 2)
*** Lumen Package codes identify approximate light output only. Actual lumen output levels vary depending on CCT and optic selection. Refer to Initial Delivered Lumen tables for specific lumen values

US: creelighting.com (800) 236-6800
Canada: creelighting-canada.com (800) 473-1234

CREE LIGHTING®

BEACON design . performance . technology

DATE: | LOCATION:
TYPE: | PROJECT:
CATALOG #:

GEOPAK SERIES 1

SIZE 1 - TRP1/QSP1/RDI1

GEOPAK™

FEATURES

- GeoPak Series consists of three compact Geometric wall-pack shapes in four popular finishes
- 24 mid-power LEDs create 3115 lumens in AC and 1628 lumens in emergency mode
- Environmentally friendly, long-life Lithium Iron Phosphate battery
- Standard Battery Temperature Range: 0°C to 40°C, Optional Heater: -30°C to 40°C
- Zero uplight distributions

SPECIFICATIONS

CONSTRUCTION
- Housing is made from die-cast aluminum with a hinged back-plate for ease of installation and maintenance
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.
- Wet Location Listed to UL924 and UL1598 Standard

OPTICS
- 24 mid power LEDs delivering up to 3,000 lumens
- Up to 118 lumens per watt
- Type III and IV distributions for a wide variety of applications
- Zero uplight (UO), dark sky, neighbor friendly

INSTALLATION
- Universal plate for mounting to standard 3 1/2" and 4" square electrical boxes. All connections are made from connections at the rear of the unit
- Optional back-box accessory available for surface conduit application.

ELECTRICAL
- 120-277 and 347-480V operation, 50/60Hz
- 0-10V dimming driver standard. Dimming leads are extended from the product.
- 10kA surge protector
- Photocell and occupancy sensor options available for complete on/off and dimming control
- Intergral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Includes a long-life Lithium Iron Phosphate battery with optional battery heater for cold temperature application
- Ambient operating temperature -40˚C to 40˚C
- Button photocontrol is suitable for 120-277V operation
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS
- Drivers IP66 and RoHS compliant
- Listed to UL1598 and CSAC22.2#250.0-24 for wet location

WARRANTY
- 5 year warranty

KEY DATA	
Lumen Range	1720-2896
Wattage Range	15-25
Efficacy Range (LPW)	107-131
Weights lbs. (kg)	10.5–11.5 (4.8–5.2)

Current

currentlighting.com/beacon

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STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11587
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
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Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
SITE LIGHTING FIXTURES

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE:
JOB NO: 22-144
SHEET: C-7.1

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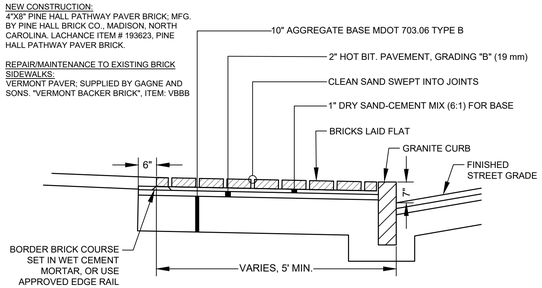
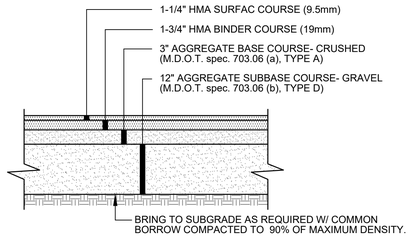
BRICKS TO BE USED:

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. "VERMONT BACKER BRICK", ITEM: VBBB

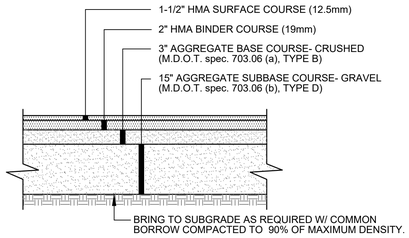


BRICK WALKWAY & GRANITE CURB
NOT TO SCALE



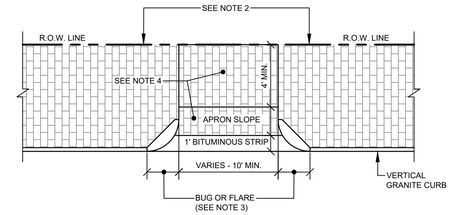
NOTES:
1. MDOT TYPE D AGGREGATE GRADATION SHALL BE MODIFIED FOR A MAXIMUM 4" STONE AND LIMIT #200 SIEVE TO 5% PASSING.

TYP. ONSITE PAVEMENT SECTION
NOT TO SCALE

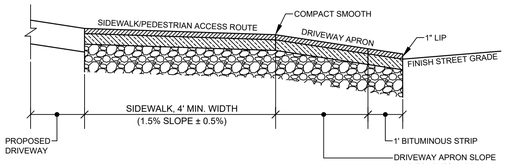


NOTES:
1. FOR USE ON LOCAL STREETS WITHIN THE CITY OF PORTLAND

TYP. SECTION - PAVEMENT REPAIR IN CITY RIGHT OF WAY
NOT TO SCALE



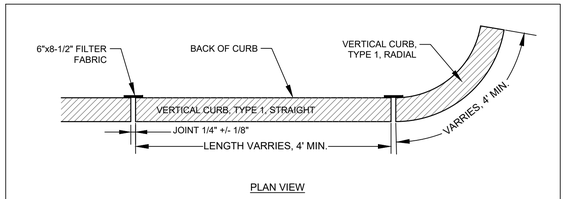
PLAN VIEW



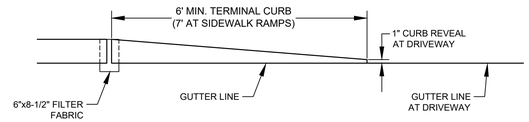
SECTION

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 R.O.W. CAUSES APRON SLOPE TO EXCEED RECOMMENDED %, SIDEWALK TRANSITION AREAS MAY BE ADDED, BUT SHALL NOT EXCEED 8.33%
3. 2-FT. RADIUS CORNER GRANITE PIECES ("BUGS") ARE REQUIRED AT LOW-VOLUME DRIVEWAYS. UNLESS OTHERWISE DIRECTED BY D.P.W. AT OTHER DRIVEWAYS, STANDARD FLARE / TIPDOWN TREATMENTS SHALL BE USED.
4. ALL MATERIALS IN R.O.W. TO COMPLY WITH CITY'S SIDEWALK AND 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.

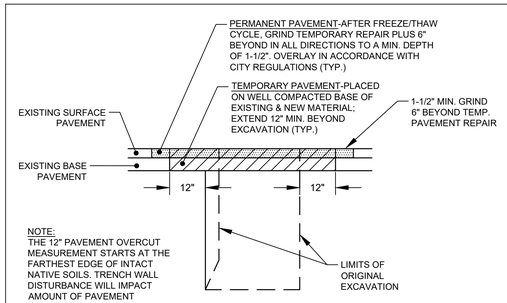
BRICK DRIVEWAY APRON
NOT TO SCALE



PLAN VIEW

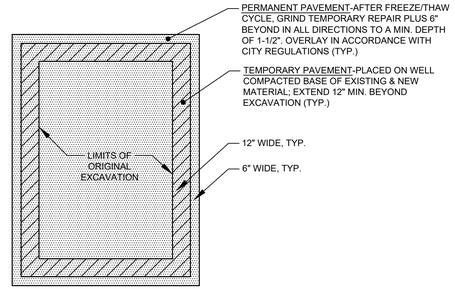


TERMINAL CURB PROFILE

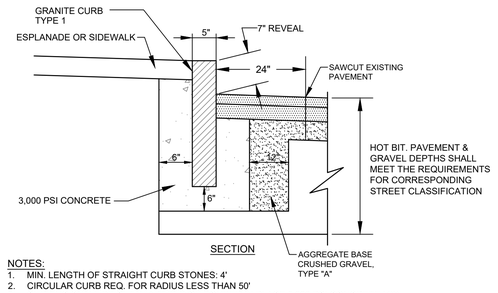


NOTE:
THE 12" PAVEMENT OVERCUT MEASUREMENT STARTS AT THE FARTHEST EDGE OF INTACT NATIVE SOILS. TRENCH WALL DISTURBANCE WILL IMPACT AMOUNT OF PAVEMENT REMOVAL REQUIRED

TYP. EXCAVATION IN CITY RIGHT OF WAY
NOT TO SCALE



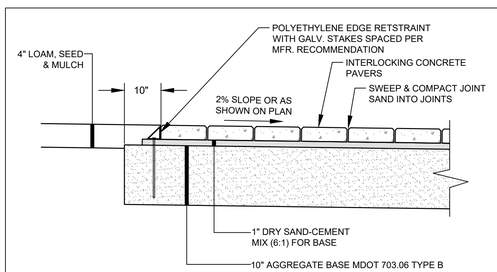
PLAN VIEW OF MINOR EXCAVATION PAVEMENT REPAIR
NOT TO SCALE



SECTION

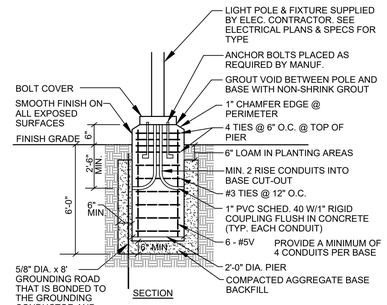
NOTES:
1. MIN. LENGTH OF STRAIGHT CURB STONES: 4'
2. CIRCULAR CURB REQ. FOR RADIUS LESS THAN 50'
3. CURBING SHALL BE SET IN A 6" BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
4. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10" OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
5. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB
NOT TO SCALE

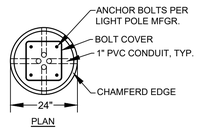


NOTES:
1. LAYING PATTERN: SEE PLAN
2. BEDDING SAND SHALL BE CONCRETE SAND CONFORMING TO ASTM C-33
3. JOINT SAND SHALL BE MASONRY SAND CONFORMING TO ASTM C-144

TYPICAL PAVER DETAIL
NOT TO SCALE



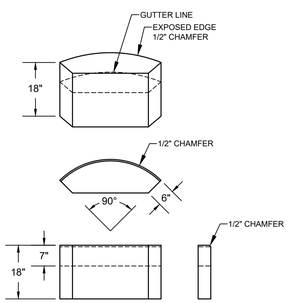
SECTION



PLAN

NOTES:
1. CONCRETE f'c=4000 psi.
2. REINF. STEEL GRADE 60 NEW BARS.
3. CONCRETE 3/4" AGG., 6 +/- 1% ENTRAINED AIR.
4. PROVIDE 2 COATS BITUMINOUS DAMPROOFING FOR ALL CONCRETE BELOW GRADE.
5. EXPOSED CONCRETE TO BE PAINTED WITH 2 COATS OF ACRYLIC PAINT. COLOR TO MATCH POLE COLOR
6. INSTALL BASE 3'-0" ABOVE FINISH GRADE IN LOCATIONS WHERE POLES ARE IN PARKING LOT PAVEMENT.

LIGHT POLE BASE
NOT TO SCALE



GRANITE RADIUS CORNER "BUG"
NOT TO SCALE

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13861
LICENSED PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

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PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE: SITE DETAILS

CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-8.0

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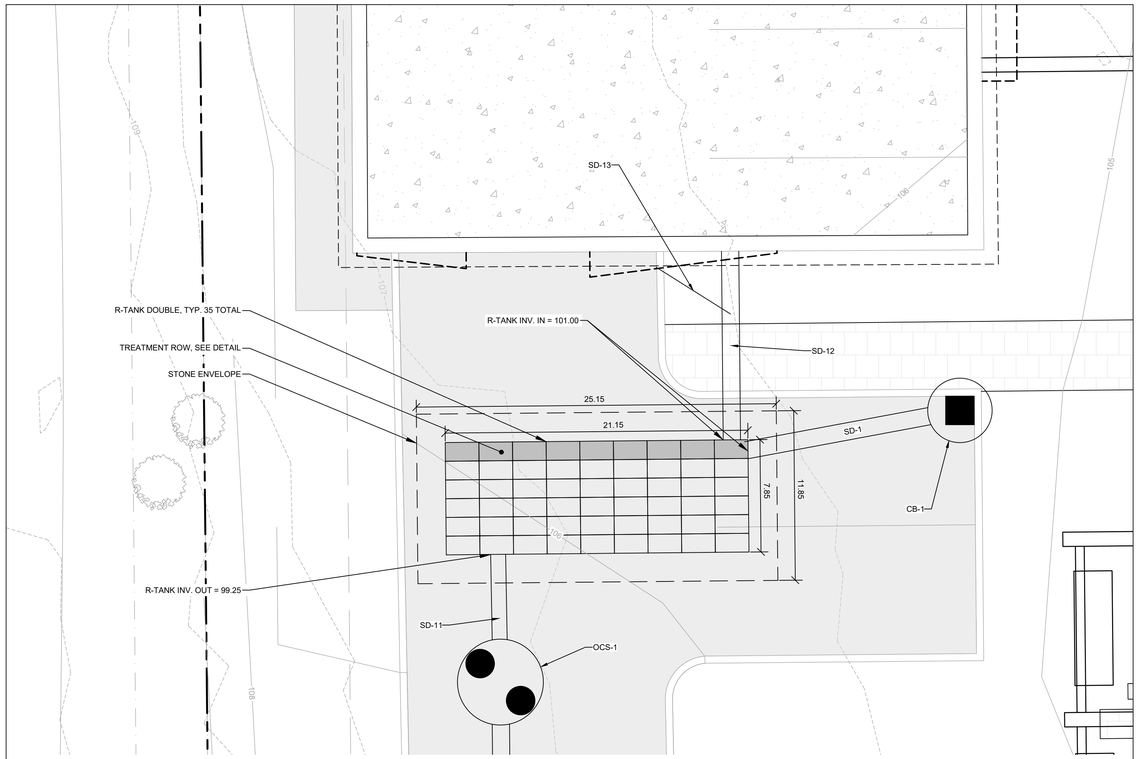
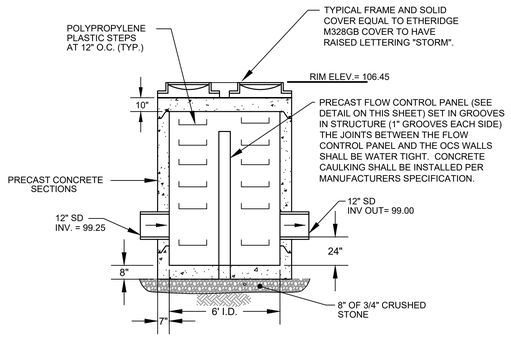
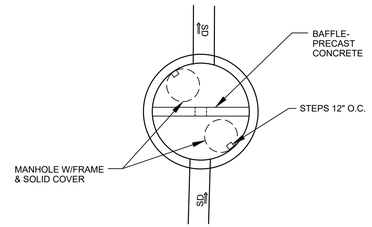


R-TANK HD SYSTEM LAYOUT

SCALE: 1"=5'

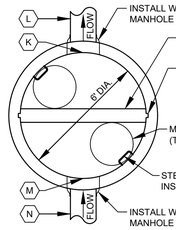




NOTE:
1. SUBMIT SHOP DRAWINGS FOR OWNER/ENGINEER APPROVAL.
2. STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.

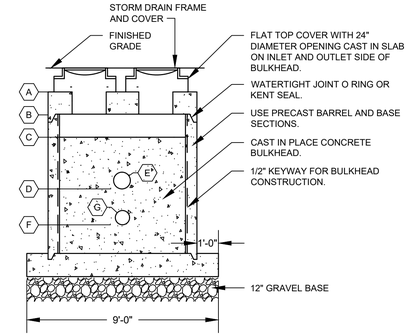
OUTLET CONTROL STRUCTURE (OCS)

NOT TO SCALE



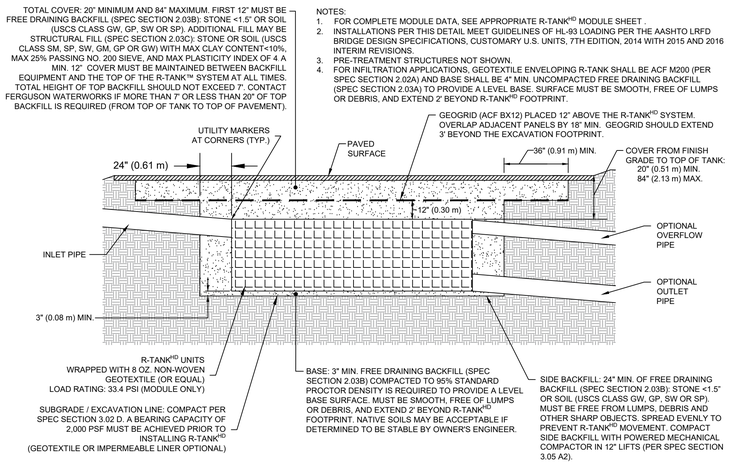
SCHEDULE A
OUTLET CONTROL STRUCTURE

ITEM DESCRIPTION		DIMENSION / ELEVATION
A.	TOP OF STRUCTURE	105.45
B.	UNDERSIDE TOP SLAB	104.62
C.	TOP CONCRETE BULKHEAD	103.00
D.	ORIFICE ELEVATION	101.24"
E.	ORIFICE DIA.	4"
F.	ORIFICE ELEVATION	99
G.	ORIFICE DIA.	2"
H.	INVERT OUT	99.00
I.	PIPE DIA. OUT	12"
J.	INVERT IN	99.25
K.	PIPE DIA. IN	12"

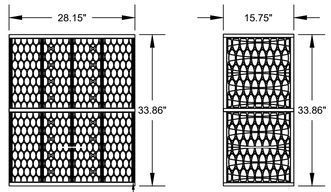


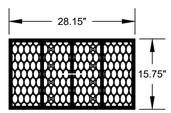
OUTLET CONTROL STRUCTURE - WEIR WALL

NOT TO SCALE

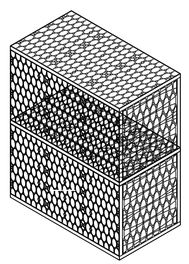


NOTES:
1. FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK HD MODULE SHEET.
2. INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
3. PRE-TREATMENT STRUCTURES NOT SHOWN.
4. FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK HD FOOTPRINT.





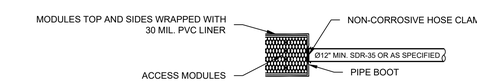
DOUBLE MODULE DETAIL



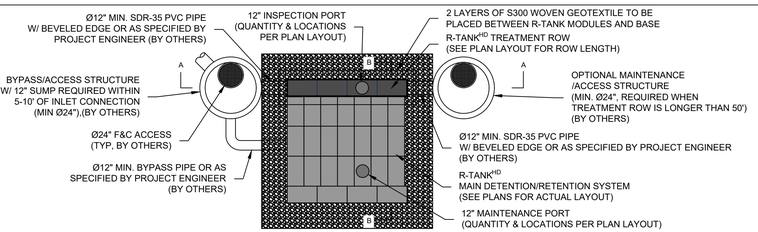
ISOMETRIC VIEW

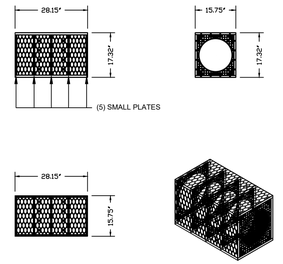
R-TANK HD & HS-20 LOADS - TYPICAL SECTION VIEW

NOT TO SCALE

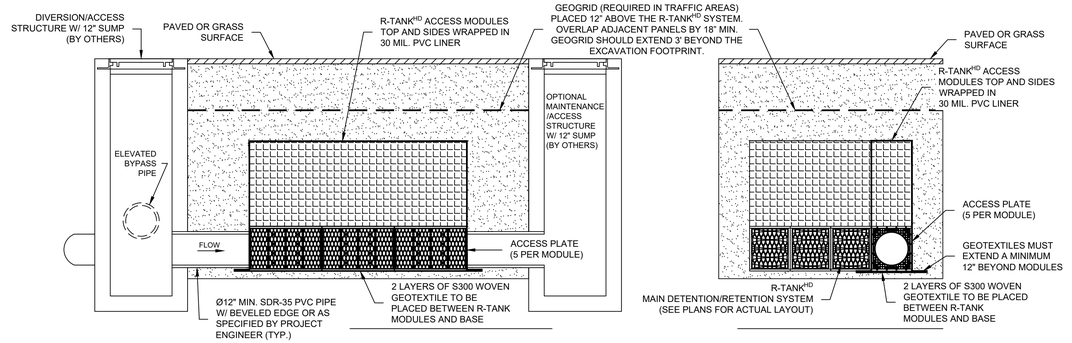


NOTE: IF PIPE CONNECTING TO TREATMENT ROW IS LARGER THAN Ø12" SDR-35, IT SHALL BE ABUTTED FLUSH TO END PLATE AND SEALED WITH A PIPE BOOT.





(FOR MODULE DATA, SEE STANDARD MODULE DETAIL)



R-TANK HD & HS-20 LOADS - TYPICAL SECTION VIEW

NOT TO SCALE

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 13861
LICENSED PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

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PROJECT: EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101
SHEET TITLE: STORMWATER DETAILS
CLIENT: ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-8.2

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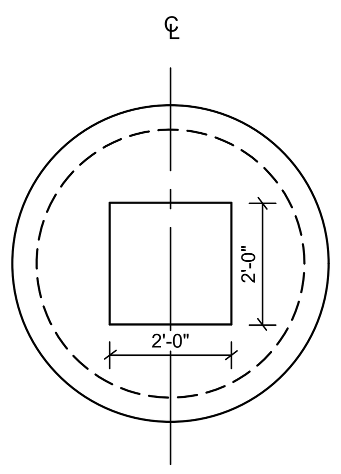
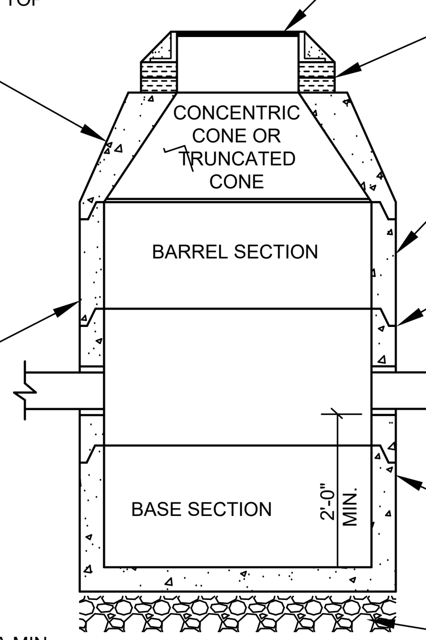


PLAN VIEW



SECTION VIEW

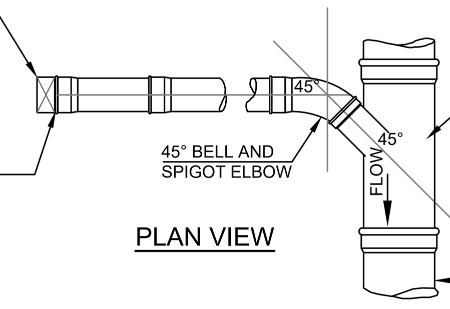
NOTE:
WHERE THE CATCH BASIN IS INSTALLED ADJACENT TO BITUMINOUS CONCRETE OF TYPE V SLOPED CURB. SET CENTERLINE OF CATCH BASIN FRAME 1'-6" OFF FACE OF CURB.

DESIGN NOTES:

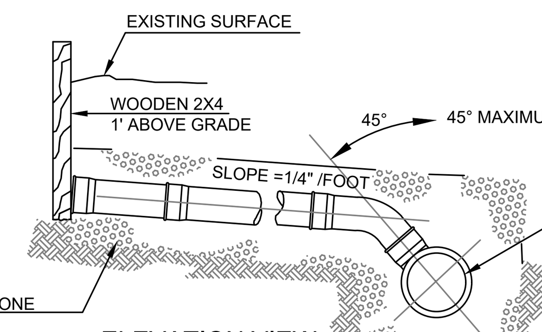
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF..

NOTE:
CASCADE GRATES SHALL BE INSTALLED ON GRADIENT OF GUTTER IF PROFILE GRADE EXCEEDS 5% GRATES SHALL BE DEPRESSED 2" BELOW NORMAL GUTTER GRADE UNLESS THIS DEPRESSION INTERFERES WITH TRAFFIC. PARALLEL BAR GRATES SHALL BE INSTALLED ON A LEVEL GRADIENT.

TYPICAL CATCH BASIN
NOT TO SCALE



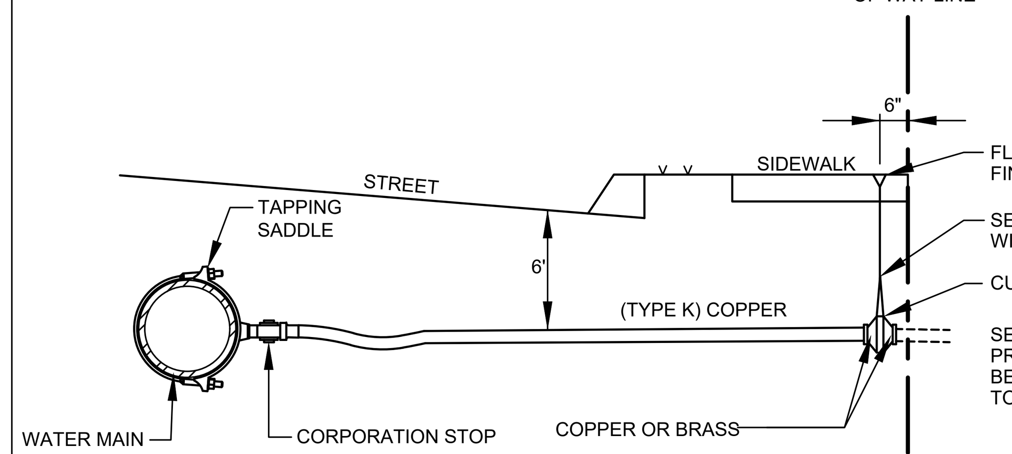
PLAN VIEW



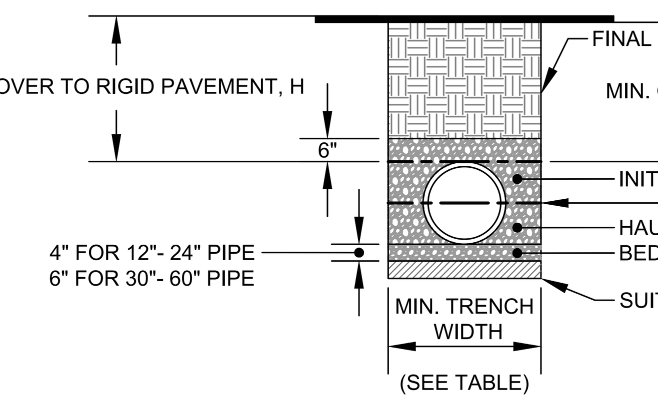
ELEVATION VIEW

NOTE:
LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.

TYPICAL HOUSE LATERAL TEE/WYE CONNECTION
NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).

5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

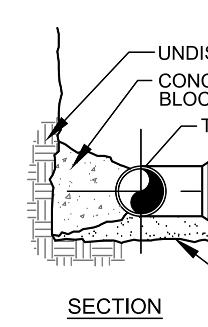
	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

7. INSULATION: RIGID INSULATION SHALL BE PROVIDED FOR PIPES WITH LESS THAN 4' OF COVER IN ACCORDANCE WITH THE FOLLOWING TABLE:

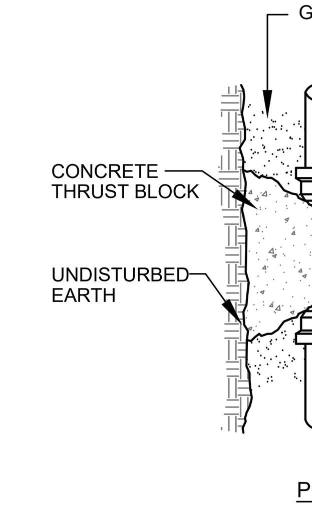
COVER OVER PIPE	INSULATION THICKNESS
12" - 24"	3"
24" - 36"	2"
36" - 48"	1"
48"+	NONE

TYPICAL TRENCH DETAIL
NOT TO SCALE

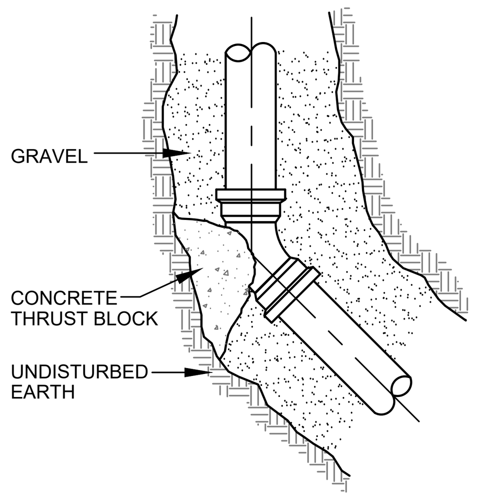


SECTION

CONCRETE THRUST BLOCK SIZE REQUIREMENTS				
		SQ. FT. OF BEARING ON UNDISTURBED SOIL		
FITTINGS		90° BENDS	45° BENDS	TEES AND PLUGS
PIPE SIZE	6"	4.0	2.0	3.0
	8"	8.0	4.0	6.0
	12"	15	10	10

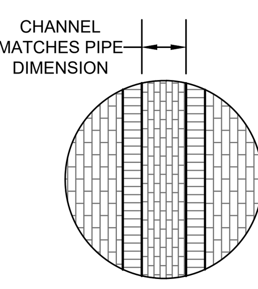


PLAN

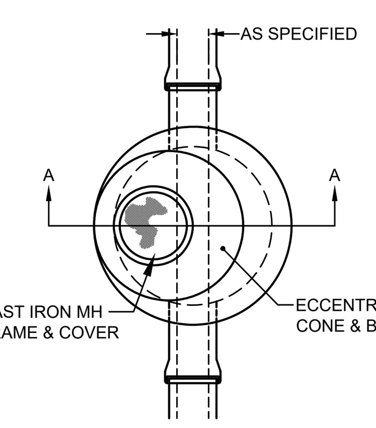


45° BEND

TEE & BEND DETAIL
NOT TO SCALE

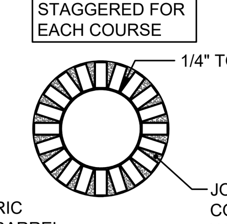


SHELF DETAIL

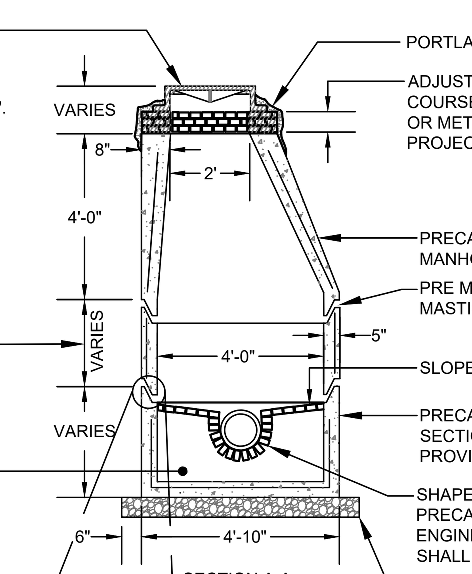


PLAN

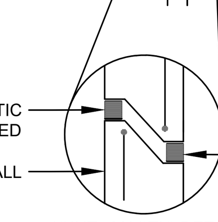
NOTE:
JOINTS SHALL BE STAGGERED FOR EACH COURSE



BRICK JOINT DETAIL



SECTION A-A



JOINT / MASTIC DETAIL

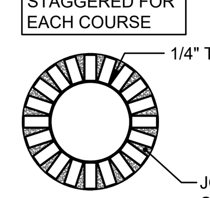
NOTE:
MANHOLE CHANNELS REQUIRING CHANGE OF ALIGNMENT TO BE BUILT ON SMOOTH RADIUS. IF SIDE PIPES ENTER, CHANNEL TO BE SHAPED TO RECEIVE ADDED SIDE FLOW

4' DIAMETER PRECAST CONCRETE MANHOLE
NOT TO SCALE

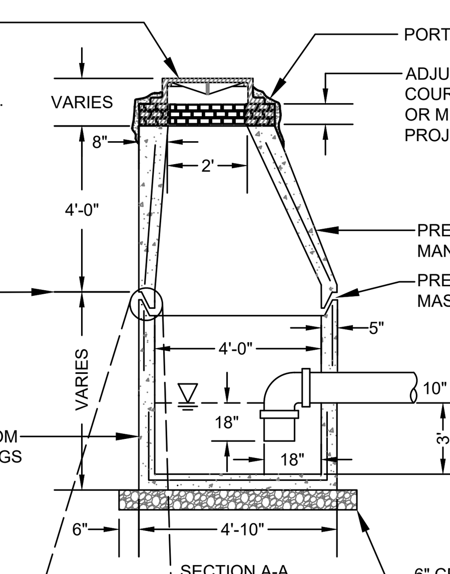
NOTES:

1. FOR USE IN PARTIALLY OR TOTALLY ENCLOSED PARKING GARAGES.
2. DISCHARGE SHALL BE TO SANITARY SEWER
3. A VENT PIPE MAY BE REQUIRED THAT HAS A VERTICAL OUTLET OFF TO THE SIDE OF THE STRUCTURE.
4. AN OIL ABSORBENT BOOM SHALL BE PLACED WITHIN THE MANHOLE ON THE WATER SURFACE AND REPLACED ANNUALLY.

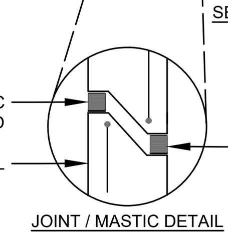
NOTE:
JOINTS SHALL BE STAGGERED FOR EACH COURSE



BRICK JOINT DETAIL

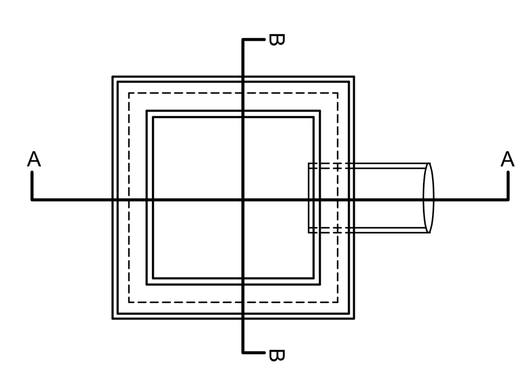


SECTION A-A

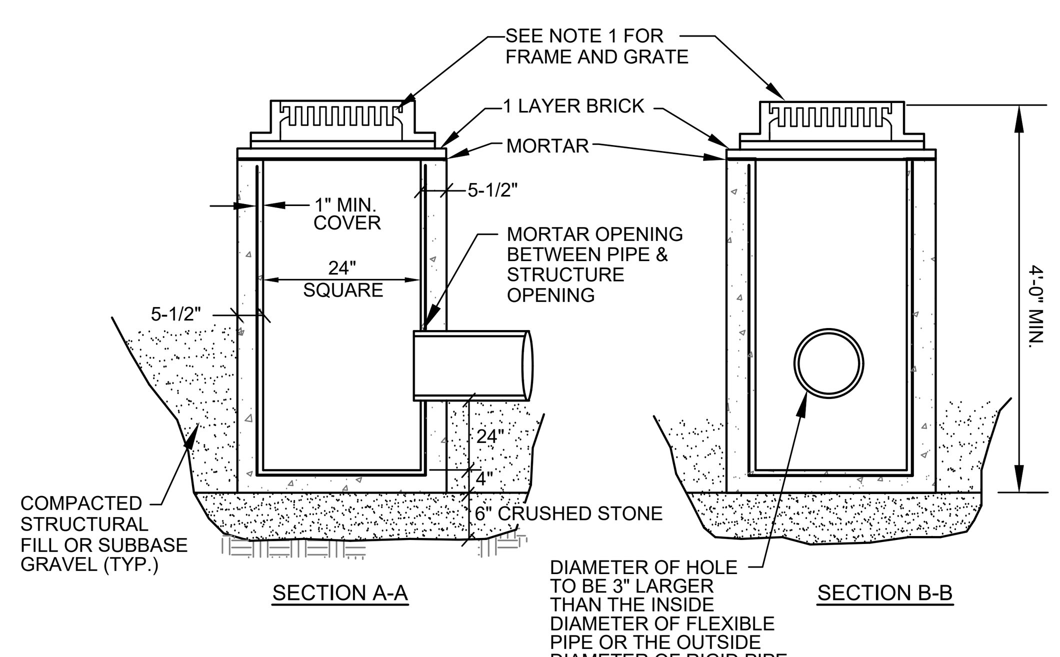


JOINT / MASTIC DETAIL

OIL / GRIT SEPARATOR
NOT TO SCALE



PLAN VIEW



SECTION A-A

SECTION B-B

NOTES:
1. FRAME SHALL BE FOR 24" SQUARE GRATE - LEBARON TYPE "F" SQUARE FRAME (LF 245) 4 FLANGE OR ETHERIDGE SQUARE FRAME S24G. GRATE SHALL BE 24"x24" CAST IRON.
2. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS SINGLE PORTLAND CEMENT CONCRETE UNIT.

TYP. TYPE "F" CATCH BASIN
NOT TO SCALE

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

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11587
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

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TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
UTILITY AND DRAINAGE DETAILS

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: N.T.S.
JOB NO: 22-144
SHEET: C-8.1

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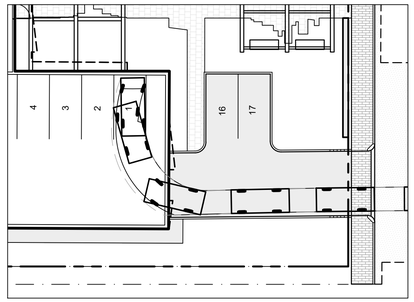
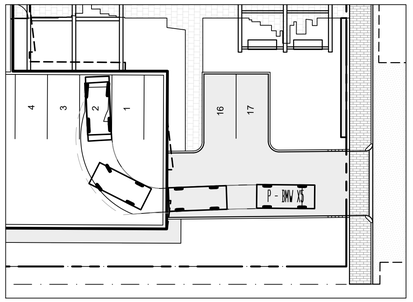


VEHICLE ENTERING SPOT 1



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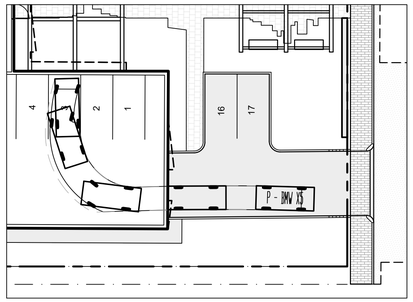

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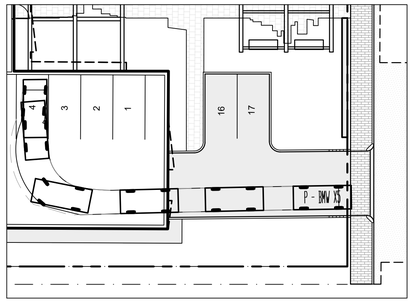

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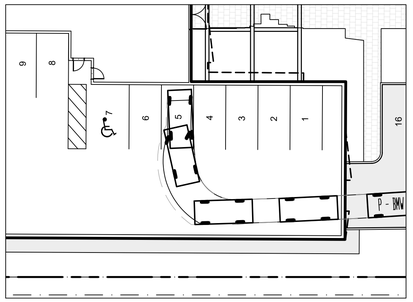

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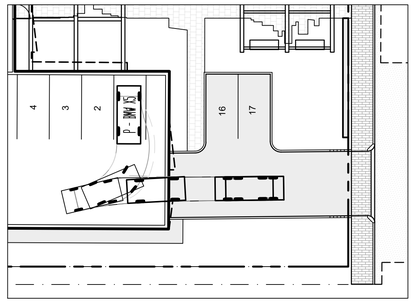

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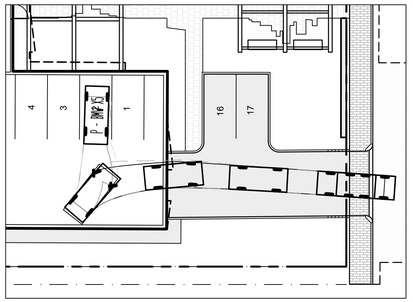

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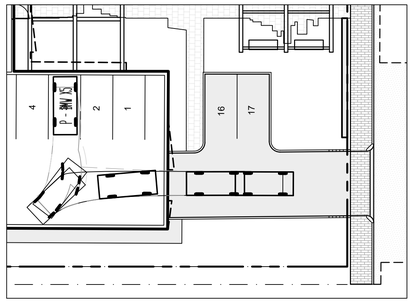

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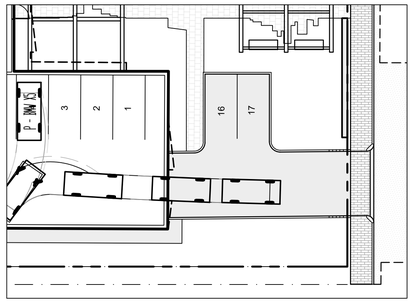

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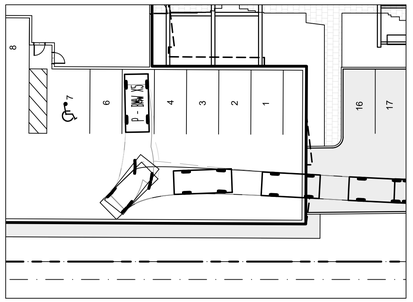

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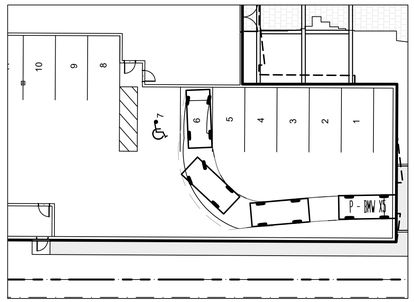

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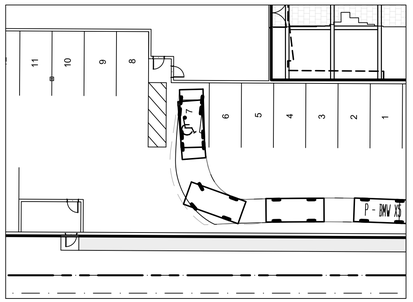

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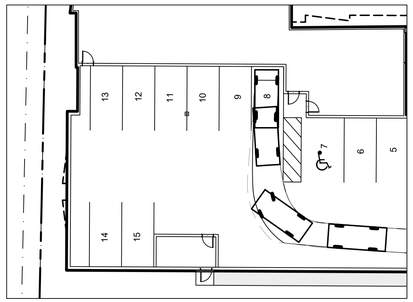

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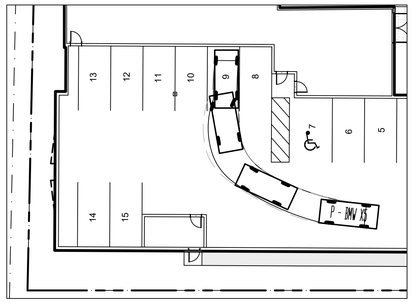

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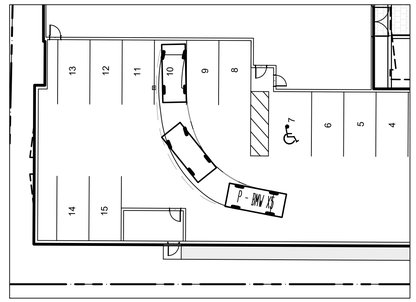

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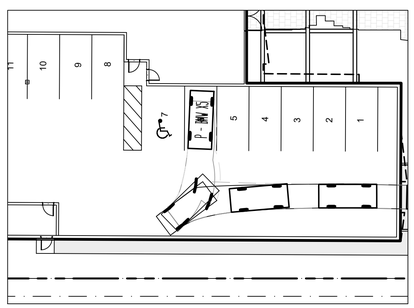

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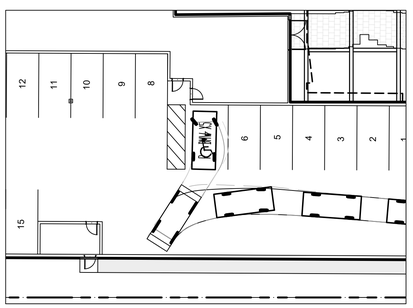

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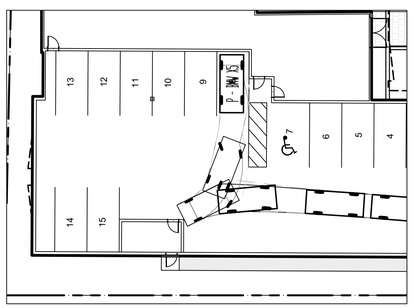

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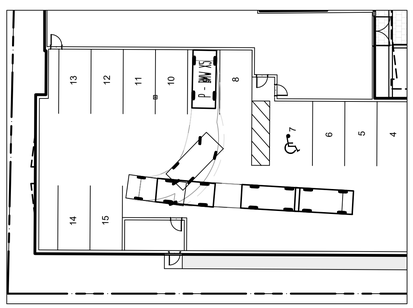

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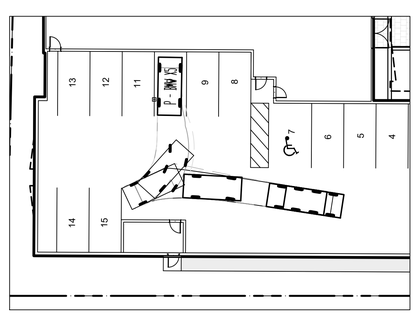

VEHICLE EXITING SPOT 10

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 10080
LICENSED PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
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TERRADYN CONSULTANTS, LLC

Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

PERMIT DRAWING
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PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
PARKING TURNING ANALYSIS

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-9.0

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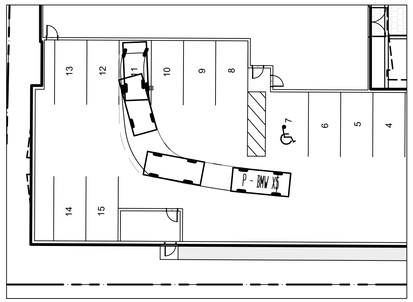
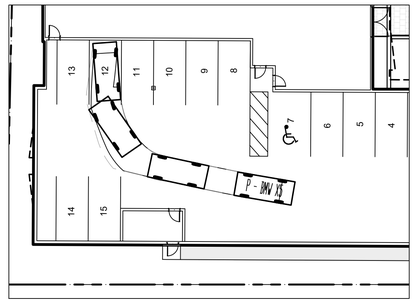


VEHICLE ENTERING SPOT 11



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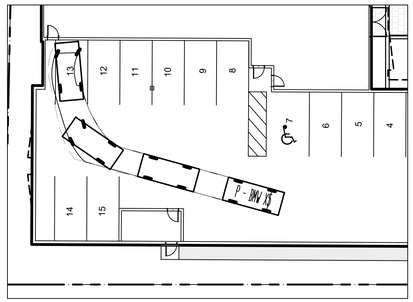

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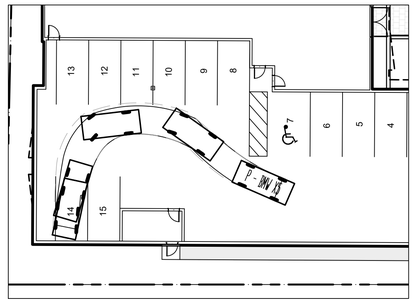

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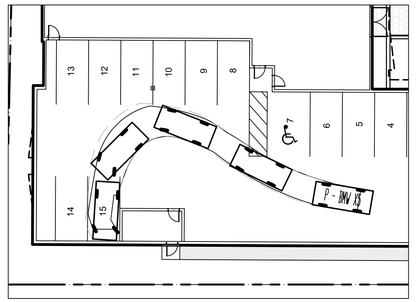

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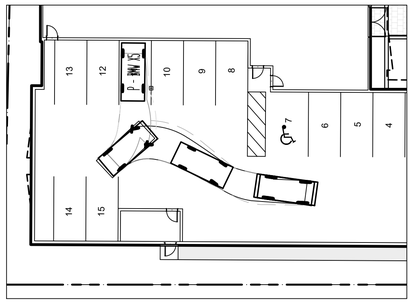

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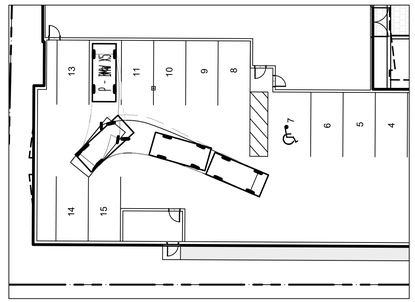

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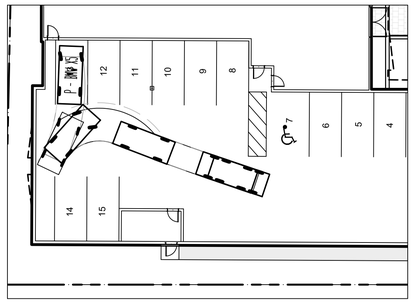

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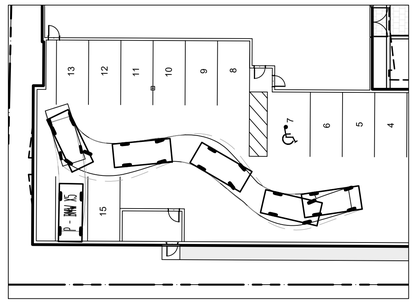

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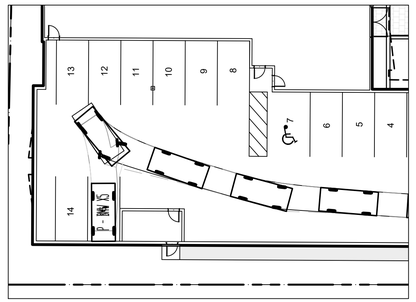

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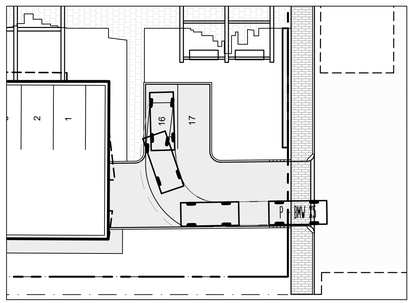

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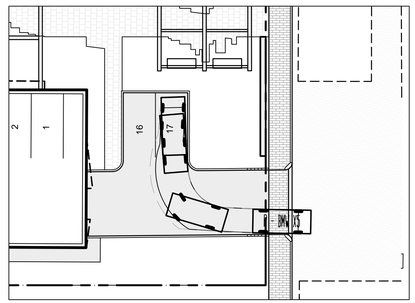
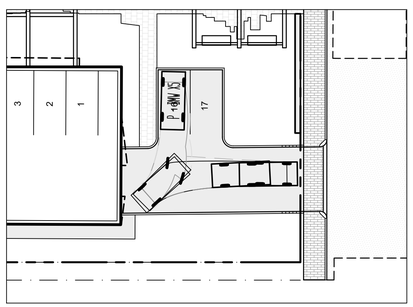
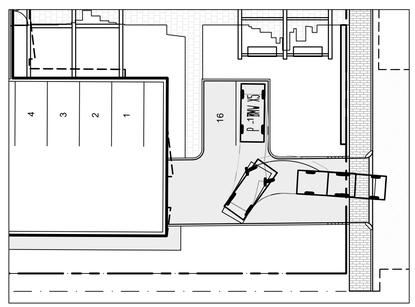


VEHICLE ENTERING SPOT 17



VEHICLE EXITING SPOT 16



VEHICLE EXITING SPOT 17

VEHICLE MOVEMENT NOTES:

1. VEHICLE MOVEMENTS SHOW HOW A VEHICLE MAY ENTER OR EXIT PARKING SPACES.
2. VEHICLE PATHS DEVELOPED USING VEHICLE TRACKING SWEPT PATH ANALYSIS SOFTWARE BY AUTODESK.
3. VEHICLE PARAMETERS:
   TOTAL LENGTH: 15.3'
   TOTAL WIDTH: 6.21'
   WHEEL BASE: 9.25'
   TRACK: 5.3'
   FRONT OVERHANG: 2.94'
   REAR OVERHANG: 3.11'
   STEERING LOCK ANGLE: 34.5°

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 INCH = 20 FT.

STATE OF MAINE
MICHAEL E. TADEMA-WIELANDT
No. 11687
LICENSED
PROFESSIONAL ENGINEER

DATE: 2/20/2024
PE: MICHAEL TADEMA-WIELANDT

NO.	DATE	REVISIONS
3	2/20/2024	REVISED BASED ON UPDATED BUILDING PLANS
2	9/8/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS
1	7/28/2023	REVISED IN RESPONSE TO CITY OF PORTLAND STAFF REVIEW COMMENTS

TERRADYN CONSULTANTS, LLC
Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting

ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260

PHONE:
(207) 926-5111

WEB SITE:
www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
EASTERN PROM CONDOS
246 EASTERN PROMENADE, PORTLAND, MAINE 04101

SHEET TITLE:
PARKING TURNING ANALYSIS

CLIENT:
ECK REALTY, LLC
24 WILDWOOD DRIVE
CAPE ELIZABETH, MAINE 04107

DATE: 5/5/2023
SCALE: 1" = 20'
JOB NO: 22-144
SHEET: C-9.1

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LAYOUT AND MATERIALS NOTES

1. REVIEW CONTRACT DOCUMENTS AND FIELD CONDITIONS BEFORE COMMENCING WORK. REPORT ERRORS, OMISSIONS, OR INCONSISTENCIES PROMPTLY TO THE LANDSCAPE ARCHITECT.
2. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING. LOCATE AND MARK EXISTING UTILITIES.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
5. DIMENSIONS REFERRED TO AS "EQUAL" INDICATE SPACING WHICH IS EQUIDISTANT MEASURED TO THE CENTERLINES.
6. MEASUREMENTS ARE TO THE FINISHED FACE OF BUILDINGS, WALLS, OR OTHER FIXED SITE IMPROVEMENTS. DIMENSIONS TO CENTERLINES ARE IDENTIFIED.
7. INSTALL INTERSECTING ELEMENTS AT 90-DEGREE ANGLES, UNLESS OTHERWISE NOTED.
8. PROVIDE EXPANSION JOINTS WHERE FLATWORK MEETS VERTICAL STRUCTURES, SUCH AS WALLS, CURBS, STEPS, AND OTHER HARDSCAPE.
9. CONTROL JOINTS SHOULD BE SPACED NO GREATER THAN TEN (10) LINEAR FEET MAXIMUM, UNLESS OTHERWISE SPECIFIED.
10. CONTROL JOINT RECOMMENDATIONS TO MINIMIZE CRACKING SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL.
11. ALL TOP OF WALLS AND FENCES ARE TO BE HELD LEVEL, UNLESS OTHERWISE SPECIFIED.
12. SAMPLES OF SPECIFIED MATERIALS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDERING.
13. THE CONTRACTOR SHALL PROVIDE A FULL-SCALE MOCKUP AND RECEIVE APPROVAL FROM THE LANDSCAPE ARCHITECT BEFORE BEGINNING CONSTRUCTION OF PAVEMENT.
14. ALL SITE FURNITURE LOCATIONS ARE TO BE STAKED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

PLANTING NOTES

1. CONTACT UTILITY COMPANIES AS REQUIRED BY STATE AND LOCAL REGULATIONS BEFORE DIGGING. LOCATE AND MARK EXISTING UTILITIES.
2. REFER TO CIVIL ENGINEER'S GRADING PLANS FOR FINAL GRADING AND UTILITY LOCATIONS.
3. THE CONTRACTOR SHALL OBTAIN ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. LANDSCAPE ARCHITECT TO REVIEW PLANT MATERIALS AT SOURCE OR BY PHOTOGRAPHS PRIOR TO DIGGING OR SHIPPING OF PLANT MATERIAL.
5. CONTRACTOR IS TO VERIFY ALL QUANTITIES. IF QUANTITIES ON PLANT LIST DIFFER FROM GRAPHIC INDICATIONS, GRAPHICS SHALL PREVAIL.
6. EXACT LOCATIONS OF TREES AND B&B SHRUBS ARE TO BE STAKED BY THE CONTRACTOR FOR LANDSCAPE ARCHITECT REVIEW AND APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN THE FIELD.
7. PLANT MATERIAL NOT MEETING THE STANDARDS CONTAINED WITHIN CONTRACT DOCUMENTS SHALL BE REPLACED AT NO COST TO THE OWNER.
8. PROVIDE MATCHING SIZES AND FORMS FOR EACH PLANT OF THE SAME SPECIES DESIGNATED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.
9. ALL PLANT MATERIAL IS TO BE INSTALLED PLUMB/PER THE SPECIFICATIONS CONTAINED WITHIN THE CONTRACT DOCUMENTS.
10. PRUNE EXISTING AND/OR NEWLY PLANTED TREES ONLY AS DIRECTED BY THE LANDSCAPE ARCHITECT.
11. PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT PRIOR TO PLANTING. ROOT BALLS SHALL BE FREE OF WEEDS.
12. FINISH GRADE OF PLANTING BEDS SHALL BE ONE (1) INCH BELOW ADJACENT PAVER OR HEADER, UNLESS OTHERWISE SPECIFIED.
13. MULCH OR PLANTING BED DRESSING SHALL BE PLACED IN ALL PLANTING AREAS AS SPECIFIED. MULCH OR PLANTING BED DRESSING SHALL NOT BE PLACED WITHIN SIX (6) INCHES OF TREE TRUNKS. MULCHING SHOULD BE REPEATED ANNUALLY DURING THE AUTUMN TO A 3" DEPTH, SOIL PEP MULCH SHALL BE USED UNLESS OTHERWISE SPECIFIED..
14. ALL PLANT MATERIAL SHOULD RECEIVE AN ORGANIC FERTILIZER IN LIMITED APPLICATION FOLLOWING INSTALLATION. TYPE AND APPLICATION RATE AND METHOD OF APPLICATION TO BE SPECIFIED BY THE CONTRACTOR & APPROVED BY THE LANDSCAPE ARCHITECT.
15. STOCKPILED PLANT MATERIAL TO BE PLACED IN THE SHADE AND PROPERLY HAND-WATERED UNTIL PLANTED.
16. PRESERVE & PROTECT ALL EXISTING VEGETATION INDICATED TO REMAIN AT ALL TIMES.
17. TO THE GREATEST EXTENT POSSIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION SHALL BE STOCKPILED FOR LATER USE IN AREAS REQUIRING REVEGETATION/PLANTING.
18. ALL MATERIALS USED SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
19. ALL DISTURBED AREAS ARE TO BE REVEGETATED

SEEDING NOTES

1. REVEGETATED AREAS ARE TO BE HYRO-SEEDED, FOLLOWED BY THE APPLICATION OF STRAW MULCH.
2. APPLY STRAW MULCH AT A MINIMUM RATE OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER/CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
3. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2 INCHES.
4. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

GRADING AND DRAINAGE NOTES

1. MATERIALS/WASTE CREATED BY REMOVAL PROCEDURES SHALL BE LEGALLY DISPOSED OF AWAY FROM THE JOB SITE.
2. NOTIFY LOCAL UNDERGROUND SERVICE COMPANIES FOR UTILITY FINDS 48 HOURS PRIOR TO ANY EXCAVATION.
3. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS FOR THE VERIFICATION OF CONNECTIONS TO DRAINS OVER STRUCTURE.
4. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS FOR THE VERIFICATION OF WATERPROOFING OF SLAB PENETRATIONS.
5. THE CONTRACTOR IS TO REVIEW CIVIL ENGINEER'S DRAWINGS FOR THE VERIFICATION OF CONNECTIONS TO DRAINS.
6. GRADING AND EXCAVATION WORK SHALL BE COMPLETED DURING DRY AND NON-FREEZING CONDITIONS.
7. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM ALL STRUCTURES.
8. SOIL COMPACTION SHALL BE 95% PROCTOR DENSITY MINIMUM BENEATH PAVEMENTS, STEPS, WALLS AND LIGHT FOUNDATIONS, UNLESS OTHERWISE SPECIFIED.

ABBREVIATIONS TABLE

APPROX	APPROXIMATE
ARCH	ARCHITECT
AVG	AVERAGE
B+B	BALED AND BURLAPPED
BF	BOTTOM OF FOOTING
BLDG	BUILDING
BM	BENCHMARK
BOC	BACK OF CURB
BR	BOTTOM OF RAMP
BS	BOTTOM OF STEP
BW	BOTTOM OF WAL
CAL	CALIPER
CAP	CAPACITY
CF	CUBIC FEET
CHAM	CHAMFER
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEARANCE
CM	CENTIMETER
CO	CLEAN OUT
COMP	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CU	CUBIC
CY	CUBIC YARD
DEMO	DEMOLISH, DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG	DRAWING
E	EAST
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
E.W.	EACH WAY
EXIST	EXISTING
EXP	EXPANSION, EXPOSED
FFE	FINISHED FLOOR ELEVATION
FG	FINISHED GRADE
FIN	FINISH
FL	FLOW LINE
FOW	FACE OF WAL
FT	FOOT (FEET)
FTG	FOOTING
GA	GAUGE
GAL	GALVANIZED
GEN	GENERAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
ID	INSIDE DIAMETER
INV	INVERT ELEVATION
IN	INCH(ES)
INCL	INCLUDE(D)
IRR	IRRIGATION
JT	JOINT
LIN	LINEAR
LF	LINEAR FEET
LP	LOW POINT
LT	LIGHT
MATL	MATERIAL
MAX	MAXIMUM
MEMB	MEMBRANE
MD	MAIN DISCONNECT SWITCH
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPP	OPPOSITE
PAR	PARALLEL
PC	POINT OF CURVATURE
PE	POLYURETHANE
PERF	PERFORATED
PED	PEDESTRIAN
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVR	PAVER
QTY	QUANTITY
R	RADIUS
REF	REFERENCE
REINF	REINFORCE(D)
REQ'D	REQUIRED
REV	REVISION, REVISED
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
SS	SANITARY SEWER
SCH	SCHEDULE
SD	STORM DRAIN
SEC	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SNT	SEALANT
SPECS	SPECIFICATIONS
SQ	SQUARE
ST	STORM SEWER
SY	SQUARE YARD
STA	STATION
STD	STANDARD
STL	STEEL
STRL	STRUCTURAL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
TBC	TOP OF BACK CURB
TC	TOP OF CURB
TF	TOP OF FOOTING
TRANS	ELECTRIC TRANSFORMER
TOC	TOP OF CONCRETE
TOPO	TOPOGRAPHY
TSL	TOP OF SLAB
TR	TOP OF RAMP
TS	TOP OF STEP
TW	TOP OF WAL
TYP	TYPICAL
VAR	VARIES
VERT	VERTICAL
VEH	VEHICLE
VOL	VOLUME
W/	WITH
W/O	WITHOUT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD
@	AT

ACETO LANDSCAPE ARCHITECTS
207 221 3390 | ACETOLA.COM

SEAL

PROJECT TITLE

246 E. PROM.

PREPARED FOR

ECK PROPERTIES

SHINBERG CONSULTING
181 STATE STREET
PORTLAND, ME 04101

REVISIONS DATE

SITE PLAN REV. 02/20/2024

ISSUE DATE

02/20/2024

SHEET TITLE

NOTES

SHEET INFORMATION

L 0-01

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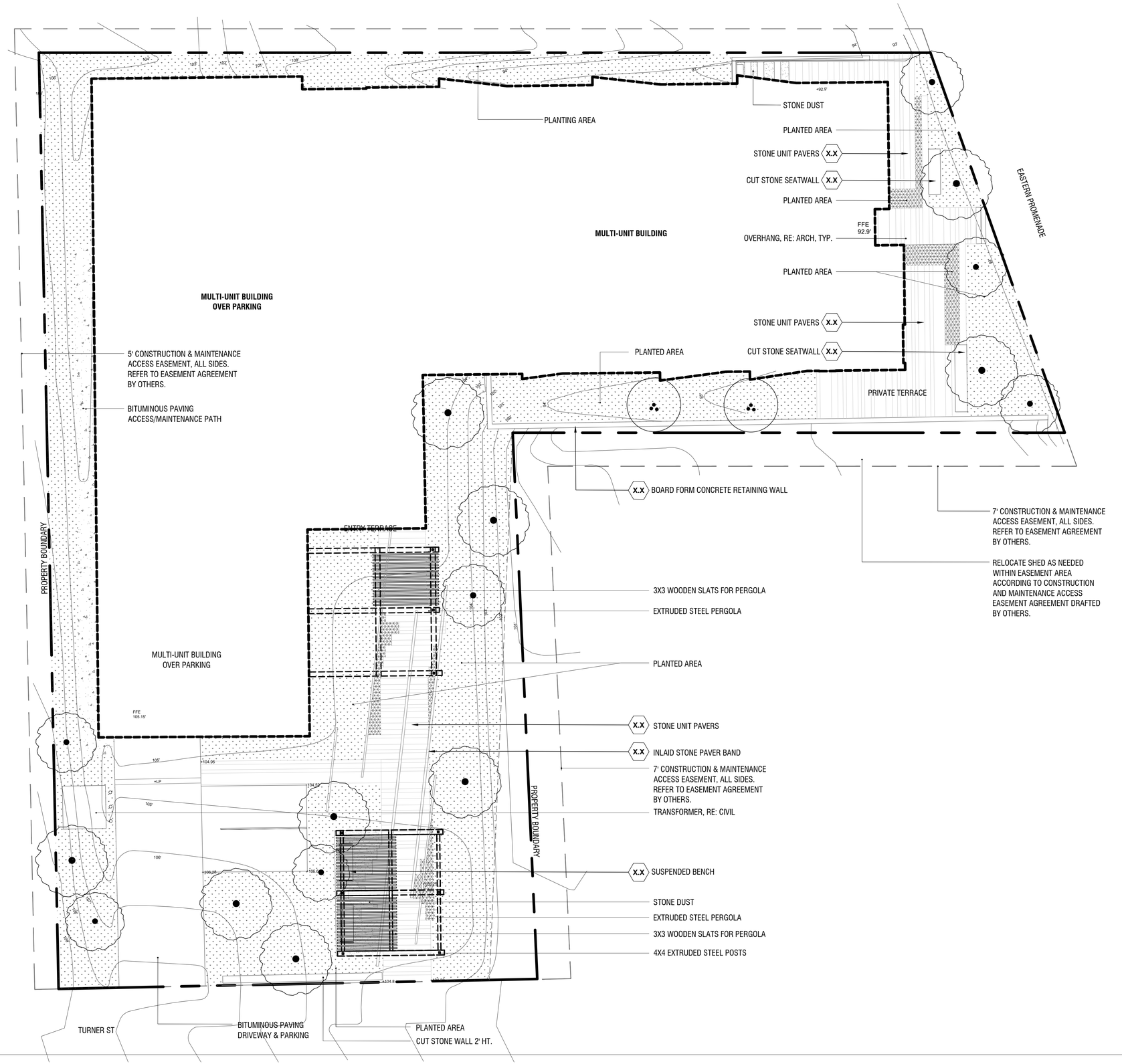

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246 E. PROM.

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SHINBERG CONSULTING
181 STATE STREET
PORTLAND, ME 04101

REVISIONS DATE

SITE PLAN REV. 02/20/2024

ISSUE DATE

02/20/2024

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PRELIMINARY
LANDSCAPE MATERIALS
PLAN

SHEET INFORMATION

L 1-00

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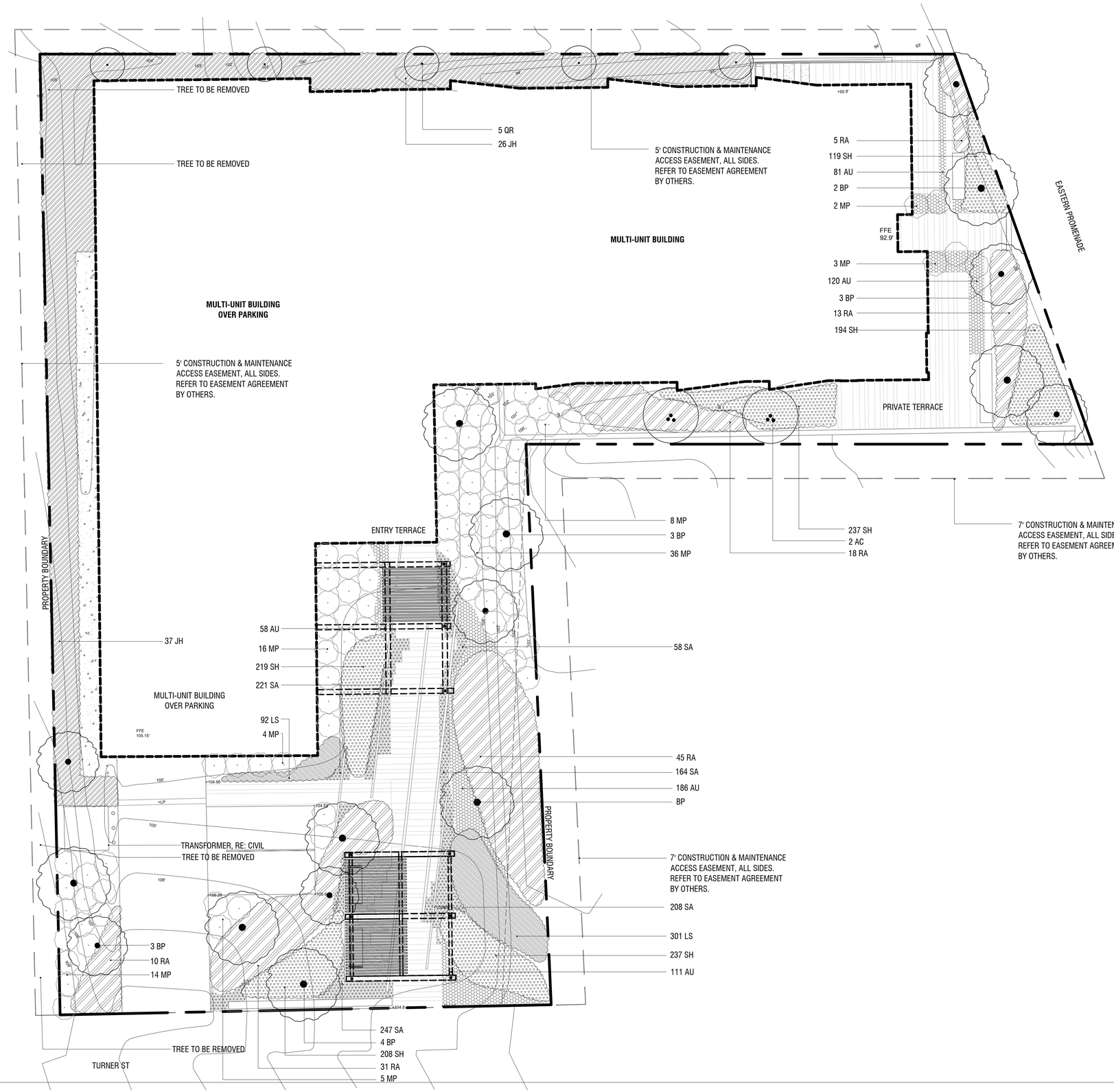

PLANT SCHEDULE

SYMB.	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING
TREES					
QR	QUERCUS ROBUR X BICOLOR 'LONG'	REGAL PRINCE OAK	5	3" CAL. MIN.	PER PLAN
BP	BETULA PAPYRIFERA	PAPER BIRCH (SINGLE-STEM)	15	3" CAL. MIN.	PER PLAN
AC	AMELANCHIER CANADENSIS	SERVICEBERRY (MULTI-STEM)	2	8' HT. B&B	PER PLAN
TREES - EVERGREEN					
JH	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	'BAR HARBOR' JUNIPER	63	#2	6' O.C.
SHRUBS					
MP	MYRICA PENSYLVANICA	BAYBERRY	84	#5	PER PLAN
RA	RHUS AROMATICA	LOW-GRO SUMAC	122	#2	4' O.C.
PERENNIALS AND ORNAMENTAL GRASSES					
SA	SEDUM ACRE	GOLDMOSS STONECROP	898	#1	6" O.C.
AU	ARCTOSTAPHYLOS UVA-URSI	BEARBERRY	556	#1	12" O.C.
SH	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	1,214	#1	12" O.C.
LS	LIRIOPE SPICATA	LIRIOPE	393	#1	12" O.C.

NOTES:

1. ALL PLANTING AREA TO RECEIVE 3" MIN. SHREDDED BARK MULCH
2. AMEND PLANTING AREA SOIL TO A MIN. DEPTH OF 12", REMOVE ANY LARGE STONE, GRAVEL, OR DEBRIS PRIOR TO PLANTING.
3. ALL PLANTING TO RECEIVE IRRIGATION FOR A MINIMUM OF ONE YEAR OR UNTIL ESTABLISHMENT. CONTRACTOR SHALL GUARANTEE ALL PLANTINGS FOR A MINIMUM OF ONE YEAR.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY NECESSARY SUBSTITUTIONS. ANY SUBSTITUTIONS SHALL BE APPROVED OR DENIED BY LANDSCAPE ARCHITECT PRIOR TO ACCEPTANCE OF DELIVERY AND INSTALLATION.
5. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES OR ERRORS IN PLANS OR QUANTITIES PRIOR TO ODERING MATERIAL, DELIVERY, AND INSTALLATION.
6. CONTRACTOR SHALL CONFIRM SPOEC., LAYOUT, AND PLACEMENT OF ANY MATERIALS, INCLUDING PLANTINGS PRIOR TO INSTALLATION.
7. IMPROVEMENTS AND/OR REPAIRS WITHIN CONSTRUCTION AND MAINTENANCE ACCESS EASEMENT AREA (APPROX 3932 SQFT) SHALL BE ENTIRELY DICTATED BY AGREEMENTS DRAFTED BY OTHERS. CONTRACTOR SHALL CONFIRM CONFORMANCE TO FINAL DRAFT AGREEMENTS AND CONDITIONS. THESE PLANS ONLY FOR REFERENCE.

0 4 8 16

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SEAL

PROJECT TITLE

246 E. PROM.

PREPARED FOR

ECK PROPERTIES

SHINBERG CONSULTING
181 STATE STREET
PORTLAND, ME 04101

REVISIONS DATE

SITE PLAN REV. 02/20/2024

ISSUE DATE

02/20/2024

SHEET TITLE

PRELIMINARY
PLANTING PLAN

SHEET INFORMATION

L 2-00

NOT FOR CONSTRUCTION

City of Portland

SITE PLAN REVIEW

Workshop

246 EASTERN PROMENADE

15 TURNER STREET

PORTLAND, MAINE

ECK Realty LLC

ZONING OVERVIEW	
R6 ZONE	
SETBACKS	**MIN.**
FRONT	5'
REAR	10'
SIDE	5' *
	SIDE SETBACK MAY BE SWAPPED FROM ONE SIDE TO THE OTHER, WITH A TOTAL OF NO LESS THAN 10'
STEPBAKCS	10' FROM SIDE PROPERTY LINE >35'
	15' FROM REAR PROPERTY LINE >35'
BUILDING HEIGHT	45' MAXIMUM

ACETO LANDSCAPE ARCHITECTURE + URBAN DESIGN

TERRADYN CONSULTANTS, LLC

shinberg CONSULTING

Structural Integrity Consulting Engineers, Inc.

RDS ARCHITECTS

UNIT TABULATION

PROPOSED			EXISTING		
MARKET RATE		13 UNITS			12 UNITS
AFFORABLE/ WORKFORCE	0	0%: *(FEE IN LIEU)*			0
UNIT	**BEDROOMS**	**AREA S.F.**	**UNIT**	**BEDROOMS**	**AREA S.F.**
UNIT 101	2	2,474	UNIT 1	1	400
UNIT 102	2	2,023	UNIT 2	1	400
UNIT 201	2	2,483	UNIT 3	STUDIO	368
UNIT 202	2	2,060	UNIT 4	STUDIO	272
UNIT 301	2	2,555	UNIT 5	1	416
UNIT 302	2	2,060	UNIT 6	1	512
UNIT 303	1	1,788	UNIT 7	1	400
UNIT 304	1	2,370	UNIT 8	1	400
UNIT 305	2	2,267	UNIT 9	STUDIO	368
UNIT 401	2	2,583	UNIT 10	STUDIO	272
UNIT 402	1	1,788	UNIT 11	1	416
UNIT 403	2	2,524	UNIT 12	1	516
UNIT 404	2	2,267			
TOTAL UNIT AREAS S.F.	**23**	**29,242**	**TOTAL UNIT AREAS S.F.**	**12**	**4,740**

AREA CALCULATIONS

PROPOSED

SPACE	AREA (S.F.)
BASEMENT	6,553
1ST FLOOR	7,420
CONDITIONED SPACE	6,597
PATIOS	823
2ND FLOOR	14,706
CONDITIONED SPACE	6,950
GARAGE	7,105
DECKS	651
3RD FLOOR	14,688
CONDITIONED SPACE	12,847
DECKS	1,841
4TH FLOOR	11,939
CONDITIONED SPACE	10,437
DECKS	1,502
TOTAL CONDITIONED SPACE S.F.	**36,831**
TOTAL GARAGE	**7,105**
TOTAL DECKS/ PATIOS	**4,817**

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Project ID
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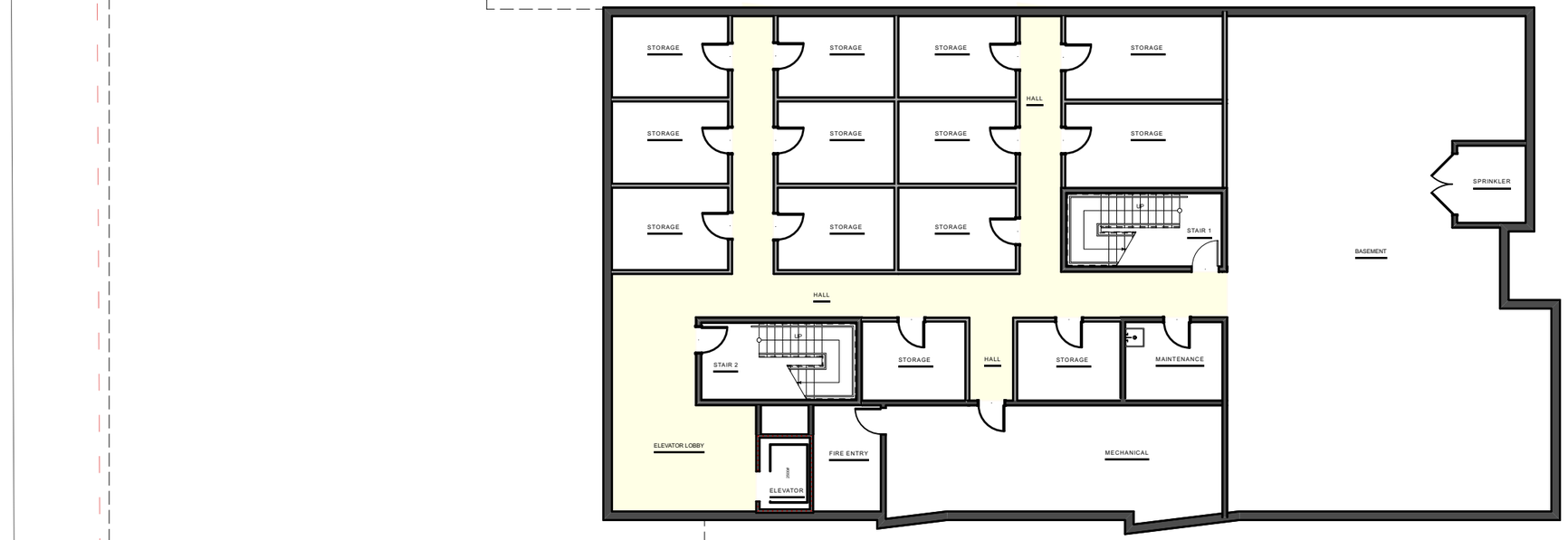
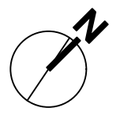
2/20/24

AREA & UNIT CALCULATIONS

A 0.1





1 BASEMENT PLAN
Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

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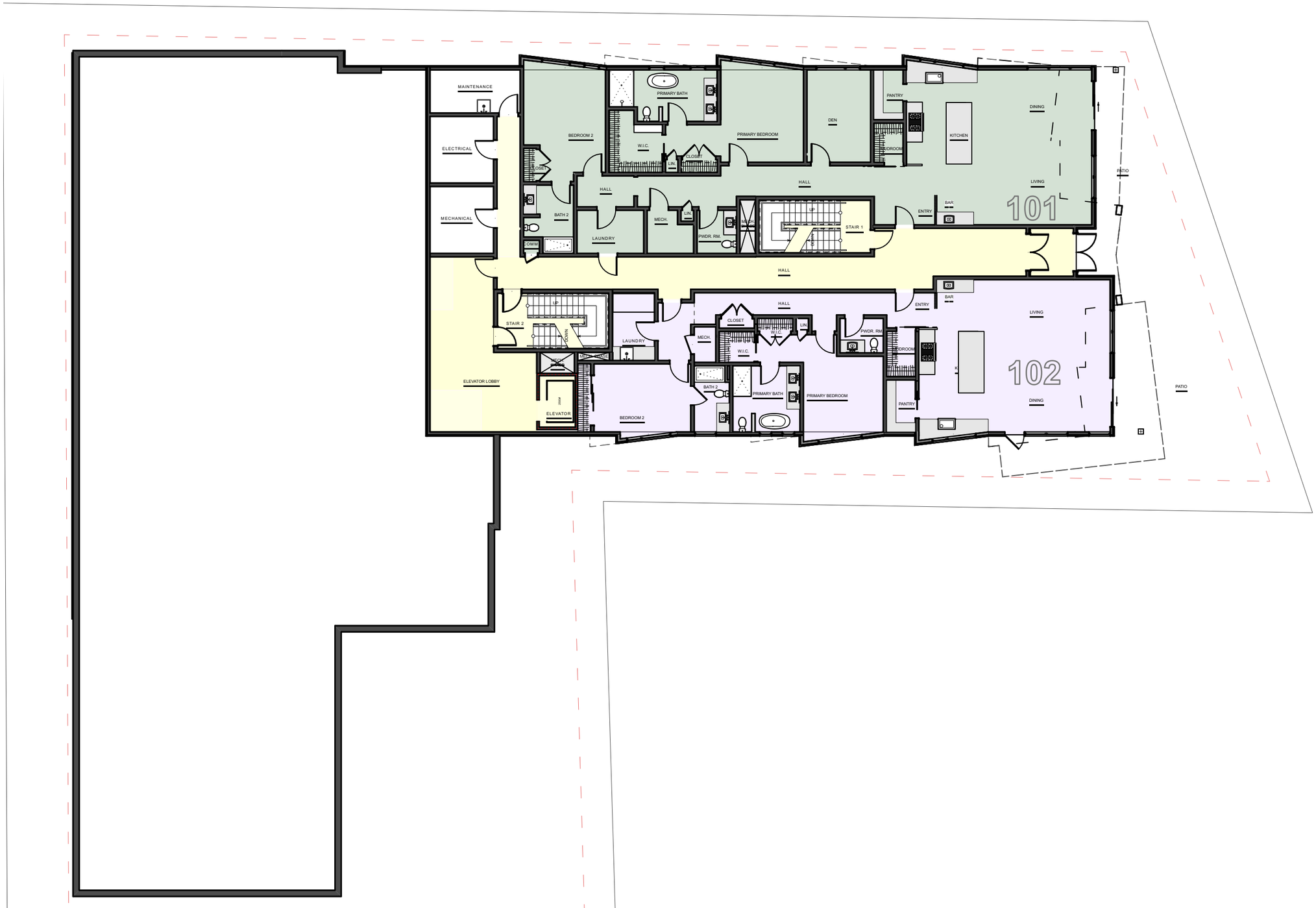
BASEMENT PLAN

A 1.0



1 FIRST FLOOR PLAN

Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

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FIRST FLOOR PLAN

A 1.1

1 SECOND FLOOR PLAN

Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

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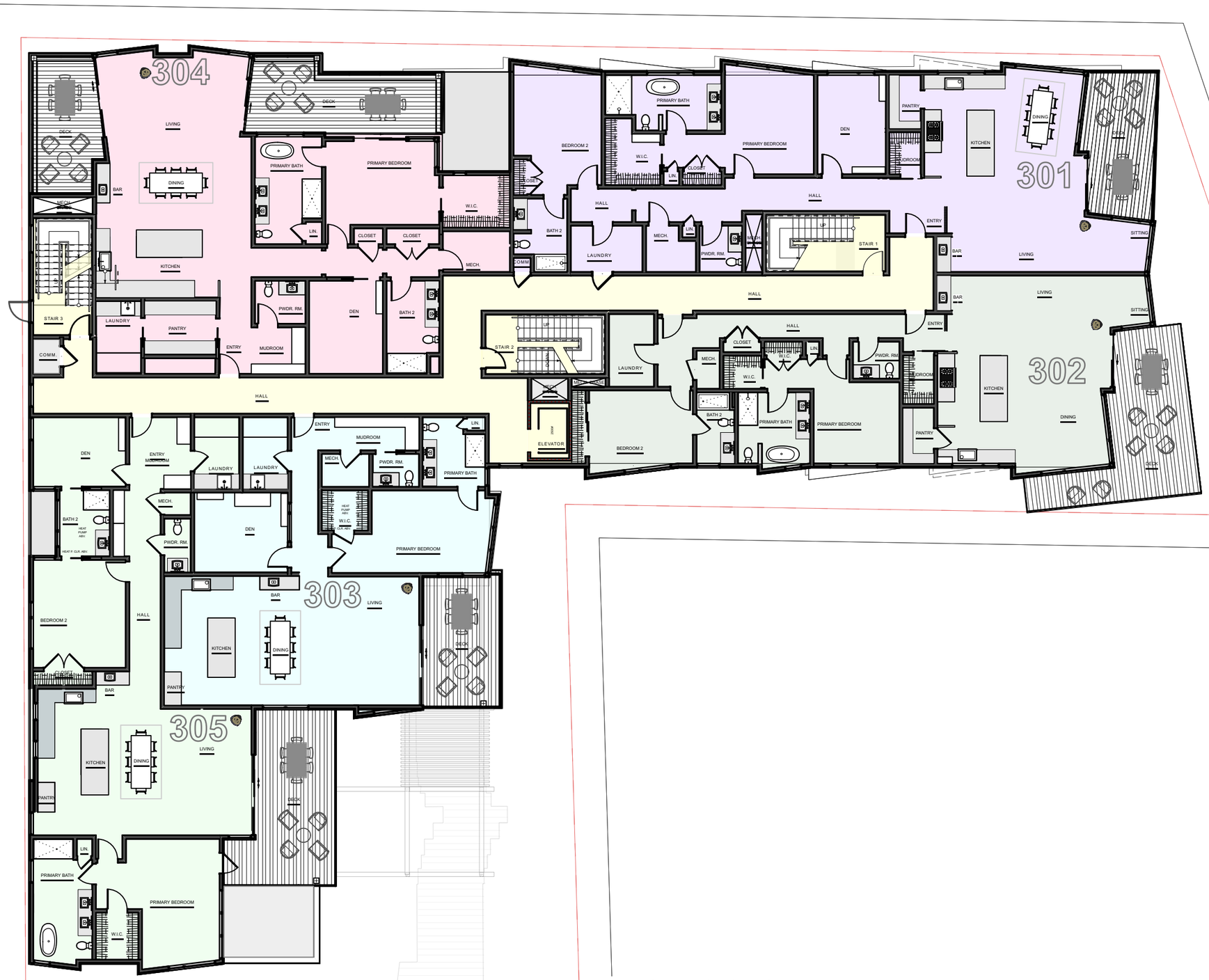
SECOND FLOOR PLAN

A 1.2



1 THIRD FLOOR PLAN

Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

EASTERN PROM

TURNER STREET

N

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THIRD FLOOR PLAN

A 1.3

1 FOURTH FLOOR

Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

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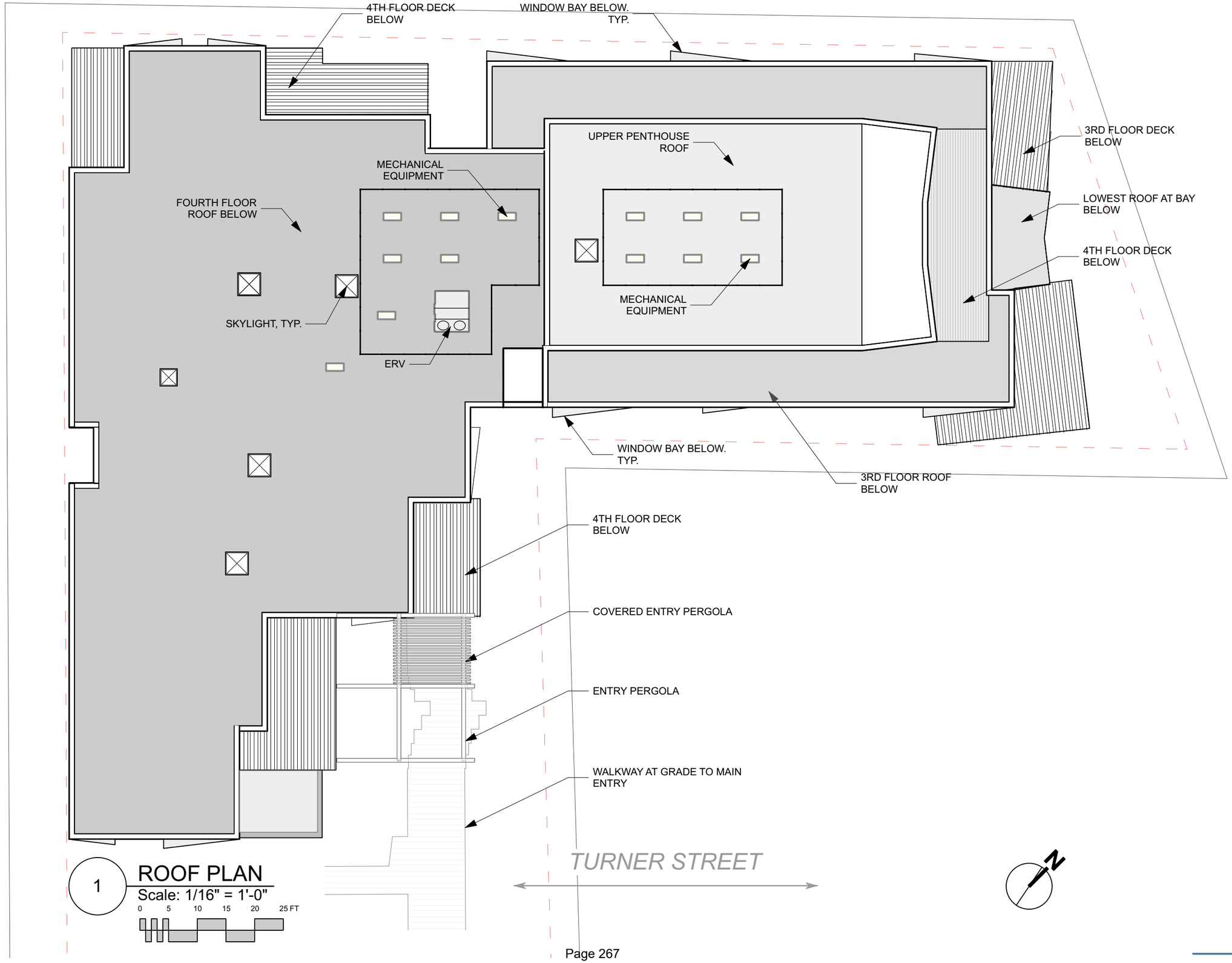
FOURTH FLOOR PLAN

A 1.4



1 ROOF PLAN

Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

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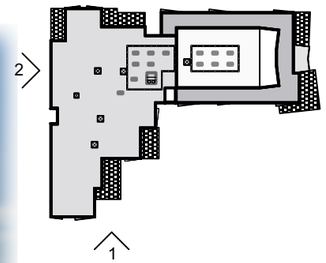
ROOF PLAN

A 1.5



NOTE A:
DASHED RED LINE INDICATES TOP OR ROOF BEAM
DASHED BLACK LINE INDICATES TOP OF ROOF INSULATION
ROOF STRUCTURE AT *STEPBACKS* IS PRELIMINARY, WITH EXPECTED MAXIMUM HEIGHTS ILLUSTRATED FOR BOTH SLOPED AND FLAT TOP CHORD TRUSSES FINAL HEIGHT TO BE PROVIDED PRIOR TO FINAL SUBMITTAL FOR REVIEW

1 SOUTHEAST ELEVATION (TURNER STREET)
Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

NOTE B:
MECHANICAL EQUIPMENT AND SCREENING METAL AND COMPOSITE, COLOR TO MATCH WINTER-GRAY SKY TO MINIMIZE VISIBILITY

EXTERIOR MATERIALS LEGEND

1. FIBER CEMENT CLADDING - VERTICAL
2. FIBER CEMENT CLADDING - COLOR A
3. FIBER CEMENT CLADDING - COLOR B
4. METAL FASCIA - COLOR A
5. METAL FASCIA - COLOR B
6. CABLE RAIL - VERTICAL
7. GLASS RAIL
8. TRIM TO MATCH SIDING "1"
9. METAL FASCIA - COLOR C
10. METAL TRIM
11. METAL OVERHEAD DOOR
12. METAL & WOOD PERGOLA

2 SOUTHWEST ELEVATION
Scale: 1/16" = 1'-0"

0 5 10 15 20 25 FT

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RDS ARCHITECTS

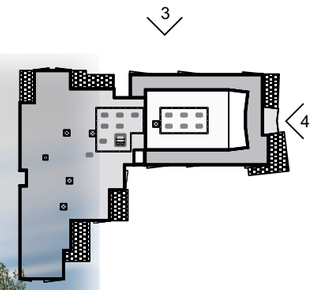
246 EASTERN PROMENADE
15 TURNER ST.

2/20/24
2/20/24

ELEVATIONS

A 2.1

3 NORTHWEST ELEVATION
Scale: 1/16" = 1'-0"



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NOTE B:
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EXTERIOR MATERIALS LEGEND

1. FIBER CEMENT CLADDING - VERTICAL
2. FIBER CEMENT CLADDING - COLOR A
3. FIBER CEMENT CLADDING - COLOR B
4. METAL FASCIA - COLOR A
5. METAL FASCIA - COLOR B
6. CABLE RAIL - VERTICAL
7. GLASS RAIL
8. TRIM TO MATCH SIDING "1"
9. METAL FASCIA - COLOR C
10. METAL TRIM
11. METAL OVERHEAD DOOR
12. METAL & WOOD PERGOLA

4 NORTHEAST ELEVATION (EASTERN PROM.)
Scale: 1/16" = 1'-0"

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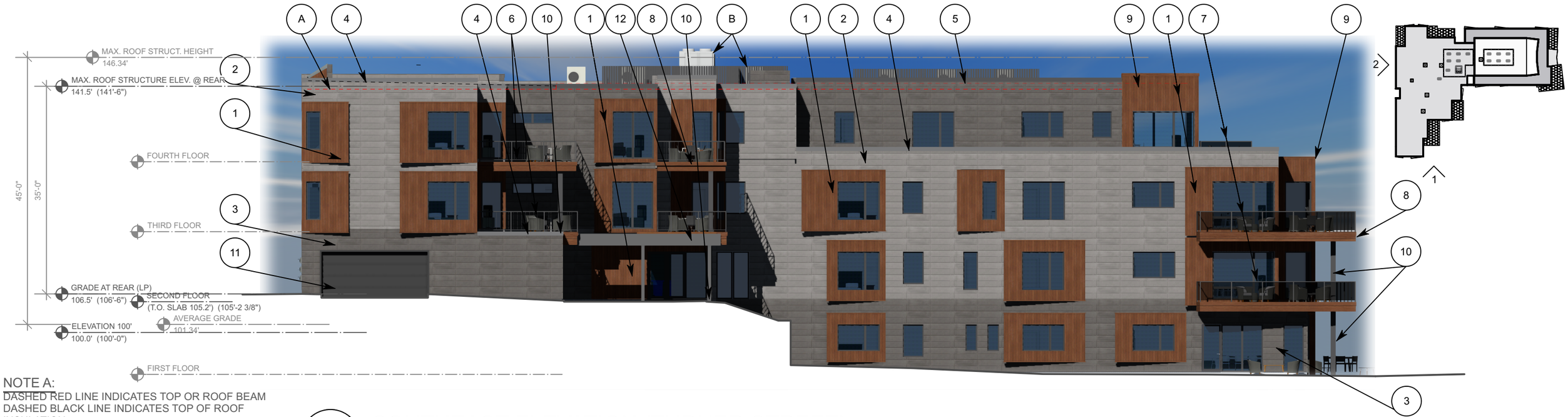
RDS ARCHITECTS

246 EASTERN PROMENADE
15 TURNER ST.

2/20/24
2/20/24

ELEVATIONS

A 2.2



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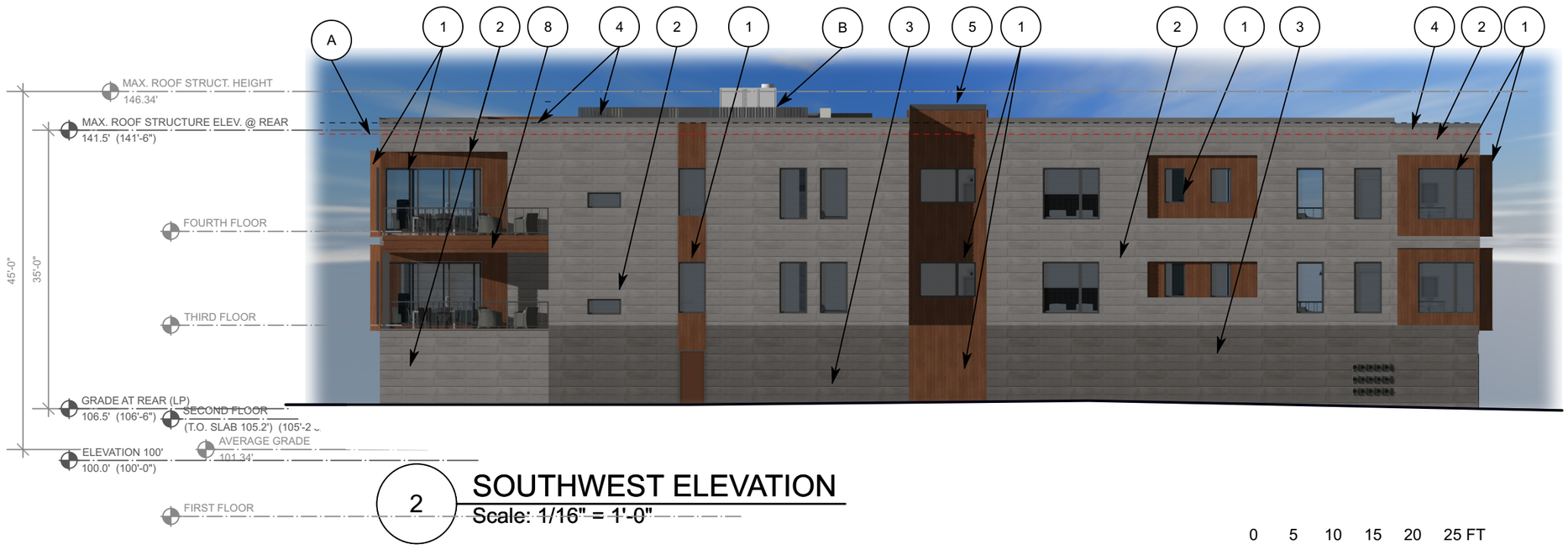
NOTE B:
MECHANICAL EQUIPMENT AND SCREENING
METAL AND COMPOSITE, COLOR TO MATCH WINTER-GRAY SKY TO MINIMIZE VISIBILITY

EXTERIOR MATERIALS LEGEND

1. FIBER CEMENT CLADDING - VERTICAL
2. FIBER CEMENT CLADDING - COLOR A
3. FIBER CEMENT CLADDING - COLOR B
4. XMETAL FASCIA - COLOR A
5. METAL FASCIA - COLOR B
6. CABLE RAIL - VERTICAL
7. GLASS RAIL
8. TRIM TO MATCH SIDING "1"
9. METAL FASCIA - COLOR C
10. METAL TRIM
11. METAL OVERHEAD DOOR
12. METAL & WOOD PERGOLA

1 SOUTHEAST ELEVATION (TURNER STREET)
Scale: 1/16" = 1'-0"
0 5 10 15 20 25 FT



2 SOUTHWEST ELEVATION
Scale: 1/16" = 1'-0"
0 5 10 15 20 25 FT

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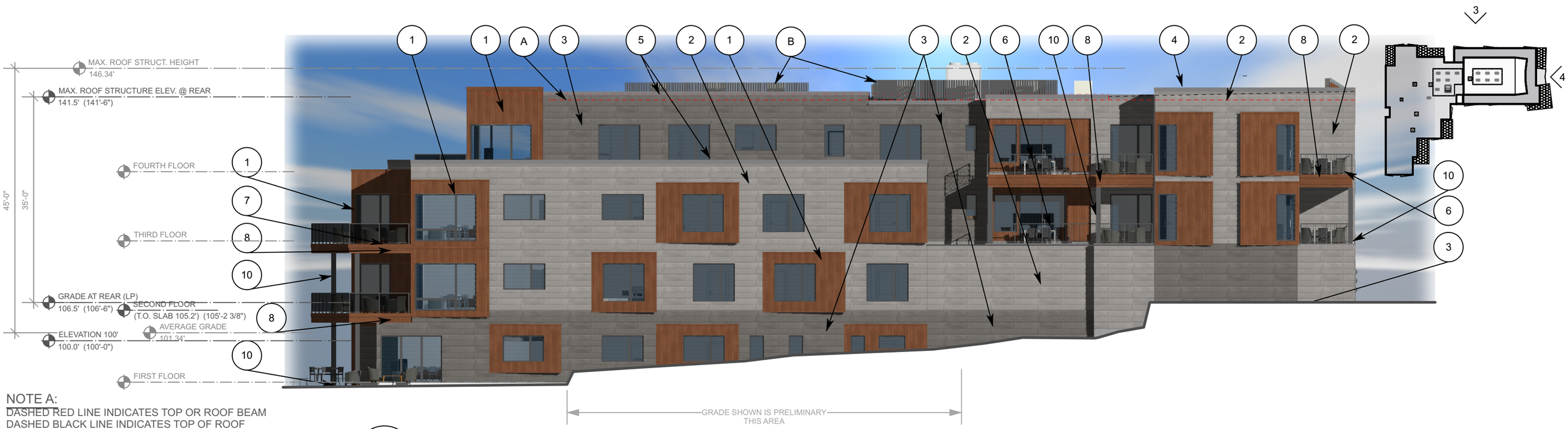
2/20/24

ELEVATIONS

A 2.3



3 NORTHWEST ELEVATION
Scale: 1/16" = 1'-0"

NOTE A:
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11. METAL OVERHEAD DOOR
12. METAL & WOOD PERGOLA

4 NORTHEAST ELEVATION (EASTERN PROM.)
Scale: 1/16" = 1'-0"

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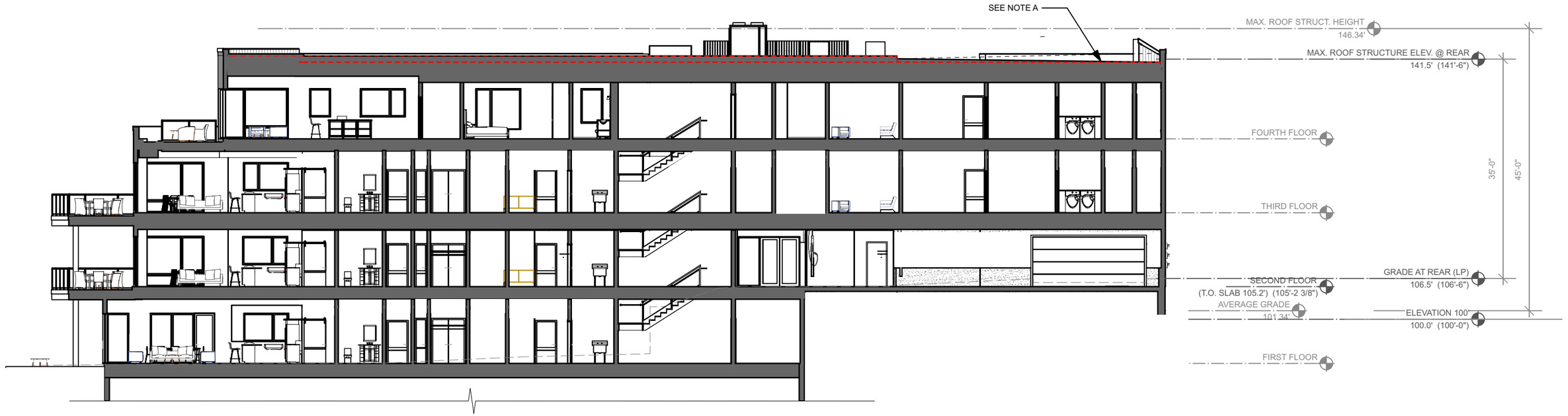
ELEVATIONS

A 2.4



1 LONGITUDINAL BUILDING SECTION

Scale: 1/16" = 1'-0"

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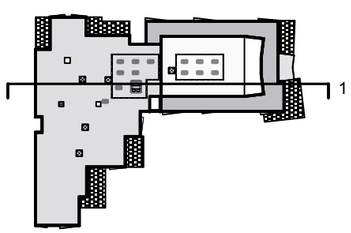

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2/20/24

BUILDING SECTIONS

A 3.1

2 BUILDING SECTION @ PENTHOUSE

Scale: 3/32" = 1'-0"

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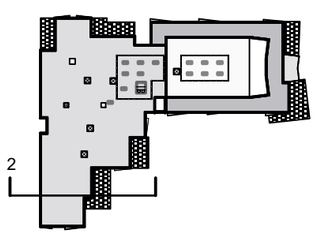

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2/20/24

BUILDING SECTIONS

A 3.2

International Marine Terminal Refrigerated Storage Racks
2 West Commercial Street
Major Site Plan
PL-002443-2023
Maine Port Authority, Applicant

Submitted to:	Portland Planning Board	**Prepared By:**	Eric Freeman
Public Hearing Date:	March 26, 2024	**Date:**	March 18, 2024

INTRODUCTION

The Maine Port Authority and the Maine Department of Transportation have submitted a Major Site Plan application to construct refrigerated container racks (reefer racks) and other upgrades to the western International Marine Terminal (IMT) lot including pile supported foundations, heavy duty pavement, and additions to the site drainage system. This application is being referred to the Planning Board for compliance with the City of Portland's Land Use Code Site Plan Standards, section 14.6.

The Planning and Urban Development Department mailed 72 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the March 2, 2024 and March 5, 2024 editions of the Portland Press Herald.

The International Marine Terminal received a Site Location General Permit from the Maine Department of Environmental Protection in 2018. This application will involve an amendment to the Site Location permit. This review will be under the jurisdiction of Maine DEP.

The Planning Board reviewed this application at a Public Hearing held on March 12, 2024. The Board voted to table this item to a date certain; March 26, 2024.

Applicant: Maine Port Authority, Maine Department of Transportation
Applicant Representatives: Winton Scott Architects, Jacobs Engineering Group, Schonewald Engineering Associates, Owen Haskell Surveyor, Swiftcurrent Engineering Services,

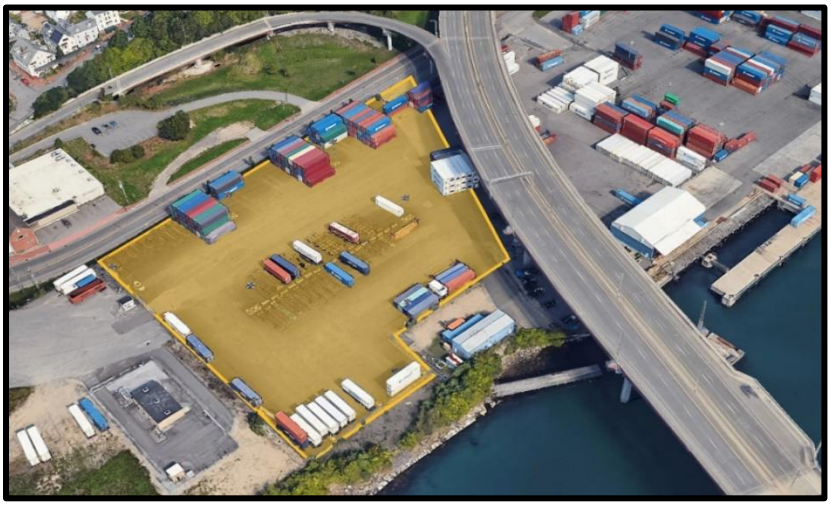

Figure 1: The existing site and proposed limit of work

REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 14.6
Shoreland Zone	Section 11.5.1

PROJECT DATA

Existing Zoning	WPDZ – Waterfront Port Development
Property Size	810,216 SF
Existing Use	Impervious asphalt, container yard and trailer storage
Proposed Development Program	Installation of racks for refrigerated shipping containers.

WAIVER REQUESTS

1.. Exemption from stormwater flooding standard, because of discharge into tidally-influenced waterbody.	Technical Manual Section 5.III, 5.IV

PLANNING BOARD REVIEW

The Planning Board held a Public Hearing for this application on March 12, 2024. The board raised questions regarding the Applicant's acoustic survey, historic resource impacts, stormwater discharge and shoreland zoning. The Board voted 7-0 to table this application to a date certain; March 26, 2024.

Acoustic Survey: The Board raised questions regarding the methodology of the acoustic survey and whether there was a need for ongoing sound monitoring.
Response: Staff have included a Condition of Approval regarding monitoring and reporting of noise levels

Historic Resources: The Planning Board noted that the Historic Resources Site Plan standard was more expansive than described in the Planning Board's report, and that staff's review comment did not reference the letter received from the State of Maine Historic Preservation Commission (MHPC), which noted that archaeological resources were likely to be encountered, given the past use of the property.
Response: Staff have provided clarification regarding City standards and the responsibilities of the Applicant to document and report historic or archaeological findings.

Stormwater: The Board asked Staff why a new Combined Sewer Overflow (CSO) was being installed when the City is working to phase out CSO's elsewhere in the City.
Response: Staff have provided clarification from the City's Senior Water Resource Engineer regarding the installation of an upgraded CSO, which details why the City would not request that the existing CSO be separarated at this time
Shoreland Zoning: The Board asked to see a full review of the Supplemental Site Plan Standards for the Shoreland Zone.
Response: A full discussion of the Shoreland Zone Supplemental Site Plan Standards (Section 11.5.1) is now included in the report

BACKGROUND

As part of a multi-year initiative aimed at improving capacity and operations at the International Marine Terminal, The Maine Port Authority has submitted a Major Site Plan application for the construction of refrigerated storage racks for intermodal shipping containers, known as "reefer racks", along with other associated site improvements. The proposed racks will allow the International Marine Terminal to accommodate increased volume of refrigerated intermodal containers associated with the completion of the adjacent cold storage facility. The IMT is Maine's largest port, and was rebuilt in 2010 by the State of Maine and the Maine Port Authority to support its continued growth. To date the state and the IMT's primary shipping line Eimskip have invested upwards of $20 million to expand capacity and improve operations at the IMT.

EXISTING CONDITIONS AND SURROUNDING AREA

The existing site sits immediately to the west of the Casco Bay Bridge bordered to the north by West Commercial Street, and to the south by the Fore River. The proposed site lies between the existing International marine Terminal (IMT) and the new cold storage facility. The site consists entirely of porous asphalt surface and is used by the adjacent International Marine Terminal (IMT) for storage of intermodal shipping containers and truck trailers.

PROPOSED DEVELOPMENT

The proposed development involves the installation of refrigerated storage racks supported on concrete slabs. Upgraded drainage and electrical systems will also be installed. Each rack would be approximately 50 feet in height and would accommodate the vertical stacking of up to five shipping containers. In total, the proposed racks would be capable of accommodating approximately 420 refrigerated shipping containers. Each rack would accommodate electrical utilities and elevated walkways for access. The proposed development also involves the upgrading of electrical and stormwater utilities on the site, as well as change to internal vehicular circulation to allow for loading and offloading of containers from trucks via gantry crane.

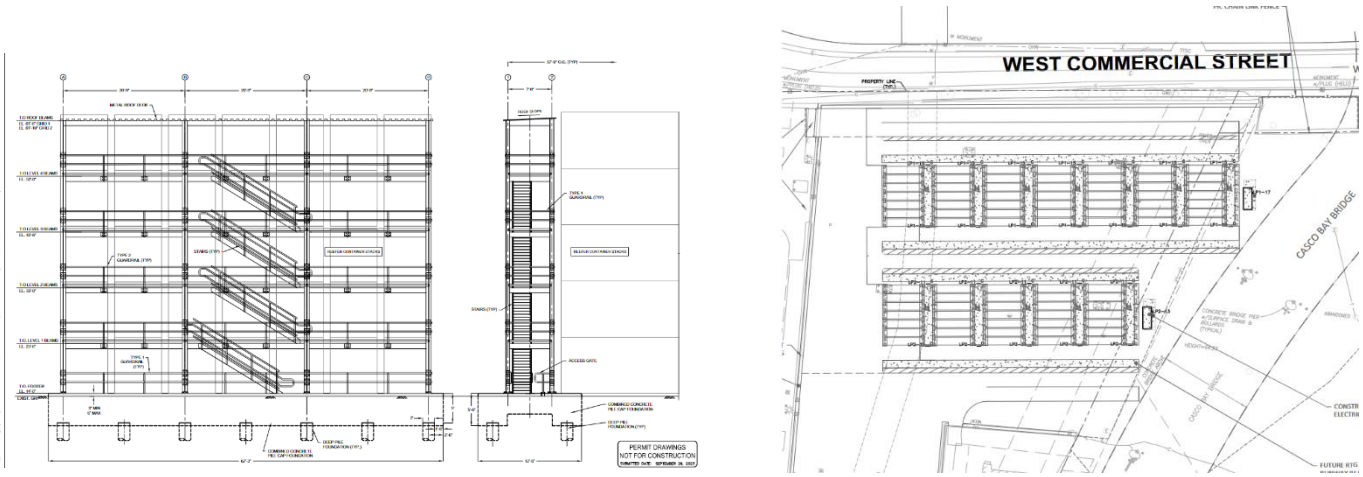

Figure 2: Profile views of the refrigerated racks

RIGHT, TITLE, & INTEREST

The subject property was part of a land exchange agreement between the Maine Department of Transportation and the City of Portland which occurred on the July 1, 2021. The details of this transfer are recorded as Council Order 278-20/21 from a meeting of the Portland City Council held on June 21, 2021. The

Maine Department of Transportation has demonstrated sufficient Right, Title and Interest for the subject property. (Attachment T)

FINANCIAL & TECHNICAL CAPACITY

The Maine Port Authority along with the MaineDOT has the financial capability to perform this project. The project will be fully funded through a combination of state and federal funds as follows: MaineDOT, Capital Work Plan budgeted funding. Port Infrastructure Development Program grant from the US Department of Transportation Maritime Administration. $2,000,000 received in 2020 (Attachment U).

The design and engineering team for this application have demonstrated technical capacity and experience working with MaineDoT and other waterfront entities throughout the coast of Maine. (Attachment U)

ZONING ANALYSIS

The subject properties lies within the Waterfront Port Development Zone (WPDZ) and within the Shoreland overlay. The proposed use is a use permitted by right within the WPDZ. and is also subject to shoreland and floodplain regulations under Article 11 of the City's land use code.

This proposal does not involve the construction of a building, and thus many of the dimensional standards of the WPDZ do not apply to this project.

	Required	Proposed
Maximum Building Length	300'	64'
Maximum Height (ft)	50 ft.	~48 ft.
Maximum Lot Coverage (%)	50%	29%
Maximum Impervious Area	100%	143,000 Sq. Ft

Figure 3: Site Zoning

The proposed use is a permitted use within the WPDZ as established in 10-A of Section 10.4 of the City's Land Use Code. This use is classified as:

"Marine cargo handling facilities, including docking, loading and related storage"

WPDZ Purpose Statement
"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 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."

1. Waterfront Port Development Zone Performance Standards (Section 10.4.8)
   A. Outdoor storage of materials
      This application involves the installation of refrigerated racking systems, known as reefer racks, which are proposed to make more efficient use of the property, which is utilized to house shipping containers, and to intermittently power these refrigerated containers. The racking system is considered a principal use of the property, and is not considered accessory to the normal conduct of business, and therefore this performance standard is considered not applicable.

B. Noise

As part of the application, the applicant prepared and provided an acoustic survey (Attachment P) which appears to demonstrate compliance with the applicable performance standard (Sec. 10.4.8.B) for the WPDZ, which permits nighttime decibel levels of up to 55 DBA on the A-Scale, at or within the boundaries of any residential zone. Certain activities, such as construction, noise generated from activity occurring on public streets, or temporary events, is exempt from this requirement. The report details the applicant's methodology, and details around how and where baseline noise levels were collected, and how the anticipated noise levels were generated.

While the City has not had the study peer reviewed by an acoustic engineer, the City is recommending, as a condition of approval, that the applicant's consultant confirm noise levels once the facility is fully operational. This would involve comparing noise levels pre- and post-operation, and providing this information to the City within three months of the facility becoming operational, and adjusting the operational approach as necessary. These confirmation studies should be provided to the City every 3 months for a year following the facility becoming active. This is intended to capture seasonal noise differences, and to collect and compare multiple data samples. The requirement that the applicant monitor noise levels following construction has been drafted as a condition of approval for the Board's consideration, and will be required to be completed prior to the performance guarantee being reduced to a defect guarantee.

C. Vibration
Vibration from the proposed racks will be within allowable levels for the WPDZ.

D. Federal and State environmental regulations
The applicant has demonstrated compliance with State and Federal regulations.

E. Discharge into harbor areas
Stormwater drainage on the site is split between multiple drainage areas. All site stormwater is captured and directed into an existing CSO that traverses the site and discharges into the Fore River. The existing CSO is a permitted location under the National Pollution Discharge Elimination System (NPDES) and the Maine Department of Environmental Protection. Full comments from the City's Senior Water Resource Engineer regarding stormwater discharge and the relocation of the existing CSO are included as Attachment 5

F. Storage of vehicles
No long-term vehicle storage is anticipated with this application.

G. Landfill of docking and berthing areas
This application does not involve landfill of docking or berthing areas.

H. Off-street parking
This application does not involve the creation of any new off-street parking.

I. Shoreland and flood plain management regulations
The Proposed project is located within the overall IMT site which has been previously vetted for meeting Shoreland and Flood Plain Management Regulations. Please see the discussion below

related to compliance of this application with the shoreland zoning requirements. Further, this application does not involve any work within an identified flood zone, and is not required to obtain a flood hazard permit from the City.

J. Lighting
See above.

K. Signs
This application does not involve the installation of any new signage.

L. Storage of pollutants and oily wastes.
This application does not involve the storage of pollutants or oily wastes.

M. Compatibility of non-marine uses with marine uses.
This application involves the construction of internal vehicular accessways which are necessary to accommodate the storage of refrigerated containers.

N. Design.
This application involves the installation of open refrigerated racking systems, known as reefer racks, which are utilized to house shipping containers, and to intermittently power these refrigerated containers. The racking system is considered a principal use of the property, and is not considered accessory to the normal conduct of business. While the racking system is considered a principal use of the property it is not considered a building, which is defined as in Article 3 as "a roofed and walled structure built for permanent use" and therefore is not subject to the performance design standards, which references "building design."

SITE PLAN STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 14.6. Staff comments are below.

2. Transportation Standards (Section 14.6.1

A. Impact on surrounding street systems
This project is not anticipated to have any notable impact on Commercial Street. There is an anticipated increase in commercial vehicle traffic utilizing the intersection of Commercial and Beech Street, which has previously been upgraded in anticipation of additional growth at the IMT and at present is underutilized.
Staff consider this standard to be met.

B. Access and circulation
This project is within the existing secured freight handling yard and does not propose any changes to existing site access or surrounding streets. This application proposes changes to internal vehicular circulation for trucks with a series of one-way loading and unloading lanes located between the refer racks.
Staff consider this standard to be met

C. Public transit access
This standard is not applicable to this application.

D. Parking
This standard is not applicable to this application. No new parking is proposed as part of this application.

E. Transportation demand management (TDM)
This standard is not applicable to this application.

3. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features
This standard is not applicable to this application. The existing site is already developed and does not include any significant natural features as defined in Sec. 14.6.2.

B. Landscape preservation
This project is not anticipated to have any notable impacts on existing landscapes. The proposed scope of work is entirely within the existing IMT container yard area. Existing landscaping along West Commercial Street will not be impacted during construction. Staff consider this standard to be met.

C. Site landscaping and buffers
The proposed scope of work lies within an already developed area which was originally designed to meet landscaping requirements laid out in the City's Land Use Code.

D. Water quality/storm water management/erosion control
The applicant has submitted an erosion and sedimentation control plan. This project is required to provide stormwater management in accordance with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 standards for stormwater management. This application is classified as a redevelopment project under the existing General Standards. The stormwater design follows City of Portland regulations as well as the guidelines outlined in the Memorandum of Agreement (MOA) Stormwater Management between the MaineDOT, Maine Turnpike Authority and Maine Department of Environmental Protection (MaineDEP) dated 06/27/2017 as well as the MaineDEP Site Location of Development Act General Permit (MaineDEP GP) for the MaineDOT dated 08/18/2021. Both of these guidance documents outline the requirements for MaineDOT projects in order to meet the standards of the MaineDEP's Chapter 500 Stormwater Management Rules.

The proposed stormwater system was designed to maintain existing drainage patterns, meet stormwater regulations, and maximize water quality to the greatest extent practical. The existing 24-inch combined sewer overflow (CSO) outfall pipe will be upsized to 48" and relocated outside of the proposed freezer container storage area while being maintained within the Maine Port Authority property. The reason to relocate the existing CSO outfall is to mitigate potential impacts to the CSO outfall pipe due to pile driving activities.

4. Public Infrastructure and Community Safety Standards (Section 14.6.3)

A. Consistency with City Master Plans

Portland's *Plan 2030* identifies goals and strategies related to preserving and growing marine-dependent uses within the City's working waterfront:

Waterfront:

The Waterfront Policy chapter supports the distinct roles of the Eastern, Central, and Western Waterfronts and of preserving port capabilities, and recognizes the unique regulatory framework that allows for both water dependent and non-marine uses along Portland's waterfront. It also includes the following strategies:

- "*Prioritize and promote Portland's unique mix of water-dependent, marine-related uses and compatible non-marine uses.*"
- *"Maintain and modernize infrastructure to support the working waterfront and port capabilities."*
- *"Ensure the future of the marine economy through support for emerging marine industries and mitigation of market trends that could compromise the balance between marine industries and competing development."*
- *"Recognize and reinforce waterborne transport of goods and people as foundational to our community."*

Staff consider this standard to be met as this project directly benefits marine shipping and transportation in conjunction with other port projects.

B. Public safety and fire prevention

This project is consistent with applicable public safety standards related to fire hydrant proximity, vehicle turning radiuses and pavement loading standards. Staff consider this standard to be met.

C. Availability and capacity of public utilities

Central Maine Power (CMP) has provided an ability to serve letter stating that they will be able to accommodate the anticipated increased electrical demand generated by this project (Attachment Z)

5. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

This standard is not applicable to this application.

B. Shadows

This standard is not applicable to this application.

C. Snow and ice loading

The proposed reefer racks are the only infrastructure (building) proposed as part of this project. These structures have been designed according to Maine Building Code, IBC 2015 and ASCE 7-10 for snow and ice loading. The structures are far enough away from existing property lines that they will not shed snow onto adjacent properties or public ways. Staff consider this standard to be met.

D. View corridors

Although there are no view corridor impacts associated with this project, the applicant has provided renderings showing the anticipated massing of the refer racks and containers as seen from Harbor View Park.

Figure 4: Proposed massing of refer racks and shipping containers seen from Harbor View Park.

E. Historic resources

This site does is not within a historic district.

The Maine Historic Preservation commission issued a letter dated June 2, 2014 which states that although the current site of the International Marine Terminal does not have any known significant historical or archaeological features, there may be artifacts of interest given the site's industrial history.

F. Exterior lighting

The site lighting design focuses on the loading and unloading lanes around the reefer racks which prevents light trespass beyond the site property lines.

In addition, all proposed fixtures have cutoff optics preventing light being cast beyond 90 degrees.

The proposed lighting on the reefer racks will be at the top of the structures approximately 50 feet above grade.

A full photometric plan is included as attachment P8

G. Noise and vibration

The reefer racks being proposed as part of this project do not contain any noise generating equipment. However, the racks will be used to store self-contained refrigerated containers that are outfitted with refrigeration units that will cycle on and off while the containers are stored until they are transported to their destination offsite.

An acoustic engineer, Cavanaugh Tocci Associates, was hired to conduct a full acoustic survey which demonstrated that the anticipated level of noise generated by the proposed refer racks

would be within allowable noise levels defined in table 6-G of the City's Land Use Code, which states that the maximum allowable decibel level (dBA) within the WPDZ is 55 dBA between the hours of 7PM and 7AM, with no limit during daytime hours. The full acoustic survey is included as attachment P.

H. Signage and wayfinding
No signage is proposed as part of this project as it is entirely within the secured freight handling area that is not accessible to the public.

I. Zoning-related design standards

SHORELAND ZONING SITE PLAN STANDARDS (Section 11.5.1)

Zoning Administrator, Ann Machado, has reviewed the site plan application for compliance with the City of Portland Shoreland Zoning requirements, and has found the application as submitted, to comply with all of the applicable requirements.

The standards written below consist of nine supplemental site plan standards, that are to be applied to applications triggering site plan review. These standards, and discussion of the project's compliance with these standards was omitted from the March 12, 2024 Planning Board report, and have since been included to demonstrate the project's compliance with these review criteria.

A. The proposal will maintain safe and healthful conditions.
This application involves improvements to existing port facilities within the working waterfront zone, which is the industrial port zone within the City. Based upon the unique characteristics of Portland's working waterfront, and in particular, the WPDZ, the City received special dispensation from typical state shoreland zone requirements for development within this zone. Development within the WPDZ is exempt from meeting typical shoreland zoning setback requirements related to buildings and structures (Sec. 11.4.1), piers/docks (Sec. 11.4.2), roads and driveways (Sec. 11.4.10) and surface parking (Sec. 11.4.11)., and is also exempt from the clearing or removal of vegetation requirements (Sec. 114.3).

The application as submitted, provides stormwater quality treatment in accordance with Maine DEP. Ch. 500 to ensure that water outfalling to the Fore River is compliant with both municipal and state stormwater requirements related to water quality. Further, the applicant, in the course of the March 12, 2024 public hearing, provided the Board with additional information on existing protocols for addressing emergency spill situations, such as with refrigerant leaks.

City staff find that the application as submitted, complies with this supplemental site plan standard, and would note that the project is exempt from certain environmental quality standards related to shoreland zoning, due to the facility being part of an industrial port complex, which is permitted by right within this zone.

B. The proposal will not result in water pollution, erosion, or sedimentation to surface waters.
This standard is addressed in Exhibit 15 Water Quality, Stormwater Management and Erosion Control, Environmental Quality Standards per section 14.6.2. The project as designed, is fully compliant with the Maine DEP Ch. 500 Basic Erosion and Sedimentation Control requirements, along with the Maine DEP. Ch. 500 General Standard, which requires that a project treat 95% of

all new impervious area and no less than 80% of all developed area, which includes pervious development.

The City is recommending that the Board grant a waiver of the DEP. Ch. 500 Flooding Standard, which requires that a stormwater system detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies, such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the development. The City is recommending a waiver of the flooding standard, based upon waiver criteria included in Ch. 500, which states the following:

Waiver of the flooding standard*. A project is eligible for a waiver from the flooding standard as follows.*

(a) Discharge to a coastal wetland, a great pond, or a major river segment. A waiver is available for a project in the watershed of a coastal wetland, a great pond, or a major river segment provided the applicant demonstrates that the project conveys stormwater exclusively in sheet flow, in a manmade open channel, or in a piped system directly into one of these resources.

The City's Consulting Stormwater Engineer, Lauren Swett, P.E. with Woodard and Curran, has reviewed the applicant's request for a waiver, and is recommending that the Board grant the waiver based upon this criteria.

C. The proposal will adequately provide for the disposal of all wastewater

There are no anticipated wastewater impacts associated with this application.

D. The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird, or other wildlife habitat.

The work is not taking place next to or over the water and the erosion control measures will prevent any possible impact on wildlife. This section is also addressed in Exhibit 12 - Preservation of Significant Natural Features, Environmental Quality Standards, section 14.6.2.

E. The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters.

The area of construction is greater than 140′ from the water, so this standard is not applicable. This standard is also addressed in Exhibit 13 - Landscape Preservation, Environmental Quality Standards per section 14.6.2.

F. The proposal will protect archaeological and historic Resources.

The Maine Historic Preservation commission issued a letter dated June 2, 2014 which states that although the current site of the International Marine Terminal does not have any known significant historical or archaeological features, there may be artifacts of interest given the site's industrial history. The City's site plan ordinance requires that, in instances where archaeological resources and/or historic resources are identified during the course of construction, that the developer take specific steps, in accordance with Sec. 14.6.4.E.3, to protect the identified resource.

G. The proposal will not adversely affect existing commercial fishing or maritime activities.
The area of construction is greater than 140' from the water, so this standard is not applicable.

H. The proposal will avoid problems associated with flood plain development and use.
The area that is being disturbed is outside of the A2, El 10 flood zone. This application does not require a flood hazard permit.

I. The proposal is in conformance with the standards set forth in this article.
The proposal is in conformance with all the subsections that pertain in section 11.4.

NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant team held a neighborhood meeting on June 7th, 2023 at 5:30 PM. The meeting took place at the IMT Maintenance and Operations Facility located at 454 Commercial Street. Five members of the public attended this meeting. Questions and comments from members of the public in attendance centered around noise, vibration and lighting impacts.

Five items of written public comment have been received and are included as attachment 4

STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning & Urban Development Department staff recommends that the Planning Board find that the proposed refrigerated storage racks and related site improvements at 2 West Commercial St. (PL-002433-2023) meets the applicable standards of Portland's Land Use Code.

PROPOSED MOTIONS

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board report for the public hearing on March 26, 2024 for application PL-002433-2023 relevant to Portland's technical and design standards and other regulations; and the testimony presented at the Planning Board hearing:

1. The Planning Board **[finds / does not find]**, based upon the consulting civil engineer's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard (Sections 5.III and 5.IV) which limits quantities of water that may be discharged offsite. The Planning Board **[waives / does not waive]** the Technical Manual standards (Section 5.III and 5.IV) to exempt the project from the stormwater flooding standard because of discharge into a tidally-influenced waterbody.

B. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024 for

application PL-002433-2023 relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the site plan standards of the land use code subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall work with the City of Portland's Public Works Department to finalize easement language for the relocated CSO.
2. The applicant shall provide all documentation to the Planning Authority from the Maine Department of Environmental Protection related to the review and approval of the Site Location amendment application.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

3. The applicant shall provide full documentation of their stormwater treatment design.

PRIOR TO THE CONVERSION OF THE PERFORMANCE GUARANTEE TO A DEFECT GUARANTEE

4. The applicant shall be responsible for hiring a third-party acoustic engineer to confirm that the noise levels generated, once this facility becomes operational, complies with the Waterfront Port Development Zone performance standard, Sec. 10.4.8.B (Noise). This confirmation shall be provided as a report, that details the exact methodology for collecting this information, and which shall be found to be acceptable by the Planning Authority. This evaluation shall be provided to the Planning Authority within three months of the refrigerated racking system's final inspection date and an updated evaluation shall be provided approximately every three months thereafter, for a total of four separate acoustic evaluations over a period of no less than one year. Based upon the findings of these acoustic evaluations, the Planning Authority shall require, if necessary, that the applicant provide additional noise mitigation, in order to ensure compliance with Sec. 10.4.8.B (Noise).

C. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board report for the public hearing on March 26, 2024 related to application PL-002443-2023 for 2 West Commercial Street, which is attached to the draft approval letter and incorporated therein, the Planning Board [adopts/does not adopt] the approval letter as drafted as the Planning Board's decision for application PL-002466-2023, and authorizes the Planning Board Chair to sign the approval letter as drafted

ATTACHMENTS

Staff Materials

1. Final Site Plan Report
2. Public meeting notice and certification
3. Notification sign certification

4. Approval letter
5. Senior Water Resource Engineer's Comments

Public Comment
PC1. Bonnie Mattozzi
PC2. Daniel Marlowe
PC3. Elizabeth Dale
PC.4 Jack Boner
PC5. George Rheault

Applicants Submittal

A. Project Cover letter
B. Major Site Plan checklist
C. Impact on surrounding street systems
D. Access and circulation
E. Preservation of natural features
F. Landscape preservation
G. Site landscaping & buffers
H. Water quality, stormwater management and erosion control
I. Consistency with City Master Plans
J. Public safety & Fire prevention
K. Availability of public utilities
L. Snow & ice loading
M. View corridors
N. Historic resources
O. Exterior Lighting
P. Noise & Vibration (Acoustic Survey)
Q. Signage
R. Design Standards
S. Impact mitigation summary
T. Evidence of Right, Title and Interest
U. Financial and Technical Capacity
V. Zoning Analysis
W. Review comment response – January 11, 2024
X. Review comment response – August 30, 2023
Y. Central Maine Power letter

Plans:

P1. Title Sheet
P2. General Notes

P3. Boundary survey
P4.. Rack Elevations
P4. Duct bank detail
P5. Demolition plan
P6. Site layout plan
P7. Grading and drainage plan
P8. Utilities plan
P9. Soil erosion and sediment control plan
P10. Detail sheets
P11. Refer Rack structural notes
P12. Refer rack slab layout plan
P13. Refer rack foundation and framing
P14. Floor plans
P15. Electrical site plan
P16. Electrical site lighting schedule and parts
P17. 3D views

Winton Scott Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

June 9, 2023

City of Portland, Maine
Planning Division
Portland City Hall
389 Congress Street
Portland, ME 04101

I, Stephen Weatherhead of Winton Scott Architects hereby certify that a neighborhood meeting was held on Wednesday, June 7, 2023 at 5:30 PM at the training room of the IMT Maintenance and Operations Facility located at the IMT site. The meeting was in support of a Major Site Plan Development Application for 2 West Commercial Street (Upgrades to the West Lot of IMT Property).

I also certify that on Friday, May 26, 2023, notices were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development (1,000 feet for subdivisions within an industrial zone or industrial zone changes).
2. Residents on the “interested parties” list.

Signed,

Stephen Weatherhead

Principal, Winton Scott Architects

Attachments

1. Copy of the notice sent
2. Sign-in sheet
3. Record of feedback

Winton Scott
Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

May 26, 2023

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for construction of refrigerated container racks (reefer racks) at the west lot of the IMT property. The racks are open steel framed structures with stairs and walking platforms that provide plug in points for adjacent stacked refrigerated containers to be plugged in while awaiting transport.

Meeting Location: Training room at 454 Commercial Street
(located in the eastern-most building fronting Commercial Street at the International Marine Terminal property)

Meeting Date: Wednesday, June 7th, 2023

Meeting Time: 5:30 PM

(The Land Use Code requires that neighboring property owners and residents on an "interested parties list" be invited to participate in this neighborhood meeting. A sign-in sheet will be circulated and a record of the meeting will be taken. Both the sign-in sheet and record will be submitted to the Planning Board.)

If you have any questions, please call:
Steve Weatherhead at Winton Scott Architects 207-774-4811, Ext. 3

Signed,

Note:
Under the City of Portland land use code, an applicant for a major site plan, master development plan, subdivision of over five lots, or zoning map amendment is required to hold a neighborhood meeting within 30 days of an application being deemed complete and no less than seven calendar days before a public hearing. Should you wish to offer additional comments on this proposed development, you may forward them by e-mail to planning@portlandmaine.gov or by mail to the Planning and Urban Development Department, Planning Division, 4th Floor, 389 Congress Street Portland, ME 04101.

MAINE PORT AUTHORITY

Neighborhood Meeting Sign-In Sheet

Jacobs

Date of Meeting: June 7, 2023

Time of Meeting: 5:30 pm

Location of Meeting: 460 West Commercial Street, Portland, Maine 04102

Project Name: Portland International Marine Terminal Refrigerated Container Yard Development

Members of the Public in Attendance

Name	Email
Suzanne Martin	Yougotthis57@gmail.com
Jonethan Moore	jonprestonmoore@gmail.com
Leslie Pohl	leslienpohl@gmail.com ← N Lice nancy
Bonnie MATTOZZI	bdmattozzi@yahoo.com
Domenico Mattozzi	bdmattozzi2@yahoo.com

Date of Meeting: June 07, 2023

Time of Meeting: 5:30 pm

Location of Meeting: 460 West Commercial Street, Portland, Maine 04102

Project Name: Portland International Marine Terminal Refrigerated Container Yard Development

Members of the Public in Attendance

Name	Email
Suzanne Martin	Yougotthis57@gmail.com
Jonethon Moore	joneprestonmoore@gmail.com
Leslie Pohl	leslienpohl@gmail.com
Bonnie Mattozzi	bdmattozzi@yahoo.com
Domenico Mattozzi	bdmattozzi@yahoo.com

Development and Consultant Team in Attendance

Name	Email
Matthew Burns	matthew.burns@maineports.com
Chelsea Pettengill	chelsea.pettengill@maineports.com
Steve Weatherhead	sweatherhead@wintonscott.com
Craig Morin	Craig.Morin@Jacobs.com
Tristan Donovan	Tristan.Donovan@Jacobs.com
Gareth Rowe	Gareth.Rowe@Jacobs.com

Concern	Question	Who	Actions
Vibrational from piling driving and other works	How are we going to control the vibrational effects from works to housing nearby	Jonethon Moore	
Electrical Draw	How are we going to mitigate/eliminate the increase of electrical draw from the grid? (Concern there will be continuous blackouts)	Bonnie Mattozzi	
Noise	What will be the decibel level in total from the reefer racks during operation? (Compared to the hospital)	Bonnie Mattozzi/ Suzanne Martin	Provide city ordinances and previous noise study
Noise	What are the zoning requirements for noise and city ordinances for acceptable noise levels in a commercial zone vs residential?	Bonnie Mattozzi	
Noise	Will noise travel from the worksite to Residential housing? If yes, what is that level?	Bonnie Mattozzi	
Lighting	Will there be issues of the lighting shining into residents' houses? If yes, how do you plan to eliminate that from occurring?	Jonethon Moore	
Dust	What are the dust control measures in place? Will dust reach residents housing which are over 300ft away?	Bonnie Mattozzi/ Suzanne Martin	
Views…	How will the reefer racks impact the waterfront view?	Suzanne Martin	Provide a rendered image of the reefer racks from the view from Harbor View Memorial Park

Important Links
https://www.portland.gov/bds/noise/about/title-18-noise-code
https://www.portland.gov/bds/noise/construction-noise-and-regulations

Winton Scott
Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

March 1, 2024

City of Portland
Planning & Urban Development Department

RE: Major Site Plan Review Submission - International Marine Terminal Refrigerated Container Yard Development Project, 460 Commercial Street. Application PL-002443

I, Stephen Weatherhead hereby certify that a Notice Of Planning Board Meeting Sign was posted in front of the project site visible from the public right of way on Tuesday, February 27, 2024. It will be monitored daily and remain in place until the scheduled Planning Board Meeting Date of March 12, 2024.

Pictures of the sign design and the signs in situ are attached on the following page.

Signed,

Stephen Weatherhead, Principal

Winton Scott Architects

EIMSKIP
NOTICE OF PUBLIC MEETING CITY OF PORTLAND PLANNING BOARD
NOTICE OF PUBLIC MEETING CITY OF PORTLAND PLANNING BOARD

NOTICE OF PUBLIC MEETING CITY OF PORTLAND PLANNING BOARD

460 COMMERCIAL ST

APP. ID #: PL-002443

MEETING DATE:

03/12/2024

NOTICE OF PUBLIC MEETING CITY OF PORTLAND PLANNING BOARD

Find agenda at: www.portlandmaine.gov/agendas

For more information, call (207) 874-8719

CITY OF PORTLAND, MAINE

PLANNING BOARD

Brandon Mazer, Chair
Justin Barker, Vice Chair
Marpheen Chann
Sean Murphy
David Silk
Austin Smith
Maggie Stanley

March 26 ,2024

Chelsea Pettengill
Maine Port Authority
460 commercial St.
Portland, ME 04101

Stephen Weatherhead
Winton Scott Architects
217 Commercial St., Unit 200
Portland, ME 0410104101

Project Name:	Major Site Plan	**Project ID:**	PL-002443-2023
Address:	2 West Commercial Street	**CBL:**	059 A001
Applicant:	Maine Port Authority		
Planner:	Eric Freeman		

On March 26, 2024 the Planning Board approved a major site plan application for the Maine Port Authority to construct refrigerated container racks with associated site improvements located at 2 West Commercial Street in the Waterfront Port Development Zone. The decision is based upon the application, documents and plans submitted. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance, Ch. 14 Article 14, Section 14.6 and the Waterfront Port Development Zone Standards, Ch. 14 Article 10.4.

Based upon the information provided to the Board in the application, plans, reports, through testimony and other information submitted by the applicant, the Planning Board adopted the findings, conclusions and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024, which is attached hereto and incorporated herein by reference. Based upon those findings, conclusions and recommendations, the Planning Board found that the application met all relevant standards and voted (X-X) to approve the application with the following waivers and conditions as presented below.

SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the Applicant; findings and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024 for application #PL-002443-2023 relevant to the site plan regulations' and the testimony presented at the Planning Board hearing, the Planning Board voted (X-X) to find that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following Conditions of Approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall work with the City of Portland's Public Works Department to finalize easement language for the relocated CSO.
2. The applicant shall provide all documentation to the Planning Authority from the Maine Department of Environmental Protection related to the review and approval of the Site Location amendment application.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

3. The applicant shall provide full documentation of their stormwater treatment design.

PRIOR TO THE CONVERSION OF THE PERFORMANCE GUARANTEE TO A DEFECT GUARANTEE

4. The applicant shall be responsible for hiring a third-party acoustic engineer to confirm that the noise levels generated, once this facility becomes operational, complies with the Waterfront Port Development Zone performance standard, Sec. 10.4.8.B (Noise). This confirmation shall be provided as a report, that details the exact methodology for collecting this information, and which shall be found to be acceptable by the Planning Authority. This evaluation shall be provided to the Planning Authority within three months of the refrigerated racking system's final inspection date and an updated evaluation shall be provided approximately every three months thereafter, for a total of four separate acoustic evaluations over a period of no less than one year. Based upon the findings of these acoustic evaluations, the Planning Authority shall require, if necessary, that the applicant provide additional noise mitigation, in order to ensure compliance with Sec. 10.4.8.B (Noise).

STANDARD PROCEDURES

Note: The following standard procedures and requirements apply to all approved site plans:

1. Site Plan Expiration The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.

2. Separate Building Permits Are Required This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.

3. Performance Guarantee and Inspection Fees A performance guarantee covering the site improvements and an inspection fee payment of z.0% of the guarantee amount and three (3) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans.

4- Construction Management Plans The applicant, contractor and subcontractors are required to conform to the approved Construction Management Plan, and all conditions contained within the project's approval, for the entire duration of the project. Any amendments to the approved Construction Management Plan shall be reviewed and approved by the Department of Public Works prior to the execution. The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan. The applicant shall coordinate the project's construction schedule with the timing of nearby construction activities to avoid cumulative impacts on a neighborhood and prevent unsafe vehicle and pedestrian movements. Accordingly, nearby construction activities could involve a delay in the

commencement of construction.

5- Preconstruction Meeting Prior to the release of a building permit and scheduling of a preconstruction meeting, a hard copy set of approved plans shall be submitted to the Development Review Coordinator. A pre-construction meeting shall be held at the project site with the contractor, Development Review Coordinator, Public Works representative, and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan and the approved Construction Management Plan. The site/building contractor shall provide one {1} Copy of a detailed construction schedule to the attending City representative. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

6. Department of Public Works Permits If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permits are required for your site. Please contact the Department of Public Works Permit Clerk at (zoy} ›74- 3oo, ext. 8828. (Only excavators licensed by the City of Portland are eligible.}

7. Develop Site According to Plan The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Any modifications of an approved site plan or alteration of a parcel, or of any approved exterior elevations, which were the subject of site plan approval after May zO, 1974. Shall require the prior approval of an amended site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter i4. Land Use, of the Portland City Code.

8. Stormwater Management The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 3 , Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.

A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Final copies shall be submitted to both the Department of Planning and Urban Development and the Department of Public Works.

9. Defect Guarantee A defect guarantee, consisting of io% of the performance guarantee, must be posted before the performance guarantee will be released.

10. As-Built Final Plans Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (.dwg}, release AutoCAD zoos or greater. Please provide one hard copy of the mylar.

11. Mylar Copies Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.

12. Impact Fees New development or changes of use that result in net new residential dwelling

units, non- residential building square footage, or water meters, are subject to the City of Portland's impact fee ordinance (Chapter ^4, Article XVII}. Impact fees are calculated at the

time of building permit and must be paid prior to the certificate of occupancy. For more information, visit https://www.portlandmaine.gov/2409/Impact-Fees

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at drc@portlandmaine.gov or (207)874-8984. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Eric Freeman at (207)874-8724 or via email at efreeman@portlandmaine.gov

Sincerely,

Brandon Mazer, Planning Board Chair

Attachments:
1. Planning Board Report
2. Portland City Code: Chapter 32
3. Sample Stormwater Maintenance Agreement
4. Performance Guarantee Packet

Att. 5

Eric Freeman <efreeman@portlandmaine.gov>

2 West Commercial St. - CSO letter

Justin Pellerin <jrp@portlandmaine.gov> Thu, Mar 21, 2024 at 10:58 AM
To: Eric Freeman <efreeman@portlandmaine.gov>

Hi Eric,
The applicant for the 2 West Commercial Street project has been working with DPW to relocate an existing City of Portland Combined Sewer Overflow (CSO) pipe which is known as CSO #27. This is a permitted CSO location under our NPDES DEP/EPA permit. This combined sewer overflow line provides relief for the combined sewer system which goes up Clark Street into the West End. It also doubles as a stormwater drain for this section of West Commercial Street and the subject parcel under redevelopment. At this time, the pipe is still required to be a combined sewer overflow pipe because it still activates from time to time during heavy rain events based on sewer capacity constraints upstream in the Clark Street vicinity.

Water Resources continues work to separate stormwater from the City's combined sewer and construct storage tanks to mitigate this issue as part of our CSO Long Term Control Plan Consent agreement with the EPA. As work along the Back Cove wraps up we are now turning our focus to the Portland Harbor waterfront area as our next targeted area for CSO mitigation work.

We do have intentions to try and close this CSO # 27 regulator on Clark Street in the future and convert the newly relocated outfall pipe into a separated storm drain system. But this will require infrastructure upgrades before that can occur to ensure we don't back sewage into private residences or cause sanitary sewer overflows into the street.

The new relocated pipe is being up-sized to a 48" pipe which will allow the City to separate more storm water from the combined system in this area in the future, which will hopefully allow us to close the CSO at this location eventually.

Justin Pellerin, P.E.
Senior Water Resources Engineer
Department of Public Works
jrp@portlandmaine.gov
207-874-8881

public works

On Mon, Mar 18, 2024 at 9:37 AM Eric Freeman <efreeman@portlandmaine.gov> wrote:
[Quoted text hidden]

Winton Scott
Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

April 4, 2023

Permitting & Inspections Department
City of Portland
389 Congress Street
Portland, ME 04101

RE: Major Site Plan Review Submission - International Marine Terminal Refrigerated Container Yard Development Project, 460 Commercial Street.

To Whom it May Concern:

Attached please find submission materials in support of the Major Site Plan Review process for the project listed above. The project falls within the WPDZ and Shoreland Overlay Zones.

The project involves upgrades to the west lot of the IMT property, including construction of refrigerated container racks (reefer racks), pile supported foundations, heavy duty pavement, and additions to the site drainage system. The reefer racks are steel frames with staircases connecting the floors. Each floor has outlets where the stacked refrigerated containers can be plugged in. The containers will be stacked 5 high for a total height of approximately 50 feet.

The reefer racks will be supported on pile supported concrete slabs, which will also provide support for the containers. The west lot is currently paved with porous asphalt, which will be replaced by a heavy duty pavement section to accommodate the heavier traffic loads. Currently, the porous asphalt provides the drainage system for the site, but with its removal, a new drainage system will be constructed. The gate at the southwestern end of the site will be moved to provide better traffic flow in and out of the site.

We look forward to working with Planning staff and the Board and stand ready to address any questions and/or provide additional information deemed necessary in support of the project review process.

Sincerely,

Stephen Weatherhead, Principal
Winton Scott Architects

CITY OF PORTLAND
Planning & Urban Development Department

EXHIBIT 2- GENERAL DOCUMENT AND DRAWING CHECKLIST

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.

EXHIBIT	GENERAL APPLICATION DOCUMENTS	
1	Yes NA	**Project Description** • Cover letter with detailed project description
2	Yes NA	**Completed Checklist** (this document)
3	Yes NA	**Evidence of Right, Title, and Interest** • Deeds, leases, or purchase and sales agreements
4	Yes NA	**Evidence of State or Federal Approvals** • Permits or letters of non-jurisdiction, if applicable
5	Yes NA	**Zoning Assessment** (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
6	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
7	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
8	Yes NA	**Financial Capability** • Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
9	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.

EXHIBIT	TRANSPORTATION	
10	Yes NA	**Impact on Surrounding Street Systems (14-14.6.1(A))** ● Describe incremental volume of traffic impacts and mitigation measures. If needed
11	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

EXHIBIT	ENVIRONMENTAL		
12	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
13	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
14	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
15	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		
16	**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
17	**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)
18	**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)
19	**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
20	**Yes**	**NA**	**View Corridors (14-14.6.4(D)), if applicable** ● Describe any protection of designated view corridors (Portland Design Manual, Appendix. 1)
21	**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

22	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
23	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
24	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
25	Yes	NA	**Zone-Related Design Standards (14-14.6.4(I))** ● Address any applicable design review standards by zone, including compliance with Design Manual

NOT LISTED ON THE GENERAL DOCUMENT AND DRAWING CHECKLIST BUT REQUIRED BY SECTION 10.4.8 - PERFORMANCE STANDARDS:

Impact Mitigation Narrative

26 • Summarize how the project meets applicable performance standards for the Waterfron Development Zone

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

Winton Scott
Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

EXHIBIT 10 - TRANSPORTATION STANDARDS 14.6.1

See attached document immediately following this page.

Impact On Surrounding Street Systems

This project will not increase traffic on Commercial Street. Earlier projects at the Portland International Marine Terminal since 2016 included in-depth traffic studies and subsequent engineered designs which upgraded the local roadway and improved traffic flow along West Commercial Street. Those designs captured the future truck traffic anticipated by utilization of the western portions of the Terminal. Currently, the signalized intersection of West Commercial Street and Beech Street is underutilized and will now have the opportunity to fulfill its functionality with this project.

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207.774.4811

EXHIBIT 11 - TRANSPORTATION STANDARDS 14.6.1

14.6.1 - Transportation Standards

B. Access & Circulation

This project will not create the need for any changes to existing points of access to the site. The project is located within the secured existing freight handling yard where there is no public pedestrian or vehicular access allowed. The yard is configured to handle the cranes and transport vehicles that operate there managing the flow of incoming and outgoing storage containers only.

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Architects

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EXHIBIT 12 - ENVIRONMENTAL QUALITY STANDARDS 14.6.2

14.6.2 - Environmental Quality Standards:

A. Preservation of Significant Natural Features

See attached document immediately following this page.

Preservation of Significant Natural Features

This project will have no impact on natural features. The site is currently fully developed and paved. The limits of development and paving will not be changed as part of this project, and no natural features will be disturbed. Sediment and erosion control and stormwater management best management practices have been proposed in accordance with Maine DEP Chapter 500 regulations. Additionally, the container yard operations will be conducted within the limits of paving.

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Architects

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EXHIBIT 13 - ENVIRONMENTAL QUALITY STANDARDS 14.6.2

14.6.2 - Environmental Quality Standards:

B. Landscape Preservation

See attached document immediately following this page.

Landscape Preservation

This project will have no impact on the existing landscape. All proposed development is occurring within areas of the Terminal that are already supporting container operations. Containers will continue to be stacked within this area, but will be stacked in an efficient manner with an orderly layout conducive to port industry standards. The existing landscaping along West Commercial Street will not be affected during construction. Any damage to existing landscaping will be replaced in-kind by the contractor.

Winton Scott
Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

EXHIBIT 14 - ENVIRONMENTAL QUALITY STANDARDS 14.6.2

14.6.2 - Environmental Quality Standards:

C. Site Landscaping and Buffers

See attached document immediately following this page.

Site Landscaping and Buffers

Since this project is a redevelopment of an already developed area which was originally designed to meet the Chapter 14 landscaping requirements, no landscaping is proposed. Existing landscaping within the buffer along West Commercial Street will be maintained and protected during construction. Any vegetation within the buffer that is damaged during construction will be replaced in-kind.

Jacobs

Port Of Portland
International Marine Terminal (IMT)

Stormwater Management Report

Revision no: 0

Freezer Container Area Renovation Project
Port Infrastructure Development Program (PIDP)
January 11, 2024

Executive summary

This Stormwater Management Report has been prepared on behalf of the Maine Port Authority (MPA) for the renovation of the Freezer Container Area at the International Marine Terminal (IMT) located on Commercial Street, adjacent to Fore River. The purpose of the report is to demonstrate compliance with the Maine DEP Stormwater Management Laws. MPA is a part of the Maine Department of Transportation (MaineDOT), and therefore is covered under the MaineDOT General Permit.

The following activities were performed to prepare the report including site visits, reviewing reports from the U.S. Geological Survey (USGS); the Natural Resources Conservation Service (NCRS); the Federal Emergency Management Agency (FEMA); Maine DEP; review of environmentally sensitive resource areas within the project limits and surrounding properties; review of total station and geographic position system (GPS) survey; and, the analysis of pre- and post-construction conditions using the computer modeling Autodesk Storm and Sanitary Sewer Analysis (SSA) application.

Contents

Executive summary i
1. **Introduction** 1
2. **Existing Conditions** 4
3. **Proposed Conditions** 6
4. **Stormwater Management** 8

Appendices

Appendix A. Figures .....
Appendix B. Stormwater Resources .....
Appendix C. Stormwater Analysis .....

1. Introduction

Jacobs has prepared this Stormwater Management Report to provide an analysis of the stormwater drainage design associated with the Freezer Container Area Renovation project located on Commercial Street in Portland, Maine. The proposed stormwater system was designed to maintain existing drainage patterns, meet stormwater regulations, and maximize water quality to the greatest extent practical. The existing 24-inch combined sewer overflow (CSO) outfall pipe will be upsized to 48" and relocated outside of the proposed freezer container storage area while being maintained within the Maine Port Authority property. The reason to relocate the existing CSO outfall is to mitigate potential impacts to the CSO outfall pipe due to pile driving activities.

The stormwater design, to the greatest extent practical, follows the City of Portland regulations as well as the guidelines outlined in the Memorandum of Agreement (MOA) Stormwater Management between the MaineDOT, Maine Turnpike Authority and Maine Department of Environmental Protection (MaineDEP) dated 06/27/2017 as well as the MaineDEP Site Location of Development Act General Permit (MaineDEP GP) for the MaineDOT dated 08/18/2021. Both of these guidance documents outline the requirements for MaineDOT projects in order to meet the standards of the MaineDEP's Chapter 500 Stormwater Management Rules.

In doing so Jacobs will eliminate ponding within the site area, upsize pipes as required to prevent surcharge, install stormwater treatment systems, and stabilize existing pipe outfalls as part of the proposed work for this project.

A. Site History

The present parcel historically served as extensive railroad, industrial and marine operations as can be seen in the aerial photo below. Over the last 30 to 40 years, rail activity along this parcel has decreased. Currently, rail service terminates prior to entering the site at a loading pad utilized by IMT and the remaining portion of the site is primarily used as storage yards, with the western parcel being undeveloped.

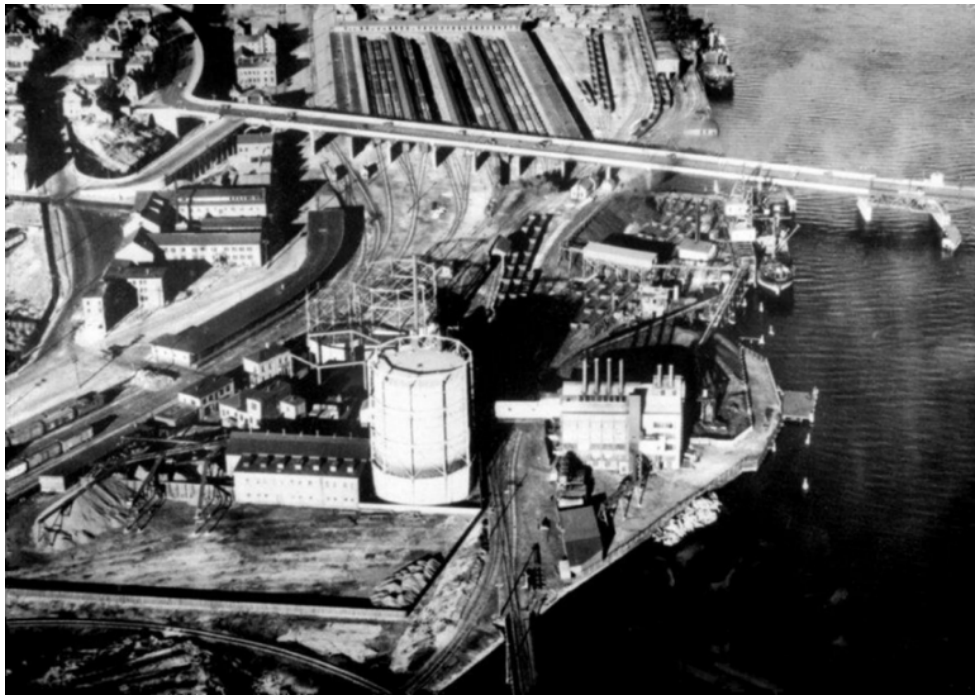


Image 1 – Historic Photo, showing Industrial & Rail use (circa 1940)

B. Site Visit

Currently, the western portion of the site is undeveloped with tracts of rail whereas the eastern portion is developed and used by IMT today. Since the project only plans to modify a portion of the existing lot, this analysis will only factor in the changes associated with the proposed limit of work. The proposed limit of work is shown on the Site Layout Plan included in Appendix E.

The existing portion of the site to be modified is approximately 5.10 acres and is comprised of the following ground covers:

- 0.05 acres Grass
- 0.05 acres Gravel
- 1.80 acres Pavement
- 3.20 acres Porous Pavement

Below are recent photos of the site which depict the above allocated areas.

Image 2 – Recent Photo, Gravel & Pervious Pavement Areas

Image 3 – Recent Photo, Pavement Area

Image 4 – Recent Photo, Grass Areas

2. Existing Conditions

A. Existing Site Features

The project site is located on Commercial Street in Portland, Maine. The portion of the site under investigation is approximately 5.10 acres and shared with MaineDOT & the IMT – Eimskip Warehouse. The site is bound by Commercial Street to the North, Maine Port Authority to the East, Fore River to the South and an undeveloped property to the West. The property to the West will become the location of a cold storage facility which is currently under construction. For more information about the site, refer to Figure 1, Site Map, in Appendix A.

The project site develops currentlydeveloped as an open lot used for chassis and empty container storage. The site shares access with a MaineDOT Facility which operates beneath the Casco Bay Overpass for maintenance and inspection purposes as well as the IMT – Eimskip Warehouse building for its port operations.

According to the FEMA Flood Insurance Rate Map, Map Number 2300510013B, the project is within a special flood hazard area subject to inundation by the 1% annual chance flood (100-year flood). A portion of the site, along Fore River, is within the 0.2% annual chance flood plain (500-year flood). For more information regarding the flood plains, refer to Figure 2, FEMA Flood Map, in Appendix A.

B. Existing Drainage Features

Commercial Street

Drainage flows to a series of catch basins located along the edge of pavement and in the gravel shoulder. Basins are connected via an 18" closed brick drainage system located within the Commercial Street Right of Way. The closed drainage system ties into the 24" Combined Sewer Overflow (CSO) which in turn traverses the IMT site and discharges into the Fore River.

Undeveloped Area (future cold storage building and parking)

The portion of the site has no known drainage infrastructure and surface runoff infiltrates into the existing ground.

Existing Operating Yard

The existing operating yard, which resides on the paved portion of the lot on the eastern side of the Casco Bay Overpass directs sheet flow runoff into a low-lying area beneath the bridge. It is then captured by existing catch basin structures and directed through two parallel drainage networks which eventually outfall into the Fore River.

Existing Container Yard

The container yard portion of the site utilizes the porous pavement infiltration design from the original project back in 2014 and its associated underdrain system. The design captures stormwater as it infiltrates and directs it into the existing CSO that traverses the site and discharges into the Fore River. The existing porous pavement limit, underdrains and CSO are shown on the survey provided by Owen Haskell and the Site Layout Plan included in Appendix E.

C. Existing Soil Features

The site was originally inspected on January 21, 2014, to determine evidence of ecological communities that could indicate potential presence of state or federal jurisdictional wetlands. It was determined that wetlands do not exist on the site (other than the bank of the Fore River) and that the existing soils are well drained.

The soils on the project site are cut and fill lands with moderately well drained drainage class. No surface waters other than the adjacent Fore River occur at the site. From the former land use indicators at the site, the entire area is appropriately identified on the USGS Web Soil Survey, and is included as Figure 3 in Appendix A.

D. Existing Catchment Areas

For the existing conditions hydrologic analysis, the site was divided into multiple drainage areas that discharge runoff into the three (3) existing outfalls. Existing Catchment Area 1 (ECA-1) contributes to the CSO systems that are to be relocated. Existing Catchment Area 2 (ECA-2) has potential to contribute flows to the existing Casco Bay Overpass system or the Eimskip system. Therefore, our analysis will look to analyze only the CSO system and prove a reduction in contribution to the Casco Bay Overpass & Eimskip systems. For more detailed information please see the existing drainage area map included in Appendix B.

Existing Catchment Area 1 (ECA-1)

This area is located at the western portion of the Container Yard. The area is made up of all porous pavement, however, in this scenario, it will be treated as impervious due to compaction and use of the lot over time. All runoff is captured via two catch basins at low lying areas or the underdrains below the surface, and introduced to the CSO main line where it will outfall along Fore River.

Existing Catchment Area 2 (ECA-2)

This area is located at the eastern portion of the Container Yard. The area is a mix of existing porous pavement and existing bituminous concrete pavement. The areas will be treated as all impervious. All runoff is captured through multiple catch basins within the low-lying area below the Casco Bay Overpass. This low-lying area collects not only the project site, but a portion of the Casco Bay Overpass as well as the Eimskip operating yard further west. The runoff is then introduced to the two parallel stormwater main lines where they will outfall along Fore River.

Table 1 – Existing Drainage Areas

DESCRIPTION	AREA (AC)
Existing Catchment Area 1 (ECA-1)	1.72
Existing Catchment Area 2 (ECA-2)	3.38
Total Drainage Area	5.10

3. Proposed Conditions

A. Proposed Site Features

The project includes the construction of an updated refrigerated container rack system which will allow for a more organized and operational site within the property limits. The updated system will be able to provide approximately 420 reefer outlets, which increases the number of outlets by 300 from the 120 currently present. The proposed development plans to utilize as much of the existing site, drainage, and utility features as possible, while taking into consideration any residual effects of the updates to the existing site.

The existing porous pavement and underdrain system will be removed and replaced with gravel base course, HMA base, intermediate and surface HMA courses which will be able to withstand the anticipated vehicle loading of the container yard in the proposed conditions.

The proposed stormwater system for the project was designed to accommodate the operational needs of the facility, while improving upon the quality of stormwater discharged from the site. The protective measures taken are to ensure adequate removal of suspended solids produced from runoff which will ultimately leave the project area.

B. Proposed Drainage Features

Proposed Container Yard

Since the project limits are only within the container yard portion of the site, all stormwater related improvements to this area are noted here.

The proposed grading for the site will maintain similar drainage patterns to that of existing, while removing the potential for sheet flow offsite with the addition of bituminous concrete curbing. The addition of curbing will ensure the runoff associated with the container yard is maintained onsite, within a closed drainage system, and further protects the surrounding area from any possibility of unnecessary erosion, ponding, or untreated stormwater outfalls.

The project proposes new deep sump catch basins, additional drainage manholes and adequately sized drainage pipe to help alleviate any new or existing stormwater concerns. The project will also provide two JellyfishFilters prior to connections to the CSO network to ensure adequate TSS removal prior to entering the system.

Since a portion of the existing CSO main line is located within the envelope of the proposed reefer rack piles and foundations, the proposed drainage design offers to relocate the CSO main line outside of its influence. Due to the relocation, new piping and associated structures will be provided within the main line.

C. Proposed Catchment Areas

For the proposed conditions hydrologic analysis, the site was divided into multiple drainage areas that discharge runoff into three (3) existing outfalls. Three drainage areas contribute to the CSO system, and one drainage area contributes to the other existing stormwater systems below Casco Bay Overpass. Both networks were analyzed as a part of this analysis. The proposed drainage area map can be found in Appendix B.

Proposed Catchment Area 1a (PCA-1a)

This area is located at the southwestern portion of the Container Yard. The area is all impervious due to the proposed paving and curbing of the site. All runoff is captured via deep sump catch basins at the corner of the lot, directed through a water quality structure prior to being introduced to the CSO main line where it will outfall at the existing headwall along Fore River.

Proposed Catchment Area 1b (PCA-1b)

This area is located at the northwestern portion of the Container Yard. The area is all impervious due to the proposed paving and curbing of the site. All runoff is captured via deep sump catch basins along the frontage of the property. The runoff is then directed through a water quality structure prior to being introduced to the CSO main line where it will outfall at the existing headwall along Fore River.

Proposed Catchment Area 2a (PCA-2a)

This area is located at the eastern portion of the Container Yard. The area is all impervious due to the proposed paving and curbing of the site. All runoff is captured via multiple existing and proposed catch basins withing the low-lying portion of the paved area. The runoff is then introduced to either of the parallel running stormwater systems (depending which catch basin the runoff enters) below the Casco Bay Overpass where it will outfall at the existing headwall along Fore River.

Table 1 – Proposed Drainage Areas

DESCRIPTION	AREA (AC)
Proposed Catchment Area 1a (PCA-1a)	1.35
Proposed Catchment Area 1b (PCA-1b)	1.32
Proposed Catchment Area 2a (PCA-2a)	2.43
Total Drainage Area	5.10

4. Stormwater Management

The stormwater management plan and design for the proposed Refrigerator (Freezer) container storage area is intended to follow all City of Portland Regulations and MaineDEP Stormwater Management Laws.

A. Basic Standards

As noted in the MOA for Stormwater Management (2017), all MaineDOT transportation projects shall comply with the Basic Standards of Chapter 500 through implementation of best management practices described in the MaineDOT's Best Management Practices for Erosion and Sedimentation Control (MaineDOT Manual).

B. Methodology

Stormwater runoff analysis for both pre and post conditions is performed using Stormwater Analysis software HydroCAD. The application uses the SCS_TR-55 method to solve for volumes and rates of stormwater runoff. The watershed, rainfall depths and intensity, curve number and time of concentration factors used to influence the results come from national resources or manual computation.

For this analysis, rainfall depths & intensities have been taken from NOAA Atlas 14 documents for the proposed flow analysis (Latitude: 43.6466°, Longitude: -70.2595°) and are seen in Appendix B, Stormwater Resources.

The SCS_TR-55 method uses Curve Number (CN) to estimate runoff, a factor which is determined based on Soil Type and Ground Cover Conditions. See Appendix A, Figure 3 for the Soil Survey Map, Appendix B, Stormwater Resources, for the Existing & Proposed Drainage Area Maps and Appendix C, Stormwater Analysis for the Curve number information.

The SCS_TR-55 method also utilizes time of concentration to understand time of travel for runoff to traverse a watershed to a point of interest. See Appendix C, Stormwater Analysis for more information.

C. Strategy

The stormwater network onsite is existing and collects runoff for a portion of the Portland area. The flow data for the 25-year storm event is unavailable for all three existing stormwater networks which traverse the site, therefore a different analysis approach was used.

Since the project will be reducing the amount of impervious area that once contributed to the Casco Bay Overpass System and the Eimskip System adjacent to it, no analysis is required as the existing system will remain the same and will not be modified during construction.

An adequate stormwater analysis is provided for the existing CSO system, which we plan to relocate. We assume the existing capacity of the pipe to be flowing 95% full. Sizing of the CSO pipe has been coordinated with the City of Portland and the Portland Water District.

The report will analyze the change in additional flow added to the system during the defined 2-year, 10-year and 25-year 24-hour storm events and determine whether further stormwater mitigation is required for the associated site improvements.

D. Existing Peak Flows

As stated previously, peak flows for the existing stormwater system are not available, the design approach taken will be to assume the existing system is at full capacity or approximately 95% full.

To determine this, we created a model in the AutoCAD Civil 3D, Hydraflow Express application to help determine the 95% flow capacity of the existing 24" CSO main line. The analysis for the existing hydrology can be found in Appendix C, Stormwater Analysis.

After further investigation, the 95% flow capacity of the existing stormwater system is 27.17cfs. This number will be utilized during the proposed analysis and help determine if the additional flow will put the existing system over capacity and whether the system will need to be upsized.

E. Proposed Peak Flows

Proposed peak flows for all analyzed storm events are summarized in Table 2. Calculations for the proposed hydrology can be found in Appendix C.

Table 2 – Proposed Peak Flows Contributing to the CSO Outfall

DESCRIPTION	PEAK FLOWS (cfs)		
	2YR	10YR	25YR
Proposed	8.13	12.80	15.72

F. Stormwater Conclusion

After further review the proposed stormwater design is adequate for the associated project.

Flooding Requirements:

Due to the limitation of space and overall use of the site, stormwater detention, retention or infiltration is not feasible. Based on the proposed site improvements, the project will request a "Waiver of the Flooding Standard" seen in Chapter 500.F. 3a, as the existing outfall location is to be maintained as a direct, pipe outfall into the Fore River which is considered a major river.

The above stormwater analysis performed proves the upgraded system has the capacity for the additional flow. The information provided in Appendix C, Stormwater Analysis, from the Hydraflow Express Ext. Model, provides the 95% capacity flow of the existing 24" CSO main line which is 27.17cfs. The information provided in Appendix C, Stormwater Analysis, from the Existing Stormwater System Review of the 24" CSO Main Line, shows the existing system can adequately handle the 95% capacity flow derived from the Hydraflow Express model.

A series of tests were performed to verify if the existing system could handle the additional flow added from the proposed site improvements. The existing system could not handle the influx of water, and the relocated 24" CSO main line was upsized to a 30" main line. For more information see the Grading & Drainage Plan included in Appendix E of this report.

Based on the HydroCAD Report findings, the increase in flow to the CSO system is approximately 15.72cfs during the 25-year storm event. The 15.72cfs in addition to the 27.17cfs (95% Capacity flow) which is assumed to already be in the system was input into the 30" CSO main line, and its performance was reviewed. The proposed 30" main line system was able to adequately handle the overall flow. See Appendix C, Stormwater Analysis, Proposed Stormwater System Review of 30" CSO Main Line.

Treatment Requirements:

To meet treatment requirements found in Chapter 500.C.2, the project has proposed the installation of two (2) in-line hydrodynamic separators prior to entering the proposed 30" CSO. Each hydrodynamic separator will be placed prior to connecting into the proposed CSO main line to ensure adequate water quality treatment prior to influencing the stormwater network. Each

proposed Jellyfish Filter will meet the standard minimum requirement of 80% TSS removal and the system has been approved for primary treatment by Maine DEP.

Based on Table 2, in Chapter 500.C.2d, the existing and proposed use pollutant ranking is a 4. The existing use and proposed uses are relatively similar, therefore the Ranked Impact Change Due to Redevelopment, as shown in Table 3 of Chapter 500.C.2d, would be 0, making the Percentage of Developed areas that must be treated be 50% minimum. The proposed project will treat approx. 2.67acres out of the 5.10acres disturbed, 52% of the re-developed area, see the grading and drainage plan located in Appendix E of this report.

Appendix A. Figures

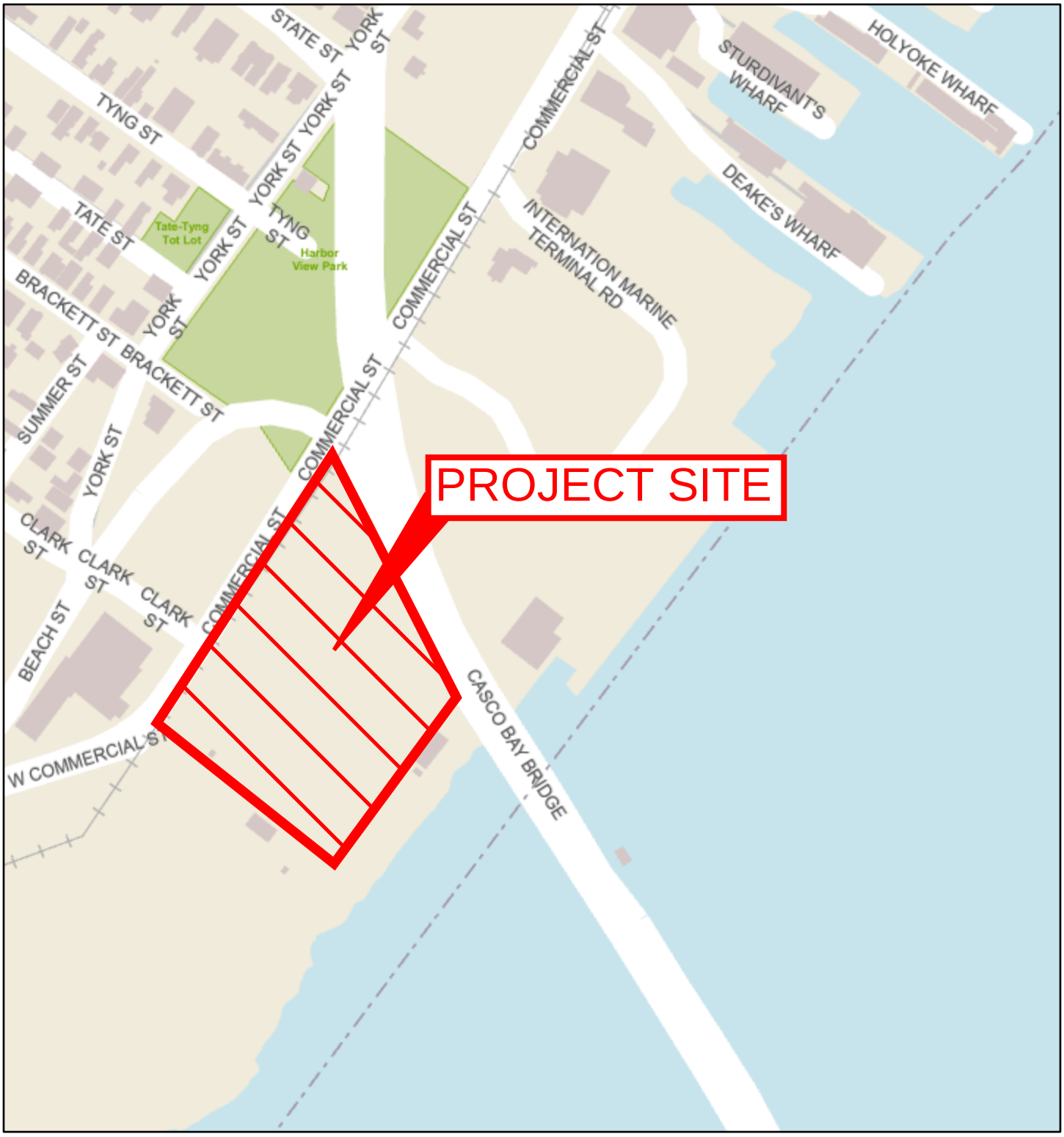
Figure 1 – Site Location Map

Figure 2 – FEMA Flood Map

Figure 3 – Soil Survey Map & Assoc. Information

Figure 1 – Site Location Map

Site Map



1/17/2023, 3:08:21 PM

1:3,002

0 0.03 0.05 0.1 mi

0 0.04 0.08 0.16 km

City of Portland, DPS

Web AppBuilder for ArcGIS
City of Portland, Maine

Figure 2 – FEMA Flood Map

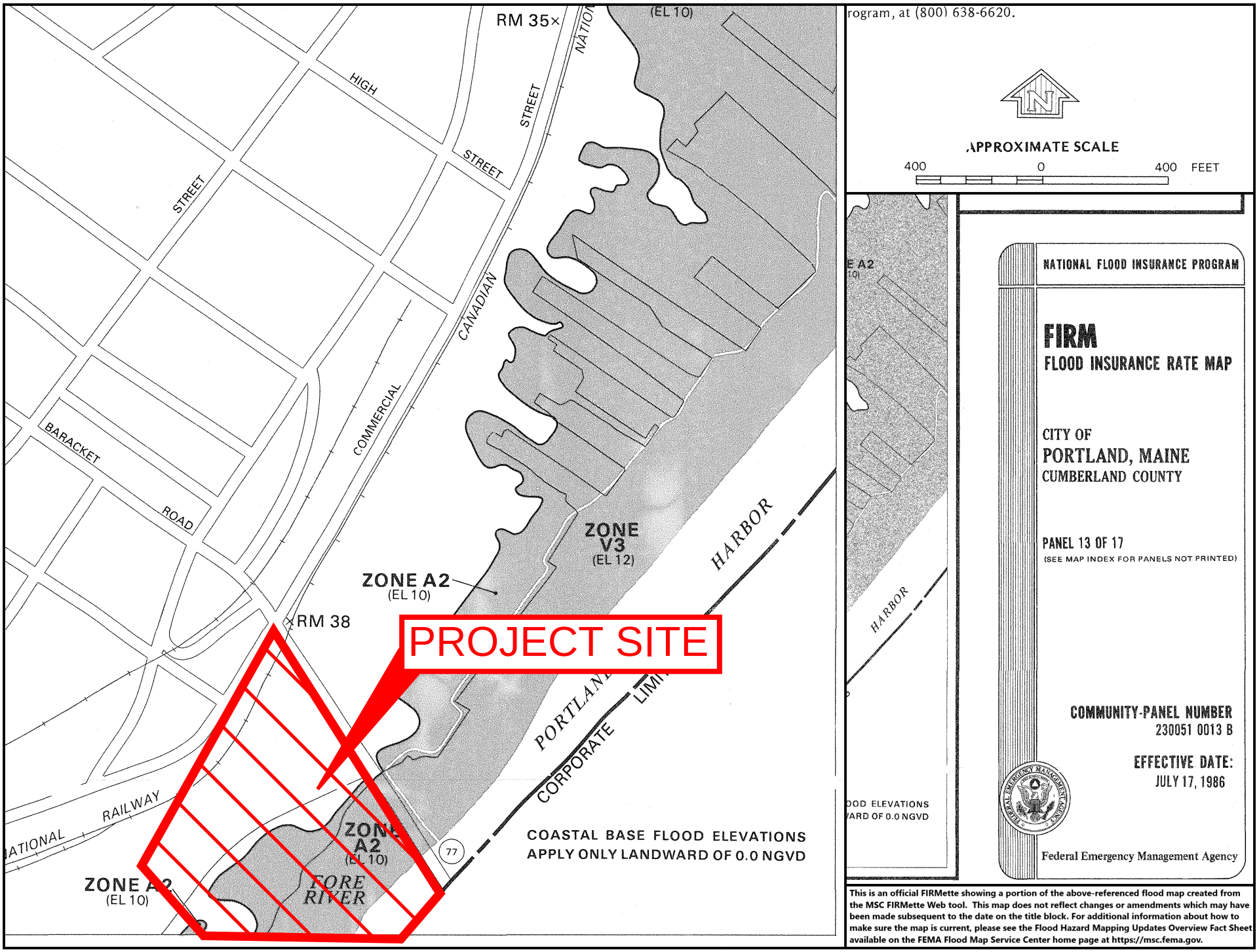
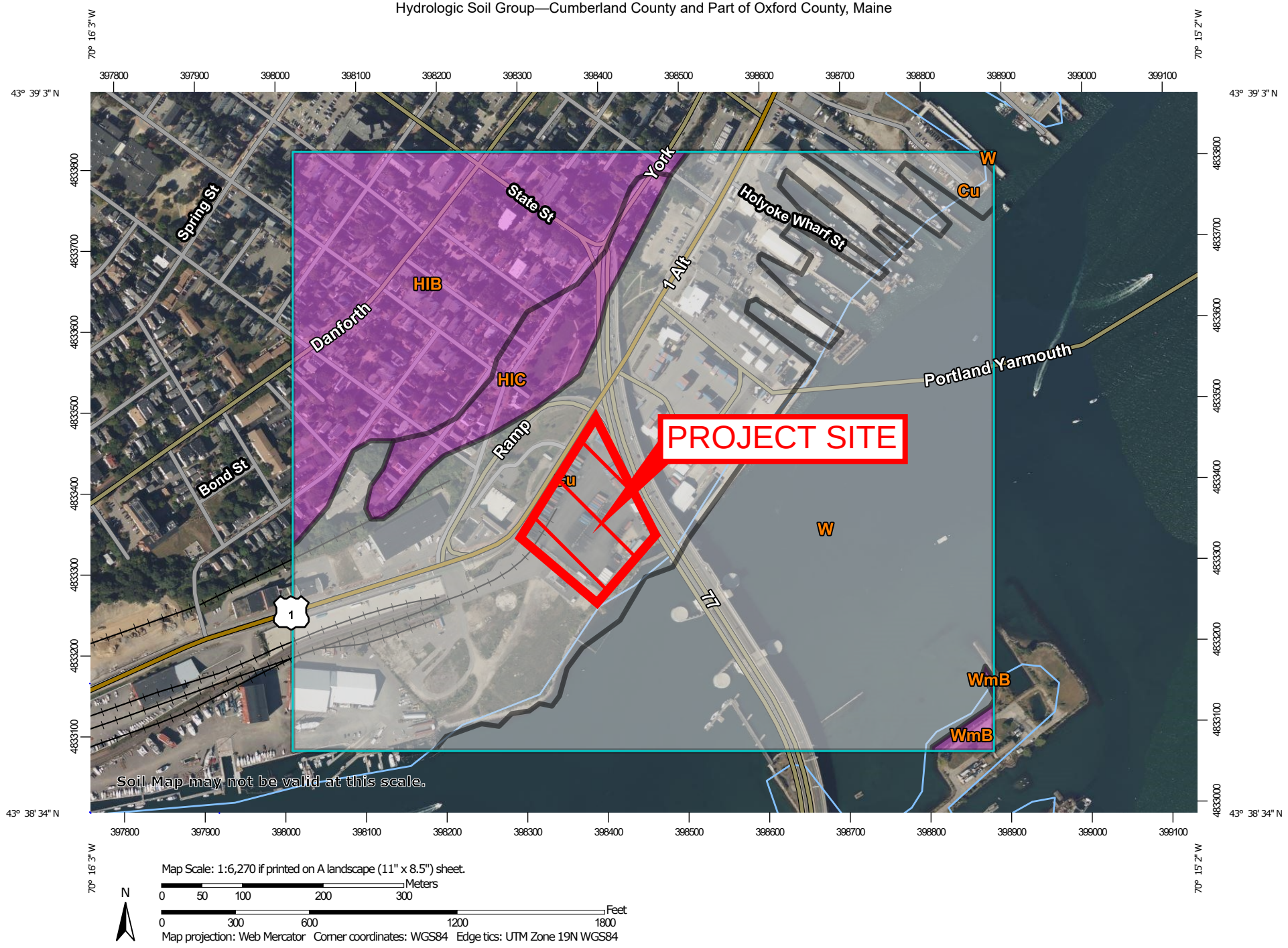

RM 35
(EL 10)
HIGH
STREET
STREET
STREET
CANADIAN
COMMERCIAL
BARACKET
ROAD
ZONE
V3
(EL 12)
ZONE A2
(EL 10)
RM 38
PROJECT SITE
HARBOR
PORTLAND
CORPORATE
LIMIT
RAILWAY
ZONE A2
(EL 10)
FORE
RIVER
77
COASTAL BASE FLOOD ELEVATIONS
APPLY ONLY LANDWARD OF 0.0 NGVD
rogram, at (800) 638-6620.
APPROXIMATE SCALE
400
0
400
FEET
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY
PANEL 13 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
230051 0013 B
EFFECTIVE DATE:
JULY 17, 1986
Federal Emergency Management Agency
This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Figure 3 – Soil Survey Map & Assoc. Information


70° 16' 3" W
70° 15' 2" W
43° 39' 3" N
43° 38' 34" N
397800
397900
398000
398100
398200
398300
398400
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399100
4833800
4833700
4833600
4833500
4833400
4833300
4833200
4833100
4833000
Spring St
State St
York
Holyoke Wharf St
1 Alt
Danforth
HIB
HIC
Ramp
Bond St
Portland Yarmouth
PROJECT SITE
W
Cu
WmB
1
Soil Map may not be valid at this scale.
Map Scale: 1:6,270 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 300 600 1200 1800
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 19, Aug 30, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cu	Cut and fill land		61.5	38.5%
HlB	Hinckley loamy sand, 3 to 8 percent slopes	A	30.3	19.0%
HlC	Hinckley loamy sand, 8 to 15 percent slopes	A	7.1	4.4%
W	Water		60.3	37.7%
WmB	Windsor loamy sand, 0 to 8 percent slopes	A	0.7	0.4%
Totals for Area of Interest			**159.8**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B. Stormwater Resources

NOAA Atlas 14 Precipitation Data (Depth)

NOAA Atlas 14 Precipitation Data (Intensity)

Existing Drainage Area Map (EDA-1)

Proposed Drainage Area Map (PDA-1)

NOAA Atlas 14 Precipitation Data (Depth)

NOAA Atlas 14, Volume 10, Version 3
Location name: Portland, Maine, USA*
Latitude: 43.6466°, Longitude: -70.2595°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.307** (0.253-0.373)	**0.371** (0.305-0.451)	**0.475** (0.389-0.580)	**0.561** (0.456-0.688)	**0.679** (0.529-0.872)	**0.768** (0.583-1.01)	**0.862** (0.630-1.17)	**0.967** (0.662-1.35)	**1.12** (0.729-1.61)	**1.24** (0.786-1.83)
10-min	**0.435** (0.358-0.529)	**0.525** (0.432-0.639)	**0.672** (0.550-0.821)	**0.794** (0.645-0.975)	**0.962** (0.750-1.24)	**1.09** (0.826-1.43)	**1.22** (0.892-1.66)	**1.37** (0.937-1.91)	**1.58** (1.03-2.29)	**1.76** (1.11-2.59)
15-min	**0.512** (0.421-0.622)	**0.618** (0.508-0.752)	**0.791** (0.647-0.965)	**0.934** (0.759-1.15)	**1.13** (0.882-1.45)	**1.28** (0.973-1.68)	**1.44** (1.05-1.96)	**1.61** (1.10-2.25)	**1.86** (1.22-2.69)	**2.07** (1.31-3.05)
30-min	**0.658** (0.541-0.799)	**0.799** (0.657-0.972)	**1.03** (0.843-1.26)	**1.22** (0.993-1.50)	**1.49** (1.16-1.91)	**1.69** (1.28-2.21)	**1.89** (1.38-2.58)	**2.13** (1.45-2.96)	**2.46** (1.60-3.55)	**2.73** (1.73-4.01)
60-min	**0.803** (0.661-0.977)	**0.980** (0.806-1.19)	**1.27** (1.04-1.55)	**1.51** (1.23-1.85)	**1.84** (1.43-2.36)	**2.09** (1.59-2.74)	**2.35** (1.71-3.20)	**2.64** (1.81-3.68)	**3.05** (1.99-4.40)	**3.38** (2.14-4.98)
2-hr	**1.13** (0.936-1.36)	**1.38** (1.14-1.67)	**1.79** (1.47-2.17)	**2.13** (1.74-2.59)	**2.59** (2.03-3.31)	**2.94** (2.25-3.84)	**3.31** (2.43-4.49)	**3.73** (2.56-5.16)	**4.35** (2.84-6.23)	**4.86** (3.08-7.10)
3-hr	**1.36** (1.13-1.64)	**1.66** (1.38-2.00)	**2.15** (1.78-2.59)	**2.55** (2.10-3.10)	**3.11** (2.45-3.96)	**3.53** (2.71-4.60)	**3.97** (2.93-5.38)	**4.49** (3.09-6.19)	**5.24** (3.43-7.49)	**5.87** (3.74-8.56)
6-hr	**1.80** (1.50-2.15)	**2.19** (1.83-2.62)	**2.83** (2.35-3.39)	**3.36** (2.77-4.05)	**4.09** (3.24-5.18)	**4.63** (3.58-6.00)	**5.22** (3.88-7.03)	**5.90** (4.07-8.08)	**6.91** (4.54-9.80)	**7.75** (4.95-11.2)
12-hr	**2.25** (1.89-2.67)	**2.74** (2.30-3.25)	**3.54** (2.96-4.22)	**4.20** (3.49-5.04)	**5.12** (4.08-6.44)	**5.80** (4.50-7.46)	**6.53** (4.88-8.75)	**7.39** (5.12-10.1)	**8.67** (5.72-12.2)	**9.74** (6.24-14.0)
24-hr	**2.61** (2.21-3.07)	**3.21** (2.72-3.79)	**4.20** (3.54-4.97)	**5.02** (4.20-5.98)	**6.15** (4.93-7.70)	**6.98** (5.46-8.95)	**7.89** (5.94-10.5)	**8.98** (6.25-12.1)	**10.6** (7.04-14.9)	**12.1** (7.74-17.2)
2-day	**2.87** (2.45-3.36)	**3.60** (3.06-4.22)	**4.79** (4.06-5.63)	**5.78** (4.86-6.83)	**7.14** (5.77-8.91)	**8.14** (6.41-10.4)	**9.24** (7.04-12.4)	**10.6** (7.41-14.3)	**12.8** (8.49-17.8)	**14.7** (9.47-20.9)
3-day	**3.10** (2.66-3.62)	**3.89** (3.33-4.54)	**5.17** (4.40-6.06)	**6.24** (5.27-7.35)	**7.70** (6.25-9.58)	**8.77** (6.94-11.2)	**9.96** (7.62-13.3)	**11.5** (8.02-15.4)	**13.9** (9.23-19.3)	**16.0** (10.3-22.6)
4-day	**3.34** (2.87-3.88)	**4.15** (3.56-4.83)	**5.48** (4.68-6.40)	**6.58** (5.57-7.73)	**8.10** (6.59-10.0)	**9.20** (7.31-11.7)	**10.4** (8.01-13.9)	**12.0** (8.42-16.1)	**14.6** (9.69-20.1)	**16.8** (10.9-23.7)
7-day	**4.00** (3.45-4.63)	**4.84** (4.18-5.61)	**6.23** (5.35-7.23)	**7.37** (6.28-8.62)	**8.95** (7.32-11.0)	**10.1** (8.06-12.8)	**11.4** (8.78-15.1)	**13.0** (9.17-17.3)	**15.7** (10.5-21.6)	**18.1** (11.7-25.3)
10-day	**4.64** (4.02-5.35)	**5.51** (4.77-6.36)	**6.93** (5.97-8.02)	**8.11** (6.93-9.44)	**9.73** (7.98-11.9)	**10.9** (8.72-13.7)	**12.2** (9.42-16.1)	**13.9** (9.80-18.4)	**16.5** (11.1-22.6)	**18.8** (12.2-26.3)
20-day	**6.59** (5.75-7.55)	**7.55** (6.57-8.65)	**9.11** (7.90-10.5)	**10.4** (8.95-12.0)	**12.2** (10.0-14.7)	**13.5** (10.8-16.7)	**14.9** (11.4-19.1)	**16.5** (11.7-21.7)	**18.9** (12.7-25.6)	**20.8** (13.5-28.8)
30-day	**8.23** (7.21-9.38)	**9.27** (8.11-10.6)	**11.0** (9.54-12.5)	**12.4** (10.7-14.2)	**14.3** (11.8-17.1)	**15.8** (12.6-19.3)	**17.3** (13.1-21.8)	**18.8** (13.4-24.6)	**21.0** (14.2-28.3)	**22.6** (14.8-31.2)
45-day	**10.3** (9.05-11.7)	**11.4** (10.0-13.0)	**13.3** (11.6-15.2)	**14.8** (12.9-17.0)	**17.0** (14.0-20.1)	**18.6** (14.9-22.5)	**20.2** (15.3-25.2)	**21.8** (15.6-28.3)	**23.8** (16.2-32.1)	**25.3** (16.5-34.8)
60-day	**12.0** (10.6-13.6)	**13.2** (11.7-15.0)	**15.3** (13.4-17.3)	**16.9** (14.7-19.3)	**19.2** (15.9-22.7)	**21.0** (16.8-25.3)	**22.7** (17.3-28.2)	**24.4** (17.5-31.5)	**26.4** (18.0-35.4)	**27.9** (18.2-38.2)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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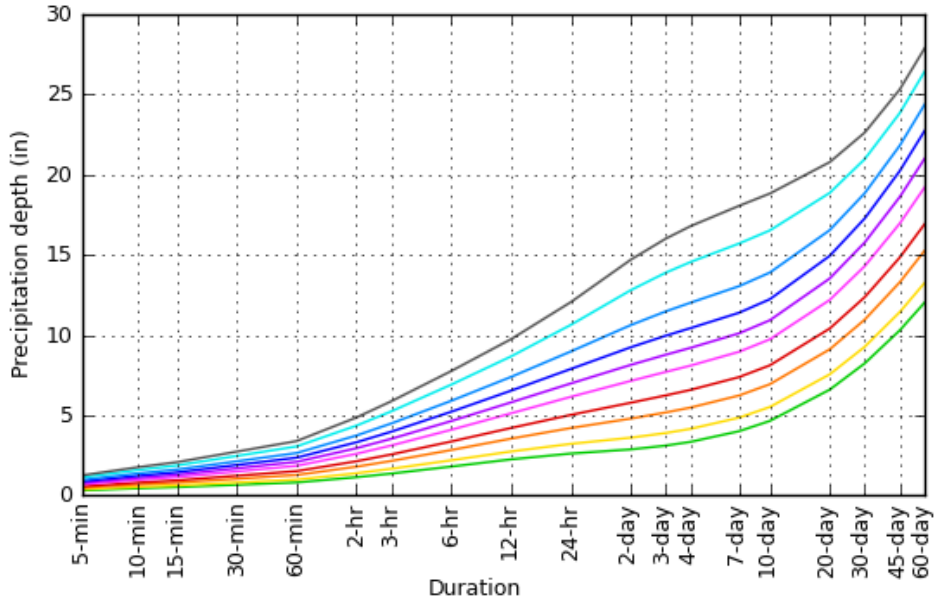
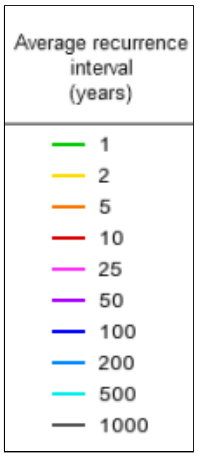
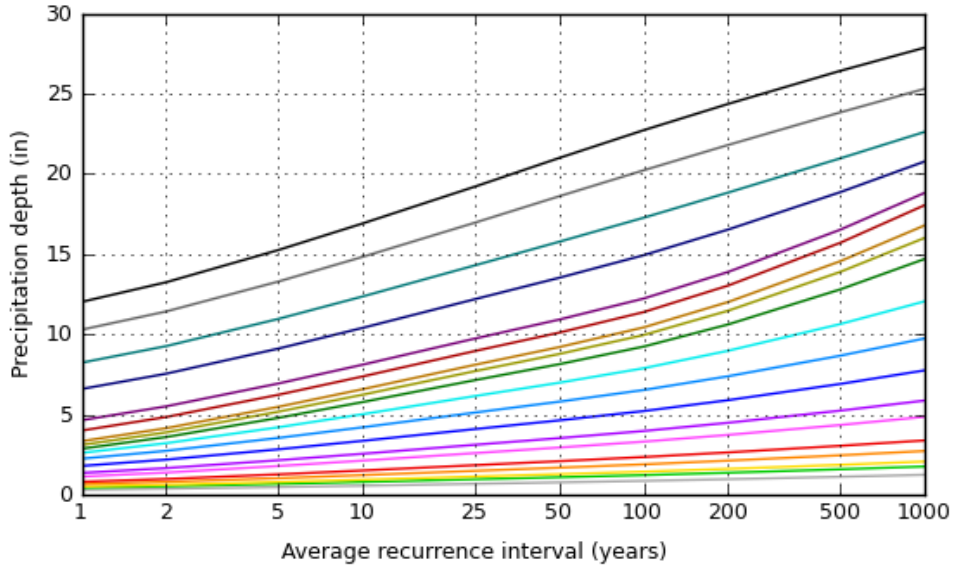
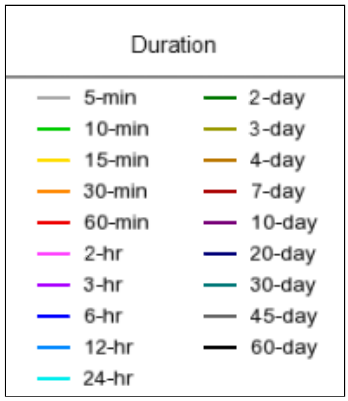
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 43.6466°, Longitude: -70.2595°









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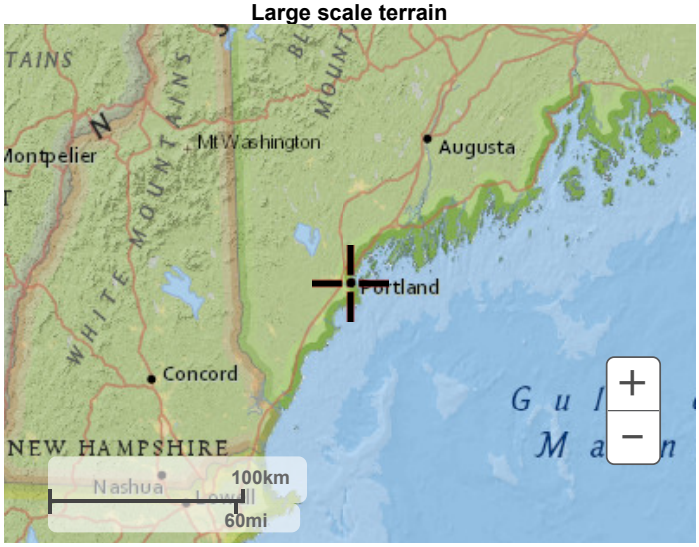
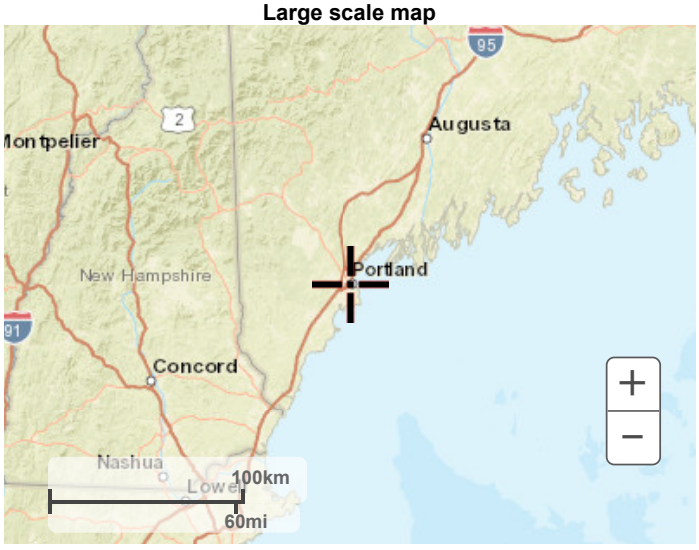
Maps & aerials

Small scale terrain

Large scale terrain



Large scale map



Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

NOAA Atlas 14 Precipitation Data (Intensity)

NOAA Atlas 14, Volume 10, Version 3
Location name: Portland, Maine, USA*
Latitude: 43.6466°, Longitude: -70.2595°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**3.68** (3.04-4.48)	**4.45** (3.66-5.41)	**5.70** (4.67-6.96)	**6.73** (5.47-8.26)	**8.15** (6.35-10.5)	**9.22** (7.00-12.1)	**10.3** (7.56-14.1)	**11.6** (7.94-16.2)	**13.4** (8.75-19.4)	**14.9** (9.43-21.9)
10-min	**2.61** (2.15-3.17)	**3.15** (2.59-3.83)	**4.03** (3.30-4.93)	**4.76** (3.87-5.85)	**5.77** (4.50-7.41)	**6.53** (4.96-8.56)	**7.33** (5.35-9.98)	**8.22** (5.62-11.5)	**9.50** (6.19-13.7)	**10.6** (6.68-15.5)
15-min	**2.05** (1.68-2.49)	**2.47** (2.03-3.01)	**3.16** (2.59-3.86)	**3.74** (3.04-4.59)	**4.53** (3.53-5.82)	**5.12** (3.89-6.72)	**5.75** (4.20-7.83)	**6.45** (4.41-8.98)	**7.45** (4.86-10.8)	**8.28** (5.24-12.2)
30-min	**1.32** (1.08-1.60)	**1.60** (1.31-1.94)	**2.06** (1.69-2.52)	**2.44** (1.99-3.00)	**2.97** (2.31-3.82)	**3.37** (2.56-4.42)	**3.79** (2.76-5.15)	**4.25** (2.91-5.92)	**4.91** (3.20-7.09)	**5.45** (3.45-8.03)
60-min	**0.803** (0.661-0.977)	**0.980** (0.806-1.19)	**1.27** (1.04-1.55)	**1.51** (1.23-1.85)	**1.84** (1.43-2.36)	**2.09** (1.59-2.74)	**2.35** (1.71-3.20)	**2.64** (1.81-3.68)	**3.05** (1.99-4.40)	**3.38** (2.14-4.98)
2-hr	**0.565** (0.468-0.682)	**0.690** (0.570-0.834)	**0.894** (0.736-1.08)	**1.06** (0.869-1.30)	**1.30** (1.02-1.66)	**1.47** (1.12-1.92)	**1.65** (1.22-2.25)	**1.87** (1.28-2.58)	**2.17** (1.42-3.12)	**2.43** (1.54-3.55)
3-hr	**0.453** (0.376-0.544)	**0.552** (0.459-0.665)	**0.715** (0.591-0.864)	**0.850** (0.698-1.03)	**1.04** (0.815-1.32)	**1.18** (0.901-1.53)	**1.32** (0.977-1.79)	**1.49** (1.03-2.06)	**1.75** (1.14-2.49)	**1.96** (1.24-2.85)
6-hr	**0.300** (0.251-0.358)	**0.365** (0.305-0.437)	**0.472** (0.393-0.567)	**0.561** (0.463-0.677)	**0.683** (0.541-0.864)	**0.774** (0.597-1.00)	**0.871** (0.647-1.17)	**0.985** (0.680-1.35)	**1.15** (0.758-1.64)	**1.30** (0.826-1.88)
12-hr	**0.186** (0.157-0.221)	**0.227** (0.191-0.270)	**0.294** (0.246-0.350)	**0.349** (0.290-0.418)	**0.425** (0.338-0.534)	**0.481** (0.374-0.620)	**0.542** (0.405-0.726)	**0.613** (0.425-0.835)	**0.719** (0.475-1.01)	**0.809** (0.518-1.16)
24-hr	**0.109** (0.092-0.128)	**0.134** (0.113-0.158)	**0.175** (0.148-0.207)	**0.209** (0.175-0.249)	**0.256** (0.205-0.321)	**0.291** (0.227-0.373)	**0.329** (0.248-0.439)	**0.374** (0.260-0.506)	**0.443** (0.293-0.621)	**0.502** (0.323-0.718)
2-day	**0.060** (0.051-0.070)	**0.075** (0.064-0.088)	**0.100** (0.085-0.117)	**0.120** (0.101-0.142)	**0.149** (0.120-0.186)	**0.169** (0.134-0.217)	**0.192** (0.147-0.258)	**0.221** (0.154-0.298)	**0.267** (0.177-0.371)	**0.306** (0.197-0.434)
3-day	**0.043** (0.037-0.050)	**0.054** (0.046-0.063)	**0.072** (0.061-0.084)	**0.087** (0.073-0.102)	**0.107** (0.087-0.133)	**0.122** (0.096-0.156)	**0.138** (0.106-0.185)	**0.159** (0.111-0.214)	**0.193** (0.128-0.268)	**0.222** (0.144-0.314)
4-day	**0.035** (0.030-0.040)	**0.043** (0.037-0.050)	**0.057** (0.049-0.067)	**0.069** (0.058-0.081)	**0.084** (0.069-0.105)	**0.096** (0.076-0.122)	**0.109** (0.083-0.145)	**0.125** (0.088-0.167)	**0.152** (0.101-0.210)	**0.175** (0.113-0.247)
7-day	**0.024** (0.021-0.028)	**0.029** (0.025-0.033)	**0.037** (0.032-0.043)	**0.044** (0.037-0.051)	**0.053** (0.044-0.066)	**0.060** (0.048-0.076)	**0.068** (0.052-0.090)	**0.078** (0.055-0.103)	**0.093** (0.062-0.129)	**0.107** (0.070-0.151)
10-day	**0.019** (0.017-0.022)	**0.023** (0.020-0.026)	**0.029** (0.025-0.033)	**0.034** (0.029-0.039)	**0.041** (0.033-0.050)	**0.045** (0.036-0.057)	**0.051** (0.039-0.067)	**0.058** (0.041-0.077)	**0.069** (0.046-0.094)	**0.078** (0.051-0.110)
20-day	**0.014** (0.012-0.016)	**0.016** (0.014-0.018)	**0.019** (0.016-0.022)	**0.022** (0.019-0.025)	**0.025** (0.021-0.031)	**0.028** (0.022-0.035)	**0.031** (0.024-0.040)	**0.034** (0.024-0.045)	**0.039** (0.026-0.053)	**0.043** (0.028-0.060)
30-day	**0.011** (0.010-0.013)	**0.013** (0.011-0.015)	**0.015** (0.013-0.017)	**0.017** (0.015-0.020)	**0.020** (0.016-0.024)	**0.022** (0.017-0.027)	**0.024** (0.018-0.030)	**0.026** (0.019-0.034)	**0.029** (0.020-0.039)	**0.031** (0.020-0.043)
45-day	**0.010** (0.008-0.011)	**0.011** (0.009-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.016)	**0.016** (0.013-0.019)	**0.017** (0.014-0.021)	**0.019** (0.014-0.023)	**0.020** (0.014-0.026)	**0.022** (0.015-0.030)	**0.023** (0.015-0.032)
60-day	**0.008** (0.007-0.009)	**0.009** (0.008-0.010)	**0.011** (0.009-0.012)	**0.012** (0.010-0.013)	**0.013** (0.011-0.016)	**0.015** (0.012-0.018)	**0.016** (0.012-0.020)	**0.017** (0.012-0.022)	**0.018** (0.012-0.025)	**0.019** (0.013-0.027)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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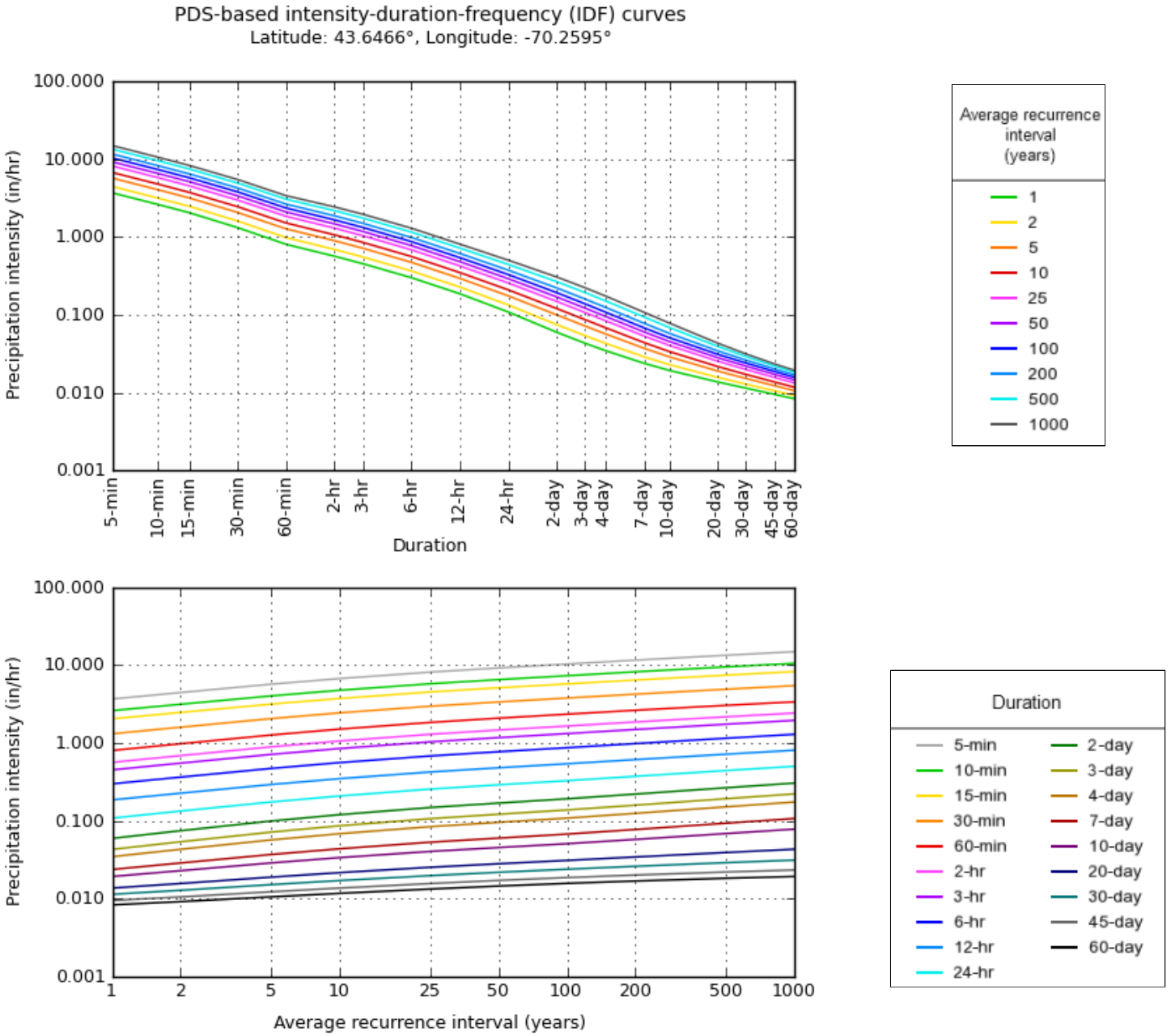
PF graphical



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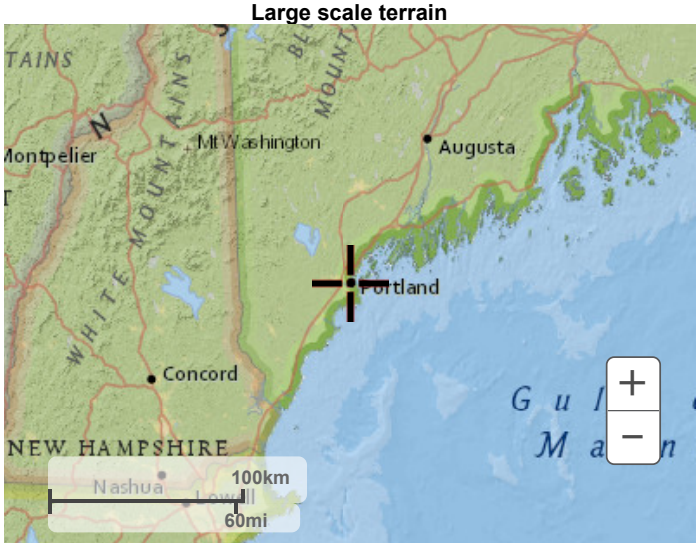
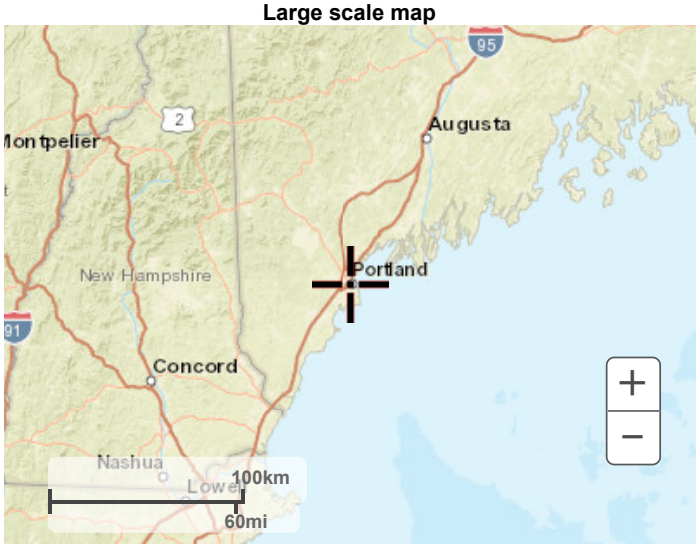
Maps & aerials

Small scale terrain

Large scale terrain



Large scale map



Large scale aerial

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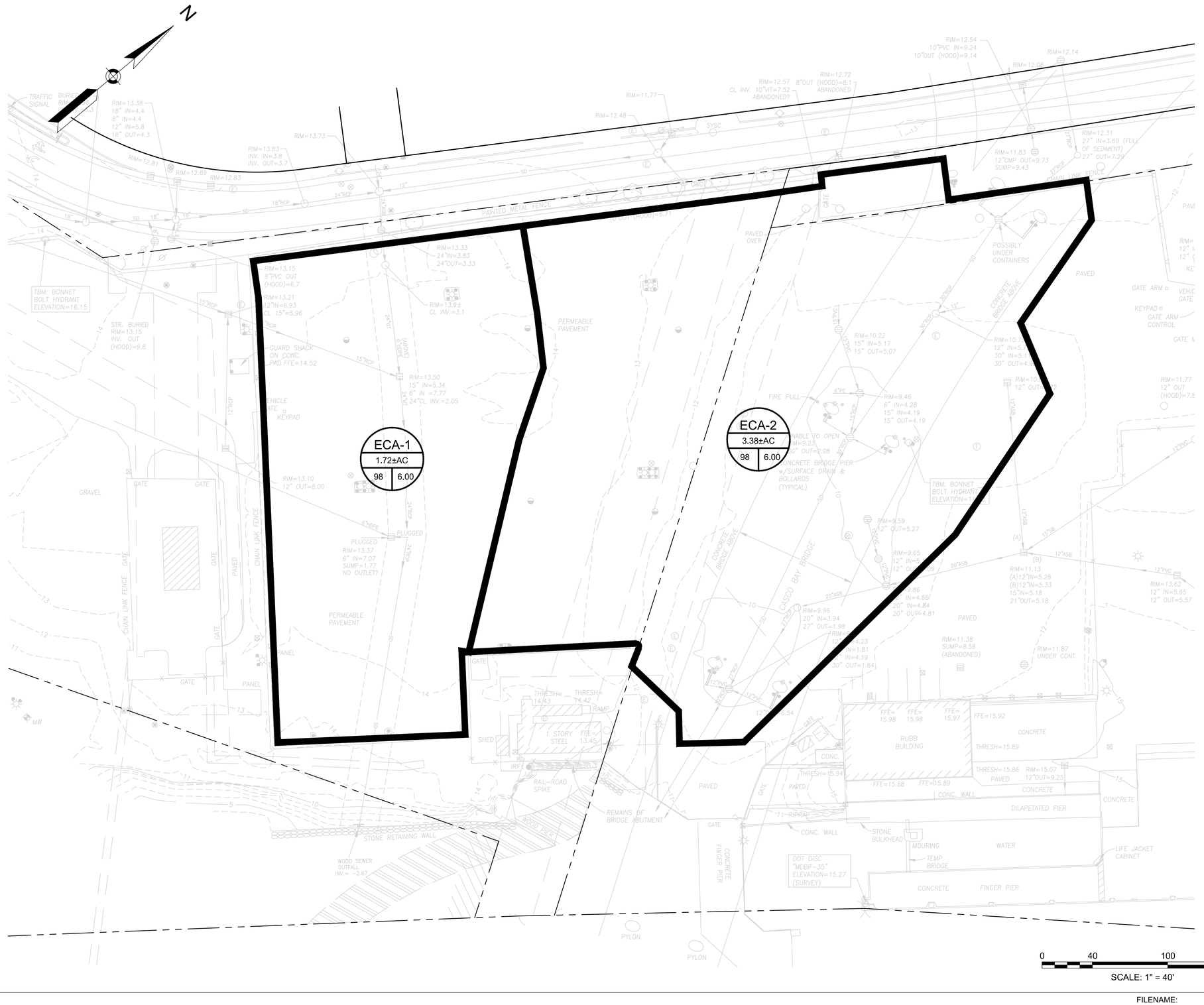
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Existing Drainage Area Map (EDA-1)



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NOT FOR CONSTRUCTION
SUBMITTED DATE: MARCH 10, 2023

FILENAME:

PLOT DATE: Mar 17, 2023 PLOT TIME: 8:32am

NO.	DATE	REVISION	BY	APVD
DSGN	R. SAMMON	DR R. SAMMON	CHK B. MONTEJUNAS	APVD C. MORIN

PORT INFRASTRUCTURE DEVELOPMENT
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PORTLAND, MAINE

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CIVIL
EXISTING DRAINAGE AREA MAP

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
DATE	03/10/23
PROJ	E2X93900
DWG	EDA-1
SHEET	1 of 1

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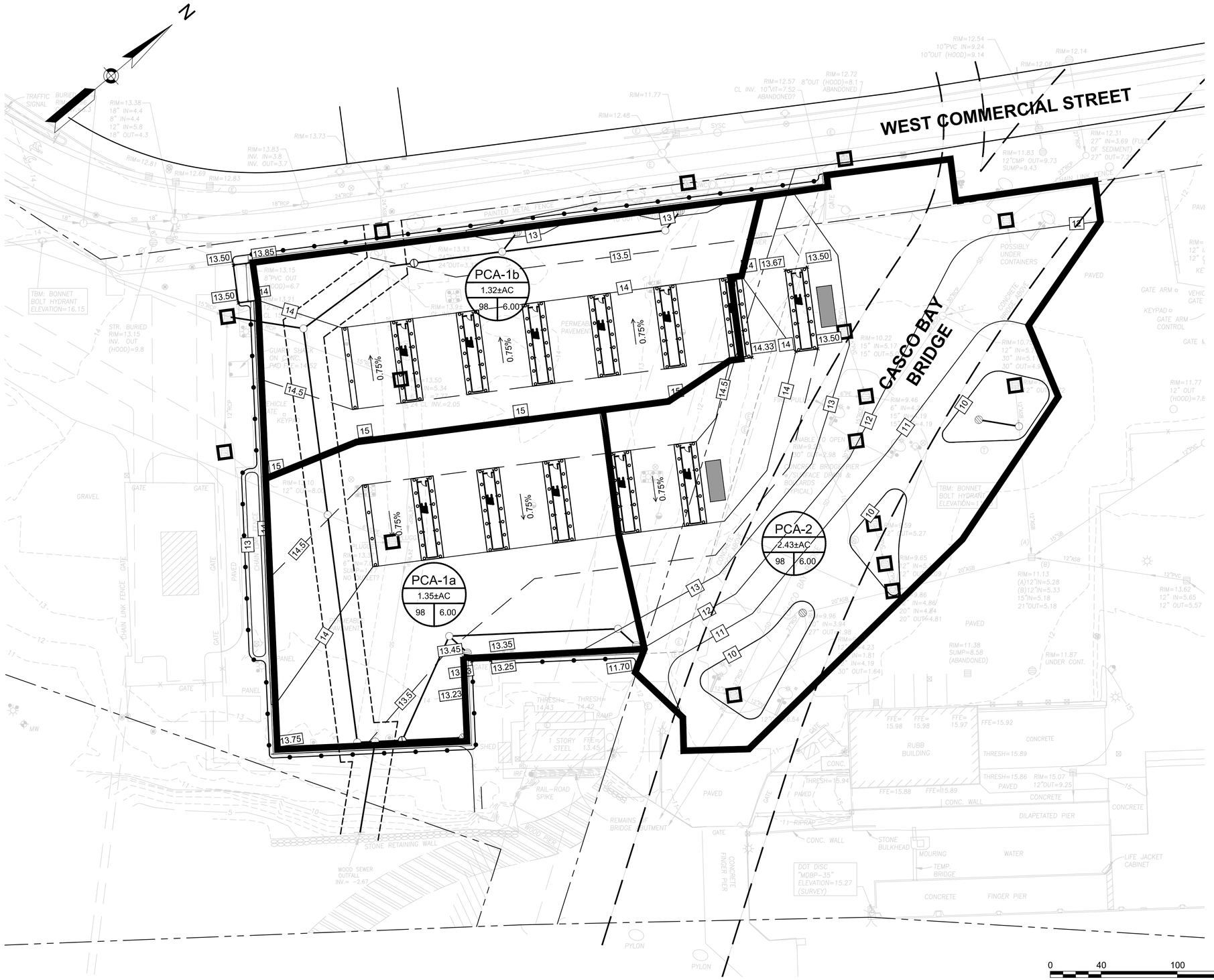
Proposed Drainage Area Map (PDA-1)



60% DRAFT
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SUBMITTED DATE: MARCH 10, 2023

FILENAME:

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CIVIL

PROPOSED DRAINAGE AREA MAP

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	03/10/23
PROJ	E2X93900
DWG	PDA-1
SHEET	1 of 1

Appendix C. Stormwater Analysis

HydroCAD Report

- Existing Hydrology Report
- Proposed Hydrology Report

Hydraflow Express Extension Model

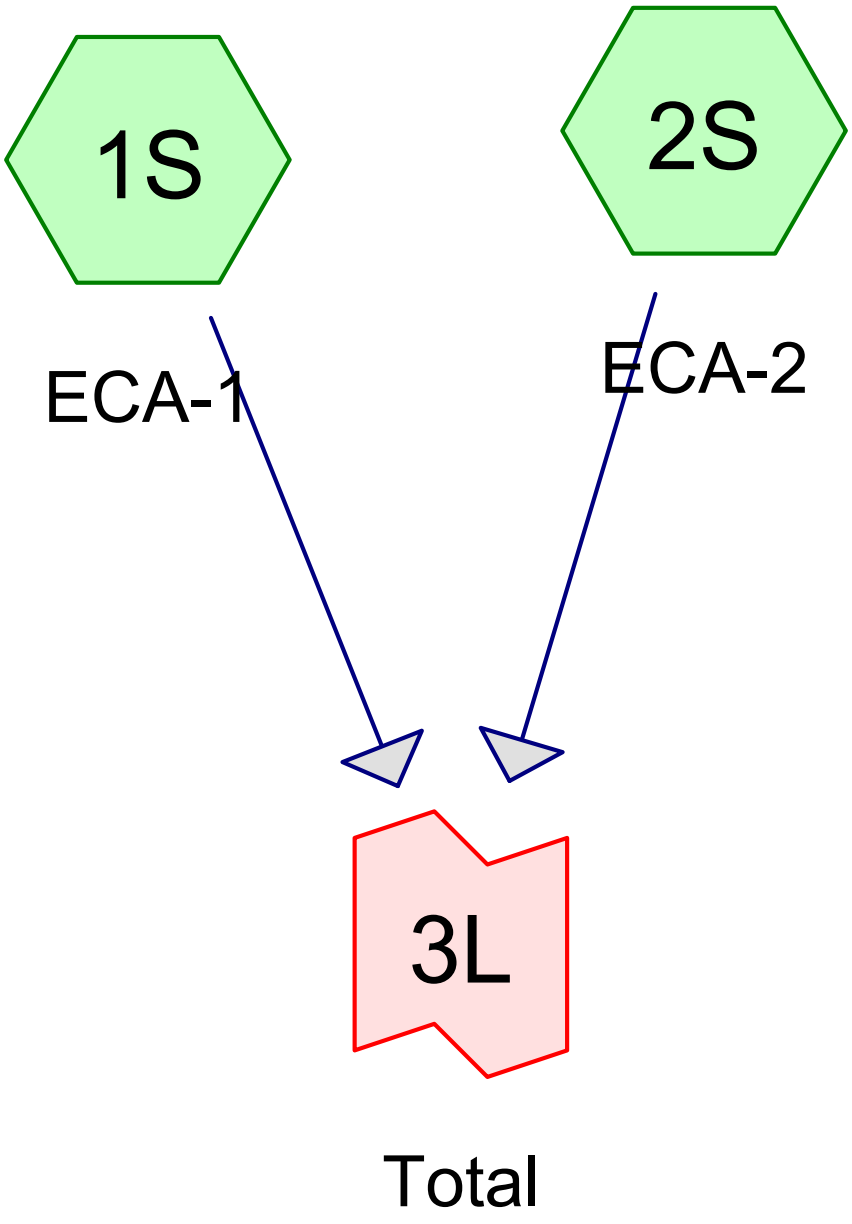
- Existing Stormwater System 24" CSO Main Line @ 95% Capacity Flow

Hydraflow Storm Sewer Report

- Existing Stormwater System Review of 24" CSO Main Line
- Proposed Stormwater System Review of 30" CSO Main Line

HydroCAD Report

Existing Hydrology Report



Subcat Reach Pond Link

Routing Diagram for IMT Ports Draianage- Existing - HydroCAD
Prepared by Jacobs, Printed 3/17/2023
HydroCAD® 10.00-25 s/n 00751 © 2019 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.720	98	ECA-1 (1S)
3.380	98	ECA-2 (2S)

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

Subcatchment1S: ECA-1 Runoff Area=1.720 ac 100.00% Impervious Runoff Depth>2.78"
Tc=6.0 min CN=98 Runoff=5.23 cfs 0.399 af

Subcatchment2S: ECA-2 Runoff Area=3.380 ac 100.00% Impervious Runoff Depth>2.78"
Tc=6.0 min CN=98 Runoff=10.29 cfs 0.784 af

Link 3L: Total Inflow=15.52 cfs 1.183 af
Primary=15.52 cfs 1.183 af

Summary for Subcatchment 1S: ECA-1

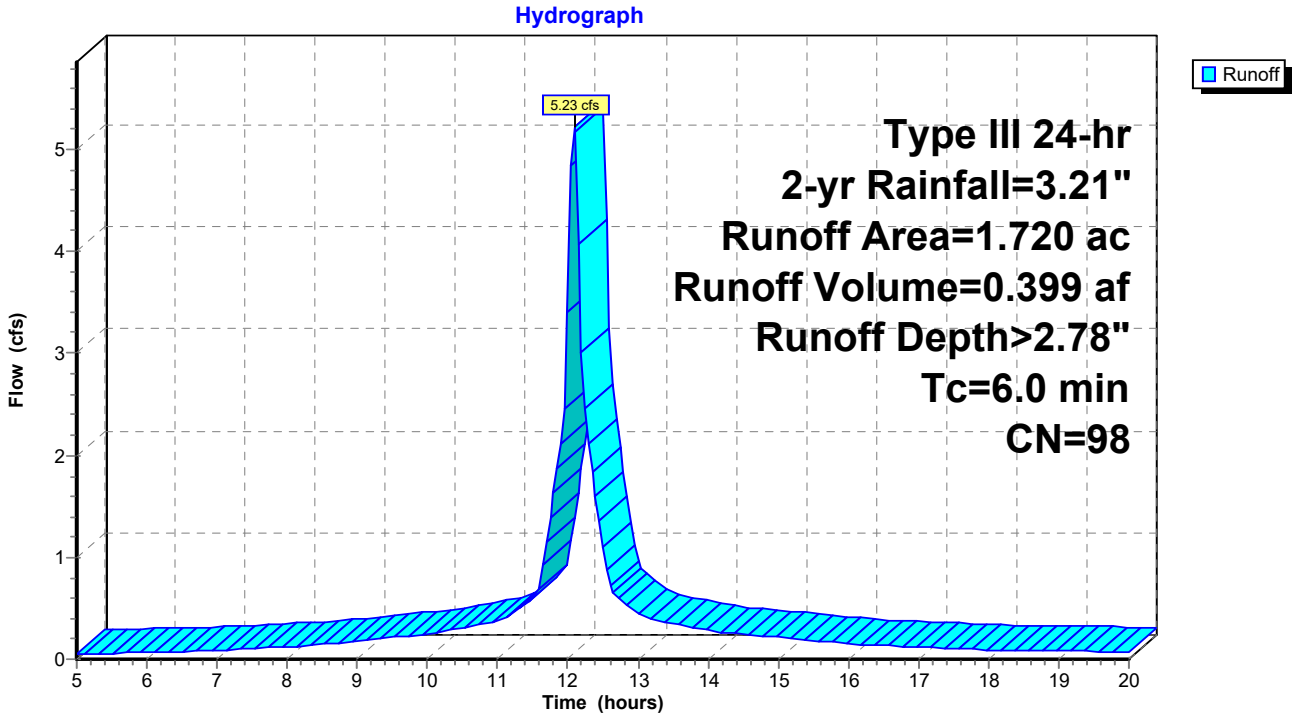
Runoff = 5.23 cfs @ 12.09 hrs, Volume= 0.399 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.21"

	Area (ac)	CN	Description
*	1.720	98	ECA-1
	1.720		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 1S: ECA-1



Summary for Subcatchment 2S: ECA-2

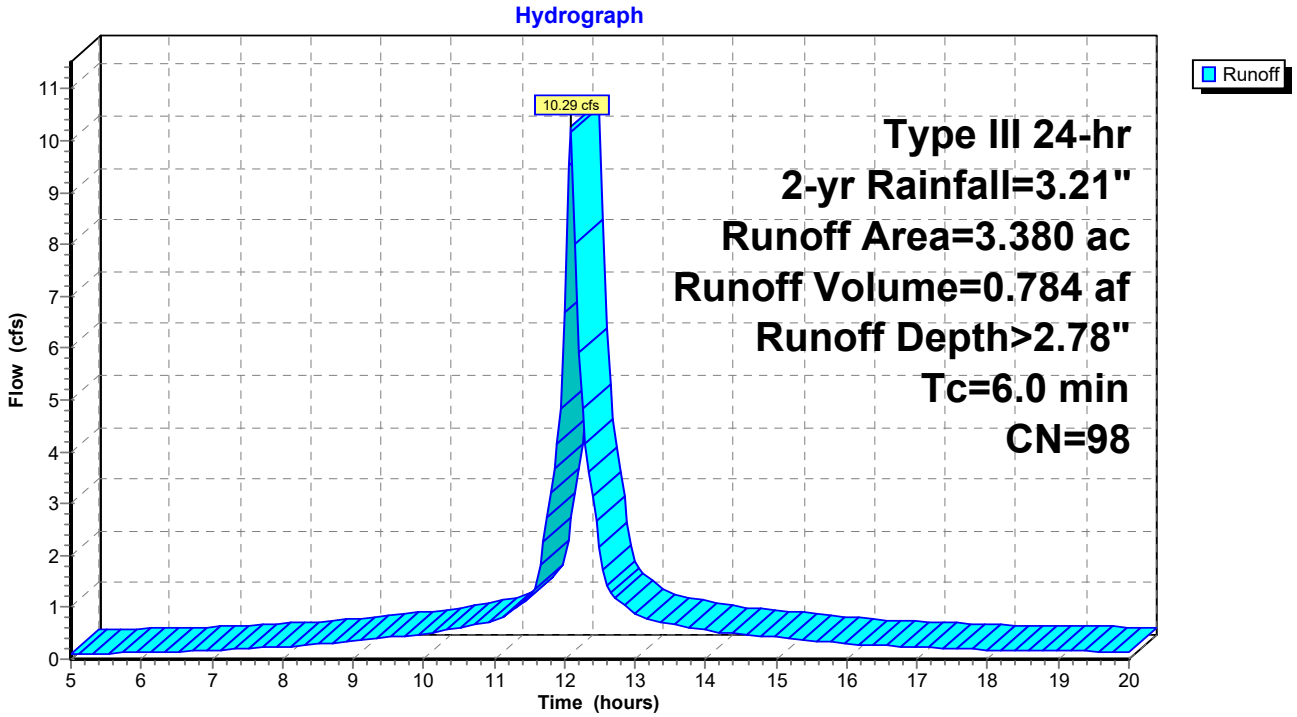
Runoff = 10.29 cfs @ 12.09 hrs, Volume= 0.784 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.21"

	Area (ac)	CN	Description
*	3.380	98	ECA-2
	3.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 2S: ECA-2

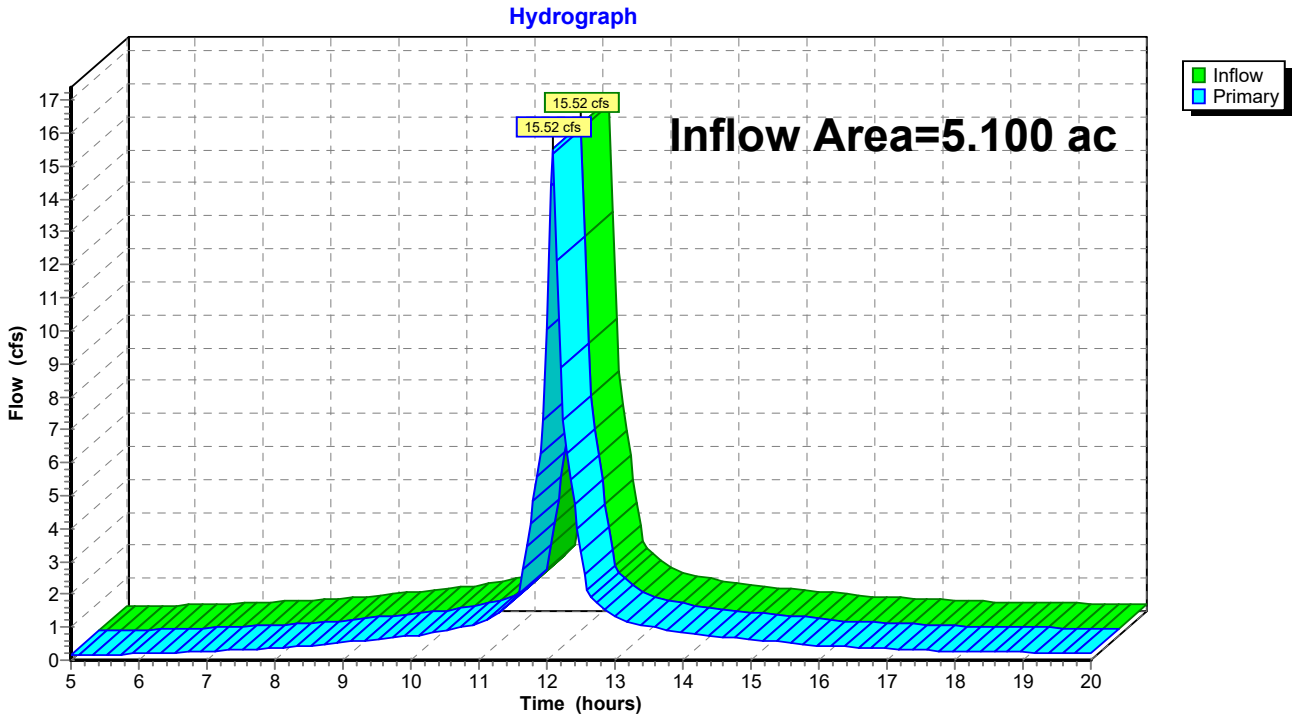


Summary for Link 3L: Total

Inflow Area = 5.100 ac,100.00% Impervious, Inflow Depth > 2.78" for 2-yr event
Inflow = 15.52 cfs @ 12.09 hrs, Volume= 1.183 af
Primary = 15.52 cfs @ 12.09 hrs, Volume= 1.183 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 3L: Total



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

Subcatchment1S: ECA-1 Runoff Area=1.720 ac 100.00% Impervious Runoff Depth>4.44"
Tc=6.0 min CN=98 Runoff=8.25 cfs 0.636 af

Subcatchment2S: ECA-2 Runoff Area=3.380 ac 100.00% Impervious Runoff Depth>4.44"
Tc=6.0 min CN=98 Runoff=16.21 cfs 1.250 af

Link 3L: Total Inflow=24.46 cfs 1.886 af
Primary=24.46 cfs 1.886 af

Summary for Subcatchment 1S: ECA-1

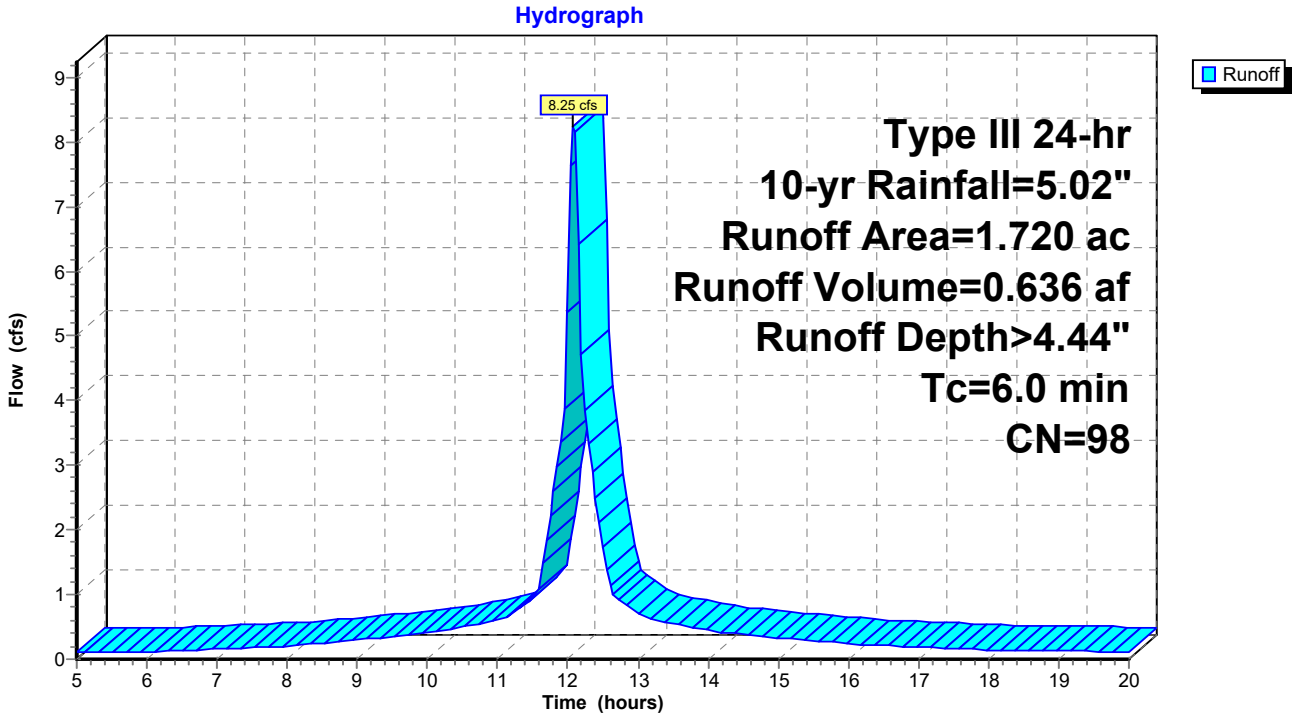
Runoff = 8.25 cfs @ 12.09 hrs, Volume= 0.636 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.02"

	Area (ac)	CN	Description
*	1.720	98	ECA-1
	1.720		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 1S: ECA-1



Summary for Subcatchment 2S: ECA-2

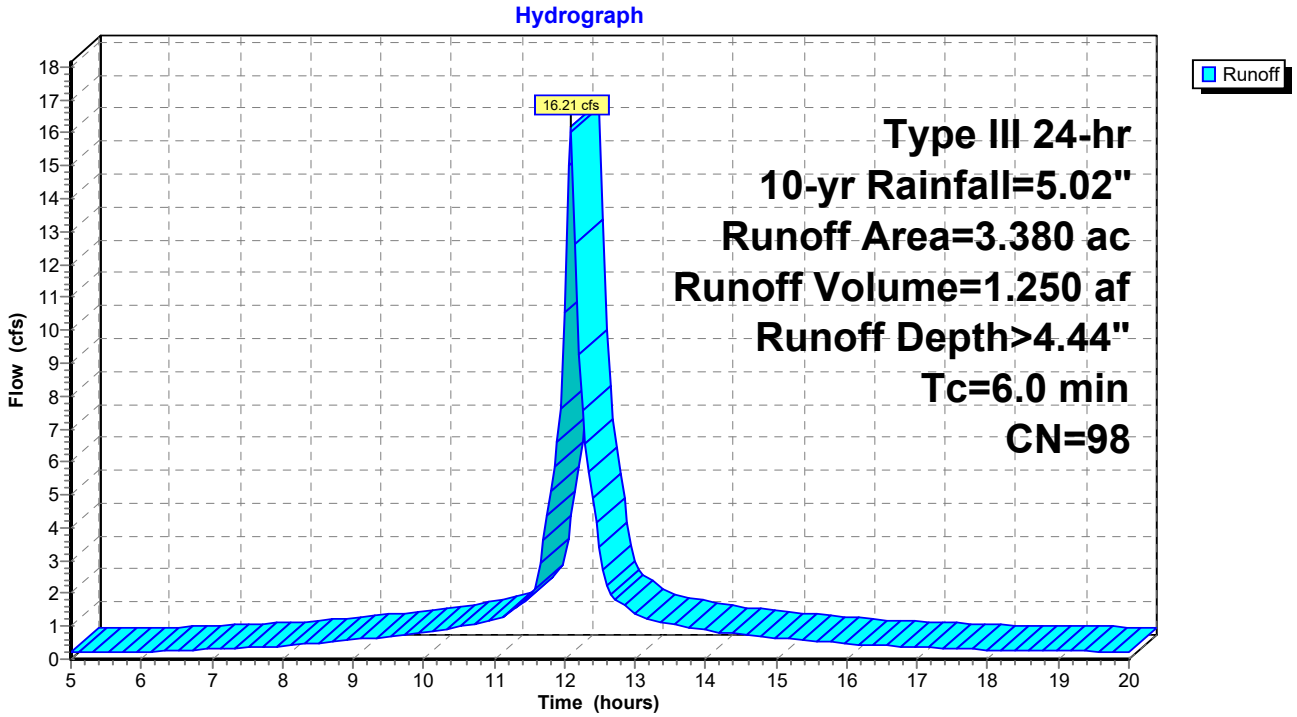
Runoff = 16.21 cfs @ 12.09 hrs, Volume= 1.250 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.02"

	Area (ac)	CN	Description
*	3.380	98	ECA-2
	3.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 2S: ECA-2

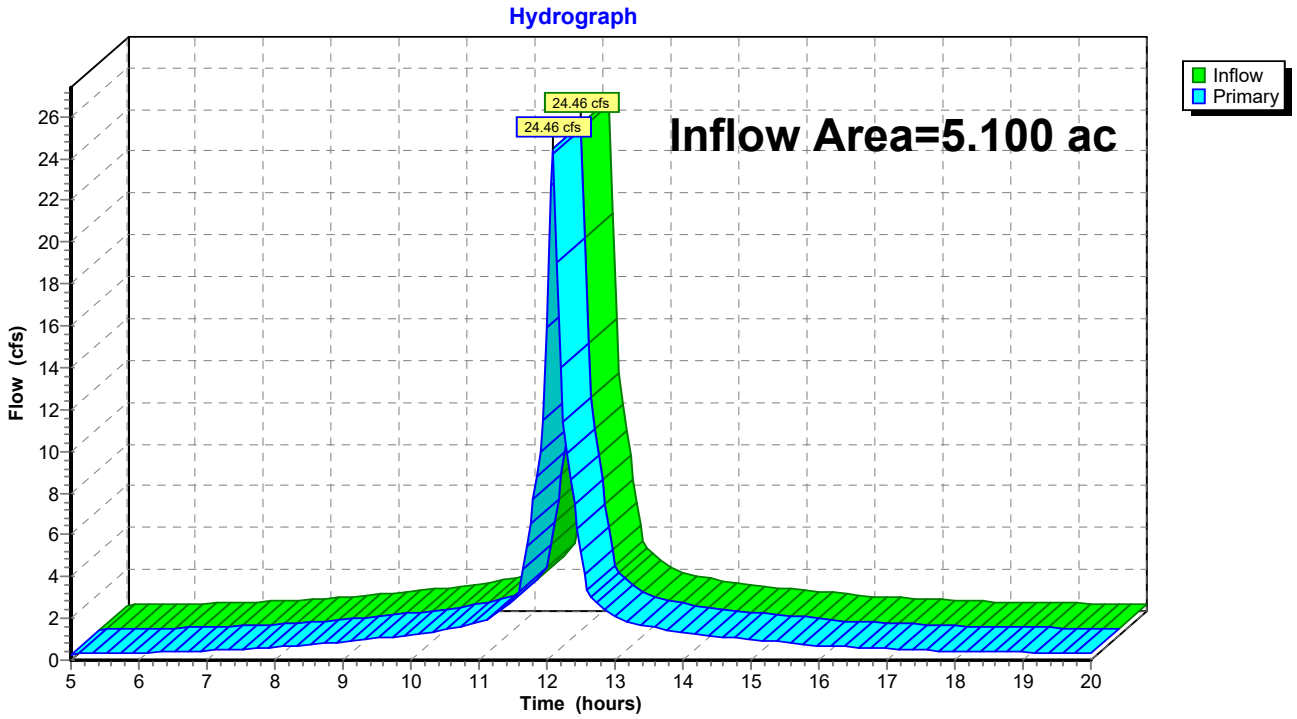


Summary for Link 3L: Total

Inflow Area = 5.100 ac,100.00% Impervious, Inflow Depth > 4.44" for 10-yr event
Inflow = 24.46 cfs @ 12.09 hrs, Volume= 1.886 af
Primary = 24.46 cfs @ 12.09 hrs, Volume= 1.886 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 3L: Total



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

Subcatchment1S: ECA-1 Runoff Area=1.720 ac 100.00% Impervious Runoff Depth>5.47"
Tc=6.0 min CN=98 Runoff=10.12 cfs 0.783 af

Subcatchment2S: ECA-2 Runoff Area=3.380 ac 100.00% Impervious Runoff Depth>5.47"
Tc=6.0 min CN=98 Runoff=19.90 cfs 1.539 af

Link 3L: Total Inflow=30.02 cfs 2.323 af
Primary=30.02 cfs 2.323 af

Summary for Subcatchment 1S: ECA-1

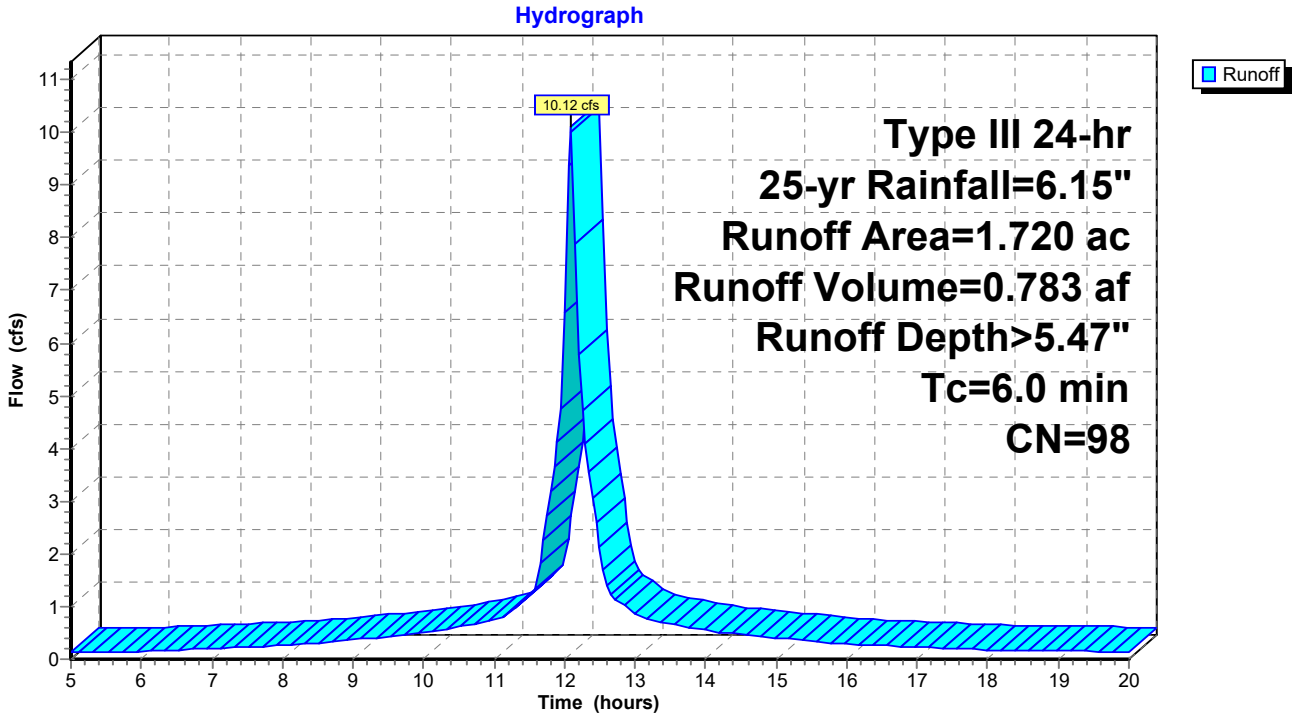
Runoff = 10.12 cfs @ 12.09 hrs, Volume= 0.783 af, Depth> 5.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.15"

	Area (ac)	CN	Description
*	1.720	98	ECA-1
	1.720		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 1S: ECA-1



Summary for Subcatchment 2S: ECA-2

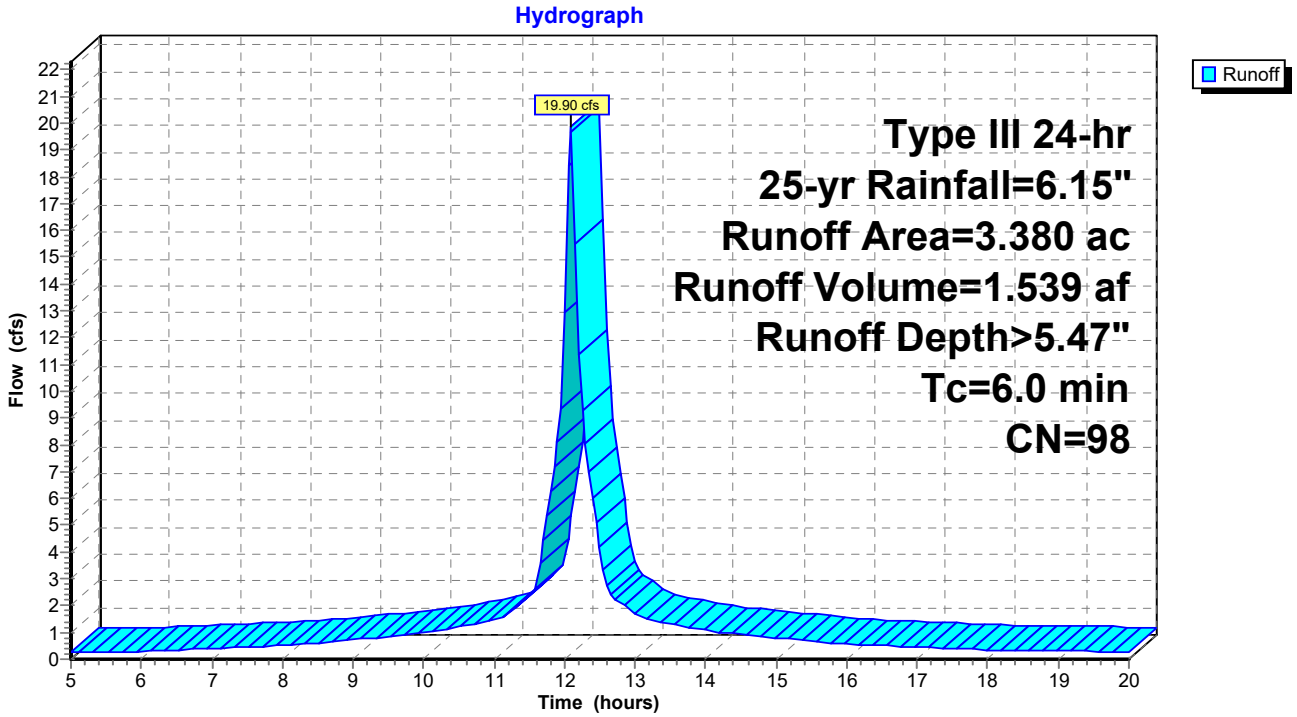
Runoff = 19.90 cfs @ 12.09 hrs, Volume= 1.539 af, Depth> 5.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.15"

	Area (ac)	CN	Description
*	3.380	98	ECA-2
	3.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 2S: ECA-2

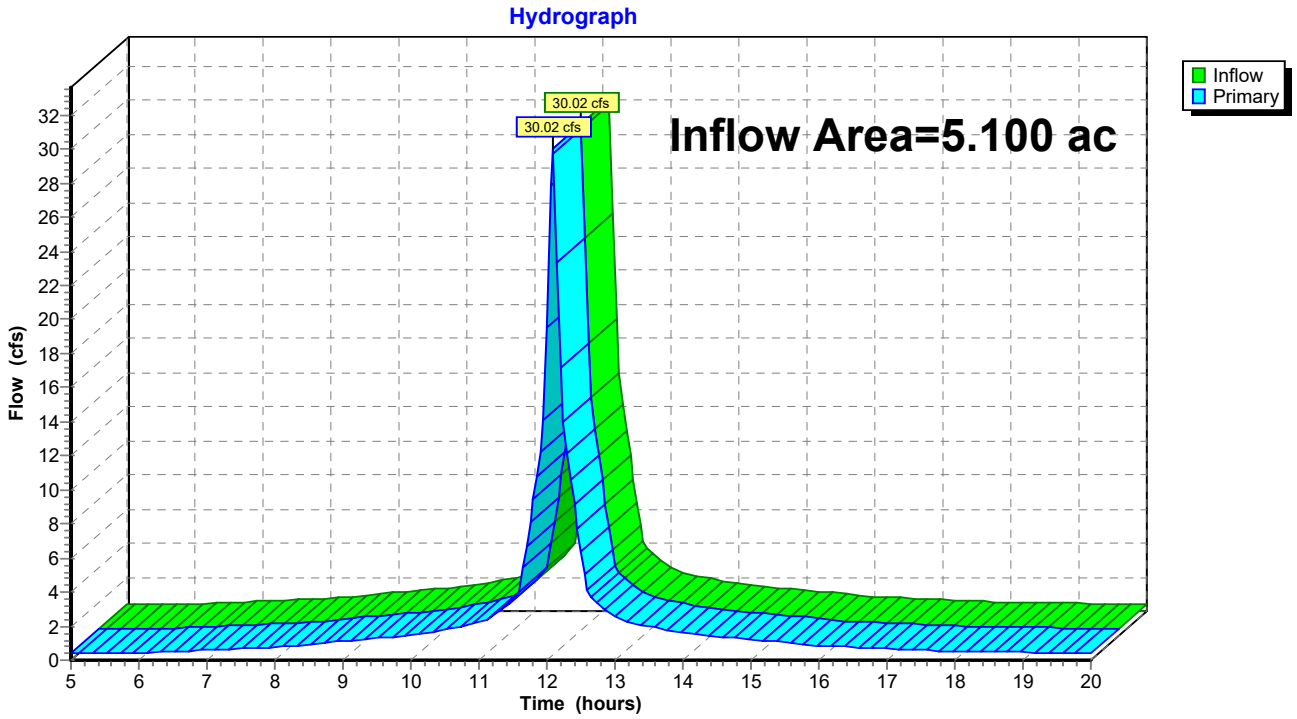


Summary for Link 3L: Total

Inflow Area = 5.100 ac,100.00% Impervious, Inflow Depth > 5.47" for 25-yr event
Inflow = 30.02 cfs @ 12.09 hrs, Volume= 2.323 af
Primary = 30.02 cfs @ 12.09 hrs, Volume= 2.323 af, Atten= 0%, Lag= 0.0 min

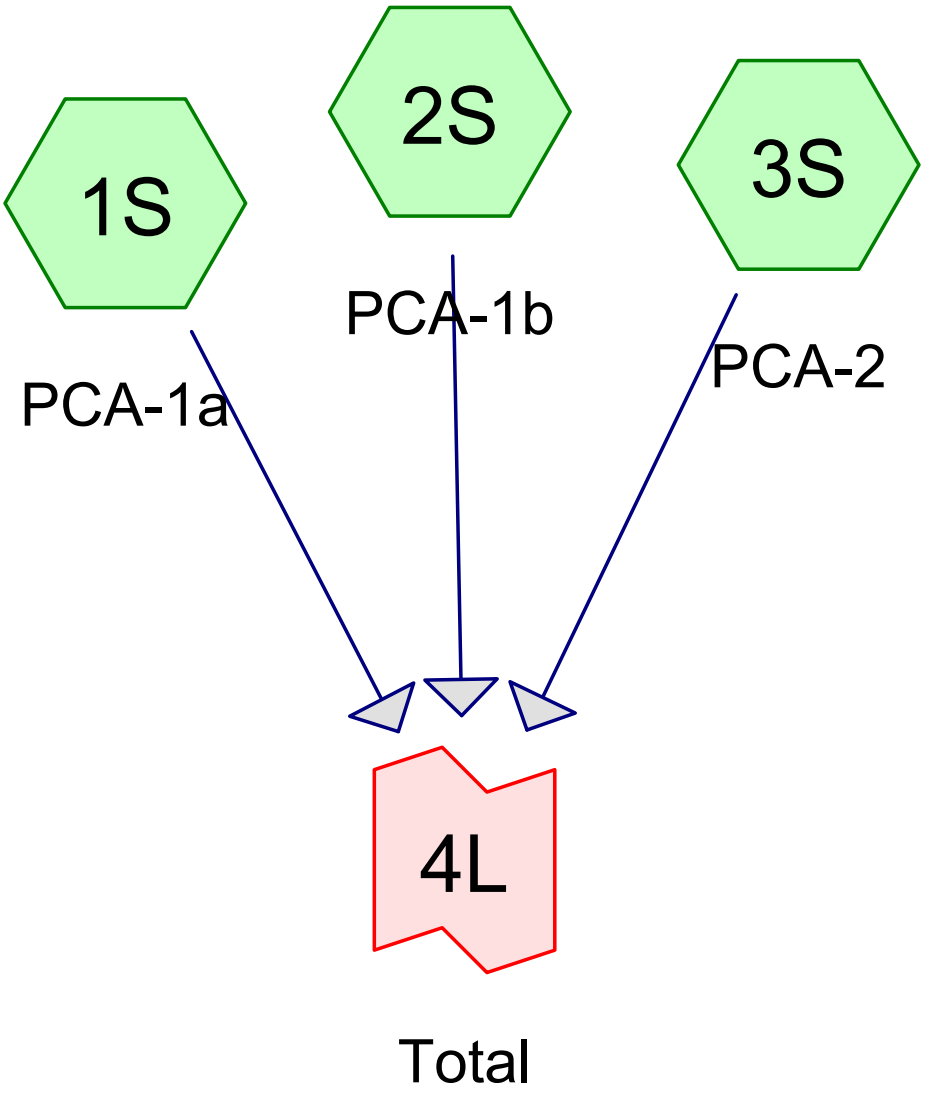
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 3L: Total



HydroCAD Report

Proposed Hydrology Report



Subcat Reach Pond Link

Routing Diagram for IMT Ports Draianage- Proposed - HydroCAD
Prepared by Jacobs, Printed 3/17/2023
HydroCAD® 10.00-25 s/n 00751 © 2019 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.350	98	PCA-1a (1S)
1.320	98	PCA-1b (2S)
2.430	98	PCA-2 (3S)

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

Subcatchment1S: PCA-1a Runoff Area=1.350 ac 100.00% Impervious Runoff Depth>2.78"
Tc=6.0 min CN=98 Runoff=4.11 cfs 0.313 af

Subcatchment2S: PCA-1b Runoff Area=1.320 ac 100.00% Impervious Runoff Depth>2.78"
Tc=6.0 min CN=98 Runoff=4.02 cfs 0.306 af

Subcatchment3S: PCA-2 Runoff Area=2.430 ac 100.00% Impervious Runoff Depth>2.78"
Tc=6.0 min CN=98 Runoff=7.40 cfs 0.564 af

Link 4L: Total Inflow=15.52 cfs 1.183 af
Primary=15.52 cfs 1.183 af

Summary for Subcatchment 1S: PCA-1a

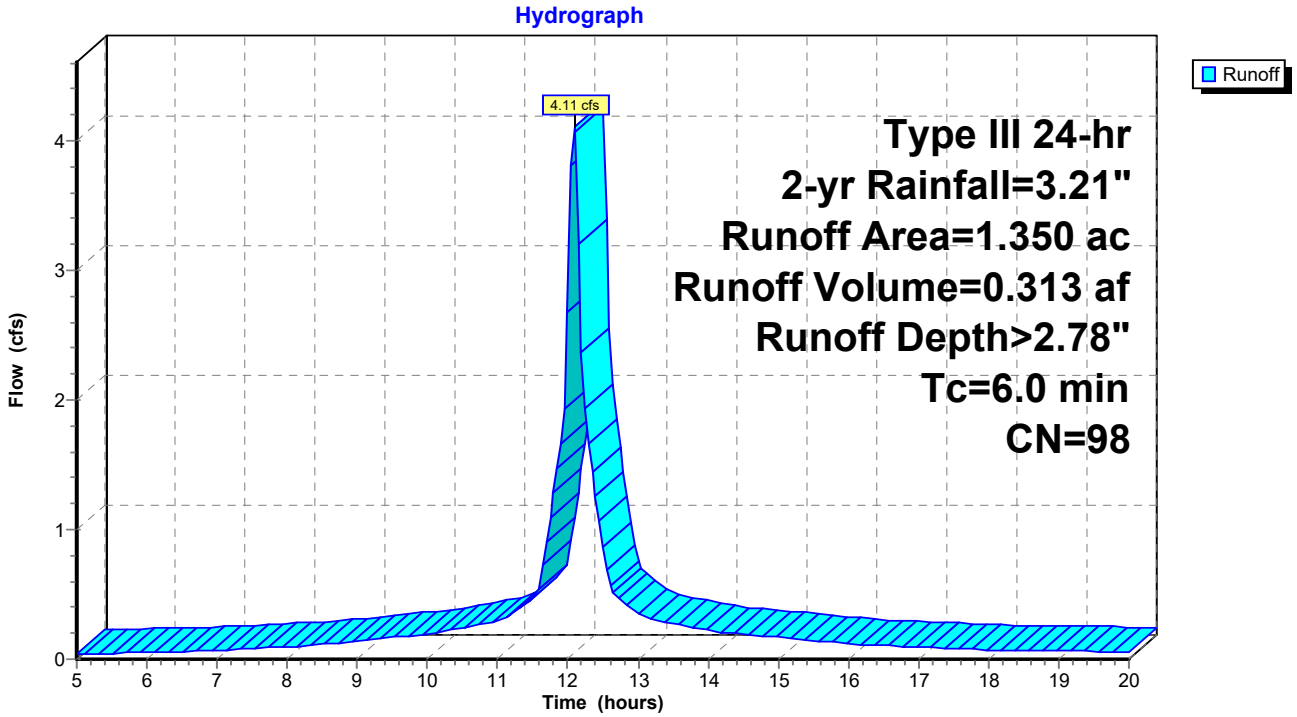
Runoff = 4.11 cfs @ 12.09 hrs, Volume= 0.313 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.21"

	Area (ac)	CN	Description
*	1.350	98	PCA-1a
	1.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 1S: PCA-1a



Summary for Subcatchment 2S: PCA-1b

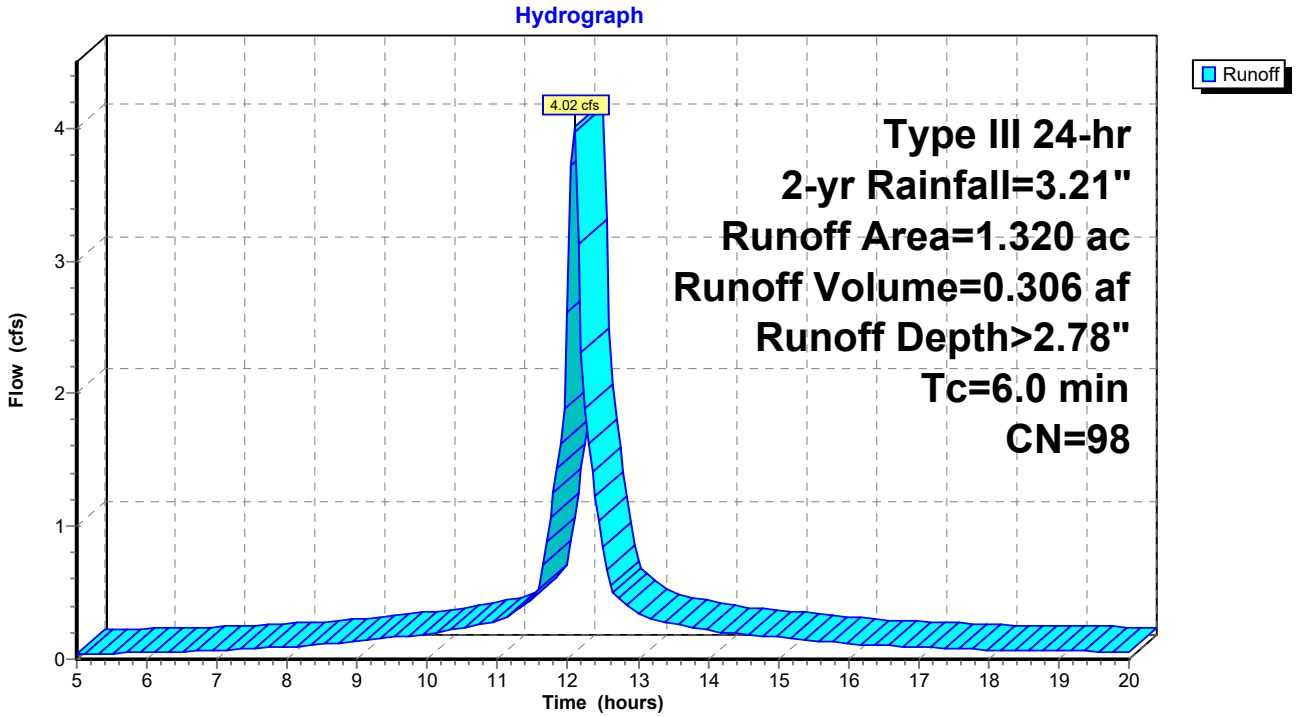
Runoff = 4.02 cfs @ 12.09 hrs, Volume= 0.306 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.21"

	Area (ac)	CN	Description
*	1.320	98	PCA-1b
	1.320		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 2S: PCA-1b



Summary for Subcatchment 3S: PCA-2

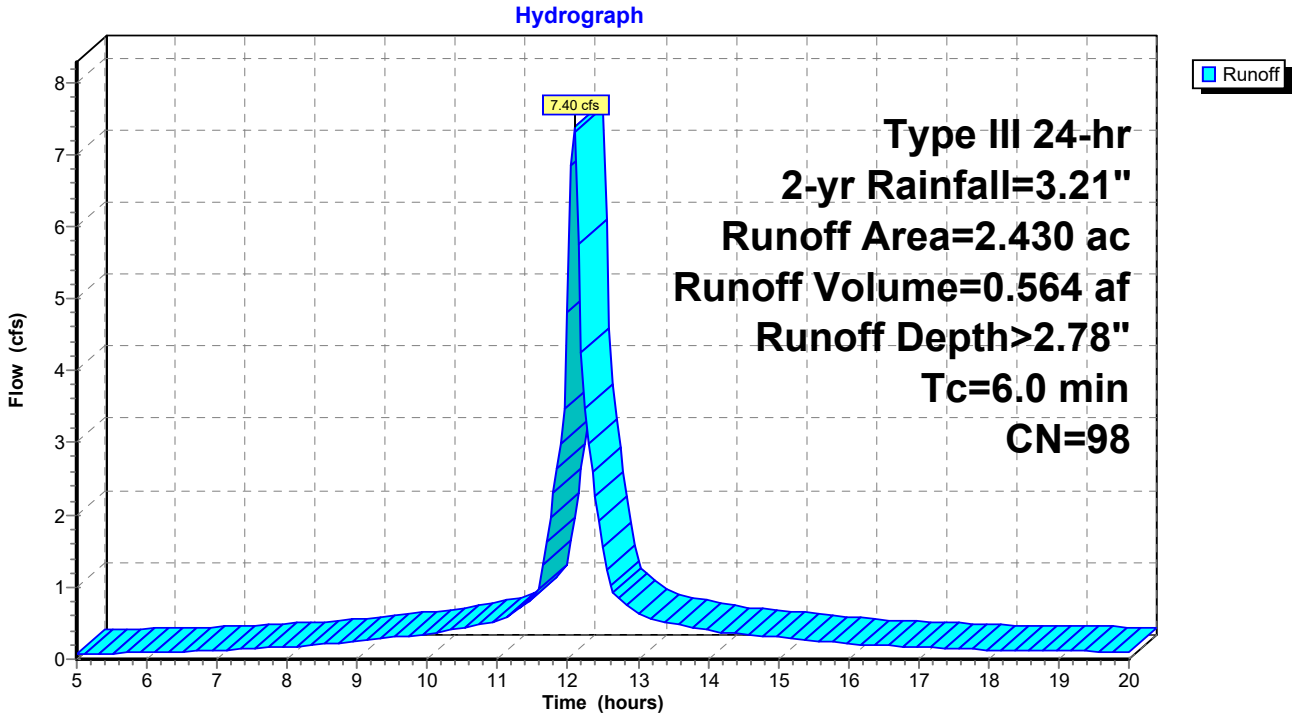
Runoff = 7.40 cfs @ 12.09 hrs, Volume= 0.564 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.21"

	Area (ac)	CN	Description
*	2.430	98	PCA-2
	2.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PCA-2**

Subcatchment 3S: PCA-2

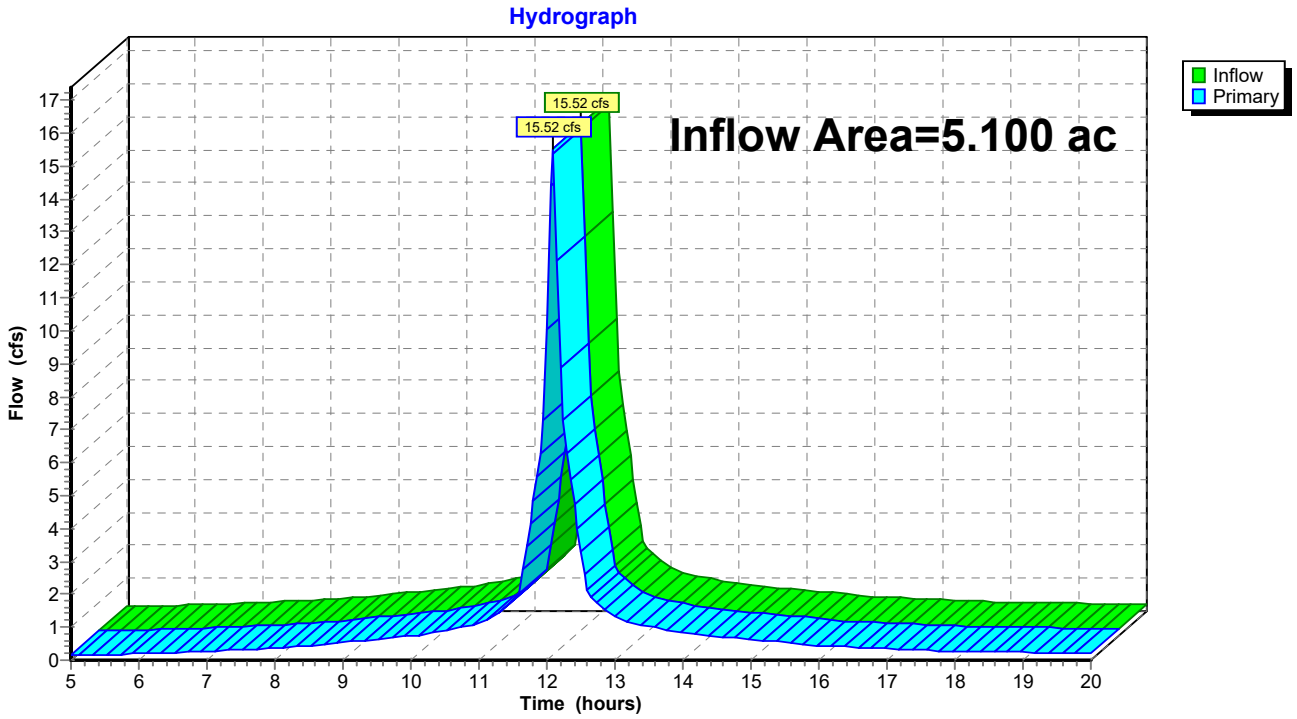


Summary for Link 4L: Total

Inflow Area = 5.100 ac,100.00% Impervious, Inflow Depth > 2.78" for 2-yr event
Inflow = 15.52 cfs @ 12.09 hrs, Volume= 1.183 af
Primary = 15.52 cfs @ 12.09 hrs, Volume= 1.183 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 4L: Total



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

Subcatchment1S: PCA-1a Runoff Area=1.350 ac 100.00% Impervious Runoff Depth>4.44"
Tc=6.0 min CN=98 Runoff=6.47 cfs 0.499 af

Subcatchment2S: PCA-1b Runoff Area=1.320 ac 100.00% Impervious Runoff Depth>4.44"
Tc=6.0 min CN=98 Runoff=6.33 cfs 0.488 af

Subcatchment3S: PCA-2 Runoff Area=2.430 ac 100.00% Impervious Runoff Depth>4.44"
Tc=6.0 min CN=98 Runoff=11.65 cfs 0.898 af

Link 4L: Total Inflow=24.46 cfs 1.886 af
Primary=24.46 cfs 1.886 af

Summary for Subcatchment 1S: PCA-1a

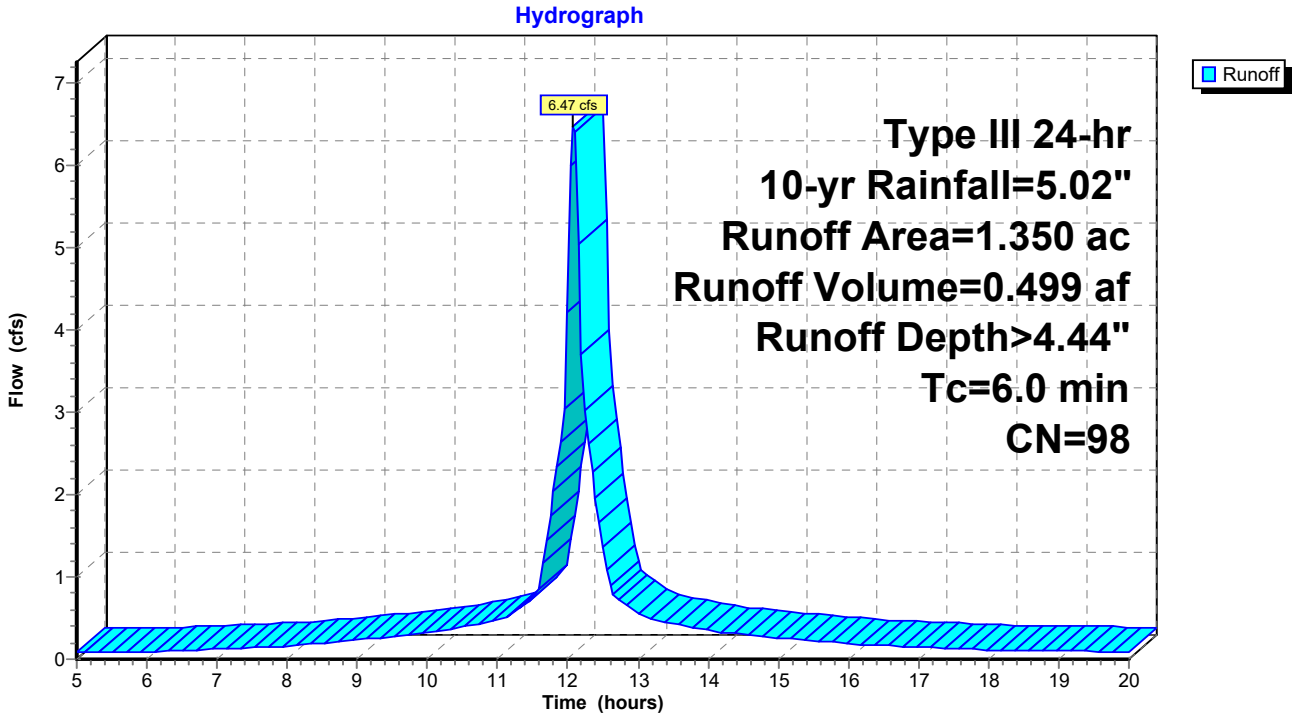
Runoff = 6.47 cfs @ 12.09 hrs, Volume= 0.499 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.02"

	Area (ac)	CN	Description
*	1.350	98	PCA-1a
	1.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 1S: PCA-1a



Summary for Subcatchment 2S: PCA-1b

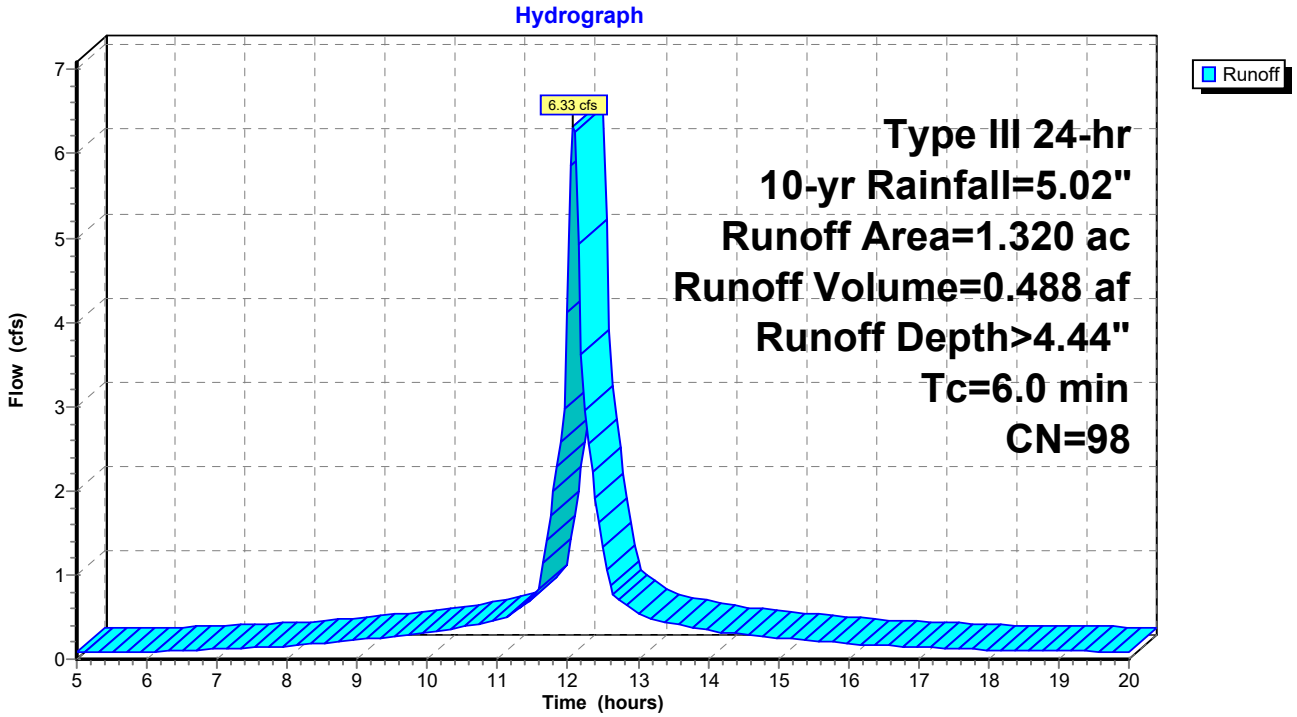
Runoff = 6.33 cfs @ 12.09 hrs, Volume= 0.488 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.02"

	Area (ac)	CN	Description
*	1.320	98	PCA-1b
	1.320		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 2S: PCA-1b



Summary for Subcatchment 3S: PCA-2

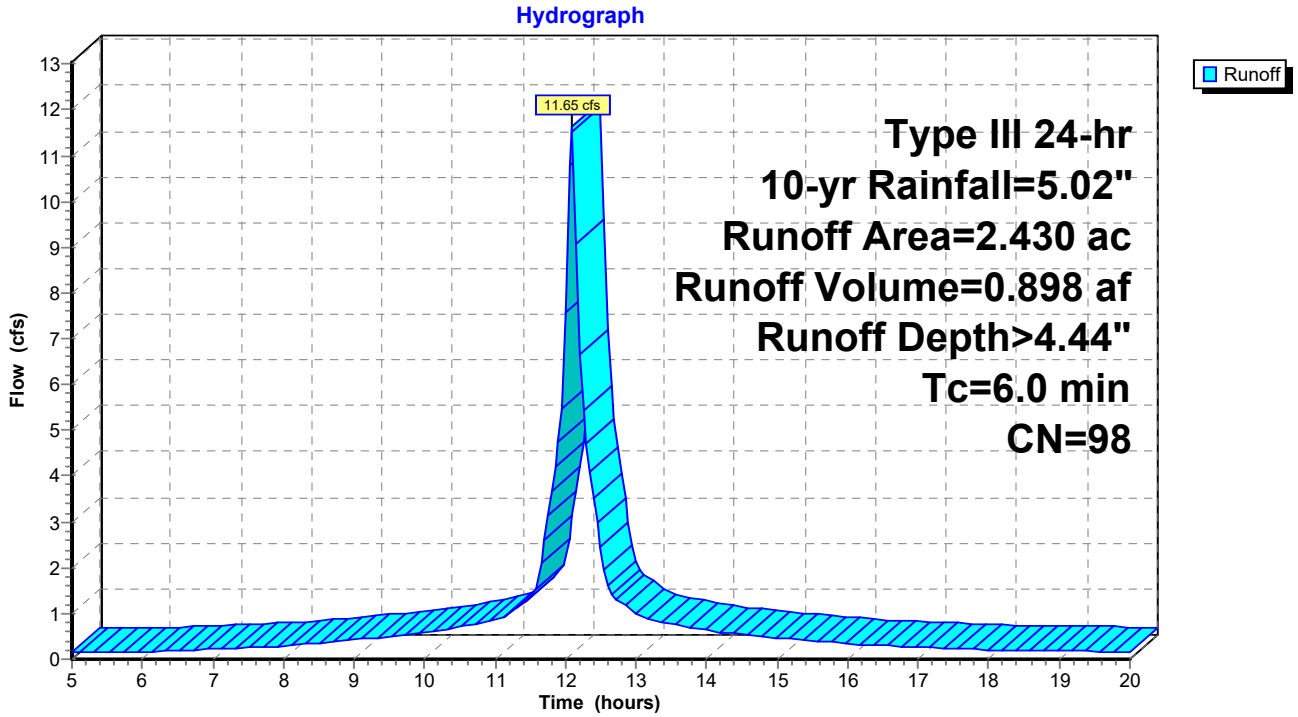
Runoff = 11.65 cfs @ 12.09 hrs, Volume= 0.898 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.02"

	Area (ac)	CN	Description
*	2.430	98	PCA-2
	2.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PCA-2**

Subcatchment 3S: PCA-2

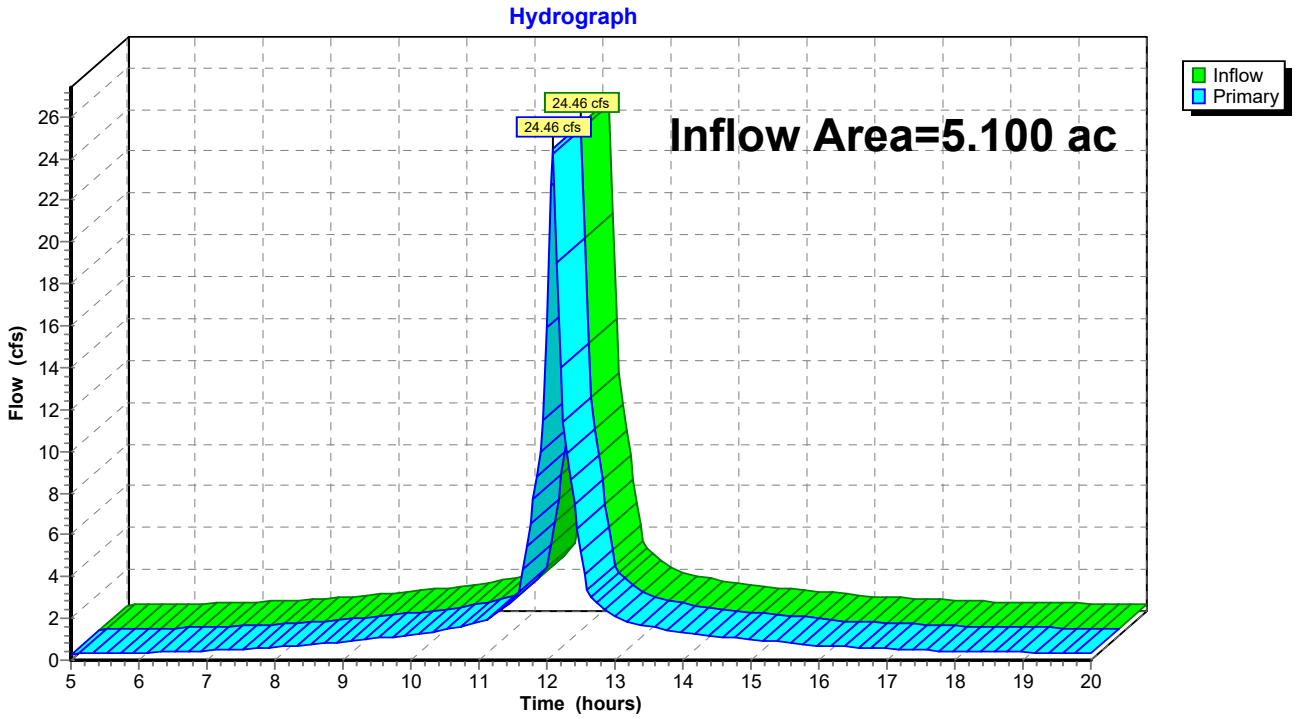


Summary for Link 4L: Total

Inflow Area = 5.100 ac,100.00% Impervious, Inflow Depth > 4.44" for 10-yr event
Inflow = 24.46 cfs @ 12.09 hrs, Volume= 1.886 af
Primary = 24.46 cfs @ 12.09 hrs, Volume= 1.886 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 4L: Total



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

Subcatchment1S: PCA-1a Runoff Area=1.350 ac 100.00% Impervious Runoff Depth>5.47"
Tc=6.0 min CN=98 Runoff=7.95 cfs 0.615 af

Subcatchment2S: PCA-1b Runoff Area=1.320 ac 100.00% Impervious Runoff Depth>5.47"
Tc=6.0 min CN=98 Runoff=7.77 cfs 0.601 af

Subcatchment3S: PCA-2 Runoff Area=2.430 ac 100.00% Impervious Runoff Depth>5.47"
Tc=6.0 min CN=98 Runoff=14.30 cfs 1.107 af

Link 4L: Total Inflow=30.02 cfs 2.323 af
Primary=30.02 cfs 2.323 af

Summary for Subcatchment 1S: PCA-1a

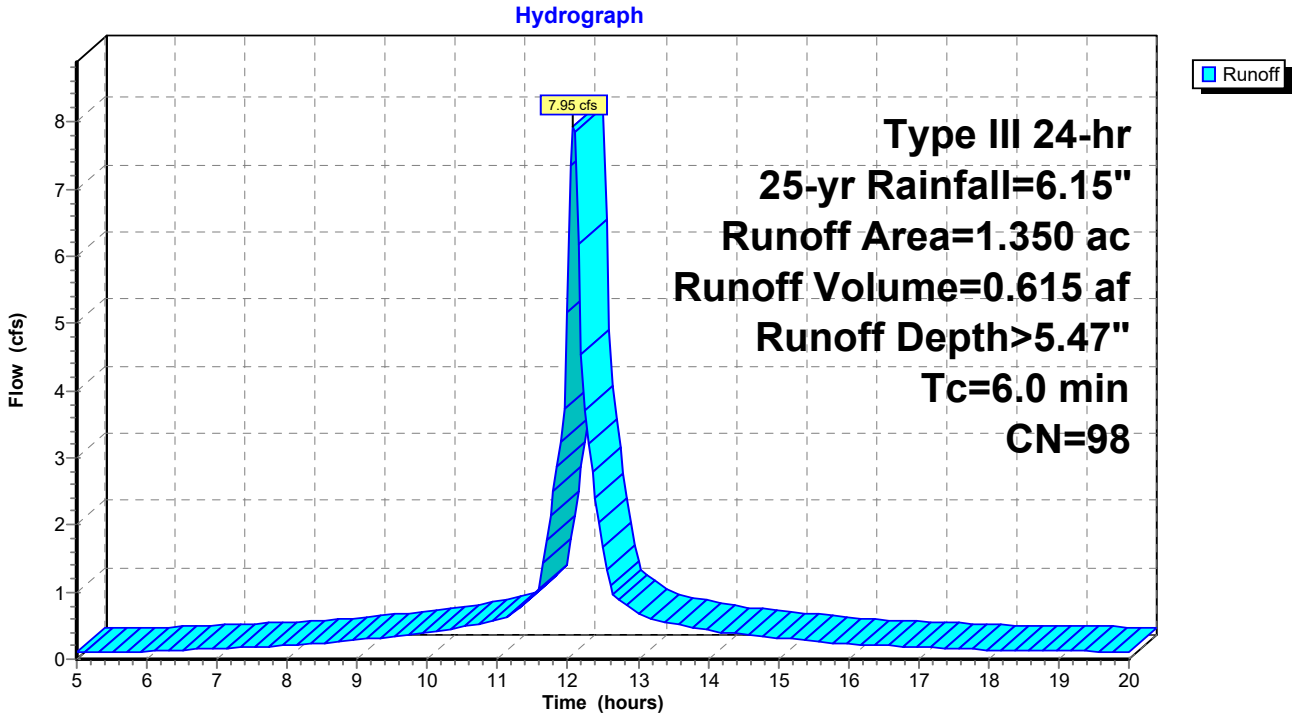
Runoff = 7.95 cfs @ 12.09 hrs, Volume= 0.615 af, Depth> 5.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.15"

	Area (ac)	CN	Description
*	1.350	98	PCA-1a
	1.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 1S: PCA-1a



Summary for Subcatchment 2S: PCA-1b

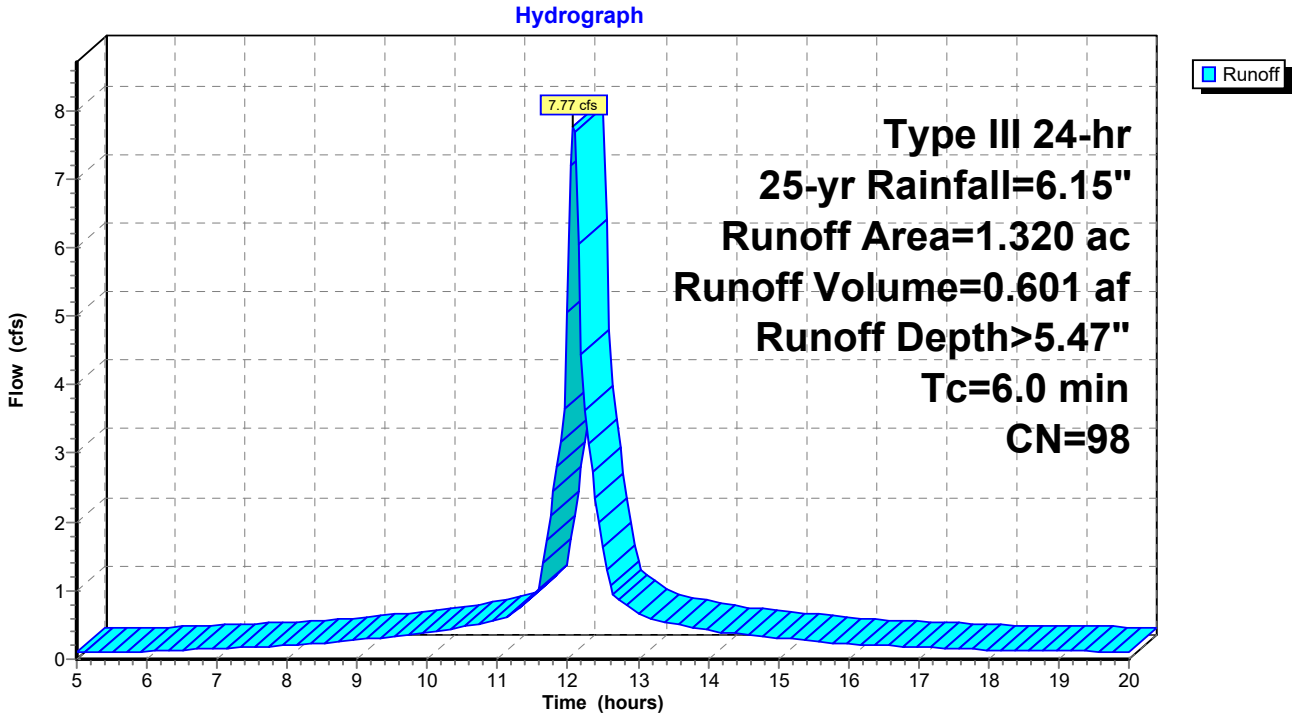
Runoff = 7.77 cfs @ 12.09 hrs, Volume= 0.601 af, Depth> 5.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.15"

	Area (ac)	CN	Description
*	1.320	98	PCA-1b
	1.320		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, TOC**

Subcatchment 2S: PCA-1b



Summary for Subcatchment 3S: PCA-2

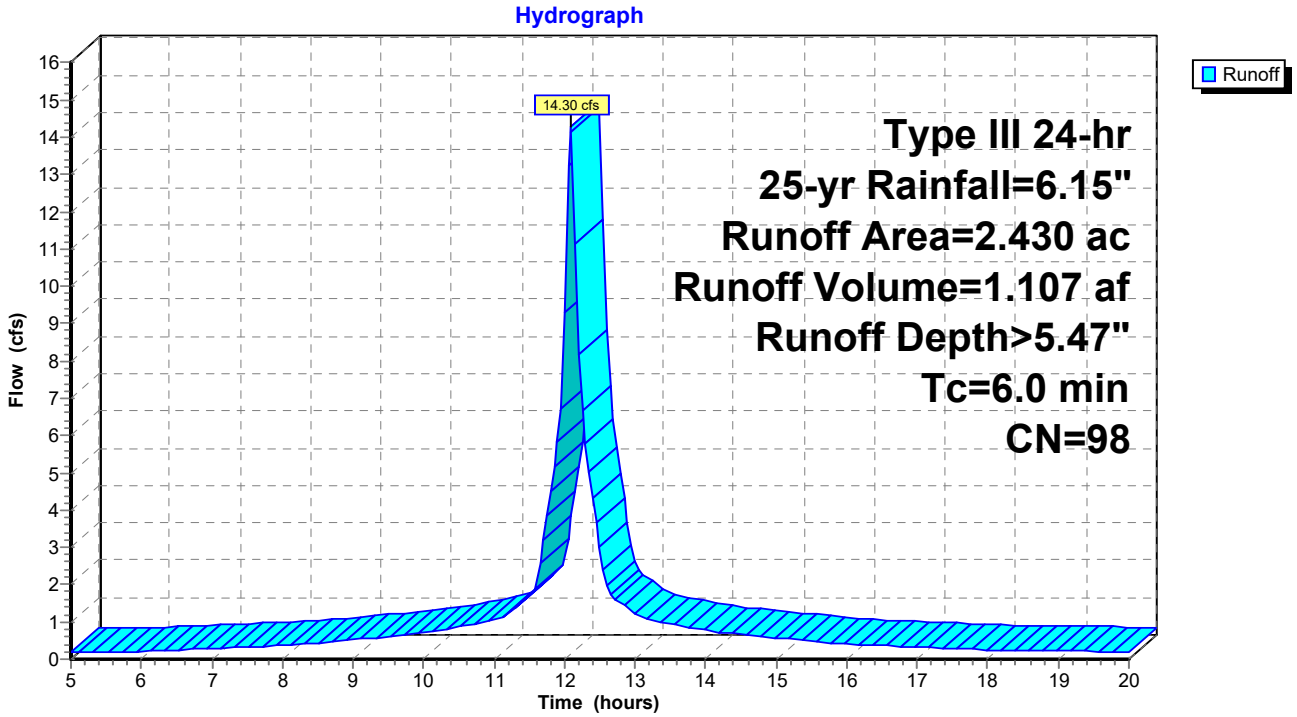
Runoff = 14.30 cfs @ 12.09 hrs, Volume= 1.107 af, Depth> 5.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.15"

	Area (ac)	CN	Description
*	2.430	98	PCA-2
	2.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PCA-2**

Subcatchment 3S: PCA-2

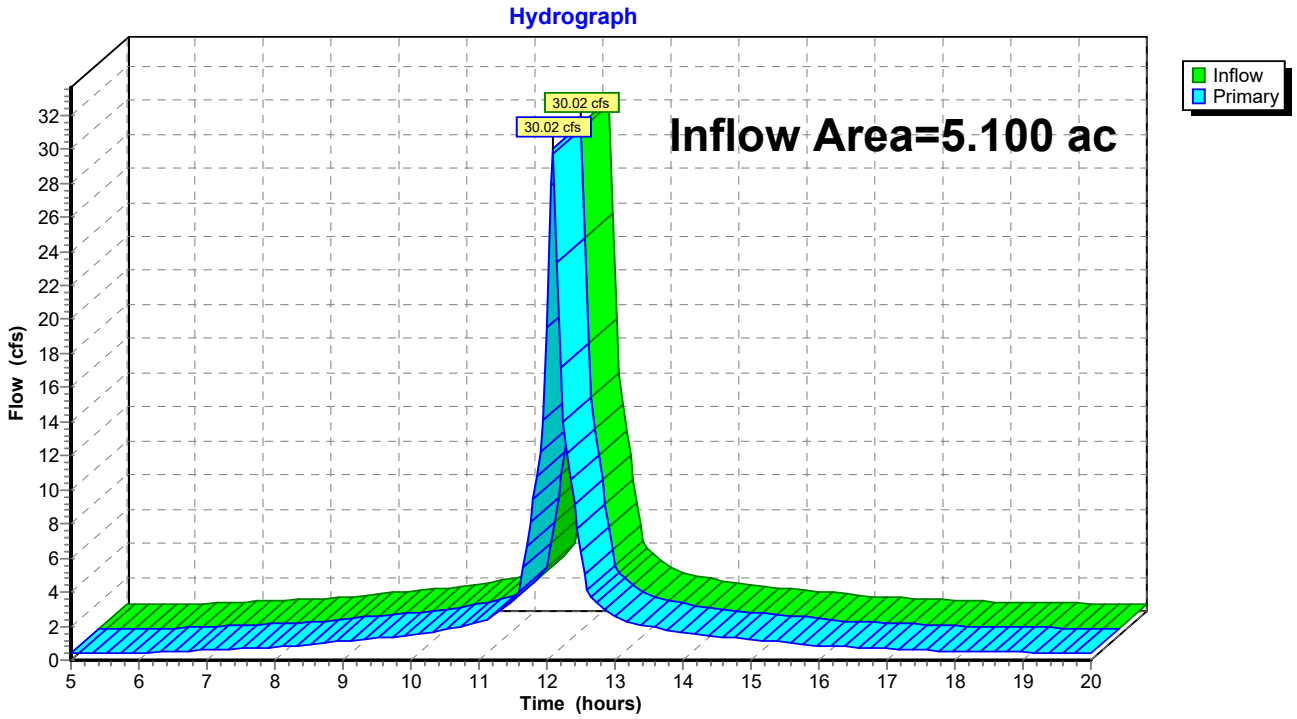


Summary for Link 4L: Total

Inflow Area = 5.100 ac,100.00% Impervious, Inflow Depth > 5.47" for 25-yr event
Inflow = 30.02 cfs @ 12.09 hrs, Volume= 2.323 af
Primary = 30.02 cfs @ 12.09 hrs, Volume= 2.323 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 4L: Total



Hydraflow Express Extension Model

Existing Stormwater System 24" CSO Main Line @ 95% Capacity Flow

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Friday, Mar 10 2023

<Name>

Circular

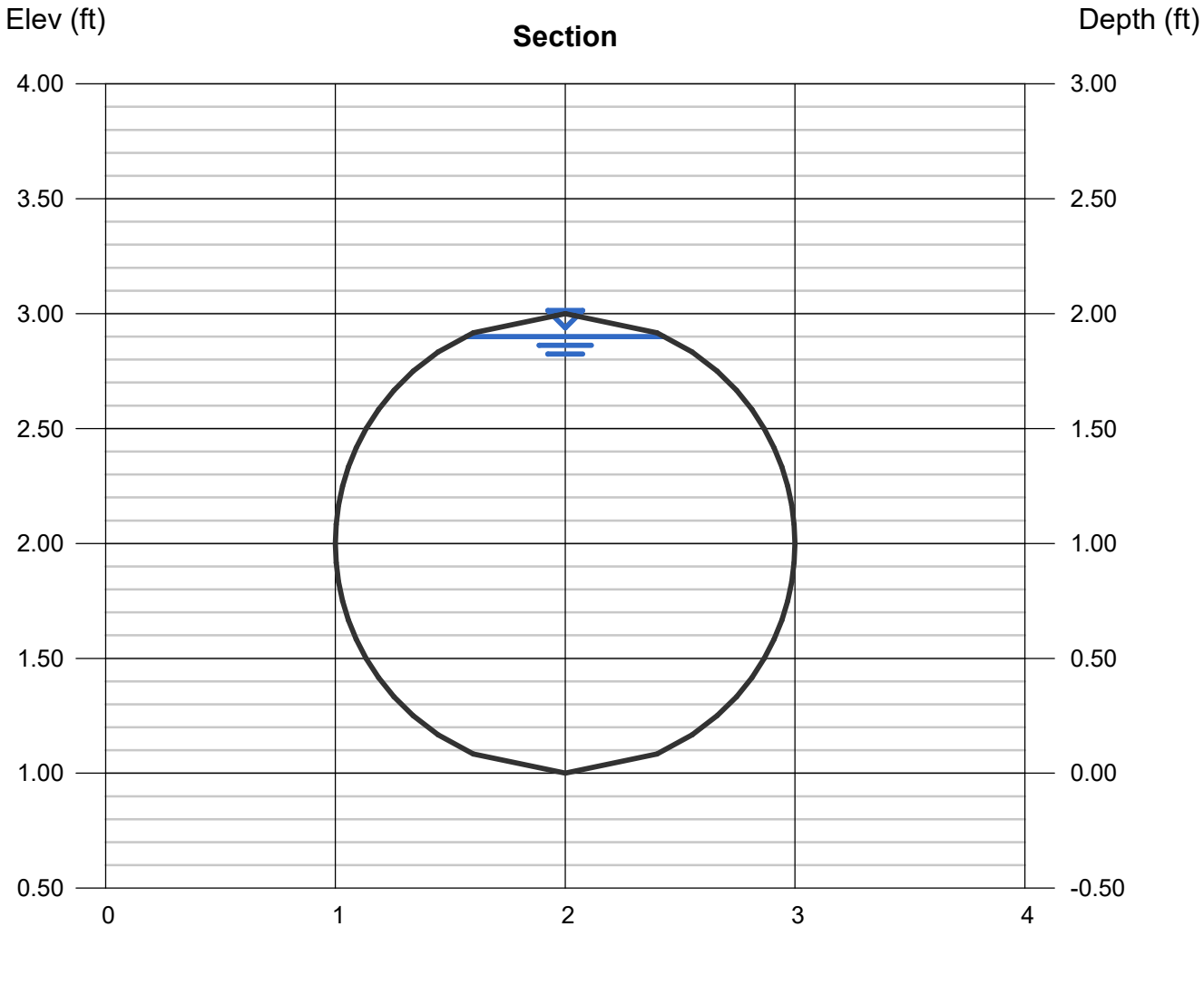
Diameter (ft)	= 2.00
Invert Elev (ft)	= 1.00
Slope (%)	= 1.25
N-Value	= 0.013

Calculations

Compute by:	Q vs Depth
No. Increments	= 20

Highlighted

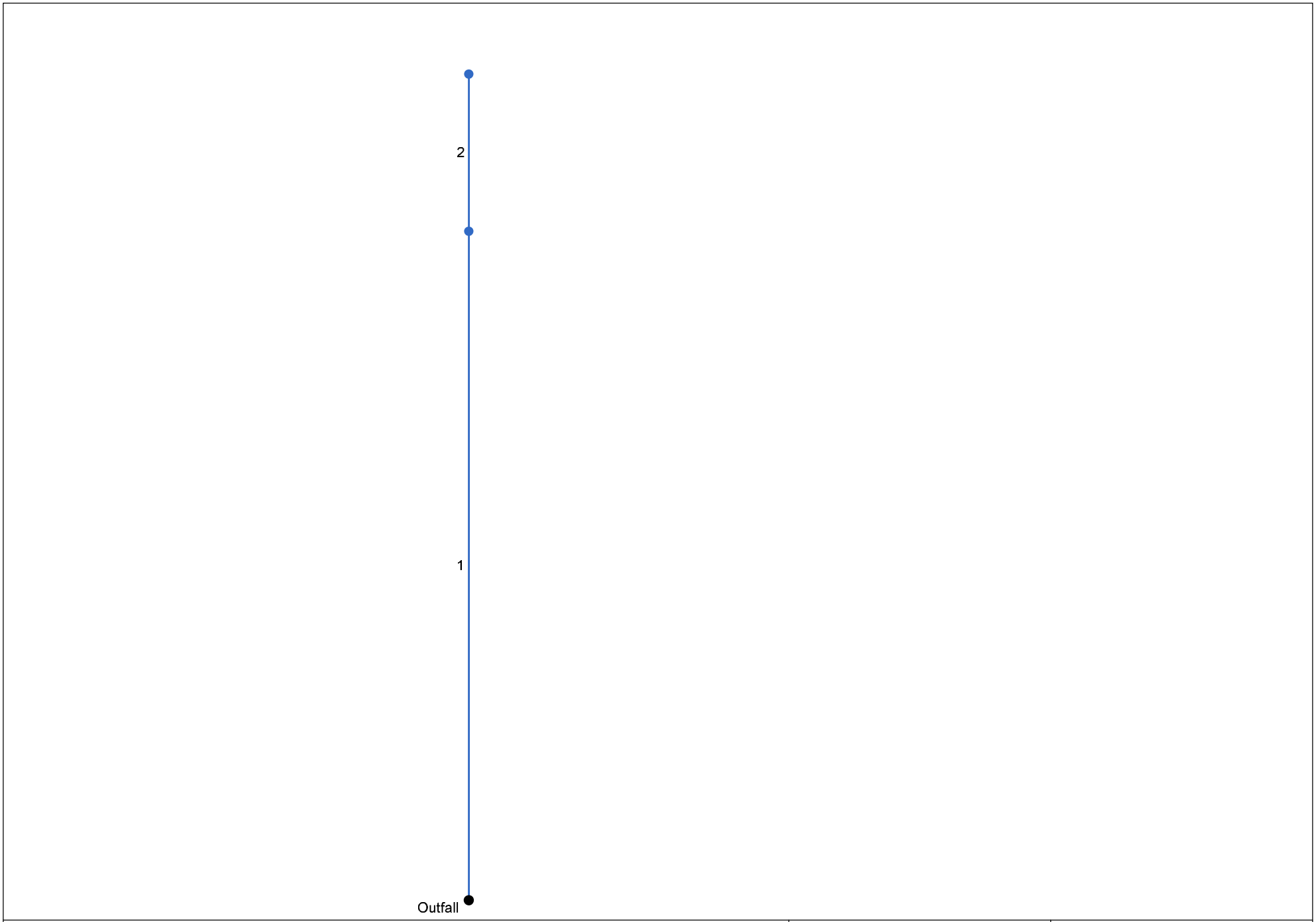
Depth (ft)	= 1.90
Q (cfs)	= 27.17
Area (sqft)	= 3.08
Velocity (ft/s)	= 8.81
Wetted Perim (ft)	= 5.39
Crit Depth, Yc (ft)	= 1.82
Top Width (ft)	= 0.86
EGL (ft)	= 3.11



Hydraflow Storm Sewer Report

Existing Stormwater System Review of 24" CSO Main Line

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: Existing Storm Sewer.stm	Number of lines: 2	Date: 3/10/2023

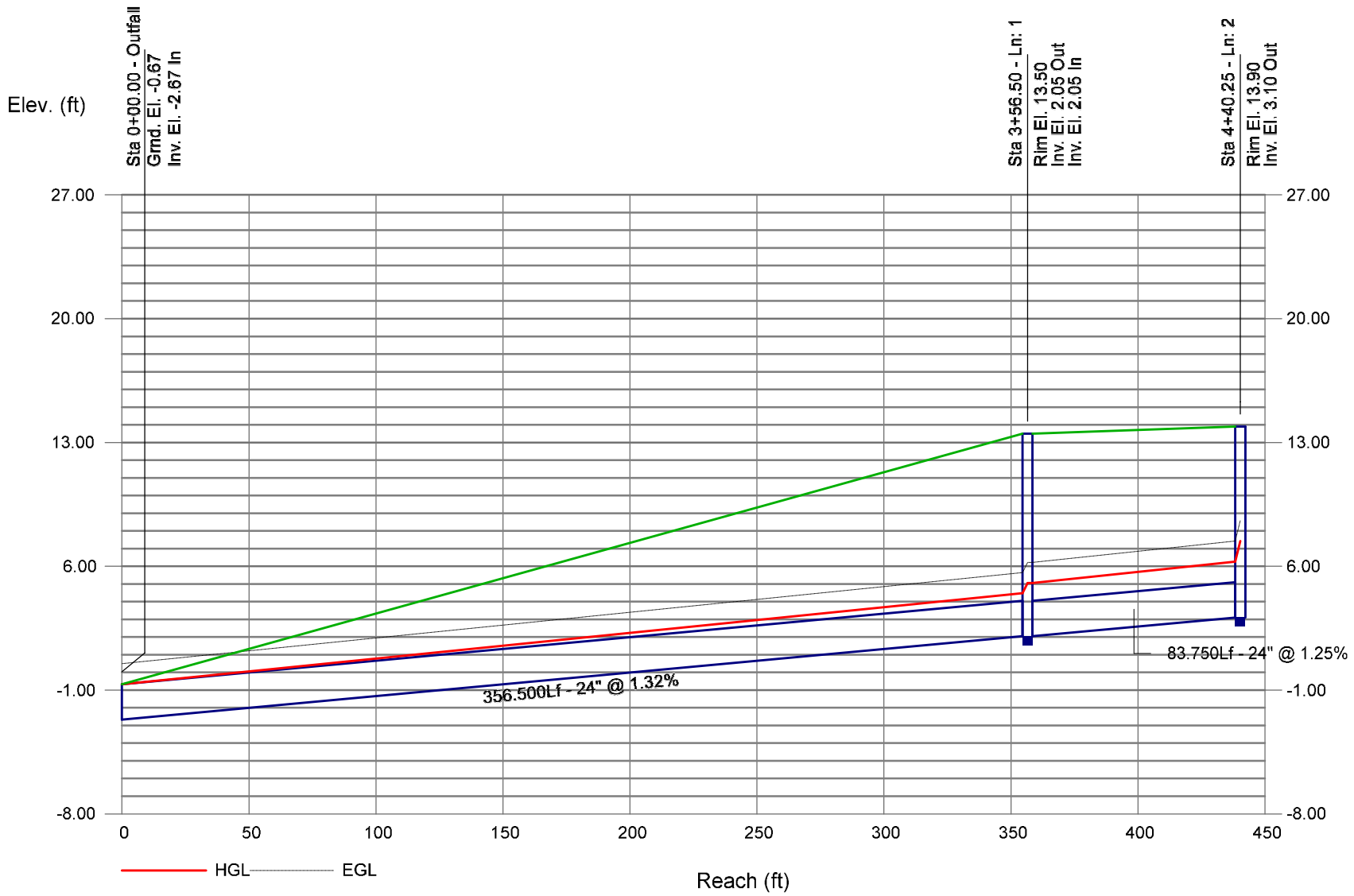
Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	356.500	0.00	0.00	0.00	0.00	0.00	5.0	5.2	0.0	27.17	26.03	8.65	24	1.32	-2.67	2.05	-0.67	4.48	-0.67	13.50	
2	1	83.750	0.00	0.00	0.00	0.00	0.00	5.0	5.0	0.0	27.17	25.33	8.65	24	1.25	2.05	3.10	5.06	6.27	13.50	13.90	

Project File: Existing Storm Sewer.stm | Number of lines: 2 | Run Date: 3/10/2023

NOTES:Intensity = 42.86 / (Inlet time + 4.00) ^ 0.76; Return period =Yrs. 25 ; c = cir e = ellip b = box

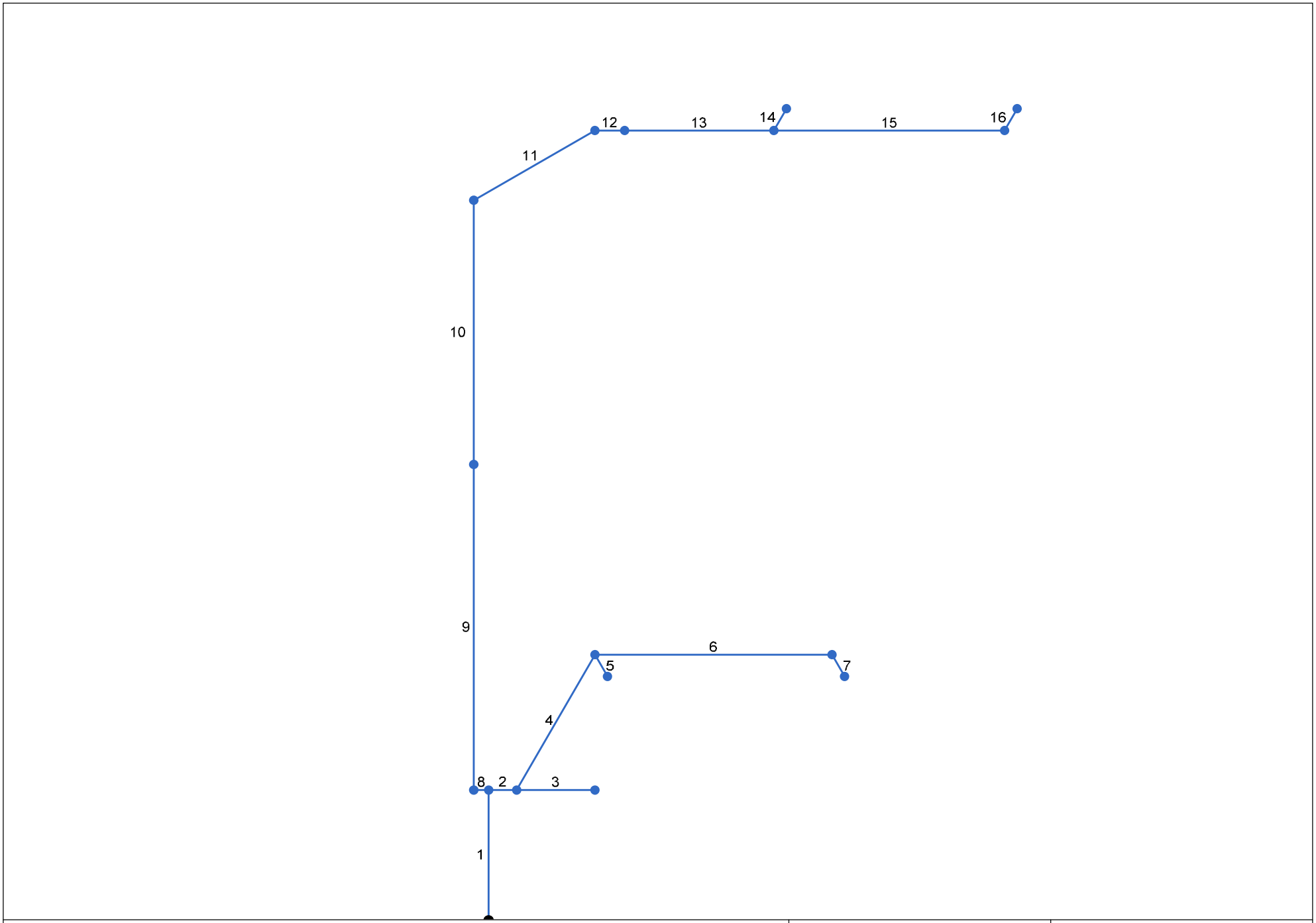
Storm Sewer Profile



Hydraflow Storm Sewer Report

Proposed Stormwater System Review of 30" CSO Main Line

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: Proposed Storm Sewer.stm	Number of lines: 16	Date: 3/17/2023

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	70.000	0.00	0.00	0.00	0.00	0.00	6.0	8.2	0.0	42.85	65.21	9.07	30	2.53	-2.67	-0.90	-0.17	1.29	-0.17	13.47	EX-OF
2	1	15.000	0.00	0.00	0.00	0.00	0.00	6.0	6.8	0.0	7.95	19.17	8.06	18	3.33	4.00	4.50	4.67	5.59	13.47	13.32	PR-WQS 2
3	2	42.000	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	3.41	5.63	6.32	12	2.50	8.00	9.05	8.56	9.84	13.32	13.05	PR-CB 3
4	2	84.000	0.00	0.00	0.00	0.00	0.00	6.0	6.6	0.0	4.54	3.89	5.78	12	1.19	4.50	5.50	5.59	6.96	13.32	13.55	PR-MH 7
5	4	13.500	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	1.24	6.50	4.90	12	3.33	9.00	9.45	9.30	9.92	13.55	13.45	PR-CB 4
6	4	127.150	0.00	0.00	0.00	0.00	0.00	6.0	6.1	0.0	3.30	5.04	4.62	12	2.01	5.50	8.05	7.48	8.83	13.55	13.05	PR-MH 8
7	6	13.500	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	3.30	4.33	5.04	12	1.48	8.05	8.25	8.83	9.03	13.05	12.25	PR-CB 5
8	1	8.000	0.00	0.00	0.00	0.00	0.00	6.0	8.2	0.0	34.90	41.01	7.97	30	1.00	-0.90	-0.82	1.29	1.19	13.47	13.53	PR-MH 5
9	8	175.000	0.00	0.00	0.00	0.00	0.00	6.0	7.8	0.0	34.90	41.01	8.27	30	1.00	-0.82	0.93	1.19	2.94	13.53	14.50	PR-MH 4
10	9	142.000	0.00	0.00	0.00	0.00	0.00	6.0	7.4	0.0	34.90	41.01	8.27	30	1.00	0.93	2.35	2.94	4.36	14.50	14.10	PR-MH 3
11	10	75.000	0.00	0.00	0.00	0.00	0.00	6.0	7.3	0.0	34.90	41.01	8.27	30	1.00	2.35	3.10	4.36	5.11	14.10	13.55	EX-MH
12	11	16.000	0.00	0.00	0.00	0.00	0.00	6.0	7.2	0.0	7.73	16.60	4.37	18	2.50	3.10	3.50	5.11	5.19	13.55	13.45	PR-WQS 1
13	12	80.000	0.00	0.00	0.00	0.00	0.00	6.0	6.9	0.0	7.73	11.74	6.39	18	1.25	6.50	7.50	7.39	8.58	13.45	13.20	PR-MH 1
14	13	13.500	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	5.75	4.85	7.32	12	1.85	7.50	7.75	8.58	8.93	13.20	12.90	PR-CB 1
15	13	123.750	0.00	0.00	0.00	0.00	0.00	6.0	6.1	0.0	1.98	3.58	3.27	12	1.01	7.50	8.75	8.58	9.35	13.20	13.20	PR-MH 2
16	15	13.500	0.00	0.00	0.00	0.00	0.00	6.0	6.0	0.0	1.98	3.75	4.03	12	1.11	8.75	8.90	9.35	9.50	13.20	12.90	PR-CB 2

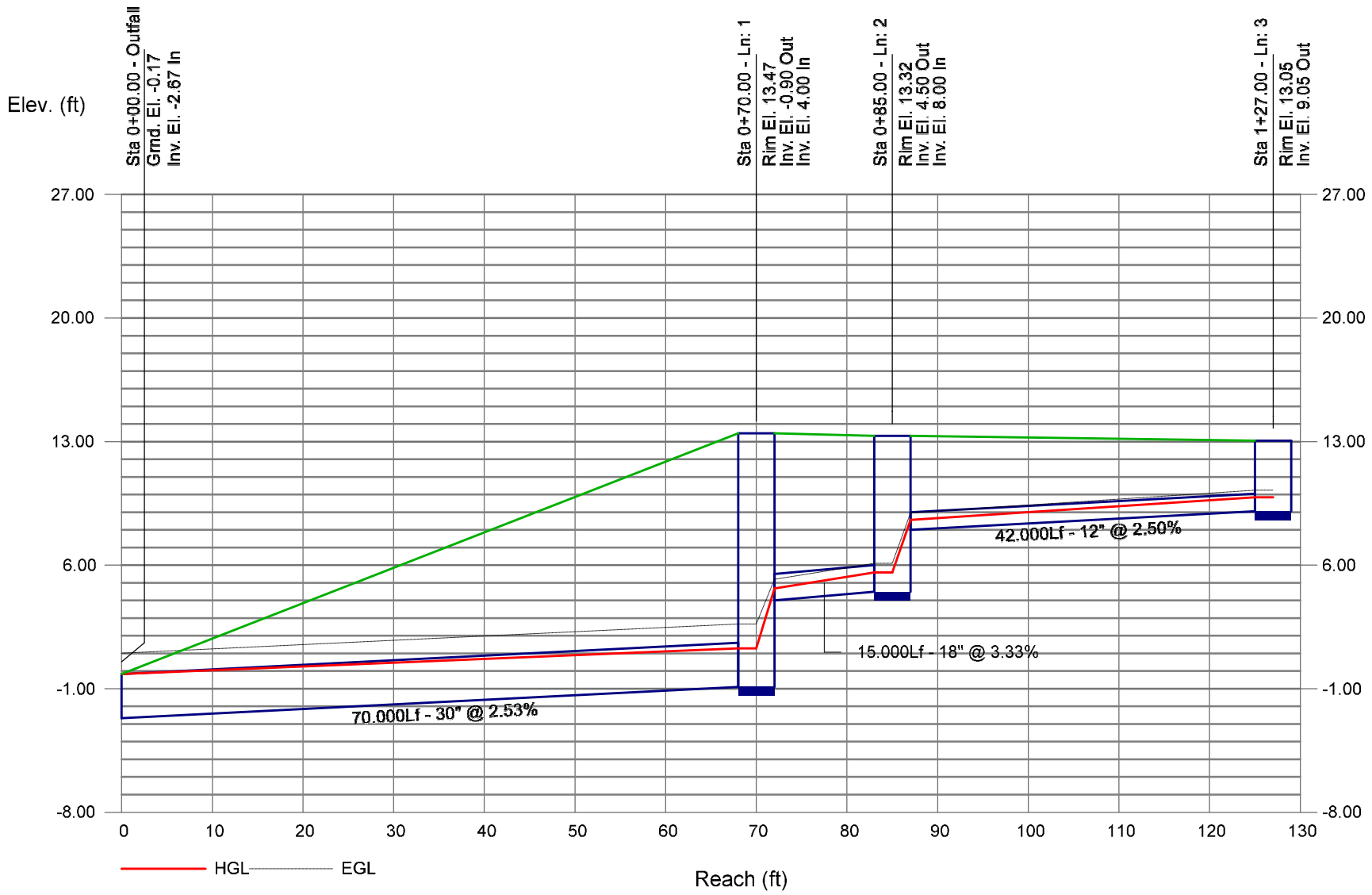
Project File: Proposed Storm Sewer.stm

Number of lines: 16

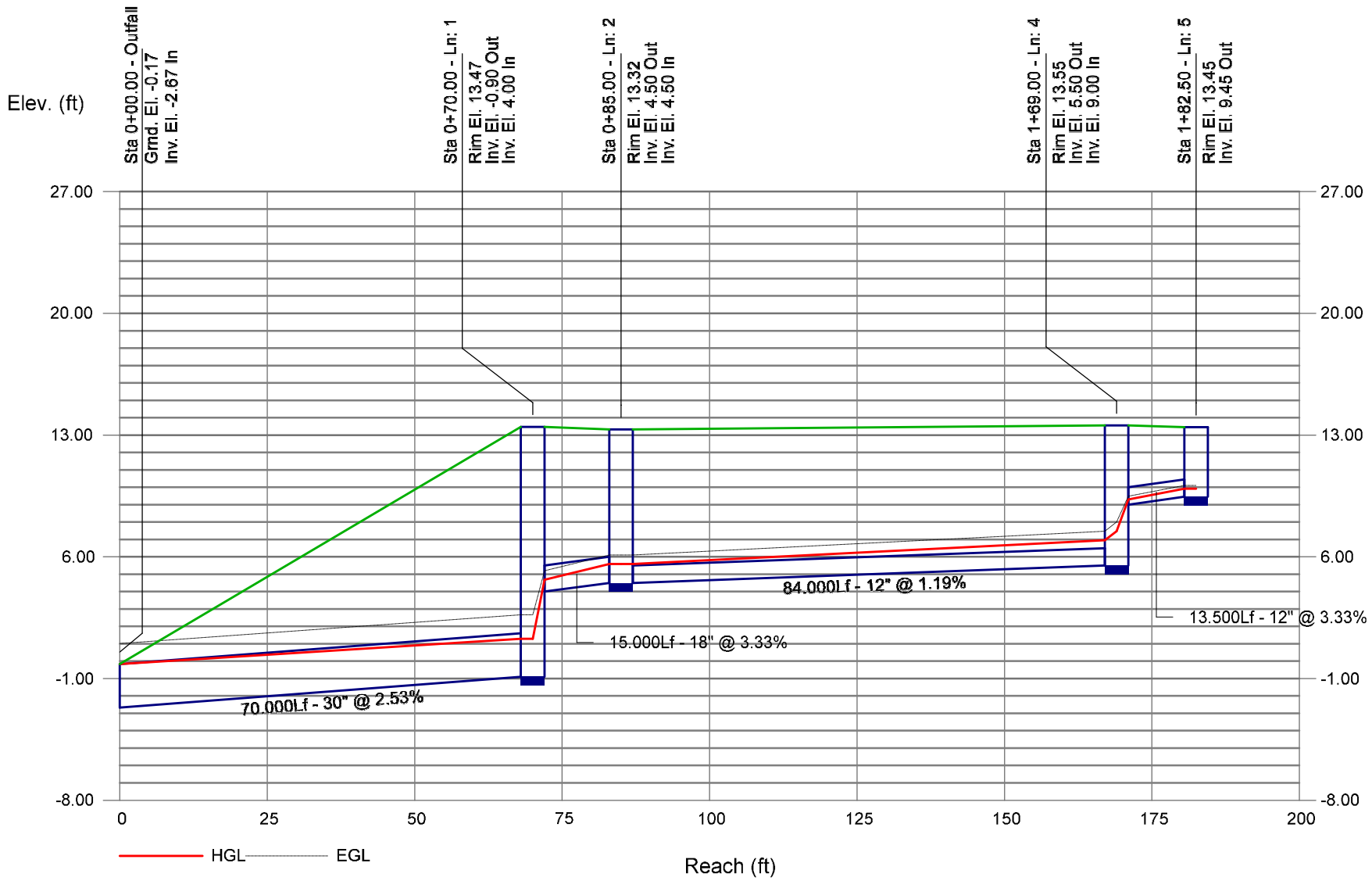
Run Date: 3/17/2023

NOTES:Intensity = 42.86 / (Inlet time + 4.00) ^ 0.76; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewer Profile

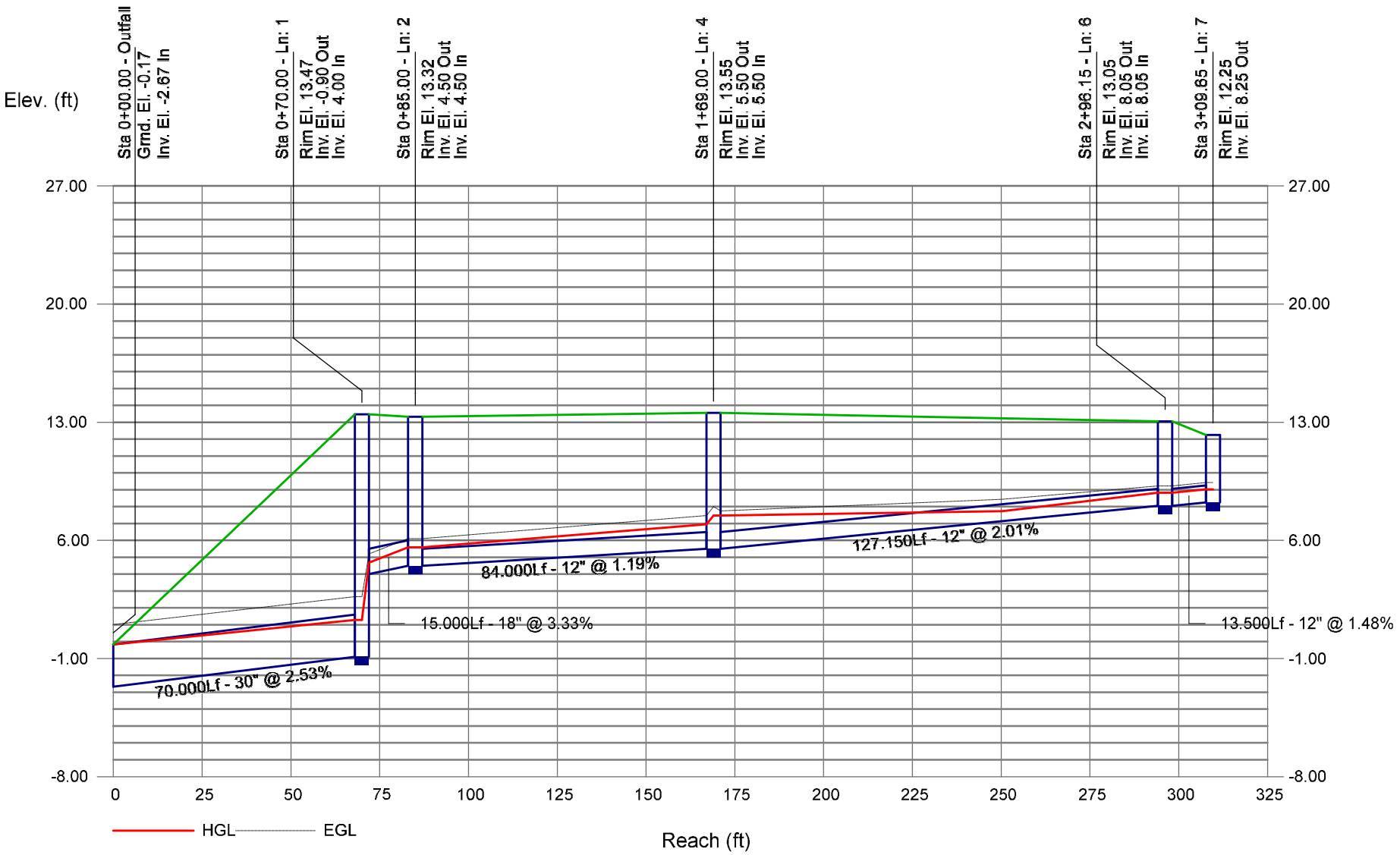


Storm Sewer Profile

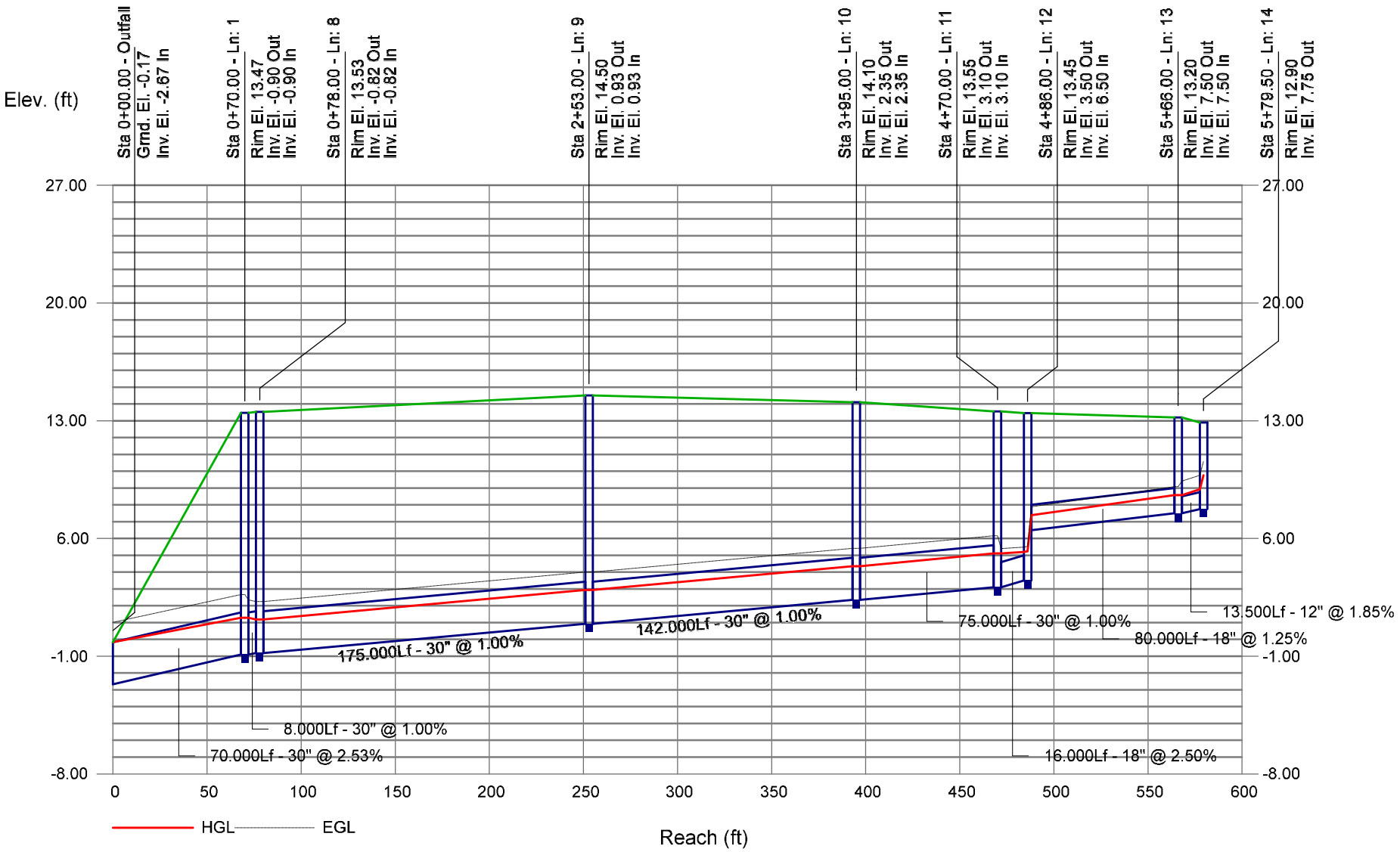


Storm Sewer Profile

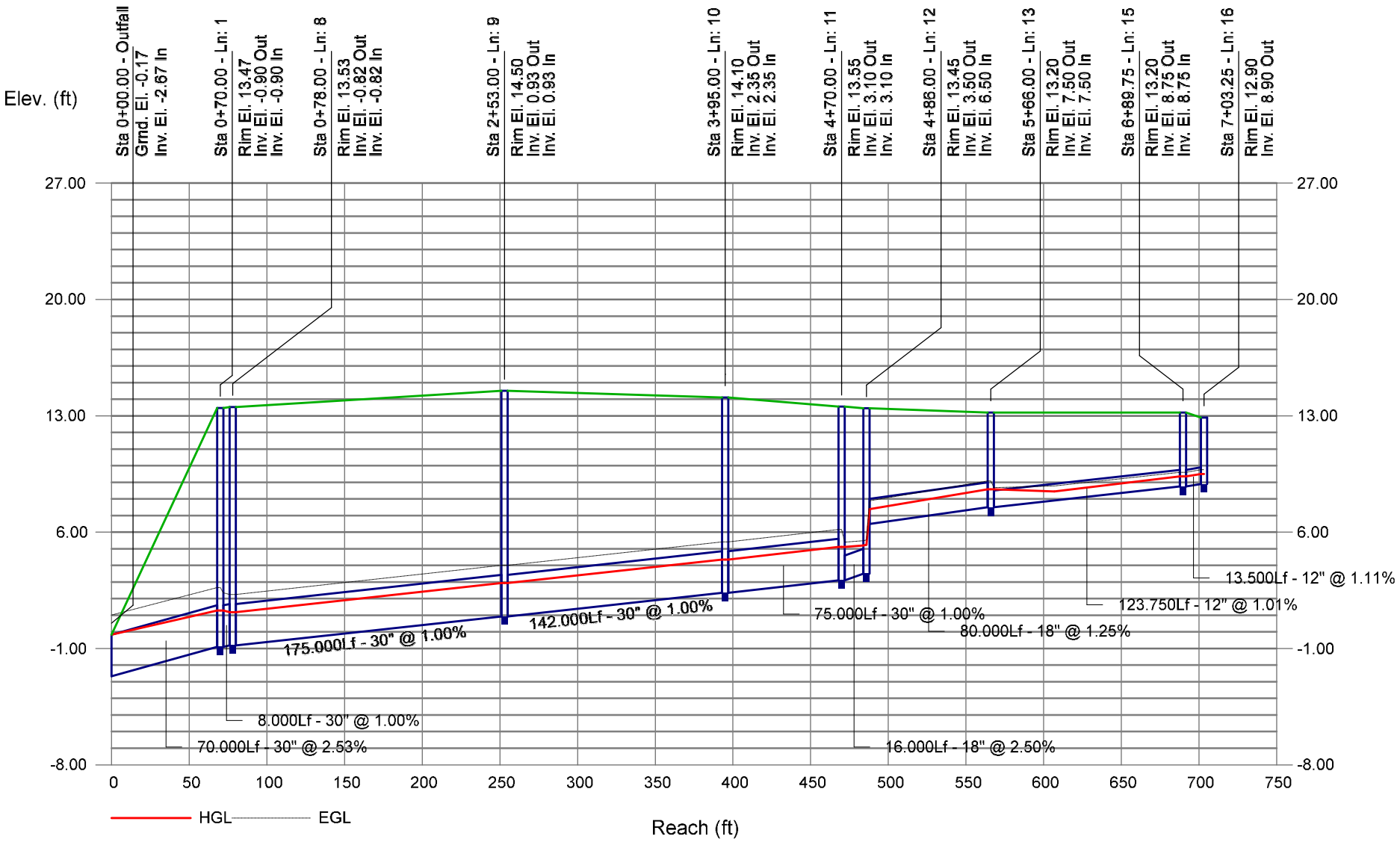
Proj. file: Proposed Storm Sewer.stm



Storm Sewer Profile



Storm Sewer Profile



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Architects

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Portland, ME 04101
207.774.4811

EXHIBIT 16 - PUBLIC INFRASTRUCTURE & COMMUNITY SAFETY STANDARDS 14.6.3

14.6.3 - Public Infrastructure & Community Safety Standards:

A. Consistency with City Master plans

There are no adopted City Master Plans that apply to this project.

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EXHIBIT 17 - PUBLIC INFRASTRUCTURE & COMMUNITY SAFETY STANDARDS 14.6.3

14.6.3 - Public Infrastructure & Community Safety Standards:

B. Public Safety and Fire Prevention

1. Compliance with Crime Prevention through Environmental Design requirements (CPTED) is not applicable to this project as the project location is within the secured marine freight yard that is not accessible to the public.
2. The only change to site access is moving the gate on the western end of the site closer to Commercial Street. The size of the gate will be maintained.
3. The project is consistent with applicable public safety standards. There are existing compliant private fire hydrants located on the project site within 500' of the proposed Reefer Rack structures.
4. The pavement is designed for reach stackers which have a wheel load of 150 psf, considerably higher than any wheel loads on a standard street-going vehicle, usually around 100 psf.
5. Proposed and existing vehicle lanes are not 16' wide, however there are several lanes next to each other with no physical barriers. There is a minimum of 60' between the container stacks and perimeter fencing, as well as between the two rows of container stacks.
6. The site was designed for a turning radius of a WB-65 truck, which exceeds the size of emergency vehicles.

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EXHIBIT 18 - PUBLIC INFRASTRUCTURE & COMMUNITY SAFETY STANDARDS 14.6.3

14.6.3 - Public Infrastructure & Community Safety Standards:

C. Public Utilities

See attached documents immediately following this page.

Availability and Adequacy of Public Utilities

This project is only proposing upgrades to the site electrical system. A will serve letter from Central Maine Power is attached indicating the availability of their system to handle the additional load required at the site. Public utilities will not be impacted.

Donovan, Tristan

Subject: FW: CMP Three Phase Service Process and Ability to Serve Letter Portland IMT - SAP# 10300967876

From: COUGH, JAMES <jcough@cmpco.com>
Sent: Thursday, March 23, 2023 6:56 AM
To: Tim Matthews <tim@swiftcurrenteng.com>
Subject: CMP Three Phase Service Process and Ability to Serve Letter Portland IMT - SAP# 10300967876

RE: International Marine Terminal Refrigerated Storage
460 COMMERCIAL ST PORTLAND ME
Letter of Ability to Serve Request

SAP 10300967876

Project Description:
420 Refrigerated Trailer Units in Marine Terminal to be fed from receptacles mounted on 5-story open walled structures.

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.

- 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 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

Regards,

Jamie

Jamie Cough
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207.629.1489

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Architects

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EXHIBIT 19 - SITE DESIGN STANDARDS 14.6.4

14.6.4 - Site Design Standards:

C. Snow & Ice Loading

See attached document immediately following this page.

Snow and Ice Loading

The proposed reefer racks are the only infrastructure (buildings) proposed as part of this project. These structures have been designed according to Maine Building Code, IBC 2015 and ASCE 7-10 for snow and ice loading. The structures are far enough away from the property lines that they will not shed snow onto adjacent properties or public ways.

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EXHIBIT 20 - SITE DESIGN STANDARDS 14.6.4

14.6.4 - Site Design Standards:

D. View Corridors

There are no designated view corridors in the vicinity of this project.

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EXHIBIT 21 - SITE DESIGN STANDARDS 14.6.4

14.6.4 - Site Design Standards:

E. Historic Resources

See attached document immediately following this page.

Historic Resources

A letter was issued on June 2, 2014 by the Maine Historic Preservation Commission finding that there are no archaeological resources in the area that this project is proposed. This letter has been provided.

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

PAUL R. LEPAGE
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

Preliminary Draft
Portland, Maine IMT Project
Archaeological Phase I and II Survey
Scope of Work
June 2, 2014

Project Background

The International Marine Terminal (IMT) on the West Commercial Street waterfront in Portland, Maine serves as a primary port for the offloading, storage and shipping of commercial containers. The facility is in the process of expanding to accommodate an increase in container shipping and handling. Plans call for the construction of a new loading dock and rail line that will simplify the transfer of containers between ships and the rail system. The proposed expansion was determined to have a potential negative impact on cultural resources that were an important component of Portland's industrial past.

The first resource consists of a section of the Cumberland and Oxford Canal (1830-1870) that provided a means of transporting goods from the Sebago Lakes region directly to Portland harbor. The canal and towpath ran along the Fore River shore and west harbor immediately south of present West Commercial Street and ended at Lock 27, roughly at the foot of Clark St. The section of the canal between Vaughan's Bridge and Lock 27 was sold by the C&O Canal Corporation after June 13, 1863. The canal bed was soon filled and the Portland and Kennebec Railroad was constructed in its place.

The second resource is the Portland Glass Company that operated between 1863 and 1873, also on the south side of West Commercial Street and immediately south of the canal. This was Maine's only glassworks and, thus, represents one of the most important industrial sites in the state. Because little is known of the factory's products or its role in the American glass industry, archaeological remains of the factory and deposits containing glass objects represent the only means of addressing many questions associated with this factory.

Scope of Work

Proposed Loading Dock

Assessment of historic maps of the project area show that the bed and towpath of the C&O Canal passed immediately south of West Commercial St. and potentially under a portion of the proposed loading dock. The timing of the opening of the glassworks and the filling of the canal bed in 1863 suggests a high probability for the presence of glassworks refuse in the canal bed. Collecting samples of this refuse is of high priority to document the types of products made at the factory. Archaeological testing will be performed by mechanical (backhoe) excavation of

PHONE: (207) 287-2132

FAX: (207) 287-2335

several north-south trenches to identify the location of the C&O Canal bed, document its construction and to examine and sample the bed fill if glass factory refuse is present.

Proposed Rail Lines

As presently planned the proposed rail lines will cross the north end of the glassworks parcel beginning as a single track to the east, and then dividing into two tracks toward the west. Historic maps suggest the set of parallel tracks pass through an area of the site that once contained the factory office and a shed. It is also possible that the C&O Canal bed passed through this area. Archaeological investigation of the proposed track ROW will be performed by mechanical scraping of the ground surface to identify architectural remains as well as potential deposits containing factory refuse. Encountered features will be cleared and documented, while overlying and associated soil will be examined for factory-related products. A few deeper tests will be made to search for evidence of the canal. If the canal is identified, details of its construction will be documented and the fill will be examined for the presence of glass factory related material.

Portland, Maine IMT Project
Archaeological Phase I and II Survey
Scope of Work
June 3, 2014

PRELIMINARY DRAFT BUDGET

Fieldwork

Museum Tech. III, 10 days@$310/day	$3,100.00
Museum Tech I, 10 days @$260/day	$2,600.00
Historic Preservationist, 10 days@$300/day	$3,000.00
Lodging for 8 nights, 1 person@$85/day	$680.00
Travel round trip from Augusta 22 x 120 mi @ 0.44	$1,200.00
Backhoe rental, 2 weeks @ $1000/week	$2,000.00
Fieldwork Total:	$12,580.00

Documentary Research, Laboratory Work, Report Preparation

Museum Tech. III, 5 days @ $310/day	$1,550.00
Museum Tech I, 20 days @ 260/day	$5,200.00
Historic Preservationist, 10 days @ $300/day	$3,000.00
Lab Work Total:	$9,750.00

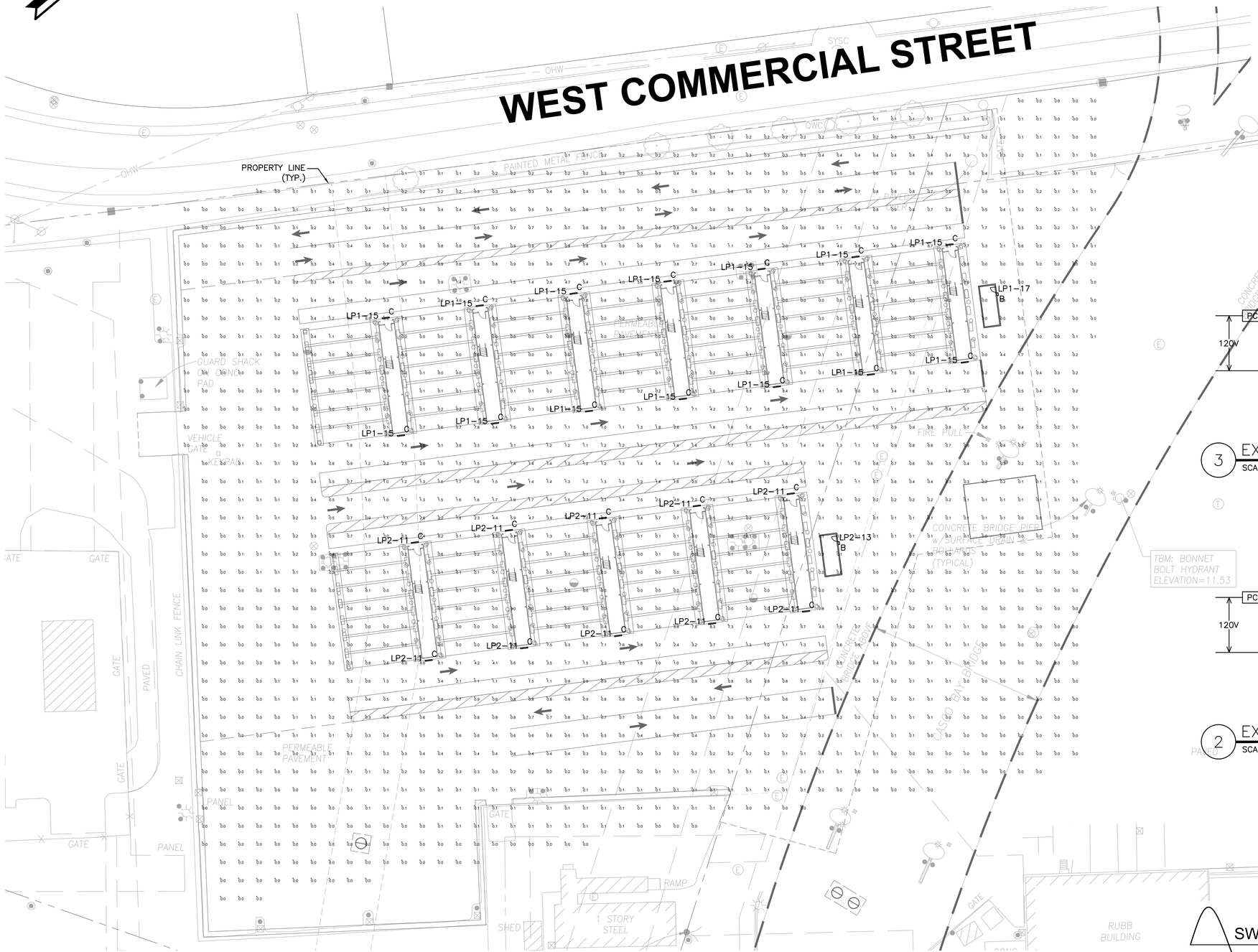
Subtotal	$22,330.00
State Cap @ 8.1%	$1,809.00
Total:	$24,139.00

Exterior Lighting

The site lighting design focuses on the loading and unloading lanes around the reefer racks which prevents light trespass beyond the site property lines. In addition, all proposed fixtures have cutoff optics preventing light being cast beyond 90 degrees. The light within the travel lanes ranges from 1 to 9 footcandles, within the 20:1 uniformity limit. Lighting was previously approved to 60 feet above grade in order to accommodate the container stacks anticipated on site. The proposed lighting on the reefer racks will be at the top of the structures, approximately 50 feet above grade. The photometric plan has been provided as well as, fixture cut sheets.

The Type C fixture is the primary source of lighting mounted at the top of the structure and pointed straight down to illuminate roadways between the reefer racks only. The Type A fixture is utilized at each floor level of the structure to provide general and task lighting for workers. These fixtures are located at the center of the ceiling at each floor level pointing directly down. The Type B fixtures are mounted at the entry doors two the two small electrical switch gear rooms.

WEST COMMERCIAL STREET



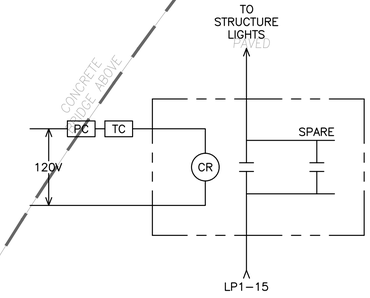
1 ELECTRICAL SITE LIGHTING PLAN
SCALE: 1" = 30'

NOTES:

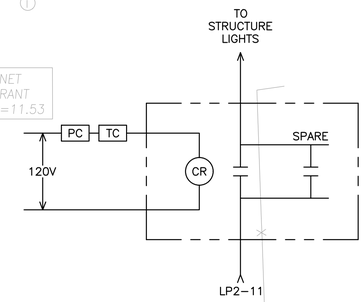
1. SEE E100 FOR GENERAL NOTES.
2. SEE SHEET E201 FOR LIGHTING SCHEDULE.

KEYED NOTES:

1 ***



3 EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NOT TO SCALE



2 EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NOT TO SCALE

SWIFTCURRENT
Engineering Services
10 Forest Falls Dr. Unit 4B
Yarmouth, ME 04096
Tel: (207) 847-9280

60% REVIEW
SUBMITTED DATE: FEBRUARY 24, 2023

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
DSGN							

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PORT INFRASTRUCTURE DEVELOPMENT
PROGRAM (PIDP) GRANT PRIORITY PROJECTS
DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, MAINE

Jacobs

ELECTRICAL SITE LIGHTING PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE 2-24-23
PROJ PROJ
DWG E200
SHEET 26 of 29

FILENAME:

Columbia LIGHTING

TYPE A FIXTURE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

FEATURES

- Available in 2', 4', or 8' lengths
- IP65, IP67 and IP66 all models with standard polyacetal (POM) latches
- NEMA 4X housing
- Fiberglass housing with F1 weatherability rating, standard
- IK10 rated when ordered with polycarbonate lens
- Impact modified acrylic lens equivalent to 100% DR
- UL Sanitation Certified per NSF Standards
- Includes stainless steel surface mounting brackets
- -20°C up to +50°C ambient operation; see table provided for details

Built to UL 924 Standards

See Certification Specifications

SPECIFICATIONS

CONSTRUCTION

- Housing is formed from UL 5VA fiberglass
- F1 weatherability rating, suitable for indoor or outdoor use with respect to exposure to UV light
- Pour-in-place non-porous gasketing assures seal
- LED affixed to removable heat sinked gear tray
- 14 Latches per 8', 8 per 4', 6 per 2'
- Latches are provided tamper resistance ready, tamper resistant screws by others
- Latches are standard polyacetal (POM), optional in stainless steel
- Access openings are provided for electrical connection
- White painted parts are treated with a five-stage phosphate bonding process and finished with high reflectance baked enamel

OPTICS

- Lineal ribbed frosted acrylic lens impact modified equivalent to 100% DR; modification adds flexibility to reduce impact breakage compared to standard acrylic formulations
- Optional ribbed polycarbonate lens or deep acrylic
- All lenses available in clear or frost

ELECTRICAL

- Long life 60,000 hour LEDs at L80 for reduced maintenance
- Extra High Lumen packages (XL) rated L70 at 60,000 hours
- 80 CRI
- Driver options include fixed output for on/off function, step dimming (high/low/off) or continuous 0-10V dimming
- QR code label affixed to housing for easy traceability

CERTIFICATIONS

- All luminaires are built to UL 1598 and 2108 standards, and bear appropriate cCSAus labels
- CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options
- Wet Location label standard
- UL Sanitation certified to NSF standards
- Ingress protection IP65 and IP67 standard; IP66 on certain models

CERTIFICATIONS (CONTINUED)

- DLC® (DesignLights Consortium) Qualified, with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org
- The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See page 10 for wiring diagram.
- This product qualifies as a “designated country construction material” per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 06/01/2020.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	2145–22,473
Wattage Range	20-183
Efficacy Range (LPW)	99-147
Reported Life (Hours)	L80/60,000

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Columbia LIGHTING

DATE: LOCATION:

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

ORDERING GUIDE

Example: LXEM4–35HL–RFA–EDU

CATALOG #

LXEM		–			–		–		–
Model	**Size**		**Color Temp**	**Nominal Lumens**		**Shielding**		**Driver**	**Voltage**
LXEM LED Enclosed and Gasketed	**2** 2' [1,2,3,4] **4** 4' **8** 8'		**30** 3000K **35** 3500K **40** 4000K **50** 5000K	**VW** 2' (2,145–2,708) 4' (2,802–3,433) 8' (6,078–6,866) **LW** 2' (2,738–3,529) 4' (3,726–4,922) 8' (8,095–9,276) **ML** 2' (3,862–4,921) 4' (4,533–5,646) 8' (9,844–11,293) **HL** 2' (4,254–5,416) 4' (5,449–6,763) 8' (11,851–13,525) **VL** 4' (7,086–8,415) 8' (14,747–16,830) **XL** 4' (9,059–11,237) 8' (19,558–22,473)		**RFA** Ribbed Frosted Acrylic **RA** Ribbed Clear Acrylic [5] **DFA** Deep Frosted Acrylic **DCA** Deep Clear Acrylic [5] **RFP** Ribbed Frosted Polycarbonate [6] **RP** Ribbed Clear Polycarbonate [5,6]	**E** Fixed Output **ED** 0–10V Dimming **ED1** 0–10V 1% Dimming [7] **ESD** Step Dimming [7]	**U** 120–277V **347** 347V

Options	
ELL14	Emergency Battery Pack Installed, 1400 Lumens [3,7,8]
GLR	Fast Blow Fuse
DTS	Dimming Bypass Module [3,8,9]
OCM	Microwave Occupancy Sensor [8,13]
SSL	Stainless Steel Tamper Resistance Ready Latches
TP	Tamper Proof Latches
F3C8W	3-Wire 8' Wet Cord
F3C15W	3-Wire 15' Wet Cord
F4C8W	4-Wire 8' Wet Cord
F4C15W	4-Wire 15' Wet Cord
F5C8W	5-Wire 8' Wet Cord
F5C15W	5-Wire 15' Wet Cord
F6C6W	6-Wire 6' Wet Cord
SWH	Single Wet Hub ½" NPT Hub
DWH	Dual Wet Hub ½" NPT Hub
ZRE	ControlScope® compatible [8,10]

Accessories	
☐ **XEDPM**	Dual Pendant Brackets (pendant by others) [11]
☐ **XEHC**	Chain Hanger Kit (Includes 14" Chain)
☐ **XE45MB**	45° Mounting Bracket [12]
☐ **XE45MBSS**	45° Stainless Steel Mounting Bracket [12]

Sensor kits (Order Separately)
All sensor kits include On/Off Occupancy & Daylight.
Daylight activation requires setting of dip-switches on site.

	Catalog #	# Relays	Lens Type	Voltage	Wet Label
120V/277V	☐ **OS1360WLK**	1	360°	120/277	Yes
	☐ **OS2360WLK**	2	360°	120/277	Yes
	☐ **OS1AWLK**	1	Aisle	120/277	Yes
	☐ **OS2AWLK**	2	Aisle	120/277	Yes

Notes:

1 VL and XL not available in 2' size
2 Not available with battery pack or DTS
3 Not available with XL lumen package
4 Not available with VL lumen package
5 Clear lenses (RA, DCA and RP) may cause noticeable light patterns on lit surfaces. See ies files for exact distribution
6 2' and 4' only. 8' not available
7 See table for availability
8 Not available in 347V
9 For emergency circuit control loads including sensors and wireless systems listed to UL924. Only available with 0–10V drivers. See page 10 for wiring diagram
10 Registered trademark of Daintree Networks, used by permission
11 Requires ⅜" OD threaded rod by others
12 2 required for 8' fixture
13 OCM option uses Wattstopper FM-105

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

PRODUCT EXCEPTIONS & DETAILS

Options listed below are available for the outputs as shown.

DRIVER AVAILABILITY TABLE							
Length	Output	Nominal Lumen Range	ESD Available	ED1 Available	347V Available	347V with ESD Available	347V with ED1 Available
2'	VW	2,145–2,708	Y	Y	Y	N/A	Y
	LW	2,738–3,529	Y	Y	Y	N/A	Y
	ML	3,862–4,921	Y	Y	Y	N/A	Y
	HL	4,254–5,416	Y	Y	Y	N/A	Y
4'	VW	2,802–3,433	Y	Y	Y	N/A	Y
	LW	3,726–4,922	Y	Y	Y	N/A	Y
	ML	4,533–5,646	Y	Y	Y	N/A	Y
	HL	5,449–6,763	Y	Y	Y	N/A	Y
	VL	7,086–8,415	Y	Y	Y	N/A	N/A
	XL	9,059–11,237	N/A	Y	Y	N/A	N/A
8'	VW	6,078–6,866	Y	Y	Y	N/A	Y
	LW	8,095–9,276	Y	Y	Y	N/A	Y
	ML	9,844–11,293	Y	Y	Y	N/A	Y
	HL	11,851–13,525	Y	Y	Y	N/A	Y
	VL	14,747–16,830	Y	Y	Y	N/A	N/A
	XL	19,558–22,473	N/A	Y	Y	N/A	N/A

MAX. AMBIENT OPERATING TEMP.							
Length	Output	Nominal Lumen Range	Watts	LPW	Max Ambient Operating Temperature (C°) (Universal Voltage)	ELL14 (with Universal Voltage)	347V
2'	VW	2,145–2,708	21	102–130	40	NA	35
	LW	2,738–3,529	26	105–135	40	NA	35
	ML	3,862–4,921	39	100–128	40	NA	35
	HL	4,254–5,416	44	97–123	35	NA	30
4'	VW	2,802–3,433	25	114–141	50	45	45
	LW	3,726–4,922	33	112–139	50	45	45
	ML	4,533–5,646	42	108–134	50	45	45
	HL	5,449–6,763	47	115–143	45	45	35
	VL	7,086–8,415	62	115–136	40	40	35
	XL	9,059–11,237	92	99–123	30	NA	25
8'	VW	6,078–6,866	49	124–141	50	45	45
	LW	8,095–9,276	67	122–139	50	45	45
	ML	9,844–11,293	84	117–134	50	45	45
	HL	11,851–13,525	95	125–143	45	45	35
	VL	14,747–16,830	123	120–136	40	40	35
	XL	19,558–22,473	183	107–123	30	NA	25

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

DELIVERED LUMENS

PRODUCT AVAILABILITY 80 CRI							
Lumen Package	Output	Color	Lens	Lumens	Watts	LPW	Max Ambient Operating Temp
LXEM2-30VW-RFP-EDU	Very Low Watt	30K	RFP	2,145	21.1	101.6	40°C
LXEM2-30VW-RA-EDU			RA	2,365	20.8	113.7	40°C
LXEM2-30VW-RP-EDU			RP	2,373	20.8	114.1	40°C
LXEM2-30VW-RFA-EDU			RFA	2,448	20.8	117.7	40°C
LXEM2-30VW-DFA-EDU			DFA	2,467	20.8	118.6	40°C
LXEM2-30VW-DCA-EDU			DCA	2,512	20.8	120.8	40°C
LXEM2-35VW-RFP-EDU		35K	RFP	2,217	21.1	105.1	40°C
LXEM2-35VW-RA-EDU			RA	2,446	20.8	117.6	40°C
LXEM2-35VW-RP-EDU			RP	2,454	20.8	118	40°C
LXEM2-35VW-RFA-EDU			RFA	2,531	20.8	121.7	40°C
LXEM2-35VW-DFA-EDU			DFA	2,551	20.8	122.6	40°C
LXEM2-35VW-DCA-EDU			DCA	2,598	20.8	124.9	40°C
LXEM2-40VW-RFP-EDU		40K	RFP	2,252	21.1	106.7	40°C
LXEM2-40VW-RA-EDU			RA	2,484	20.8	119.4	40°C
LXEM2-40VW-RP-EDU			RP	2,492	20.8	119.8	40°C
LXEM2-40VW-RFA-EDU			RFA	2,571	20.8	123.6	40°C
LXEM2-40VW-DFA-EDU			DFA	2,590	20.8	124.5	40°C
LXEM2-40VW-DCA-EDU			DCA	2,638	20.8	126.8	40°C
LXEM2-50VW-RFP-EDU		50K	RFP	2,312	21.1	109.6	40°C
LXEM2-50VW-RA-EDU			RA	2,550	20.8	122.6	40°C
LXEM2-50VW-RP-EDU			RP	2,558	20.8	123	40°C
LXEM2-50VW-RFA-EDU			RFA	2,639	20.8	126.9	40°C
LXEM2-50VW-DFA-EDU			DFA	2,659	20.8	127.8	40°C
LXEM2-50VW-DCA-EDU			DCA	2,708	20.8	130.2	40°C
LXEM2-30LW-RFP-EDU	Low Watt	30K	RFP	2,738	26	105.3	40°C
LXEM2-30LW-RP-EDU			RP	3,049	26.1	116.8	40°C
LXEM2-30LW-RA-EDU			RA	3,144	26	120.9	40°C
LXEM2-30LW-RFA-EDU			RFA	3,180	26.2	121.4	40°C
LXEM2-30LW-DFA-EDU			DFA	3,239	26.1	124.1	40°C
LXEM2-30LW-DCA-EDU			DCA	3,273	26.1	125.4	40°C
LXEM2-35LW-RFP-EDU		35K	RFP	2,831	26	108.9	40°C
LXEM2-35LW-RP-EDU			RP	3,153	26.1	120.8	40°C
LXEM2-35LW-RA-EDU			RA	3,251	26	125	40°C
LXEM2-35LW-RFA-EDU			RFA	3,289	26.2	125.5	40°C
LXEM2-35LW-DFA-EDU			DFA	3,349	26.1	128.3	40°C
LXEM2-35LW-DCA-EDU			DCA	3,385	26.1	129.7	40°C
LXEM2-40LW-RFP-EDU		40K	RFP	2,875	26	110.6	40°C
LXEM2-40LW-RP-EDU			RP	3,202	26.1	122.7	40°C
LXEM2-40LW-RA-EDU			RA	3,302	26	127	40°C
LXEM2-40LW-RFA-EDU			RFA	3,339	26.2	127.5	40°C
LXEM2-40LW-DFA-EDU			DFA	3,401	26.1	130.3	40°C
LXEM2-40LW-DCA-EDU			DCA	3,437	26.1	131.7	40°C
LXEM2-50LW-RFP-EDU		50K	RFP	2,951	26	113.5	40°C
LXEM2-50LW-RP-EDU			RP	3,287	26.1	125.9	40°C
LXEM2-50LW-RA-EDU			RA	3,390	26	130.4	40°C
LXEM2-50LW-RFA-EDU			RFA	3,428	26.2	130.9	40°C
LXEM2-50LW-DFA-EDU			DFA	3,492	26.1	133.8	40°C
LXEM2-50LW-DCA-EDU			DCA	3,529	26.1	135.2	40°C
LXEM2-30ML-RFP-EDU	Medium Lumen	30K	RFP	3,862	38.5	100.3	40°C
LXEM2-30ML-RP-EDU			RP	4,228	38.5	109.8	40°C
LXEM2-30ML-RFA-EDU			RFA	4,343	38.5	112.8	40°C
LXEM2-30ML-RA-EDU			RA	4,446	38.5	115.5	40°C
LXEM2-30ML-DFA-EDU			DFA	4,526	38.5	117.5	40°C
LXEM2-30ML-DCA-EDU			DCA	4,565	38.5	118.6	40°C
LXEM2-35ML-RFP-EDU		35K	RFP	3,993	38.5	103.7	40°C
LXEM2-35ML-RP-EDU			RP	4,371	38.5	113.5	40°C
LXEM2-35ML-RFA-EDU			RFA	4,490	38.5	116.6	40°C
LXEM2-35ML-RA-EDU			RA	4,597	38.5	119.4	40°C
LXEM2-35ML-DFA-EDU			DFA	4,680	38.5	121.5	40°C
LXEM2-35ML-DCA-EDU			DCA	4,720	38.5	122.6	40°C
LXEM2-40ML-RFP-EDU		40K	RFP	4,055	38.5	105.3	40°C
LXEM2-40ML-RP-EDU			RP	4,439	38.5	115.3	40°C
LXEM2-40ML-RFA-EDU			RFA	4,560	38.5	118.4	40°C
LXEM2-40ML-RA-EDU			RA	4,668	38.5	121.3	40°C
LXEM2-40ML-DFA-EDU			DFA	4,752	38.5	123.4	40°C
LXEM2-40ML-DCA-EDU			DCA	4,793	38.5	124.5	40°C
LXEM2-50ML-RFP-EDU		50K	RFP	4,163	38.5	108.1	40°C
LXEM2-50ML-RP-EDU			RP	4,558	38.5	118.4	40°C
LXEM2-50ML-RFA-EDU			RFA	4,682	38.5	121.6	40°C
LXEM2-50ML-RA-EDU			RA	4,793	38.5	124.5	40°C
LXEM2-50ML-DFA-EDU			DFA	4,879	38.5	126.7	40°C
LXEM2-50ML-DCA-EDU			DCA	4,921	38.5	127.8	40°C

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

DELIVERED LUMENS (CONTINUED)

PRODUCT AVAILABILITY 80 CRI							
Lumen Package	Output	Color	Lens	Lumens	Watts	LPW	Max Ambient Operating Temp
LXEM2-30HL-RFP-EDU	High Lumen	30K	RFP	4,254	44.1	96.5	35°C
LXEM2-30HL-RP-EDU			RP	4,700	44.1	106.6	35°C
LXEM2-30HL-RA-EDU			RA	4,868	44.1	110.4	35°C
LXEM2-30HL-RFA-EDU			RFA	4,874	44.1	110.5	35°C
LXEM2-30HL-DFA-EDU			DFA	5,008	44.1	113.6	35°C
LXEM2-30HL-DCA-EDU			DCA	5,024	44.1	113.9	35°C
LXEM2-35HL-RFP-EDU		35K	RFP	4,399	44.1	99.7	35°C
LXEM2-35HL-RP-EDU			RP	4,860	44.1	110.2	35°C
LXEM2-35HL-RA-EDU			RA	5,033	44.1	114.1	35°C
LXEM2-35HL-RFA-EDU			RFA	5,040	44.1	114.3	35°C
LXEM2-35HL-DFA-EDU			DFA	5,179	44.1	117.4	35°C
LXEM2-35HL-DCA-EDU			DCA	5,195	44.1	117.8	35°C
LXEM2-40HL-RFP-EDU		40K	RFP	4,467	44.1	101.3	35°C
LXEM2-40HL-RP-EDU			RP	4,935	44.1	111.9	35°C
LXEM2-40HL-RA-EDU			RA	5,111	44.1	115.9	35°C
LXEM2-40HL-RFA-EDU			RFA	5,117	44.1	116	35°C
LXEM2-40HL-DFA-EDU			DFA	5,259	44.1	119.2	35°C
LXEM2-40HL-DCA-EDU			DCA	5,275	44.1	119.6	35°C
LXEM2-50HL-RFP-EDU		50K	RFP	4,586	44.1	104	35°C
LXEM2-50HL-RP-EDU			RP	5,066	44.1	114.9	35°C
LXEM2-50HL-RA-EDU			RA	5,248	44.1	119	35°C
LXEM2-50HL-RFA-EDU			RFA	5,254	44.1	119.1	35°C
LXEM2-50HL-DFA-EDU			DFA	5,399	44.1	122.4	35°C
LXEM2-50HL-DCA-EDU			DCA	5,416	44.1	122.8	35°C
LXEM4-30VW-RFP-EDU	Very Low Watt	30K	RFP	2,802	24.5	114.4	50°C
LXEM4-30VW-RP-EDU			RP	2,938	24.4	120.4	50°C
LXEM4-30VW-RA-EDU			RA	3,039	24.4	124.6	50°C
LXEM4-30VW-RFA-EDU			RFA	3,048	24.5	124.4	50°C
LXEM4-30VW-DCA-EDU			DCA	3,180	24.4	130.3	50°C
LXEM4-30VW-DFA-EDU			DFA	3,184	24.4	130.5	50°C
LXEM4-35VW-RFP-EDU		35K	RFP	2,897	24.5	118.2	50°C
LXEM4-35VW-RP-EDU			RP	3,038	24.4	124.5	50°C
LXEM4-35VW-RA-EDU			RA	3,143	24.4	128.8	50°C
LXEM4-35VW-RFA-EDU			RFA	3,151	24.5	128.6	50°C
LXEM4-35VW-DCA-EDU			DCA	3,288	24.4	134.8	50°C
LXEM4-35VW-DFA-EDU			DFA	3,293	24.4	134.9	50°C
LXEM4-40VW-RFP-EDU		40K	RFP	2,942	24.5	120.1	50°C
LXEM4-40VW-RP-EDU			RP	3,085	24.4	126.4	50°C
LXEM4-40VW-RA-EDU			RA	3,191	24.4	130.8	50°C
LXEM4-40VW-RFA-EDU			RFA	3,200	24.5	130.6	50°C
LXEM4-40VW-DCA-EDU			DCA	3,339	24.4	136.8	50°C
LXEM4-40VW-DFA-EDU			DFA	3,344	24.4	137	50°C
LXEM4-50VW-RFP-EDU		50K	RFP	3,020	24.5	123.3	50°C
LXEM4-50VW-RP-EDU			RP	3,168	24.4	129.8	50°C
LXEM4-50VW-RA-EDU			RA	3,276	24.4	134.3	50°C
LXEM4-50VW-RFA-EDU			RFA	3,285	24.5	134.1	50°C
LXEM4-50VW-DCA-EDU			DCA	3,428	24.4	140.5	50°C
LXEM4-50VW-DFA-EDU			DFA	3,433	24.4	140.7	50°C
LXEM4-30LW-RFP-EDU	Low Watt	30K	RFP	3,726	33.3	111.9	50°C
LXEM4-30LW-RP-EDU			RP	3,872	33.3	116.3	50°C
LXEM4-30LW-RFA-EDU			RFA	4,048	33.3	121.5	50°C
LXEM4-30LW-RA-EDU			RA	4,054	33.3	121.8	50°C
LXEM4-30LW-DFA-EDU			DFA	4,241	33.3	127.4	50°C
LXEM4-30LW-DCA-EDU			DCA	4,303	33.3	129.2	50°C
LXEM4-35LW-RFP-EDU		35K	RFP	3,853	33.3	115.7	50°C
LXEM4-35LW-RP-EDU			RP	4,004	33.3	120.2	50°C
LXEM4-35LW-RFA-EDU			RFA	4,185	33.3	125.7	50°C
LXEM4-35LW-RA-EDU			RA	4,192	33.3	125.9	50°C
LXEM4-35LW-DFA-EDU			DFA	4,385	33.3	131.7	50°C
LXEM4-35LW-DCA-EDU			DCA	4,449	33.3	133.6	50°C
LXEM4-40LW-RFP-EDU		40K	RFP	3,912	33.3	117.5	50°C
LXEM4-40LW-RP-EDU			RP	4,066	33.3	122.1	50°C
LXEM4-40LW-RFA-EDU			RFA	4,250	33.3	127.6	50°C
LXEM4-40LW-RA-EDU			RA	4,257	33.3	127.8	50°C
LXEM4-40LW-DFA-EDU			DFA	4,453	33.3	133.7	50°C
LXEM4-40LW-DCA-EDU			DCA	4,518	33.3	135.7	50°C
LXEM4-50LW-RFP-EDU		50K	RFP	4,017	33.3	120.6	50°C
LXEM4-50LW-RP-EDU			RP	4,174	33.3	125.3	50°C
LXEM4-50LW-RFA-EDU			RFA	4,363	33.3	131	50°C
LXEM4-50LW-RA-EDU			RA	4,371	33.3	131.3	50°C
LXEM4-50LW-DFA-EDU			DFA	4,572	33.3	137.3	50°C
LXEM4-50LW-DCA-EDU			DCA	4,638	33.3	139.3	50°C

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

DELIVERED LUMENS (CONTINUED)

PRODUCT AVAILABILITY 80 CRI							
Lumen Package	Output	Color	Lens	Lumens	Watts	LPW	Max Ambient Operating Temp
LXEM4-30ML-RFP-EDU	Medium Lumen	30K	RFP	4,533	41.9	108.2	50°C
LXEM4-30ML-RP-EDU			RP	4,714	41.9	112.5	50°C
LXEM4-30ML-RFA-EDU			RFA	4,922	42	117.2	50°C
LXEM4-30ML-RA-EDU			RA	4,924	42	117.2	50°C
LXEM4-30ML-DFA-EDU			DFA	5,160	42	122.9	50°C
LXEM4-30ML-DCA-EDU			DCA	5,238	42	124.7	50°C
LXEM4-35ML-RFP-EDU		35K	RFP	4,688	41.9	111.9	50°C
LXEM4-35ML-RP-EDU			RP	4,875	41.9	116.3	50°C
LXEM4-35ML-RFA-EDU			RFA	5,089	42	121.2	50°C
LXEM4-35ML-RA-EDU			RA	5,091	42	121.2	50°C
LXEM4-35ML-DFA-EDU			DFA	5,336	42	127	50°C
LXEM4-35ML-DCA-EDU			DCA	5,416	42	128.9	50°C
LXEM4-40ML-RFP-EDU		40K	RFP	4,760	41.9	113.6	50°C
LXEM4-40ML-RP-EDU			RP	4,950	41.9	118.1	50°C
LXEM4-40ML-RFA-EDU			RFA	5,168	42	123.1	50°C
LXEM4-40ML-RA-EDU			RA	5,170	42	123.1	50°C
LXEM4-40ML-DFA-EDU			DFA	5,418	42	129	50°C
LXEM4-40ML-DCA-EDU			DCA	5,500	42	130.9	50°C
LXEM4-50ML-RFP-EDU		50K	RFP	4,887	41.9	116.6	50°C
LXEM4-50ML-RP-EDU			RP	5,082	41.9	121.3	50°C
LXEM4-50ML-RFA-EDU			RFA	5,306	42	126.3	50°C
LXEM4-50ML-RA-EDU			RA	5,308	42	126.4	50°C
LXEM4-50ML-DFA-EDU			DFA	5,563	42	132.4	50°C
LXEM4-50ML-DCA-EDU			DCA	5,646	42	134.4	50°C
LXEM4-30HL-RFP-EDU	High Lumen	30K	RFP	5,449	47.4	115	45°C
LXEM4-30HL-RP-EDU			RP	5,648	47.2	119.7	45°C
LXEM4-30HL-RFA-EDU			RFA	5,926	47.4	125	45°C
LXEM4-30HL-RA-EDU			RA	5,932	47.3	125.4	45°C
LXEM4-30HL-DFA-EDU			DFA	6,214	47.3	131.4	45°C
LXEM4-30HL-DCA-EDU			DCA	6,273	47.4	132.4	45°C
LXEM4-35HL-RFP-EDU		35K	RFP	5,634	47.4	118.9	45°C
LXEM4-35HL-RP-EDU			RP	5,840	47.2	123.7	45°C
LXEM4-35HL-RFA-EDU			RFA	6,127	47.4	129.3	45°C
LXEM4-35HL-RA-EDU			RA	6,133	47.3	129.7	45°C
LXEM4-35HL-DFA-EDU			DFA	6,425	47.3	135.8	45°C
LXEM4-35HL-DCA-EDU			DCA	6,487	47.4	136.9	45°C
LXEM4-40HL-RFP-EDU		40K	RFP	5,721	47.4	120.7	45°C
LXEM4-40HL-RP-EDU			RP	5,931	47.2	125.7	45°C
LXEM4-40HL-RFA-EDU			RFA	6,222	47.4	131.3	45°C
LXEM4-40HL-RA-EDU			RA	6,228	47.3	131.7	45°C
LXEM4-40HL-DFA-EDU			DFA	6,525	47.3	137.9	45°C
LXEM4-40HL-DCA-EDU			DCA	6,587	47.4	139	45°C
LXEM4-50HL-RFP-EDU		50K	RFP	5,874	47.4	123.9	45°C
LXEM4-50HL-RP-EDU			RP	6,089	47.2	129	45°C
LXEM4-50HL-RFA-EDU			RFA	6,388	47.4	134.8	45°C
LXEM4-50HL-RA-EDU			RA	6,394	47.3	135.2	45°C
LXEM4-50HL-DFA-EDU			DFA	6,699	47.3	141.6	45°C
LXEM4-50HL-DCA-EDU			DCA	6,763	47.4	142.7	45°C
LXEM4-30VL-RP-EDU	Very High Lumen	30K	RP	7,086	61.6	115	40°C
LXEM4-30VL-RA-EDU			RA	7,373	61.7	119.5	40°C
LXEM4-30VL-RFP-EDU			RFP	7,388	61.6	119.9	40°C
LXEM4-30VL-RFA-EDU			RFA	7,395	61.6	120	40°C
LXEM4-30VL-DFA-EDU			DFA	7,756	61.7	125.7	40°C
LXEM4-30VL-DCA-EDU			DCA	7,806	61.7	126.5	40°C
LXEM4-35VL-RP-EDU		35K	RP	7,327	61.6	118.9	40°C
LXEM4-35VL-RA-EDU			RA	7,624	61.7	123.6	40°C
LXEM4-35VL-RFP-EDU			RFP	7,639	61.6	124	40°C
LXEM4-35VL-RFA-EDU			RFA	7,646	61.6	124.1	40°C
LXEM4-35VL-DFA-EDU			DFA	8,020	61.7	130	40°C
LXEM4-35VL-DCA-EDU			DCA	8,072	61.7	130.8	40°C
LXEM4-40VL-RP-EDU		40K	RP	7,440	61.6	120.8	40°C
LXEM4-40VL-RA-EDU			RA	7,742	61.7	125.5	40°C
LXEM4-40VL-RFP-EDU			RFP	7,757	61.6	125.9	40°C
LXEM4-40VL-RFA-EDU			RFA	7,764	61.6	126	40°C
LXEM4-40VL-DFA-EDU			DFA	8,144	61.7	132	40°C
LXEM4-40VL-DCA-EDU			DCA	8,197	61.7	132.8	40°C
LXEM4-50VL-RP-EDU		50K	RP	7,639	61.6	124	40°C
LXEM4-50VL-RA-EDU			RA	7,948	61.7	128.8	40°C
LXEM4-50VL-RFP-EDU			RFP	7,964	61.6	129.3	40°C
LXEM4-50VL-RFA-EDU			RFA	7,971	61.6	129.4	40°C
LXEM4-50VL-DFA-EDU			DFA	8,361	61.7	135.5	40°C
LXEM4-50VL-DCA-EDU			DCA	8,415	61.7	136.4	40°C

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

DELIVERED LUMENS (CONTINUED)

PRODUCT AVAILABILITY 80 CRI							
Lumen Package	Output	Color	Lens	Lumens	Watts	LPW	Max Ambient Operating Temp
LXEM4-30XL-RFP-EDU	Xtra High Lumen	30K	RFP	9,059	91.3	99.2	30°C
LXEM4-30XL-RP-EDU			RP	9,448	91.2	103.6	30°C
LXEM4-30XL-RFA-EDU			RFA	9,779	91.2	107.2	30°C
LXEM4-30XL-RA-EDU			RA	9,839	91.4	107.7	30°C
LXEM4-30XL-DFA-EDU			DFA	10,358	91.4	113.3	30°C
LXEM4-30XL-DCA-EDU			DCA	10,424	91.5	113.9	30°C
LXEM4-35XL-RFP-EDU		35K	RFP	9,367	91.3	102.6	30°C
LXEM4-35XL-RP-EDU			RP	9,769	91.2	107.1	30°C
LXEM4-35XL-RFA-EDU			RFA	10,111	91.2	110.9	30°C
LXEM4-35XL-RA-EDU			RA	10,174	91.4	111.3	30°C
LXEM4-35XL-DFA-EDU			DFA	10,710	91.4	117.2	30°C
LXEM4-35XL-DCA-EDU			DCA	10,778	91.5	117.8	30°C
LXEM4-40XL-RFP-EDU		40K	RFP	9,512	91.3	104.2	30°C
LXEM4-40XL-RP-EDU			RP	9,920	91.2	108.8	30°C
LXEM4-40XL-RFA-EDU			RFA	10,268	91.2	112.6	30°C
LXEM4-40XL-RA-EDU			RA	10,331	91.4	113	30°C
LXEM4-40XL-DFA-EDU			DFA	10,876	91.4	119	30°C
LXEM4-40XL-DCA-EDU			DCA	10,945	91.5	119.6	30°C
LXEM4-50XL-RFP-EDU		50K	RFP	9,765	91.3	107	30°C
LXEM4-50XL-RP-EDU			RP	10,184	91.2	111.7	30°C
LXEM4-50XL-RFA-EDU			RFA	10,542	91.2	115.6	30°C
LXEM4-50XL-RA-EDU			RA	10,607	91.4	116	30°C
LXEM4-50XL-DFA-EDU			DFA	11,166	91.4	122.2	30°C
LXEM4-50XL-DCA-EDU			DCA	11,237	91.5	122.8	30°C
LXEM8-30VW-RA-EDU	Very Low Watt	30K	RA	6,078	48.8	124.6	50°C
LXEM8-30VW-RFA-EDU			RFA	6,096	49	124.4	50°C
LXEM8-30VW-DCA-EDU			DCA	6,360	48.8	130.3	50°C
LXEM8-30VW-DFA-EDU			DFA	6,369	48.8	130.5	50°C
LXEM8-35VW-RA-EDU		35K	RA	6,285	48.8	128.8	50°C
LXEM8-35VW-RFA-EDU			RFA	6,303	49	128.6	50°C
LXEM8-35VW-DCA-EDU			DCA	6,576	48.8	134.8	50°C
LXEM8-35VW-DFA-EDU			DFA	6,585	48.8	134.9	50°C
LXEM8-40VW-RA-EDU		40K	RA	6,382	48.8	130.8	50°C
LXEM8-40VW-RFA-EDU			RFA	6,400	49	130.6	50°C
LXEM8-40VW-DCA-EDU			DCA	6,678	48.8	136.8	50°C
LXEM8-40VW-DFA-EDU			DFA	6,687	48.8	137	50°C
LXEM8-50VW-RA-EDU		50K	RA	6,553	48.8	134.3	50°C
LXEM8-50VW-RFA-EDU			RFA	6,571	49	134.1	50°C
LXEM8-50VW-DCA-EDU			DCA	6,856	48.8	140.5	50°C
LXEM8-50VW-DFA-EDU			DFA	6,866	48.8	140.7	50°C
LXEM8-30LW-RFA-EDU	Low Watt	30K	RFA	8,095	66.6	121.5	50°C
LXEM8-30LW-RA-EDU			RA	8,109	66.6	121.8	50°C
LXEM8-30LW-DFA-EDU			DFA	8,482	66.6	127.4	50°C
LXEM8-30LW-DCA-EDU			DCA	8,605	66.6	129.2	50°C
LXEM8-35LW-RFA-EDU		35K	RFA	8,370	66.6	125.7	50°C
LXEM8-35LW-RA-EDU			RA	8,385	66.6	125.9	50°C
LXEM8-35LW-DFA-EDU			DFA	8,770	66.6	131.7	50°C
LXEM8-35LW-DCA-EDU			DCA	8,898	66.6	133.6	50°C
LXEM8-40LW-RFA-EDU		40K	RFA	8,500	66.6	127.6	50°C
LXEM8-40LW-RA-EDU			RA	8,514	66.6	127.8	50°C
LXEM8-40LW-DFA-EDU			DFA	8,906	66.6	133.7	50°C
LXEM8-40LW-DCA-EDU			DCA	9,035	66.6	135.7	50°C
LXEM8-50LW-RFA-EDU		50K	RFA	8,727	66.6	131	50°C
LXEM8-50LW-RA-EDU			RA	8,741	66.6	131.3	50°C
LXEM8-50LW-DFA-EDU			DFA	9,143	66.6	137.3	50°C
LXEM8-50LW-DCA-EDU			DCA	9,276	66.6	139.3	50°C
LXEM8-30ML-RFA-EDU	Medium Lumen	30K	RFA	9,844	84	117.2	50°C
LXEM8-30ML-RA-EDU			RA	9,847	84	117.2	50°C
LXEM8-30ML-DFA-EDU			DFA	10,320	84	122.9	50°C
LXEM8-30ML-DCA-EDU			DCA	10,476	84	124.7	50°C
LXEM8-35ML-RFA-EDU		35K	RFA	10,179	84	121.2	50°C
LXEM8-35ML-RA-EDU			RA	10,182	84	121.2	50°C
LXEM8-35ML-DFA-EDU			DFA	10,671	84	127	50°C
LXEM8-35ML-DCA-EDU			DCA	10,832	84	128.9	50°C
LXEM8-40ML-RFA-EDU		40K	RFA	10,336	84	123.1	50°C
LXEM8-40ML-RA-EDU			RA	10,340	84	123.1	50°C
LXEM8-40ML-DFA-EDU			DFA	10,836	84	129	50°C
LXEM8-40ML-DCA-EDU			DCA	10,999	84	130.9	50°C
LXEM8-50ML-RFA-EDU		50K	RFA	10,612	84	126.3	50°C
LXEM8-50ML-RA-EDU			RA	10,616	84	126.4	50°C
LXEM8-50ML-DFA-EDU			DFA	11,125	84	132.4	50°C
LXEM8-50ML-DCA-EDU			DCA	11,293	84	134.4	50°C

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

DELIVERED LUMENS (CONTINUED)

PRODUCT AVAILABILITY 80 CRI							
Lumen Package	Output	Color	Lens	Lumens	Watts	LPW	Max Ambient Operating Temp
LXEM8-30HL-RFA-EDU	High Lumen	30K	RFA	11,851	94.8	125	45°C
LXEM8-30HL-RA-EDU			RA	11,863	94.6	125.4	45°C
LXEM8-30HL-DFA-EDU			DFA	12,428	94.6	131.4	45°C
LXEM8-30HL-DCA-EDU			DCA	12,547	94.8	132.4	45°C
LXEM8-35HL-RFA-EDU		35K	RFA	12,254	94.8	129.3	45°C
LXEM8-35HL-RA-EDU			RA	12,267	94.6	129.7	45°C
LXEM8-35HL-DFA-EDU			DFA	12,851	94.6	135.8	45°C
LXEM8-35HL-DCA-EDU			DCA	12,973	94.8	136.9	45°C
LXEM8-40HL-RFA-EDU		40K	RFA	12,444	94.8	131.3	45°C
LXEM8-40HL-RA-EDU			RA	12,456	94.6	131.7	45°C
LXEM8-40HL-DFA-EDU			DFA	13,049	94.6	137.9	45°C
LXEM8-40HL-DCA-EDU			DCA	13,174	94.8	139	45°C
LXEM8-50HL-RFA-EDU		50K	RFA	12,776	94.8	134.8	45°C
LXEM8-50HL-RA-EDU			RA	12,789	94.6	135.2	45°C
LXEM8-50HL-DFA-EDU			DFA	13,397	94.6	141.6	45°C
LXEM8-50HL-DCA-EDU			DCA	13,525	94.8	142.7	45°C
LXEM8-30VL-RA-EDU	Very High Lumen	30K	RA	14,747	123.4	119.5	40°C
LXEM8-30VL-RFA-EDU			RFA	14,789	123.2	120	40°C
LXEM8-30VL-DFA-EDU			DFA	15,512	123.4	125.7	40°C
LXEM8-30VL-DCA-EDU			DCA	15,613	123.4	126.5	40°C
LXEM8-35VL-RA-EDU		35K	RA	15,248	123.4	123.6	40°C
LXEM8-35VL-RFA-EDU			RFA	15,292	123.2	124.1	40°C
LXEM8-35VL-DFA-EDU			DFA	16,040	123.4	130	40°C
LXEM8-35VL-DCA-EDU			DCA	16,143	123.4	130.8	40°C
LXEM8-40VL-RA-EDU		40K	RA	15,484	123.4	125.5	40°C
LXEM8-40VL-RFA-EDU			RFA	15,529	123.2	126	40°C
LXEM8-40VL-DFA-EDU			DFA	16,288	123.4	132	40°C
LXEM8-40VL-DCA-EDU			DCA	16,393	123.4	132.8	40°C
LXEM8-50VL-RA-EDU		50K	RA	15,897	123.4	128.8	40°C
LXEM8-50VL-RFA-EDU			RFA	15,943	123.2	129.4	40°C
LXEM8-50VL-DFA-EDU			DFA	16,722	123.4	135.5	40°C
LXEM8-50VL-DCA-EDU			DCA	16,830	123.4	136.4	40°C
LXEM8-30XL-RFA-EDU	Xtra High Lumen	30K	RFA	19,558	182.4	107.2	30°C
LXEM8-30XL-RA-EDU			RA	19,678	182.8	107.7	30°C
LXEM8-30XL-DFA-EDU			DFA	20,716	182.8	113.3	30°C
LXEM8-30XL-DCA-EDU			DCA	20,847	183	113.9	30°C
LXEM8-35XL-RFA-EDU		35K	RFA	20,223	182.4	110.9	30°C
LXEM8-35XL-RA-EDU			RA	20,348	182.8	111.3	30°C
LXEM8-35XL-DFA-EDU			DFA	21,420	182.8	117.2	30°C
LXEM8-35XL-DCA-EDU			DCA	21,556	183	117.8	30°C
LXEM8-40XL-RFA-EDU		40K	RFA	20,536	182.4	112.6	30°C
LXEM8-40XL-RA-EDU			RA	20,662	182.8	113	30°C
LXEM8-40XL-DFA-EDU			DFA	21,752	182.8	119	30°C
LXEM8-40XL-DCA-EDU			DCA	21,889	183	119.6	30°C
LXEM8-50XL-RFA-EDU		50K	RFA	21,083	182.4	115.6	30°C
LXEM8-50XL-RA-EDU			RA	21,213	182.8	116	30°C
LXEM8-50XL-DFA-EDU			DFA	22,332	182.8	122.2	30°C
LXEM8-50XL-DCA-EDU			DCA	22,473	183	122.8	30°C

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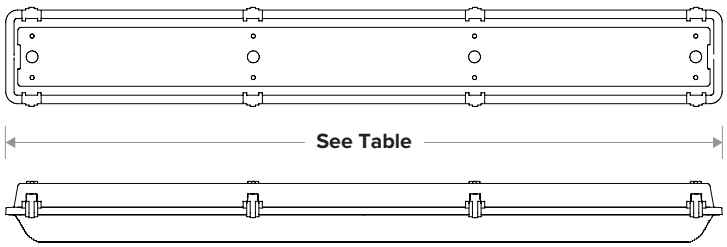
LXEM

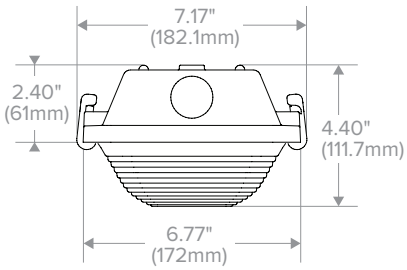
ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

DIMENSIONS

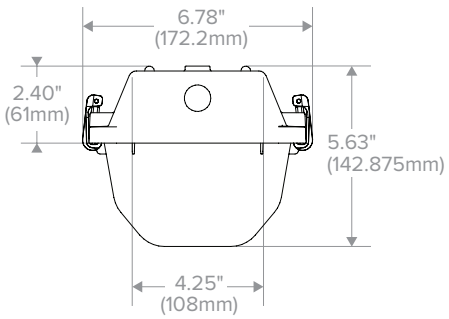


LXEM LENGTH DIMENSIONS								
Size	Lens	Length	Size	Lens	Length	Size	Lens	Length
2'	RFA	27⅔"	4'	RFA	51⅔"	8'	RFA	100"
	RA	27⅔"		RA	51⅔"		RA	N/A
	DFA	27⅔"		DFA	51⅔"		DFA	100"
	DCA	27⅔"		DCA	51⅔"		DCA	100"
	RFP	27⅔"		RFP	51⅔"		RFP	N/A
	RP	27⅔"		RP	51⅔"		RP	N/A

RFA Lens: 2', 4', 8', RFP Lens: 2', 4'



DFA or DCA Lens: 2', 4', 8'



NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

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LXEM

ENCLOSED AND GASKETED FIBERGLASS EXTREME ENVIRONMENT

PHOTOMETRY

LXEM4-50ML-RFA-EDU

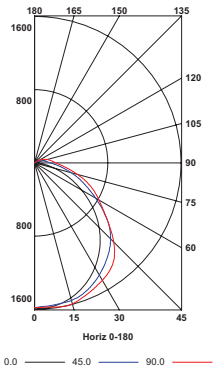
LUMINAIRE DATA

Test No.	**17905**
Description	**LXEM LED Enclosed and Gasketed, Extreme Environment 7" x 51" LED with frosted ribbed acrylic lens**
Delivered Lumens	**5306**
Watts	**42.00**
Efficacy	**126**
Mounting	**Surface**
Spacing Criterion	**0° = 1.24 90° = 1.40**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	1268	23.9
0–40	2105	39.7
0–60	3766	71.0
0–90	5025	94.7
0–180	5306	100.0

POLAR GRAPH



LXEM4-40HL-DFA-EDU

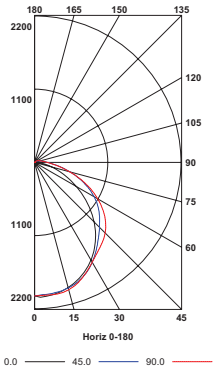
LUMINAIRE DATA

Test No.	**17989**
Description	**LXEM LED Enclosed and Gasketed, Extreme Environment 7" x 51" LED with deep frosted acrylic lens**
Delivered Lumens	**6525**
Watts	**47.30**
Efficacy	**138**
Mounting	**Surface**
Spacing Criterion	**0° = 1.25 90° = 1.28**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	1583	24.3
0–40	2594	39.8
0–60	4661	71.4
0–90	6235	95.6
0–180	6525	100.0

POLAR GRAPH



LXEM4-50XL-RA-EDU

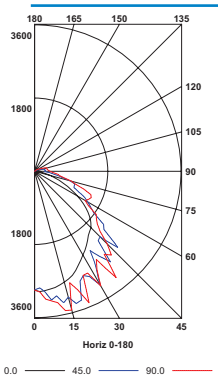
LUMINAIRE DATA

Test No.	**18012**
Description	**LXEM LED Enclosed and Gasketed, Extreme Environment 7" x 51" LED with ribbed clear acrylic lens**
Delivered Lumens	**10607**
Watts	**91.40**
Efficacy	**116**
Mounting	**Surface**
Spacing Criterion	**0° = 1.21 90° = 1.38**

ZONAL LUMEN SUMMARY

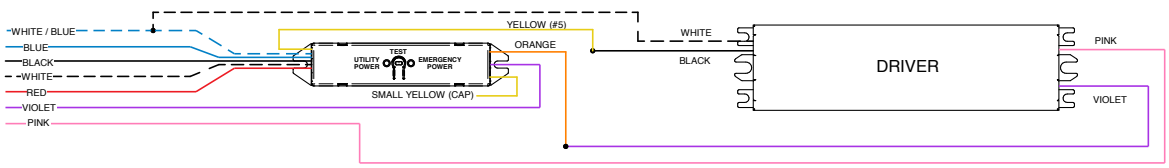
Zone	Lumens	% Luminaire
0–30	2547	24
0–40	4252	40.1
0–60	7643	72.1
0–90	10073	95
0–180	10607	100.0

POLAR GRAPH



ADDITIONAL INFORMATION

DTS WIRING DIAGRAM (0–10V DIMMING DRIVER SHOWN)



WHITE/BLUE	Emergency Neutral
BLUE	Emergency Line
BLACK	Utility Line (Unswitched Hot)
WHITE	Utility Neutral
RED	Switched Hot
VIOLET	Dimming
PINK	Dimming

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EXO OUTDOOR LIGHTING

TYPE B FIXTURE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SLING Series

SLENDER WALLPACK

tradeSELECT®

FEATURES

- Two sizes for a variety of applications
- Ranges from 21W to 80W with up to 8000 lumens
- SG1 Series replaces from 100W-150W HID; SG2 Series replaces from 150W-250W HID
- Comfort lens available as an option or accessory provides glare control and enhanced uniformity
- Knuckle and trunnion accessory mounting kits available for flood applications
- IP65 and certified to UL 1598 for use in wet locations up to 40°C ambient

C US IP65

SPECIFICATIONS

HOUSING

- Rugged die-cast aluminum housing with corrosion resistant powder coat finish
- Heating dissipating fins provide superior thermal performance extending the life of the electronic components
- Impact resistant tempered glass offers zero uplight
- Comfort lens available as an option or accessory to reduce glare (7-10% lumen reduction) and provide better uniformity

OPTICS

- 3000K, 4000K and 5000K CCT nominal with 70 CRI
- Smaller SG1 housing has 2 LEDs, larger SG2 housing has 3 LEDs

INSTALLATION

- Side hinge allows for easy installation and wiring
- Side movement avoids damage to the lens and helps prevent injury common in drop down hinge designs
- Mounts to 4" junction box and includes a gasket to help seal electrical connections
- Four 1/2" threaded conduits hubs for surface conduit provided

ELECTRICAL

- 120-277V, 50/60Hz electronic drivers
- 347V and 480V available in large SG2 housing
- 10KA surge protection included

OPTIONS/CONTROLS

- Button photocontrol for dusk to dawn energy savings. Stock versions include 120V-277V PC with a cover which provides a choice to engage photocontrol or not. PC is installed in top hub
- Occupancy sensor available for on/off and dimming control in larger SG2 housing
- Battery backup options available in larger SG2 housing rated for either 0˚ C or -30˚ C. Performance exceeds NEC requirement providing 1 fc minimum over 10'x10' at 11' mounting height

CERTIFICATIONS

- Listed to UL1598 for use in wet location, listed for -40°C to 40°C applications
- Complies with IDA standards with zero uplight for 3000K and warmer CCT's
- IP65

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	2263-8079
Wattage Range	21-80
Efficacy Range (LPW)	101-113
Weights lbs. (kg)	4.3-11 (2.0-5.0)

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EXO OUTDOOR LIGHTING

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SLING SERIES

SLENDER WALLPACK

ORDERING GUIDE

Example: SG1-20-3K7-FT-UNV-DBT-PCU-CS

CATALOG #

ORDERING INFORMATION

Housing		CCT/CRI		Distribution		Voltage		Color/Finish		Control Options		Options	
SG1-10	Size 1, 10W	**3K7**	3000K, 70 CRI	**FT**	Fwd Throw	**UNV**	120V-277V	**BLT**	Black Matte Textured	**PCU**	Universal Button Photocontrol (120-277V)	**CS**	Comfort Lens
SG1-20	Size 1, 20W	**4K7**	4000K, 70 CRI			**120**	120V	**BLS**	Black Gloss Smooth	**SCP**[1,2,3]	Occupancy Sensor Programmable (Dim)	**E**[1,2]	Battery 0°C
SG1-30	Size 1, 30W	**5K7**	5000K, 70 CRI			**277**	277V	**DBT**	Dark Bronze Matte Textured	**Specify MTG HT for OCC Sensor**		**EH**[1,2]	Battery w/ heater -20°
SG1-40	Size 1, 40W					**UHV**	347V-480V	**DBS**	Dark Brone Gloss Smooth	**8F**	Up to 8'		
SG2-50	Size 2, 50W							**GTT**	Graphite Matte Textured	**20F**	Up to 20'		
SG2-80	Size 2, 80W							**LGS**	Light Grey Gloss Smooth				
								PSS	Platinum Silver Smooth				
								WHT	White Matte Textured				
								WHS	White Gloss Smooth				
								VGT	Verde Green Textured				
								Color Option					
								CC	Custom Color				

Notes:

1 Available in SG2 only, UHV available in SG2-50 only

2 Sensor controls & battery backup can not be used with flood accessory or kit or for inverted/up mounting, 120-227V only for SCO/SCP, 120 or 277 only for SWP, SWPM, E & EH

3 Must order minimum of one remote control to program dimming setttings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings, 120-277V only

STOCK ORDERING INFORMATION

Catalog Number	CCT/CRI	Wattage	Mounting Height	Color	Color	Delivered Lumens	LPW	Weight lbs. (kg)
SG1-10-PCU	5000K/70	11W	8–12ft	120–277V	Dark Bronze	1349	122	4.3 (2.0)
SG1-10-4K-PCU	4000K/70	11W	8–12ft	120–277V	Dark Bronze	1424	129	4.3 (2.0)
SG1-20-PCU	5000K/70	21W	8–12ft	120–277V	Dark Bronze	2263	108	4.3 (2.0)
SG1-20-4K-PCU	4000K/70	21W	8–12ft	120–277V	Dark Bronze	2310	110	4.3 (2.0)
SG1-30-PCU	5000K/70	29W	10–15ft	120–277V	Dark Bronze	3270	113	4.3 (2.0)
SG1-30-4K-PCU	4000K/70	29W	10–15ft	120–277V	Dark Bronze	3060	105	4.3 (2.0)
SG1-40-PCU	5000K/70	38W	10–15ft	120–277V	Dark Bronze	4008	105	4.3 (2.0)
SG1-40-4K-PCU	4000K/70	38W	10–15ft	120–277V	Dark Bronze	4070	106	4.3 (2.0)
SG2-50-PCU	5000K/70	51W	12–18ft	120–277V	Dark Bronze	5548	110	11 (5.0)
SG2-50-4K-PCU	4000K/70	51W	12–18ft	120–277V	Dark Bronze	5526	109	11 (5.0)
SG2-80-PCU	5000K/70	80W	15–25ft	120–277V	Dark Bronze	8061	101	11 (5.0)
SG2-80-4K-PCU	4000K/70	80W	15–25ft	120–277V	Dark Bronze	8079	101	11 (5.0)

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SLING SERIES
SLENDER WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

OPTIONS AND ACCESSORIES

	Catalog Number	Description	Weight lbs. (kg)
☐	**SG1-YOKE**	SG1 Series Yoke/Floodlight mount kit, includes visor	2.0 (1.0)
☐	**SG1-KNUCKLE**	SG1 Series Knuckle/Floodlight mount kit, includes visor	2.0 (1.0)
☐	**SG2-YOKE**	SG2 Series Yoke/Floodlight mount kit, includes visor	2.0 (1.0)
☐	**SG2-KNUCKLE**	SG2 Series Knuckle/Floodlight mount kit, includes visor	2.0 (1.0)
☐	**SCP-REMOTE***	Remote control for SCP option. Order at least one per project to program and control fixtures	1 (.45)

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SLING SERIES

SLENDER WALLPACK

PERFORMANCE DATA

Description	# of LEDs	Drive Current	System Watts	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 80 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
SG1-10	2	140mA	11	1349	122	1	0	0	1424	129	1	0	0	1003	91	1	0	0
SG1-20	2	250mA	21	2449	115	1	0	0	2310	110	1	0	0	2054	95	1	0	0
SG1-30	2	350mA	29	3332	117	2	0	0	3060	106	1	0	0	2913	100	1	0	0
SG-40	2	450mA	38	4008	105	2	0	0	4070	106	2	0	0	3845	100	2	0	0
SG2-50-UHV	3	350mA	44	4633	106	2	0	0	4609	105	2	0	0	3895	90	2	0	0
SG2-50	3	415mA	51	5548	109	2	0	0	5526	107	2	0	0	4700	92	2	0	0
SG2-80	3	650mA	80	7851	98	2	0	1	8079	103	2	0	1	6721	86	2	0	1

*347 and 480 VAC input Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment application and inherent performance balances of the electrical components.

ELECTRICAL DATA

Catalog number	# of Drivers	Input Voltage	Current (AMPS)	System Power
SG1-10	1	120	0.09	11.0
	1	277	0.04	11.0
SG1-20	1	120	0.18	21.0
	1	277	0.08	21.0
SG1-30	1	120	0.24	28.9
	1	277	0.10	28.9
SG2-40	1	120	0.32	38.3
	1	277	0.14	38.3
SG-50-UHV	1	347	0.13	43.5
	1	480	0.18	43.5
SG2-50	1	120	0.42	50.6
	1	277	0.18	50.6
SG2-80	1	120	0.68	79.8
	1	277	0.29	79.8

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	50,000	TM-21-11[1] L96 60,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.98	0.97	0.96	0.95	>791,000
40°C / 104°F	0.99	0.98	0.96	0.96	0.94	>635,000

1. Projected per IESNA TM-21-11 * (Nichia 219B, 700mA, 85°C Ts, 10,000hrs) Data references the extrapolated performance projections for the base model in a 40°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08

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SLING SERIES

SLENDER WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

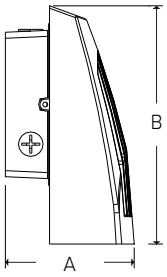
LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

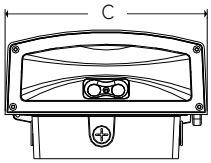
Ambient Temperature		Lumen Multiplier
0˚ C	32˚ F	1.02
10˚ C	50˚ F	1.01
20˚ C	68˚ F	1.00
25˚ C	77˚ F	1.00
30˚ C	86˚ F	1.00
40˚ C	104˚ F	0.99
50˚ C	122˚ F	0.96

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

DIMENSIONS

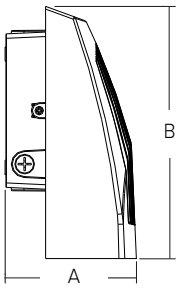
SG1

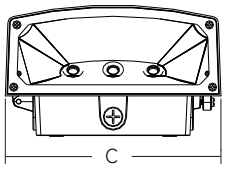




A	B	C	Weight
4.19" (107mm)	7.80" (198mm)	6.61" (168mm)	4.4lbs (2kg)

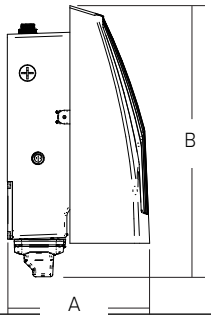
SG2

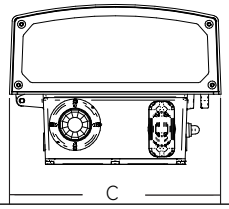




A	B	C	Weight
5.80" (147mm)	11.14" (283mm)	9.52" (242mm)	11lbs (5kg)

SG2 with occupancy sensor and battery options





A	B	C	Weight
7.26" (184mm)	13.64" (342mm)	9.52" (242mm)	11lbs (5kg)

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SLING SERIES

SLENDER WALLPACK

PHOTOMETRY

SG1-10-4K7

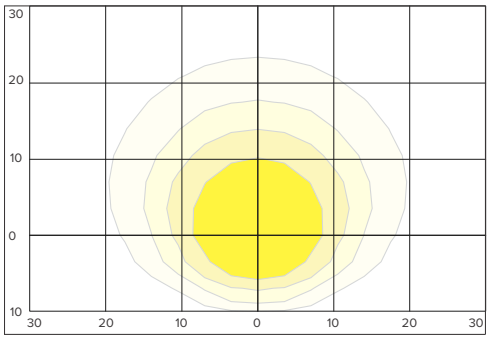
LUMINAIRE DATA

Description	**4000 Kelvin, 70 CRI**
Distribution Type	**Forward Throw**
Delivered Lumens	**1424**
Watts	**11.4**
Efficacy	**125**
Mounting	**Wall**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	996.6	70.0
Downward House Side	427.8	30.0
Downward Total	1424.4	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	1424.4	100.0

ISOMETRIC FOOTCANDLE



SG1-20-4K7

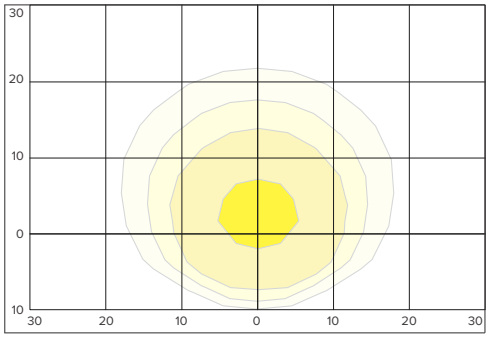
LUMINAIRE DATA

Description	**4000 Kelvin, 70 CRI**
Distribution Type	**Foward Throw**
Delivered Lumens	**2310**
Watts	**20.9**
Efficacy	**111**
Mounting	**Wall**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	1618	70.0
Downward House Side	692.1	30
Downward Total	2310	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	2310.3	100.0

ISOMETRIC FOOTCANDLE



SG1-30

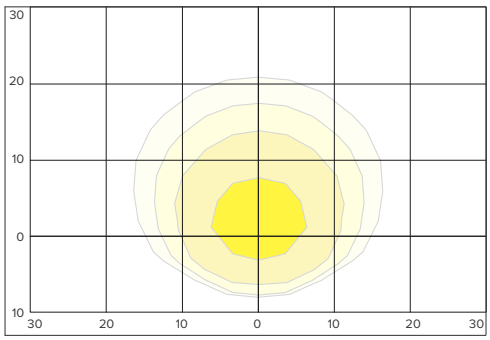
LUMINAIRE DATA

Description	**4000 Kelvin, 70 CRI**
Distribution Type	**Forward Throw**
Delivered Lumens	**3060**
Watts	**29.1**
Efficacy	**105**
Mounting	**Wall**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	2619.4	70.9
Downward House Side	890.4	29.1
Downward Total	3059.8	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	3059.8	100.0

ISOMETRIC FOOTCANDLE



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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SLING SERIES

SLENDER WALLPACK

PHOTOMETRY

SG1-40-4K7

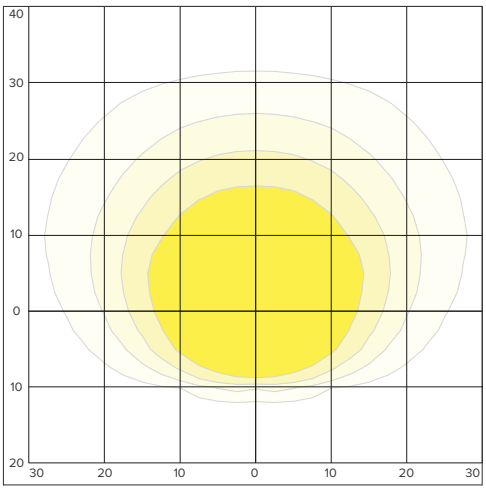
LUMINAIRE DATA

Description	**4000 Kelvin, 70 CRI**
Distribution Type	**Foward Throw**
Delivered Lumens	**4070**
Watts	**38.1**
Efficacy	**107**
Mounting	**Wall**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	2857.7	70.2
Downward House Side	1215.5	29.8
Downward Total	4070.2	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	4070.2	100.0

ISOMETRIC FOOTCANDLE



10' Mounting Height
5.0 FC
2.0 FC
1.0 FC
0.5 FC

SG2-50-4K7

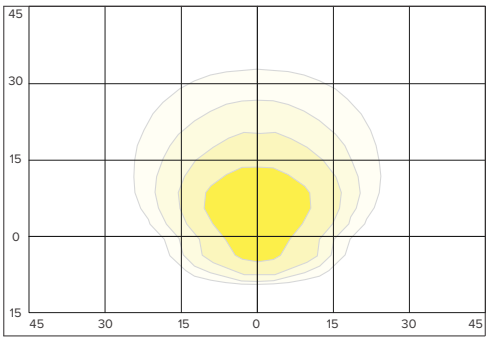
LUMINAIRE DATA

Description	**4000 Kelvin, 70 CRI**
Distribution Type	**Foward Throw**
Delivered Lumens	**5525.7**
Watts	**51.7**
Efficacy	**107**
Mounting	**Wall**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	4611.8	83.5
Downward House Side	913.9	16.5
Downward Total	5525.7	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	5525.7	100.0

ISOMETRIC FOOTCANDLE



15' Mounting Height
5.0 FC
2.0 FC
1.0 FC
0.5 FC

SG2-80-4K7

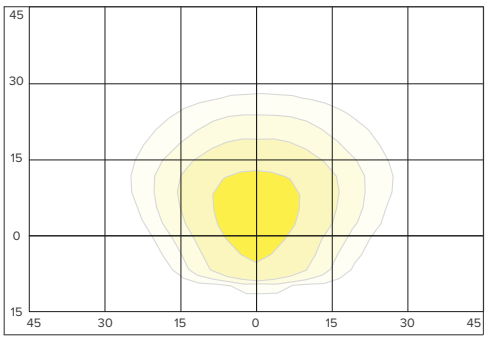
LUMINAIRE DATA

Description	**4000 Kelvin, 70 CRI**
Distribution Type	**Foward Throw**
Delivered Lumens	**8453**
Watts	**78.5**
Efficacy	**108**
Mounting	**Wall**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6677.7	79.0
Downward House Side	1775.5	21.0
Downward Total	8453.2	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	8453.2	100.0

ISOMETRIC FOOTCANDLE



15' Mounting Height
5.0 FC
2.0 FC
1.0 FC
0.5 FC

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SLING SERIES
SLENDER WALLPACK

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ADDITIONAL INFORMATION

Shipping Information

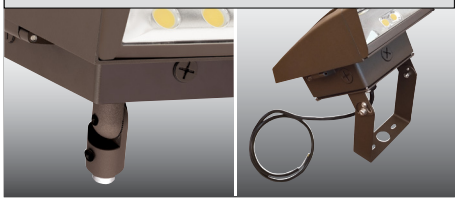
Catalog Number	G.W(kg)/ CTN	Carton Dimensions			Carton Qty. per Master Pack	Pallet Qty.
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)		
SG1	4.35lbs (2kg)	9.5 (24)	8.25 (21)	5.25 (13)	6	98
SG2	11lbs (5kg)	14 (36)	11.5 (29)	8 (20)	2	64

Accessories and Services

Visor

Visor accessory included with mounting accessory kits

Mounting Options

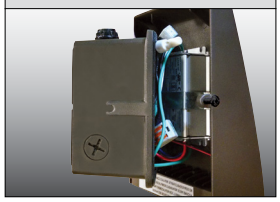


Flood mounting accessories - 1/2" threaded knuckle or yoke (includes grommet and 3' SO cord)

Photocontrol

Photocontrol option available for energy-saving dusk-to-dawn operation

Hinged Housing Door



Side hinged for easy installation and wiring access, single screw secures housing closure

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KIM LIGHTING®

TYPE C FIXTURE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

INT White

FLOODLIGHT LUMINAIRE

intent

FEATURES

- Architectural linear product for wall and ground mounting applications such as sign lighting, wall washing, wall grazing, and building accent lighting
- Linear run capabilities for even, uniform light distribution with no scalloping effect
- Lumen range from 2,803 to 15,162 lm
- UL/cUL listed for wet locations, IP66 and 3G vibration rated

c UL us LISTED IP66 IK07 IK08

CONTROL TECHNOLOGY

NX DISTRIBUTED™ INTELLIGENCE

Intent

RELATED PRODUCTS

KFL LTV8 (RGBW) INT (RGBW COLOR)

SPECIFICATIONS

CONSTRUCTION

- Extruded housing, low copper (<0.1% Cu) Aluminum Alloy 6063-T6 and .160" minimum wall thickness.
- Extrusion includes an integral visor.
- Die-cast driver compartment and end caps, low copper (<0.6% Cu) Aluminum Alloy 360 and .100" minimum wall thickness.
- LED and driver compartment rated for IP66 ingress protection.
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat.
- Lens is impact resistant 0.157" tempered glass with anti-reflective coating.
- Lens is sealed in with Reactive Back Bedding Sealant.
- Driver compartment has a one-piece molded silicone gasket.
- All external fasteners are stainless steel.

OPTICS

- LEDs mount to a metal printed circuit board assembly (MCPCB).
- Optical lenses are clear injection molded PMMA acrylic.

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

ELECTRICAL

- Universal voltage, 120 through 277V with a ±10% tolerance. Driver is Underwriters Laboratories listed.
- High voltage configurations, 347/480. Driver is Underwriters Laboratories listed.
- Dimming range from 10% to 100% through the use of standard 0-10V interface on the programmable driver.
- Drivers have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 55°C ambient environments.
- Standard configuration has dimming leads pulled off the fixture.
- Optional factory programmed dimming profile.
- "Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components.
- Luminaire capable of operating at 100% brightness in a 40°C environment. Both driver and optical array have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Surge protection: 20,000A in series.
- SF for 120, 277, 347 Line Volts, DF for 208, 240, 480 Line Volts.
- Wiring: No. 18AWM rated 150°C.
- External cable connections are IP68 rated

CERTIFICATIONS AND LISTINGS.

- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures.
- IP66 certified.
- RoHS compliant.
- ANSI C136.31-2010 Vibration tested and compliant 3G
- IEC 66262 Mechanical Impact Code IK07 three and four foot fixture
- IEC 66262 Mechanical Impact Code IK08 two foot fixture

WARRANTY

- 5 year warranty.

KEY DATA	
LUMEN RANGE	2,803-15,162
WATTAGE RANGE	28.6-123.4
EFFICACY RANGE (LPW)	94.4-135
REPORTED LIFE (HOURS)	L70/60,000

Notes:
[1] IK08 two foot fixture
[2] IK07 three and four foot fixtures

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

INT White

FLOODLIGHT LUMINAIRE

ORDERING GUIDE

Example: INT-2-24L-60-4K9-WF-UNV-A6-CR-MB-GTT-MGF-PC

CATALOG #

HOUSING

INTENT

Housing	Length	#L-Nom. Watts	CCT/CRI	Beam Spread	Voltage	Mounting
INT Flood Luminaire	**2** 2 Foot	**24L-30** 24LED, 30W, 3,000 lm	**5K7** 5000K, 70 CRI	**N** Narrow	**UNV** Universal 120–277V	**K** Threaded Knuckle
		24L-35 24LED, 40W, 4,000 lm	**5K8** 5000K, 80 CRI	**NM** Narrow Medium	**347** 347V	**A3** [6] 3" Adjustable arm
		24L-60 24LED, 60W, 6,000 lm	**5K9** 5000K, 90 CRI	**MF** Medium Flood	**480** 480V	**A6** [6] 6" Adjustable arm
	3 3 Foot	**36L-40** 36LED, 40W, 4,500 lm	**4K7** 4000K, 70 CRI	**WF** Wide Flood		**A12** 12" Adjustable arm
		36L-60 36LED, 60W, 6,000 lm	**4K8** 4000K, 80 CRI	**HF** Horizontal Flood		
		36L-95 36LED, 95W, 9,000 lm	**4K9** 4000K, 90 CRI	**WG** Wall Graze		
	4 4 Foot	**48L-55** 48LED, 55W, 6,000 lm	**3K7** 3000K, 70 CRI	**WW** Asymmetric Wall Wash		
		48L-80 48LED, 80W, 8,000 lm	**3K8** 3000K, 80 CRI			
		48L-125 48LED, 125W, 12,000 lm	**3K9** 3000K, 90 CRI			

Cable Ready	Input Wiring	Color		Options
CR Cable Ready	**LM** Left Mounting (Default)	**BLS** Black Gloss Smooth	**LGT** Light Grey Matte Textured	**SF** Single Fuse (120/277/347)
NCR Non Cable Ready	**RM** Right Mounting	**BLT** Black Matte Textured	**PSS** Platinum Silver Gloss Smooth	**DF** Double Fuse (208/240/480)
	MB [1] Mounting Bracket	**DBS** Dark Bronze Gloss Smooth	**VGT** Verde Green Matte Textured	**DL** Diffused Lens [2]
		DBT Dark Bronze Matte Textured	**WHS** White Gloss Smooth	**LVR** Louver
		GTT Graphite Matte Textured	**WHT** White Matte Textured	**MGF** Marine Grade
		LGS Light Grey Gloss Smooth	**Color Option**	**PC** Button Photocontrol
			CC [3] Custom Color	

Mounting Accessories

Mounting Accessories			
J-25N [4]	Stake	**INTKIT/ INT-C2FT**	2ft Connector Cable
JB1 [4]	Architectural Junction Box	**INTKIT/ INT-C3FT**	3ft Connector Cable
JBR [4]	Composite In-grade Architectural Junction Box	**INTKIT/ INT-C4FT**	4ft Connector Cable
SM18 [4]	Stanchion Mount	**INTKIT/ INT-C5FT**	5ft Connector Cable
INT-WMT-A	Wall Mounting Template	**INTKIT/ INT-C10FT**	10ft Connector Cable
		INTKIT/ INT-CK23 [5]	2ft-3ft Connector Kit
		INTKIT/ INT-CK24 [5]	2ft-4ft Connector Kit
		INTKIT/ INT-CK33 [5]	3ft-3ft Connector Kit
		INTKIT/ INT-CK34 [5]	3ft-4ft Connector Kit
		INTKIT/ INT-CK44 [5]	4ft-4ft Connector Kit

The number of cables will be one less than the number of fixtures in continuous row (i.e. 1 cable required for 2 fixtures)

Accessory Colors			
BLS Black Gloss Smooth		**LGT** Light Grey Matte Textured	
BLT Black Matte Textured		**PSS** Platinum Silver Gloss Smooth	
DBS Dark Bronze Gloss Smooth		**VGT** Verde Green Matte Textured	
DBT Dark Bronze Matte Textured		**WHS** White Gloss Smooth	
GTT Graphite Matte Textured		**WHT** White Matte Textured	
LGS Light Grey Gloss Smooth		**Color Option**	
		CC [3] Custom Color	

Notes:

1 2ft Intent with adjustable arm input wiring only

2 Only available with WF on Static White configuration

3 Consult factory for custom color, marine and corrosive finish options

4 Order in set of 2 per fixture

5 Connector Kit will have Decorative Cover Included. Color is needed for the decorative cover

6 3G rated

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INT White

FLOODLIGHT LUMINAIRE

DELIVERED LUMENS

SECTION LENGTH: 2ft

LED COUNT: 24L

Drive Current (mA)	Nominal Lumen Package	Nominal Watts	Beam Spread		Lens Option	Beam Angles (H x V)	NEMA Type	3K7			4K7			5K7		
								Lumens	Max Candela	LPW	Lumens	Max Candela	LPW	Lumens	Max Candela	LPW
350	3,000	30	N	Narrow	Clear	17° H x 17°V	3H x 3V	3319	26327	116.1	3490	27683	122	3563	28263	124.6
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	3332	10737	116.5	3504	11291	123	3577	11527	125.1
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	3226	3491	112.8	3391	3670	119	3462	3746	121.0
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	3392	2541	118.6	3566	2671	125	3640	2727	127.3
					Diffused	77°H x 77°V	7H x 6V	2803	1651	98.0	2947	1735	103	3009	1772	105.2
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	3061	5269	107.0	3218	5539	113	3285	5655	114.9
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	3385	11687	118.3	3559	12288	124	3632	12540	127.0
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	3136	11883	109.6	3297	12493	115	3365	12751	117.7
500	4,000	35	N	Narrow	Clear	17° H x 17°V	3H x 3V	4608	36552	115.5	4845	38432	121	4945	39226	123.9
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	4626	14908	115.9	4864	15674	122	4965	15999	124.4
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	4478	4846	112.2	4708	5096	118	4805	5201	120.4
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	4708	3527	118.0	4950	3708	124	5053	3785	126.6
					Diffused	77°H x 77°V	7H x 6V	3891	2291	97.5	4091	2409	103	4176	2459	104.7
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	4249	7314	106.5	4467	7690	112	4560	7850	114.3
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	4698	16221	117.8	4940	17057	124	5042	17409	126.4
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	4353	16495	109.1	4577	17344	115	4672	17704	117.1
800	6,000	60	N	Narrow	Clear	17° H x 17°V	3H x 3V	6797	53916	109.1	7146	56685	115	7294	57859	117.0
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	6823	21987	109.5	7174	23119	115	7323	23599	117.5
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	6604	7148	106.0	6944	7515	111	7088	7671	113.7
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	6945	5204	111.4	7302	5471	117	7453	5584	119.6
					Diffused	77°H x 77°V	7H x 6V	5740	3380	92.1	6035	3554	97	6160	3627	98.8
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	6267	10789	100.8	6589	11296	105.5	6726	11593	107.8
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	6930	23928	111.2	7286	25157	116.9	7437	25679	119.3
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	6421	24331	103.0	6750	25578	108.3	6891	26112	110.6

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INT White

FLOODLIGHT LUMINAIRE

DELIVERED LUMENS

SECTION LENGTH: 3ft

LED COUNT: 36L

Drive Current (mA)	Nominal Lumen Package	Nominal Watts	Beam Spread		Lens Option	Beam Angles (H x V)	NEMA Type	3K7			4K7			5K7		
								Lumens	Max Candela	LPW	Lumens	Max Candela	LPW	Lumens	Max Candela	LPW
350	4,500	40	N	Narrow	Clear	17° H x 17°V	3H x 3V	5038	39964	119.9	5297	42018	126.1	5407	42890	128.7
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	5058	16300	120.4	5318	17137	126.6	5429	17495	129.2
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	4896	5299	116.5	5147	5570	122.5	5254	5686	125.0
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	5148	3857	122.5	5413	4056	128.8	5525	4140	131.5
					Diffused	77°H x 77°V	7H x 6V	4255	2506	101.3	4473	2634	106.5	4566	2689	108.7
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	4646	7873	110.6	4884	8277	116.2	4986	8529	118.7
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	5137	17737	122.3	5401	18649	128.5	5513	19036	131.2
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	4760	18037	113.3	5004	18962	119.1	5108	19356	121.6
500	6,000	60	N	Narrow	Clear	17° H x 17°V	3H x 3V	6912	54829	116.2	7267	57645	122.1	7418	58843	124.7
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	6939	22361	116.6	7295	23508	122.6	7447	23998	125.2
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	6716	7269	112.9	7061	7642	118.7	7208	7801	121.1
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	7062	5291	118.7	7425	5563	124.8	7580	5679	127.4
					Diffused	77°H x 77°V	7H x 6V	5837	3437	98.1	6137	3614	103.1	6264	3689	105.3
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	6373	10799	107.1	6701	11355	112.6	6840	11591	115.0
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	7047	24332	118.4	7409	25582	124.5	7564	26118	127.1
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	6529	24740	109.7	6865	26013	115.4	7008	26556	117.8
800	9,000	95	N	Narrow	Clear	17° H x 17°V	3H x 3V	10475	83092	111.8	11013	87360	117.5	11242	89177	119.9
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	10516	33888	112.2	11056	35629	118.0	11286	36370	120.2
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	10179	11017	108.6	10701	11582	114.2	10924	11823	116.5
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	10703	8020	114.2	11253	8432	120.1	11487	8607	122.6
					Diffused	77°H x 77°V	7H x 6V	8846	5209	94.4	9300	5476	99.2	9494	5591	101.3
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	9659	16369	103.1	10155	17209	108.4	10366	17567	110.7
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	10680	36877	114.0	11229	38772	119.8	11463	39580	122.3
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	9895	37496	105.6	10404	39425	111.0	10620	40243	113.6

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INT White

FLOODLIGHT LUMINAIRE

DELIVERED LUMENS

SECTION LENGTH: 4ft

LED COUNT: 48L

Drive Current (mA)	Nominal Lumen Package	Nominal Watts	Beam Spread		Lens Option	Beam Angles (H x V)	NEMA Type	3K7			4K7			5K7		
								Lumens	Max Candela	LPW	Lumens	Max Candela	LPW	Lumens	Max Candela	LPW
350	6,000	55	N	Narrow	Clear	17° H x 17°V	3H x 3V	6642	52687	123.1	6983	55392	129.4	7128	56543	132.1
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	6668	21488	123.6	7011	22594	129.9	7156	23061	132.6
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	6454	6986	119.6	6786	7345	125.8	6927	7497	128.4
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	6787	5152	125.8	7135	5416	132.2	7284	5530	135.0
					Diffused	77°H x 77°V	7H x 6V	5609	3303	103.9	5897	3473	109.3	6020	3545	111.6
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	6124	10652	113.5	6439	11200	119.3	6573	11385	121.8
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	6772	23382	125.5	7120	24584	132.0	7268	25095	134.7
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	6275	23778	116.3	6597	24998	122.3	6734	25517	124.8
500	8,000	80	N	Narrow	Clear	17° H x 17°V	3H x 3V	9217	73114	117.3	9690	76865	123.3	9892	78468	125.8
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	9253	29818	117.7	9728	31349	123.8	9931	32003	126.3
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	8956	9693	113.9	9416	10191	119.8	9612	10403	122.3
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	9418	7149	119.8	9901	7516	126.0	10107	7672	128.6
					Diffused	77°H x 77°V	7H x 6V	7783	4583	99.0	8183	4819	104.1	8353	4919	106.3
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	8499	14783	108.1	8935	15541	113.7	9121	15864	116.0
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	9398	32450	119.6	9880	34115	125.7	10086	34825	128.3
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	8707	32994	110.8	9154	34688	116.5	9344	35408	118.9
800	12,000	125	N	Narrow	Clear	17° H x 17°V	3H x 3V	13627	108096	110.5	14327	113648	116.1	14625	116012	118.6
			NM	Narrow Medium	Clear	30°H x 30°V	4H x 4V	13680	44085	110.9	14383	46350	116.6	14682	47314	119.0
			MF	Medium Flood	Clear	63°H x 63°V	5H x 5V	13241	14331	107.3	13921	15068	112.9	14211	15381	115.2
			WF	Wide Flood	Clear	80°H x 80°V	6H x 6V	14127	10724	114.5	14853	11275	120.4	15162	11510	122.6
					Diffused	77°H x 77°V	7H x 6V	11676	6876	94.7	12276	7230	99.5	12531	7380	101.8
			HF	Horizontal Flood	Clear	54°H x 22°V	5H x 5V	12565	21855	101.9	13210	22977	107.1	13485	23456	109.4
			WG	Wall Graze	Clear	52° H x 12 °V	5H x 3V	13894	47974	112.6	14608	50439	118.4	14911	51486	120.9
			WW	Wall Wash	Clear	30°H x 20°V	4H x 3V	12873	48781	104.4	13534	51285	109.7	13815	52350	112.0

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INT White

FLOODLIGHT LUMINAIRE

PHOTOMETRY

INT-4-48L-125-4K7-N

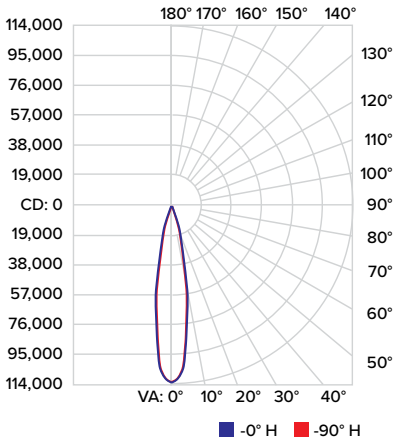
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**14327**
Watts	**123.35**
Efficacy	**116.15**
Beam Angls (HxV)	**17.6° x 18°**
Center Beam Candlepower	**113,648**

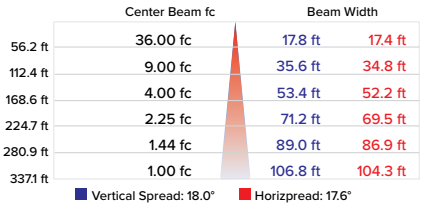
LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	77.60%	11,111.90	33.3	33
Beam (50%)	38.40%	5,495.80	17.6	18
Total	100%	14,326.80		

ISOFOOT CANDLE PLOT



ILLUMINANCE AT A DISTANCE



INT-4-48L-125-4K7-NM

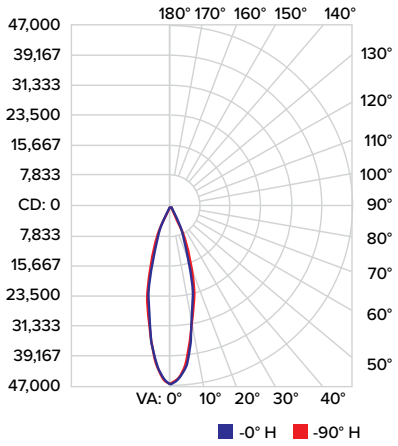
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**14383**
Watts	**123.35**
Efficacy	**116.60**
Beam Angls (HxV)	**30.1° x 28.6°**
Center Beam Candlepower	**46,350**

LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	85.50%	12,298.30	54.2	53.4
Beam (50%)	46.10%	6,627.50	30.1	28.6
Total	100%	14,383.20		

ISOFOOT CANDLE PLOT



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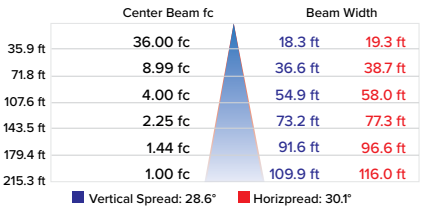

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INT White

FLOODLIGHT LUMINAIRE

PHOTOMETRY CONTINUED

INT-4-48L-125-4K7-MF

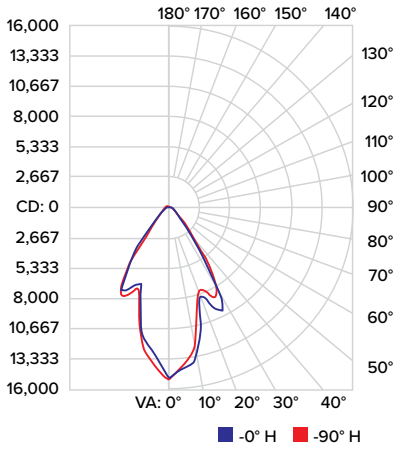
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**13921**
Watts	**123.35**
Efficacy	**112.86**
Beam Angls (HxV)	**63.8° x 63.5°**
Center Beam Candlepower	**15,068**

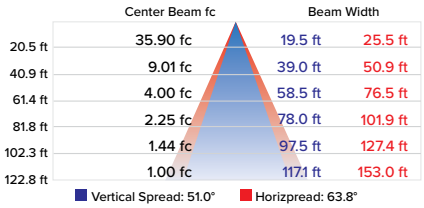
LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	90.10%	12,541.60	90.9	92.1
Beam (50%)	65.80%	9,158.90	63.8	51
Total	100%	13,921.10		

ISOFOOT CANDLE PLOT



ILLUMINANCE AT A DISTANCE



INT-4-48L-125-4K7-WF

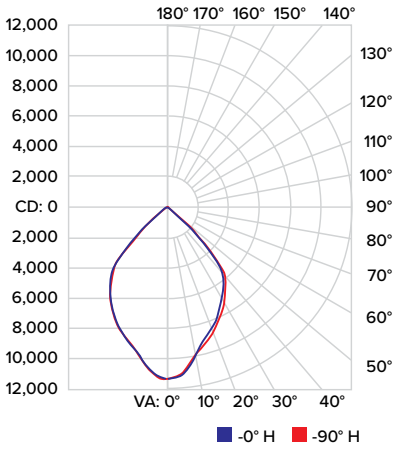
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**14853**
Watts	**123.72**
Efficacy	**120.05**
Beam Angls (HxV)	**80.4° x 79.8°**
Center Beam Candlepower	**11,275**

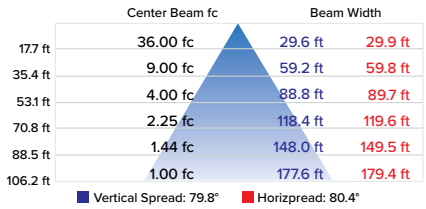
LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	97.00%	14,415.80	104.2	100.7
Beam (50%)	77.60%	11,525.90	80.4	79.8
Total	100%	14,853.10		

ISOFOOT CANDLE PLOT



ILLUMINANCE AT A DISTANCE



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INT White

FLOODLIGHT LUMINAIRE

PHOTOMETRY CONTINUED

INT-4-48L-125-4K7-HF

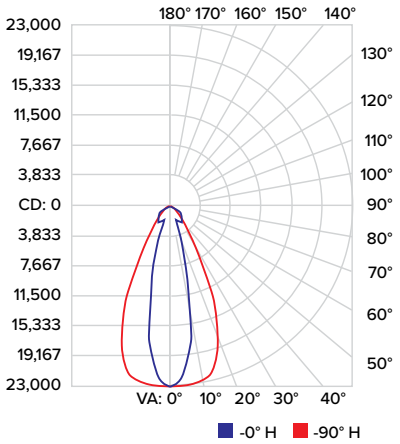
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**13210**
Watts	**123.35**
Efficacy	**107.09**
Beam Angls (HxV)	**53.3° x 24.2°**
Center Beam Candlepower	**22,977**

LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	72.30%	9,564.50	86.9	47.1
Beam (50%)	39.00%	5,151.80	53.3	24.2
Total	100%	13,209.80		

ISOFOOT CANDLE PLOT



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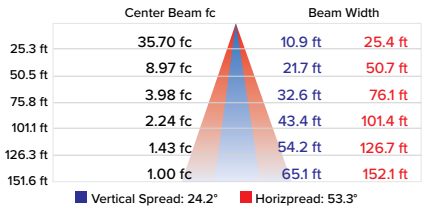


INT-4-48L-125-4K7-WG

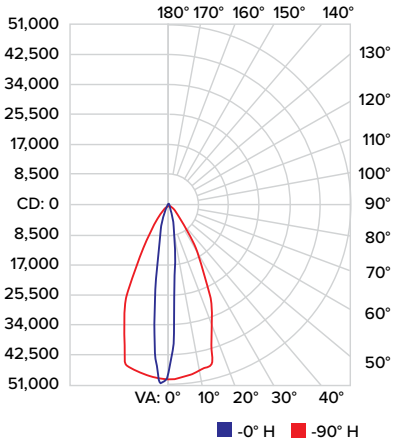
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**14608**
Watts	**123.35**
Efficacy	**118.43**
Beam Angls (HxV)	**52.4° x 13.2°**
Center Beam Candlepower	**50,439**

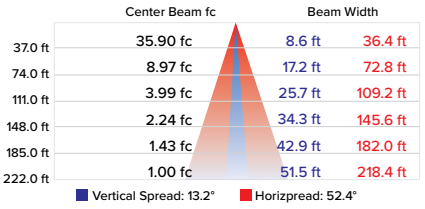
LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	78.10%	11,434.00	78.5	34.4
Beam (50%)	43.90%	6,424.80	52.4	13.2
Total	100%	14,608.40		

ISOFOOT CANDLE PLOT



ILLUMINANCE AT A DISTANCE



INT-4-48L-125-4K7-WW

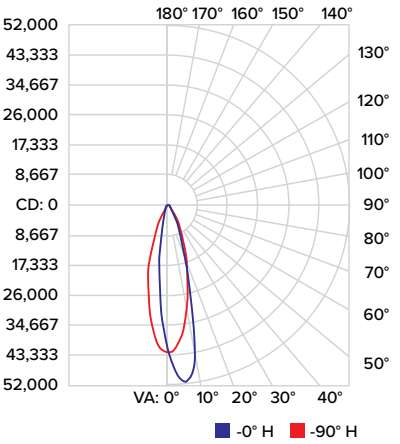
LUMINAIRE DATA

Description	**4000K, 70CRI**
Delivered Lumens	**13534**
Watts	**123.35**
Efficacy	**109.72**
Beam Angls (HxV)	**29.4° x 19.6°**
Center Beam Candlepower	**51,285**

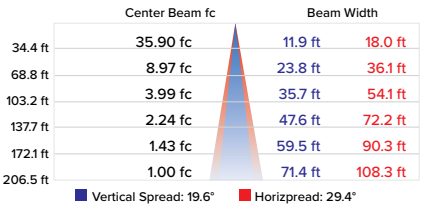
LUMENS PER ZONE

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%)	79.90%	10,831.10	59.4	44.8
Beam (50%)	36.60%	4,956.70	29.4	19.6
Total	100%	13,534.60		

ISOFOOT CANDLE PLOT



ILLUMINANCE AT A DISTANCE



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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

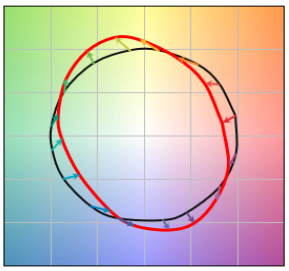
CATALOG #:

INT White

FLOODLIGHT LUMINAIRE

TM-30 DATA

COLOR VECTOR GRAPHIC

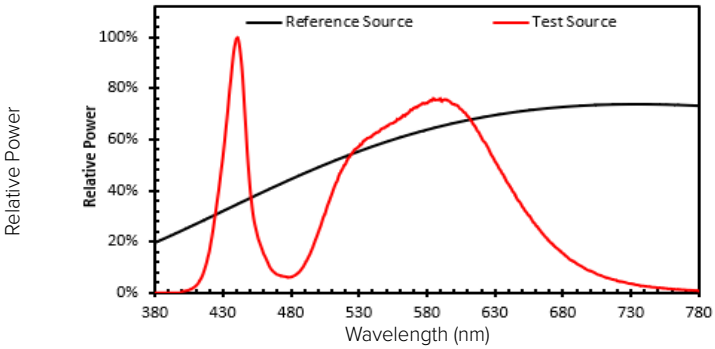


Reference Illuminant — Test Source

TEST SOURCE

R_f	68
R_g	99
CCT(K)	3947
D_{UV}	0.0004
x	0.3831
y	0.3793
CIE R_a	72

SPECTRAL POWER DISTRIBUTION COMPARISON



ELECTRICAL DATA

Size	Current	System Watts	Line Voltage		Amps AC						Min Power Factor	Max. THD (%)	Dimming				
			VAC	HZ	120	208	240	277	347	480			Dimming Range	Source Current Out		Absolute Voltage	
														Min	Max	Min	Max
2 ft	350 mA	28.6	120-480	50/60	0.24	0.14	0.12	0.10	0.08	0.06	>0.9	20	10% to 100%	0mA	1mA	0V	10V
	500 mA	39.9			0.33	0.19	0.17	0.14	0.11	0.08							
	800 mA	62.3			0.52	0.30	0.26	0.22	0.18	0.13							
3 ft	350 mA	42.0	120-480	50/60	0.35	0.20	0.18	0.15	0.12	0.09	>0.9	20	10% to 100%	0mA	1mA	0V	10V
	500 mA	59.5			0.50	0.29	0.25	0.21	0.17	0.12							
	800 mA	93.7			0.78	0.45	0.39	0.34	0.27	0.20							
4 ft	350 mA	54.0	120-480	50/60	0.45	0.26	0.22	0.19	0.16	0.11	>0.9	20	10% to 100%	0mA	1mA	0V	10V
	500 mA	78.6			0.66	0.38	0.33	0.28	0.23	0.16							
	800 mA	123.4			1.03	0.59	0.51	0.45	0.36	0.26							

POWER LOAD MATRIX (10A MAX AMPERAGE)

Verion	Size (ft)	Driver Wattage (W)	Driver Qty	Primary Voltage (V)	Programmed Current (mA)	Power Factor	%ATHD	Load (A)	System Power (W)	Max Mated Units	Total Feet
Static White	2	30	1	120	350	0.99	6.5	0.249	28.6	40	80
		40	1	120	500	0.98	5.2	0.365	39.9	27	54
		60	1	120	800	0.99	3.1	0.555	62.3	18	36
	3	40	1	120	350	0.98	4.5	0.37	42.0	27	81
		60	1	120	500	0.99	3.29	0.511	59.5	19	57
		95	1	120	800	0.99	2.9	0.818	93.7	12	36
	4	55	1	120	350	0.99	6.5	0.474	54.0	21	84
		80	1	120	500	0.99	52	0.669	78.6	14	56
		125	1	120	800	0.99	3.2	1.09	123.4	9	36

CRI LUMEN MULTIPLIER	
CCT	80 CRI
3000K	0.9119
4000K	0.8941
5000K	0.8625

TM-21 LIFETIME CALCULATION- PROJECTED LUMEN MAINTENANCE (25°C / 77°F)						
AMBIENT TEMP.	0	25,000	36,000	50,000	100,000	Reported L70
25°c / 77°F	100%	97.6%	96.3%	94.8%	89.3%	>60,000 hrs

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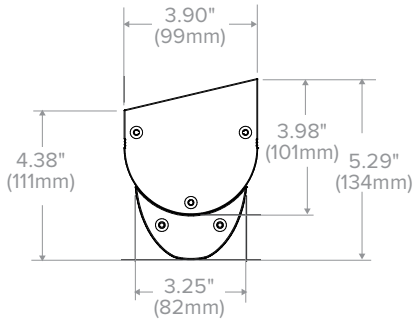
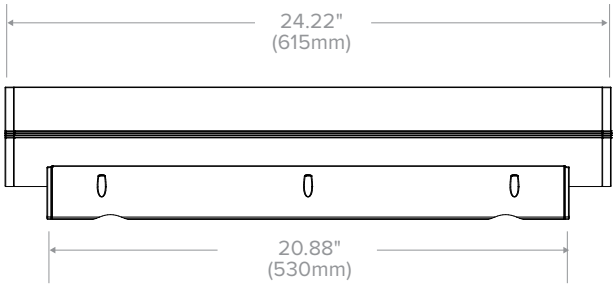
INT White

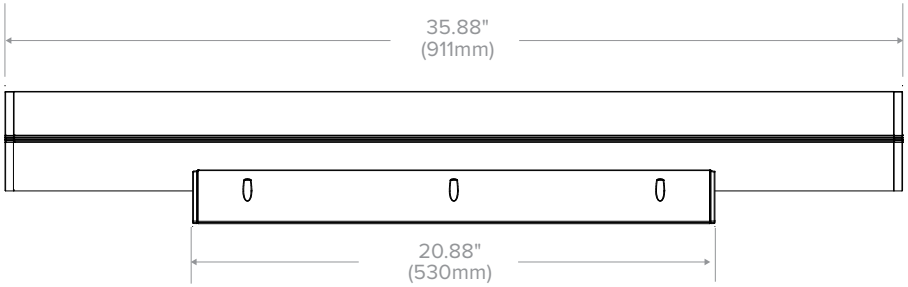
FLOODLIGHT LUMINAIRE

DIMENSIONS

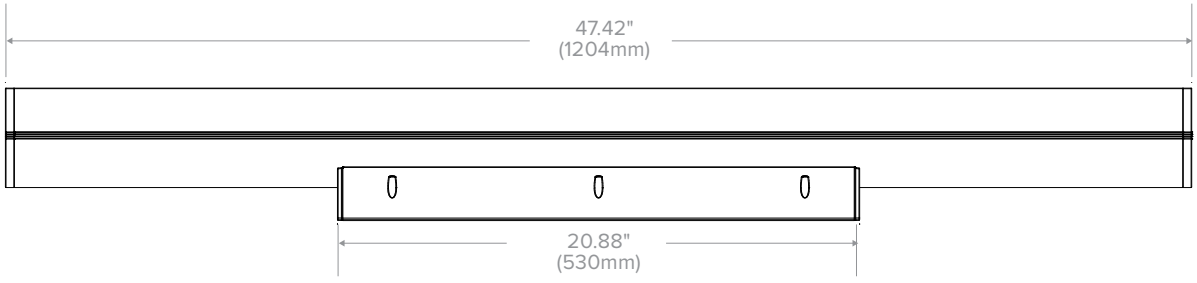




2 FT Fixture



3 FT Fixture



4 FT Fixture

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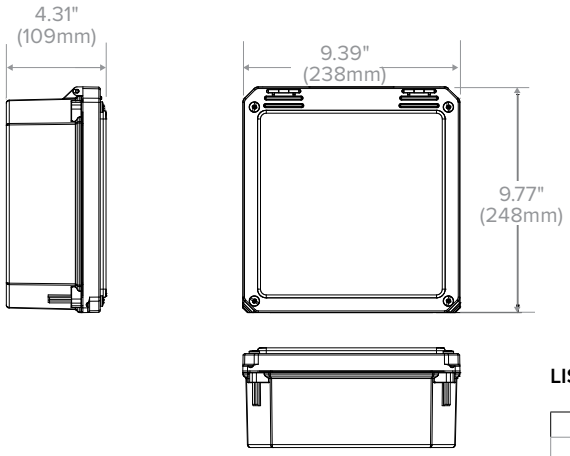
INT White

FLOODLIGHT LUMINAIRE

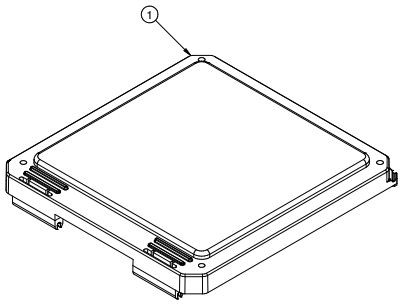
ADDITIONAL INFORMATION CONTINUED

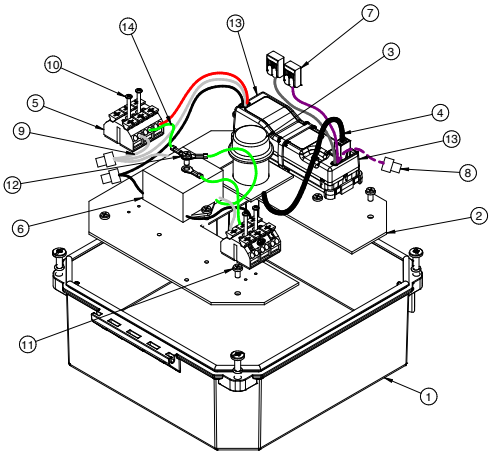
NX BOX



LIST COMPONENTS AND WIRING DIAGRAM

		Description	Quantity	
1	HW-80804CHSC	N4X Screw Cover 8x8x4 FGL-OPAQ	1	
2	93111068	PLT Remote NX	1	
3	SC	NX Module	1	Table 2
4*	NXCBL-0-6	NXCBL-O-6	1	
5	93074109	Terminal Block 3PT, WAGO CE	2	
6	93054384	SRGPRTR-LITTELFUSE 120-277V	1	
7	0874070B	CONN WAGO 2-WIRE 221-412	2	
8*	A74106	Wire Terminal	3	
9*	80105-6E	Wire #18 AWM (150c) WHT	1	
10	93005881	SCR 4-40X1.o PHH SS	4	
11	A84135	SCR-8-32X5/16 PHH PHMS SS	9	
12	88348	#10 Ring Terminal	3	
13	NXFM-1R2D-O-UNV	NXFM-1R2D-O-UNV	1	
14*	80106-6E	Wire #18 AWM (150c) Green	2	





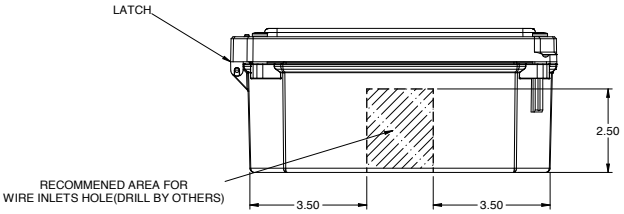
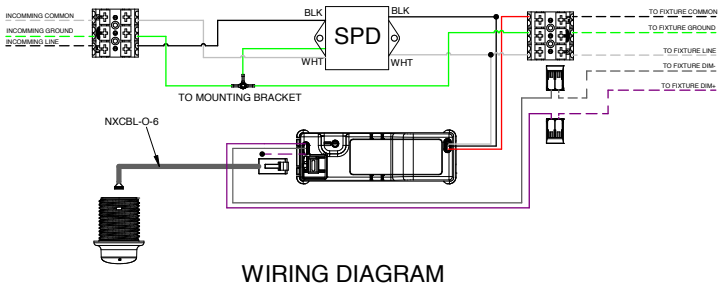


Table 2 Item #3 P/N	
Option	#3
NXWE-RME	NXRM-H
NXS-RME	NXSMP-LMI



WIRING DIAGRAM

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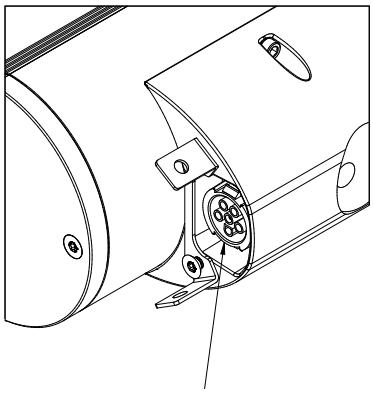
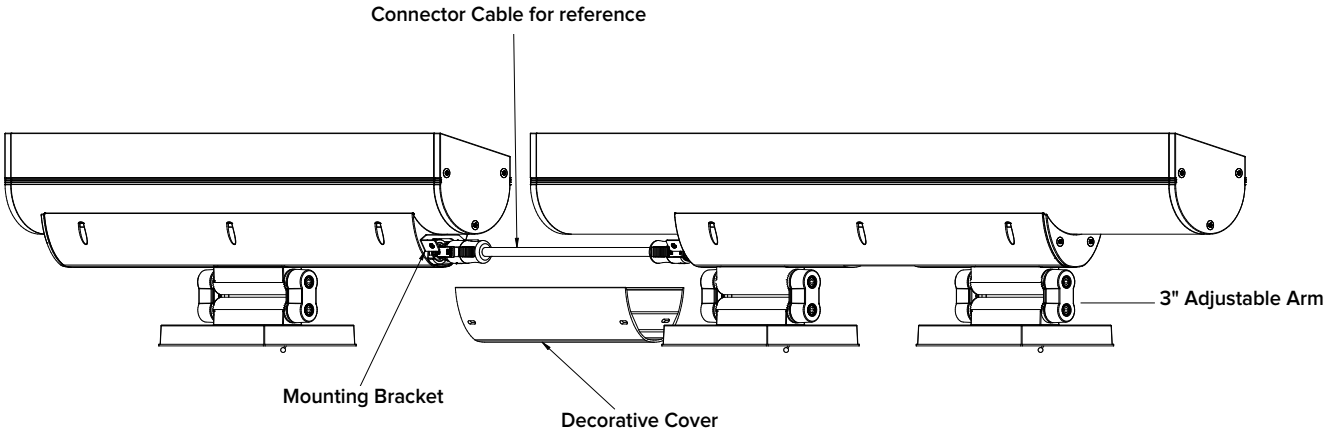
INT White

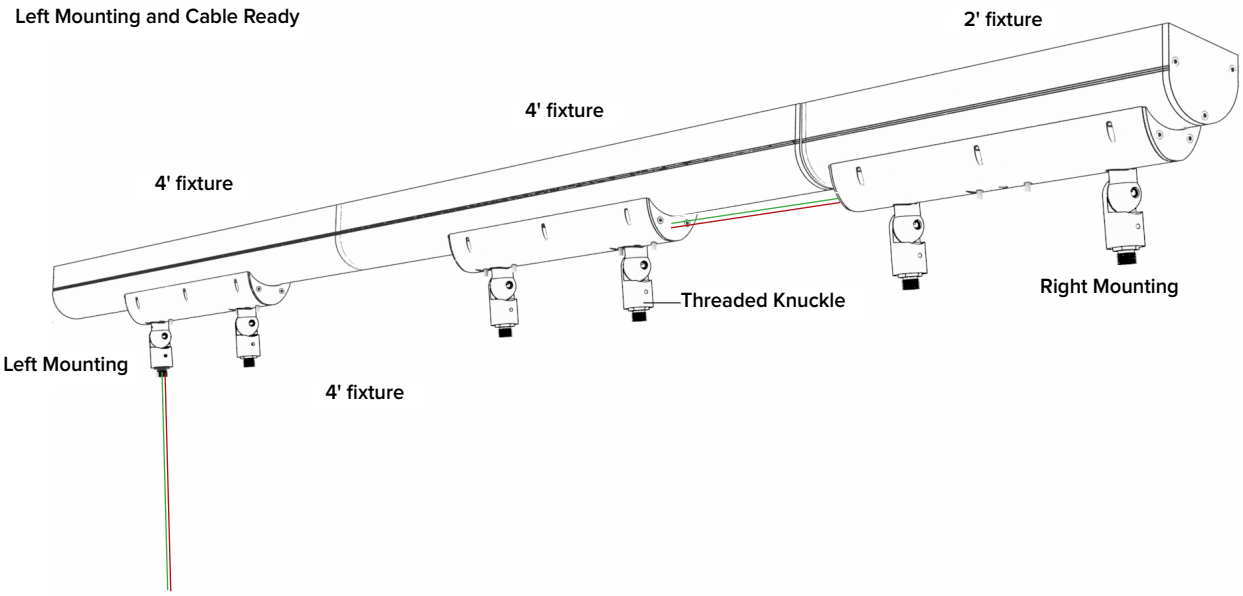
FLOODLIGHT LUMINAIRE

MOUNTING

- **Cable Ready**
  Wiring can be mounted through a cable on the side of the driver compartment. If this option is chosen, fixture will automatically come cable ready on both sides of the fixture.







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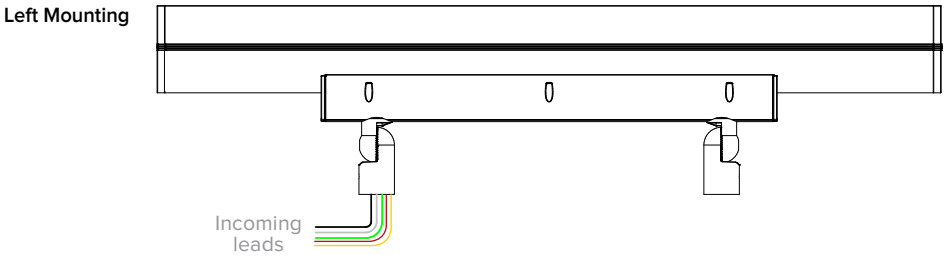
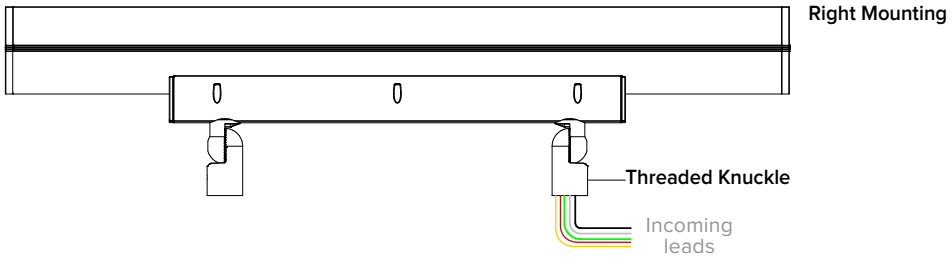
INT White

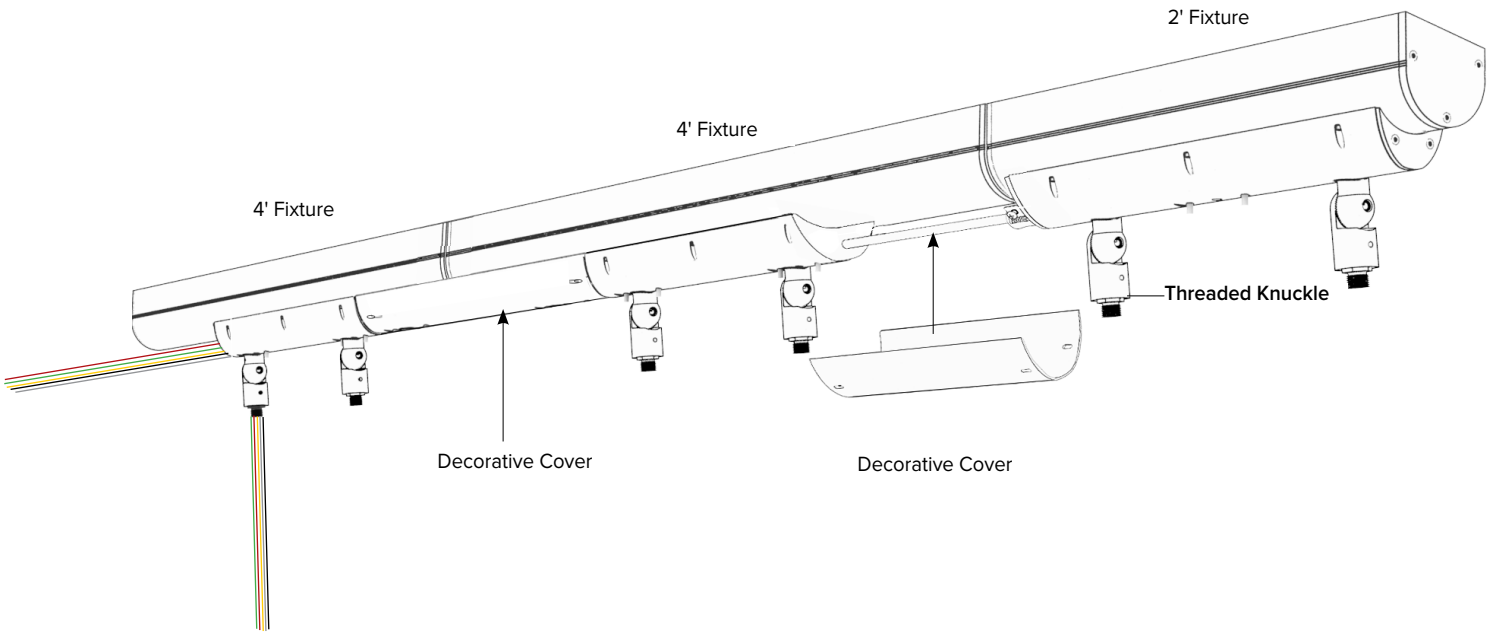
FLOODLIGHT LUMINAIRE

MOUNTING CONT'D

- **Left Mounting and Cable Ready**
  Both above wiring configurations can be combined to create to configuration shown here.







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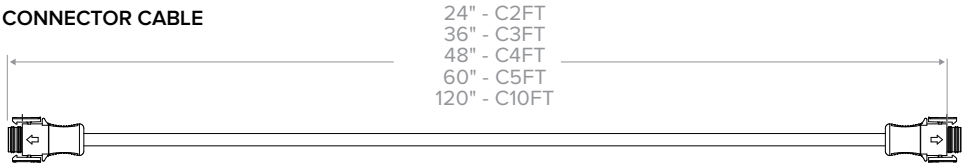
INT White

FLOODLIGHT LUMINAIRE

MOUNTING CONT'D

CONNECTOR CABLE



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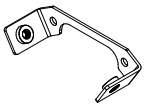

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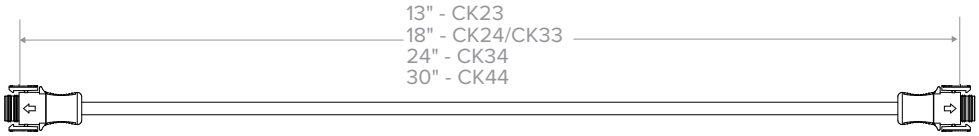

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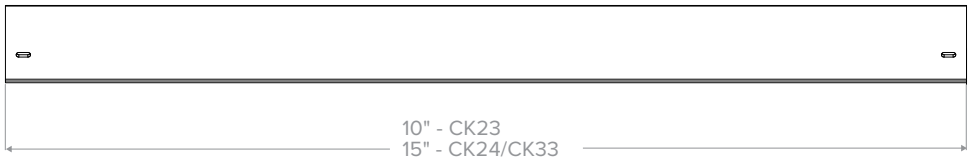

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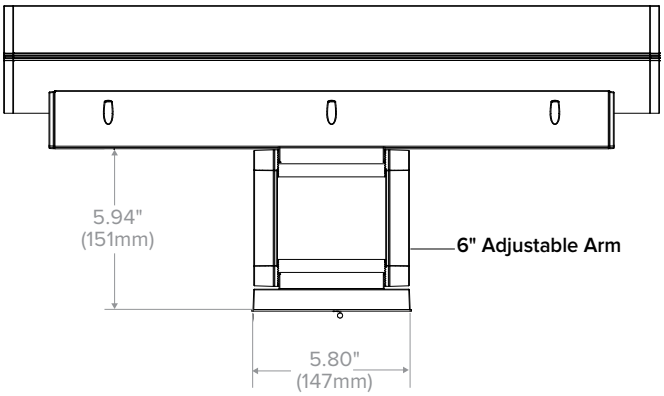
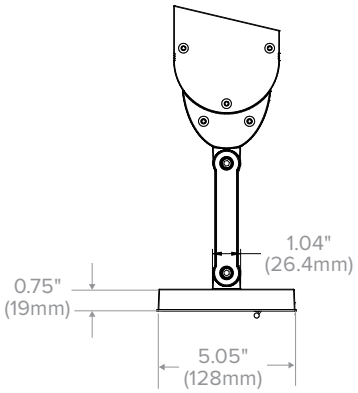
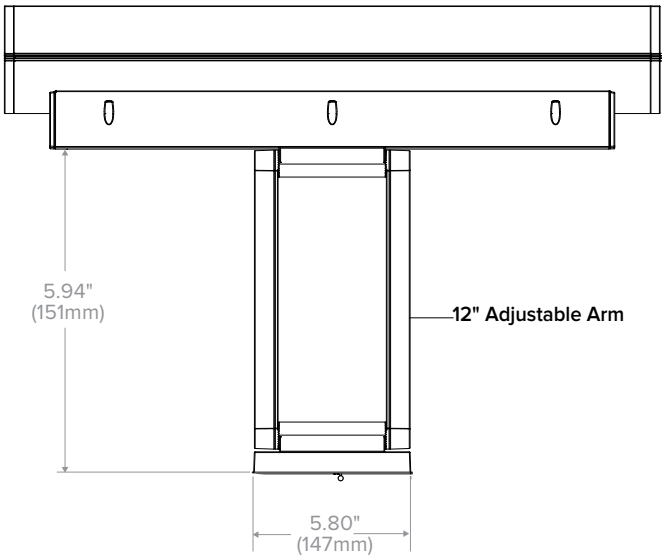
FLOODLIGHT LUMINAIRE

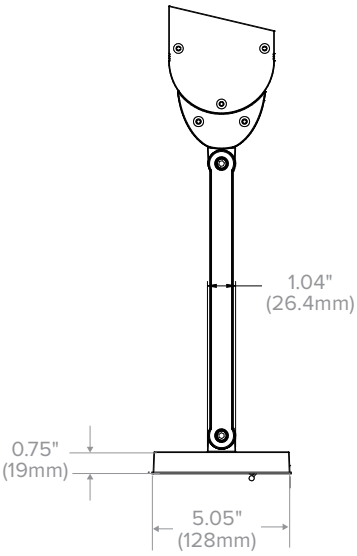
MOUNTING CONT'D

MOUNTING OPTIONS - 2 FT









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FLOODLIGHT LUMINAIRE

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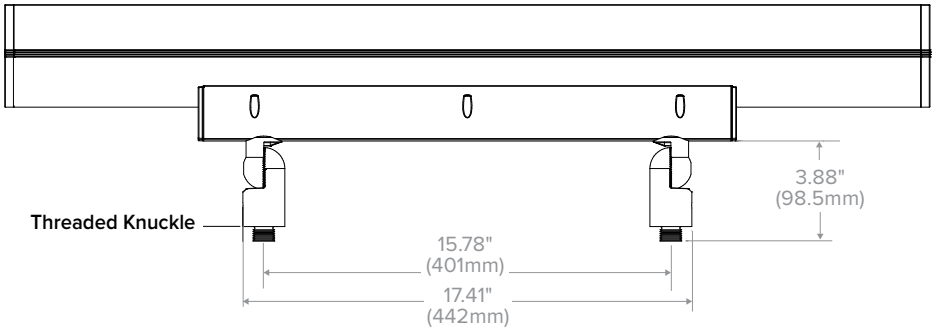
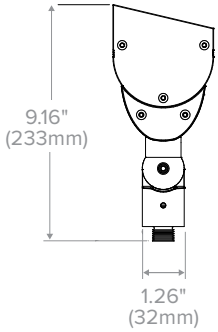
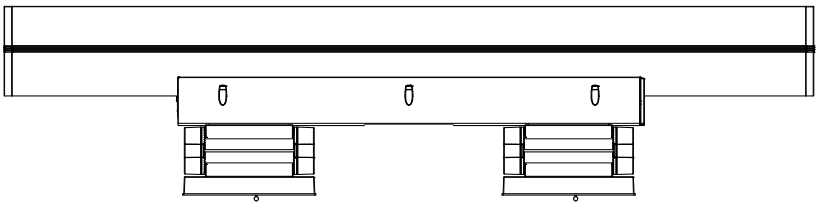
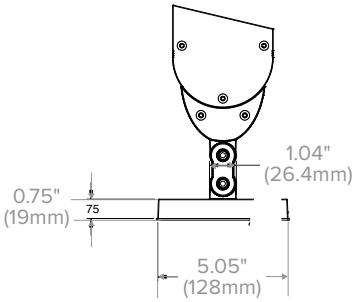
MOUNTING OPTIONS - 3 FT









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FLOODLIGHT LUMINAIRE

MOUNTING CONT'D

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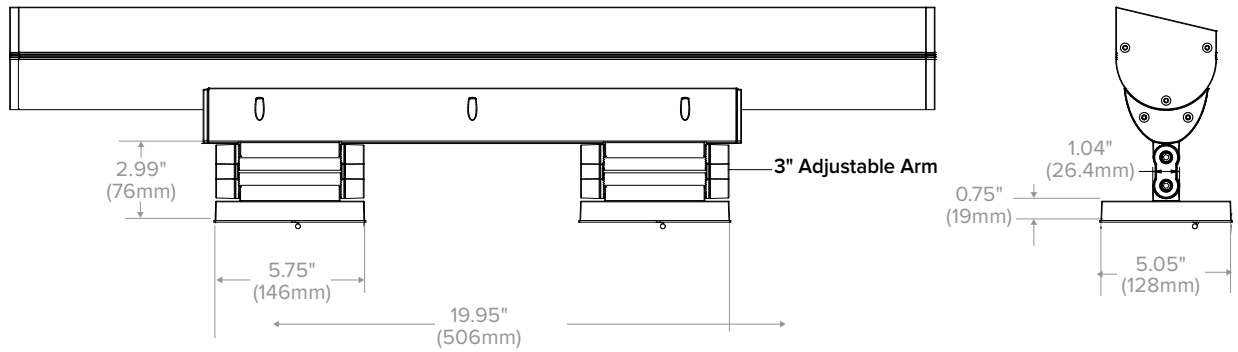

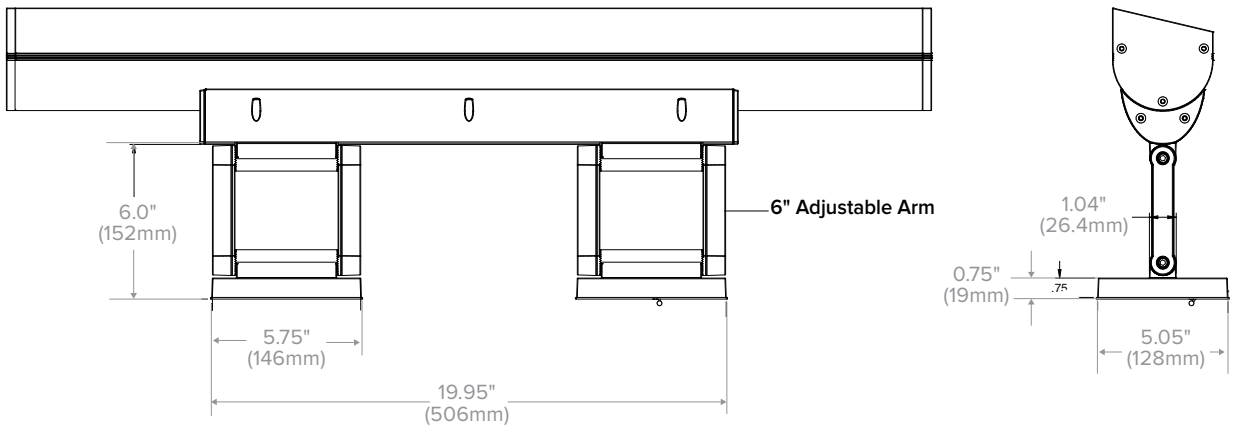

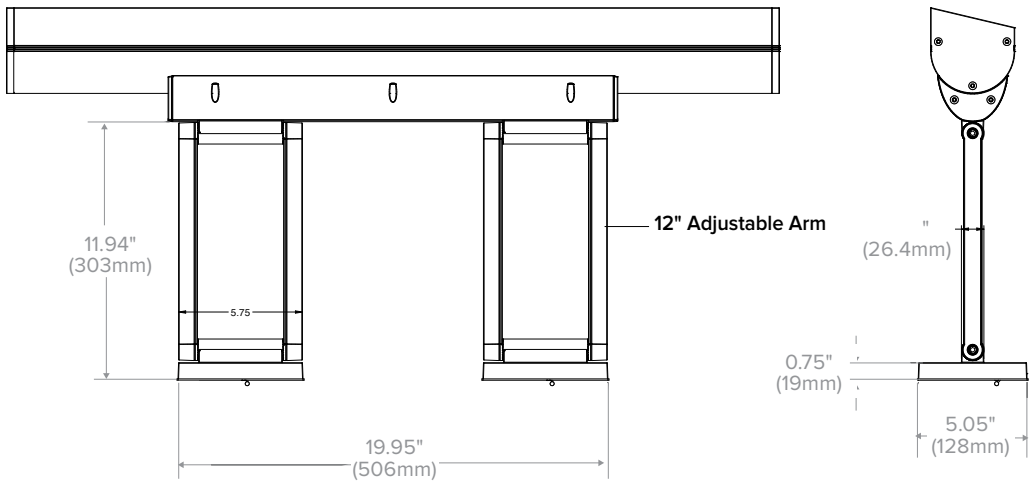

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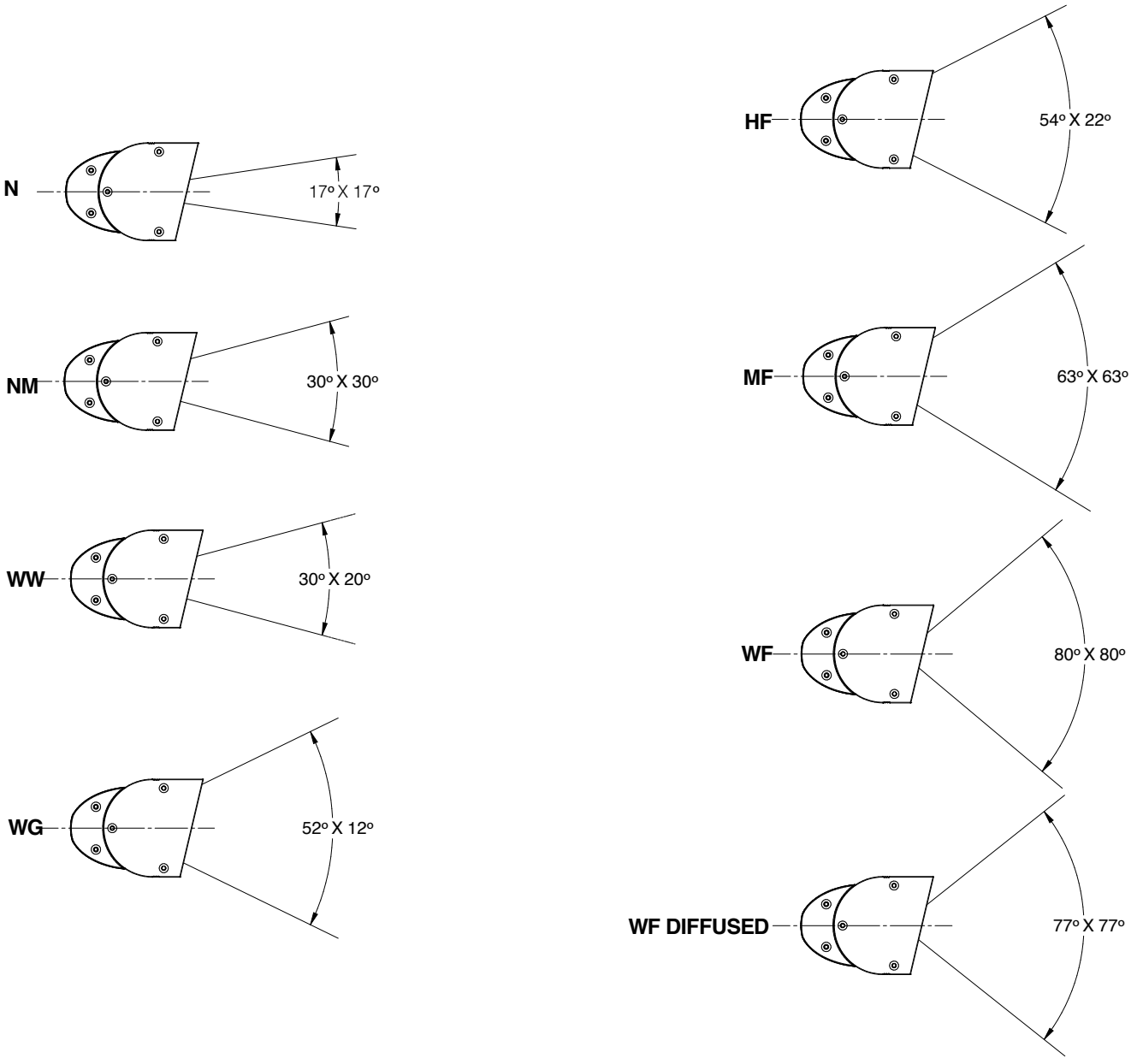
FLOODLIGHT LUMINAIRE

AIMING

BEAM SPREAD



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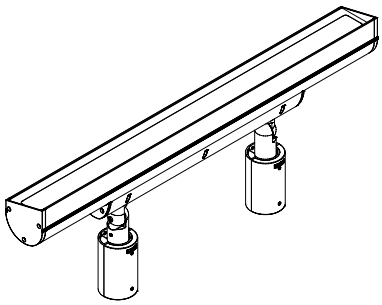
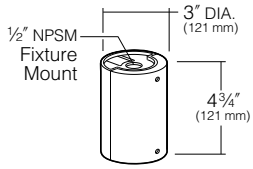
FLOODLIGHT LUMINAIRE

MOUNTING ACCESSORIES

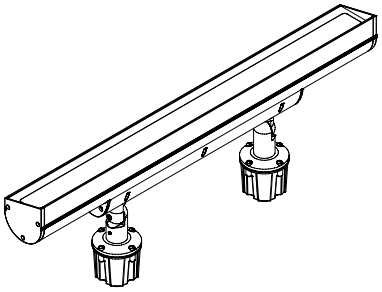


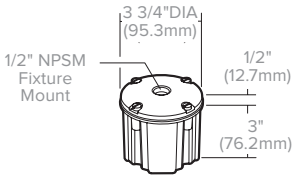


Cat. No. JB1

ARCHITECTURAL JUNCTION BOX

- Die-cast aluminum with 1⁄2" NPSM fixture mount. Internal set screw provided for locking position. Two 1⁄2" NPSM in bottom, 17 cu in. internal volume.
- Specify finish: BL - Black, DB - Dark Bronze, GT - Graphite Example: JB1/GT
- Used with 120V & HID: Micro-Flood, Scarab, Spun Copper Bullet, Sign/Wall Lighter, Ravenna, Bell Stem, Traditional, Traditional Floral, Path Pilot

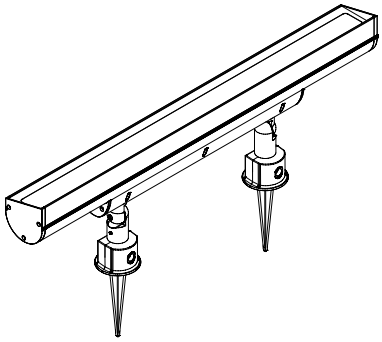


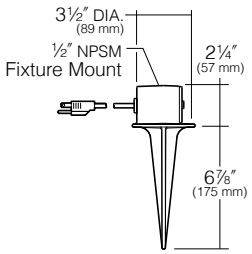


Cat. No. JBR

BRASS IN-GRADE ARCHITECTURAL JUNCTION BOX (THREADED KNUCKLE MOUNT ONLY)

- JBR-2 (2) 1/2" NPT in bottom JBR-3 (2) 3/4" NPT in bottom JBR-21 (2) 1/2" NPT in sides, (2) 1/2" NPT in bottom JBR-24 (4) 1/2" NPT in sides, (4) 1/2" NPT in bottom
- Die-cast brass with 1/2" NPSM fixture mount and die-cast cover. Internal set screw provided for locking position. 21 cu in. Internal volume. NOTE: All side taps provided with plugs.
- Creates a flush-mounted appearance.
- May be cast in concrete for increased stability.
- CAUTION: Fixture stem and swivel must not contact soil or standing water. Provide drainage away from junction box.

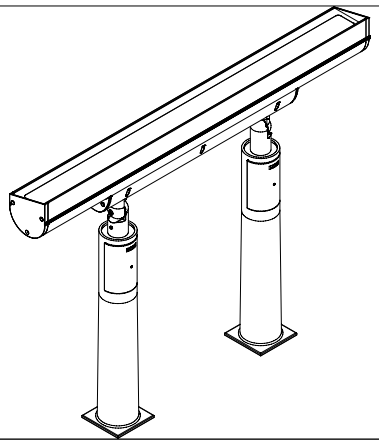


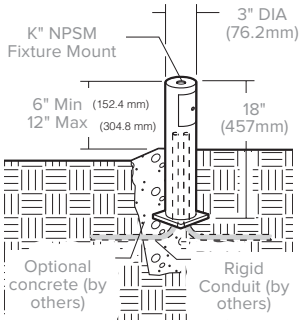


Cat. No. J-25N

PORTABLE SPEAR MOUNT

- Cast iron with 1⁄2" NPSM fixture mount. Hot dip galvanized finish. 5.5 cu in. splice compartment. (SJTW-A) 3 wire cord and plug. Supplied with (3) wire nuts and (3) mastic seals for waterproofing connections. 9' cord length
- Used with 120V: Micro-Flood, Scarab, Spun Copper Bullet, Sign/Wall Lighter, Ravenna, Bell Stem, Traditional, Traditional Floral, Path Pilot4L





Cat. No. SM18

STANCHION MOUNT (THREADED KNUCKLE MOUNT ONLY)

- 3" O.D. by .188" wall cast low copper (<0.6% Cu) aluminum with 1/2" NPSM fixture mount and hand hole with flush cover. Internal set screw fixture lock accessible through hand hole. Internal ground lug supplied with installed lead.
- CAUTION: To assure a rigid installation, stanchion must be set in concrete (by others).

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December 22, 2023

Mr. Tristan Donovan
Jacobs
Senior Stuctural Engineer
120 St. James Aveue, 5th Floor
Boston, MA 02116

Email: Tristan.donovan@jacobs.com

SUBJECT: Maine Port Authority IMT PIDP
Environmental Sound Study

Dear Mr. Donovan,

As requested, Cavanaugh Tocci has completed a study of environmental sound produced the proposed reefer rack facility located along W Commercial Street just south of the Casco Bay Bridge in Portland, ME. This report discusses applicable noise regulations and presents our sound impact assessment. Appendix A presents a glossary of acoustical terminology used in this report.

Baseline Sound Survey

Sound is a feature of all environments. Sound is only objectionable when it is inconsistent with its environment; by being either too loud or by being distinctive in character (i.e. tonally or temporally varying). The goal of acoustical design is to render facility noise consistent with the level and character of other sounds in the environment. To this end, the following environmental noise analysis evaluates sound produced by the proposed rooftop mechanical equipment in light of existing environmental sound levels.

An environmental sound survey was conducted to quantify and characterize the existing acoustic environment in the vicinity of the project site. In order to document typical background sound levels in the project area, the sound monitoring program consisted of continuous sound monitoring for a 7-day period (Friday October 20, 2023 to Friday October 27, 2023). The results of the survey allow both quantitative and qualitative analyses of the acoustic environment surrounding the Project. For this survey the sound monitor was located near the residences along York Street, as shown in Figure 1.

Figure 2 presents the results of the environmental sound survey. The acoustic environment in this area is dominated by traffic noise produced by vehicles on the Casco Bay ridge, local roads and other indigenous sounds in the area. The measured hourly ambient L90 levels ranged between 45 and 60 dBA. The best conservative estimate of the existing ambient sound is the average of the lowest hourly L90 from each of the six full days of measurements, which is 46 dBA.

Noise Criteria and Acoustic Design Goal

The Portland City Code[1] contains regulations that are pertinent with respect to sound produced by the proposed Project. The Project is zoned Waterfront Port Development Zone (WPDZ) according to the Portland Zoning Map[2]. Section 10.4.8 of the City Land Use Code sets performance standards for the WPDZ zone, including the limits on noise listed below.

> **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:
>
> 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.

Sound from the proposed Project, which will operate 24 hours a day, 7 days a week, is limited to 55 dBA during the hours from 7:00 PM to 7:00 AM.

[1] https://www.portlandmaine.gov/734/City-Code
[2] https://portlandme.maps.arcgis.com/home/index.html

Facility Description

The proposed reefer rack facility will be located just south of the Casco Bay Bridge along W Commercial Street. Twelve racks are proposed with each rack having the capacity to store up to 35 containers: 7 wide by 5 tall, for a total capacity of 420 containers. The Project will be structured with the following operational restrictions:

- Daytime Operations – 7:00 AM to 7:00 PM
    - No operational restrictions for reefer containers
    - Analysis based on a total of 420 reefer containers operating at 70% capacity
- Nighttime Operations – 7:00 PM to 7:00 AM
    - An automated system will be implemented to limit the number of operating reefer containers to 60 total containers

Project Sound Analysis

Facility related sound impacts that are associated with equipment at the proposed Project have been calculated using CadnaA environmental sound modeling software (Version 2023 MR2 DataKustic GmbH). The CadnaA sound modeling software uses algorithms and procedures described in International Standard ISO 9613-2:1996 “Acoustics- Attenuation of sound during propagation outdoors – Part 2: General method of calculation”. This standard and its associated methodology are the most universally accepted approach for environmental sound modeling of industrial and transit sound sources. The methodology described in this standard provides estimates of A-weighted and octave band sound levels for meteorological conditions that are favorable for the propagation of sound (downwind with a wind speed of 1-5 meters/sec). This methodology is also valid for sound propagation under well-developed moderate ground-based temperature profile inversions, which commonly occur on clear calm nights.

The analysis is based on source sound emission data derived from reefer container measurements performed at the Maine Port Authority in October 2023. The computer model has been calibrated based on a set of reefer containers operating under normal operating conditions. Results are presented for daytime and nighttime operations as described in the previous section.

Figure 3 presents the results of daytime operation (full capacity) sound sources acoustic modeling at the nearest residential receptors (R1-R10) and Figure 4 presents the results of nighttime operation (60 reefer containers operating). Table 1 provides a summary of the results along with appropriate limits from the City of Portland noise ordinance.

**Table 1 – Estimate of Facility Sound Levels (dBA)
for Daytime and Nighttime Operations**

Receptor Location	City of Portland WPDZ Limit	Estimated Sound Level (dBA)	
		Daytime Operation	Nighttime Operation
R1	Daytime – No Limit Nighttime – 55 dBA	49	43
R2		54	47
R3		58	51
R4		59	53
R5		62	55
R6		59	53
R7		57	51
R8		56	49
R9		51	45
R10		50	44

Conclusion

Based on our review, it is our opinion that sound produced by proposed by reefer containers associated with the Maine Port Authority IMT PIDP project along W Commercial Street in Portland ME will comply with the Portland City Code limits on sound. Furthermore, sound emitted by the project will not produce a noticeable impact on the acoustic environment and will not have an unreasonable adverse effect at any surrounding properties.

Please do not hesitate to contact us with any questions.

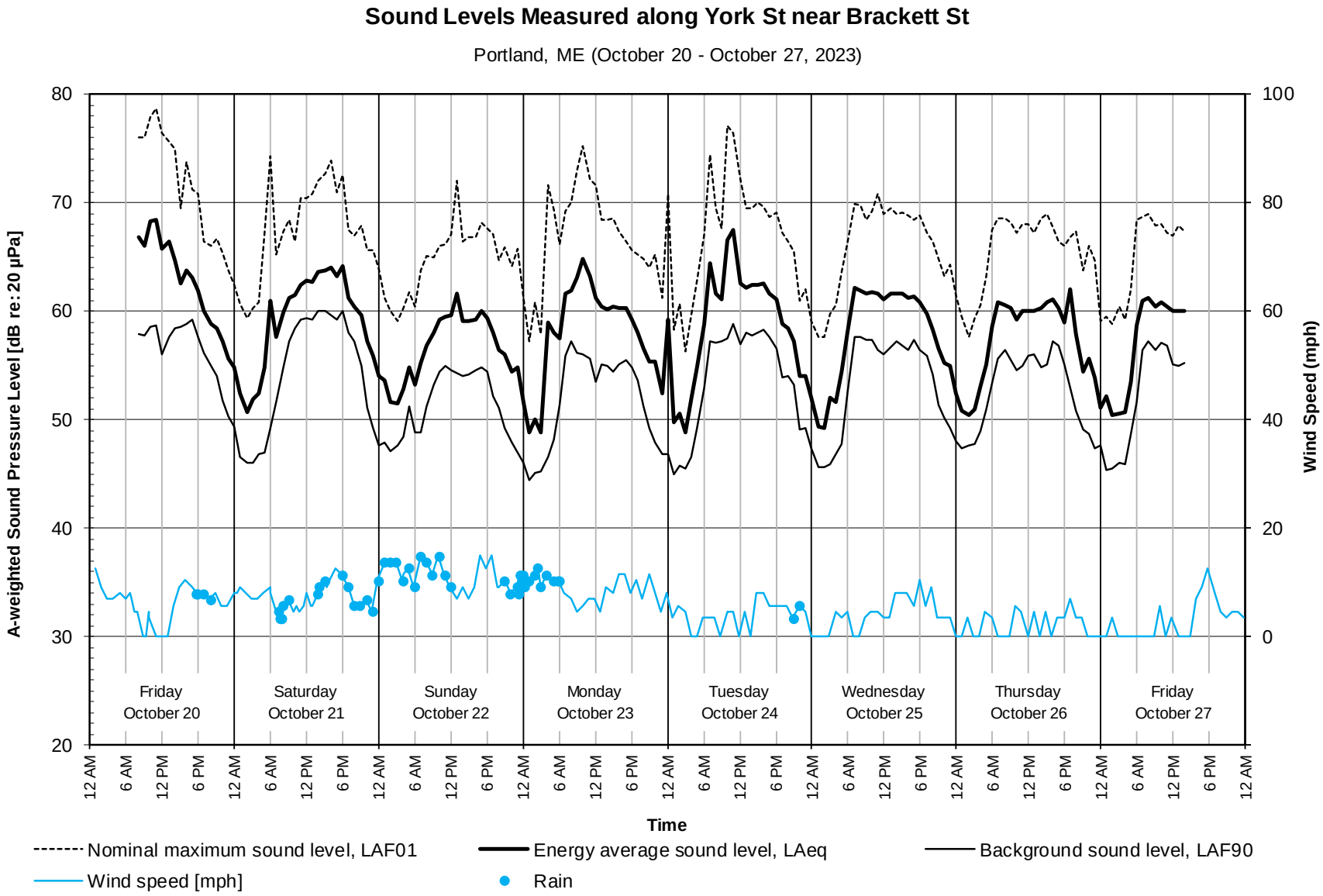
Sincerely,
CAVANAUGH TOCCI

Aaron M. Farbo, *Associate Principal Consultant*
afarbo@cavtocci.com
23249/Maine Port Authority IMT PIDP Environmental Sound Study Report 1c.docx

FIGURES

Aerial Photograph Indicating Sound Monitoring Location and Project Site

Figure 1



S15

Figure 2

CAVANAUGHTOCCI

Aerial Photograph Presenting Daytime Operation (Full Capacity)
Sound Levels at Residential Receptor Locations R1-R10

Figure 3

CAVANAUGHTOCCI

Aerial Photograph Presenting Nighttime Operation (60 Reefer Containers Operating)
Sound Levels at Residential Receptor Locations R1-R10

Figure 4

CAVANAUGHTOCCI

APPENDIX A

Sound Measurement Terminology

SOUND MEASUREMENT TERMINOLOGY

In order to quantify the amplitude, frequency, and temporal characteristics of sound, various acoustical descriptors are used. The following is an introduction to acoustic terminology that is used in this report.

Sound Level

Sound levels are typically quantified using a logarithmic decibel (dB) scale. The use of a logarithmic scale helps to compress the wide range of human sensitivity to sound amplitude into a scale that ranges from approximately 0 to 180 dB. Note however, that the use of the logarithmic scale prevents simple arithmetic operations when combining the cumulative impact of sources. For example, two sources of equal sound level operated simultaneously results in a combined sound level that is only 3 dB higher than if only one source was operated alone. An important feature of the human perception of continuous sound is that an increase or decrease in sound pressure level by 3 dB or less is barely perceptible, and an increase or decrease by 10 dB is perceived as a doubling or halving of noise level.

A-weighting

Generally, the sensitivity of human hearing is restricted to the frequency range of 20 Hz to 20,000 Hz. However, the human ear is most sensitive to sound in the 500 Hz to 5,000 Hz frequency range. Above and below this range, the ear becomes progressively less sensitive. To account for this feature of human hearing, sound level meters incorporate filtering of acoustic signals that corresponds to the varying sensitivity of the human ear to sound at different frequencies. This filtering is called A-weighting. Sound level measurements that are obtained using this filtering are referred to as A-weighted sound levels and are signified by the identifier, dBA. A-weighted sound levels are widely used for evaluating human exposure to environmental sounds. To help place A-weighted sound levels in perspective, Figure A-1 contains a scale showing typical sound levels for common interior and environmental sound sources.

Spectral Characteristics – Octave and 1/3 Octave Band Sound Levels

To characterize a sound, it is often necessary to evaluate the frequency distribution of the sound energy. As mentioned before, the frequencies of most interest where human exposure is concerned range between 20 Hz and 20,000 Hz. This frequency range is commonly divided into octave bands, where an octave band is a range of frequencies. Each octave band is referred to by its center frequency and has a bandwidth of one octave (a doubling of frequency). To cover the full range of human hearing, it is necessary to measure sound in 10 separate octave bands. Typically, the lowest frequency band measured has a center frequency of 31.5 Hz. The next frequency band has a center frequency of 63 Hz. This geometric series continues to the highest frequency band that has a center frequency of 16,000 Hz. A set of octave band sound levels to describe a particular sound is called an octave band spectrum. Covering the full range of hearing, an octave band spectrum would have 10 values, one for each band. Under certain

circumstances, more frequency resolution in acoustical data is needed to identify the presence of tonal sounds. A 1/3 octave band spectrum uses filters that divide each octave band into 3 separate frequency bands. Note that octave band and 1/3 octave band sound levels are not usually A-weighted, with their units being dB.

Environmental Noise Descriptors

Sound levels in the environment are continuously fluctuating and it is difficult to quantify these time-varying levels with single number descriptors. Statistical approaches, which use *percentile sound levels* and *equivalent sound levels*, are often used to quantify the temporal characteristics of environmental sound.

Percentile sound levels (L_n) are the A-weighted sound levels that are exceeded for specific percentages of time within a noise measurement interval. For example, if a measurement interval is one hour long, the 50th percentile sound level (L_{50}) is the A-weighted sound level that is exceeded for 30 minutes of that interval.

- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The 90th percentile sound level represents the nominally lowest level reached during the monitoring interval and is typically influenced by sound of relatively low level, but nearly constant duration, such as distant traffic or continuously operating industrial equipment. The L_{90} is often used in standards to quantify the existing background or residual sound level.

- L_{50} is the median sound level: the sound level in dBA exceeded 50 percent of the time during the measurement period.

- L_{10} is the sound level exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the intrusive sound level because it is caused by occasional louder noises like those from passing motor vehicles or aircraft.

By using percentile sound levels, it is possible to characterize the sound environment in terms of the steady-state background sound (L_{90}) and occasional transient sound (L_{10}).

The equivalent sound level (L_{eq}) is the energy average of the A weighted sound level for the measurement interval. Sounds of low level and long duration, as well as sounds of high level and short duration influence this sound level descriptor.

Noise levels at night generally produce greater annoyance than do the same levels which occur during the day. It is generally agreed that a given level of environmental noise during the day would appear to be 10 dBA louder at night – at least in terms of potential for causing community concern. The day night average sound level (Ldn) is a 24 hour average A-weighted sound level where a 10 dB “penalty” is applied to sound occurring between the hours of 10:00 p.m. and 7:00 a.m. The 10 dB penalty accounts for the heightened sensitivity of a community to noise occurring at night.

When a steady continuous sound is measured, the L_{10}, L_{50}, L_{90} and L_{eq} are all equal. For a constant sound level, such as from a power plant operating continuously for a 24-hour period, the L_{dn} is approximately 6 dBA higher than the directly measured sound level.

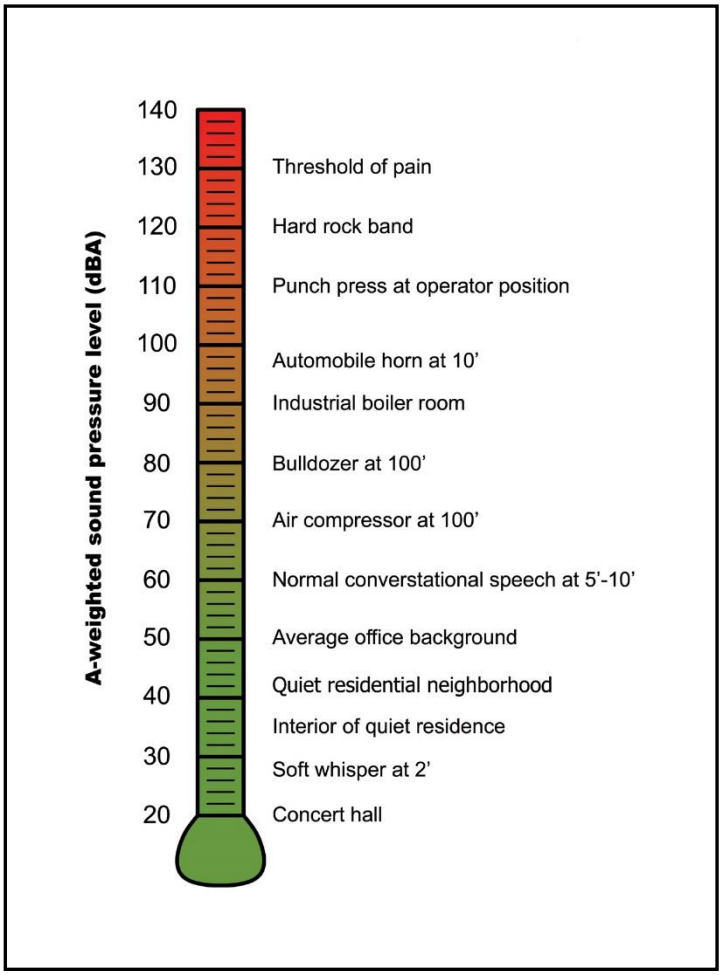


Figure A-1
Typical Sound Levels for Common Interior and Environmental Source

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Architects

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Portland, ME 04101
207.774.4811

EXHIBIT 24 - SITE DESIGN STANDARDS 14.6.4

14.6.4 - Site Design Standards:

H. Signage & Wayfaring

No signage is proposed as part of this project as the entirety of the project is located within the secured freight processing yard that is not accessible to the public.

Winton Scott
Architects

217 Commercial St, Suite 200
Portland, ME 04101
207.774.4811

WPDZ -Impact Mitigation Narrative

(Per City of Portland Land Use Code -Section 10.4.8)

A. Outdoor Storage of Materials:

Outdoor storage of materials on the IMT site consists primarily of stacked shipping containers. The proposed reefer racks are designed to serve refrigerated shipping containers stacked up to 5 containers high. See attached email correspondence with the Zoning Administrator regarding the height of stacked containers and her interpretation of zoning provisions that apply.

B. Noise:

This project essentially addresses how refrigerated containers already accommodated on the site are stored. The project replaces refrigerated container storage areas scattered across the site into one location for better efficiency and ease of operations. No new noise generating equipment is being proposed and any noise generated by current operation of freight processing vehicles is unchanged from current conditions.

C. Vibration:

The project will not generate any perceptible vibration.

D. Federal & State Environmental Regulations:

This project does not propose any new equipment that produces emissions into the air.

E. Discharges into Harbor Areas:

Not Applicable to this project

F. Storage of Vehicles:

Not Applicable to this project

G. Landfill of Docking and Berthing Areas:

Not Applicable to this project

H. Off-street Parking:

The project does not generate any new parking demand for the site.

I. Shoreland & Flood Plain Management Regulations:

The Proposed project is located within the overall IMT site which has been previously vetted for meeting Shoreland and Flood Plain Management Regulations. Furthermore, operational activities associated with the completed project are unchanged from current operations already taking place on the site. The proposed reefer rack structures are not subject to any setbacks from the water as setbacks do not apply within the WPDZ and other issues such as erosion and sedimentation control during construction and storm water runoff management have al been described in other sections of this submission.

According to the FEMA FIRM, the site is out of the floodplain. However, we have calculated the DFE for the site as approximately 17.5' NGVD29. This takes into account the adjacent BFE from the FEMA map (11' NAVD88), approximately 4' of sea level rise, and 2' of freeboard. The electrical equipment is designed to be above this elevation, meaning 3-4' of elevation over existing grade.

J. Lighting:

The site lighting included within the scope of this project makes use of full cut off shielded light fixtures. A site photometrics plan and proposed fixture cut sheets are included in the Exterior Lighting section of this submission.

K. Signs:

No signage is proposed as part of this project.

L. Storage of Pollutants & Oily Wastes:

Not Applicable to this project

M. Compatibility of Non-marine Uses with Marine Uses:

Not Applicable to this project

N. Design:

The project proposes construction of open air, framed, scaffolding type structures that provide access platforms for workers to connect stacked refrigerated containers to power while being stored. The structures are not enclosed and their inherent nature is such that the intent of the building design standards do not apply.

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EXHIBIT 3 - EVIDENCE OF RIGHT, TITLE, & INTEREST

See attached document immediately following this page.

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EXHIBIT 9 - TECHNICAL CAPABILITY

See attached document immediately following this page.

Technical Capability

The applicant has assembled a highly qualified team of professionals in the preparation of this project. All members of this team have significant experience with waterfront port planning and terminal designs, and many have worked together on similar projects. The project is being designed by a multi-disciplinary team of design professionals led by Jacobs; one of the top engineering firm worldwide . All members of the design team have proven experience working on projects for the Maine Port Authority, the MaineDOT, and other waterfront entities along the Fore River and throughout the coast of Maine. See enclosed Project Directory for list of professionals involved with the project.

Client

Maine Department of Transportation
Maine Port Authority
16 State House Station
Augusta, Maine 04333-0016

Matthew Burns, Executive Director
matthew.burns@maineports.com

Port Operator

Soli DG
P.O. Box 2881
South Portland, Maine 04116

Michael Carter, Chief Terminal Operations Officer
(207) 200-2430
mcarter@solidg.com

Prime Consultant

Jacobs Engineering Group
120 St. James Avenue, 5th Floor
Boston, MA 02116

Craig Morin, PE, Program Manager (Structural/Marine Engineer licensed in Maine)
(207) 409-9702 craig.morin@jacobs.com

Tristan Donovan, PE, Project Manager/Discipline Lead (Structural)
(603) 344-2648 tristan.donovan@jacobs.com

Alistair Hart, PE, Discipline Lead (Port Planning)
alistair.hart@jacobs.com

Brian Montejunas, PE, Discipline Lead (Site/Civil)
brian.montejunas@jacobs.com

Sam Nauss, PE, Discipline Lead (Geotechnical Design)
sam.nauss@jacobs.com

Craig Wood, Discipline Lead (State & Federal Permitting)
craig.wood@jacobs.com

Subconsultants

Schonewald Engineering Associates
129 Middle Road
Cumberland, ME 04021

Be Schonewald, PE (Geotechnical Investigations)
(207) 829-9879
be@schonewaldengineering.com

Owen Haskell
390 US Route 1, Suite 10
Falmouth, ME 04105

Samuel Glidden, PLS (Survey)
(207) 774-0424
sglidden@owenhaskell.com

Winton Scott Architects
217 Commercial Street, Suite 200
Portland ME 04101

Stephen Weatherhead, Maine Licensed Architect (Local Permitting)
(207) 774-4811
sweatherhead@wintonscott.com

Swiftcurrent Engineering Services
10 Forest Falls Drive, Unit 4B
Yarmouth, ME 04096

Tim Matthews, PE (Electrical)
(207) 947-9280
tim@swiftcurrenteng.com

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Architects

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EXHIBIT 8 - FINANCIAL CAPABILITY

See attached document immediately following this page.

Financial Capability

The Maine Port Authority along with the MaineDOT has the financial capability to perform this project. The project will be fully funded through a combination of state and federal funds as follows:

- ***MaineDOT, Capital Work Plan budgeted funding.***
- ***Port Infrastructure Development Program grant from the US Department of Transportation Maritime Administration. $2,000,000 received in 2020.***

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EXHIBIT 4 - EVIDENCE OF STATE OR FEDERAL APPROVALS

See attached document immediately following this page.

Evidence of State or Federal Approvals

The following table summarizes the state and federal approvals required for this project.

Law/Regulation	Citation	Regulatory Agency	Status
Site Location of Development Law	2018 General Permit	MEDEP	In Progress
Stormwater Management Law	Chapter 500	MEDEP/City of Portland	In Progress
Waste Discharge Law	Chapter 529	MEDEP/City of Portland	In Progress
Natural Resources Protection Act	Chapter 305	MEDP	In Progress
Rivers and Harbors Act/Clean Water Act	Section 10/Section 404	USACE	In Progress

Portland, Maine Yes. Life's good here.

Planning & Urban Development Department

EXHIBIT 5 - ZONING ANALYSIS TABLE

ZONING ANALYSIS Relevant Zone(s) WPDZ / Shoreland Overlay

All Projects:

	Required	Proposed
Lot Size	N/A	
Area Per Dwelling Unit	N/A	
Minimum Street Frontage	N/A	
Front Yard Minimum	N/A	
Front Yard Maximum	N/A	
Rear Yard	N/A	
Yard Right	N/A	
Yard Left	N/A	
Side Street Setback	N/A	
Step Back	N/A	
Maximum Lot Coverage	50%	29%
Minimum Lot Coverage	N/A	
Maximum Height	50'	48'
Open Space	N/A	
Maximum Impervious Area	100%	143,000 s.f.
Pavement Setback	N/A	
Floor Area Ratio	N/A	
Off Street Parking Spaces	N/A	
Loading Bays	N/A	
Other 1 Max Building Length	300'	64'
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

NOT APPLICABLE

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):			

NOT APPLICABLE

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EXHIBIT 7 - SUMMARY OF EXISTING AND/OR PROPOSED EASEMENTS OF COVENANTS

See attached document immediately following this page.

Summary of Existing and/or Proposed Easements or Covenants

All existing easements are shown on the "Boundary and Topographic Survey, International Marine Terminal" by Owen Haskell, Inc. dated October 21, 2022.

The existing 30' wide Sewer Easement to the City of Portland for the existing 24" CSO pipe will be abandoned modified and a new easement will be created to follow the relocation and upsizing of this pipe. This Modification to the easement will be coordinated with the Portland Water District and the City of Portland.

To: *Charles Tetelman, City of Portland*

From: *Tristan Donovan, PE, Jacobs*
Craig Morin, PE, Jacobs
Steve Weatherhead, Winton Scott Architects

Subject: *Response to City of Portland Comments, Major Site Plan Application*
Portland IMT West Lot Redevelopment
2 West Commercial Street

*The following are responses to City comments received on July 13th, 2023. Comments are in **bold** text and the responses are in regular text.*

General

- ***Please describe how snow storage will be handled on site or is currently handled on site.***

  Response: A drawing has been included which illustrates snow storage within the subject parcel. This illustration was also presented in 2014 during the original expansion of the terminal. Snow storage has been successfully executed by the Maine Port Authority using this approach and no changes are anticipated.

- ***Will the proposed development be creating excessive noise?***

  Response: No. See the second bullet in the Zoning section below for a full description of our response.

Zoning

- ***Under Table 10-B, the maximum lot coverage allowed is 50%. The zoning analysis sheet states it is 29%. Can they provide more information on how they calculated this figure. Lot coverage is defined as: the proportion of lot area covered by building footprint and the footprint of accessory detached structures.***

  Response: The lot coverage number originally provided was incorrectly calculated to include the paved areas. When calculated correctly including only building and structure footprints, the lot coverage is 1.9%. The zoning analysis sheet has been updated with the correct number.

- ***The application states that no new equipment is proposed to be used as part of this project. The site currently meets the noise and vibration requirements, and will continue to do so. Section 10.4.8(B) outlines the permissible noise levels. Are the refrigerated containers going to meet this standard?***

  Response: Previous noise studies performed indicate the site meets the permissible noise levels, but do not address the number of refrigerated containers proposed. An environmental acoustic study will be completed to assess the noise levels caused by the refrigerated containers. This study will be provided once complete.

- ***Article 3 defines a building as: a roofed and walled structure built for permanent use. It defines a structure as: 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. Based on these two definitions, the reefer rack systems are structures. Since they are not a building, they do not need to meet the building length requirement outlined in Table 10-B.***

  Response: Noted, no action necessary.

- ***Under Table 10-B the maximum height for a building within 100' of Commercial St. is 50 feet. Although the reefer rack systems are not buildings, they meet the maximum height requirement since the top of the racks are 48 feet from grade.***

  Response: Noted, no action necessary.

Transportation

- ***Please confirm that the site plan application will not impact the Commercial Street bike trail.***

  Response: All work associated with this project is being performed within the existing storage yard. The bike trail will not be impacted.

- ***Will the proposed development connect to the haul road or operate through the intersection associated with 40 W. Commercial Street?***

  Response: The proposed development will use the intersection at Beach Street (40 W. Commercial Street) as its primary route for operations. The intersection was originally designed to accommodate the operational activities of the cold storage building and the container yard. The proposed development will also connect to the heavy haul road via the existing concrete loading pad as a supplemental means of moving containers and heavy-haul components to Merrill's Terminal thereby bypassing Commercial Street for oversized items.

Water Quality, Stormwater, & Infrastructure

- ***Per previous discussions with the applicant, DPW would request that the CSO outflow line be upsized to a 48" pipe from the northerly most manhole to the outfall point. DPW would also request that the new outflow line be equipped with an inline tide valve.***

  Response: The drawings have been updated to show the CSO pipe as a 48" pipe, a duck bill one-way tide valve has been provided just downstream of the last manhole, and the existing 30' wide easement will be adjusted and granted to the City of Portland.

Landscaping & Environmental Quality

- ***The applicant must ensure that they are following the Technical Manual's tree protection guidelines to ensure that the existing street trees along West Commercial Street are protected.***

  Response: The drawings have been updated to note that the trees along West Commercial Street shall be protected and that in the event a tree is damaged, it will be replaced in-kind.

- ***Standards for preservation of existing vegetation are outlined in section 4.3 of the Technical Manual. The applicant should especially take note that tree protection fencing should align to the street tree's canopy "drip line". Where demolition of pavement must take place within the drip line, extra care must be taken to avoid damaging roots that may have extended beneath that pavement. If the street trees are insufficiently protected and show signs of deterioration and damage resulting from construction activities within a year of construction completion (as determined by the City arborist), the applicant will be required to replace the street tree.***

  Response: Notes have been added to the General Notes sheet indicating that tree protection fencing shall be erected at the drip line of the existing trees, extra care shall be taken to protect trees if construction activity is to encroach within the drip line, and that damage trees shall be replaced.

To: *Charles Tetelman, City of Portland*

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Donovan, Tristan

Subject: FW: CMP Three Phase Service Process and Ability to Serve Letter Portland IMT - SAP# 10300967876

From: COUGH, JAMES <jcough@cmpco.com>
Sent: Thursday, March 23, 2023 6:56 AM
To: Tim Matthews <tim@swiftcurrenteng.com>
Subject: CMP Three Phase Service Process and Ability to Serve Letter Portland IMT - SAP# 10300967876

RE: International Marine Terminal Refrigerated Storage
460 COMMERCIAL ST PORTLAND ME
Letter of Ability to Serve Request

SAP 10300967876

Project Description:
420 Refrigerated Trailer Units in Marine Terminal to be fed from receptacles mounted on 5-story open walled structures.

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.

- 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 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

Regards,

Jamie

Jamie Cough
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207.629.1489

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The views presented in this message are solely those of the author(s) and do not necessarily represent the opinion of Avangrid, Inc. or any company of its group. Neither Avangrid, Inc. nor any company of its group guarantees the integrity, security or proper receipt of this message. Likewise, neither Avangrid, Inc. nor any company of its group accepts any liability whatsoever for any possible damages arising from, or in connection with, data interception, software viruses or manipulation by third parties.

Eimskip Refrigerator Racks 1 view

Subscribe

Bonnie Mattozzi <bdmattozzi@yahoo.com> Nov 27, 2023, 10:01:30 AM (yesterday)
to planning@portlandmaine.gov, Matthew Grooms, Rosanne Graef, planningboard@portlandmaine.gov

To Whom It May Concern:

This is in regard to the proposed increase in size and quantity of the refrigerator racks to be located at 2 West Commercial Street.

1) Some of our neighbors have been living here for decades, some for generations and even worked on the "waterfront".
2) Waterfront is not another word for "sacred ground".
3) Eimpskip is a FOREIGN CORPORATION and they have proved over and over again they do not give a damn about this neighborhood.
4) Eimpskip is a relatively "newcomer business", they have not been on this waterfront for a long time like they want us to believe. They have done NOTHING to improve the quality of the area and/or trying to improve relationships with the people living here before they took over the empty base of the old bridge and train terminal.

We are extremely concerned about the planned installation by Eimskip of "racks" containing hundred of reefers (refrigerator containers) stacked up to five at the time (about 50 feet high) . We are concerned about the massive illumination that will be needed and the unbearable noise level that will be generated by hundred of reefers refrigerator's fans going at the same time. The architects, the engineers responsible for this project and the representative of the Maine State Port Authority present at the last meeting bluntly refused to acknowledge and tell us the amount of decibels produced by each reefers. We are aware that each reefer noise emission can range from around 60 dB(A) to 80 dB(A). Within the proximity of a residential area it should not exceed 45 to 55 decibel, preferably lower. When multiple reefer containers are stacked or placed close together, the noise generated by the containers can increase due to the cumulative effect of multiple refrigeration units running simultaneously. If this initial proposal project is approved it will open up the construction of more racks containing thousand of reefers, the sky is the limit. They also told us that the fan's motor units of these hundreds of reefers will be directed, for convenience (to save time and money not for workers safety) towards (under) the bridge which will surely produce a sound chamber effect further increasing the noise, the humming and vibration levels. They have been adamant in telling us that there is no planning of mitigation of any sort included in their budget proposal.

We are asking for an independent, third party feasibility study on the light and sound impact on the adjacent neighbors and all the measures to be taken to mitigate all the new adverse conditions generated by this project.

Thank you.

Bonnie and Domenico Mattozzi
9 Tate Street, apt 2

Portland, Maine 04102

21 June 2023

I am a resident of Portland who lives at 13 Tate Street. I have been informed by neighbors on Next Door (a community blog) that the Maine State Port Authority has been given clearance to build and amass a 50+ feet high refer storage unit on Commercial Street.

The sound and lighting operations of this structure will affect the neighborhoods of my street and neighboring streets -or so I have been informed by my neighbors.

I have also been informed that the City meetings that were held on this matter were attended by many of my neighbors. Further I was told that City officials, architects of the project, and the Maine State Port Authority were dismissive of the concerns tax paying Portland Residents had to say. Nor did they address their concerns about the operational aspects of this project.

I am looking to you for help in this matter and to work for us rather than against our best interest.

The massive illumination, unbearable noise level generated by a hundred or more refer generator fans going on at the same time will indeed affect our neighborhood and the quality of life in Portland. I have been told that the architects and engineers of the project refuse to acknowledge or inform residents of the decibels produced by each refer and whether it exceeds the safe (and livable) standards or a residential area. It has been reported that these fans will be directed towards the bridge that will only create an echo chamber increasing noise pollution into our neighborhoods. The light pollution is another matter that has not been addressed to the satisfaction of the residents of these neighborhoods.

I ask that you help address this matter by requesting a third-party feasibility study on the sound and light impact on the adjacent neighborhoods. All measures to mitigate these adverse conditions generated by this project need to be taken.

I am counting on your help in this matter. There is so much talk about how City Officials and government do not care about the people in this City. I am very tired of this and the inaction, as it appears, from city and elected officials that care more about the dollar and big corporations and nothing about people who live and work in this City.

Thank you in advance for the help you can give on this matter.

Daniel Marlowe
13 Tate Street
Portland, ME 04102

Eli Dale <elidaleportland@gmail.com>
to planningboard@portlandmaine.gov

10:50 AM (15 minutes ago)

Hi Planning Board,

Does this plan for refrigerated container racking mean that we will have diesel engines running all day and night?

What kind of noise and fume mitigation will be used?

What kind of shoreland environmental protections will be put in place during the resurfacing?

Is this property outside of the area that was rezoned to allow structures over 45' high?

Does stacking up containers over 45' constitute a violation of that height limit, or are we pretending that containers don't have mass and won't block water views?

Why is this sponsored by the Port Authority?

Is it really Eimskip? Who is really in charge here?

Thanks for any answers. We live uphill from this installation and don't want to breathe stinky air.

Elizabeth (Eli) Dale

40 Salem Street, Portland

Bonner, Jay <bonnerj@ashevilleschool.org> Sep 19, 2023, 6:53:24 AM (2 days ago)
to planning@portlandmaine.gov, Pam Shelton, Bonnie Mattozzi

Dear Portland Planning Board Members,

As someone who enjoys the Portland waterfront's mix of commercial and recreational variety, I am writing to express some concerns about the Elmskip refrigeration rack construction. On the one hand, I suspect the City is delighted to be gaining tax revenue. (I hope the City is gaining tax revenue. If not, why allow this project?) On the other hand, I am concerned that there are other potential issues connected to this project than its height in its location by businesses and residences: that is, there may be noise pollution that would be of such significance as to reduce the enjoyment of and therefore future tax revenue of the residences and citizens of Portland in the neighborhood's vicinity, one that includes a public park (Harbor View) and playground (Tate/Tyng). It seems odd to me that there may be preference given to a foreign corporation over the needs of Portland's own citizens and business owners. What noise studies have been conducted to assure residents and business owners that there need be no concern? What noise mitigation efforts have been required of Elmskip, if any? Will the City compensate local residents if the noise should prove untenable? What about the ear drums of the children who frequent the playground and park?

My concerns may be unwarranted, but I have seen no information from the City that addresses these matters. Is this information available? Are contingency plans in place in the event that the noise pollution does prove to be at best a nuisance and at worst a medical liability? Given the false assurances of tobacco and oil companies, with plenty of evidence these companies knew in fact the pernicious consequences of their decisions, which have led to billions and billions of dollars in settlements and/or litigation, it would behoove the City and Elmkip to make sure that studies have been done that are authentic and scientifically reviewed, as opposed to false marketing measures—studies that document, via third party review, that there are no health and/or noise concerns connected to this construction. Otherwise, it would seem to me that both City Government and Elmkip are setting themselves up for class action suits in the future. Again, what is the risk assessment that has been conducted by the City of Portland to assess these matters—and thereby to assure local, tax paying property owners that we need have no concerns?

Many thanks for your attention and consideration.

Sincerely yours,

Jack W Bonner IV and Jessica M Bayer

PC5

Public Comment - 2 West Commercial Street: What is going on here???

Subscribe

0 views

George Rheault <george.rheault@gmail.com> 11:44 AM (13 minutes ago)

to Planning Board, Abigail Reed, jmy

The major site plan application for this project has been stewing since last spring and has taken space up now on at least 3 different planning board meeting agendas (i.e., added to agenda and publicly noticed). It has, without any substantive explanation, been "tabled" at least twice (October 10, 2023 meeting as well as at the February 27, 2023 meeting) unless I missed even another tabling that I forgot about.

There are only a handful of emails in the public record complaining about this project, so it seems strange to understand why this project would be controversial and thus require repeated last-minute delays on the eve of two separate public hearing dates.

The massive public subsidies (including via the Opportunity Zone tax credit legislation) given to make the IMT viable (barely) are predicated on there being an intense industrial freight operation on the premises which already includes a lot of current reefer activity and future easily anticipated activity. Who exactly is the tail wagging this dog and why is the tail surprised that a "working waterfront" is actually a noisy and rambunctious place that may need flexibility to expand and take advantage of lower cost storage solutions already in widespread use in terminal freight operations?

So, why did the staff and the applicant believe this was ready for a public hearing twice before only to have it tabled WITHOUT just converting it to a workshop session? A workshop would have daylighted the problematic outstanding issues and at least be vetted in public and hopefully isolated and sharpened so that a public hearing would occur at an appropriate time rather than being constantly canceled and rescheduled?

The public deserves to understand how badly the review of this project was botched and why valuable public space was WASTED.

The Planning Board and public lost two big agenda slots in which other projects could have been advanced including long-delayed RECODE discussions among other things.

The "western waterfront" area of Portland remains highly contested ground in the Portland NIMBY wars. If unnamed NIMBYs are having a big say in the

conduct of this project review, they should have to come to the Planning Board like the rest of the public and air their concerns where everyone can hear and understand them rather than using back-door channels to distract and slow down an applicant.

Portland's planning process currently is a cesspool of probably illegal ex parte discussions conducted sight unseen by planning board members with applicants and well-connected project opponents with all the revolving door politics and back-room dealing such conduct breeds.

This application only makes it clear that we are not getting transparency or fairness in our land use regulation and planning efforts in our community.

The Planning Board needs to do better or else they will continue to erode and devalue the public trust in their work and the work of the planning staff. All of which casts shade on everyone who must do business with them.

DEMOLITION PLAN NOTES

1. NO WORK ON THIS SITE SHALL BE INITIATED BY THE CONTRACTOR UNTIL A PRE-CONSTRUCTION MEETING WITH OWNER AND THE CIVIL ENGINEER IS PERFORMED.

2. THE CONTRACTOR SHOULD BE AWARE OF ANY SITE INFORMATION AVAILABLE SUCH AS GEOTECHNICAL AND ENVIRONMENTAL REPORTS. THE CONTRACTOR SHALL HAVE MARK OUTS OF EXISTING UTILITIES COMPLETED PRIOR TO MEETING.

3. THE CONTRACTOR SHALL SECURE ALL PERMITS FOR DEMOLITION AND DISPOSAL OF DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED.

4. THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING DEMOLITION ACTIVITIES. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, AND OR PROPERTY CORNERS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

5. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOBSITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY, AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.

6. EROSION CONTROLS AS SHOWN SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO START OF DEMOLITION, CLEARING, GRUBBING OR ANY CONSTRUCTION ACTIVITY ONSITE.

7. THE CONTRACTOR SHALL NOT COMMENCE DEMOLITION OR UTILITY DISCONNECTIONS UNTIL AUTHORIZED TO DO SO BY THE OWNER.

8. THE CONTRACTOR SHALL PROVIDE DISCONNECT NOTIFICATION TO THE CITY OF PORTLAND'S ENGINEERING DEPARTMENT, PUBLIC WORKS DEPARTMENT AND OTHER UTILITY COMPANIES PROVIDING SERVICES TO THE SITE AT LEAST THREE WEEKS PRIOR TO BEGINNING DEMOLITION.

9. INFORMATION ON EXISTING UTILITIES AND STORMWATER HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORMWATER SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES INCLUDING SERVICES AND STORMWATER SYSTEMS.

10. PRIOR TO DEMOLITION OR CONSTRUCTION THE CONTRACTOR SHALL CONTACT DIG SAFE 72 HOURS BEFORE COMMENCEMENT OF WORK AND VERIFY ALL UTILITY AND STORMWATER SYSTEM LOCATIONS.

11. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY PROVIDER TO CUT AND PLUG, ALL SERVICE UTILITIES AS REQUIRED BY THE UTILITY PROVIDER, OR AS OTHERWISE NOTED OR SHOWN ON THE CONTRACT DRAWINGS.

12. THE CONTRACTOR SHALL ADHERE TO ALL OSHA FEDERAL STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN PROXIMITY OF OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY PROVIDER FEES SHALL BE PAID BY THE CONTRACTOR.

13. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE OWNER, THE CITY OF PORTLAND, OR THE STATE OF MAINE.

14. TREE PROTECTION FENCING SHALL BE ERECTED AT THE DRIP LINE OF THE EXISTING TREES. EXTRA CARE SHALL BE TAKEN TO PROTECT TREES IF CONSTRUCTION ACTIVITY IS TO ENCROACH WITHIN THE DRIP LINE ANY DAMAGED TRESS SHALL BE REPLACED.

GENERAL NOTES

1. EXISTING SITE CONDITIONS TAKEN FROM A PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, INTERNATIONAL MARINE TERMINAL, 460 COMMERCIAL STREET, PORTLAND, MAINE, MADE FOR JACOBS" DATED 10/21/2022; SCALE 1"=50'; PREPARED BY OWN HASKELL, INC.

2. THESE PLANS ARE FOR CONCEPTUAL PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION.

SITE PLAN NOTES

1. EXISTING SITE CONDITIONS TAKEN FROM A PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, INTERNATIONAL MARINE TERMINAL, 460 COMMERCIAL STREET, PORTLAND, MAINE, MADE FOR JACOBS" DATED 10/21/2022; SCALE 1"=50'; PREPARED BY OWN HASKELL, INC.

2. ALL SITE DIMENSIONS ARE REFERENCED TO THE FACE OF CURBS OR EDGE OF PAVING AS APPLICABLE UNLESS OTHERWISE NOTED.

PAVEMENT NOTES

PROPOSED HEAVY-DUTY PAVEMENT

SURFACE: 2.00" OF TYPE 12.5MM HMA OVER ASPHALT EMULSION FOR TACK COAT OVER

INTERMEDIATE: 3.00" OF TYPE 19MM HMA, PLACED IN TWO 1.5" LIFTS OVER ASPHALT EMULSION FOR TACK COAT OVER

BASE: 5.00" OF TYPE 25MM HMA, PLACED IN TWO 2.5" LIFTS OVER

SUBBBASE: 8" DENSE GRADED CRUSHED STONE OVER 14" GRAVEL BORROW

GRADING & DRAINAGE NOTES

1. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.

2. THIS DRAWING IS INTENDED TO DESCRIBE GRADING AND DRAINAGE INFORMATION ONLY. REFER TO SITE LAYOUT PLAN FOR GENERAL INFORMATION.

3. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS.

4. THE CONTRACTOR SHALL COMPACT FILL TO THICKNESS PER THE GEOTECHNICAL ENGEER'S SPECIFICATIONS . MAXIMUM LIFTS UNDER ALL PARKING, BUILDING, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST), OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

5. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.

6. ALL PROPOSED DRAINAGE STRUCTURE RIM AND PIPE INVERT ELEVATIONS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

7. ALL DRAINAGE STRUCTURES TO BE ABANDONED SHALL BE FILLED WITH GRAVEL AND ALL CONNECTIONS SHALL BE PLUGGED AT THE PIPE LOCATIONS WITH A CEMENT CONCRETE MASONRY PLUG.

8. ALL PROPOSED DRAINAGE PIPES, NOT USED TO REPLACE EXISTING PIPES, SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 0.5%, UNLESS OTHERWISE NOTED.

9. ANY CROSSINGS BETWEEN PROPOSED DRAINAGE & UTILITIES SHOULD BE CHECKED AND VERIFIED FOR CONSTRUCTION FEASIBILITY.

GENERAL SOIL EROSION & SEDIMENT CONTROL NOTES

1. THE CONTRACTOR MUST COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS CONTROLLING POLLUTION AND DISCHARGE OF STORMWATER FROM THE SITE. THE CONTRACTOR SHALL IMPLEMENT ALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES DESCRIBED IN THE MAINE DOT'S BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENTATION CONTROL (MAINE DOT MANUAL).

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE EROSION CONTROL PLAN, NOTES AND DETAILS. ANY DEVIATION TO THE EROSION CONTROL PLAN MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION IN THE FIELD.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION CONTROL AND MAINTENANCE OF SOIL EROSION AND SEDIMENT CONTROL FACILITIES TO INSURE PROPER FUNCTIONING OF SAID FACILITIES DURING CONSTRUCTION.

4 THE CONTRACTOR SHALL KEEP THE STREET CLEAR OF DIRT AND BE RESPONSIBLE FOR ANY STREET CLEANING NECESSARY DURING THE COURSE OF THE PROJECT. ALL SOIL WASHED, DROPPED, SPILLED OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS, WILL BE REMOVED IMMEDIATELY. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.

5. DUST SHALL BE CONTROLLED VIA THE APPLICATION OF WATER.

6. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.

7. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT EXCEED 3:1 UNLESS OTHERWISE APPROVED BY THE ENGINEER. EROSION CONTROL MATS SHALL BE INSTALLED TO STABILIZE STEEPER SLOPES AS DIRECTED BY THE ENGINEER.

8. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHEREVER THE CONSTRUCTION HAUL ROUTE INTERSECTS EXISTING PAVED SURFACES.

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION			
PROGRAM		SIGNATURE	
PROJECT MANAGER	C. MORIN		
DESIGNER	C. MAGUIRE	P.E. NUMBER	
CONSULTANT			
PROJECT RESIDENT		DATE	
CONTRACTOR			
PROJECT COMPLETION DATE			

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME — CUMBERLAND, COUNTY

GENERAL NOTES

SHEET NUMBER

G-002

3 0F 24

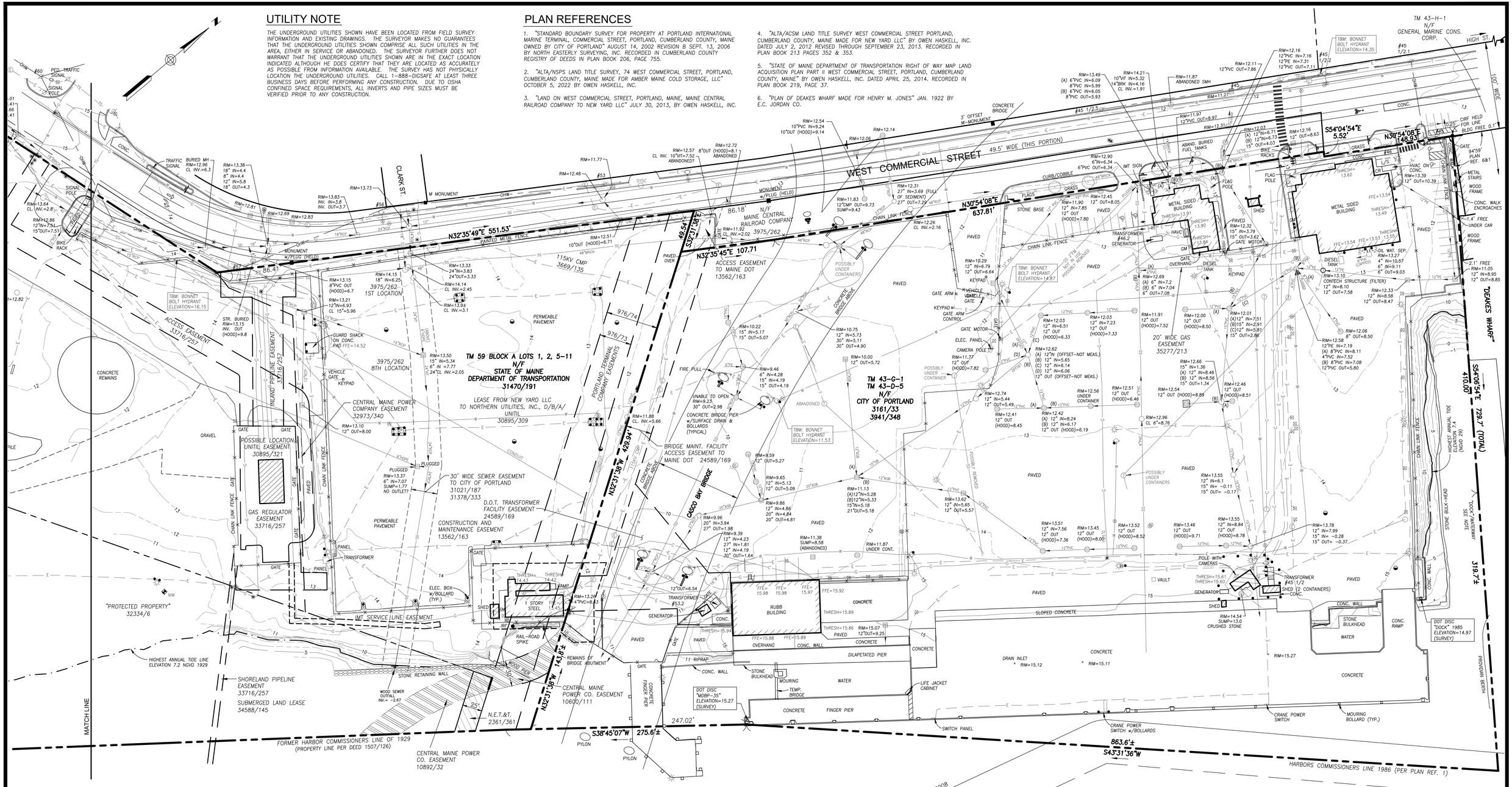
File: C:\users\maguirc\appdata\local\bentley\projectwise\jacobs-americas-01\d0105793\G-002(GeneralNotes).; Plotted: 8/17/2023 4:04 PM by MAGUIRE, CASEY; Saved: 8/9/2023 4:38 PM by MAGUIRC

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEY HAS NOT PHYSICALLY LOCATION THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

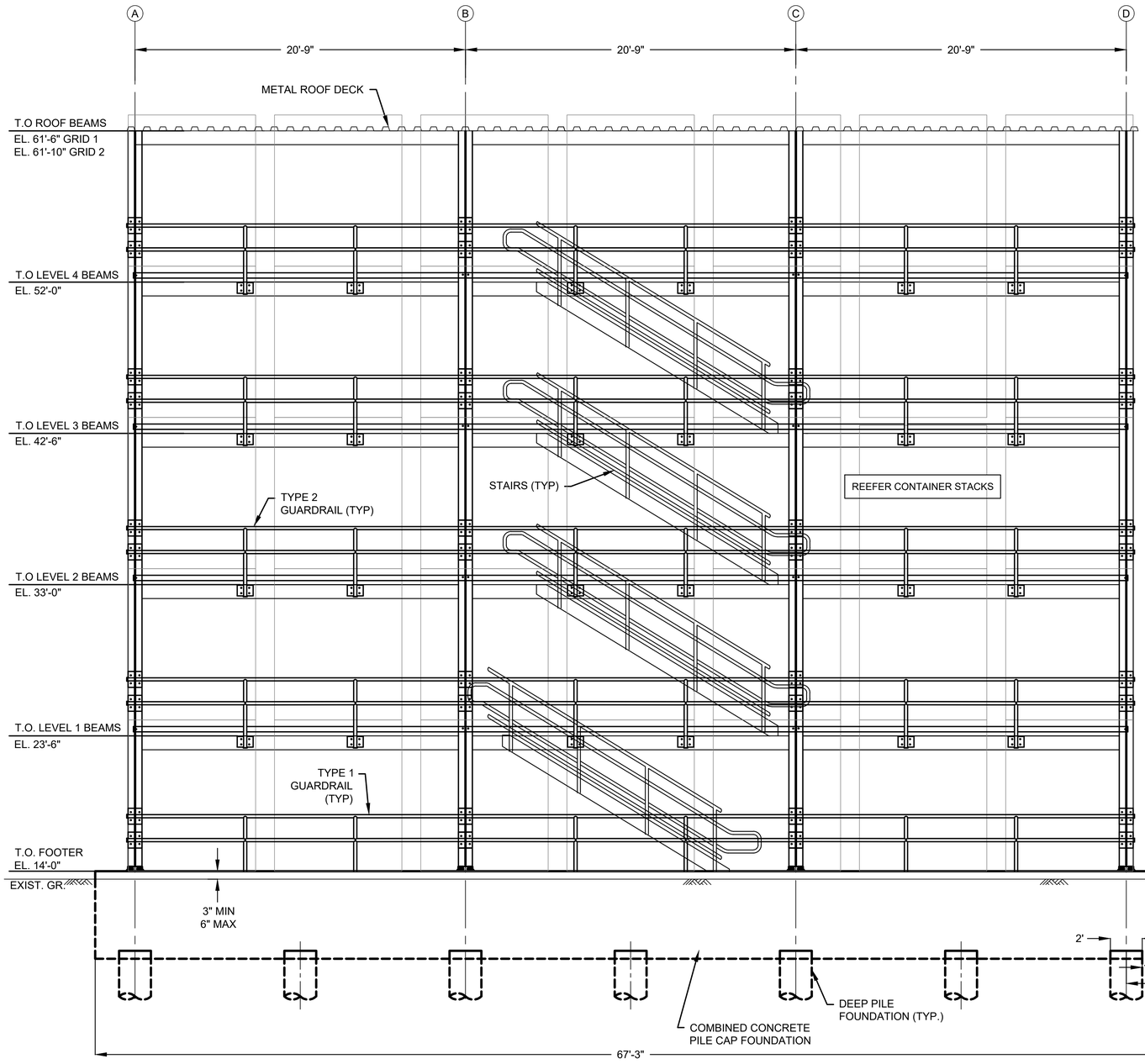
PLAN REFERENCES

1. *"STANDARD BOUNDARY SURVEY FOR PROPERTY AT PORTLAND INTERNATIONAL MARINE TERMINAL, COMMERCIAL STREET, PORTLAND, CUMBERLAND COUNTY, MAINE OWNED BY CITY OF PORTLAND" AUGUST 14, 2002 REVISION B SEPT. 13, 2006 BY NORTH EASTERLY SURVEYING, INC. RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 206, PAGE 755.*
2. *"ALTA/NSPS LAND TITLE SURVEY, 74 WEST COMMERCIAL STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR AMBER MAINE COLD STORAGE, LLC" OCTOBER 5, 2022 BY OWEN HASKELL, INC.*
3. *"LAND ON WEST COMMERCIAL STREET, PORTLAND, MAINE, MAINE CENTRAL RAILROAD COMPANY TO NEW YARD LLC" JULY 30, 2013, BY OWEN HASKELL, INC.*
4. *"ALTA/ACSM LAND TITLE SURVEY WEST COMMERCIAL STREET PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR NEW YARD LLC" BY OWEN HASKELL, INC. DATED JULY 2, 2012 REVISED THROUGH SEPTEMBER 23, 2013. RECORDED IN PLAN BOOK 213 PAGES 352 & 353.*
5. *"STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP LAND ACQUISITION PLAN PART I WEST COMMERCIAL STREET, PORTLAND, CUMBERLAND COUNTY, MAINE" BY OWEN HASKELL, INC. DATED APRIL 25, 2014. RECORDED IN PLAN BOOK 219, PAGE 37.*
6. *"PLAN OF DEAKES WHARF MADE FOR HENRY M. JONES" JAN. 1922 BY E.C. JORDAN CO.*

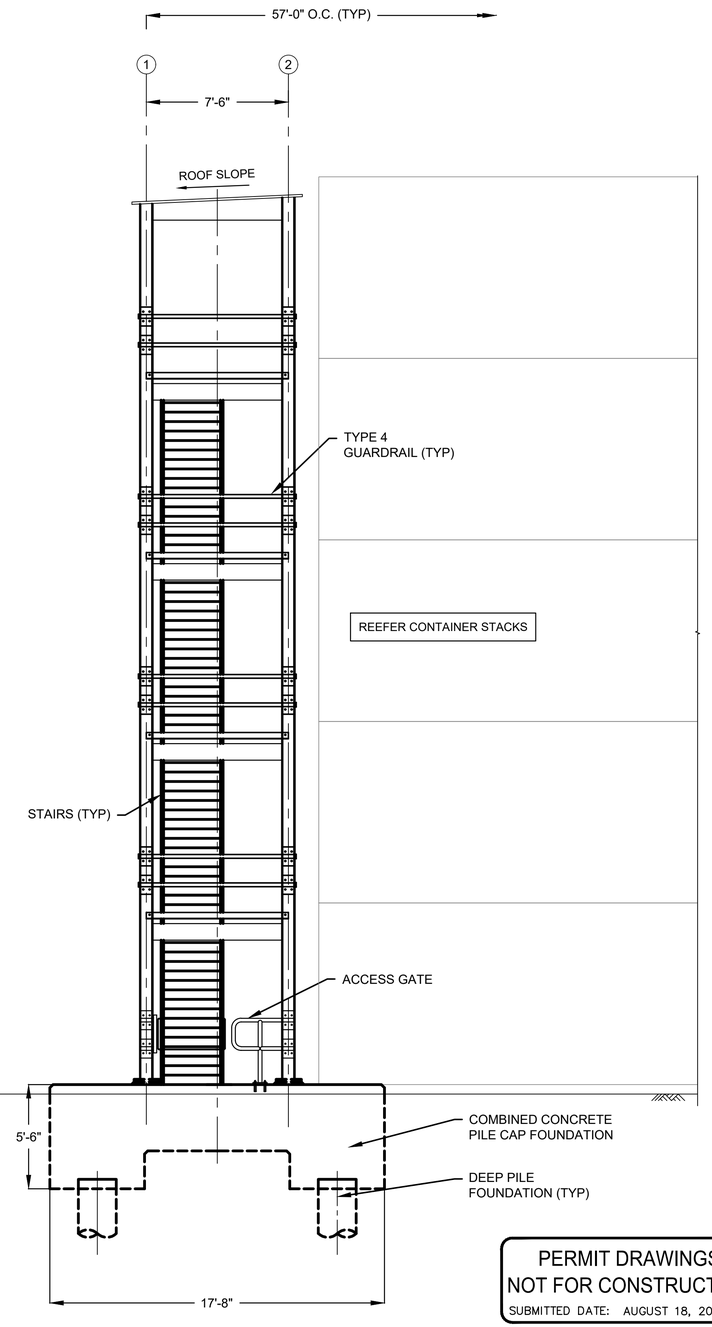

WEST COMMERCIAL STREET 49.5' WIDE (THIS PORTION)
N30°54'08"E 637.81'
N32°35'49"E 551.53'
N32°35'45"E 107.71'
S32°31'08"E 49.54'
N30°54'08"E 146.93'
S54°04'54"E 5.52'
S54°06'54"E 729.7' (TOTAL)
S54°06'54"E 410.00'
N32°31'38"W 429.94'
N32°31'36"W 145.8±
S38°45'07"W 275.6±
S43°31'36"W 863.6±
247.02'
86.18' N/F MAINE CENTRAL RAILROAD COMPANY 3975/262
TM 59 BLOCK A LOTS 1, 2, 5-11 N/F STATE OF MAINE DEPARTMENT OF TRANSPORTATION 31470/191
LEASE FROM NEW YARD LLC TO NORTHERN UTILITIES, INC., D/B/A/ UNITIL 30895/309
TM 43-G-1 TM 43-D-5 N/F CITY OF PORTLAND 3161/33 3941/348
TM 43-H-1 N/F GENERAL MARINE CONS. CORP.
"DEAKES WHARF"
ACCESS EASEMENT 33716/257
INLAND PIPELINE EASEMENT 33716/257
3975/262 1ST LOCATION
3975/262 8TH LOCATION
CENTRAL MAINE POWER COMPANY EASEMENT 32973/340
POSSIBLE LOCATION3 UNITIL EASEMENT 30895/321
GAS REGULATOR EASEMENT 33716/257
30' WIDE SEWER EASEMENT TO CITY OF PORTLAND 31021/187 31378/333
D.O.T. TRANSFORMER FACILITY EASEMENT 24589/169
CONSTRUCTION AND MAINTENANCE EASEMENT 13562/163
BRIDGE MAINT. FACILITY ACCESS EASEMENT TO MAINE DOT 24589/169
IMT SERVICE LINE EASEMENT
"PROTECTED PROPERTY" 32334/6
SHORELAND PIPELINE EASEMENT 33716/257
SUBMERGED LAND LEASE 34588/145
CENTRAL MAINE POWER CO. EASEMENT 10600/111
CENTRAL MAINE POWER CO. EASEMENT 10892/32
ACCESS EASEMENT TO MAINE DOT 13562/163
20' WIDE GAS EASEMENT 35277/213
115KV CMP 3669/135
976/74
976/73
CASCO BAY BRIDGE
CONCRETE BRIDGE
CLARK ST.
HIGH ST.
IMT SIGN
TRANSFORMER #46.2 GENERATOR
TRANSFORMER #45 1/2 SHED (2 CONTAINERS) CONC.
TRANSFORMER #53.2
DIESEL TANK
METAL SIDED BUILDING
FLAG POLE
SHED
GATE 94°59' REF. 6&1
CIRF HELD FOR LINE BLDG FREE 0.1'
1.4' FREE UNDER CAR
WOOD FRAME
2.1' FREE
RUBB BUILDING
DILAPETATED PIER
FINGER PIER
CONCRETE RAMP
STONE BULKHEAD
WATER
MOURING
TEMP. BRIDGE
LIFE JACKET CABINET
SWITCH PANEL
CRANE POWER SWITCH w/BOLLARDS
CRANE POWER SWITCH
MOURING BOLLARD (TYP.)
DOT DISC "MDBP-35" ELEVATION=15.27 (SURVEY)
DOT DISC "DOCK" 1985 ELEVATION=14.97 (SURVEY)
TBM: BONNET BOLT HYDRANT ELEVATION=16.15
TBM: BONNET BOLT HYDRANT ELEVATION=14.87
TBM: BONNET BOLT HYDRANT ELEVATION=14.35
TBM: BONNET BOLT HYDRANT ELEVATION=11.53
HIGHEST ANNUAL TIDE ELEVATION 7.2 NOVD 1929
HIGHEST ANNUAL TIDE ELEVATION 7.4 (NOVD 29)
MATCH LINE
FORE RIVER
HARBOR COMMISSIONERS LINE 2008
FEDERAL CHANNEL LINE
FORMER HARBOR COMMISSIONERS LINE OF 1929 (PROPERTY LINE PER DEED 1507/126)
HARBORS COMMISSIONERS LINE 1986 (PER PLAN REF. 1)
PROVISION BERTH
319.7±
CONCRETE REMAINS
GUARD SHACK ON CONC. PAD FFE=14.52
STR. BURIED RIM=13.15 INV. OUT (HOOD)=9.8
STONE RETAINING WALL
WOOD SEWER OUTFALL INV.= ~2.67
PERMEABLE PAVEMENT
PORTLAND TERMINAL COMPANY EASEMENTS
CONCRETE BRIDGE PIER
CONCRETE BRIDGE ABOVE
REMAINS OF BRIDGE ABUTMENT
RAIL-ROAD SPIKE
N.E.T.&T. 2361/361
PYLON
PYLON
CHAIN LINK FENCE
STONE BULK-HEAD
CONC. WALL
CONC. RAMP
VAULT
POLE WITH CAMERAS
METAL STAIRS
WOOD FRAME
CONC. WALK ENCROACHES
HVAC ON CONC.
OIL WAT. SEP.
CONTECH STRUCTURE (FILTER)
GATE ARM
KEYPAD
VEHICLE GATE
GATE ARM CONTROL
GATE MOTOR
ELEC. PANEL
CAMERA POLE
FIRE PULL
UNABLE TO OPEN
CONCRETE BRIDGE PIER w/SURFACE DRAIN & BOLLARDS (TYPICAL)
ELEC. BOX w/BOLLARD (TYP.)
DRAIN INLET
CHAIN LINK FENCE
BIKE RACK
FLAGS
STONE BASE
GRASS
CURB/COBBLE
PAVED
GRAVEL
SHED
GENERATOR
PANEL
TRANSFORMER
GATE
POSSIBLE LOCATION3 UNITIL EASEMENT 30895/321
GAS REGULATOR EASEMENT 33716/257
PLUGGED RIM=13.37 6" IN=7.07 SUMP=1.77 NO OUTLET?
ABANDONED
POSSIBLY UNDER CONTAINERS
POSSIBLY REMOVED
ABAND. BURIED FUEL TANKS
ABANDONED SMH
BRK RACKS
OVERHANG
CONC. WALL
CONCRETE
SLOPED CONCRETE
RIP-RAP
MOURING
WATER
DRAIN INLET RIM=15.12
DRAIN INLET RIM=15.11
RIM=15.27
RIM=14.54 SUMP=13.0 CRUSHED STONE
RIM=13.78 12" IN=7.89 15" IN= -0.28 15" OUT= -0.37
RIM=13.55 12" IN=8.84 12" OUT (HOOD)=8.78
RIM=13.55 12" IN=6.1 15" IN= -0.11 15" OUT= -0.17
RIM=13.51 12" IN=7.56 12" OUT (HOOD)=7.36
RIM=13.45 12" OUT (HOOD)=8.00
RIM=13.52 12" OUT (HOOD)=8.52
RIM=13.46 12" OUT (HOOD)=9.71
RIM=12.54 12" OUT (HOOD)=8.89
RIM=12.51 12" OUT (HOOD)=6.46
RIM=12.46 12" OUT (HOOD)=8.51
RIM=12.56 UNDER CONTAINER
RIM=12.42 (A) 12" IN=8.24 (B) 12" IN=6.17 12" OUT (HOOD)=6.19
RIM=12.41 12" OUT (HOOD)=8.45
RIM=12.74 12" IN=5.44 12" OUT=5.49
RIM=13.62 12" IN=5.65 12" OUT=5.57
RIM=12.96 CL 6"=8.76
RIM=12.66 15" IN=1.36 (A) 12" IN=8.46 (B) 12" IN=8.56 15" OUT=1.34
RIM=12.58 12" IN=7.19 (A) 8"PVC IN=8.11 4"PVC IN=7.52 (B) 8"PVC IN=7.08 12"PVC OUT=5.80
RIM=12.06 8" OUT=8.50
RIM=12.00 12" OUT (HOOD)=8.50
RIM=12.01 (A)12" IN=7.51 (B)15" IN=2.91 (C)12" IN=5.81 15" OUT=2.88
RIM=11.91 12" OUT (HOOD)=7.52
RIM=12.03 12" IN=7.23 12" OUT (HOOD)=7.33
RIM=12.03 (A) 12" IN=6.51 12" OUT (HOOD)=6.33
RIM=12.62 (A) 12"W (OFFSET-NOT MEAS.) (B) 12" IN=5.65 (C) 12" IN=6.14 (D) 12" IN=6.06 12" OUT (OFFSET-NOT MEAS.)
RIM=11.77 12" OUT (HOOD)=7.82
RIM=10.75 12" IN=5.73 30" IN=5.11 30" OUT=4.90
RIM=10.22 15" IN=5.17 15" OUT=5.07
RIM=10.00 12" OUT=5.72
RIM=9.59 12" OUT=5.27
RIM=9.65 12" IN=5.13 12" OUT=5.09
RIM=9.86 12" IN=4.86 20" IN=4.84 20" OUT=4.81
RIM=9.96 20" IN=3.94 27" OUT=1.98
RIM=9.39 12" IN=4.23 27" IN=1.81 12" IN=4.19 30" OUT=1.64
RIM=9.46 6" IN=4.28 15" IN=4.19 15" OUT=4.19
RIM=11.38 SUMP=8.58 (ABANDONED)
RIM=11.87 UNDER CONT.
RIM=11.88 CL IN=5.66
RIM=13.20 4"PVC=8.43
RIM=12.69 (A) 6" IN=7.2 (B) 6" IN=7.04 6" OUT=7.08
RIM=13.10 8" OUT=9.03
RIM=13.27 4" IN=10.87 6" IN=9.11
RIM=11.05 12" IN=8.95 12" OUT=8.85
RIM=12.33 12" IN=8.58 12" OUT=8.47
RIM=12.29 12" OUT=6.64
RIM=12.90 6"IN=6.34 6"PVC OUT=6.34
RIM=12.45 12" OUT=8.05
RIM=11.90 12" IN=7.85 12" OUT (HOOD)=7.80
RIM=12.32 15" IN=3.79 15" OUT=3.62 GATE MOTOR
RIM=13.49 (A) 6"PVC IN=6.09 8"PVC IN=5.99 (B) 6"PVC IN=6.05 8"PVC OUT=5.93
RIM=14.21 10"VIT IN=5.32 14"BRK IN=4.16 CL INV.=1.91
RIM=11.87 ABANDONED SMH
RIM=12.16 12"PVC IN=7.16 12"PE IN=7.31 12"PVC OUT=7.11
RIM=12.11 12"PVC OUT=7.86
RIM=11.97 12"PVC OUT=8.97
RIM=12.31
RIM=12.03 (A) 12"IN=8.71 (B) 12"IN=6.73 15" OUT=4.03
RIM=12.16 12" OUT=8.63
RIM=12.54 10"PVC IN=9.24 10"OUT (HOOD)=9.14
RIM=12.06
RIM=12.14
RIM=12.57 8"OUT (HOOD)=8.1 ABANDONED
RIM=12.72 CL INV. 10"VIT=7.52 ABANDONED?
RIM=11.92 CL IN=2.02
RIM=12.31 27" IN=3.69 (FULL OF SEDIMENT) 27" OUT=7.29
RIM=11.83 12"CMP OUT=9.73 SUMP=9.43
RIM=12.26 CL INV.=2.16
RIM=12.51 10"OUT (HOOD)=6.71
RIM=11.77
RIM=12.48
RIM=13.73
RIM=13.83 INV. IN=3.8 INV. OUT=3.7
RIM=12.81
RIM=12.69
RIM=12.83
RIM=13.38 18" IN=4.4 8" IN=4.4 12" IN=5.8 18" OUT=4.3
RIM=12.96 CL INV.=6.3
RIM=13.64 CL INV.=2.8
RIM=12.86 12"IN=7.51 15"OUT=7.51
RIM=12.82
RIM=13.15 8"PVC OUT (HOOD)=6.7
RIM=13.21 12"IN=6.93 CL 15"=5.96
RIM=14.15 18" IN=6.25
RIM=13.33 24"IN=3.83 24"OUT=3.33
RIM=14.14 CL INV.=2.45
RIM=13.9± CL INV.=3.1
RIM=13.50 15" IN=5.34 6" IN =7.77 24"CL INV.=2.05
RIM=13.10 12" OUT=8.00
RIM=13.37 6" IN=7.07 SUMP=1.77 NO OUTLET?
RIM=13.13
RIM=13.20 4"PVC=8.43
RIM=13.17
RIM=13.13
RIM=13.19 4"PVC=8.39
RIM=13.17
RIM=13.19 4"PVC=8.39
RIM=13.17
RIM=13.19 4"PVC=8.39
RIM=13.17

GENERAL NOTES

1. REFER TO DRAWING S-001 FOR GENERAL NOTES AND DESIGN CRITERIA.
2. TOP OF FOOTER ELEVATION IS FOR REFERENCE ONLY. SET TOP OF FOOTER TO 3" MIN TO 6" MAX ABOVE EXISTING GRADE.



1 S-103 REEFER RACK FRONT ELEVATION
1/4" = 1'-0"



2 S-103 REEFER RACK SIDE ELEVATION
1/4" = 1'-0"

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION

		SIGNATURE
PROGRAM		
PROJECT MANAGER	C. MORIN	
DESIGNER	C. MAGUIRE	
CONSULTANT		P.E. NUMBER
PROJECT RESIDENT		
CONTRACTOR		DATE
PROJECT COMPLETION DATE		

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME — CUMBERLAND, COUNTY

REEFER RACK ELEVATION AND SECTION

SHEET NUMBER
S-201
18 OF 24

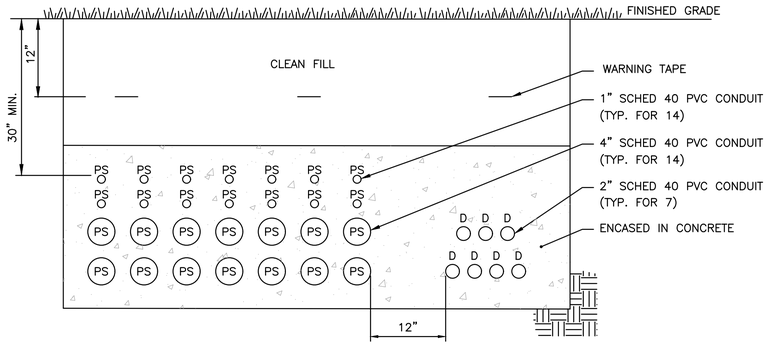
File: C:\Users\maguirc\AppData\Local\Bentley\projectwise\jacobs-americas-01\d0100924\S-201(ReeferRackElevSectPermit).; Plotted: 8/17/2023 5:19 PM by MAGUIRE, CASEY ; Saved: 8/17/2023 3:47 PM by MAGUIRC

DUCT BANK LEGEND:

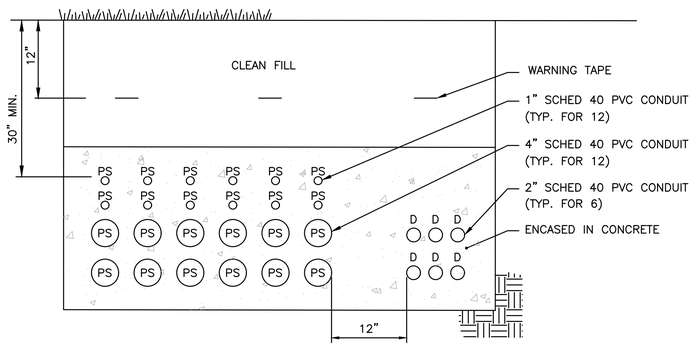
PP – POWER (PRIMARY)
PS – POWER (SECONDARY)
SP – SPARE
PG – GENERATOR AUX. POWER CKTS
PR – GENERATOR REMOTE ANNUNCIATOR WIRING
C – CABLE
T – TELEPHONE
D – DATA

NOTES:

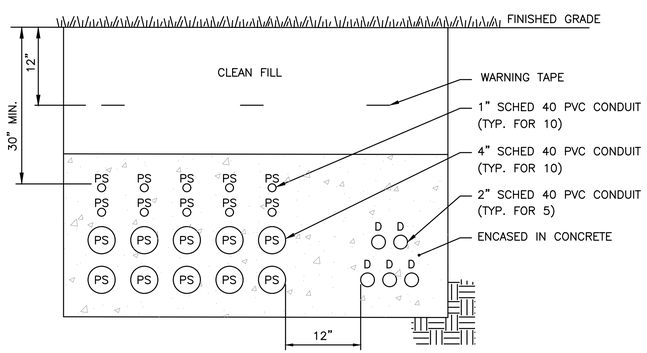
1. SEE E100 FOR GENERAL NOTES.



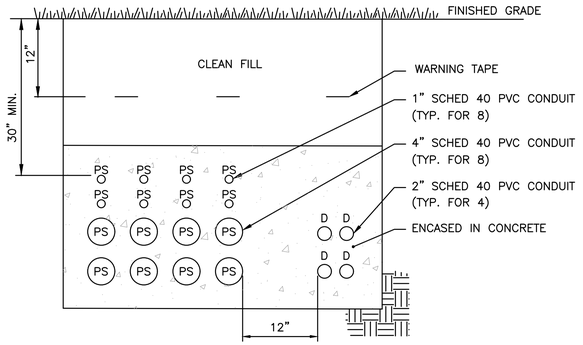
1 DUCT BANK DETAIL A–A
SCALE: NOT TO SCALE



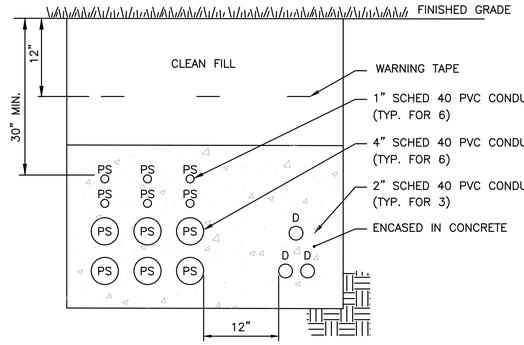
2 DUCT BANK DETAIL B–B
SCALE: NOT TO SCALE



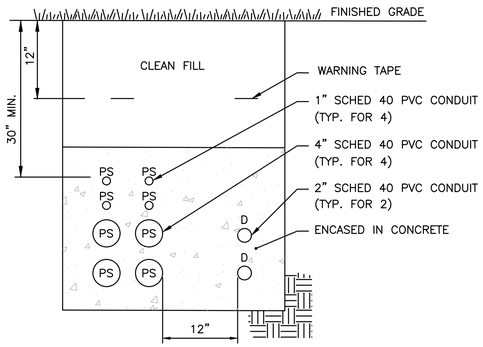
3 DUCT BANK DETAIL C–C
SCALE: NOT TO SCALE



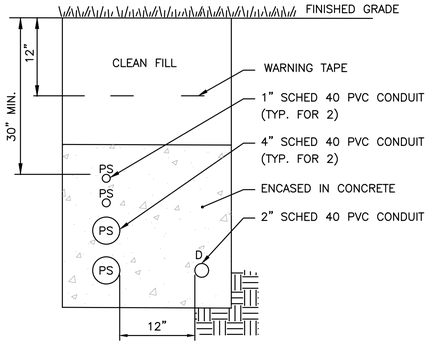
4 DUCT BANK DETAIL D–D
SCALE: NOT TO SCALE



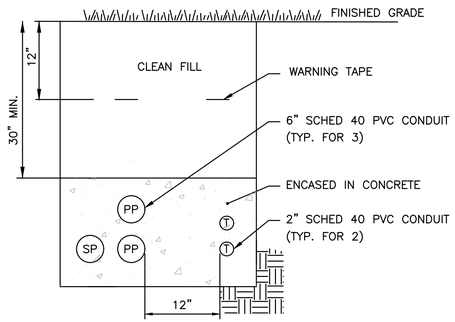
5 DUCT BANK DETAIL E–E
SCALE: NOT TO SCALE



6 DUCT BANK DETAIL F–F
SCALE: NOT TO SCALE



7 DUCT BANK DETAIL G–G
SCALE: NOT TO SCALE



8 DUCT BANK DETAIL H–H
SCALE: NOT TO SCALE

80% DRAFT
SUBMITTED DATE: MAY 26, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

	SIGNATURE	P.E. NUMBER	DATE
PROGRAM			
PROJECT MANAGER			
DESIGNER			
CONSULTANT			
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

PROJECT INFORMATION

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME — CUMBERLAND, COUNTY

DUCT BANK DETAILS

SHEET NUMBER
E101

File: Z:\Projects 2022\22008 Portland IMT\Drawings\E650 ; Plotted: 5/26/2023 8:41 AM by TIM MATTHEWS ; Saved: 5/26/2023 8:26 AM by TIM

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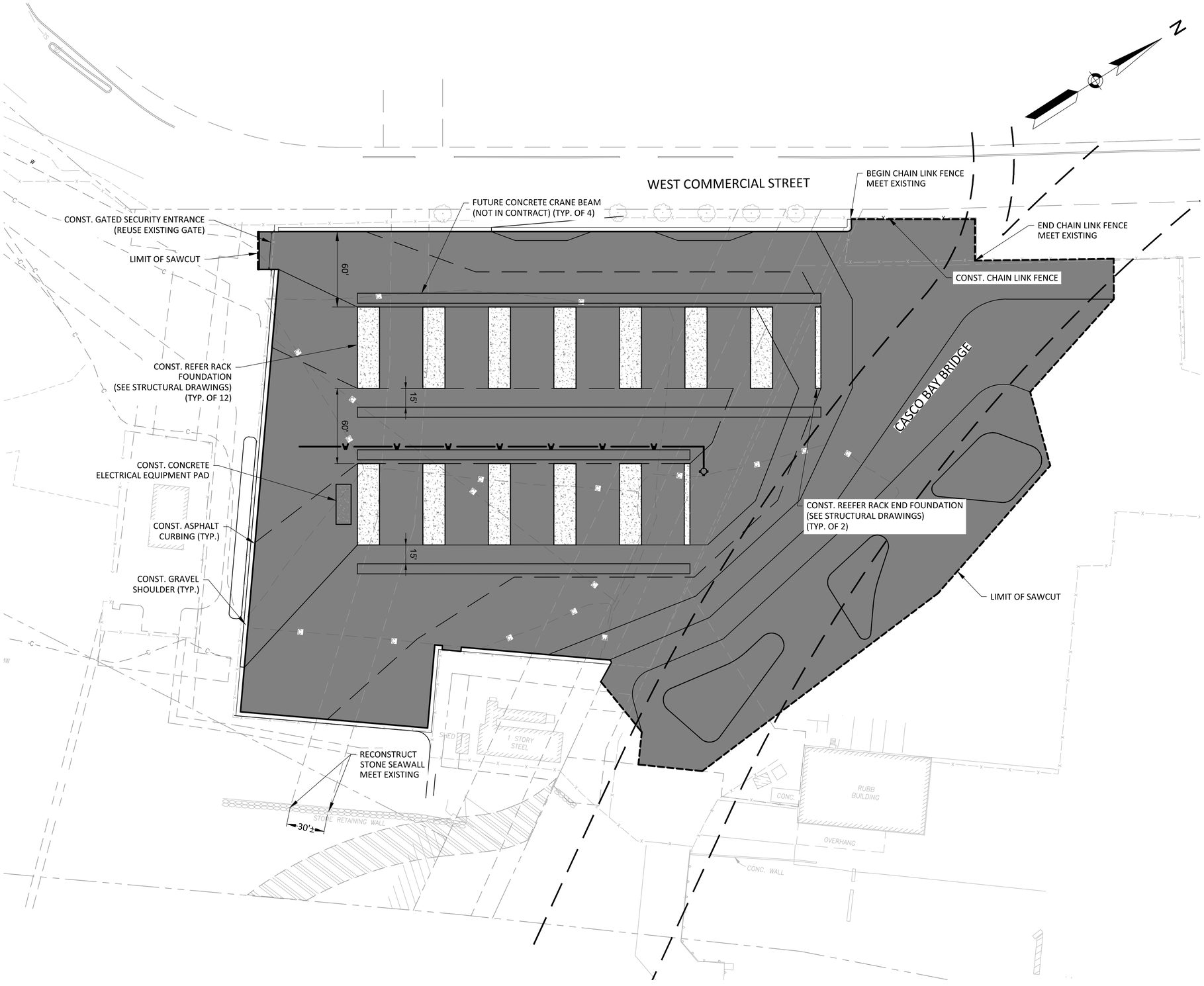


PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

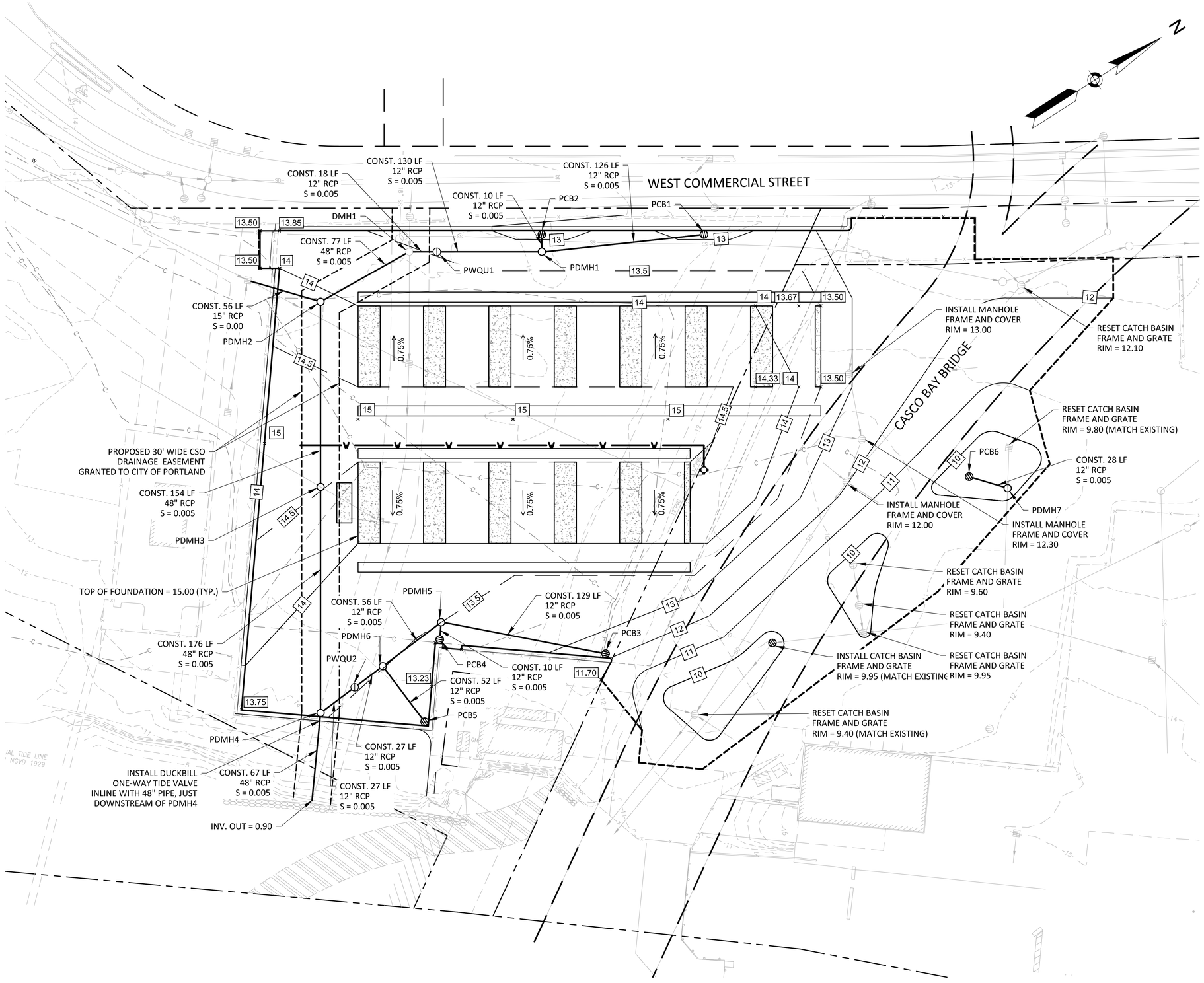
APPROVED	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

PROJECT INFORMATION			
PROGRAM			
PROJECT MANAGER	C. MORIN	SIGNATURE	
DESIGNER	C. MAGUIRE		
CONSULTANT		P.E. NUMBER	
PROJECT RESIDENT			
CONTRACTOR		DATE	
PROJECT COMPLETION DATE			

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
CUMBERLAND, COUNTY
PORTLAND, ME

SITE LAYOUT PLAN

SHEET NUMBER
C-102
7 0F 24



DRAINAGE STRUCTURE SCHEDULE

PCB1
RIM = 12.90
INV. OUT = 7.90 (PDMH1)

PCB2
RIM = 12.90
INV. OUT = 7.90

PDMH1
RIM = 13.20
INV. IN = 7.25 (PCB1)
INV. OUT = 7.85 (PCB2)
INV. OUT = 7.75 (PWQU1)

PWQU1 (SEE DETAIL, SHEET C-502)
RIM = 13.45
INV. IN = 7.10 (PDMH1)
INV. OUT = 7.00 (DMH1)

DMH1
RIM = 13.55
INV. IN = 3.20 (24" VC)
INV. IN = 6.90 (PWQU1)
INV. OUT = 3.10 (PDMH3)

PDMH2
RIM = 14.10
INV. IN = 5.55 (15" RCP)
INV. IN = 2.70 (48" RCP)

PDMH3
RIM = 14.50
INV. IN = 2.35 (DMH1)
INV. OUT = 2.25 (PDMH4)

PDMH4
RIM = 13.55
INV. IN = 1.35 (PDMH3)
INV. IN = 5.55 (WQU2)
INV. OUT = 1.25
(EQUIPPED WITH DUCKBILL ONE-WAY TIDE VALVE)

PCB3
RIM = 12.10
INV. OUT = 7.10 (PDMH5)

PCB4
RIM = 13.40
INV. OUT = 8.40 (PDMH5)

PDMH5
RIM = 13.50
INV. IN = 6.45 (PCB3)
INV. IN = 8.35 (PCB4)
INV. OUT = 6.35 (PWQU2)

PCB5
RIM = 13.05
INV. OUT = 8.05 (PDMH6)

PDMH6
RIM = 13.50
INV. IN = 7.80 (PCB5)
INV. IN = 6.05 (PDMH5)
INV. OUT = 5.95 (PWQU2)

PWQU2 (SEE DETAIL, SHEET C-502)
RIM = 13.55
INV. IN = 5.80 (PDMH6)
INV. OUT = 5.70 (PDMH4)

PCB6
RIM = 9.85
INV. OUT = 5.75 (12" RCP)

PDMH7 (DOGHOUSE)
RIM = 9.90
INV. IN = 5.60 (12" ASB)
INV. IN = 5.60 (PCB6)
INV.OUT=4.60 (12" ASB)

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

0 40 100 160
SCALE: 1" = 40'

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE
COMMISSIONER:
CHIEF ENGINEER:

PROJECT INFORMATION			
PROGRAM	C. MORIN	SIGNATURE	
PROJECT MANAGER	C. MAGUIRE		
DESIGNER		P.E. NUMBER	
CONSULTANT			
PROJECT RESIDENT		DATE	
CONTRACTOR			
PROJECT COMPLETION DATE			

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME
CUMBERLAND, COUNTY

GRADING & DRAINAGE PLAN

SHEET NUMBER
C-103
8 0F 24

File: C:\users\maguirc\appdata\local\bentley\projectwise\jacobs-americas-01\d0109917\E2X93900_C-103(Grading&DrainagePlanPermit).; Plotted: 8/17/2023 4:27 PM by MAGUIRE, CASEY ; Saved: 8/16/2023 1:13 PM by MAGUIRC

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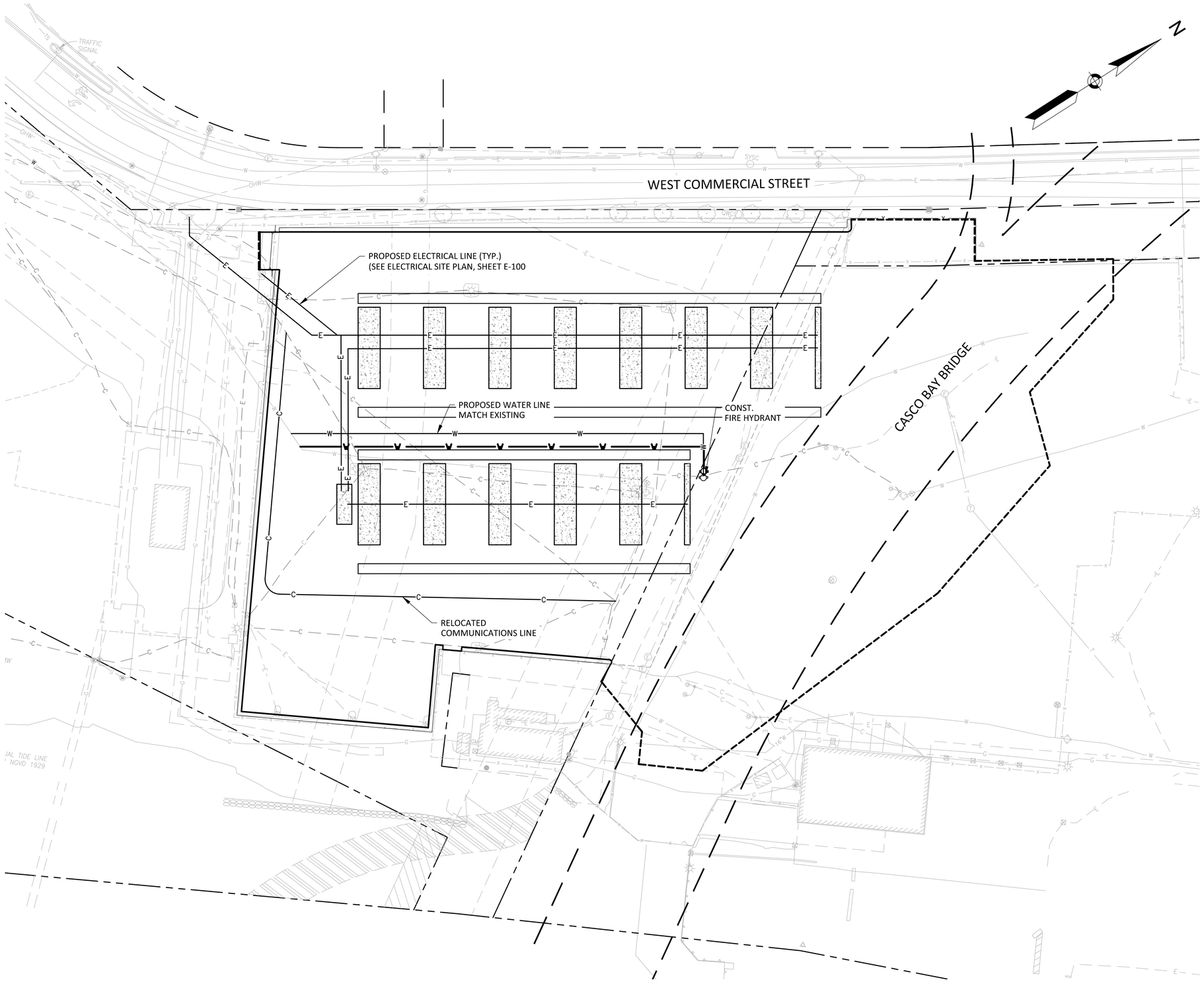


PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION			
PROGRAM			
PROJECT MANAGER	C. MORIN	SIGNATURE	
DESIGNER	C. MAGUIRE	P.E. NUMBER	
CONSULTANT			
PROJECT RESIDENT		DATE	
CONTRACTOR			
PROJECT COMPLETION DATE			

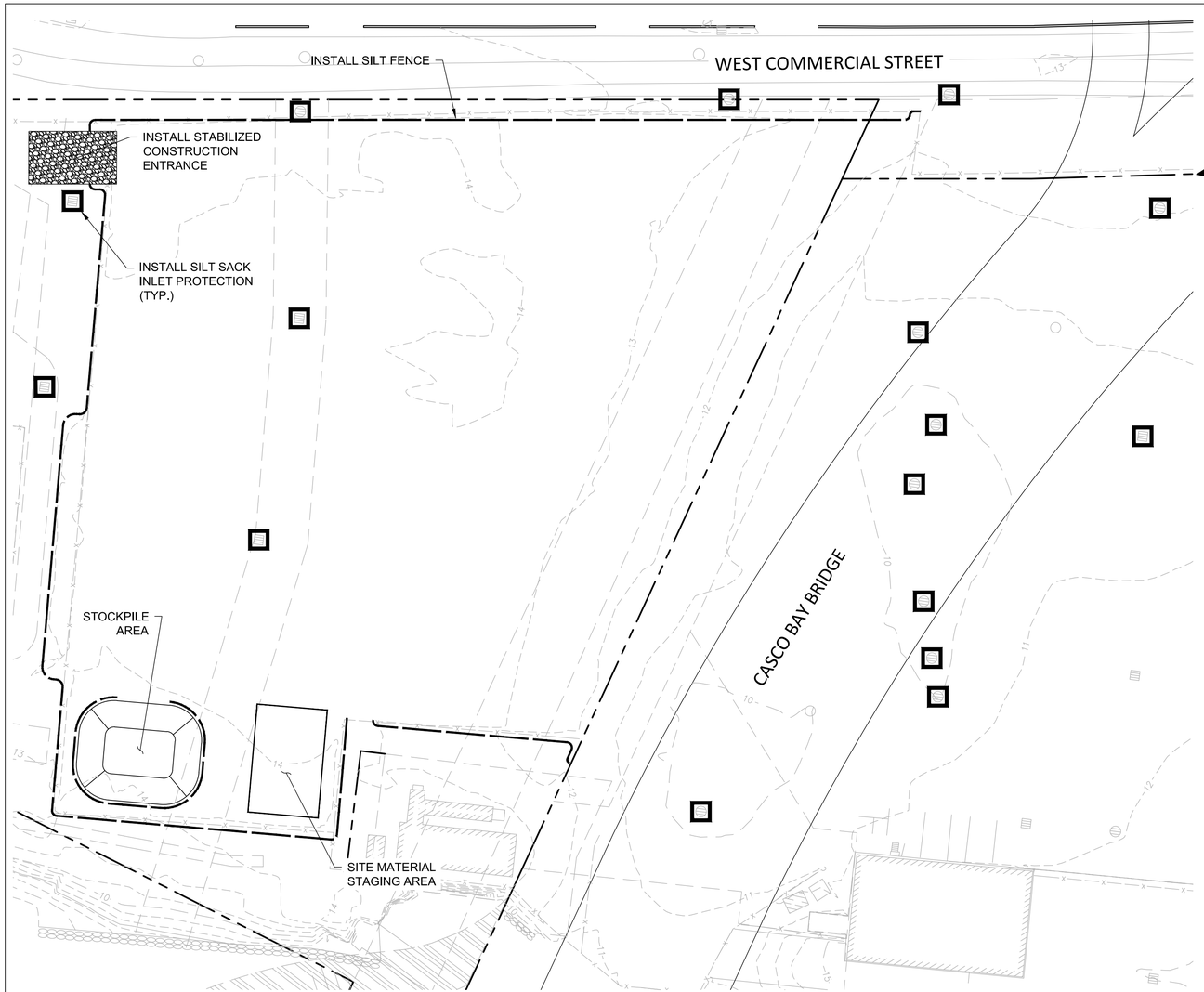
PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME
CUMBERLAND, COUNTY

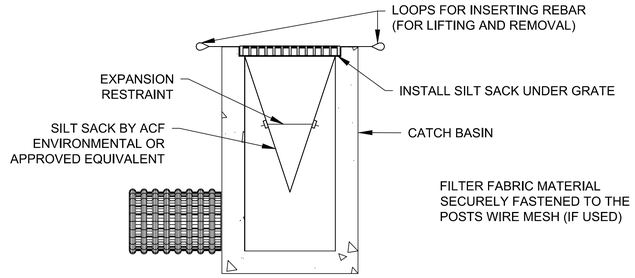
UTILITIES PLAN

SHEET NUMBER

C-104

9 0F 24

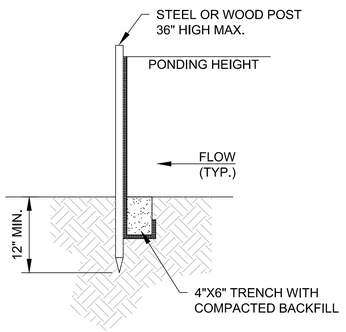




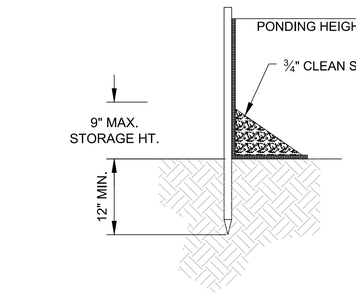
NOTES:
1. INSTALL SILTSACK PER MANUFACTUREER'S RECOMENDATIONS.
2. SILTSACKS SHALL BE CHECKED FOR SEDIMENT LEVEL AND OVERALL CONDITION IMMEDIATELY AFTER EVERY RAIN EVENT AND AT LEAST EVERY DAY DURING PROLONGED RAINFALL.
3. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE SILTSACK. REMOVED SEDIMENT SHALL BE DISPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT WILL NOT ERODE.
4. SEDIMENT SHALL ONLY BE REMOVED BY REMOVING THE SILTSACKS FROM THE CATCH BASINS ACCORDING TO MANUFACTUREER RECOMENDATIONS.
5. CARE SHALL BE TAKEN TO AVOID SPILLING SEDIMENT WHILE REMOVING THE SILTSACK.
6. ANY DAMAGED SILTSACK SHALL BE REPLACED WITH A NEW SILTSACK.

INLET PROTECTION - SILTSACK

NOT TO SCALE



TRENCH DETAIL

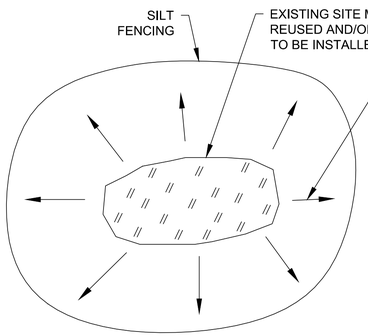


LEDGE, FROZEN GROUND, HEAVY ROOTS
INSTALLATION WITHOUT TRENCHING

NOTES:
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. DO NOT PLACE SILT FENCE IN STREAMS OR CONCENTRATED FLOW CONDITIONS.

SILT FENCE DETAIL

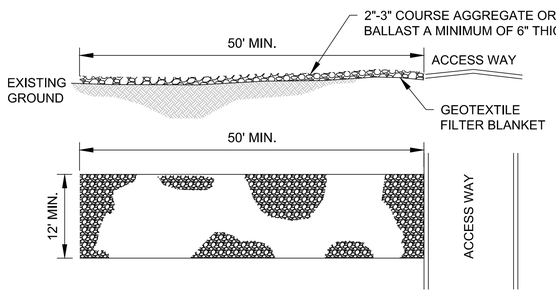
NOT TO SCALE



NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.
3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.
4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

STOCKPILE AREA DETAIL

NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

NOTES:
1. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. FILTER FABRIC OR COMPACTED CRUSHER RUN STONE SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS MUST BE REMOVED IMMEDIATELY.
5. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ORDER TO TRAP AND STABILIZE ANY SEDIMENT THAT RUNS OFF OF THE STABILIZED CONSTRUCTION ENTRANCE.
6. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET.
7. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

0 40 100 160

SCALE: 1" = 40'

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION		SIGNATURE	P.E. NUMBER	DATE
PROGRAM				
PROJECT MANAGER	C. MORIN			
DESIGNER	C. MAGUIRE			
CONSULTANT				
PROJECT RESIDENT				
CONTRACTOR				
PROJECT COMPLETION DATE				

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME — CUMBERLAND, COUNTY

SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER

C-501

10 0F 24

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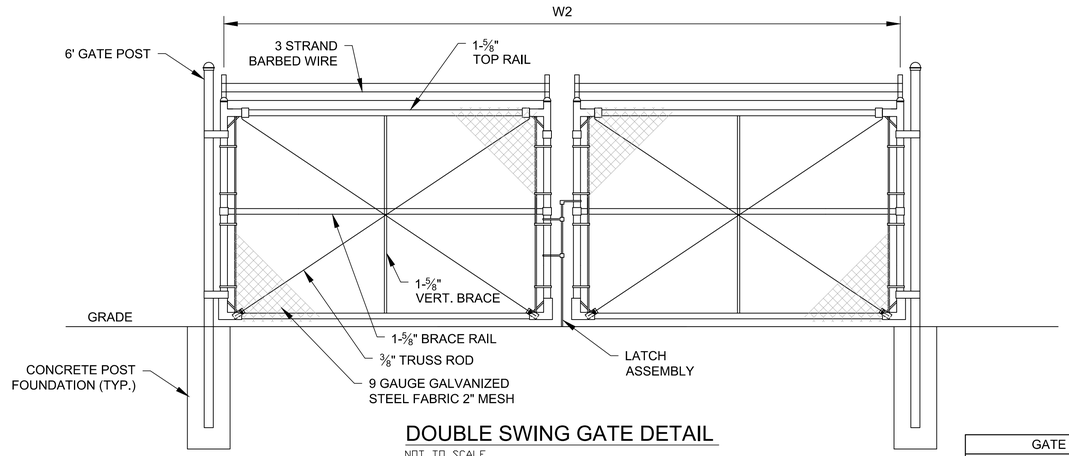
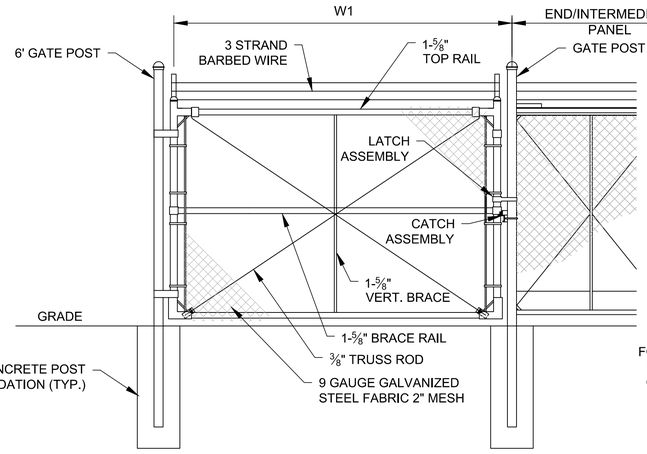


DOUBLE SWING GATE DETAIL

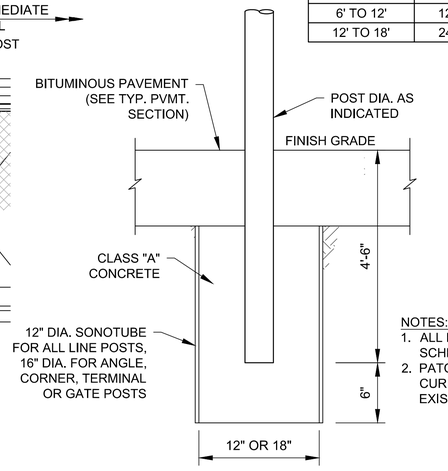
NOT TO SCALE

GATE WIDTH		GATE POST O.D.
W1	W2	
TO 6'	TO 12'	3"
6' TO 12'	12' TO 24'	4"
12' TO 18'	24' TO 36'	6"



SINGLE SWING GATE DETAIL

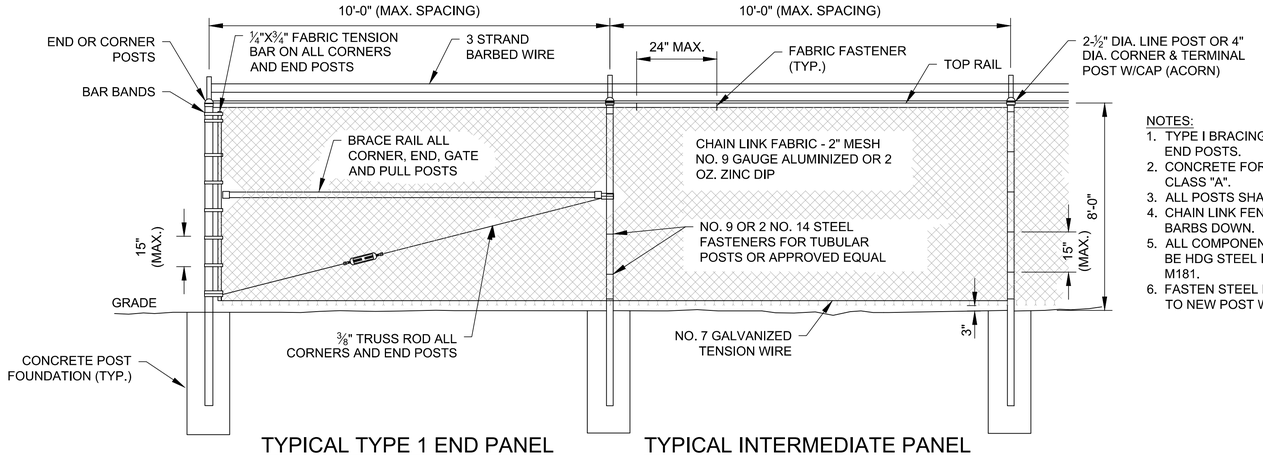
NOT TO SCALE



NOTES:
1. ALL POSTS ARE NOMINAL PIPE SIZE, SCHEDULE 40, GALVANIZED STEEL.
2. PATCH ALL PAVEMENT (FOLLOWING CURING OF CONCRETE BASES) TO MATCH EXISTING MATERIAL AND THICKNESS.

FENCE/GATE POST DETAIL

NOT TO SCALE



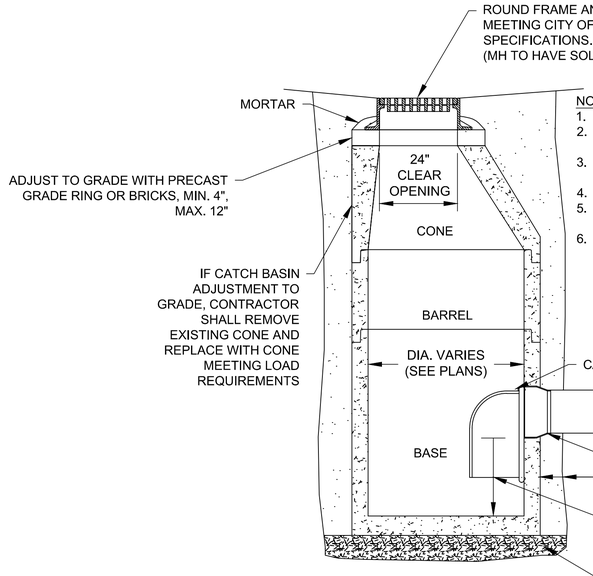
TYPICAL TYPE 1 END PANEL

TYPICAL INTERMEDIATE PANEL

TYPICAL CHAIN LINK FENCE

NOT TO SCALE

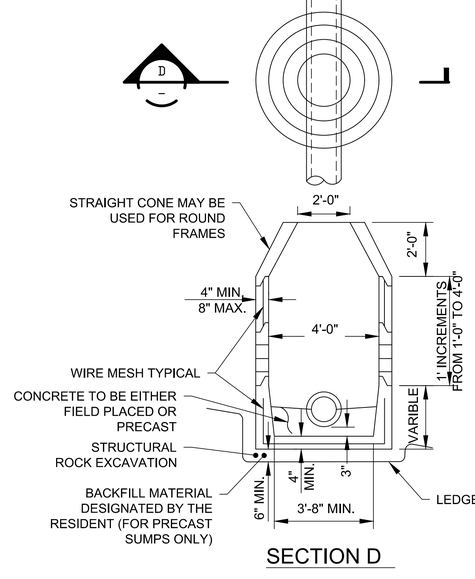
NOTES:
1. TYPE I BRACING WILL BE USED AT CORNER AND END POSTS.
2. CONCRETE FOR POST FOUNDATIONS SHALL BE CLASS "A".
3. ALL POSTS SHALL BE SET IN CONCRETE.
4. CHAIN LINK FENCE SHALL BE INSTALLED WITH BARBS DOWN.
5. ALL COMPONENTS OF CHAIN LINK FENCE SHALL BE HDG STEEL IN ACCORDANCE WITH AASHTO M181.
6. FASTEN STEEL FABRIC FROM EXISTING FENCE TO NEW POST WHERE REQUIRED.



NOTES:
1. 4000 PSI CONCRETE AT 28 DAYS.
2. DESIGNED FOR VEHICLES SHOWN ON SHEET G3.
3. CONFORMS TO ASTM C-478 SPECIFICATIONS.
4. REINFORCED TO 0.12 IN.SQ./L.F.
5. SHIPLAP JOINTS SEALED WITH BUTYL RUBBER.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 1'-0" OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" FROM JOINTS.

CATCH BASIN (CB)

NOT TO SCALE



SECTION D

TYPICAL DRAINAGE MANHOLE DETAIL

NOT TO SCALE

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

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PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
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CUMBERLAND, COUNTY
PORTLAND, ME

DETAIL SHEET - 1

SHEET NUMBER
C-502
11 0F 24

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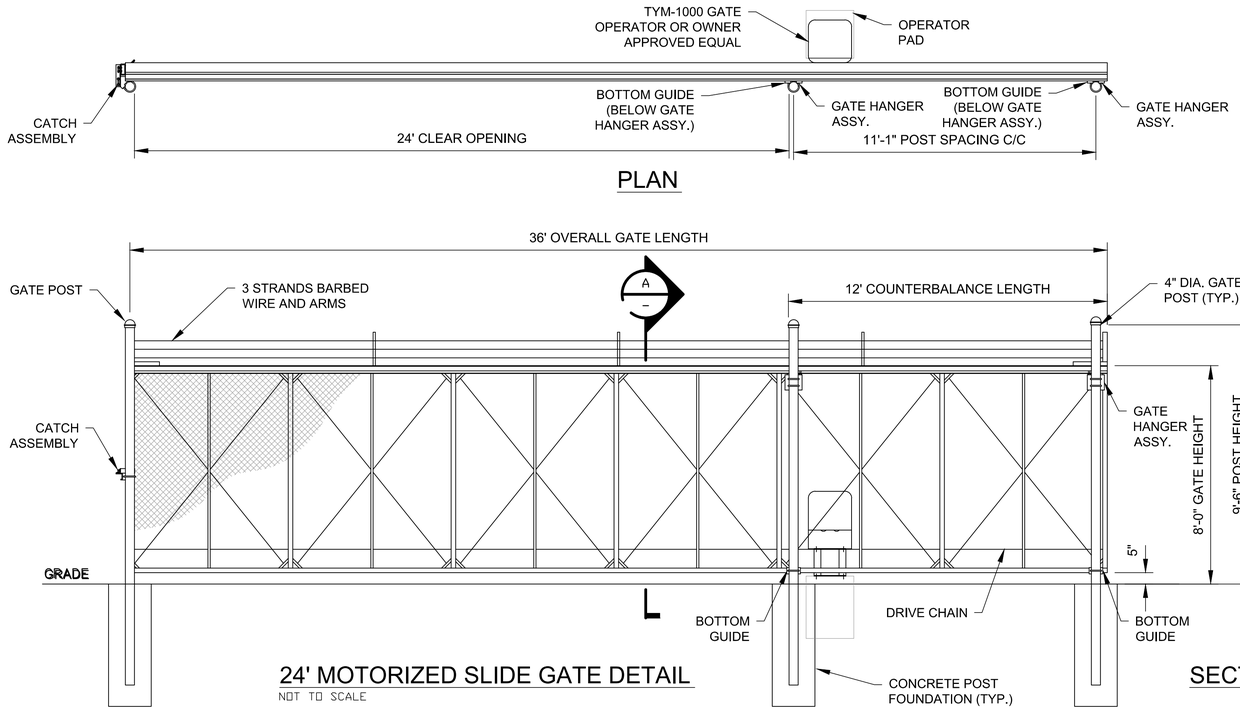
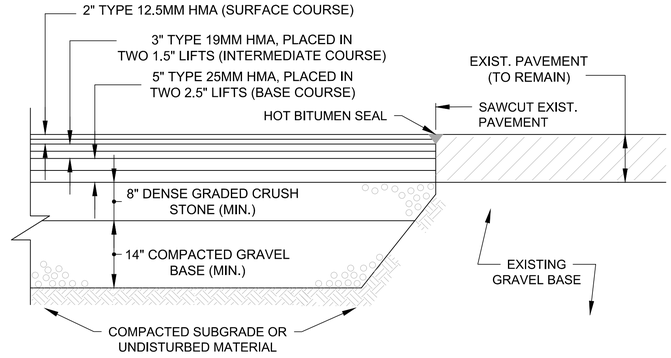
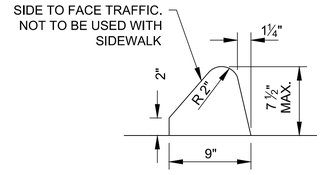
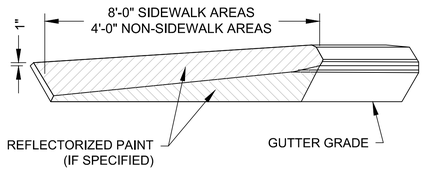




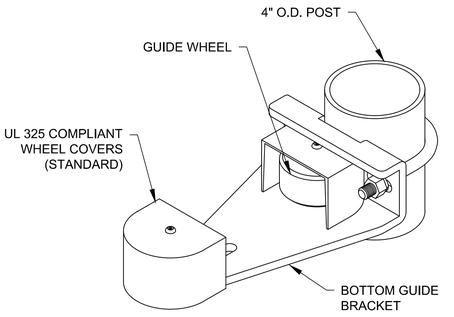
BITUMINOUS CONCRETE PAVEMENT DETAIL
NOT TO SCALE



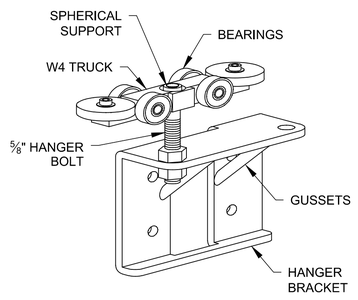
BIT. CONC. CURB DETAIL
NOT TO SCALE



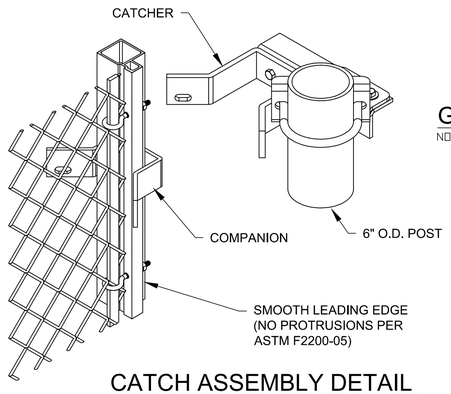
TRANSITION CURB DETAIL
NOT TO SCALE



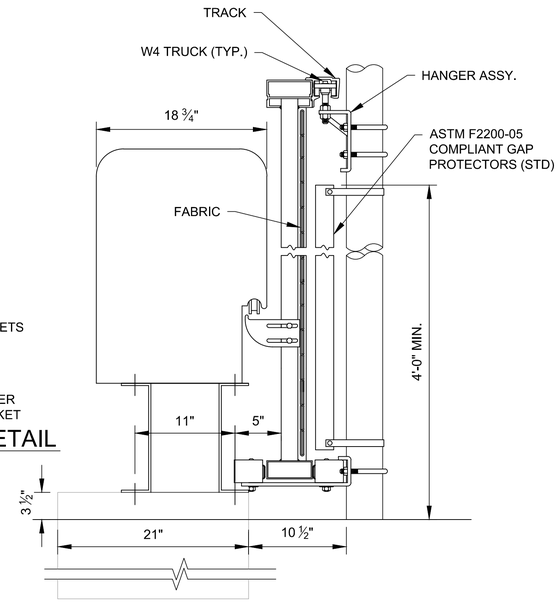
BOTTOM GUIDE DETAIL
NOT TO SCALE



GATE HANGER ASSEMBLY DETAIL
NOT TO SCALE



CATCH ASSEMBLY DETAIL
NOT TO SCALE



ENLARGED SECTION
NOT TO SCALE

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
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CUMBERLAND, COUNTY
PORTLAND, ME

DETAIL SHEET - 2

SHEET NUMBER
C-503
12 0F 24

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DESIGN CRITERIA:

1. DESIGN CODE AND STANDARDS:
   MAINE UNIFORM BUILDING CODE (MUBC)
   2015 INTERNATIONAL BUILDING CODE
   ASCE 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2. DEAD LOAD:
   SELF WEIGHT:
   - STRUCTURAL STEEL — 490 PCF
   - CONCRETE — 150 PCF
   - GRATING — 10 PSF
3. LIVE LOAD:
   - ROOF — 20 PSF
   - ELEVATED FLOORS — 60 PSF
   - FIRST FLOOR (SLAB-ON-GRADE) — 100 PSF
   - STAIRS:
     - UNIFORM — 100 PSF
     - CONCENTRATED — 300 LB
   - RAILINGS (APPLIED IN ANY DIRECTION):
     - CONCENTRATED — 200 LB
     - DISTRIBUTED — 50 LB/FT
     - INTERMEDIATE RAILS — 50 LB/FT
4. SNOW LOAD:
   - Is — 1
   - Pg — 50 PSF
   - Ce — 0.8
   - Ct — 1.2
   - Pf — 34 PSF
5. ICE LOAD:
   APPLIED PER ASCE 7-10 SECTION 10.8
6. WIND LOAD:
   - BASIC WIND SPEED (3-SECOND GUST) — 120 MPH
   - BUILDING RISK CATEGORY — II
   - EXPOSURE CATEGORY — D
7. SEISMIC LOAD
   - Ie — 1
   - SITE CLASS — D
   - Ss — 0.241
   - S1 — 0.078
8. IMPACT LOAD (PER "A RATIONAL METHOD TO DESIGN VEHICLE BARRIERS")
   - ASSUMED GANTRY SPEED — 1.4 MPH (2.0 FPS)
   - ASSUMED TOTAL WEIGHT — 119 KIPS

GENERAL CONSTRUCTION:

1. PRIOR TO FABRICATION AND CONSTRUCTION, THE CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS ASSOCIATED WITH THE WORK. ALL OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH RELATED WORK.
2. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO LOCATE ALL EXISTING UNDERGROUND UTILITIES AND BURIED ITEMS PRIOR TO CONSTRUCTING FOUNDATIONS.
3. THE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LIVE LOADS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK RELATED TO CONSTRUCTION, ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, ETC. REQUIRED TO SAFELY PERFORM THE WORK.
5. STRUCTURAL MEMBERS SHALL NOT BE CUT (FOR CONDUITS, PIPES, ETC.) UNLESS NOTED OTHEREWISE OR APPROVED IN WRITING BY THE ENGINEER.

DIMENSIONS:

1. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. REFERENCE SCALES INDICATED ON THE DRAWINGS ARE INTENDED FOR INFORMATION USE ONLY AND SHALL NOT BE USED TO DETERMINE SPECIFIC DIMENSIONS OR QUANTITY OF MATERIALS.
2. ALL COLUMNS, FOOTINGS, OR OTHER FOUNDATION ELEMENTS SHALL BE CENTERED ON GRID LINES, UNLESS NOTED OTHERWISE.
3. DIMENSIONS SHOWN ARE TO THE CENTERLINE OF MEMBERS OR EDGE OF FLOORS, UNLESS NOTED OTHERWISE.

CONCRETE:

1. ALL CONCRETE MUST CONFORM TO THE REQUIREMENTS OF THE FOLLOWING, UNLESS OTHERWISE SPECIFIED:

   ACI 301: SPECIFICATIONS FOR STRUCTURAL CONCRETE
   ACI 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
2. CONCRETE: f'_c = 5,000 PSI AT 28 DAYS, NORMAL WEIGHT
   - 2.1. TYPE II LOW ALKALI CEMENT, MINIMUM 674 POUNDS PER CUBIC YARD OF CEMENTITIOUS MATERIAL.
   - 2.2. FLY ASH CLASS F MUST COMPRISE NO LESS THAN 15-PERCENT AND NO MORE THAN 25-PERCENT OF THE TOTAL WEIGHT OF THE CEMENTITIOUS MATERIAL.
   - 2.3. GROUND GRANULATED BLAST-FURNACE SLAB MAY BE USED IN LIEU OF FLY ASH, UP TO 50-PERCENT OF TOTAL CEMENTITIOUS CONTENT BY WEIGHT.
   - 2.4. COURSE AGGREGATE: 1½-INCH MAXIMUM, UNIFORMLY GRADED, NON-SILICA REACTIVE.
   - 2.5. WATER/CEMENT RATIO: 0.40 MAXIMUM
   - 2.6. AIR CONTENT: 5.5-PERCENT ± 1.5-PERCENT
3. EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4 X 3/4 INCH, UNLESS NOTED OTHERWISE.
4. ROUGHEN AND SATURATE SURFACE DRY CONSTRUCTION JOINTS PRIOR TO PLACING ADJACENT CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF EMBEDDED ITEMS, OPENINGS, SLEEVES, INSERTS, DOWELS, DEPRESSIONS, CURBS, PITS, CONDUITS, ETC. WITH MECHANICAL AND ELECTRICAL DRAWINGS, AND EQUIPMENT FURNISHED PRIOR TO PLACEMENT OF CONCRETE.
6. CONDUITS, PIPES, DUCTS, OR SLEEVES SHALL NOT BE EMBEDDED WITHIN SLABS, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS. EMBEDDED ALUMINUM CONDUITS AND PIPES SHALL NOT BE PERMITTED.

REINFORCING STEEL:

1. REINFORCING MUST BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE FOLLOWING:

   ACI SP-66: ACI DETAILING MANUAL
   CRSI MSP-1: MANUAL OF STANDARD PRACTICE.
2. REINFORCING STEEL MUST CONFORM TO ASTM A615, GRADE 60 (F_y = 60,000 PSI), DEFORMED AND EPOXY COATED PER ASTM A775.
3. PROVIDE NO LESS THAN 3-INCHES CONCRETE COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE.
4. REINFORCING BAR HOOKS INDICATED ON THE DRAWINGS MUST CONFORM TO ACI STANDARD HOOKS REQUIREMENTS OF ACI 318, UNLESS NOTED OTHERWISE.
5. THE CONTRACTOR MUST NOT CUT OR FIELD BEND REINFORCING STEEL UNLESS NOTED OTHERWISE.
   - 5.1. AT LOCATIONS OF CONFLICT, SPREAD THE REINFORCEMENT TO ACCOMMODATE PLACEMENT. ADD ADDITIONAL BARS IF NECESSARY TO MAINTAIN SPACING REQUIREMENTS.
6. WELDING OF REINFORCING STEEL IS NOT PERMITTED.
7. REINFORCING STEEL LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLES, UNLESS NOTED OTHERWISE.
   - 7.1. NO MORE THAN 50-PERCENT OF REINFORCING STEEL BARS ARE ALLOWED TO BE SPLICED AT ANY ONE LOCATION. STAGGER SPLICES OF ADJACENT BARS NO LESS THAN ONE LAP LENGTH CENTER TO CENTER.
   - 7.2. BARS IN A LAP SPLICE MUST BE SECURELY TIED TOGETHER.

BAR SIZE	LAP LENGTH
#4	28"
#5	34"
#6	41"
#7	59"
#8	84"
#9	94"
#10	106"
#11	117"

GRATING

1. GRATING SHALL CONSIST OF PULTRUDED FIBERGLASS, I-BAR OR T-BAR, WITH 1/2" CLEAR MAXIMUM OPENINGS BETWEEN BEARING BARS, MEDIUM GRIT SURFACE
2. LANDINGS GRATING: 2" HEIGHT, COLOR GRAY
3. STAIR TREADS: 1½" HEIGHT, COLOR YELLOW
4. ATTACH TO FRAMING WITH STAINLESS STEEL FASTENERS.
5. EXTEND GRATING TO 6-INCHES BEYOND CENTERLINE OF SUPPORTING BEAM FLANGES, UNLESS NOTED OTHERWISE.
6. SEE DESIGN CRITERIA FOR LIVE LOAD.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE FOLLOWING, UNLESS OTHERWISE SPECIFIED:
   - 1.1. AISC 360: SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS;
   - 1.2. AISC 303: CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES;
   - 1.3. RCSC: SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS;
   - 1.4. AWS D1.1: STRUCTURAL WELDING CODED -STEEL
2. STRUCTURAL SHAPES AND PLATES:

W-SHAPES	ASTM A992	50 KSI
ANGLES AND CHANNELS	ASTM A36	36 KSI
PIPES	ASTM A53, GRADE B	35 KSI
PLATES	ASTM A36	36 KSI

   ALL STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123.
3. FASTENERS:

HIGH-STRENGTH BOLTS	ASTM F3125, GRADE A325
TWIST-OFF TENSION CONTROL (TC) BOLTS	ASTM F1852, TYPE 1
DIRECT TENSION INDICATORS (DTIs)	ASTM F959
NUTS	ASTM A563
WASHERS	ASTM F436
ANCHOR BOLTS/RODS	ASTM F1554, GRADE 55
WELDING FILLER METAL	E70XX

   ALL FASTENERS SHALL BE HOT-DIPPED GALVANIZED HARDWARE PER ASTM A153.
4. UNLESS NOTED OTHERWISE SNUG-TIGHTEN ALL CONNECTIONS IN ACCORDANCE WITH RCSC SPECIFIATION FOR STRUCTURAL JOINTS USING HIGH-STRENGH BOLTS.
   - 4.1. PRETENSION ALL BOLTS UNLESS NOTED OTHERWISE.
5. WELDING:
   - 5.1. WELDING MUST BE PERFORMED IN ACCORDANCE WITH AWS D1.1, WELDING PROCEDURE SPECIFICATION (WPS). WPS NOT PREQUALIFIED BY AWS SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.1 PRIOR TO USE ON THE PROJECT. WELDERS SHALL BE QUALIFIED FOR EACH WPS USED ON THE PROJECT BY AN AWS CERTIFIED TESTING AGENCY AND IN ACCORDANCE WITH AWS D1.1.
   - 5.2. WELDING MUST BE PERFORMED IN THE FABRICATION SHOP TO THE MAXIMUM EXTENT POSSIBLE. SHOP DRAWINGS MUST CLEARLY DISTINGUISH BETWEEN SHOP AND FIELD WELDS.
   - 5.3. ALL WELDS MUST BE VISUALLY INSPECTED BY A CERTIFIED WELDING INSPECTOR. NONDESTRUCTIVE EXAMINATION MUST BE PERFORMED ON NO LESS THAN 10-PERCENT OF WELDS AS SPECIFIED.
6. ALL BEAMS MSUT BE ERECTED WITH THE NATURAL CAMBER UPWARDS.
7. OPEN ENDS OF PIPE AND HSS MEMBERS MUST HAVE CLOSURE PLATES, SEAL WELDED ALL AROUND.
8. HOLES OR OPENINGS SHALL NOT BE CUT IN ANY STRUCTURAL MEMBER UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
9. BASE PLATE HOLES AND PLATE WASHERS FOR ANCHOR RODS MUST BE IN ACCORDANCE WITH TABLE 14-2 OF AISC 360.
10. THE CONTRACTOR MSUT PROVIDE ALL TEMPORARY GUYING AND BRACING NECESSARY TO ERECT, STABILIZE, AND MAINTAIN ALL STEEL MEMBERS IN PROPER ALIGNMENT UNTIL ALL DECK, PERMANENT BRACING, WELDED CONNECTIONS, ETC. ARE IN PLACE. COLUMN ANCHOR BOLTS ARE NOT DESIGNED TO PROVIDE TEMPORARY STABILITY FOR COLUMNS DURING STEEL ERECTION. PLACE NON-SHRINK GROUT BELOW ALL COLUMN BASE PLATES BEFORE OR APPLYING LOAD TO THE STRUCTURE.
11. ALL STRUCTURAL STEEL MUST BE HOT-DIPPED GALVANIZED, APPLIED AFTER FABRICATION.
    - 11.1. PAINT THE OUTER FACE/FLANGE OF THE COLUMNS WITH 1-COAT POLYAMIDOAMINE EPOXY, COLOR YELLOW, AFTER GALVANIZING.

SUSPENDED LOADS:

1. SUSPENDED LOADS ATTACHED TO A BOTTOM BEAM FLANGE MAY BE ACCOMPLISHED USING BEAM "C-CLAMPS" FOR LOADS LESS THAN 400 POUNDS. FOR LOADS GREATER THAN 400 POUNDS, SUSPENDED LOADS SHALL BE APPLIED IN A MANNER THAT DOES NOT IMPOSE ECCENTRIC LOADS UPON THE BEAM BY USING CONCENTRIC STEEL BEAM CLAMPS, WELDED PLATES, OR SIMILAR ATTACHMENT METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION SYSTEM. PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

STEEL ROOF DECK:

1. ALL STEEL ROOF DECK SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE FOLLOWING, UNLESS OTHERWISE SPECIFIED:

   SDI; DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS, NOVEMBER 2007
   SDI; DIAPHRAGM DESIGN MANUAL THIRD EDITION, SEPTEMBER 2004
   ANSI/SDI RD1.0-2006; STANDARD FOR STEEL ROOF DECK
   AWS D1.3-98; STRUCTURAL WELDING CODE - SHEET STEEL
2. MINIMUM ROOF DECK PROPERTIES:
   - DEPTH — 1½"
   - DECK TYPE — TYPE B
   - GAGE — 20
   - YIELD STRENGTH, MINIMUM — 33 KSI
   - I (in^4 / ft) — 0.201 MINIMUM
   - S_p (in^3 / ft) — 0.234
   - S_n (in^3 / ft) — 0.247
   - FINISH — GALVANIZED, G60
3. ROOF DECK ATTACHMENT:
   ALLOWABLE SUPPORT FASTENERS:
   POWER-ACTUATED FASTENERS
   5/8-INCH DIAMETER ARC PUDDLE WELDS, VISIBLE
   - SUPPORTS — 36 / 4 PATTERN
   - SUPPORTS PARALLEL TO DECK — 12" MAXIMUM
   - SIDE LAPS — #10 SCREWS AT 12" MAXIMUM OC
   - ALLOWABLE DIAPHRAGM SHEAR — 350 PLF
4. LOADS SUSPENDED FORM THE ROOF DECK WILL NOT BE PERMITTED
5. ROOF DECK SHEETS MUST HAVE LAPPED ENDS AND EDGES, 2-INCHES MINIMUM.
6. ROOF DECK BEARING MUST BE NO LESS THAN 2-INCHES ON SUPPORTS.

CODE ANALYSIS: - REEFER RACK

1.	RISK CATEGORY (ASCE TABLE 1.5-1/IBC TABLE 1604.5)	I
2.	OCCUPANCY GROUP CLASSIFICATION (MUBC 312.1)	U - UTILITY AND MISCELLANEOUS (REEFER RACKS)
3.	TYPE OF CONSTRUCTION (MUBC 602.2):	IIB (NON-COMBUSTIBLE)
4.	ALLOWABLE BUILDING HEIGHT (MUBC TABLE 504.3):	55 FT
	ACTUAL BUILDING HEIGHT:	48 FT
5.	ALLOWABLE NUMBER OF STORIES (MUBC TABLE 504.4):	2
	PROVIDED:	5
6.	ALLOWABLE BUILDING AREA (IBC TABLE 506.2):	8,500 SF
	AREA MODIFICATION INCREASE:	N/A
	ACTUAL BUILDING AREA:	467 SF / LEVEL 2,334 SF TOTAL
7.	FIRE RESISTANCE RATING (MUBC TABLES 601 & 602):	0 HOURS
8.	OCCUPANT LOAD (MUBC TABLE 1004.1.2):	
	INDUSTRIAL AREAS - (REEFER RACKS) - (100 SF / PERSON, GROSS):	30 OCCUPANTS
	ACTUAL NUMBER OF OCCUPANTS:	NOT OCCUPIED, TEMPORARY ACCESS ONLY FOR SERVICE AND MAINTENANCE OF CONTAINERS

9. EXIT REQUIREMENTS (MUBC CH. 10):	REQUIRED	PROVIDED
NUMBER OF EXITS REQUIRED:	1	1
EGRESS WIDTH: - STAIRS:	36"	36"

10. MAX EXIT ACCESS TRAVEL DISTANCE:	300 FT
MAX COMMON PATH OF TRAVEL:	100 FT
MAX DEAD END CORRIDOR:	20 FT
MIN CORRIDOR WIDTH:	32 IN

SPECIAL INSPECTION

SPECIAL INSPECTIONS MUST BE PERFORMED AND WITNESSED BY THE SPECIAL INSPECTOR. THE CONTRACTOR SHALL MAINTAIN ON SITE COPY OF THE SPECIAL INSPECTION LOG FOR EACH STRUCTURE. UPON COMPLETION OF EACH STRUCTURE, THE REPORTS MUST BE SUBMITTED TO OWNER AND THE MARYLAND PORTS ADMINISTRATION. THE CONTRACTOR MUST COORDINATE WITH THE PROJECT REPRESENTATIVE FOR THE INSPECTIONS AND SHALL PROVIDE ACCESS AND SUPPORT TO THE SPECIAL INSPECTOR TO PERFORM THE INSPECTIONS.

SPECIAL INSPECTIONS MUST BE PERFORMED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE AND THE SPECIFICATIONS FOR NO LESS THAN THE FOLLOWING ITEMS:

a. SOILS:
   - SUBGRADE PREPARATION
   - BASE PREPARATION

b. CONCRETE:
   - FORMS
   - REINFORCING STEEL
   - CONCRETE

c. STRUCTURAL STEEL:
   - FABRICATION
   - WELDING
   - ERECTIONS AND BOLTED CONNECTIONS

d. DRIVEN-DEEP FOUNDATIONS

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE
COMMISSIONER:
CHIEF ENGINEER:

PROJECT INFORMATION
PROGRAM — PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PROJECT MANAGER — PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
DESIGNER — PORTLAND, ME
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE — CUMBERLAND, COUNTY

C. MORIN — SIGNATURE
C. MAGUIRE — P.E. NUMBER
DATE

REEFER RACK STRUCTURAL NOTES - 1

SHEET NUMBER
S-001
13 OF 24

EARTHWORK

1. SUBSURFACE GEOTECHNICAL DATA FOR THE SITE IS PROVIDED IN THE REPORT, "GEOTECHNICAL DATA REPORT, REEFER RACK DESIGN - INTERNATIONAL MARINE TERMINAL, PORTLAND MAINE," DATED DECEMBER 2022, AND PREPARED BY SCHONEWALD ENGINEERING ASSOCIATES, INC.

2. ALL FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER, OR DESIGNEE, TO VERIFY CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE OBSERVATIONS SHALL BE MADE PRIOR TO PLACEMENT OF FORMS AND REINFORCING STEEL.

3. EXCAVATED MATERIALS MEETING THE REQUIREMENTS FOR MAINE DOT GRANULAR BORROW MAY BE STOCKPILED ON-SITE FOR REUSE IN BACKFILLING AND GRADING OPERATIONS.

4. GRANULAR BORROW SHALL BE FREE FROM TOPSOIL, ORGANIC CONTAMINATED SOIL, AND ROCK FRAGMENTS OR CONSTRUCTION DEBRIS HAVING A MAXIMUM SIZE GREATER THAN 4 INCHES. MATERIAL SHALL BE WELL GRADED SAND AND GRAVEL WITH NO MORE THAN 70% PASSING THE NO. 40 SIEVE AND NO MORE THAN 20% FINES (MATERIALS PASSING THE NO. 200 SIEVE).

5. GRANULAR BORROW SHALL BE PLACED IN LIFTS NOT EXCEEDING 10 INCHES IN THICKNESS AND COMPACTED TO 95% OF THE DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR, ASTM D1557. IN CONFINED AREAS WHERE HAND COMPACTION EQUIPMENT IS USED, THE PLACED LIFTS' THICKNESS SHALL NOT EXCEED 6 INCHES.

6. THE UPPER 1-FOOT OF SUBGRADE SHALL BE PROOF ROLLED BY NO LESS THAN SIX (6) PASSES OF A 10 TON VIBRATORY ROLLER.

7. IF CONTAMINATED SOIL IS ENCOUNTERED, PERFORM SOIL SAMPLING AND TESTING AS REQUIRED FOR OFF-SITE REUSE OR DISPOSAL. SUBMIT A COPY OF THE LABORATORY REPORT CONTAINING ALL ANALYTICAL DATA AND A CONTAMINATED SOIL MANAGEMENT PLAN TO THE OWNER. MANAGEMENT, STOCKPILING, AND TRANSPORTING OF CONTAMINATED MATERIALS SHALL BE BY APPROPRIATELY TRAINED PERSONNEL AND IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. TRANSPORTER MANIFESTS AND APPROVED FACILITY DOCUMENTATION SHALL ALSO BE SUBMITTED TO THE CONTRACTING OFFICER.

STEEL PIPE PILES

1. ALL STEEL PIPE PILES SHALL BE CLOSE ENDED, AND CONFORM TO THE REQUIREMENTS OF ASTM A252, GRADE 3 (MOD), WITH A MINIMUM YIELD STRENGTH OF 50 KSI.

2. PILES SHALL BE FITTED WITH A CONICAL PILE CLOSURE.

3. CONTRACTOR SHALL PERFORM A WAVE EQUATION ANALYSIS (WEAP) FOR THE HAMMER PROPOSED FOR THE INSTALLATION OF THE PILES. THE HAMMER MUST BE CAPABLE OF DRIVING THE PILES TO ACHIEVE THE REQUIRED CAPACITY WITHOUT RESULTING IN OVERSTRESSING OF THE PILES DURING DRIVING. THE PROPOSED DRIVING CRITERIA AND HAMMER TYPE/SIZE, AS WELL AS THE WEAP ANALYSIS CALCULATIONS AE SUBJECT TO ENGINEER'S APPROVAL.

4. THE TEST PILES SHALL BE DRIVEN TO THE MINIMUM TIP ELEVATION OR REFUSAL, CONSISTING OF A DRIVING RESISTANCE THAT DOES NOT EXCEED 20 BLOW PER INCH FOR TWO CONSECUTIVE INCHES. DRIVING CRITERIA FOR PRODUCTION PILES SHALL BE DETERMINED BY THE ENGINEER FOLLOWING THE PILE LOAD TEST PROGRAM.

5. PILES AT CUT-OFF ELEVATIONS SHALL NOT DEVIATE LATERALLY FROM THE PLAN SHOWN ON THESE DRAWINGS BY MORE THAN 3 IN. MAXIMUM ALIGNMENT TOLERANCE AT PILES AXIS SHALL BE TWO PERCENT OF THE PILE LENGTH.

6. PIPE PILE EXTERIORS SHALL BE COATED WITH TWO 8-MIL COATS OF BITUMASTIC 300 M, BY CAROBLINE, WESTFIELD, NJ, OR APPROVED EQUAL. SURFACE PREPARATION - SSPC SP 10 NEAR WHITE BLAST CLEANING. PILE COATING SHALL BE APPLIED ON THE TOP 30 FT OF THE PILES.

7. TOUCH UP ALL COATING DAMAGE. DAMAGE WHICH WILL BE COVERED BY CONCRETE NEED NOT BE TOUCHED UP. THE COATING SHALL BE CONSIDERED DAMAGED WITHIN 2 INCHES OF ANY FIELD WELD, AND SHALL BE REPLACED EVEN IF NO DAMAGE IS APPARENT.

8. ALL SPLICES SHALL BE FULL PENETRATION BUTT WELDS, DEVELOPING THE FULL STRENGTH OF THE PILE IN AXIAL LOAD AND BENDING. NO FIELD SPLICES ARE PERMITTED, UNLESS CONTRACTOR IS DIRECTED OTHERWISE BY THE ENGINEER.

9. PULLING PILES INTO POSITION IS PROHIBITED.

10. JETTING OF PILES FOR INSTALLATION SHALL NOT BE PERMITTED.

PILE DYNAMIC LOAD TESTING

1. PRIOR TO PRODUCTION PILE DRIVING, CONTRACTOR SHALL PERFORM DYNAMIC LOAD TESTING, AS INDICATED ON THE DRAWINGS. THE LOAD TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D4945.

2. DYNAMIC PILE TESTING SHALL CONSIST OF PDA (CASE METHOD) / CAPWAP ANALYSES FOR INITIAL DRIVING AND RESTRIKING OF THE PILES. ALL DYNAMIC TEST PILES SHALL BE RESTRIKED.

3. THE MINIMUM ULTIMATE PILE CAPACITY BASED ON THE DYNAMIC TESTING RESULTS (PDA PER THE CASE METHOD AND CAPWAP ANALYSIS) SHALL BE 2 TIMES THE WORKING LOAD AS SHOWN ON THE PILE SCHEDULE.

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION		SIGNATURE	
PROGRAM			
PROJECT MANAGER	C. MORIN		
DESIGNER	C. MAGUIRE	P.E. NUMBER	
CONSULTANT			
PROJECT RESIDENT		DATE	
CONTRACTOR			
PROJECT COMPLETION DATE			

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME — CUMBERLAND, COUNTY

REEFER RACK STRUCTURAL NOTES - 2

SHEET NUMBER

S-002

14 OF 24

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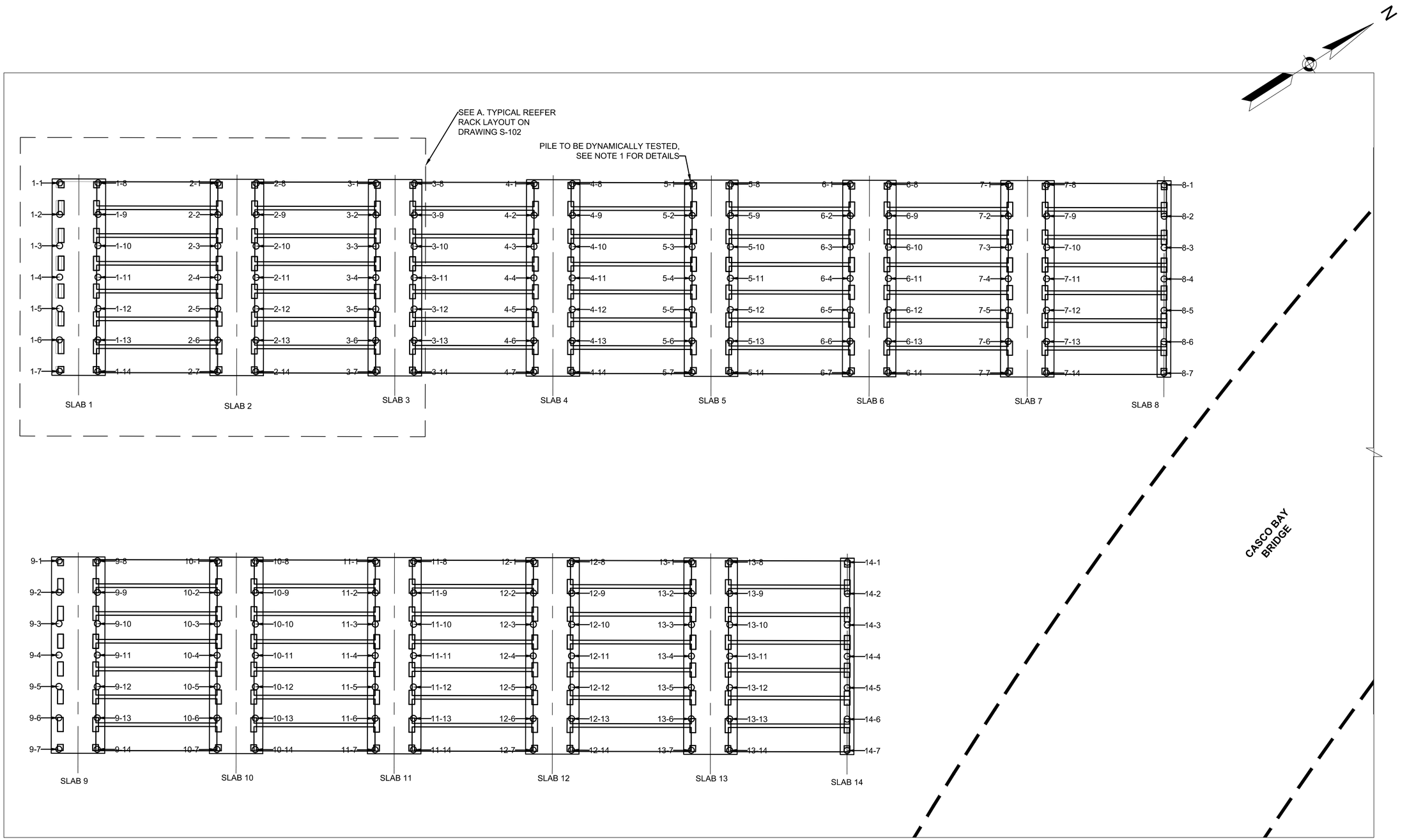

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

SIGNATURE

P.E. NUMBER

DATE

PROJECT INFORMATION

PROGRAM	
PROJECT MANAGER	C. MORIN
DESIGNER	C. MAGUIRE
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME
CUMBERLAND, COUNTY

REEFER RACK SLAB LAYOUT PLAN - 1

SHEET NUMBER

S-101

15 0F 24

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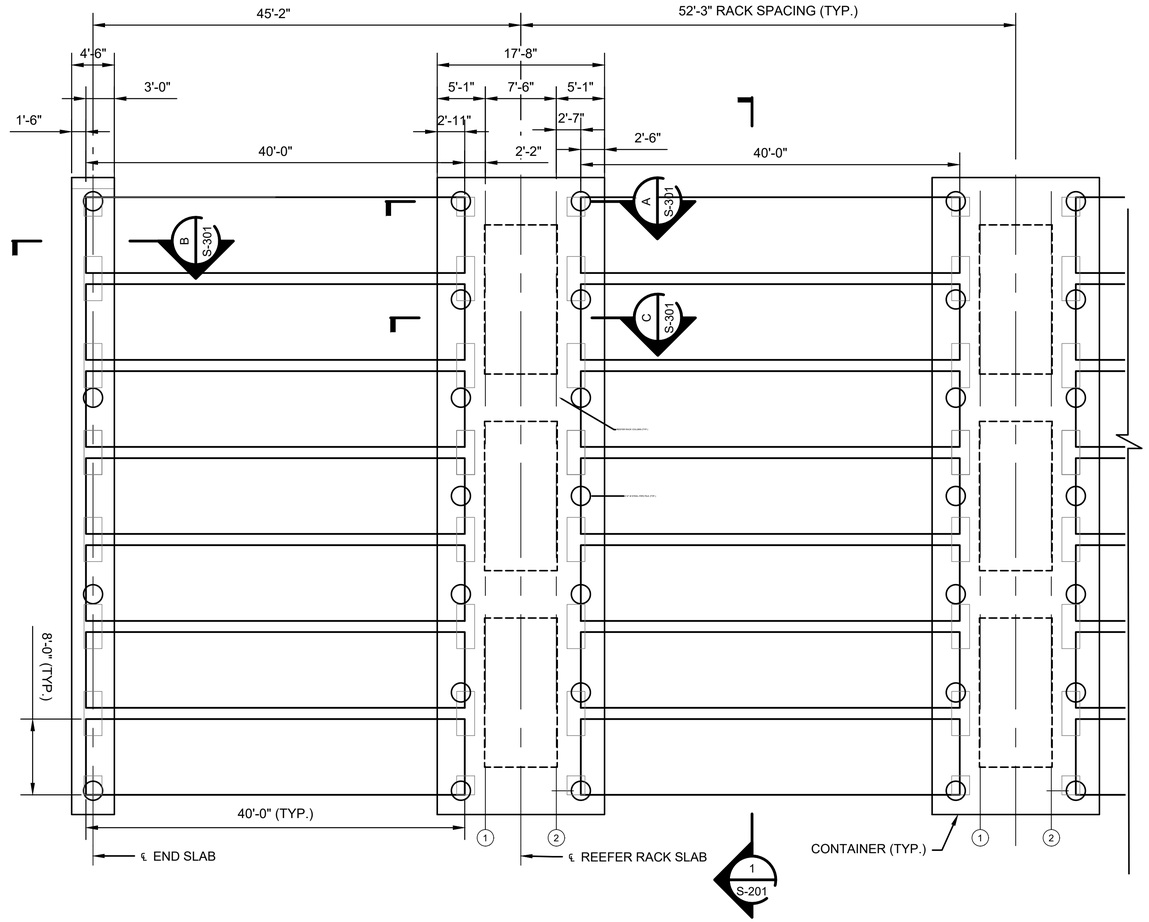
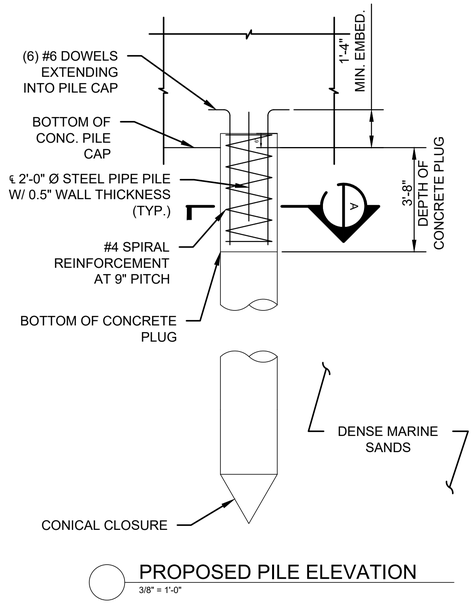
PILE SCHEDULE				
PILE NO	NORTHING	EASTING	ALLOWABLE PILE LOAD COMPRESSION (TONS)	TIP ELEVATION
1-1	296280.36	2927872.59	160	-36
1-2	296274.77	2927881.33	160	-36
1-3	296269.18	2927890.07	160	-36
1-4	296263.59	2927898.82	160	-36
1-5	296258.00	2927907.56	160	-36
1-6	296252.41	2927916.30	160	-36
1-7	296246.82	2927925.04	160	-36
1-8	296291.03	2927879.42	160	-36
1-9	296285.44	2927888.16	160	-36
1-10	296279.85	2927896.90	160	-36
1-11	296274.26	2927905.64	160	-36
1-12	296268.67	2927914.38	160	-36
1-13	296263.08	2927923.12	160	-36
1-14	296257.49	2927931.86	160	-36
2-1	296324.38	2927900.74	160	-36
2-2	296318.79	2927909.48	160	-36
2-3	296313.20	2927918.22	160	-36
2-4	296307.61	2927926.96	160	-36
2-5	296302.02	2927935.70	160	-36
2-6	296296.43	2927944.45	160	-36
2-7	296290.84	2927953.19	160	-36
2-8	296335.05	2927907.57	160	-36
2-9	296329.46	2927916.31	160	-36
2-10	296323.87	2927925.05	160	-36
2-11	296318.28	2927933.79	160	-36
2-12	296312.69	2927942.53	160	-36
2-13	296307.10	2927951.27	160	-36
2-14	296301.51	2927960.01	160	-36
3-1	296368.40	2927928.89	160	-36
3-2	296362.81	2927937.63	160	-36
3-3	296357.22	2927946.37	160	-36
3-4	296351.63	2927955.11	160	-36
3-5	296346.04	2927963.85	160	-36
3-6	296340.45	2927972.59	160	-36
3-7	296334.86	2927981.33	160	-36
3-8	296379.07	2927935.71	160	-36
3-9	296373.48	2927944.45	160	-36
3-10	296367.89	2927953.20	160	-36
3-11	296362.30	2927961.94	160	-36
3-12	296356.71	2927970.68	160	-36
3-13	296351.12	2927979.42	160	-36
3-14	296345.53	2927988.16	160	-36
4-1	296412.42	2927957.04	160	-36
4-2	296406.83	2927965.78	160	-36
4-3	296401.24	2927974.52	160	-36
4-4	296395.65	2927983.26	160	-36
4-5	296390.06	2927992.00	160	-36
4-6	296384.47	2928000.74	160	-36
4-7	296378.88	2928009.48	160	-36
4-8	296423.09	2927963.86	160	-30
4-9	296417.50	2927972.60	160	-30
4-10	296411.91	2927981.34	160	-30
4-11	296406.32	2927990.08	160	-30
4-12	296400.73	2927998.83	160	-30
4-13	296395.14	2928007.57	160	-30
4-14	296389.55	2928016.31	160	-30
5-1	296456.44	2927985.19	160	-30
5-2	296450.85	2927993.93	160	-30
5-3	296445.26	2928002.67	160	-30
5-4	296439.67	2928011.41	160	-30
5-5	296434.08	2928020.15	160	-30
5-6	296428.49	2928028.89	160	-30
5-7	296422.90	2928037.63	160	-30
5-8	296467.11	2927992.01	160	-30
5-9	296461.52	2928000.75	160	-30
5-10	296455.93	2928009.49	160	-30
5-11	296450.34	2928018.23	160	-30
5-12	296444.75	2928026.97	160	-30
5-13	296439.16	2928035.71	160	-30
5-14	296433.57	2928044.46	160	-30
6-1	296500.46	2928013.34	160	-30
6-2	296494.87	2928022.08	160	-30
6-3	296489.28	2928030.82	160	-30
6-4	296483.69	2928039.56	160	-30
6-5	296472.51	2928048.30	160	-30
6-6	296472.51	2928057.04	160	-30
6-7	296466.92	2928065.78	160	-30
6-8	296511.13	2928020.16	160	-20
6-9	296505.54	2928028.90	160	-20
6-10	296499.95	2928037.64	160	-20
6-11	296494.36	2928046.38	160	-20
6-12	296488.77	2928055.12	160	-20
6-13	296483.18	2928063.86	160	-20
6-14	296477.59	2928072.60	160	-20
7-1	296544.48	2928041.48	160	-20
7-2	296538.89	2928050.22	160	-20
7-3	296533.30	2928058.97	160	-20
7-4	296527.71	2928067.71	160	-20
7-5	296522.12	2928076.45	160	-20
7-6	296516.53	2928085.19	160	-20
7-7	296510.94	2928093.93	160	-20

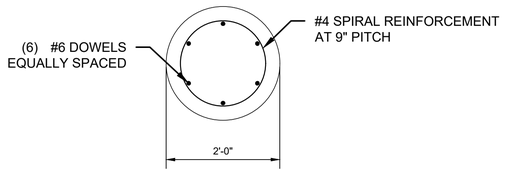
PILE SCHEDULE				
PILE NO	NORTHING	EASTING	ALLOWABLE PILE LOAD COMPRESSION (TONS)	TIP ELEVATION
7-8	296555.15	2928048.31	160	-20
7-9	296549.56	2928057.05	160	-20
7-10	296543.97	2928065.79	160	-20
7-11	296538.38	2928074.53	160	-20
7-12	296532.79	2928083.27	160	-20
7-13	296527.20	2928092.01	160	-20
7-14	296521.61	2928100.75	160	-20
8-1	296587.86	2928069.23	160	-20
8-2	296582.28	2928077.97	160	-20
8-3	296576.69	2928086.71	160	-20
8-4	296571.10	2928095.45	160	-20
8-5	296565.51	2928104.19	160	-20
8-6	296559.92	2928112.93	160	-20
8-7	296554.33	2928121.67	160	-20
9-1	296213.06	2927977.83	160	-40
9-2	296207.47	2927986.57	160	-40
9-3	296201.88	2927995.31	160	-40
9-4	296196.29	2928004.06	160	-40
9-5	296190.71	2928012.80	160	-40
9-6	296185.12	2928021.54	160	-40
9-7	296179.53	2928030.28	160	-40
9-8	296223.73	2927984.66	160	-40
9-9	296218.14	2927993.40	160	-40
9-10	296212.56	2928010.88	160	-40
9-11	296206.97	2928010.88	160	-40
9-12	296201.38	2928019.62	160	-40
9-13	296195.79	2928028.36	160	-40
9-14	296190.20	2928037.10	160	-40
10-1	296257.08	2928005.98	160	-40
10-2	296251.49	2928014.72	160	-40
10-3	296245.90	2928023.46	160	-40
10-4	296240.31	2928032.20	160	-40
10-5	296234.73	2928040.94	160	-40
10-6	296229.14	2928049.69	160	-40
10-7	296223.55	2928058.43	160	-40
10-8	296267.75	2928012.81	160	-40
10-9	296262.16	2928021.55	160	-40
10-10	296256.58	2928030.29	160	-40
10-11	296250.99	2928039.03	160	-40
10-12	296245.40	2928047.77	160	-40
10-13	296239.81	2928056.51	160	-40
10-14	296234.22	2928065.25	160	-40
11-1	296301.10	2928034.13	160	-40
11-2	296295.51	2928042.87	160	-40
11-3	296289.92	2928051.61	160	-40
11-4	296284.33	2928060.35	160	-40
11-5	296278.75	2928069.09	160	-40
11-6	296273.16	2928077.83	160	-40
11-7	296267.57	2928086.57	160	-40
11-8	296311.77	2928040.95	160	-40
11-9	296306.18	2928049.69	160	-40
11-10	296300.60	2928058.44	160	-40
11-11	296295.01	2928067.18	160	-40
11-12	296289.42	2928075.92	160	-40
11-13	296283.83	2928084.66	160	-40
11-14	296278.24	2928093.40	160	-40
12-1	296345.12	2928062.28	160	-40
12-2	296339.53	2928071.02	160	-40
12-3	296333.94	2928079.76	160	-40
12-4	296328.35	2928088.50	160	-40
12-5	296322.76	2928097.24	160	-40
12-6	296317.18	2928105.98	160	-40
12-7	296311.59	2928114.72	160	-40
12-8	296355.79	2928069.10	160	-35
12-9	296350.20	2928077.84	160	-35
12-10	296344.61	2928086.58	160	-35
12-11	296339.03	2928095.32	160	-35
12-12	296333.44	2928104.07	160	-35
12-13	296327.85	2928112.81	160	-35
12-14	296322.26	2928121.55	160	-35
13-1	296389.14	2928090.43	160	-35
13-2	296383.55	2928099.17	160	-35
13-3	296377.96	2928107.91	160	-35
13-4	296372.37	2928116.65	160	-35
13-5	296366.78	2928125.39	160	-35
13-6	296361.20	2928134.13	160	-35
13-7	296355.61	2928142.87	160	-35
13-8	296399.81	2928097.25	160	-35
13-9	296394.22	2928105.99	160	-35
13-10	296388.63	2928114.73	160	-35
13-11	296383.05	2928123.47	160	-35
13-12	296377.46	2928132.21	160	-35
13-13	296371.87	2928140.95	160	-35
13-14	296366.28	2928149.70	160	-35
14-1	296432.53	2928118.17	160	-35
14-2	296426.94	2928126.91	160	-35
14-3	296421.35	2928135.65	160	-35
14-4	296415.76	2928144.39	160	-35
14-5	296410.17	2928153.13	160	-35
14-6	296404.58	2928161.87	160	-35
14-7	296398.99	2928170.62	160	-35



A TYPICAL REEFER RACK LAYOUT
1/8" = 1'-0"



PROPOSED PILE ELEVATION
3/8" = 1'-0"



A PROPOSED PILE SECTION
3/4" = 1'-0"

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION

PROGRAM
PROJECT MANAGER — C. MORIN
DESIGNER — C. MAGUIRE
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

SIGNATURE
P.E. NUMBER
DATE

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
CUMBERLAND, COUNTY
PORTLAND, ME

REEFER RACK SLAB LAYOUT PLAN - 2

SHEET NUMBER
S-102
16 0F 24

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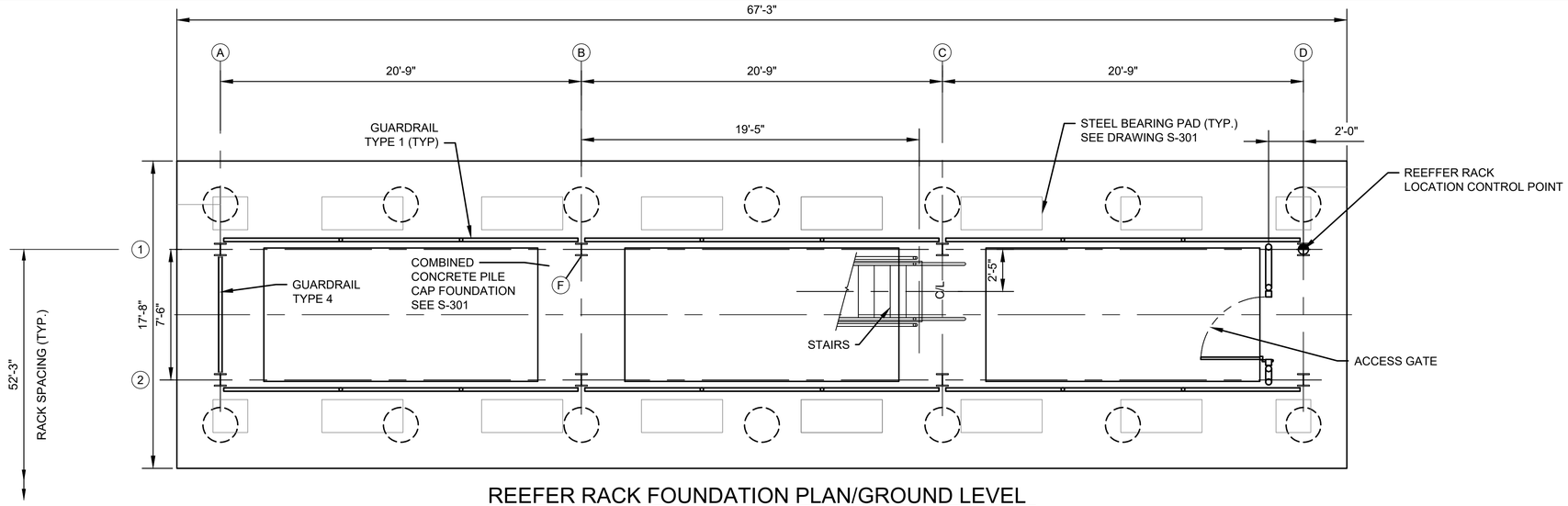
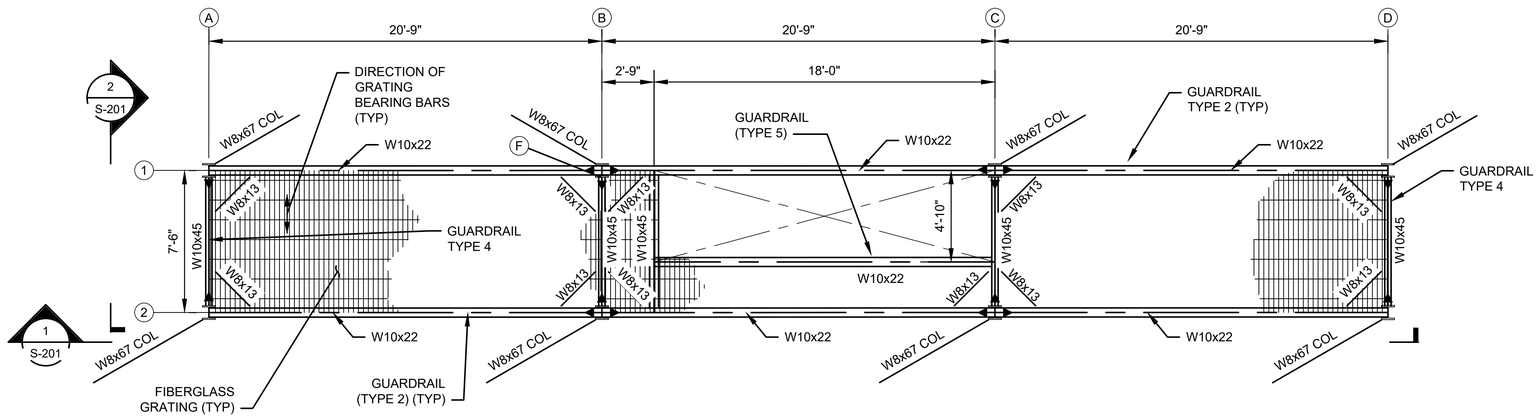


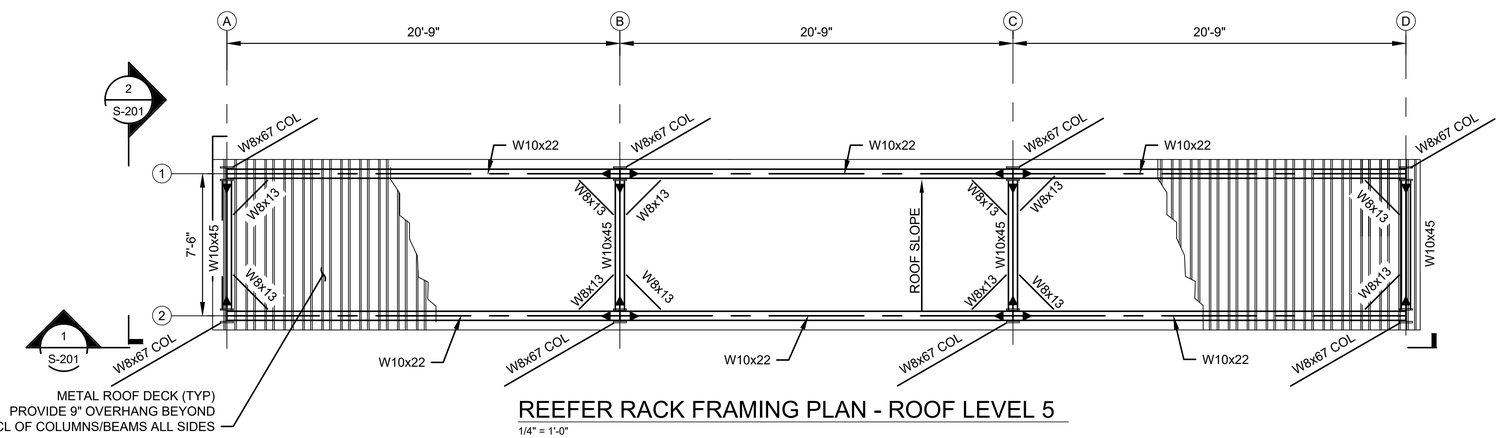
REEFER RACK FOUNDATION PLAN/GROUND LEVEL

1/4" = 1'-0"



REEFER RACK FRAMING PLAN - LEVELS 1, 2, 3, AND 4

1/4" = 1'-0"



REEFER RACK FRAMING PLAN - ROOF LEVEL 5

1/4" = 1'-0"

GENERAL NOTES

1. REFER TO DRAWING S-001 FOR GENERAL NOTES AND DESIGN CRITERIA.
2. → INDICATES MOMENT CONNECTION.
3. UNLESS NOTED OTHERWISE ALL STEEL MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. ORIENT THE REEFER RACK SUCH THAT THE ACCESS GATE OPENS TOWARD THE TRUCK TRANSFER/LOADING LANE AND COLUMN ROW 2 IS TOWARD REEFER PLUGS.
5. PROVIDE PORTABLE FIRE EXTINGUISHER, CLASS A-B-C, 35-POUND, IN CABINET, AT EACH LEVEL. LOCATION INDICATED BY (F).
6. PAINT OUTSIDE FACE OF COLUMNS WITH 1-COAT POLYAMIDOAMINE EPOXY, COLOR YELLOW.

GRAPHIC SCALE

0 4 8 12

1/4"=1'-0"

N

PERMIT DRAWINGS
NOT FOR CONSTRUCTION
SUBMITTED DATE: AUGUST 18, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION		SIGNATURE	DATE
PROGRAM			
PROJECT MANAGER	C. MORIN	P.E. NUMBER	
DESIGNER	C. MAGUIRE		
CONSULTANT			
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME — CUMBERLAND, COUNTY

REEFER RACK FOUNDATION AND FRAMING PLANS

SHEET NUMBER

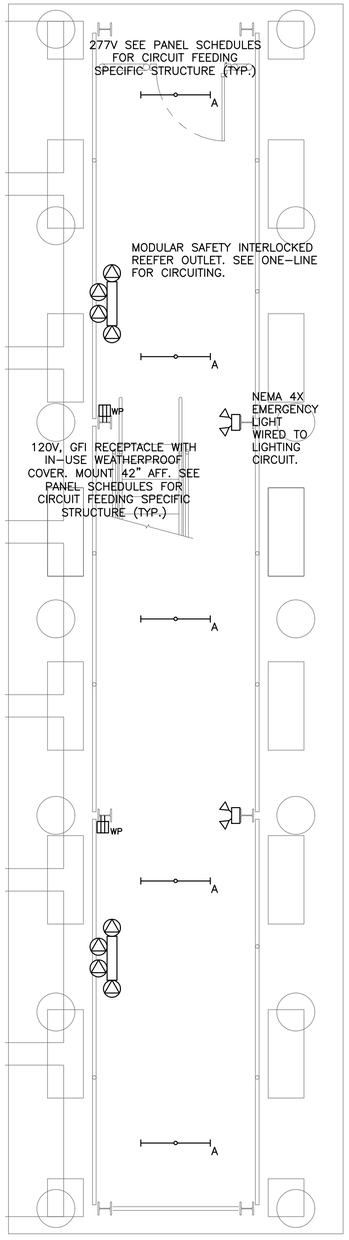
S-103

17 OF 24

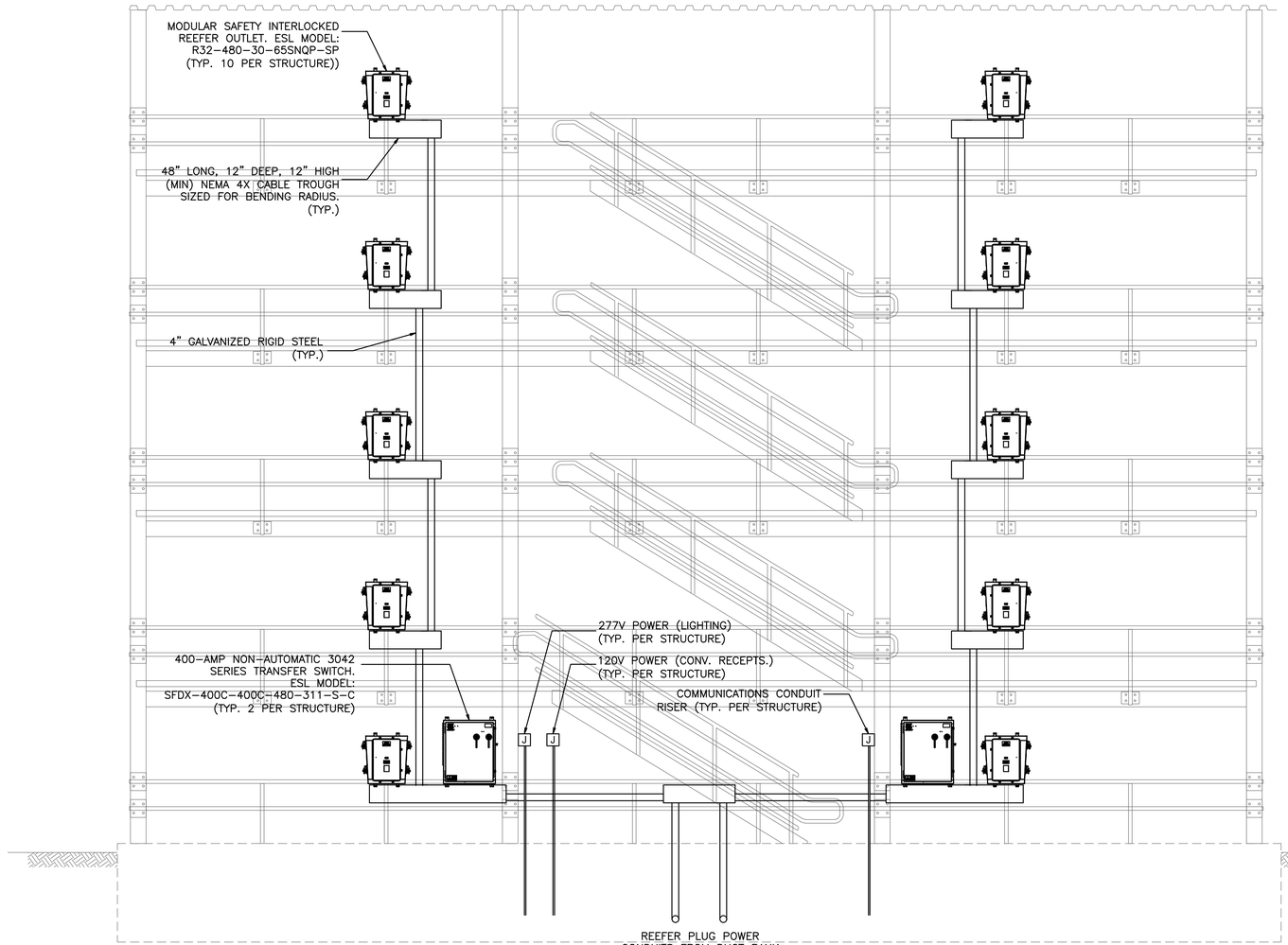
File: C:\Users\maguirc\AppData\Local\Bentley\projectwise\jacobs-americas-01\d0103924\S-103 (ReeferRackFoundationFramingPermit).; Plotted: 8/17/2023 5:17 PM by MAGUIRE, CASEY.; Saved: 8/17/2023 3:31 PM by MAGUIRC

NOTES:

1. SEE E100 FOR GENERAL NOTES.
2. SEE SHEET E201 FOR LIGHTING SCHEDULE



1 ELECTRICAL FLOOR PLAN (TYP.)
SCALE: 1/4" = 1'



2 ELECTRICAL ELEVATION PLAN (TYP.)
SCALE: 1/4" = 1'

80% DRAFT

SUBMITTED DATE: MAY 26, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

PROJECT INFORMATION	
PROGRAM	
PROJECT MANAGER	
DESIGNER	
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE

P.E. NUMBER

DATE

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME
CUMBERLAND, COUNTY

TYPICAL ELEVATION AND FLOOR PLAN

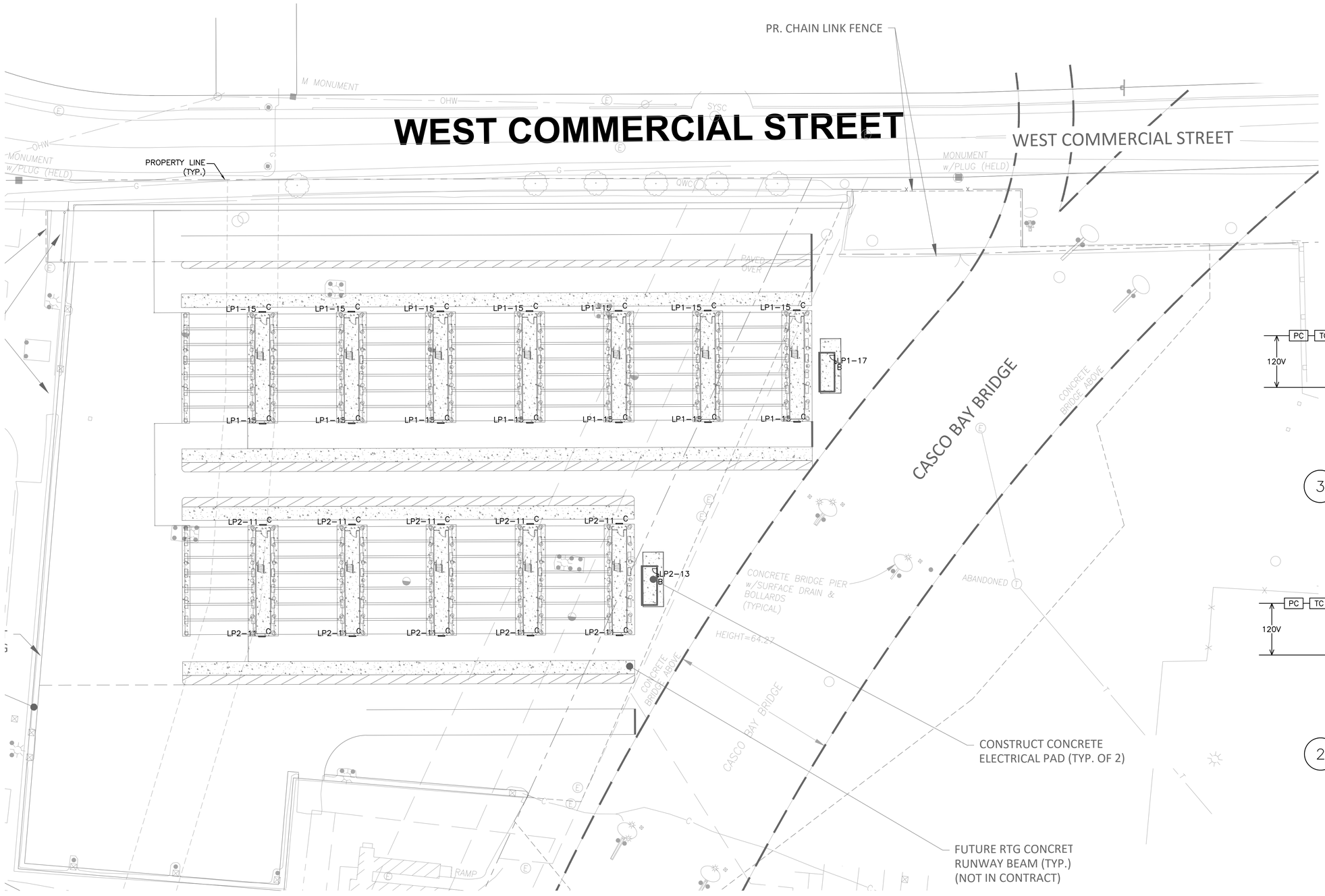
SHEET NUMBER

E150

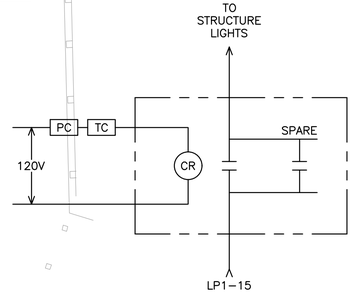
File: Z:\Projects 2022\22009 Portland IMT\Drawings\E150 , Plotted: 5/26/2023 8:36 AM by TIM MATTHEWS , Saved: 5/18/2023 11:03 AM by TIM

NOTES:

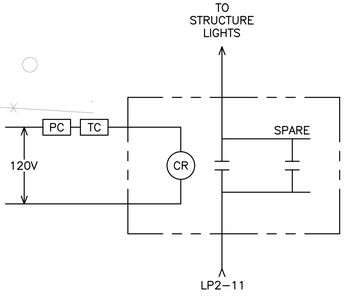
1. SEE E100 FOR GENERAL NOTES.
2. SEE SHEET E201 FOR LIGHTING SCHEDULE.



1 ELECTRICAL SITE LIGHTING PLAN
SCALE: 1" = 30'



3 EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NOT TO SCALE



2 EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NOT TO SCALE

80% DRAFT
SUBMITTED DATE: MAY 26, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED	DATE
COMMISSIONER:	
CHIEF ENGINEER:	

	SIGNATURE	P.E. NUMBER	DATE
PROJECT INFORMATION			
PROGRAM			
PROJECT MANAGER			
DESIGNER			
CONSULTANT			
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME CUMBERLAND, COUNTY

ELECTRICAL SITE LIGHTING PLAN

SHEET NUMBER

E200

File: Z:\Projects 2022\22009 Portland MT\Xref\TITLEBLOCK ; Plotted: 5/26/2023 8:37 AM by TIM MATTHEWS ; Saved: 5/26/2023 8:22 AM by TIM

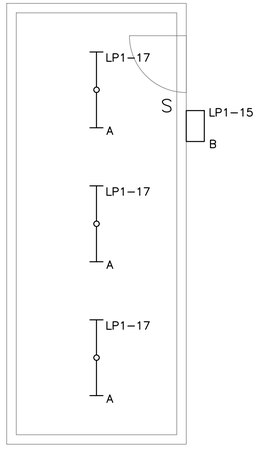
LIGHTING SCHEDULE

TYPE	DESCRIPTION	MANFACTURER	LAMPS	MOUNTING	NOTES
A	4' ENCLOSED AND GASKETED NEMA 4X LED LIGHTING FIXTURE WITH FIBERGLASS HOUSING. STAINLESS STEEL LATCHES. RIBBED CLEAR POLY CARBONATE LENS. 120V	COLUMBIA LIGHTING	42W LED 3000K 4714 LUMENS	CEILING SURFACE	MODEL #: LXEM-30ML-RP-EU
B	SMALL LED DOOR LIGHT . 120V	EXO OUTDOOR LIGHTING	21W LED 3000K 2054 LUMENS	WALL SURFACE	MODEL #: SG1-20-3K7-FT-UNV-DBT-EH
C	4' LED FLOOD LIGHT. MOUNTED IN FULL CUTOFF POSITION. 120V	KIM LIGHTING	124W LED 3000K 12,565 LUMENS	BEAM MOUNTED 50' AFF	MODEL #: INT-4-48L-125-3K7-HF-UNV-DBT-MGF
	NEMA 4X EMERGENCY BATTERY UNIT 120V	DUAL-LITE	8W LED	WALL SURFACE	MODEL #: DYNHL-12I-4X

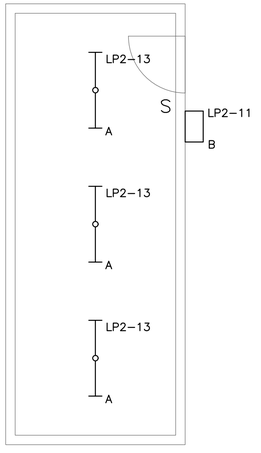
1 LIGHTING SCHEDULE
SCALE: NOT TO SCALE

NOTES:

1. SEE E100 FOR GENERAL NOTES.



2 ELECTRICAL ROOM-1 LIGHTING DETAIL
SCALE: 1/4" = 1'



3 ELECTRICAL ROOM-2 LIGHTING DETAIL
SCALE: 1/4" = 1'

80% DRAFT
SUBMITTED DATE: MAY 26, 2023

Jacobs

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

DATE
APPROVED
COMMISSIONER:
CHIEF ENGINEER:

SIGNATURE
P.E. NUMBER
DATE

PROJECT INFORMATION
PROGRAM
PROJECT MANAGER
DESIGNER
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

PORT INFRASTRUCTURE DEVELOPMENT PROGRAM (PIDP) GRANT
PRIORITY PROJECTS DESIGN & CONSTRUCTION PHASE SERVICES
PORTLAND, ME
CUMBERLAND, COUNTY

ELECTRICAL LIGHTING
SCHEDULE & PART PLANS

SHEET NUMBER
E201

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2D
Screenshot

Text Amendments to Articles 3 and 12 of the Land Use Code:
Definitions and Floodplain Management
Applicant, City of Portland

Submitted to:	Portland Planning Board	**Prepared By:**	Ann Machado, Zoning Administrator Nell Donaldson, Dir. of Special Projects Natasha Kypfer, Senior Planner
Public Hearing Date:	March 26, 2024	**Date:**	March 22, 2024

I. INTRODUCTION

At the hearing on March 26, the Planning Board will review text amendments and make a recommendation to City Council relative to Articles 3 (Definitions) and 12 (Floodplain Management) of the Land Use Code, which are required to maintain the City's standing in the National Flood Insurance Program (NFIP). The deadline for adoption of these text amendments by the City Council is June 20, 2024, based upon the State-mandated timeline for the City of Portland to continue to remain as a partner in (and maintain affiliation with) the NFIP.

The Planning and Urban Development Department posted a legal advertisement for this meeting, which ran in the March 16, 2024, and March 19, 2024 editions of the *Portland Press Herald*.

II. BACKGROUND AND CONTEXT

The National Flood Insurance Act of 1968 established the National Flood Insurance Program. The NFIP is managed by FEMA, and is voluntary. Its purpose is to allow residents in participating communities to purchase flood insurance provided through the program. In return the community agrees to adopt specific guidelines to reduce flood risk and loss due to flooding. The City of Portland joined the National Flood Insurance Program and adopted the first floodplain management regulations on July 7, 1986 (Ord. No. 660-86, 7-7-86) creating Div. 26A §§ 14-450.1—14-450.8 in Chapter 14 of the City of Portland Code of Ordinances. The floodplain management regulations in Div. 26A were subsequently amended in 1987 and 1998 (Ord. No. 579-87, 6-15-87; Ord. No. 156-98, 11-16-98). The most recent amended version of the floodplain management regulations went into effect on December 1, 2020, approved by the City Council under Recode Phase 1 (Ord. No. 103-20/21), and are located in Article 12 of the Land Use Code.

The original floodplain management regulations and subsequent amended versions were adopted from model ordinances created by the Maine Floodplain Management Program, currently located in the Maine Department of Agriculture, Conservation & Forestry. As part of the NFIP, the City is required to update the floodplain ordinance anytime FEMA makes major changes, and the Maine Floodplain Management Program Coordinator must approve any changes to the City's floodplain ordinance based on the current model ordinance (Attachment A). Under the current proposed changes, the City has chosen to put the definitions from the model floodplain ordinance into Article 3 of the Land Use Code, so both Article 12 and Article 3 need to be amended.

In addition to the floodplain management regulations, the NFIP also creates Flood Insurance Rate Maps (FIRMs) (Attachment B). These maps indicate the areas within the City that are located in a Special Flood Hazard Area (SFHA) and need to meet the requirements currently outlined in Article 12 of the Land Use Code. SFHAs are broken down into different categories and include zones A, AE, AO, AH, AR, and VE. All of

these zones include a Base Flood Elevation (BFE), except for zone A. The BFE is measured in feet from 0' at mean sea level. The first FEMA FIRMs in the City of Portland went into effect on July 17, 1986. Some of the individual FIRMs were revised in 1998 by FEMA and other FIRMs along the Fore River, the waterfront, and Fall Brook were revised by Letters of Map Revisions (LOMRs) approved by FEMA in 2012 and 2014.

FEMA proposed updated maps for Cumberland County in 2009 and 2013. Both times, the City of Portland, with the assistance of a consultant and in collaboration with surrounding communities, questioned the methodology that FEMA had used, claiming that a more precise methodology existed. Using the more precise methodology, FEMA proposed new FIRMs on April 14, 2017. After FEMA released the maps, there was an appeal period where communities could challenge them. Portland and other communities in Cumberland County hired a consultant and outside legal counsel to request revisions to the FEMA maps. FEMA did not accept the requested revisions at the time, due to a mathematical conversion error.

It should be noted that, after FEMA denied the City's requested revisions during the appeal period, the City's consultant submitted applications for Letters of Map Revision (LOMRs) for several of the FEMA FIRMs. A LOMR has the effect of modifying a FIRM. FEMA has since approved the LOMRs, which will be incorporated into the FEMA FIRMs effective June 21, 2024 (Attachment D).

On December 20, 2023, FEMA issued the Letter of Final Determination (LFD), which is a letter FEMA mails to the Chief Executive Officer of a community stating that a new or updated FIRM will become effective in six months. A certified copy was mailed to the Mayor (Attachment C). Under FEMA requirements, the new FIRMs go into effect on June 20, 2024, six months after the LFD was issued. The City is required to amend its floodplain management regulations (Article 3 and Article 12) and have them accepted by the State Floodplain Management Program in advance of this date. The new FIRMs will be adopted in conjunction with the revisions to Article 3 and Article 12.

Overall, the new FIRMs will have various impacts on the properties that are located along the shoreline and inland water bodies that flood. These changes include:

- Properties being removed from or added to a SFHA
- BFEs increasing or decreasing
- Changes to a property's SFHA designation (zone)

The new FIRMs are available for public viewing at:
https://portlandme.maps.arcgis.com/apps/webappviewer/index.html?id=975da31f7aff455d8da5ae0776efac55

III. PROCESS TO DATE AND PROPOSED TEXT AMENDMENTS

Once the City received the LFD on the FEMA FIRMs, a working group was formed, consisting of the City's Emergency Management Coordinator and various members from the Planning and Urban Development Department, the Permitting and Inspections Department, the Public Works Department, and Corporation Counsel. The working group has been meeting periodically to outline the steps that need to be taken to adopt revisions to the City's floodplain management regulations in advance of the June 20, 2024 FEMA deadline.

One critical action that was completed by the working group consisted of updating all City website pages referencing the approved FEMA flood maps. In addition, all flood map viewers were updated with new links and attachments, making these materials available for public viewing.

The next step was to update Article 3 (Definitions) and Article 12 (Floodplain Management) based on the model ordinance created by the Maine Floodplain Management Program (Attachment A). Amendments required by the State include:

- Updates to the purpose statement
- The incorporation of new floodplain definitions
- Updates to permit application requirements
- The addition of standards for utilities and physical changes to the natural landscape within SFHAs
- Modifications to standards for manufactured homes, accessory structures, floodways, wharfs, piers, docks, and coastal floodplains within SFHAs
- The addition of a conditional use review procedure
- Modifications to submission requirements for certificates of compliance
- The addition of standards for review of subdivision and site plan
- Updates to variances and appeals language, to add standards for specific variances and to outline appeal procedure

The draft amendments to Article 3 and Article 12 (Attachments E & F) are a direct response to the State's model ordinance, which must be followed as part of the NFIP.

The working group sent initial draft amendments to the members of the State's Floodplain Management Program for review on February 9, 2024. These were the draft amendments reviewed by the Planning Board at their February 28 workshop. At the Planning Board workshop, the Board members asked questions pertaining to definitions and review standards for certain structures and sought confirmation that the amendments outlined in the model ordinance must be adopted in order to remain within the NFIP.

The working group received initial feedback on February 23, 2024 and, based on this feedback and Planning Board input, made another round of revisions which were resubmitted to the State on March 1, 2024. The State requested three minor changes on March 15, 2024, which have been incorporated into the final redlines attached.

Since the Planning Board last reviewed the draft amendments, the following edits have been made:

Article 3

- Modified the definition for "adjacent grade," based on comments from the Planning Board, to clarify that the adjacent grade terminology is specific to the floodplain ordinance
- Added several definitions which had previously not been included, including 'elevation certificate,' 'floodplain management,' and 'floodplain management regulations,' and revised definitions as required by the State

Article 12

- Consolidated terms related to structure types, updated the definition of 'structure' to match the State's model ordinance, and added the definition of 'historic structure' and 'manufactured home'
- Added the state's floodplain 'development' definition, so as not to cause confusion with the remainder of the Code, and revised the definition of 'substantial improvement' to match the state's model ordinance

- Revised the flood hazard development permit submittal requirements and review process based on the state's model ordinance, maintaining references to the Zoning Board of Appeals as the review authority for variances and conditional uses
- Updated the review standards under Section 12.4.5 to match the state's model ordinance

IV. PUBLIC COMMENT

As of the writing of this memo, zero written public comment has been received on this item.

V. CONSISTENCY WITH MAINE STATE FLOODPLAIN MANAGEMENT PROGRAM REQUIREMENTS + THE COMPREHENSIVE PLAN

Staff finds that the proposed text amendments are consistent with *Portland's Plan 2030,* in that they meet the State's Floodplain Management Program requirements and thereby allow the City to maintain standing with the National Flood Insurance Program, which is called out specifically as a goal of the comprehensive plan. *Portland's Plan* states that the City should "[c]ontinue to participate in the FEMA Community Rating System, which qualifies the City for discounts on flood insurance and certain emergency financial assistance" (21) and also suggests that the City "[i]ntegrate best practices for adaptive waterfront strategies, including adaptive construction techniques, stormwater infrastructure and utilities, site protection, floodproofing, and risk avoidance, into the City's technical standards and land use code" (36).

VI. NEXT STEPS

Following the public hearing, City staff will proceed to the City Council for review of the amended Land Use Code, Article 3 and Article 12. An initial workshop with the Council will be held on March 25, 2024.

VII. PROPOSED MOTION

On the basis of materials provided in this memo dated March 22, 2024, public testimony, and other information provided during the Planning Board's review process and at the March 26, 2024 public hearing, the Planning Board [finds / does not find] that the proposed amendments to the land use code within Article 3 and Article 12 to meet the State of Maine Floodplain Management Program requirements [are / are not] consistent with *Portland's Plan 2030*, and therefore [recommends / does not recommend] adoption of said amendments to the City Council.

VIII. ATTACHMENTS

A. Model Floodplain Management Ordinance, from Maine Floodplain Management Program
B. Preliminary FEMA FIRMs, Effective June 20, 2024
C. Letter of Final Determination, Issued December 20, 2023
D. LOMRs Memo with FEMA Definitions Sheet
E. Land Use Code, Article 3: Definitions, Redline
F. Land Use Code, Article 12: Floodplain Management, Redline

FLOODPLAIN MANAGEMENT ORDINANCE

FOR THE

CITY OF PORTLAND, MAINE

ENACTED: _____
Date

EFFECTIVE: _____
Date

CERTIFIED BY: _____
Signature

CERTIFIED BY: _____
Print Name

_____
Title

Affix Seal

FLOODPLAIN MANAGEMENT ORDINANCE

CONTENTS

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ARTICLE I - PURPOSE AND ESTABLISHMENT

Certain areas of the City of Portland, Maine are subject to periodic flooding, causing serious damages to properties within these areas. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968.

Therefore, the City of Portland, Maine has chosen to become a participating community in the National Flood Insurance Program and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended) as delineated in this Floodplain Management Ordinance.

It is the intent of the City of Portland, Maine to require the recognition and evaluation of flood hazards in all official actions relating to land use in the floodplain areas having special flood hazards.

The City of Portland has the legal authority to adopt land use and control measures to reduce future flood losses pursuant to Title 30-A MRSA, Sections 3001-3007, 4352, 4401-4407, and Title 38 MRSA, Section 440.

The National Flood Insurance Program, established in the aforesaid Act, provides that areas of the City of Portland having a special flood hazard be identified by the Federal Emergency Management Agency and that floodplain management measures be applied in such flood hazard areas. This Ordinance establishes a Flood Hazard Development Permit system and review procedure for development activities in the designated flood hazard areas of the City of Portland, Maine.

The areas of special flood hazard, Zones A, AE, AO, AH, and VE for the City of Portland, Cumberland County, Maine, identified by the Federal Emergency Management Agency in a report entitled "Flood Insurance Study – Cumberland County, Maine" dated June 20, 2024, with accompanying "Flood Insurance Rate Map" dated June 20, 2024, are hereby adopted by reference and declared to be a part of this Ordinance.

ARTICLE II - PERMIT REQUIRED

The Building Authority shall be designated as the local Floodplain Administrator. The Floodplain Administrator shall have the authority to implement the commitment made to administer and enforce the requirements for participation in the National Flood Insurance Program.

Before any construction or other development (as defined in Article XIV), including the placement of manufactured homes, begins within any areas of special flood hazard established in Article I, a Flood Hazard Development Permit shall be obtained from the Building Authority, except as provided in Article VII. This permit shall be in addition to any other permits which may be required pursuant to the codes and ordinances of the City of Portland, Maine.

ARTICLE III - APPLICATION FOR PERMIT

The application for a Flood Hazard Development Permit shall be submitted to the Building Authority and shall include:

A. The name, address, and phone number of the applicant, owner, and contractor;

B. An address and a map indicating the location of the construction site;

C. A site plan showing locations of existing and/or proposed development, including but not limited to structures, sewage disposal facilities, water supply facilities, areas to be cut and filled, and lot dimensions;

D. A statement of the intended use of the structure and/or development;

E. A statement of the cost of the development including all materials and labor;

F. A statement as to the type of sewage system proposed;

G. Specification of dimensions of the proposed structure and/or development;

[Items H-K.3. apply only to new construction and substantial improvements.]

H. The elevation in relation to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or to a locally established datum in Zone A only, of the:

1. base flood at the proposed site of all new or substantially improved structures, which is determined:

   a. in Zones AE, AO, AH, and VE from data contained in the "Flood Insurance Study - Cumberland County, Maine," as described in Article I; or,

   b. in Zone A:

      (1) from any base flood elevation data from federal, state, or other technical sources (such as FEMA's Quick-2 model, FEMA 265), including information obtained pursuant to Article VI.M. and IX.D.; or,

      (2) in the absence of all data described in Article III.H.1.b.(1), information to demonstrate that the structure shall meet the elevation requirement in Article VI.H.4.b., Article VI.I.4.b., or Article VI.J.4.b.

2. highest and lowest grades at the site adjacent to the walls of the proposed building;

3. lowest floor, including basement; and whether or not such structures contain a basement;

4. lowest machinery and equipment servicing the building; and,

5. level, in the case of non-residential structures only, to which the structure will be floodproofed.

I. A description of an elevation reference point established on the site of all developments for which elevation standards apply as required in Article VI;

J. A written certification by:

1. a Professional Land Surveyor that the grade elevations shown on the application are accurate; and,

2. a Professional Land Surveyor, registered professional engineer or architect that the base flood elevation shown on the application is accurate.

K. The following certifications as required in Article VI by a registered professional engineer or architect:

1. a Floodproofing Certificate (FEMA Form FF-206-FY-22-153, as amended), to verify that the floodproofing methods for any non-residential structures will meet the floodproofing criteria of Article VI.I., and other applicable standards in Article VI;

2. a V-Zone Certificate to verify that the construction in coastal high hazard areas, Zone VE and Coastal AE Zone, will meet the criteria of Article VI.R.; and other applicable standards in Article VI;

3. a Hydraulic Openings Certificate to verify that engineered hydraulic openings in foundation walls will meet the standards of Article VI.N.2.a.;

4. a certified statement that bridges will meet the standards of Article VI.O.;

5. a certified statement that containment walls will meet the standards of Article VI.P.

L. A description of the extent to which any water course will be altered or relocated as a result of the proposed development; and,

M. A statement of construction plans describing in detail how each applicable development standard in Article VI will be met.

ARTICLE IV - APPLICATION FEE AND EXPERT'S FEE

A non-refundable application fee as established by the City Council for all minor development and for all new construction or substantial improvements shall be paid to the Building Authority and a copy of a receipt for the same shall accompany the application.

An additional fee may be charged if the Code Enforcement Officer, Planning Board, and/or Board of Appeals needs the assistance of a professional engineer or other expert. The expert's fee shall be paid in full by the applicant within 10 days after the town submits a bill to the applicant. Failure to pay the bill shall constitute a violation of the ordinance and be grounds for the issuance of a stop work order. An expert shall not be hired by the municipality at the expense of an applicant until the applicant has either consented to such hiring in writing or been given an opportunity to be heard on the subject. An applicant

who is dissatisfied with a decision to hire expert assistance may appeal that decision to the Board of Appeals.

ARTICLE V - REVIEW STANDARDS FOR FLOOD HAZARD DEVELOPMENT PERMIT APPLICATIONS

The Building Authority shall:

A. Review all applications for the Flood Hazard Development Permit to assure that proposed developments are reasonably safe from flooding and to determine that all pertinent requirements of Article VI (Development Standards) have been, or will be met;

B. Utilize, in the review of all Flood Hazard Development Permit applications:

1. the base flood and floodway data contained in the "Flood Insurance Study - Cumberland County, Maine," as described in Article I;

2. in special flood hazard areas where base flood elevation and floodway data are not provided, the Building Authority shall obtain, review, and reasonably utilize any base flood elevation and floodway data from federal, state, or other technical sources, including information obtained pursuant to Article III.H.1.b.(1); Article VI.M.; and Article IX.D., in order to administer Article VI of this Ordinance; and,

3. when the community establishes a base flood elevation in a Zone A by methods outlined in Article III.H.1.b.(1), the community shall submit that data to the Maine Floodplain Management Program.

C. Make interpretations of the location of boundaries of special flood hazard areas shown on the maps described in Article I of this Ordinance;

D. In the review of Flood Hazard Development Permit applications, determine that all necessary permits have been obtained from those federal, state, and local government agencies from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1344;

E. Notify adjacent municipalities, the Department of Environmental Protection, and the Maine Floodplain Management Program prior to any alteration or relocation of a water course and submit copies of such notifications to the Federal Emergency Management Agency;

F. If the application satisfies the requirements of this Ordinance, approve the issuance of one of the following Flood Hazard Development Permits, based on the type of development:

1. 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 an “under construction” Elevation Certificate completed by a Professional Land Surveyor based on the Part

I permit construction for verifying compliance with the elevation requirements of Article VI, paragraphs H., I., J., or R. Following review of the Elevation Certificate data, which shall take place within 72 hours of receipt of the application, 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; or,

2. A Flood Hazard Development Permit for Floodproofing of Non-Residential Structures that are new construction or substantially improved non-residential structures that are not being elevated but that meet the floodproofing standards of Article VI.I.1. The application for this permit shall include a Floodproofing Certificate signed by a registered professional engineer or architect; or,

3. A Flood Hazard Development Permit for Minor Development for all development that is not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. Minor development also includes but is not limited to: accessory structures as provided for in Article VI.L., mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures; and non-structural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers.

For development that requires review and approval as a Conditional Use, as provided for in this Ordinance, the Flood Hazard Development Permit Application shall be acted upon by the Planning Board as required in Article VII.

G. 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 Article X of this Ordinance, and copies of Elevation Certificates, Floodproofing Certificates, Certificates of Compliance, and certifications of design standards required under the provisions of Articles III, VI, and VIII of this Ordinance.

ARTICLE VI - DEVELOPMENT STANDARDS

All developments in areas of special flood hazard shall meet the following applicable 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 development 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; and,

4. use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located 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. **Watercourse Carrying Capacity** - All development associated with altered or relocated portions of a watercourse shall be constructed and maintained in such a manner that no reduction occurs in the flood carrying capacity of the watercourse.

F. **Utilities** - New construction or substantial improvement of any structure (including manufactured homes) located within:

1. Zones A, AE, AO, and AH shall have the bottom of all electrical, heating, plumbing, ventilation and air conditioning equipment, permanent fixtures and components, HVAC ductwork and duct systems, and any other utility service equipment, facilities, machinery, or connections servicing a structure, elevated to at least two feet above the base flood elevation.

2. Zone VE shall meet the requirements of Article VI.R.2.

G. **Physical Changes to the Natural Landscape -** Certain development projects, including but not limited to, retaining walls, sea walls, levees, berms, and rip rap, can cause physical changes that affect flooding conditions.

1. All development projects in Zones AE and VE that cause physical changes to the natural landscape shall be reviewed by a Professional Engineer to determine whether or not the project changes the base flood elevation, zone, and/or the flood hazard boundary line.

   a. If the Professional Engineer determines, through the use of engineering judgement, that the project would not necessitate a Letter of Map Revision (LOMR), a certified statement shall be provided.

   b. If the Professional Engineer determines that the project may cause a change, a hydrologic and hydraulic analysis that meets current FEMA standards shall be performed.

2. If the hydrologic and hydraulic analysis performed indicates a change to the base flood elevation, zone, and/or the flood hazard boundary line, the applicant may submit a Conditional Letter of Map Revision (C-LOMR) request to the Federal Emergency Management Agency for assurance

that the as-built project will result in a change to the Flood Insurance Rate Map. Once the development is completed, a request for a Letter of Map Revision (LOMR) shall be initiated.

3. If the hydrologic and hydraulic analysis performed show a change to the base flood elevation, zone, and/or the flood hazard boundary line, as soon as practicable, but no later than 6 months after the completion of the project, the applicant shall submit the technical data to FEMA in the form of a Letter of Map Revision request.

H. **Residential** - New construction or substantial improvement of any residential structure located within:

1. Zones AE, AO, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation.

2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide floodwater 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:

   a. to at least two feet above the base flood elevation utilizing information obtained pursuant to Article III.H.1.b.(1); Article V.B.; or Article IX.D., or;

   b. in the absence of all data described in Article VI.H.4.a., to at least two feet above the highest adjacent grade to the structure.

5. Zone VE and Coastal AE Zone (as defined) shall meet the requirements of Article VI.R.

I. **Non-Residential** - New construction or substantial improvement of any non-residential structure located within:

1. Zones AE, AO, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation, or together with attendant utility and sanitary facilities shall:

   a. be floodproofed to at least two feet above the base flood elevation so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water;

b. have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy; and,

c. be certified by a registered professional engineer or architect that the floodproofing 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 Article III.K., 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 floodwater 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 section and floodproofing standards of Article VI.I.1.

4. Zone A shall have the lowest floor (including basement) elevated:

a. to at least two feet above the base flood elevation utilizing information obtained pursuant to Article III.H.1.b.(1); Article V.B.; or Article IX.D., or;

b. in the absence of all data described in Article VI.I.4.a., to at least two feet above the highest adjacent grade to the structure; or,

c. together with attendant utility and sanitary facilities, be floodproofed to two feet above the elevation established in Article VI.I.4.a. or b. and meet the floodproofing standards of Article VI.I.1.a., b., and c.

5. Zone VE and Coastal AE Zone (as defined) shall meet the requirements of Article VI.R.

J. **Manufactured Homes** - New or substantially improved manufactured homes located within:

1. Zones AE, AO, and AH shall:

a. be elevated such that the lowest floor (including basement) of the manufactured home is at least two feet above the base flood elevation;

b. be on a permanent foundation, which may be poured masonry slab or foundation walls, with hydraulic openings, or may be reinforced piers or block supports, any of which support the manufactured home so that no weight is supported by its wheels and axles; and,

c. be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to:

(1) 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); or by,

(2) 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).

(3) All components of the anchoring system described in Article VI.J.1.c.(1) & (2) shall be capable of carrying a force of 4800 pounds.

2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide floodwater away from the proposed structures.

3. Zone AO shall have the lowest floor (including basement) of the manufactured home 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 anchoring requirements of Article VI.J.1.c.

4. Zone A shall:

a. be elevated on a permanent foundation, as described in Article VI.J.1.b., such that the lowest floor (including basement) of the manufactured home is at least two feet above the base flood elevation utilizing information obtained pursuant to Article III.H.1.b.(1); Article V.B.; or Article IX.D.; or,

b. in the absence of all data described in Article VI.J.4.a., to at least two feet above the highest adjacent grade to the structure; and,

c. meet the anchoring requirements of VI.J.1.c.

5. Zone VE and Coastal AE Zone (as defined) shall meet the requirements of Article VI.R.

K. **Recreational Vehicles** - Recreational Vehicles located within:

1. Zones A, AE, AO, and AH shall either:

   a. be on the site for fewer than 180 consecutive days; and,

   b. be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or,

   c. be permitted in accordance with the elevation and anchoring requirements for "manufactured homes" in Article VI.J.1.

2. Zone VE and Coastal AE Zone (as defined) shall meet the requirements of either Article VI.K.1.a. and b., or Article VI.R.

L. **Accessory Structures** - New construction or substantial improvement of Accessory Structures, as defined in Article XIV, shall be exempt from the elevation criteria required in Article VI.H. & I. above, if all other requirements of Article VI and all the following requirements are met.

1. Accessory Structures located in Zone A, AE, AO, and AH, shall:

   a. meet the requirements of Article VI.A.1. through 4., as applicable;

   b. be limited in size to a one-story two car garage;

   c. have unfinished interiors and not be used for human habitation;

   d. have 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;

   e. be located outside the floodway;

   f. when possible be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters and be placed further from the source of flooding than is the primary structure;

   g. have hydraulic openings, as specified in Article VI.N.2., in at least two different walls of the accessory structure; and

   h. be located outside the Coastal AE Zone.

2. Accessory Structures in Zone VE and Coastal A Zones shall meet the requirements of Article VI.R.

M. **Floodways** -

1. In Zone AE riverine areas, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted within a regulatory floodway which is designated on the community's Flood Insurance Rate Map unless a technical evaluation certified by a registered professional engineer is provided demonstrating that such encroachments will not result in any increase in flood levels within the community during the occurrence of the base flood discharge.

2. In Zones A and AE riverine areas, for which no regulatory floodway is designated, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted in the floodway as determined in Article VI.M.3. 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; and,

    b. is consistent with the technical criteria contained in FEMA's guidelines and standards for flood risk analysis and mapping.

3. In Zones A and AE riverine areas, for which no regulatory floodway is designated, the regulatory floodway is determined to be the channel of the river or other water course and the adjacent land areas to a distance of one-half the width of the floodplain as measured from the normal high water mark to the upland limit of the floodplain.

N. **Hydraulic Openings/Flood Vents -** New construction or substantial improvement of any structure in Zones A, AE, AO, and AH, that meets the development standards of Article VI, including the elevation requirements of Article VI, paragraphs H., I., or J. and is elevated on posts, columns, piers, piles, or crawl spaces may be enclosed below the base flood elevation requirements provided all the following criteria are met or exceeded:

1. Enclosed areas are not "basements" as defined in Article XIV;

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:

        (1) 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;

(2) the bottom of all openings shall be below the base flood elevation and no higher than two feet above the lowest grade; and,

(3) 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; and,

4. The enclosed areas are usable solely for building access, parking of vehicles, or storage.

O. **Bridges** - New construction or substantial improvement of any bridge in Zones A, AE, AO, AH, and VE shall be designed such that:

1. when possible, the lowest horizontal member (excluding the pilings or columns) is elevated to at least two feet above the base flood elevation; and,

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 Article VI.M.; and,

b. the foundation and superstructure attached thereto are designed to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all structural components. Water loading values used shall be those associated with the base flood.

P. **Containment Walls -** New construction or substantial improvement of any containment wall located within:

1. Zones A, AE, AO, AH, and VE shall:

a. have the containment wall elevated to at least two feet above the base flood elevation;

b. have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy; and,

c. be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Article III.K.

2. Zones AO and AH shall have adequate drainage paths around containment walls on slopes, to guide floodwater away from the proposed walls.

3. Zone AO shall have the top of the containment wall elevated above the highest adjacent grade:

   a. at least two feet higher than the depth specified in feet on the community's Flood Insurance Rate Map; or,

   b. at least three feet if no depth number is specified; and,

   c. shall meet the requirements of Article VI.P.1.b. & c.

Q. **Wharves, Piers, and Docks** - New construction or substantial improvement of wharves, piers, and docks are permitted in and over water and seaward of the mean high tide if the following requirements are met:

1. in Zones A, AE, AO, and AH, wharves, piers, and docks shall comply with all applicable local, state, and federal regulations; or,

2. in Zone VE, wharves, piers, and docks shall have a registered professional engineer develop or review the structural design, specifications, and plans for the construction.

R. **Coastal Floodplains** -

1. New construction located within Zones AE and VE shall be located landward of the reach of mean high tide except as provided in Article VI.R.7.

2. New construction or substantial improvement of any structure located within Zone VE or Coastal AE Zone shall have the bottom of all electrical, heating, plumbing, ventilation and air conditioning equipment, permanent fixtures and components, HVAC ductwork and duct systems, and any other utility service equipment, facilities, machinery, or connections servicing a structure, elevated to at least two feet above the base flood elevation. Systems, fixtures, equipment, and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

3. New construction or substantial improvement of any structure located within Zone VE and Coastal AE Zones (as defined) shall:

   a. be elevated on posts or columns such that:

      (1) the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to at least two feet above the base flood elevation;

      (2) 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; and,

      (3) 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.

b. have the space below the lowest floor:

(1) free of obstructions; or,

(2) 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,

(3) constructed with non-supporting breakaway walls that have a design safe loading resistance of not less than 10 or more than 20 pounds per square foot.

c. require a registered professional engineer or architect to:

(1) 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); and,

(2) certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the criteria of Article VI.R.3.

4. The use of fill for structural support in Zone VE and Coastal AE Zones is prohibited.

5. Human alteration of sand dunes within Zone VE and Coastal AE Zones is prohibited unless it can be demonstrated that such alterations will not increase potential flood damage.

6. The area below the lowest floor shall be used solely for parking vehicles, building access, and storage.

7. Conditional Use - Lobster sheds and fishing sheds may be located seaward of mean high tide and shall be exempt from the elevation requirement in Article VI.I. only if permitted as a Conditional Use following review and approval by the Planning Board, as provided in Article VII, and if all the following requirements and those of Article VI.A., VI.M., and VI.N. are met:

a. The conditional use shall be limited to low value structures such as metal or wood sheds 200 square feet or less and shall not exceed more than one story.

b. The structure shall be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.

c. The structure will not adversely increase wave or debris impact forces affecting nearby buildings.

d. The structure shall have unfinished interiors and shall not be used for human habitation.

e. Any mechanical, utility equipment, and fuel storage tanks must be anchored and either elevated or floodproofed to at least two feet above the base flood elevation.

f. All electrical outlets shall be ground fault interrupt type. The electrical service disconnect shall be located on shore above the base flood elevation and, when possible, outside the Special Flood Hazard Area.

ARTICLE VII - CONDITIONAL USE REVIEW

The Planning Board shall hear and decide upon applications for conditional uses provided for in this Ordinance. The Planning Board shall hear and approve, approve with conditions, or disapprove all applications for conditional uses. An applicant informed by the Building Authority that a Conditional Use Permit is required shall file an application for the permit with the Planning Board.

A. Review Procedure for a Conditional Use Flood Hazard Development Permit

1. The Flood Hazard Development Permit Application with additional information attached addressing how each of the conditional use criteria specified in the Ordinance will be satisfied may serve as the permit application for the Conditional Use Permit.

2. Before deciding any application, the Planning Board shall hold a public hearing on the application within thirty days of their receipt of the application.

3. If the Planning Board finds that the application satisfies all relevant requirements of the ordinance, the Planning Board must approve the application or approve with conditions within 45 days of the date of the public hearing.

4. A Conditional Use Permit issued under the provisions of this Ordinance shall expire if the work or change involved is not commenced within 180 days of the issuance of the permit by the Planning Board.

5. The applicant shall be notified by the Planning Board in writing over the signature of the Chairman of the Planning Board that flood insurance is not available for structures located entirely over water or seaward of mean high tide.

B. Expansion of Conditional Uses

1. No existing building or use of premises may be expanded or enlarged without a permit issued under this section if that building or use was established or constructed under a previously issued Conditional Use Permit or if it is a building or use which would require a Conditional Use Permit if being newly-established or constructed under this Ordinance.

ARTICLE VIII - CERTIFICATE OF COMPLIANCE

No land in a special flood hazard area shall be occupied or used and no structure which is constructed or substantially improved shall be occupied until a Certificate of Compliance is issued by the Building Authority subject to the following provisions:

A. For New Construction or Substantial Improvement of any elevated structure the applicant shall submit to the Building Authority:

    1. an Elevation Certificate completed by a Professional Land Surveyor for compliance with Article VI, paragraphs H., I., J., or R.; and,

    2. for structures in Zone VE and Coastal AE Zone (as defined), certification by a registered professional engineer or architect that the design and methods of construction used are in compliance with Article VI.R.3.

B. The applicant shall submit written notification to the Building Authority that the development is complete and complies with the provisions of this ordinance.

C. Within 10 working days, the Building Authority shall:

    1. review the required certificate(s) and the applicant's written notification; and,

    2. upon determination that the development conforms to the provisions of this ordinance, shall issue a Certificate of Compliance.

ARTICLE IX - REVIEW OF SUBDIVISION AND DEVELOPMENT PROPOSALS

The Planning Board shall, when reviewing subdivisions and other proposed developments that require review under other federal law, state law, local ordinances or regulations, and all projects on 5 or more disturbed acres, or in the case of manufactured home parks divided into two or more lots, assure that:

A. All such proposals are consistent with the need to minimize flood damage.

B. All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damages.

C. Adequate drainage is provided so as to reduce exposure to flood hazards.

D. All proposals include base flood elevations, flood boundaries, and, in a riverine floodplain, floodway data. These determinations shall be based on engineering practices recognized by the Federal Emergency Management Agency.

E. Any proposed development plan must include a condition of plan approval requiring that structures on any lot in the development having any portion of its land within a Special Flood Hazard Area are to be constructed in accordance with Article VI of this ordinance. Such requirement will be included in any deed, lease, purchase and sale agreement, or document transferring or expressing an intent to transfer any interest in real estate or structure, including but not limited to a time-share interest. The

condition shall clearly articulate that the municipality may enforce any violation of the construction requirement and that fact shall also be included in the deed or any other document previously described. The construction requirement shall also be clearly stated on any map, plat, or plan to be signed by the Planning Board or local reviewing authority as part of the approval process.

ARTICLE X - APPEALS AND VARIANCES

The Board of Appeals of the City of Portland may, upon written application of an aggrieved party, hear and decide appeals where it is alleged that there is an error in any order, requirement, decision, or determination made by, or failure to act by, the Code Enforcement Officer or Planning Board in the administration or enforcement of the provisions of this Ordinance.

The Board of Appeals may grant a variance from the requirements of this Ordinance consistent with state law and the following criteria:

A. Variances shall not be granted within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

B. Variances shall be granted only upon:

1. a showing of good and sufficient cause; and,

2. 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, public expense, or create nuisances, cause fraud or victimization of the public, or conflict with existing local laws or ordinances; and,

3. a showing that the issuance of the variance will not conflict with other state, federal, or local laws or ordinances; and,

4. a determination that failure to grant the variance would result in "undue hardship," which in this sub-section means:

    a. that the land in question cannot yield a reasonable return unless a variance is granted; and,

    b. that the need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood; and,

    c. that the granting of a variance will not alter the essential character of the locality; and,

    d. that the hardship is not the result of action taken by the applicant or a prior owner.

C. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief, and the Board of Appeals may impose such conditions to a variance as is deemed necessary.

D. 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 Article X.A. through C. and Article VI.M. are met; and,

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.

E. 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 Article X.A. through C.; and,

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.

F. Variances may be issued for new construction and substantial improvement of Agricultural Structures being used for the conduct of agricultural uses provided that:

1. the development meets the criteria of Article X.A. through C.; and,

2. the development meets the criteria of Article VI.M. and Article VI.N.

G. Any applicant who meets the criteria of Article X.A. through C. and Article X.D., E., or F. shall be notified by the Board of Appeals in writing over the signature of the Chairman 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; and,

2. such construction below the base flood level increases risks to life and property; and,

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 floodplain and that the applicant individually releases the municipality from any claims the applicant may have against the municipality that are related to the use of land located in a floodplain.

H. Appeal Procedure for Administrative and Variance Appeals

1. An administrative or variance appeal may be taken to the Board of Appeals by an aggrieved party within thirty days after receipt of a written decision of the Code Enforcement Officer or Planning Board.

2. Upon being notified of an appeal, the Code Enforcement Officer or Planning Board, as appropriate, shall transmit to the Board of Appeals all of the documents constituting the record of the decision appealed from.

3. The Board of Appeals shall hold a public hearing on the appeal within thirty-five days of its receipt of an appeal request.

4. The person filing the appeal shall have the burden of proof.

5. The Board of Appeals shall decide all appeals within thirty-five days after the close of the hearing and shall issue a written decision on all appeals.

6. 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.

7. Any aggrieved party who participated as a party during the proceedings before the Board of Appeals may take an appeal to Superior Court in accordance with State laws within forty-five days from the date of any decision of the Board of Appeals.

ARTICLE XI - ENFORCEMENT AND PENALTIES

A. It shall be the duty of the Code Enforcement Officer to enforce the provisions of this Ordinance pursuant to Title 30-A MRSA § 4452.

B. The penalties contained in Title 30-A MRSA § 4452 shall apply to any violation of this Ordinance.

C. In addition to other actions, the Code Enforcement Officer, upon identifying a violation, may submit a declaration to the Administrator of the Federal Insurance Administration requesting a flood insurance denial. The valid declaration shall consist of:

1. the name of the property owner and address or legal description of the property sufficient to confirm its identity or location;

2. a clear and unequivocal declaration that the property is in violation of a cited State or local law, regulation, or ordinance;

3. a clear statement that the public body making the declaration has authority to do so and a citation to that authority;

4. evidence that the property owner has been provided notice of the violation and the prospective denial of insurance; and,

5. a clear statement that the declaration is being submitted pursuant to Section 1316 of the National Flood Insurance Act of 1968, as amended.

ARTICLE XII - VALIDITY AND SEVERABILITY

If any section or provision of this Ordinance is declared by the courts to be invalid, such decision shall not invalidate any other section or provision of this Ordinance.

ARTICLE XIII - CONFLICT WITH OTHER ORDINANCES

This Ordinance shall not in any way impair or remove the necessity of compliance with any other applicable rule, ordinance, regulation, bylaw, permit, or provision of law. Where this Ordinance imposes a greater restriction upon the use of land, buildings, or structures, the provisions of this Ordinance shall control.

ARTICLE XIV - DEFINITIONS

Unless specifically defined below, words and phrases used in this Ordinance shall have the same meaning as they have at common law, and to give this Ordinance its most reasonable application. Words used in the present tense include the future, the singular number includes the plural, and the plural number includes the singular. The word "may" is permissive; "shall" is mandatory and not discretionary.

Accessory Structure - a structure which is on the same parcel of property as a principal structure and the use of which is incidental to the use of the principal structure.

Adjacent Grade - the natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Agricultural Structure - structures that are used exclusively for agricultural purposes or uses in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock. Structures that house tools or equipment used in connection with these purposes or uses are also considered to have agricultural purposes or uses.

Area of Shallow Flooding - a designated AO and AH zone on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of Special Flood Hazard - land in the floodplain having a one percent or greater chance of flooding in any given year, as specifically identified in the Flood Insurance Study cited in Article I of this Ordinance.

Base Flood - a flood having a one percent chance of being equaled or exceeded in any given year, commonly called the 100-year flood.

Basement - any area of a building that includes a floor that is subgrade (below ground level) on all sides.

Breakaway Wall - a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Building - see **Structure**.

Certificate of Compliance - a document signed by the Code Enforcement Officer stating that a structure is in compliance with all of the provisions of this Ordinance.

Coastal AE Zone - The portion of the Coastal High Hazard Area with wave heights between 1.5 feet and 3.0 feet and bounded by a line labeled the "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM). VE Zone floodplain construction standards are applied to development, new construction, and substantial improvements in the Coastal AE Zone.

Coastal High Hazard Area - An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Coastal High Hazard Areas are designated as Zone VE and Zone AE bounded by a line labeled "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM).

Code Enforcement Officer - a person certified under Title 30-A MRSA, Section 4451 (including exceptions in Section 4451, paragraph 1) and employed by a municipality to enforce all applicable comprehensive planning and land use laws.

Conditional Use - a use that, because of its potential impact on surrounding areas and structures, is permitted only upon review and approval by the Planning Board pursuant to Article VII.

Containment Wall - a wall surrounding all sides of an above ground tank to contain any spills or leaks.

Development - any manmade change to improved or unimproved real estate. This includes, but is not limited to, buildings or other structures; mining, dredging, filling, grading, paving, excavation, drilling operations or storage of equipment or materials; and the storage, deposition, or extraction of materials.

Elevated Building - a non-basement building that is:

a. built, in the case of a building in Zones A, AE, AO, or AH, so that the top of the elevated floor, or in the case of a building in Zone VE or Coastal AE Zone, to have the bottom of the lowest horizontal structural member of the elevated floor, elevated above the ground level by means of pilings, columns, posts, or piers; and,

b. adequately anchored to not impair the structural integrity of the building during a flood of up to two feet above the magnitude of the base flood.

In the case of Zones A, AE, AO, or AH, **Elevated Building** also includes a building elevated by means of fill or solid foundation perimeter walls with hydraulic openings sufficient to facilitate the unimpeded movement of flood waters, as required in Article VI.N. In the case of Zone VE and Coastal AE Zone, **Elevated Building** also includes a building otherwise meeting the definition of elevated building, even

though the lower area is enclosed by means of breakaway walls, if the breakaway walls meet the standards of Article VI.R.3.b.(3).

Elevation Certificate - an official form (FEMA Form FF-206-FY-22-152, as amended) that is used to verify compliance with the floodplain management regulations of the National Flood Insurance Program.

Existing Manufactured Home Park or Subdivision - a manufactured home park or subdivision that was recorded in the deed registry prior to the adoption date of the community's first floodplain management regulations.

Flood or Flooding -

a. A general and temporary condition of partial or complete inundation of normally dry land areas from:

    1. The overflow of inland or tidal waters.

    2. The unusual and rapid accumulation or runoff of surface waters from any source.

b. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph a.1. of this definition.

Flood Elevation Study - an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations.

Flood Insurance Rate Map (FIRM) - an official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community.

Flood Insurance Study - see **Flood Elevation Study**.

Floodplain or Floodprone Area - any land area susceptible to being inundated by water from any source (see **Flood or Flooding**).

Floodplain Management - the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

Floodplain Management Regulations - zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance, and erosion control ordinance), and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing - any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and contents.

Floodway - see **Regulatory Floodway**.

Floodway Encroachment Lines - the lines marking the limits of floodways on federal, state, and local floodplain maps.

Freeboard - a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed, which could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions.

Functionally Dependent Use - a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Historic Structure - any structure that is:

a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary of the Interior to qualify as a registered historic district;

c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or,

d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

    1. By an approved state program as determined by the Secretary of the Interior, or,

    2. Directly by the Secretary of the Interior in states without approved programs.

Limit of Moderate Wave Action (LiMWA) - The landward limit of the 1.5 foot breaking wave within a Coastal AE Zone. These areas are bounded by a line labeled “Limit of Moderate Wave Action” (LiMWA) on a Flood Insurance Rate Map (FIRM). The LiMWA line delineates that portion of the Special Flood Hazard Area (SFHA) landward of a VE zone in which the principal sources of flooding are astronomical high tides, storm surges, or tsunamis, not riverine sources. These areas may be subject to

wave effects, velocity flows, erosion, scour, or combinations of these forces. The floodplain development and construction standards for VE Zones will be applied in the Coastal AE Zone.

Locally Established Datum - for purposes of this ordinance, an elevation established for a specific site to which all other elevations at the site are referenced. This elevation is generally not referenced to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or any other established datum and is used in areas where Mean Sea Level data is too far from a specific site to be practically used.

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 described in Article VI.N. of this Ordinance.

Manufactured Home - a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

Manufactured Home Park or Subdivision - a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level - for the purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD), or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

Minor Development - all development that is not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. It also includes but is not limited to: accessory structures as provided for in Article VI.L., mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures; and non-structural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers.

National Geodetic Vertical Datum (NGVD) - the national vertical datum, a standard established in 1929, which is used by the National Flood Insurance Program (NFIP). NGVD is based upon mean sea level in 1929 and has been called “1929 Mean Sea Level” (MSL).

New Construction - structures for which the "start of construction" commenced on or after the effective date of the initial floodplain management regulations adopted by a community and includes any subsequent improvements to such structures.

North American Vertical Datum (NAVD) - the national datum whose standard was established in 1988, which is the new vertical datum used by the National Flood Insurance Program (NFIP) for all new Flood Insurance Rate Maps. NAVD is based upon the vertical data used by other North American countries

such as Canada and Mexico and was established to replace NGVD because of constant movement of the earth's crust, glacial rebound and subsidence, and the increasing use of satellite technology.

100-year flood - see **Base Flood**.

Recreational Vehicle - a vehicle that is:

a. built on a single chassis;

b. 400 square feet or less when measured at the largest horizontal projection, not including slideouts;

c. designed to be self-propelled or permanently towable by a motor vehicle; and,

d. designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Regulatory Floodway -

a. the channel of a river or other water course and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height, and,

b. when not designated on the community's Flood Insurance Rate Map, it is considered to be the channel of a river or other water course and the adjacent land areas to a distance of one-half the width of the floodplain, as measured from the normal high water mark to the upland limit of the floodplain.

Riverine - relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

Special Flood Hazard Area - see **Area of Special Flood Hazard.**

Start of Construction - the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, or modification of any construction element, whether or not that alteration affects the external dimensions of the building.

Structure - for floodplain management purposes, a walled and roofed building. A gas or liquid storage tank that is principally above ground is also a structure.

Substantial Damage - damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial Improvement - any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. This term includes structures which have incurred substantial damage, regardless of the actual repair work performed. The term does not, however, include either:

a. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or,

b. Any alteration of a Historic Structure, provided that the alteration will not preclude the structure's continued designation as a historic structure, and a variance is obtained from the Board of Appeals.

Variance - a grant of relief by a community from the terms of a floodplain management regulation.

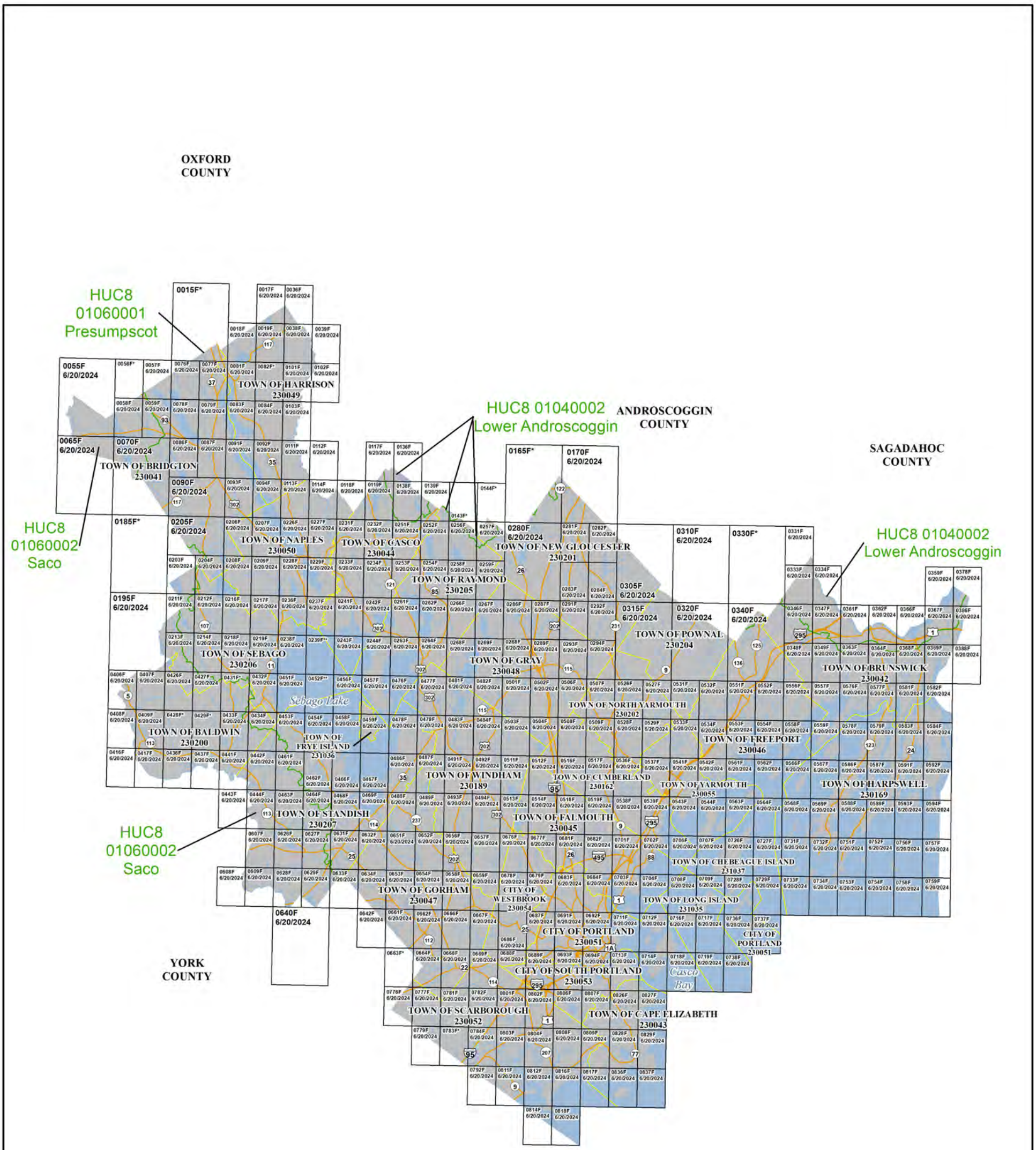
Violation - the failure of a structure or development to comply with a community's floodplain management regulations.

ARTICLE XV - ABROGATION

This ordinance repeals and replaces any municipal ordinance previously enacted to comply with the National Flood Insurance Act of 1968 (P.L. 90-488, as amended).

ARTICLE XVI - DISCLAIMER OF LIABILITY

The degree of flood protection required by the ordinance is considered reasonable but does not imply total flood protection.



1 inch = 30,143 feet 1:361,721

feet 0 8,500 17,000 34,000 51,000 68,000

Map Projection:
Universal Transverse Mercator Zone 19 North;
North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
** PANEL NOT PRINTED - AREA WITHIN ZONE AE (EL 267)

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

CUMBERLAND COUNTY, MAINE (All Jurisdictions)

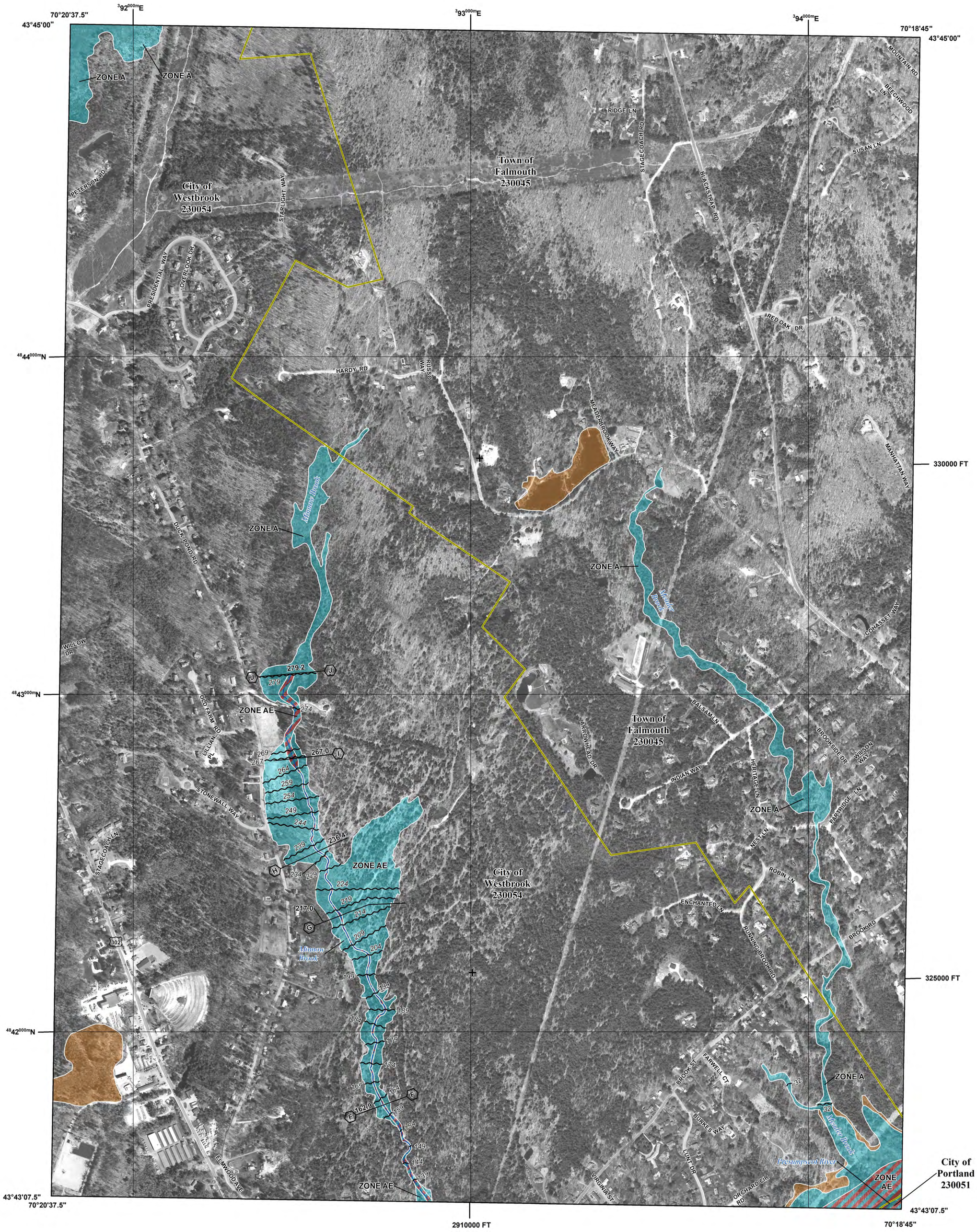
PANELS PRINTED:

0017, 0018, 0019, 0036, 0038, 0039, 0055, 0057, 0058, 0059, 0065, 0070, 0076, 0077, 0078, 0079, 0081, 0083, 0084, 0086, 0087, 0090, 0091, 0092, 0093, 0094, 0101, 0102, 0103, 0111, 0112, 0113, 0114, 0117, 0118, 0119, 0136, 0138, 0139, 0170, 0195, 0203, 0204, 0205, 0206, 0207, 0208, 0209, 0211, 0212, 0213, 0214, 0216, 0217, 0218, 0219, 0226, 0227, 0228, 0229, 0231, 0232, 0233, 0234, 0236, 0237, 0238, 0241, 0242, 0243, 0244, 0251, 0252, 0253, 0254, 0256, 0257, 0258, 0259, 0261, 0262, 0263, 0264, 0266, 0267, 0268, 0269, 0280, 0281, 0282, 0283, 0284, 0286, 0287, 0288, 0289, 0291, 0292, 0293, 0294, 0305, 0310, 0315, 0320, 0331, 0333, 0334, 0340, 0346, 0347, 0348, 0349, 0359, 0361, 0362, 0363, 0364, 0366, 0367, 0368, 0369, 0378, 0386, 0388, 0406, 0407, 0408, 0409, 0416, 0417, 0426, 0427, 0432, 0433, 0434, 0436, 0437, 0441, 0442, 0443, 0444, 0451, 0453, 0454, 0456, 0457, 0458, 0459, 0461, 0462, 0463, 0464, 0466, 0467, 0468, 0469, 0476, 0477, 0478, 0479, 0481, 0482, 0483, 0484, 0486, 0487, 0488, 0489, 0491, 0492, 0493, 0494, 0501, 0502, 0503, 0504, 0506, 0507, 0508, 0509, 0511, 0512, 0513, 0514, 0516, 0517, 0518, 0519, 0526, 0527, 0528, 0529, 0531, 0532, 0533, 0534, 0536, 0537, 0538, 0539, 0541, 0542, 0543, 0544, 0551, 0552, 0553, 0554, 0556, 0557, 0558, 0559, 0561, 0562, 0563, 0564, 0566, 0567, 0568, 0569, 0576, 0577, 0578, 0579, 0581, 0582, 0583, 0584, 0586, 0587, 0588, 0589, 0591, 0592, 0593, 0594, 0607, 0608, 0609, 0626, 0627, 0628, 0629, 0631, 0632, 0633, 0634, 0640, 0642, 0651, 0652, 0653, 0654, 0656, 0657, 0658, 0659, 0661, 0662, 0664, 0666, 0667, 0668, 0669, 0676, 0677, 0678, 0679, 0681, 0682, 0683, 0684, 0686, 0687, 0688, 0689, 0691, 0692, 0693, 0694, 0701, 0702, 0703, 0704, 0706, 0707, 0708, 0709, 0711, 0712, 0713, 0714, 0716, 0717, 0718, 0719, 0726, 0727, 0728, 0729, 0731, 0732, 0733, 0734, 0736, 0737, 0738, 0751, 0752, 0753, 0754, 0756, 0757, 0758, 0759, 0776, 0777, 0779, 0781, 0782, 0784, 0792, 0801, 0802, 0803, 0804, 0806, 0807, 0808, 0809, 0811, 0812, 0814, 0816, 0817, 0818, 0826, 0827, 0828, 0829, 0836, 0837

FEMA

MAP NUMBER
23005CIND0A

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM provided in digital format by State of Maine, Maine office of GIS (MeGIS). This information was derived from MeGIS, dated 2012.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and FDTs may reflect stream channel distances that differ from what is shown on the map.

SCALE

N

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0677 OF 0837

FEMA

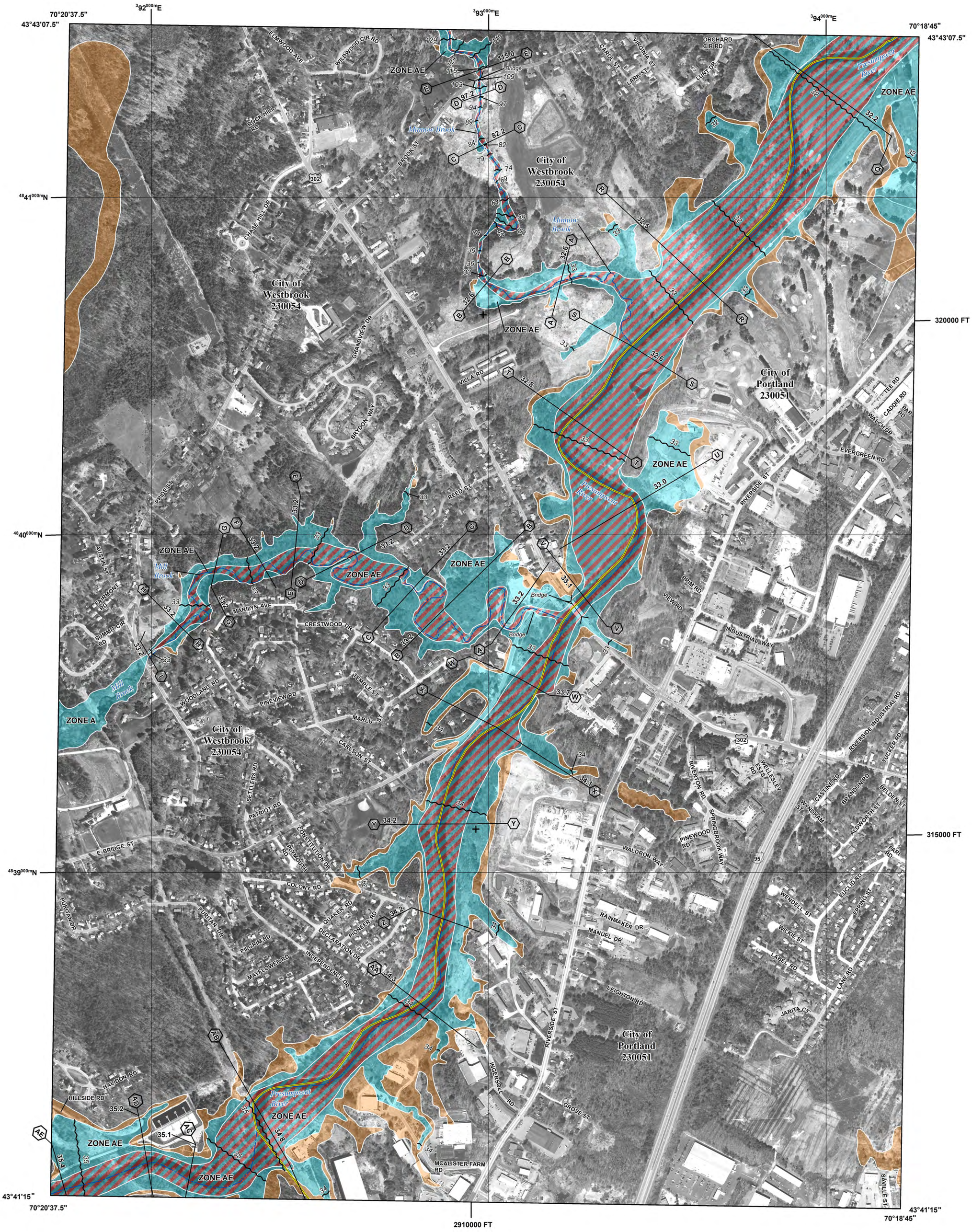
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0677	F
PORTLAND, CITY OF	230051	0677	F
WESTBROOK, CITY OF	230054	0677	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0677F

EFFECTIVE DATE
June 20, 2024



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1 inch = 500 feet 1:6,000

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PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL **0679** OF **0837**

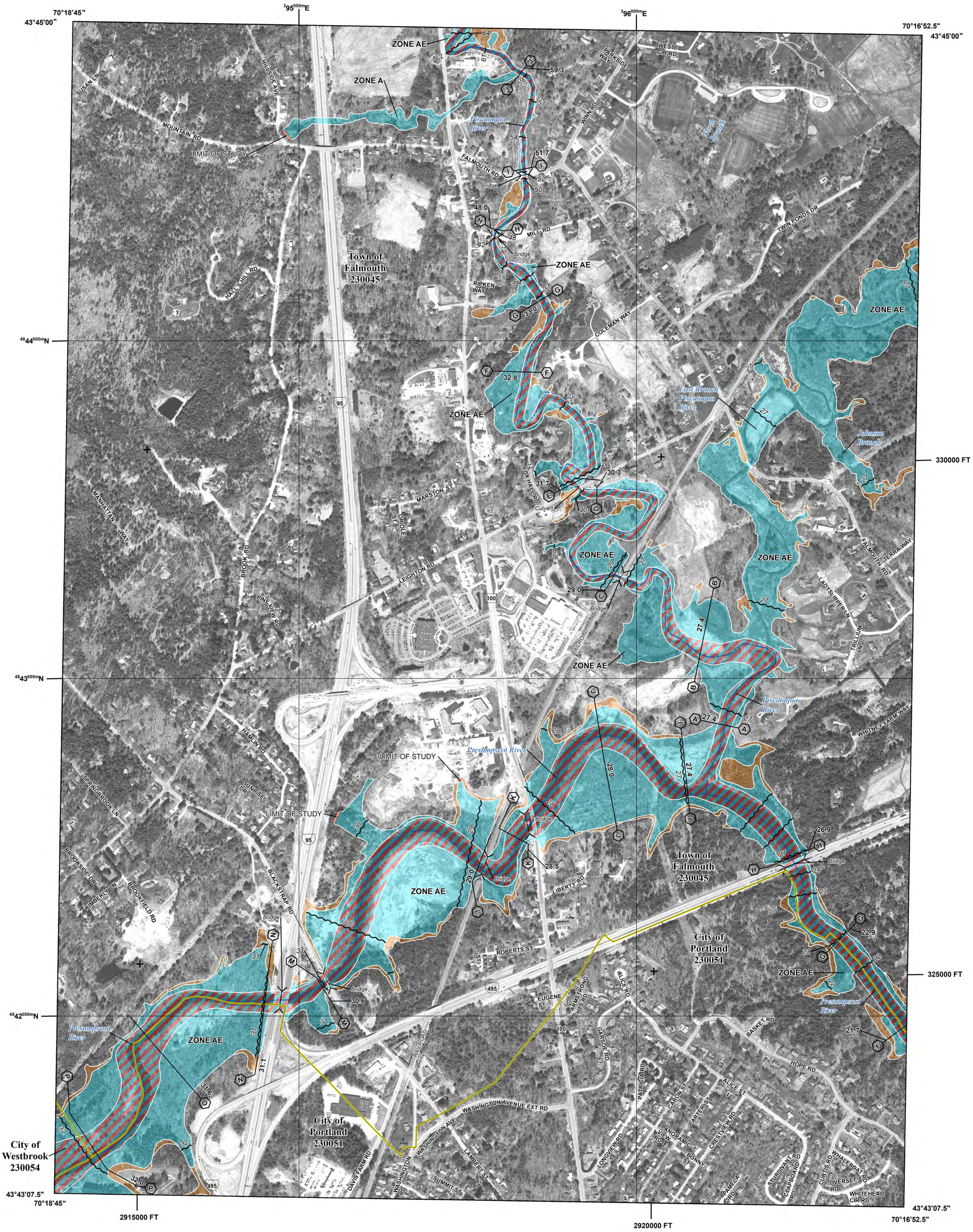
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0679	F
WESTBROOK, CITY OF	230054	0679	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0679F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A,V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

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SCALE

N

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL **0681** OF **0837**

FEMA

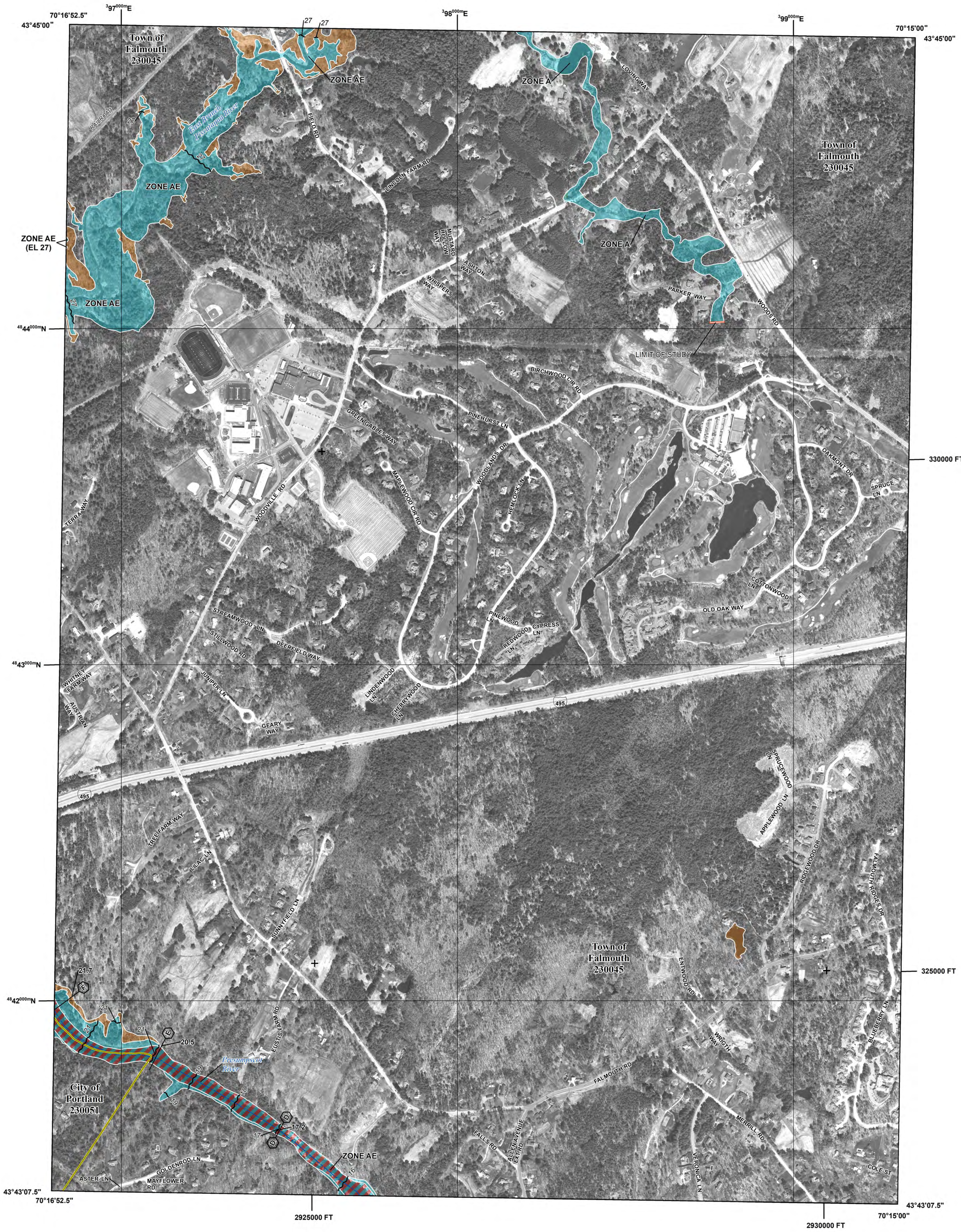
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0681	F
PORTLAND, CITY OF	230051	0681	F
WESTBROOK, CITY OF	230054	0681	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0681F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

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0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0682 OF 0837

FEMA

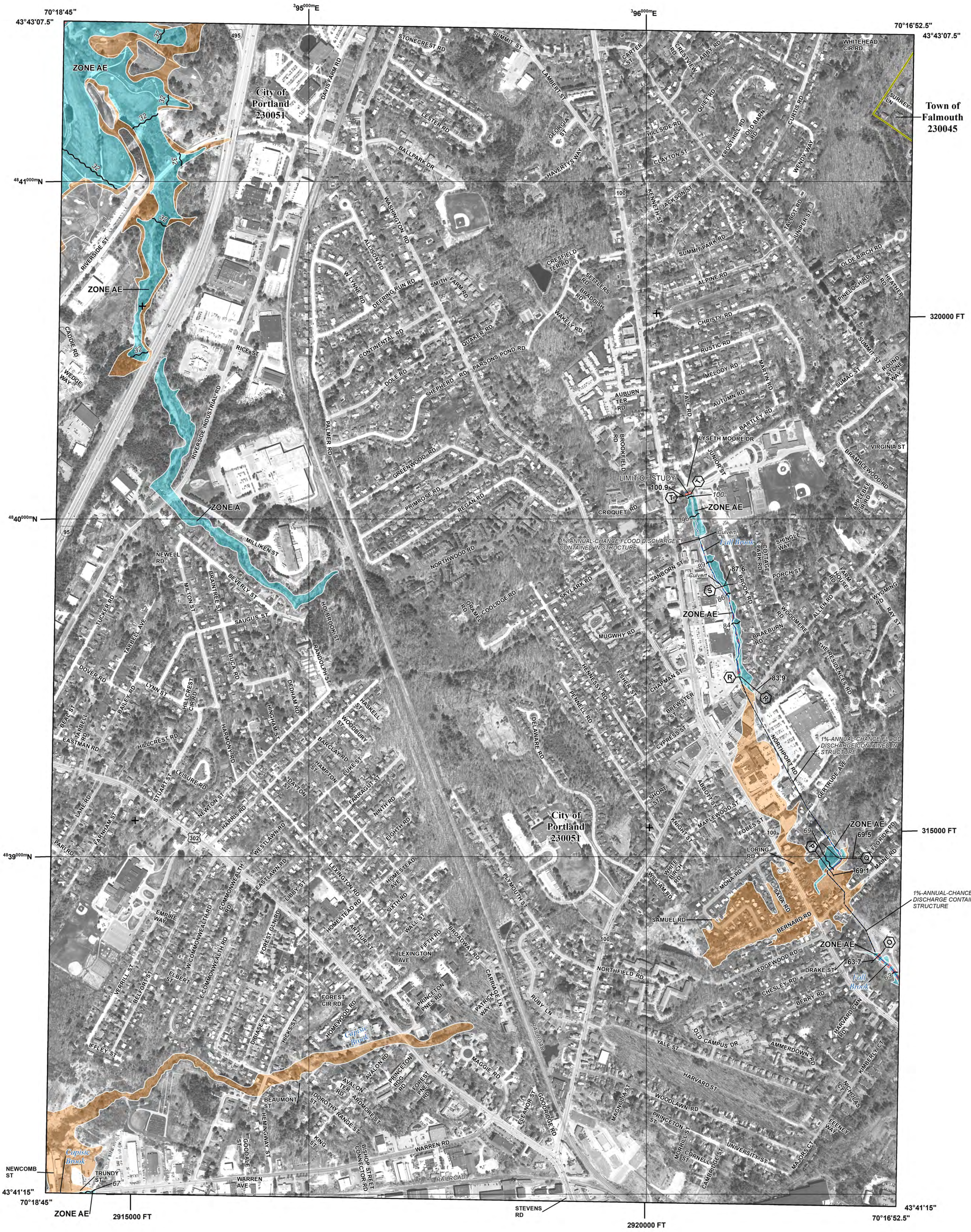
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0682	F
PORTLAND, CITY OF	230051	0682	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0682F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
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- Profile Baseline
- Hydrographic Feature
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- Limit of Study
- Jurisdiction Boundary

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SCALE

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Western Hemisphere; Vertical Datum: NAVD 88

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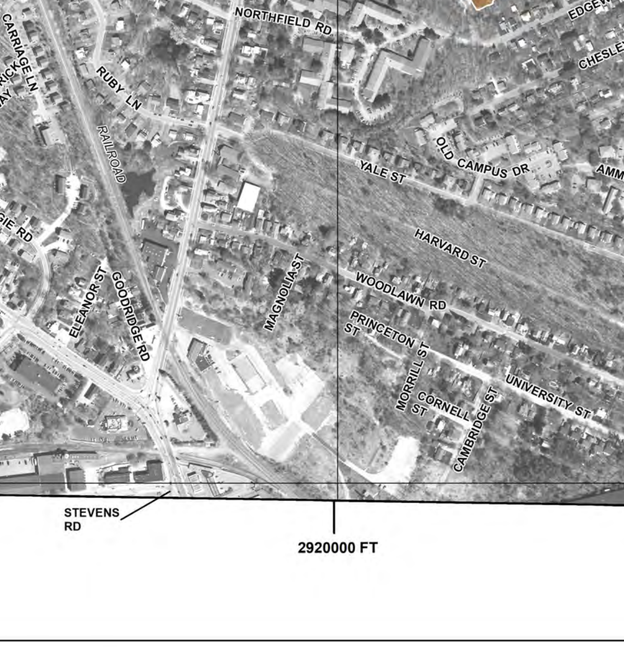
0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0683 OF 0837

FEMA

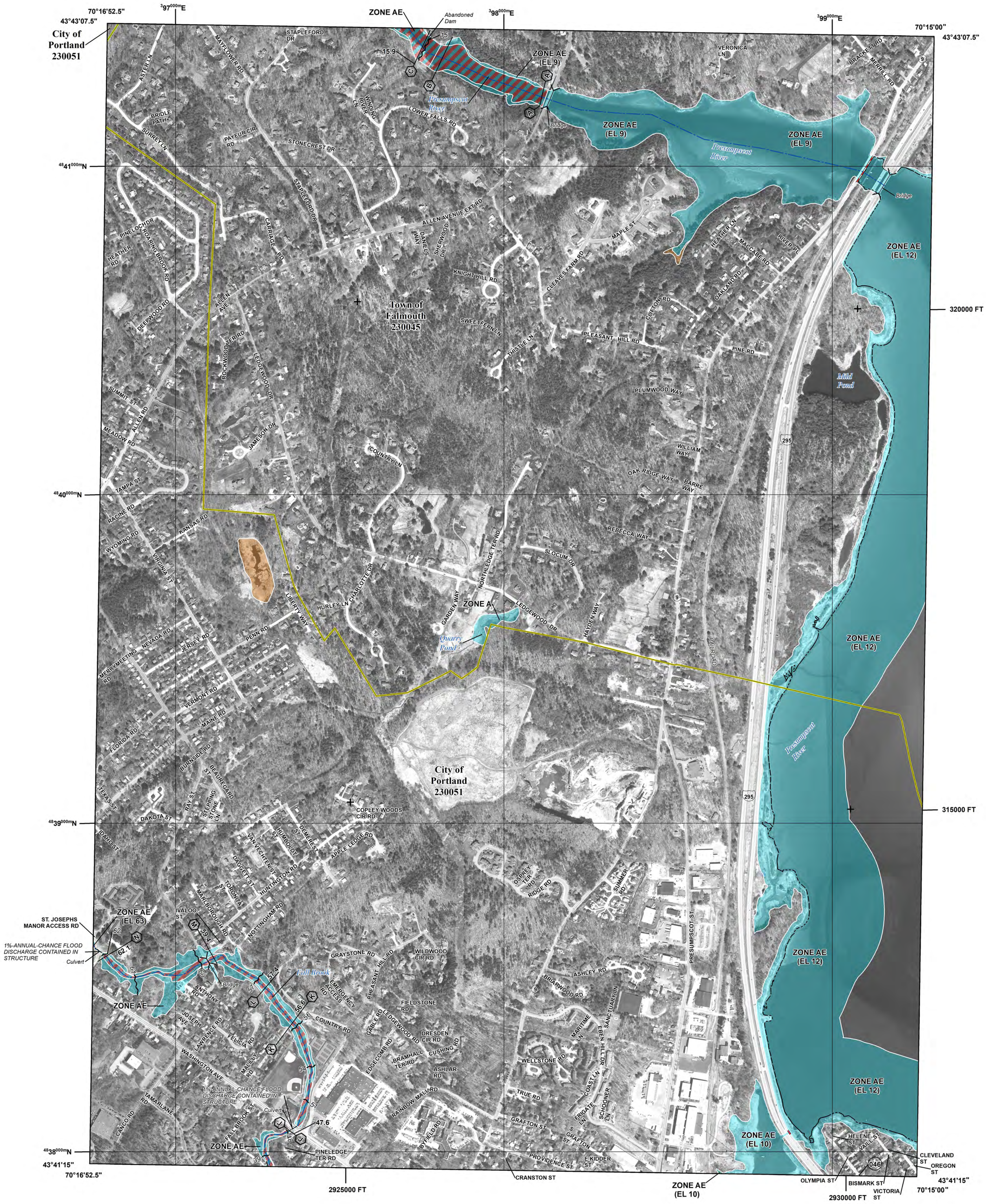
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0683	F
PORTLAND, CITY OF	230051	0683	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0683F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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OTHER AREAS OF FLOOD HAZARD
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- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
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OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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The AE Zone category has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Limit of Moderate Wave Action (LiMWA)

SCALE

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0684 OF 0837

FEMA

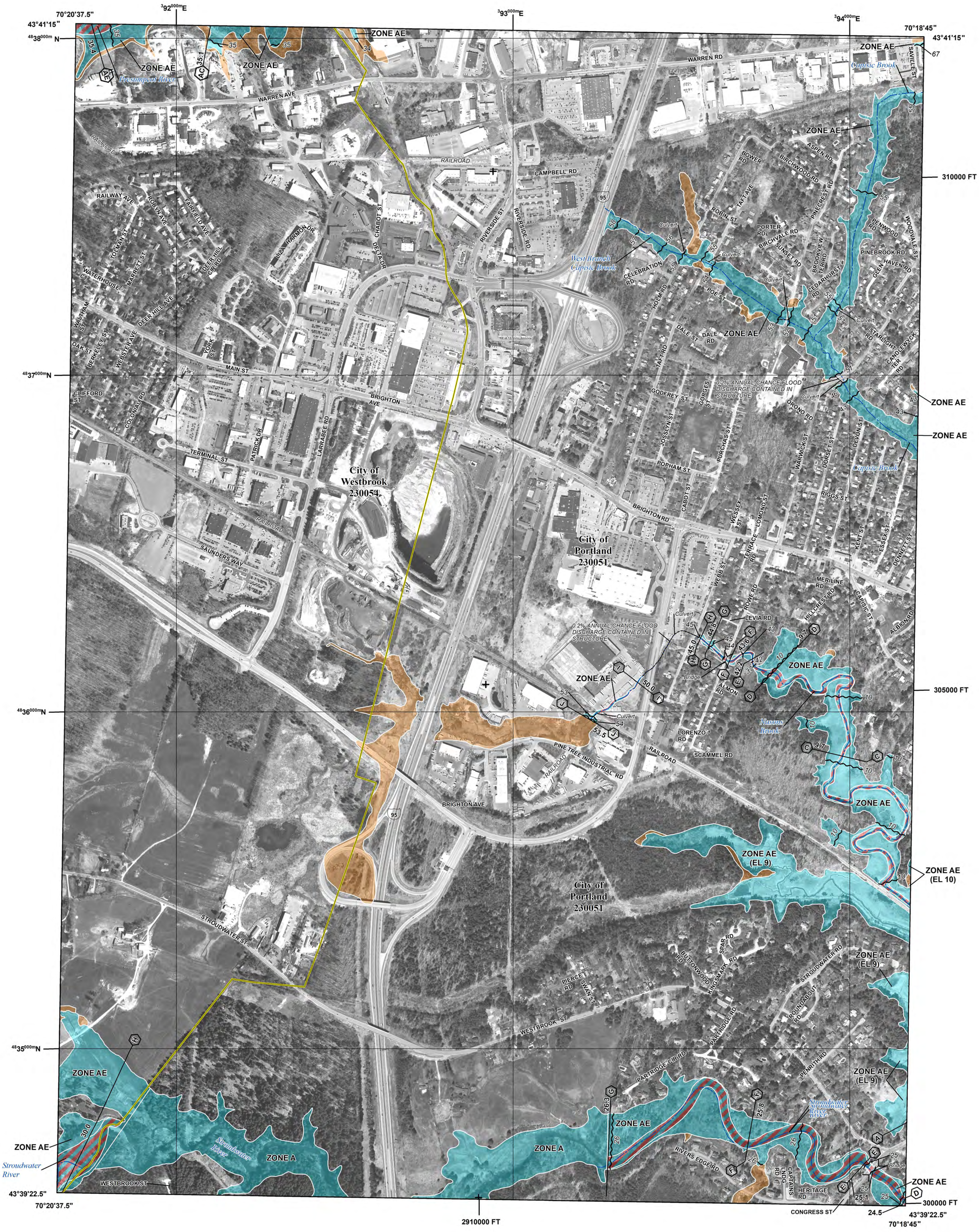
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0684	F
PORTLAND, CITY OF	230051	0684	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0684F

EFFECTIVE DATE
June 20, 2024



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OTHER AREAS
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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
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SCALE

N

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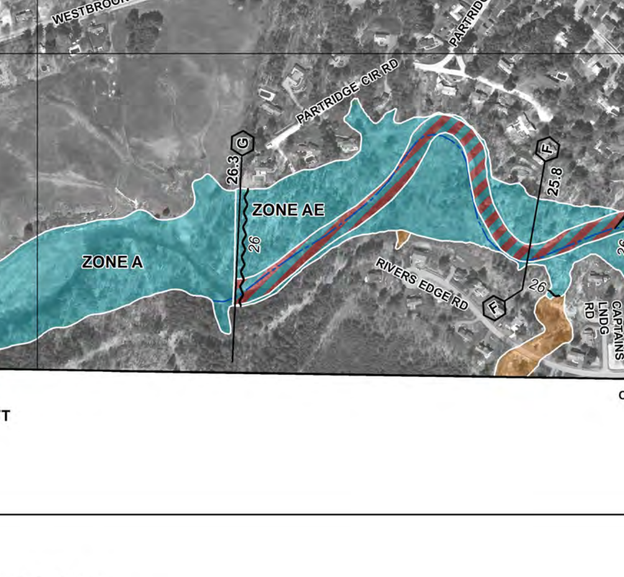
0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL **0687** OF **0837**

FEMA

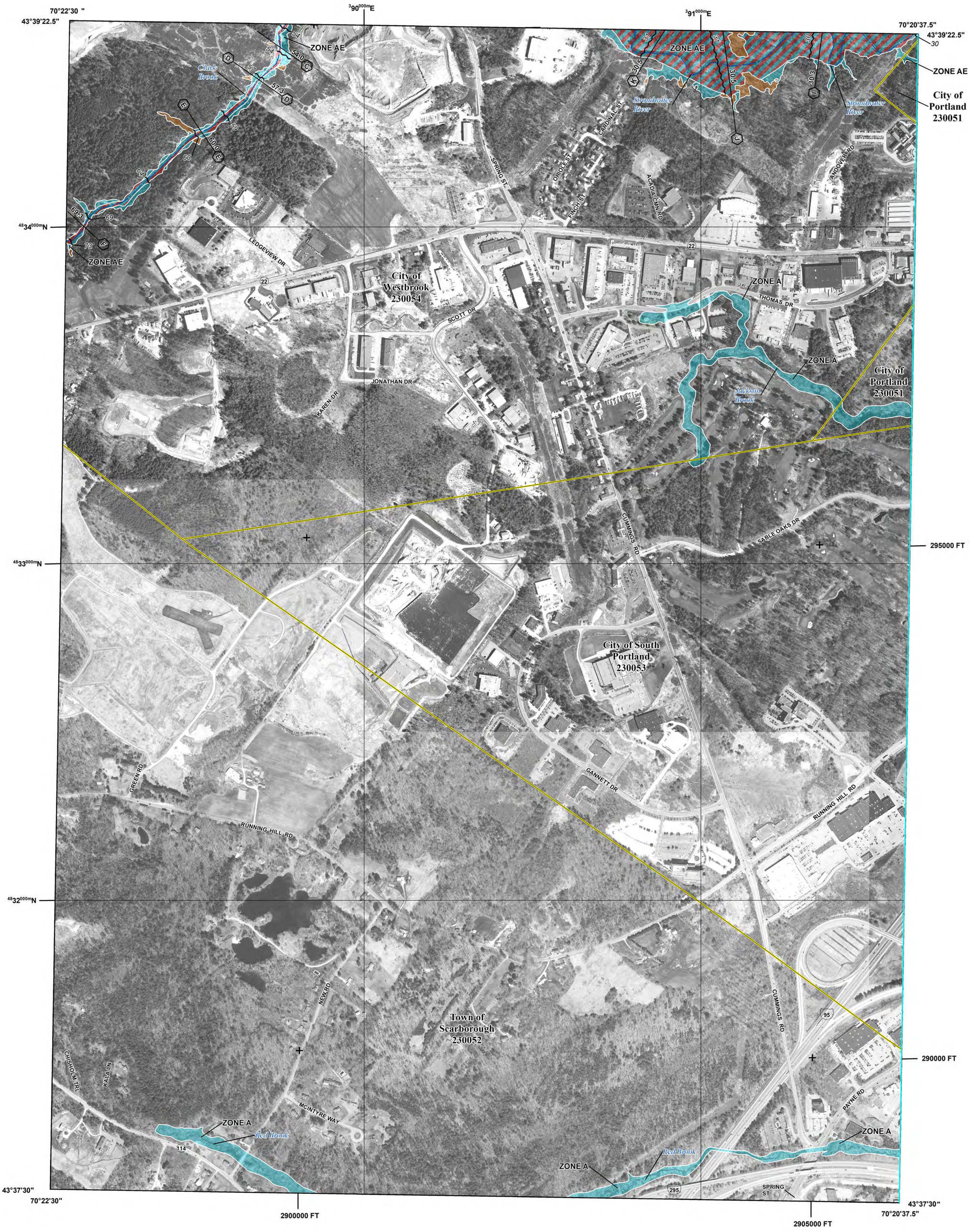
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0687	F
WESTBROOK, CITY OF	230054	0687	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0687F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

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OTHER AREAS

- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
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GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
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OTHER FEATURES

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- Hydrographic Feature
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SCALE

N

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0 500 1,000 2,000 Feet

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PANEL LOCATOR

*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0688 OF 0837

FEMA

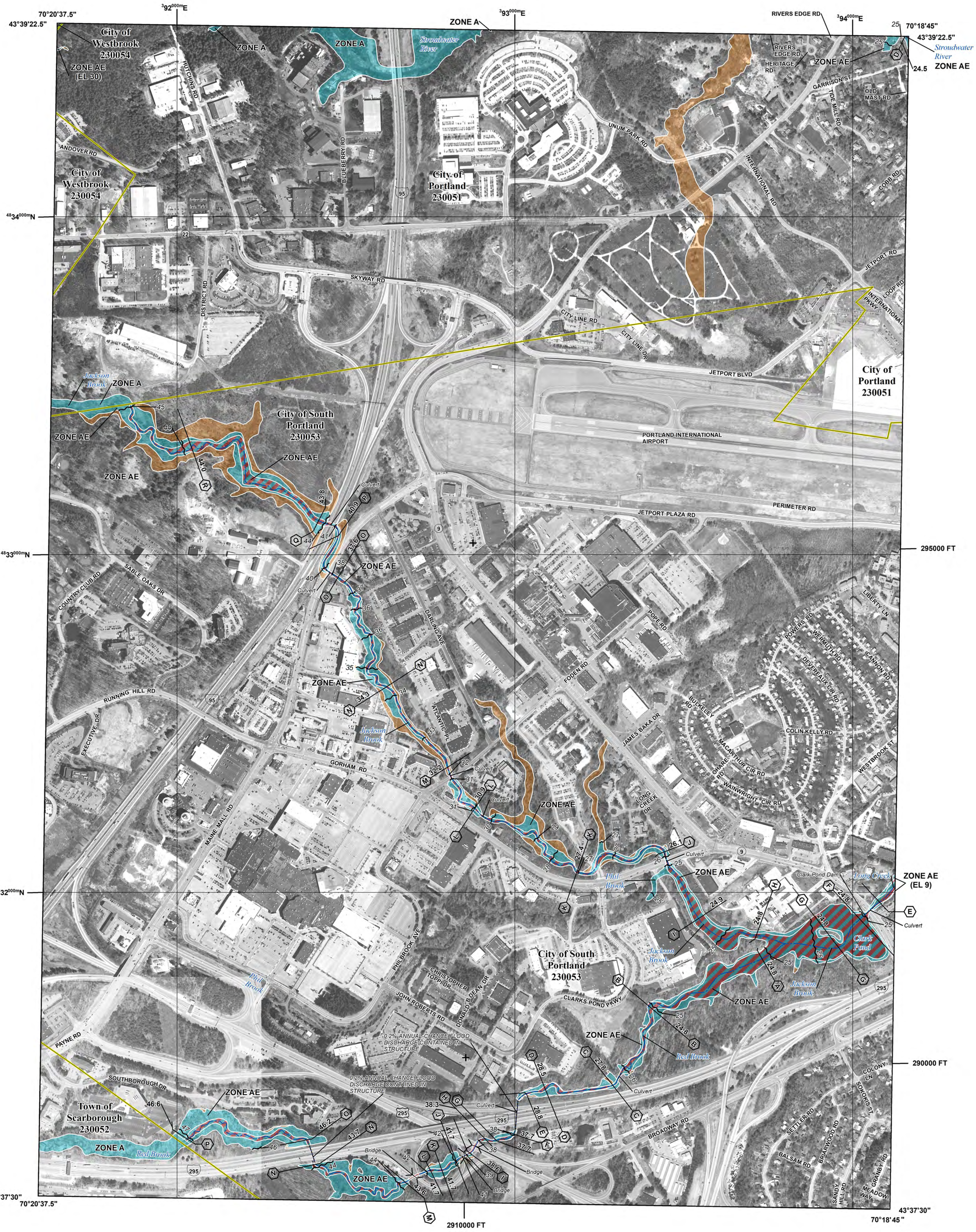
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0688	F
SCARBOROUGH, TOWN OF	230052	0688	F
SOUTH PORTLAND, CITY OF	230053	0688	F
WESTBROOK, CITY OF	230054	0688	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0688F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SCALE

N

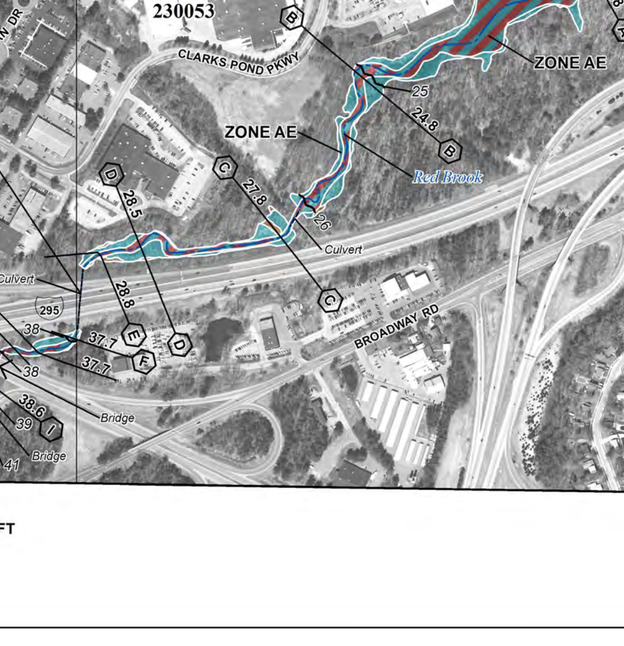
Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0689 OF 0837

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0689	F
SCARBOROUGH, TOWN OF	230052	0689	F
SOUTH PORTLAND, CITY OF	230053	0689	F
WESTBROOK, CITY OF	230054	0689	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0689F

EFFECTIVE DATE
June 20, 2024

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

N

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Western Hemisphere; Vertical Datum: NAVD 88

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PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0691 OF 0837

FEMA

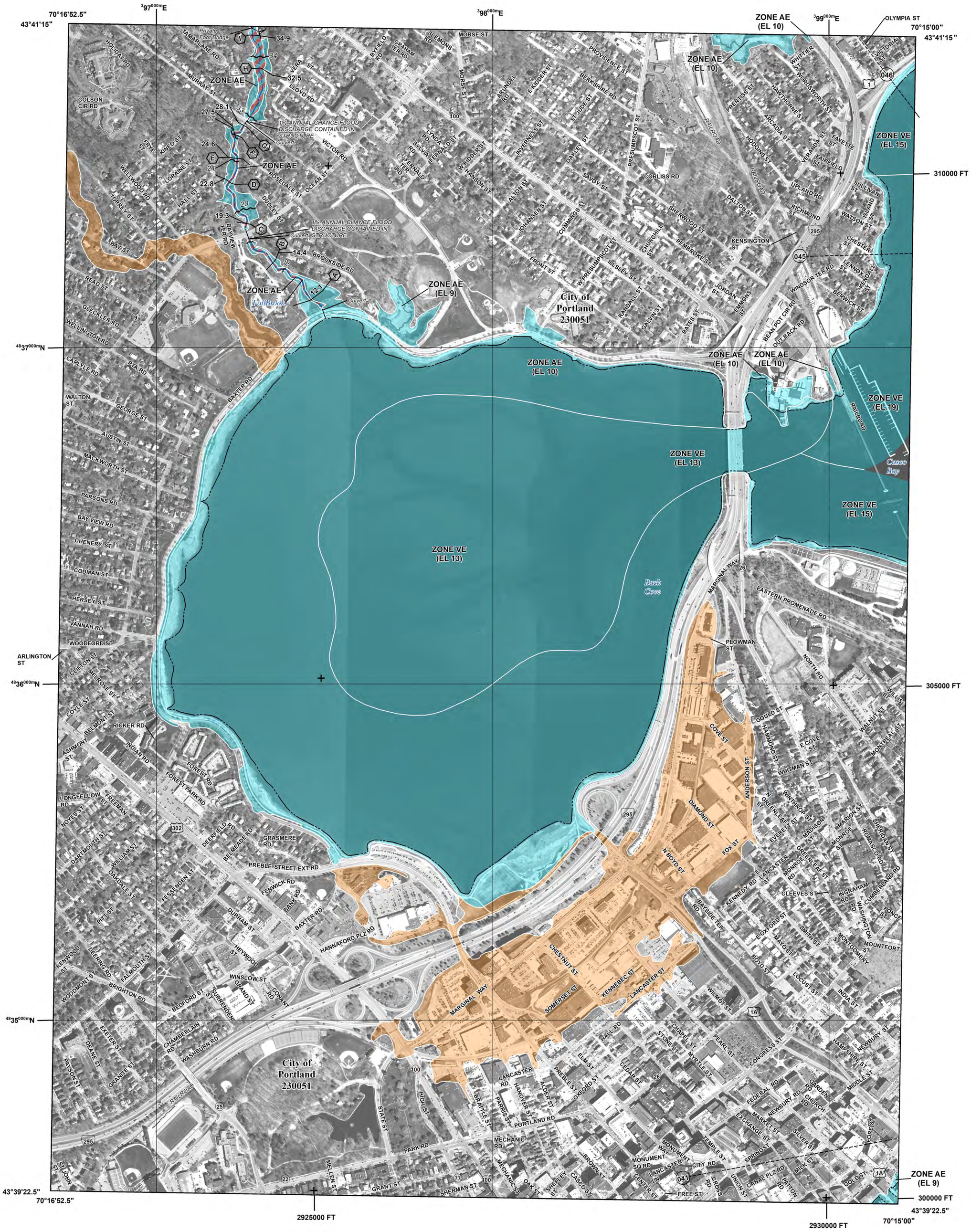
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0691	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0691F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A,V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
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OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

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SCALE

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Western Hemisphere; Vertical Datum: NAVD 88

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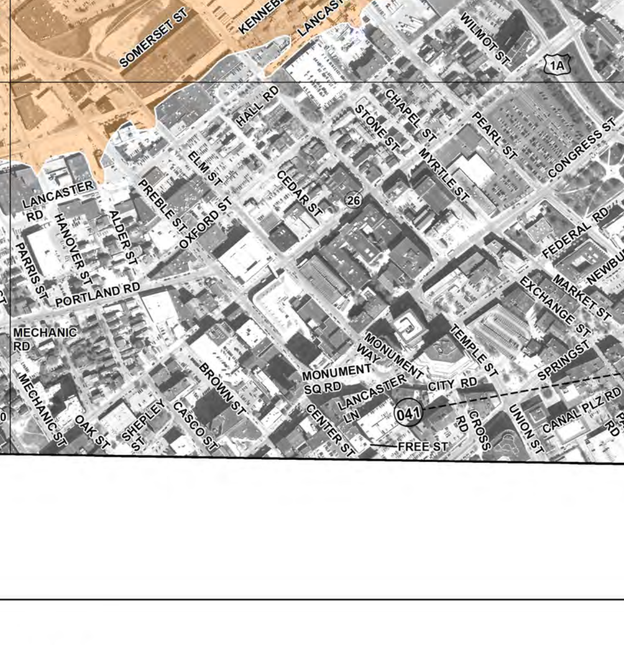
0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0692 OF 0837

FEMA

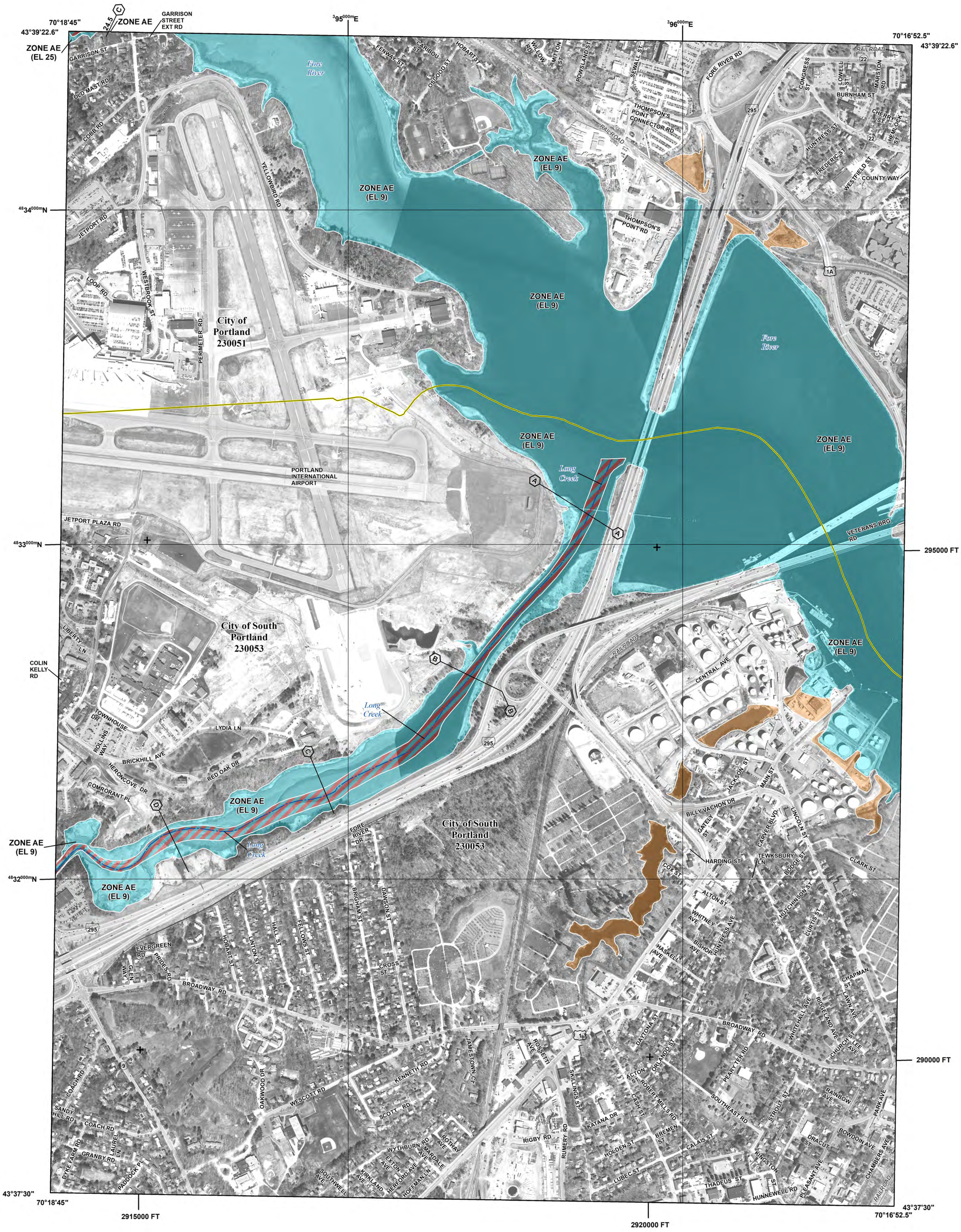
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0692	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0692F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

N

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Western Hemisphere; Vertical Datum: NAVD 88

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0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0693 OF 0837

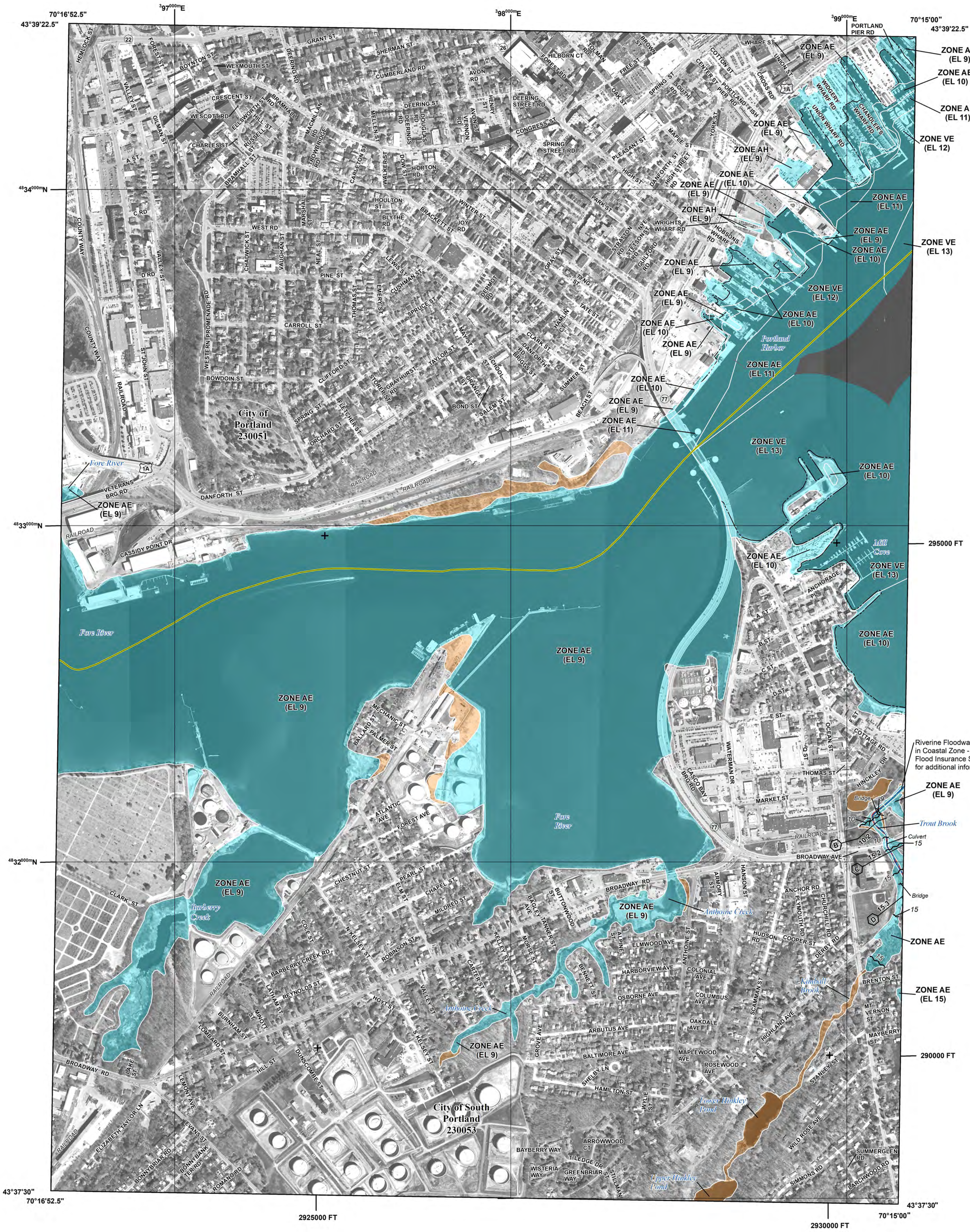
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0693	F
SOUTH PORTLAND, CITY OF	230053	0693	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0693F

EFFECTIVE DATE
June 20, 2024



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OTHER AREAS OF FLOOD HAZARD
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OTHER AREAS
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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
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- 8 Coastal Transect
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- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

N

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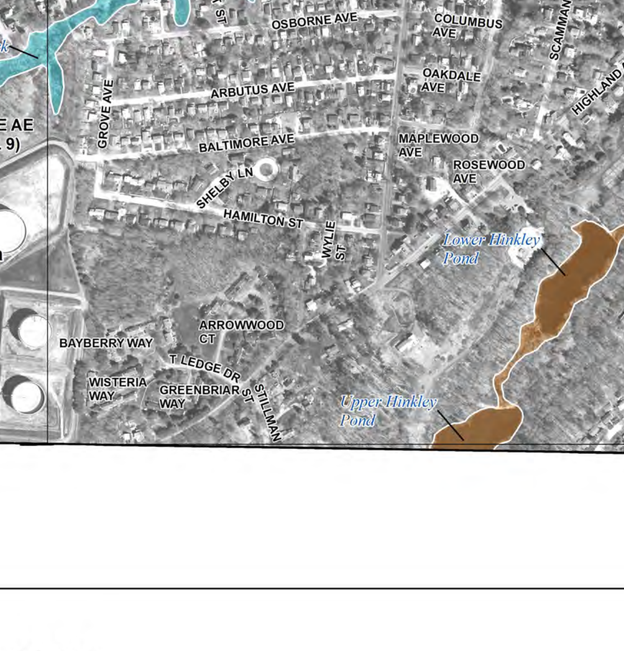
0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0694 OF 0837

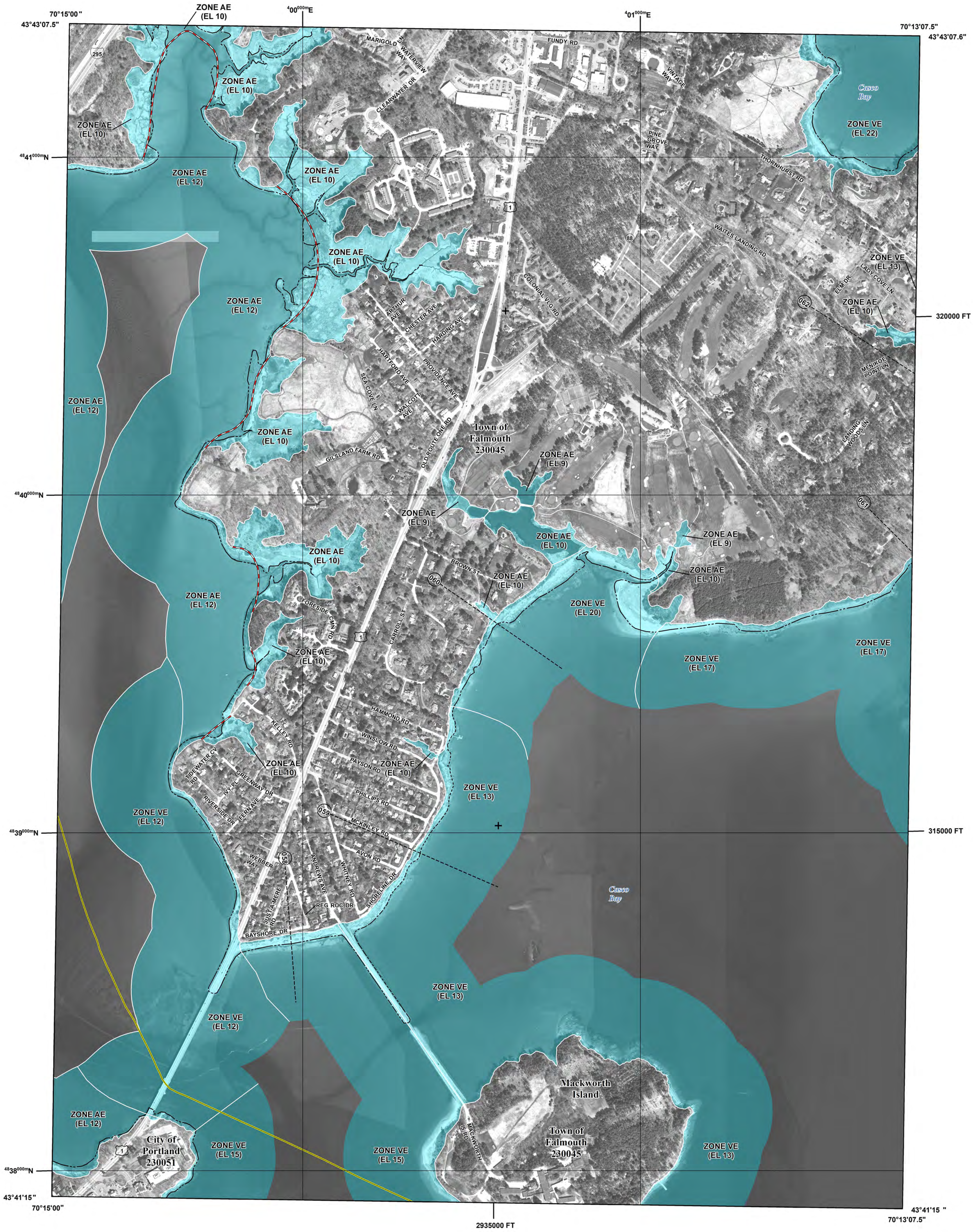
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
PORTLAND, CITY OF	230051	0694	F
SOUTH PORTLAND, CITY OF	230053	0694	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0694F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
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- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
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OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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The AE Zone category has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Limit of Moderate Wave Action (LiMWA)

SCALE

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0703 OF 0837

FEMA

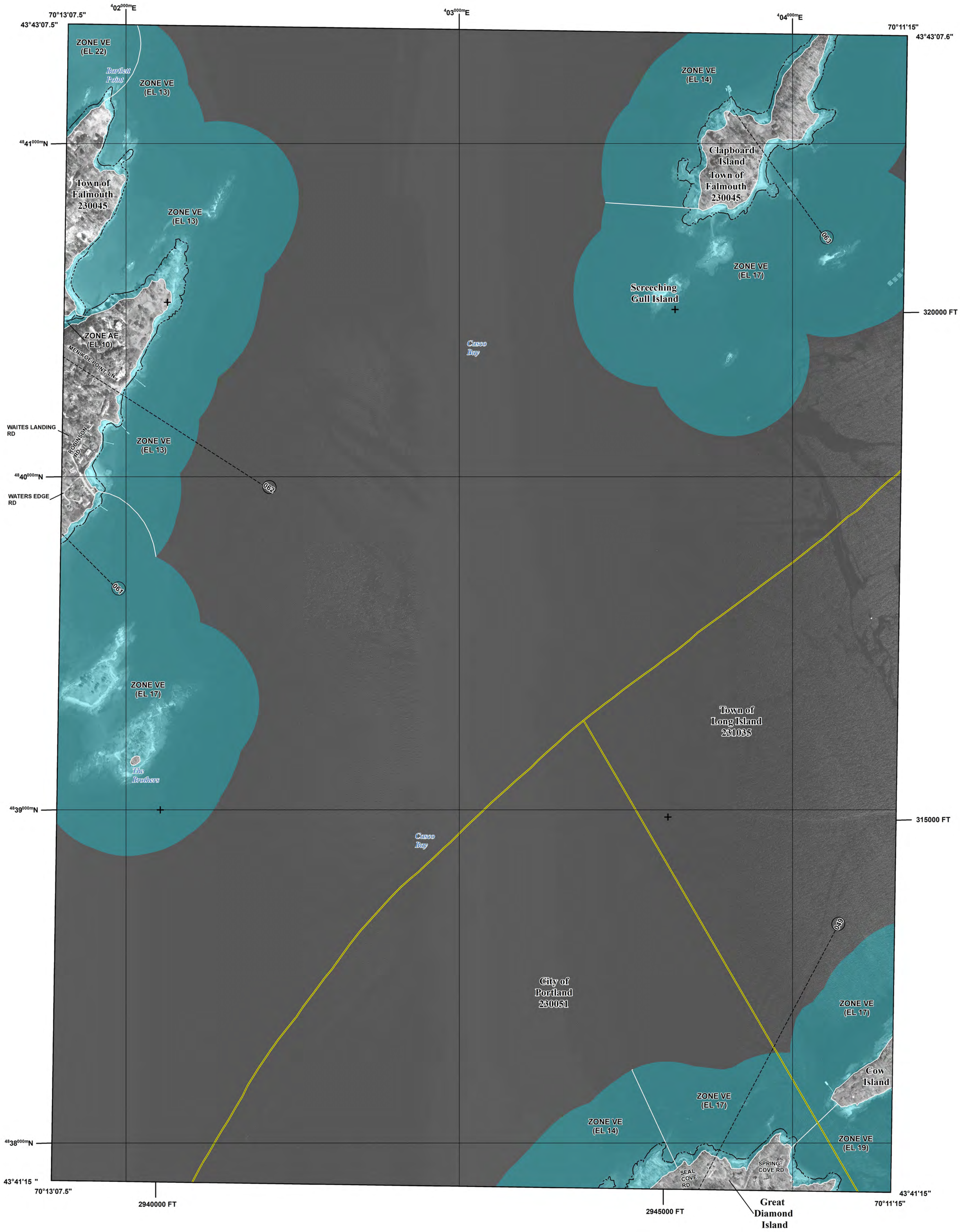
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0703	F
PORTLAND, CITY OF	230051	0703	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0703F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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OTHER AREAS

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SCALE

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Western Hemisphere; Vertical Datum: NAVD 88

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0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0704 OF 0837

FEMA

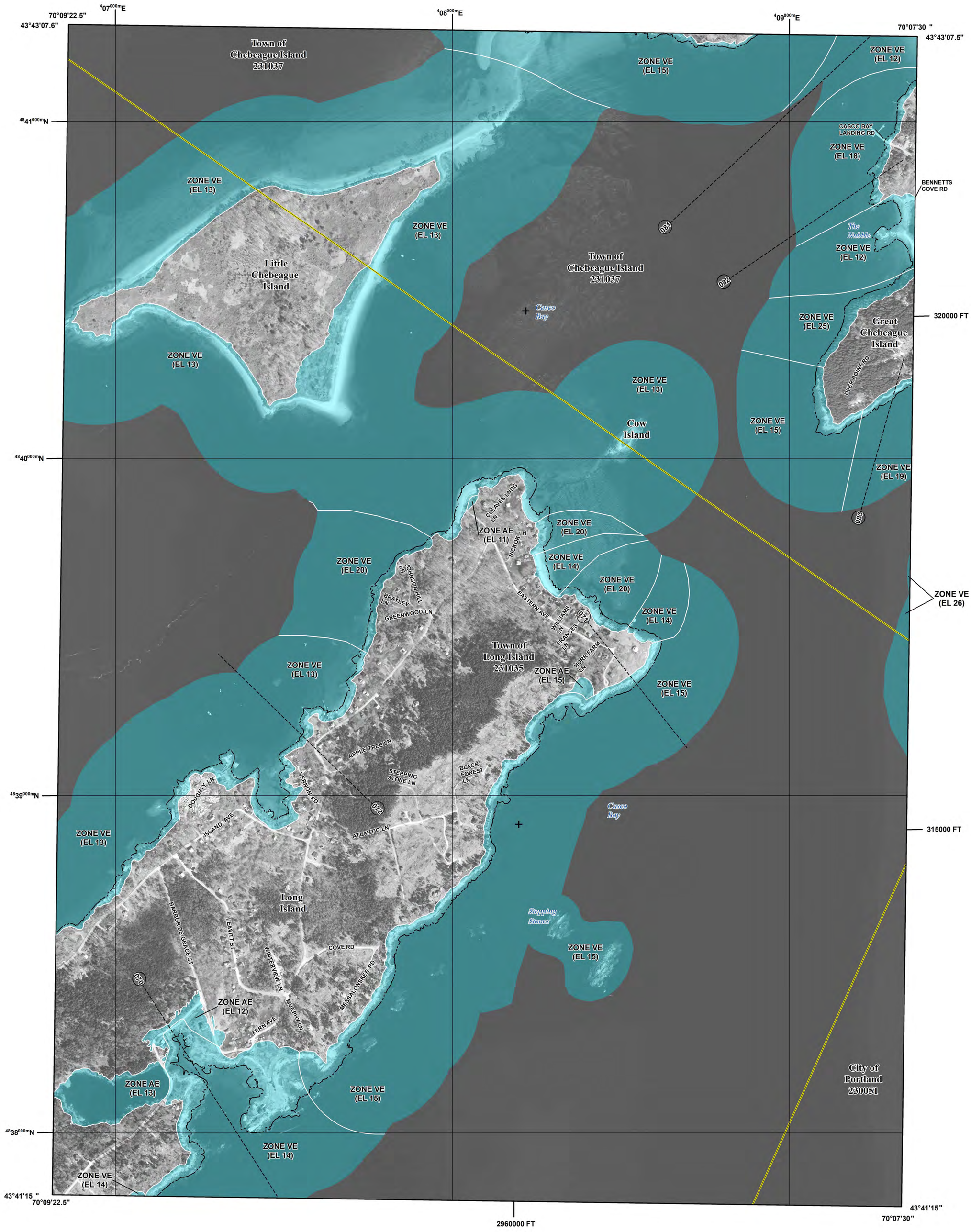
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0704	F
LONG ISLAND, TOWN OF	231035	0704	F
PORTLAND, CITY OF	230051	0704	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0704F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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Coastal Barrier Resources System (CBRS) areas and "otherwise protected areas" (OPAs) are no longer shown on this map panel, but still may be present in this community. Current information on these areas is provided by the U.S. Fish & Wildlife Service (FWS). NFIP flood insurance is not available within CBRS areas for structures that are built or substantially improved on or after the dates indicated by FWS. Users should reference the most up-to-date information provided by FWS to determine NFIP insurance eligibility. The official maps and additional information regarding CBRS areas are provided on the FWS website at: www.fws.gov/cbra. FEMA also includes the official boundaries from FWS on our interactive and dynamic flood maps available through the FEMA Map Service Center.

SCALE

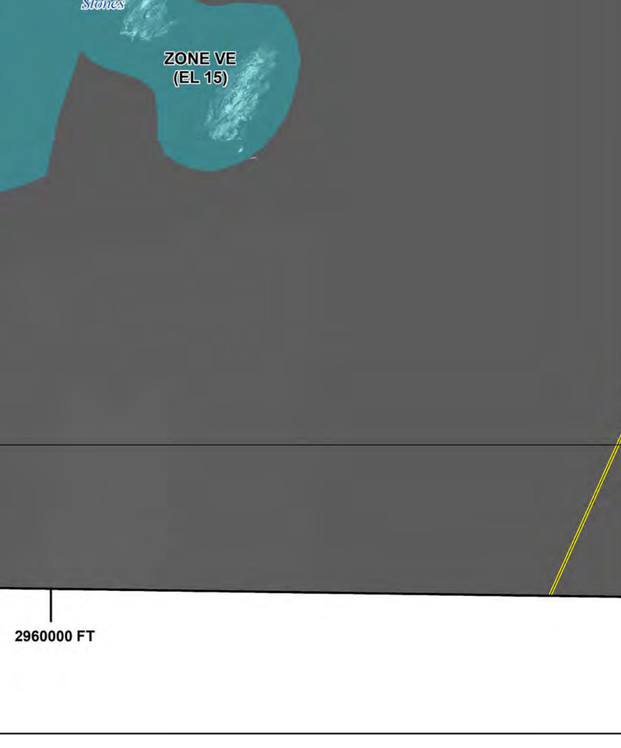
Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0709 OF 0837

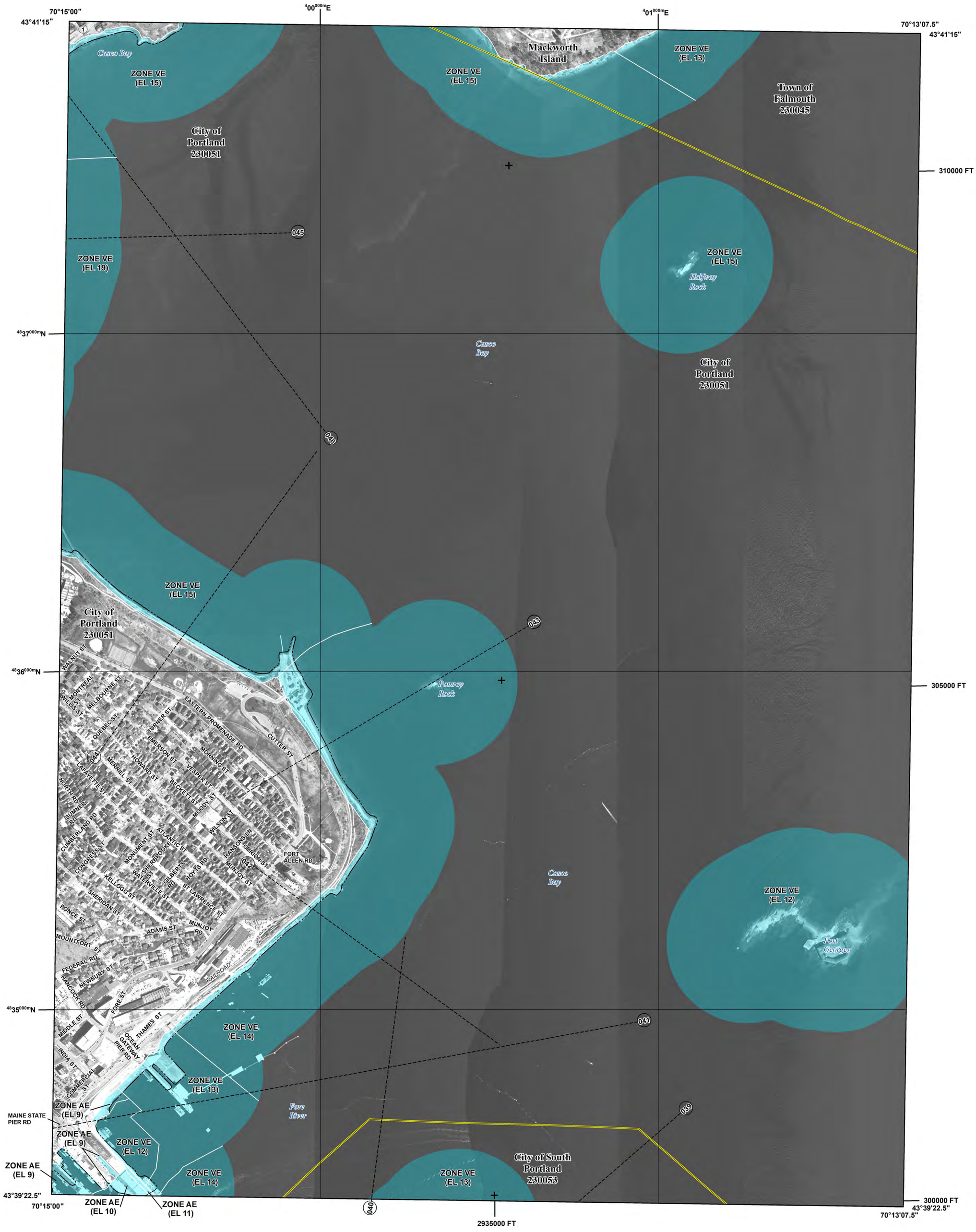
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEBEAGUE ISLAND, TOWN OF	231037	0709	F
LONG ISLAND, TOWN OF	231035	0709	F
PORTLAND, CITY OF	230051	0709	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0709F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
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- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
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OTHER AREAS
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GENERAL STRUCTURES
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- Levee, Dike, or Floodwall

OTHER FEATURES
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- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

N

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0711 OF 0837

FEMA

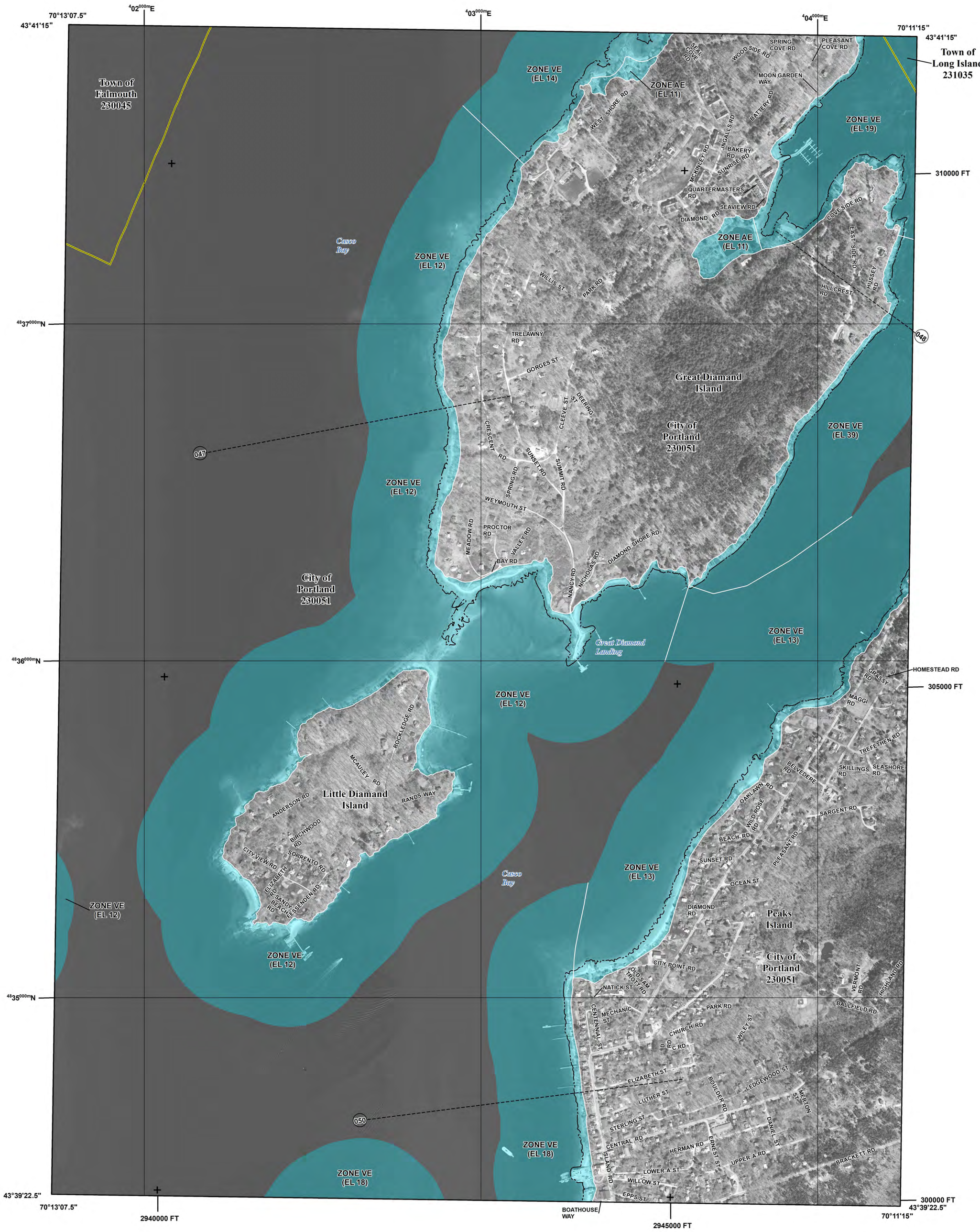
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0711	F
PORTLAND, CITY OF	230051	0711	F
SOUTH PORTLAND, CITY OF	230053	0711	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0711F

EFFECTIVE DATE
June 20, 2024



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SCALE

N

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Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0712 OF 0837

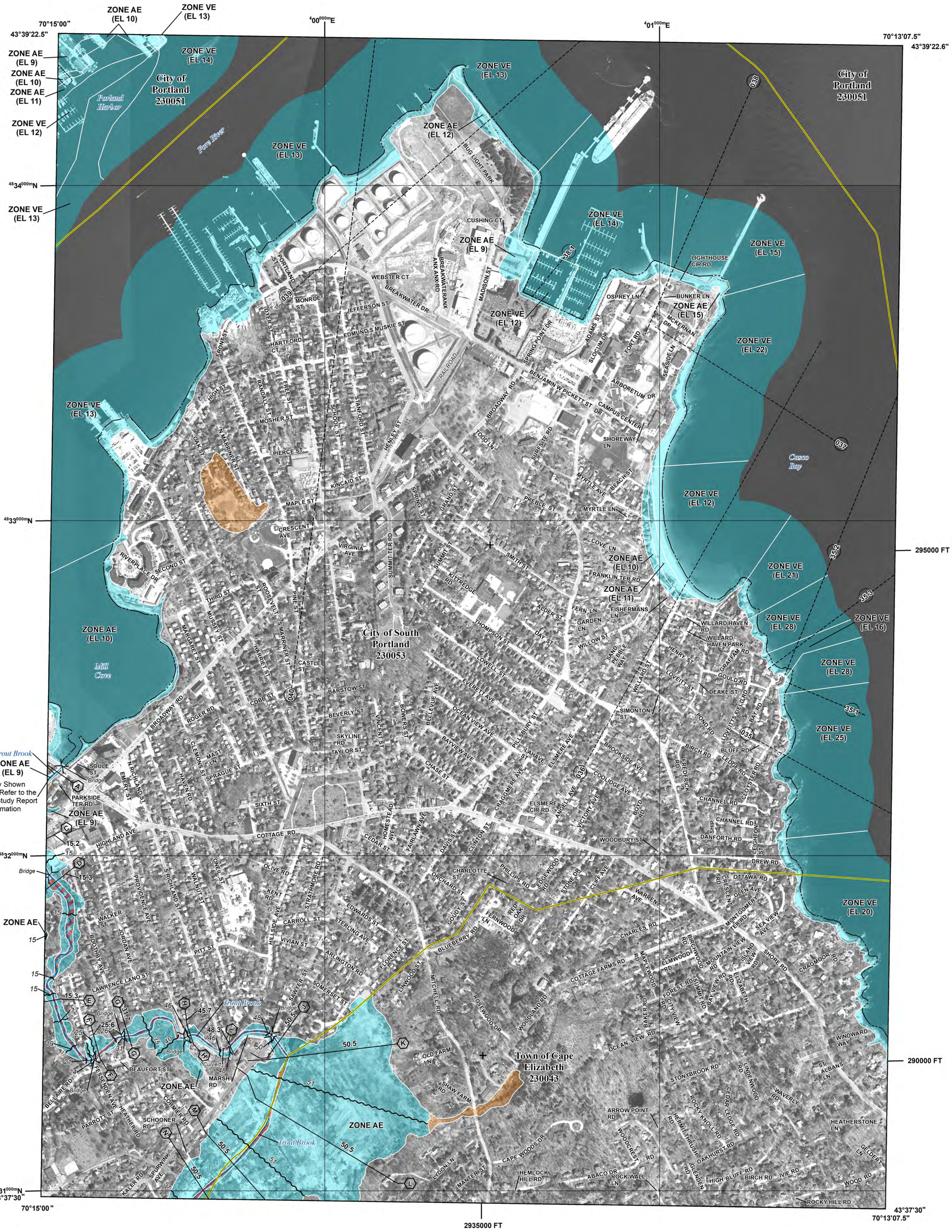
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
FALMOUTH, TOWN OF	230045	0712	F
LONG ISLAND, TOWN OF	231035	0712	F
PORTLAND, CITY OF	230051	0712	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0712F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

N

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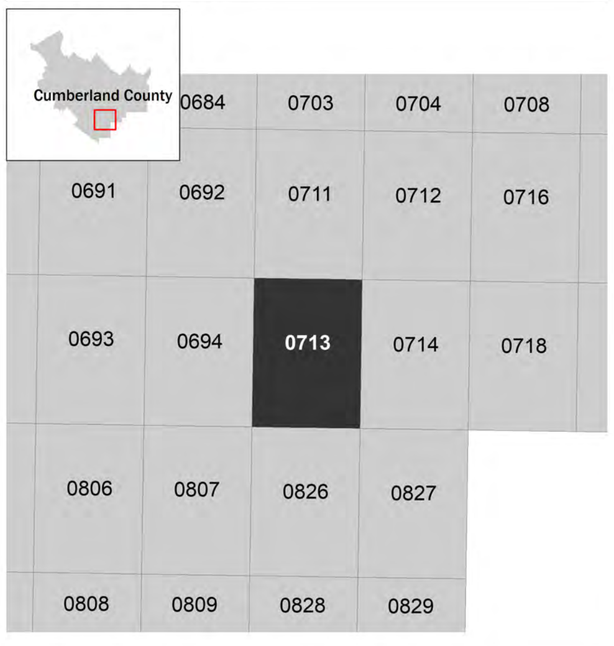
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0713 OF 0837

FEMA

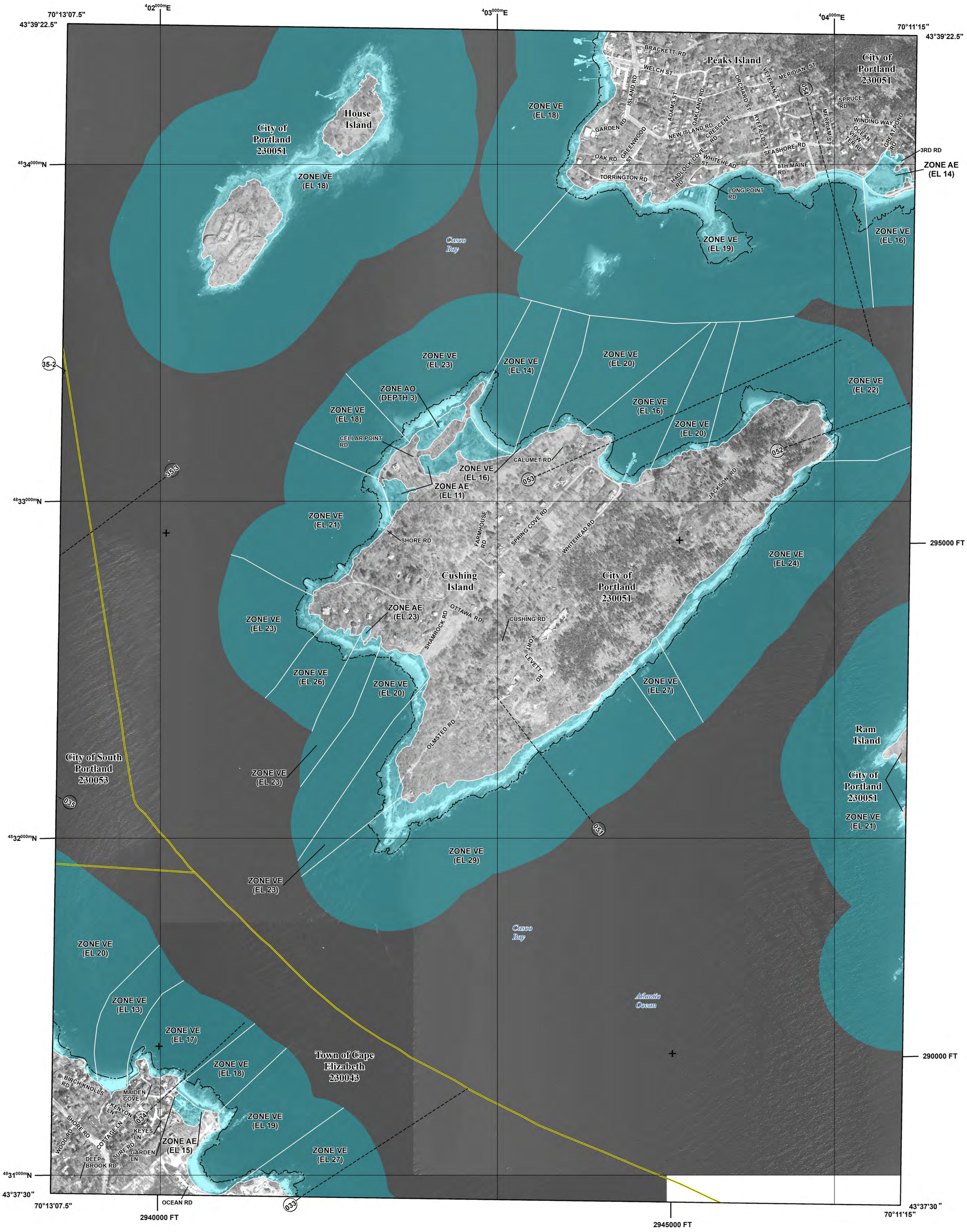
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAPE ELIZABETH, TOWN OF	230043	0713	F
PORTLAND, CITY OF	230051	0713	F
SOUTH PORTLAND, CITY OF	230053	0713	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0713F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

N

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0714 OF 0837

FEMA

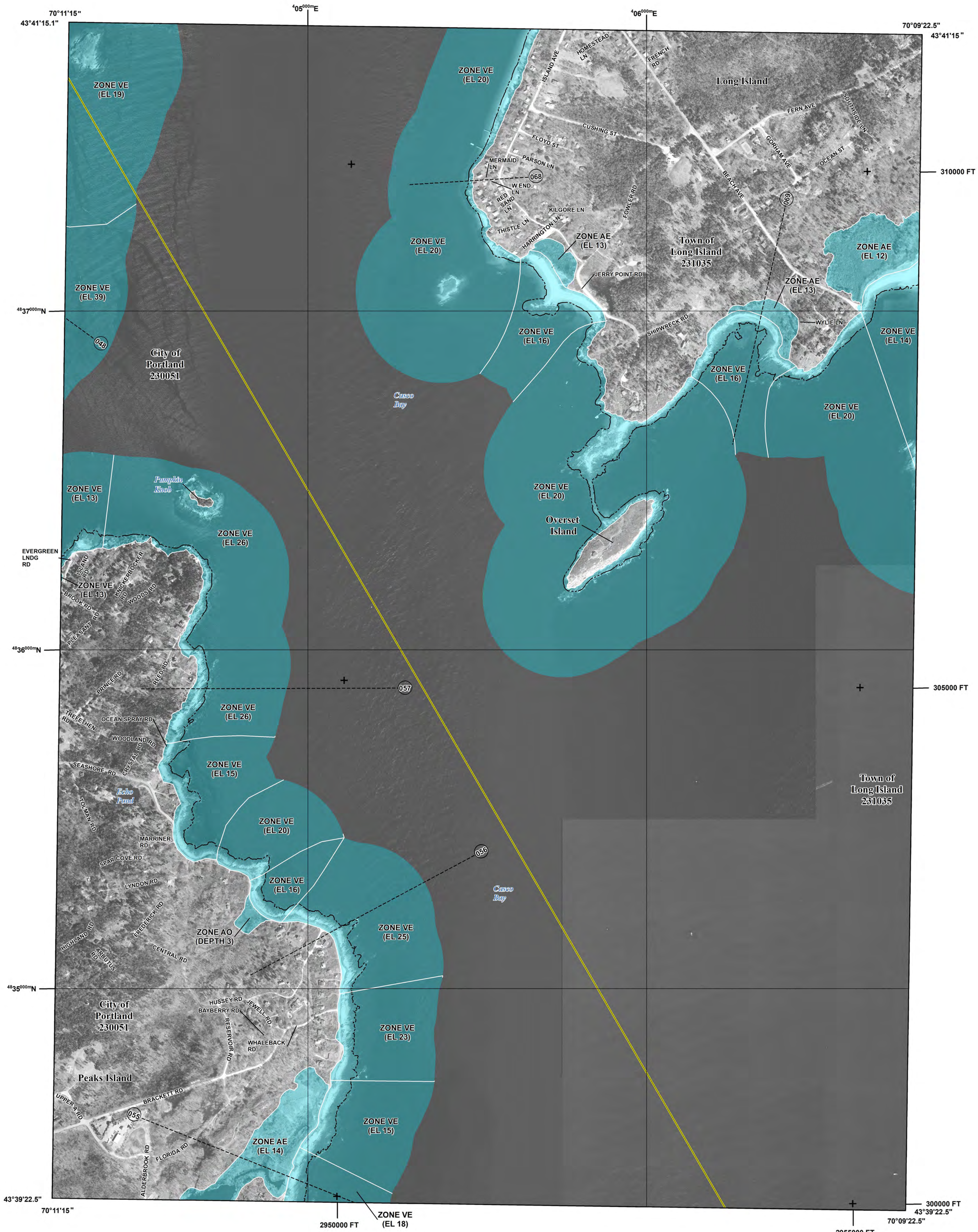
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAPE ELIZABETH, TOWN OF	230043	0714	F
PORTLAND, CITY OF	230051	0714	F
SOUTH PORTLAND, CITY OF	230053	0714	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0714F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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OTHER AREAS OF FLOOD HAZARD
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SCALE

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0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0716 OF 0837

FEMA

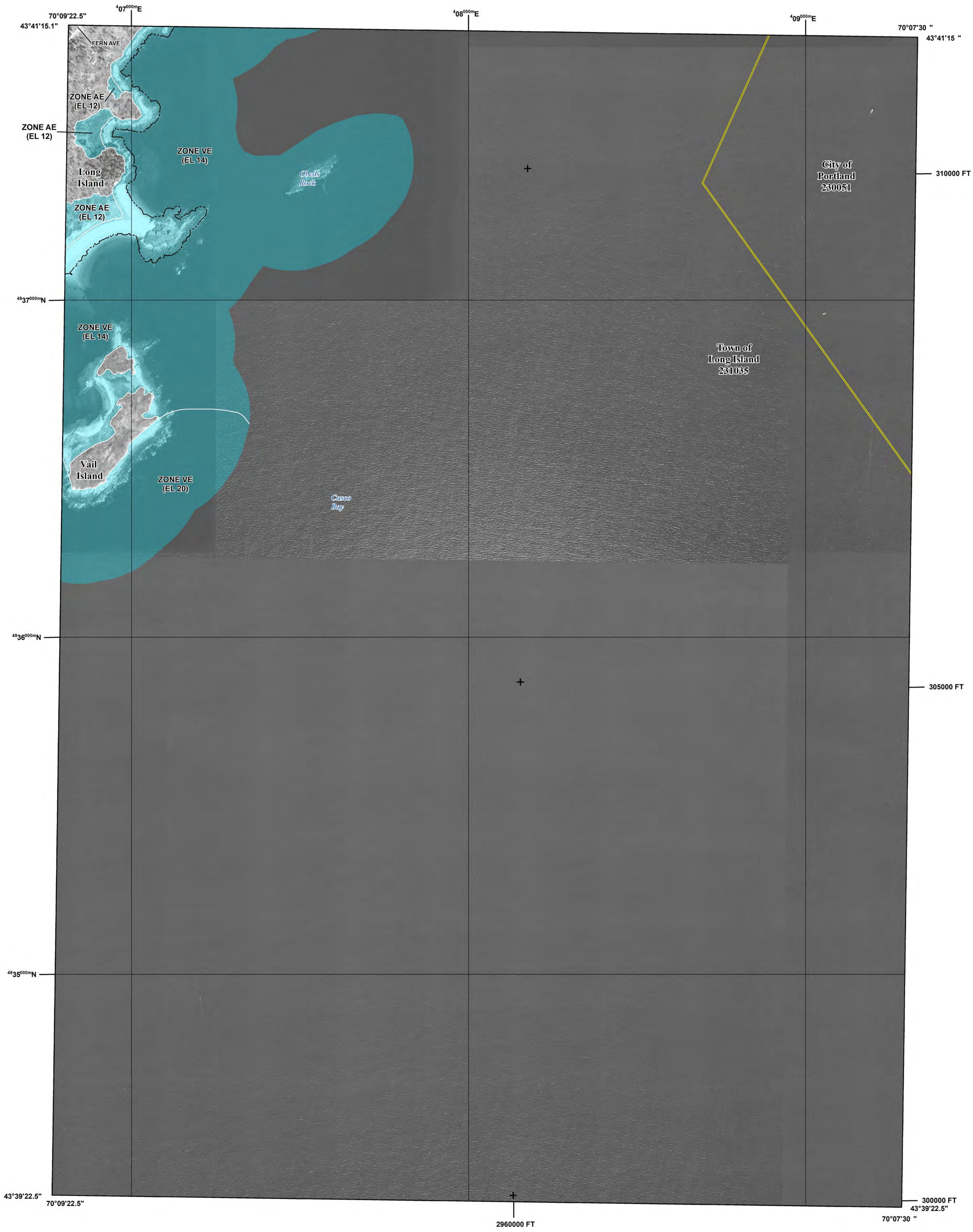
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
LONG ISLAND, TOWN OF	231035	0716	F
PORTLAND, CITY OF	230051	0716	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0716F

EFFECTIVE DATE
June 20, 2024



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- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

N

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Western Hemisphere; Vertical Datum: NAVD 88

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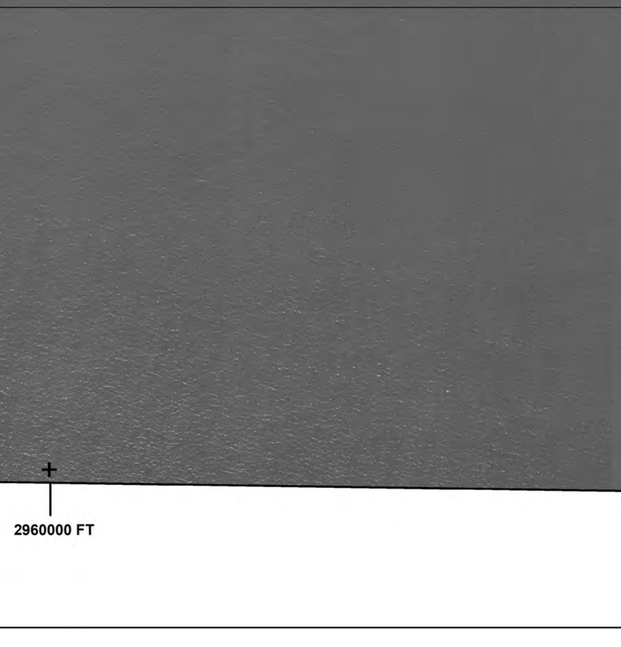
0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0717 OF 0837

FEMA

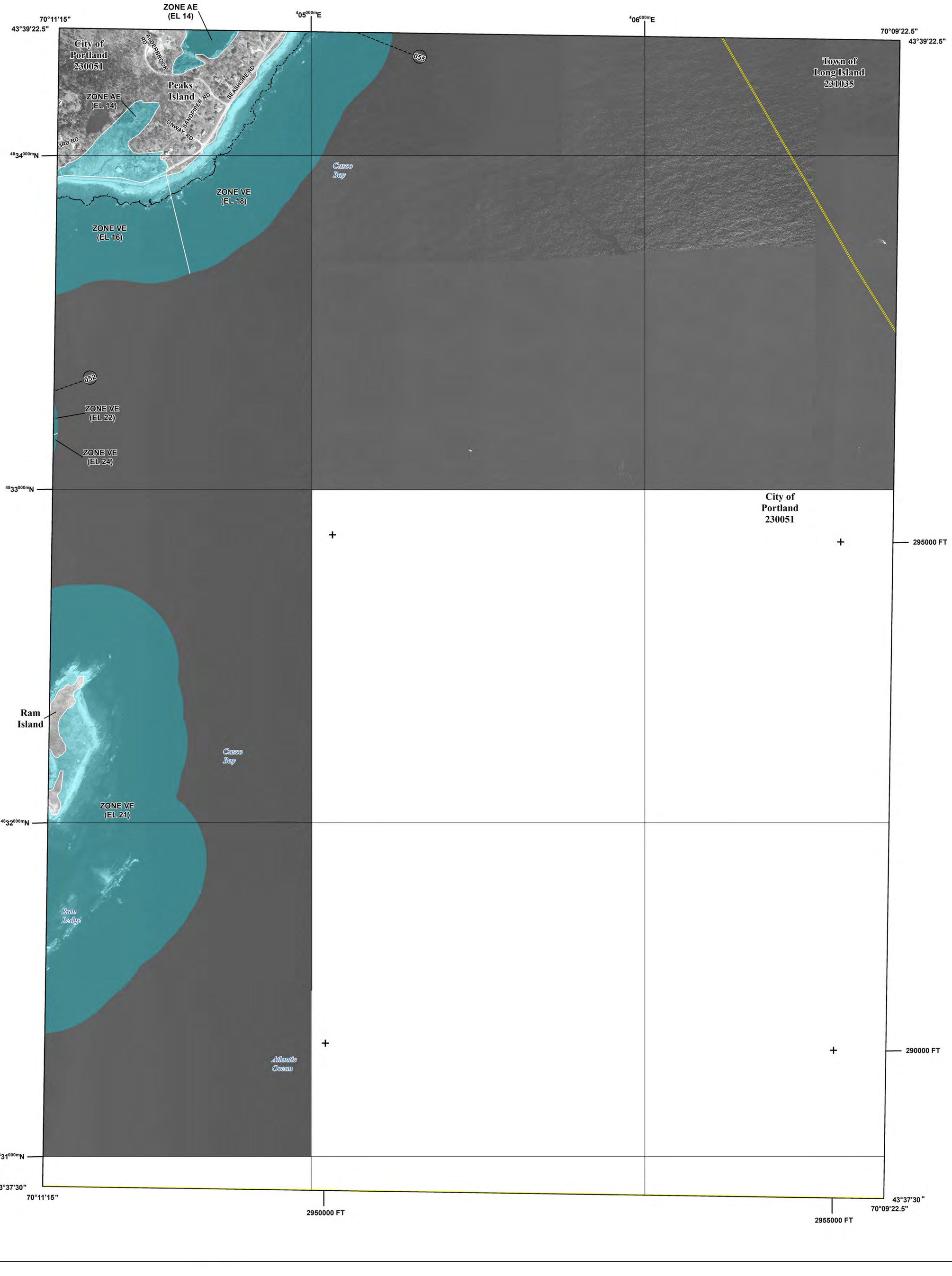
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
LONG ISLAND, TOWN OF	231035	0717	F
PORTLAND, CITY OF	230051	0717	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0717F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

N

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0718 OF 0837

FEMA

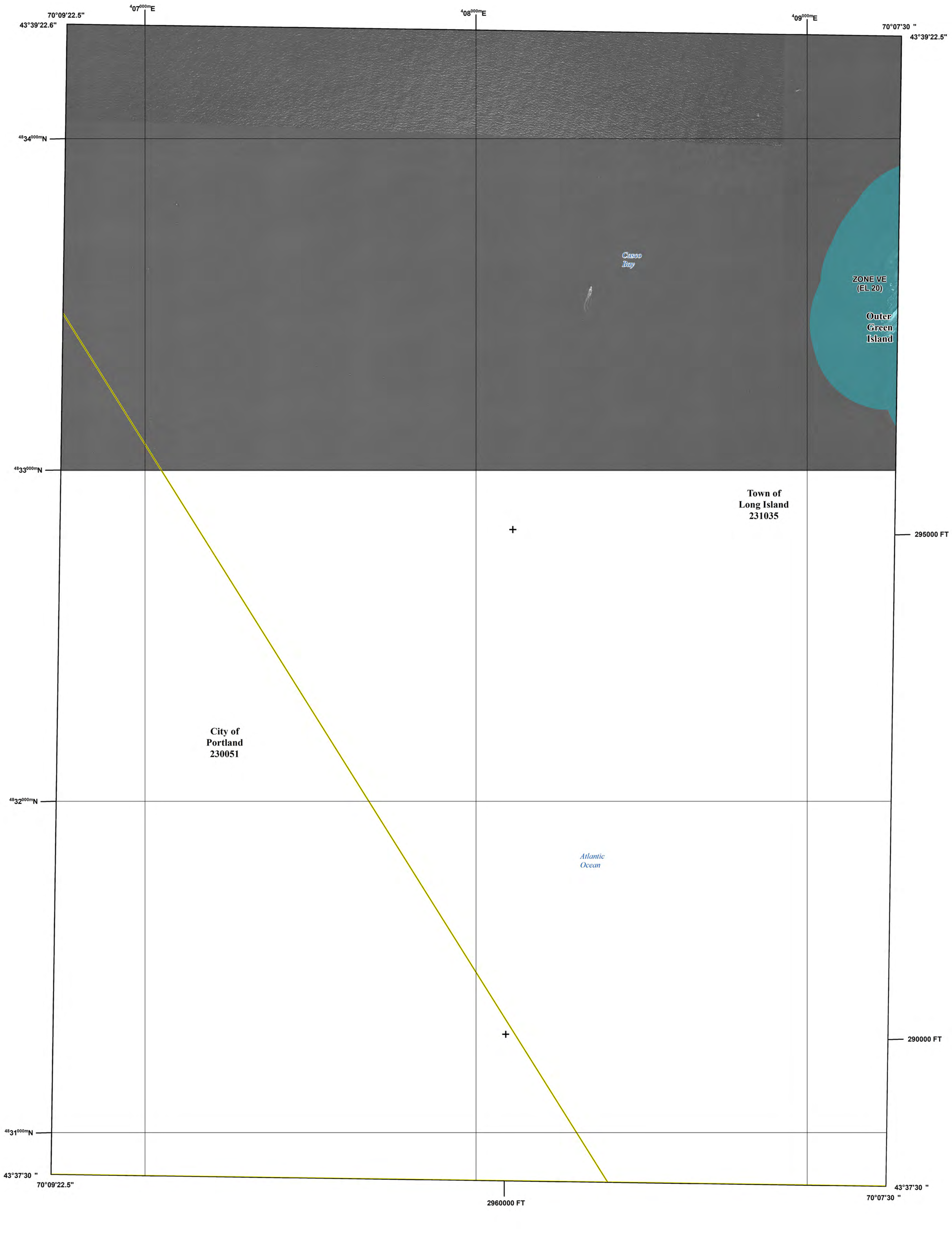
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
LONG ISLAND, TOWN OF	231035	0718	F
PORTLAND, CITY OF	230051	0718	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0718F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
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- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
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OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
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- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

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Western Hemisphere; Vertical Datum: NAVD 88

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PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0719 OF 0837

FEMA

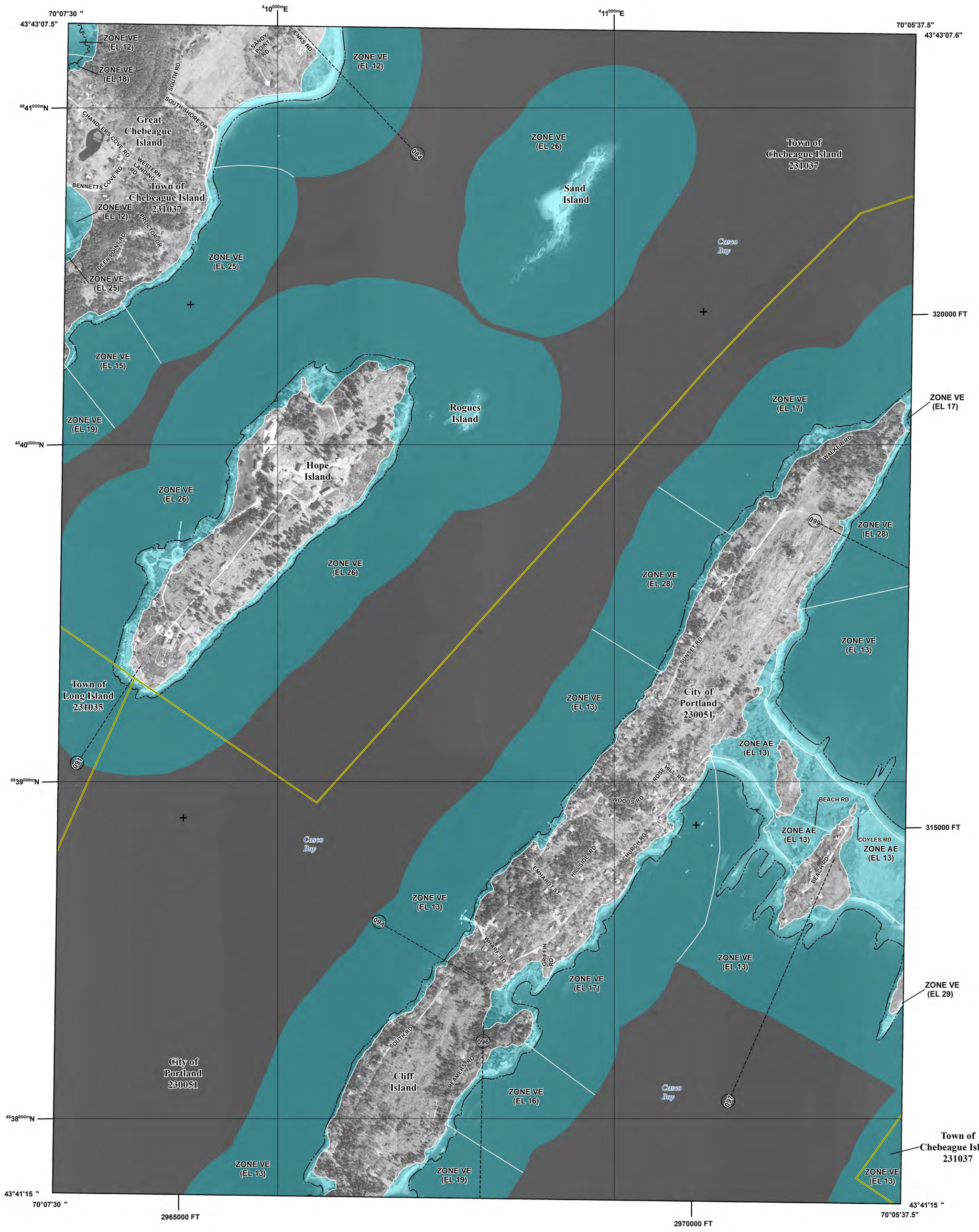
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
LONG ISLAND, TOWN OF	231035	0719	F
PORTLAND, CITY OF	230051	0719	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0719F

EFFECTIVE DATE
June 20, 2024



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SCALE

N

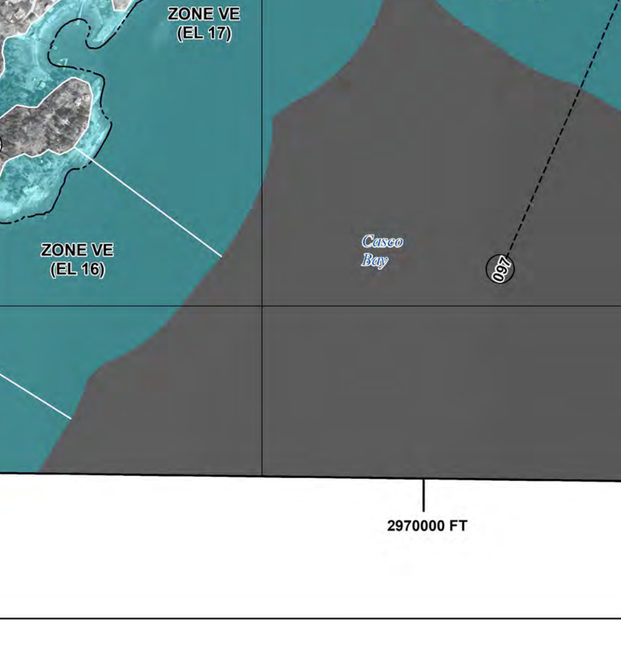
Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0728 OF 0837

FEMA

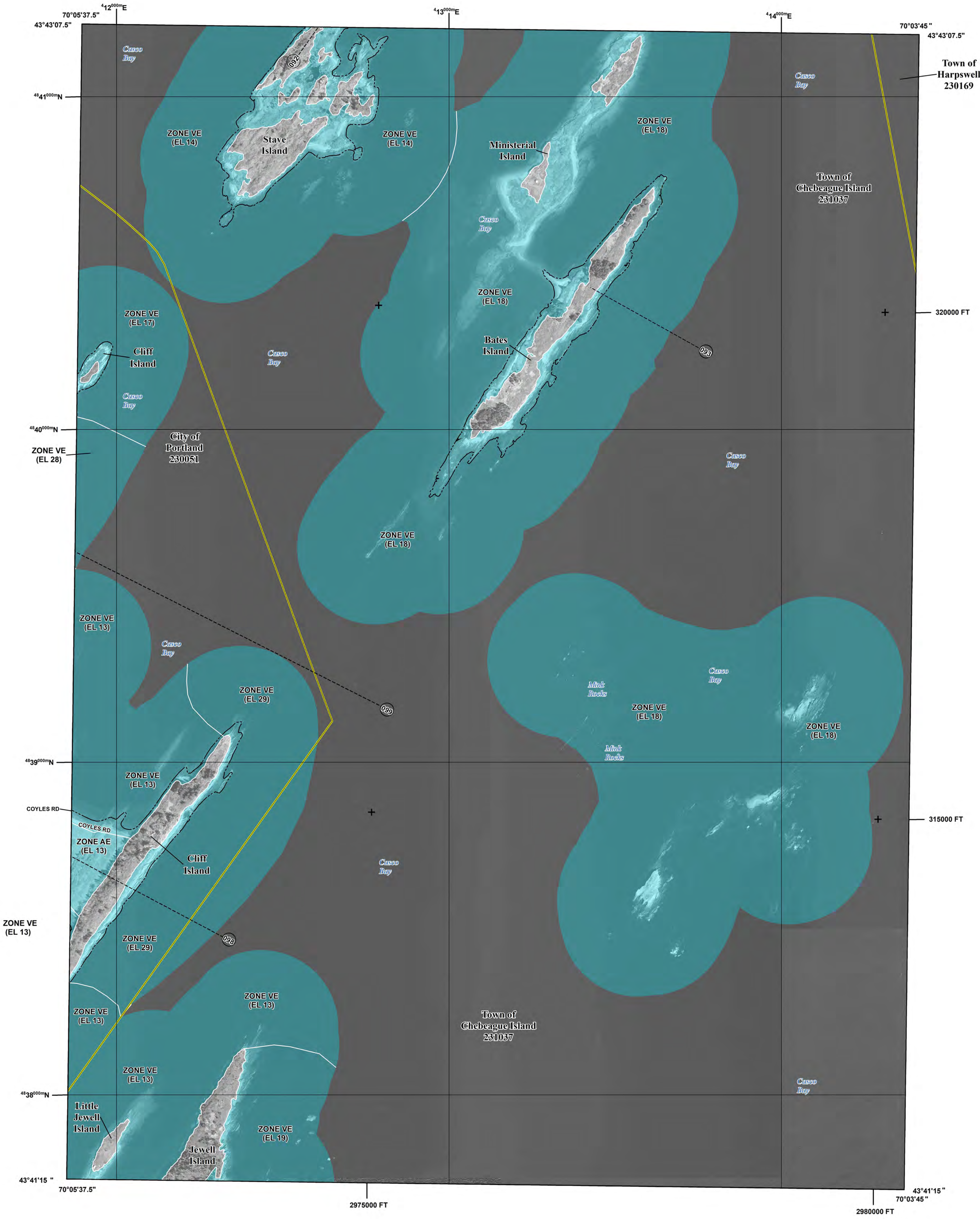
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEBEAGUE ISLAND, TOWN OF	231037	0728	F
LONG ISLAND, TOWN OF	231035	0728	F
PORTLAND, CITY OF	230051	0728	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0728F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS
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- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
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- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0729 OF 0837

FEMA

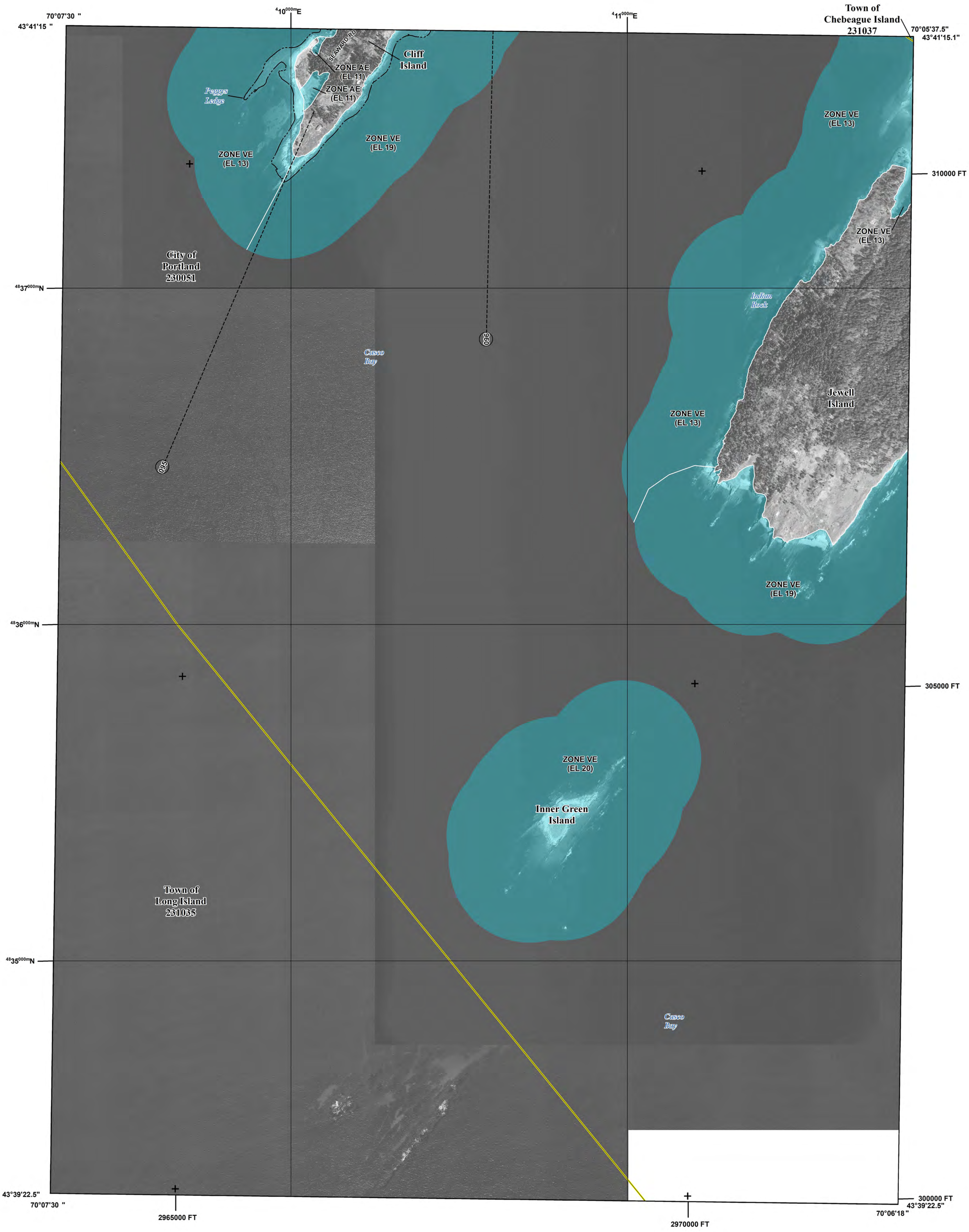
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEBEAGUE ISLAND, TOWN OF	231037	0729	F
HARPSWELL, TOWN OF	230169	0729	F
PORTLAND, CITY OF	230051	0729	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0729F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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- Without Base Flood Elevation (BFE) *Zone A,V, A99*
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- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

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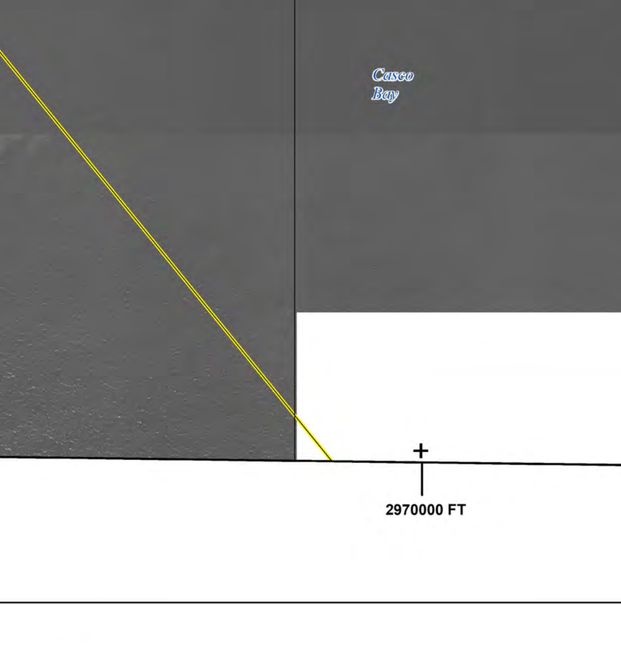
PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0736 OF 0837

FEMA

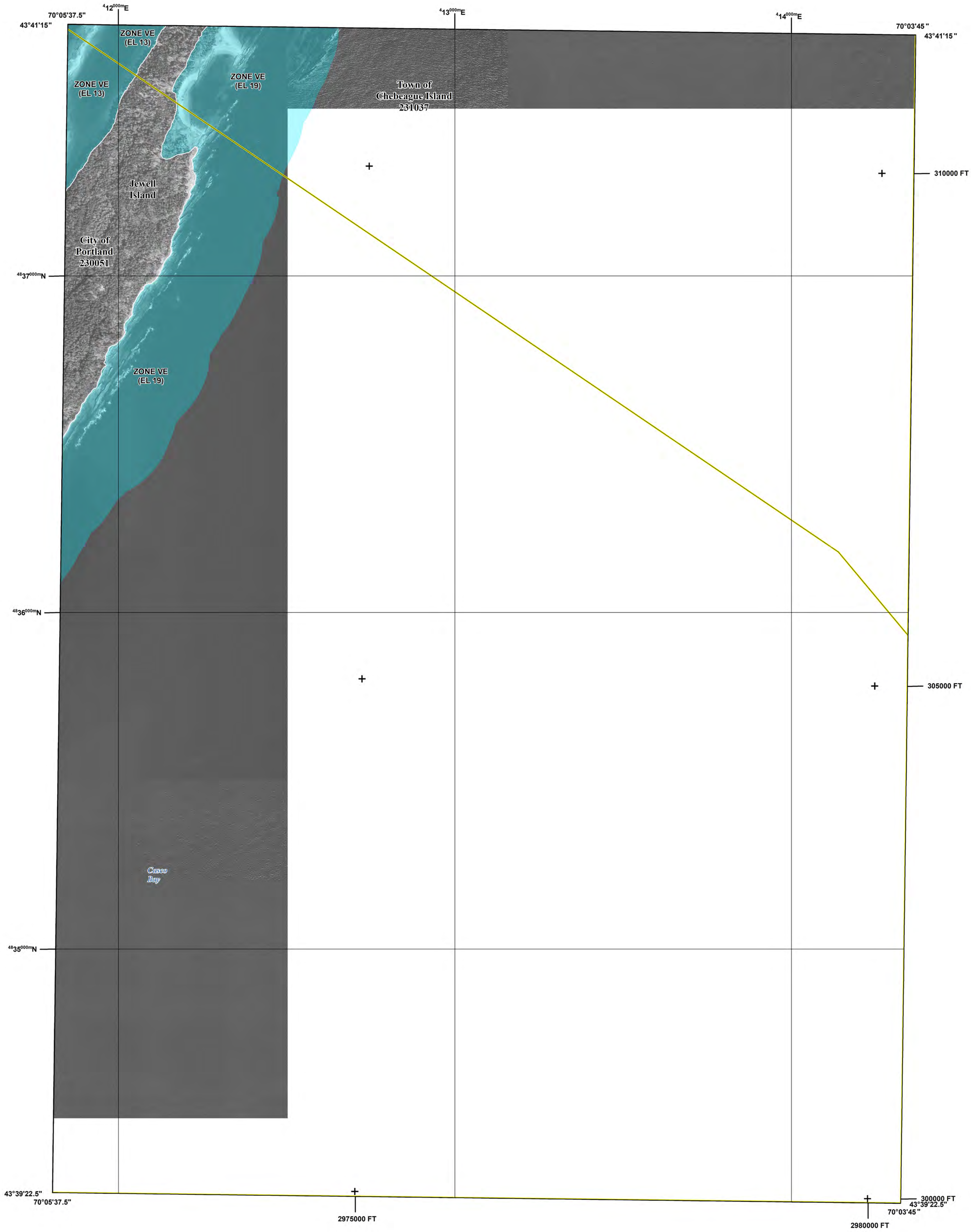
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEBEAGUE ISLAND, TOWN OF	231037	0736	F
LONG ISLAND, TOWN OF	231035	0736	F
PORTLAND, CITY OF	230051	0736	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0736F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

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OTHER AREAS OF FLOOD HAZARD

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OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
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GENERAL STRUCTURES

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OTHER FEATURES

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- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

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SCALE

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PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0737 OF 0837

FEMA

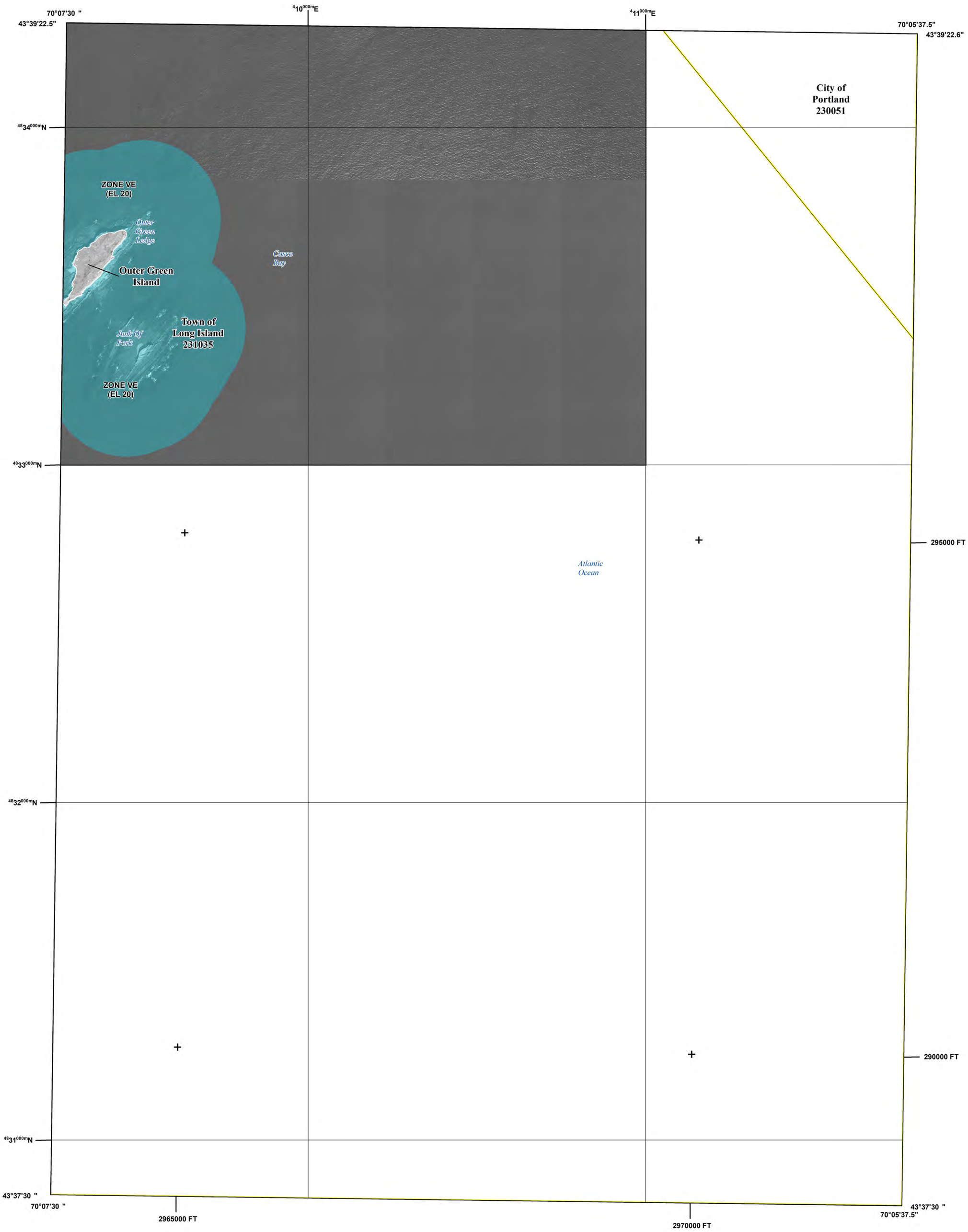
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEBEAGUE ISLAND, TOWN OF	231037	0737	F
PORTLAND, CITY OF	230051	0737	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0737F

EFFECTIVE DATE
June 20, 2024



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- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM provided in digital format by State of Maine, Maine office of GIS (MeGIS). This information was derived from MeGIS, dated 2009 and 2012.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and FDTs may reflect stream channel distances that differ from what is shown on the map.

SCALE

N

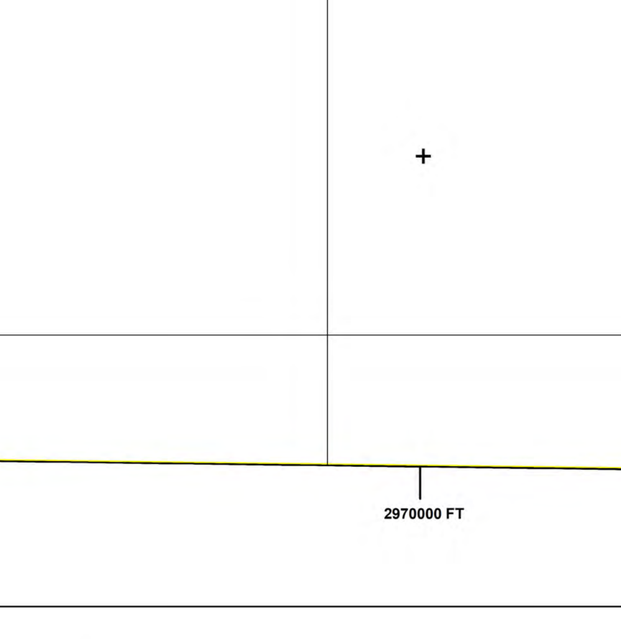
Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE

All Jurisdictions

PANEL 0738 OF 0837

FEMA

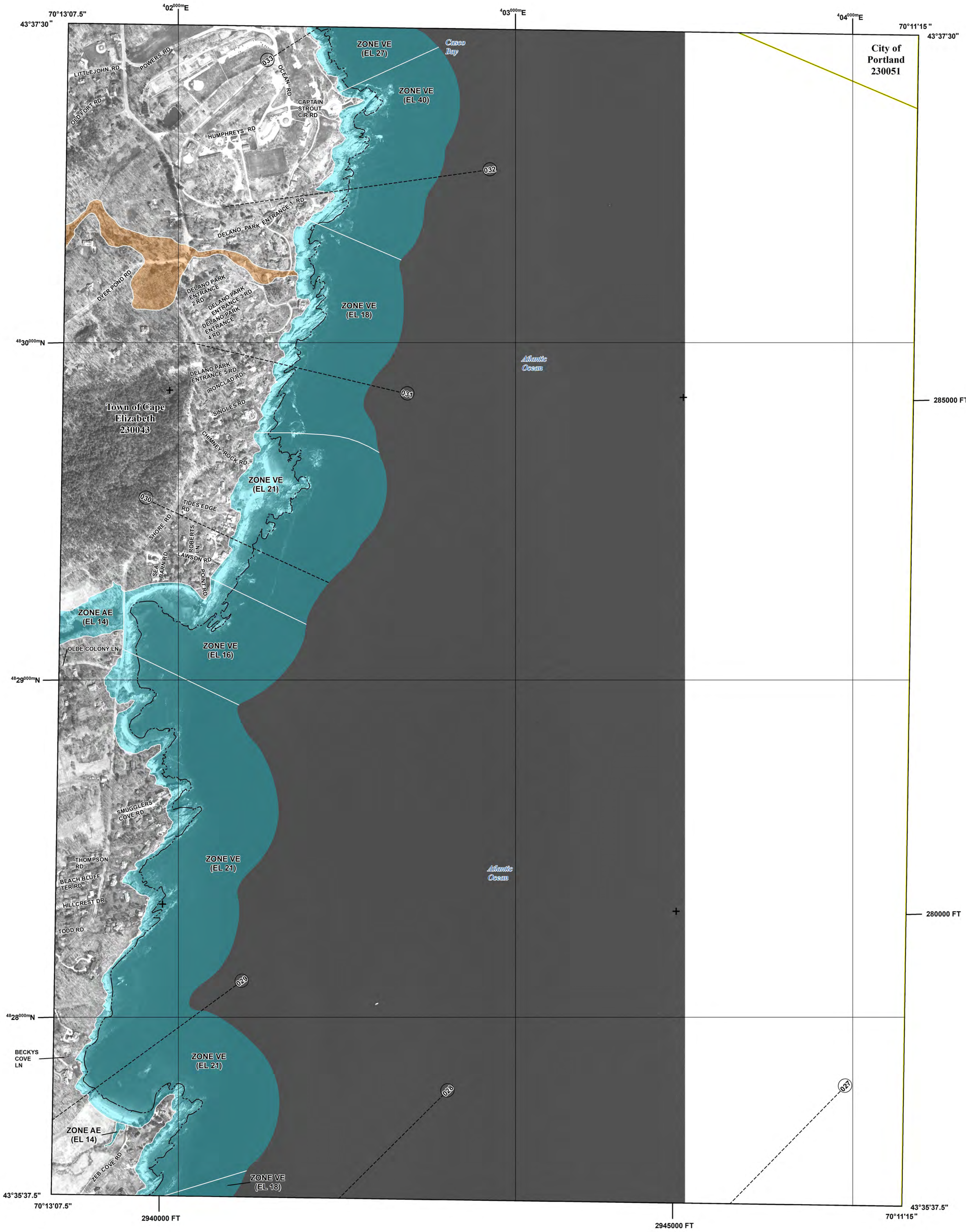
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
LONG ISLAND, TOWN OF	231035	0738	F
PORTLAND, CITY OF	230051	0738	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0738F

EFFECTIVE DATE
June 20, 2024



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CUMBERLAND COUNTY, MAINE
All Jurisdictions

PANEL 0827 OF 0837

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAPE ELIZABETH, TOWN OF	230043	0827	F
PORTLAND, CITY OF	230051	0827	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
23005C0827F

EFFECTIVE DATE
June 20, 2024

Federal Emergency Management Agency

Washington, D.C. 20472

December 20, 2023

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
19P

The Honorable Kate Snyder
Mayor, City of Portland
389 Congress Street
Portland, Maine 04101

Community Name: City of Portland, Cumberland County, Maine
Community No.: 230051
Map Panels Affected: See FIRM Index

Dear Mayor Snyder:

This is to notify you of the final flood hazard determination for Cumberland County, Maine (All Jurisdictions), in compliance with Title 44, Chapter I, Part 67, Section 67.11, Code of Federal Regulations (CFR). This section requires that notice of final flood hazards shall be sent to the Chief Executive Officer of the community, all individual appellants, and the State Coordinating Agency, and shall be published in the *Federal Register*.

The statutory 90-day appeal period that was initiated for your community when the Department of Homeland Security's Federal Emergency Management Agency (FEMA) published a notice of proposed flood hazard determinations for your community in the local newspaper has elapsed. FEMA did receive an appeal regarding the proposed flood hazard determinations during that time. The technical data submitted in support of the appeal has been evaluated and the appeal has been resolved in accordance with the requirements of 44 CFR Part 67. We determined that changes were warranted based on the submitted data and have incorporated the applicable changes on the final copies of the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for your community.

Accordingly, the flood hazard determinations for your community are considered final. The final notice for flood hazard determinations will be published in the *Federal Register* as soon as possible. The FIS report and FIRM for your community will become effective on June 20, 2024. Before the effective date, we will send your community final printed copies of the FIS report and FIRM. For insurance purposes, the community number and new suffix code for the panels being revised are indicated on the FIRM and must be used for all new policies and renewals.

Because the FIS report for your community has been completed, certain additional requirements must be met under Section 1361 of the National Flood Insurance Act of 1968, as amended, within 6 months from the date of this letter.

It must be emphasized that all the standards specified in 44 CFR Part 60.3(d) and (e) of the National Flood Insurance Program (NFIP) regulations must be enacted in a legally enforceable document. This includes adoption of the current effective FIS report and FIRM to which the regulations apply and other modifications made by this map revision. Some of the standards should already have been enacted by your community in order to establish initial eligibility in the NFIP. Your community can meet any additional requirements by taking one of the following actions in this Paragraph of the NFIP regulations:

1. Amending existing regulations to incorporate any additional requirements of 44 CFR Part 60.3(d) and (e);

2. Adopting all the standards of 44 CFR Part 60.3(d) and (e) into one new, comprehensive set of regulations; or

3. Showing evidence that regulations have previously been adopted that meet or exceed the minimum requirements of 44 CFR Part 60.3(d) and (e).

Also, prior to the effective date, your community is required, as a condition of continued eligibility in the NFIP, to adopt or show evidence of adoption of the floodplain management regulations that meet the standards of 44 CFR Part 60.3(d) and (e) of the NFIP regulations by the effective date of the FIRM. These standards are the minimum requirements and do not supersede any State or local requirements of a more stringent nature.

Many states and communities have adopted building codes based on the International Codes (I-Codes); the model I-Codes (2009 and more recent editions) contain flood provisions that either meet or exceed the minimum requirements of the NFIP for buildings and structures. The model codes also contain provisions, currently found in an appendix to the International Building Code, that apply to other types of development and NFIP requirements. In these cases, communities should request review by the NFIP State Coordinator to ensure that local floodplain management regulations are coordinated (not duplicative or inconsistent) with the State or Local building code. FEMA's resource, *Reducing Flood Losses through the International Code: Coordinating Building Codes and Floodplain Management Regulations, 5th Edition (2019)*, provides some guidance on this subject and is available at https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes/flood.

Communities that fail to enact the necessary floodplain management regulations will be suspended from participation in the NFIP and subject to the prohibitions contained in Section 202(a) of the Flood Disaster Protection Act of 1973 (Public Law 93-234) as amended, and 44 CFR Part 59.24.

To assist your community in maintaining the FIRM, we have enclosed a Summary of Map Actions (SOMA) to document previous Letters of Map Change (LOMC) actions (i.e., Letters of Map Amendment, Letters of Map Revision) that will be affected when the revised FIRM panels referenced above become effective. If no LOMCs were issued previously for your community, you are receiving a SOMA for informational purposes only.

Once the FIS report and FIRM are printed and distributed, the digital files containing the flood hazard data for the entire county can be provided for use in a computer mapping system. These files can be used in conjunction with other thematic data for floodplain management purposes, insurance requirements, and many other planning applications. Copies of the digital files of the FIRM panels may be obtained by calling our FEMA Mapping and Insurance eXchange (FMIX), toll free, at (877) 336-2627 (877-FEMA MAP) or by visiting the Map Service Center at https://www.msc.fema.gov. In addition, your community may be eligible for additional credits under our Community Rating System if you implement your activities using digital mapping files.

For assistance with your floodplain management ordinance or enacting the floodplain management regulations, please contact Susan Baker, NFIP State Coordinator for Maine by telephone at (207) 287-8063. If you should require any additional information, we suggest that you contact the Director, Mitigation Division of FEMA, Region 1 at (617) 956-7576 for assistance. If you have any questions concerning mapping issues in general or the enclosed SOMA, please call our FMIX at the telephone number shown above. Additional information and resources you may find helpful regarding the NFIP and floodplain management can be found on our website at https://www.fema.gov/flood-maps. Copies of these documents may also be obtained by calling our FMIX.

Sincerely,

Luis V. Rodriguez, P.E.
Director, Engineering and Modeling Division
Risk Management Directorate | Resilience

Enclosure:
Final SOMA

cc: Community Map Repository
Caity Hager, Emergency Management Coordinator, City of Portland

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

To assist your community in maintaining the Flood Insurance Rate Map (FIRM), we have summarized below the effects of the enclosed revised FIRM panels(s) on previously issued Letter of Map Change (LOMC) actions (i.e., Letters of Map Revision (LOMRs), Letter of Map Revision based on Fill (LOMR-Fs), and Letters of Map Amendment (LOMAs)) that will be affected when the revised FIRM becomes effective on June 20, 2024.

1. LOMCs Incorporated

The modifications effected by the LOMCs listed below will be reflected on the revised FIRM. In addition, these LOMCs will remain in effect until the revised FIRM becomes effective.

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMR	12-01-0692P	11/09/2012	COMMERICAL STREET PORTLAND ME	2300510013B 2300510014B	23005C0692F 23005C0694F 23005C0711F 23005C0713F
LOMR	13-01-1727P	03/20/2014	FALL BROOK WATERSHED STUDY	2300510002C 2300510007C	23005C0683F 23005C0684F 23005C0692F

2. LOMCs Not Incorporated

The modifications effected by the LOMCs listed below will not be reflected on the revised FIRM panels or will not be reflected on the revised FIRM panels because of scale limitations or because the LOMC issued had determined that the lot(s) or structure(s) involved were outside the Special Flood Hazard Area, as shown on the FIRM. These LOMCs will remain in effect until the revised FIRM becomes effective. These LOMCs will be revalidated free of charge 1 day after the revised FIRM becomes effective through a single revalidation letter that reaffirms the validity of the previous LOMCs.

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

2A. LOMCs on Revised Panels

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	199500109R01	04/28/1994	46 MAINE AVENUE	2300510007B	23005C0683F
LOMA	199600155R01	07/24/1996	1214 WASHINGTON STREET	2300510007B	23005C0683F
LOMA	98-01-056A	01/09/1998	TAX MAP 109B, BLOCK F, LOT 34 - ISLAND AVENUE	2300510004B	23005C0728F
LOMA	98-01-150A	01/30/1998	TAX MAP 437, BLOCK B, LOT 3 - 35 SARA LANE	2300510007B	23005C0683F
LOMA	98-01-176A	02/18/1998	MEADOW VIEW PARK - LOT 81 - 22 SARA LANE	2300510007B	23005C0683F
LOMA	98-01-780A	07/17/1998	RAY GARDENS - LOTS 36-40 - 10 MARLBOROUGH ROAD	2300510007B	23005C0684F
LOMA	98-01-790A[1]	07/22/1998	ISLAND AVENUE	2300510004B	23005C0709F
LOMA	98-01-830A	07/24/1998	40 BERNARD STREET - ASSESSMENT MAP 437, LOT 87, BLOCK E	2300510007B	23005C0683F
LOMA	98-01-844A	08/07/1998	MEADOW VIEW PARKI - LOT 45 - 25 SARA LANE	2300510007B	23005C0683F
LOMA	98-01-864A	08/12/1998	MEADOW VIEW PARK - LOT 79 - 32 SARA LANE	2300510007B	23005C0683F
LOMA	99-01-160A	12/18/1998	MEADOWVIEW PARK, SECTION C - LOT 1 - 56 MONA ROAD	2300510007C	23005C0683F
LOMA	99-01-260A	12/30/1998	1272 WASHINGTON AVENUE	2300510007C	23005C0683F
LOMA	99-01-320A	02/05/1999	THE PINES, SECTION A - LOTS 16 & 17	2300510007C	23005C0683F
LOMA	99-01-506A	03/19/1999	ASSESSORS MAP 437 - BLOCK E, LOT 92 - 16 BERNARD ROAD	2300510007C	23005C0683F
LOMA	99-01-554A	03/19/1999	20 BERNARD ROAD	2300510007C	23005C0683F
LOMA	99-01-908A	06/16/1999	21 SARA LANE	2300510007C	23005C0683F

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	99-01-922A	06/18/1999	1262 WASHINGTON AVE	2300510007C	23005C0683F
LOMA	99-01-1154A	09/10/1999	29 MAINE AVENUE	2300510007C	23005C0683F
LOMA	99-01-1106A	09/22/1999	1268 WASHINGTON AVENUE	2300510007C	23005C0683F
LOMA	00-01-0140A	12/17/1999	31 SAMUEL ROAD	2300510007C	23005C0683F
LOMA	00-01-0120A	02/11/2000	28 SARA LANE	2300510007C	23005C0683F
LOMA	00-01-1112A	10/12/2000	1220 WASHINGTON AVENUE	2300510007C	23005C0683F
LOMA	00-01-0848A	10/24/2000	1316 WESTBROOK STREET	2300510012C	23005C0687F
LOMA	00-01-1100A	10/24/2000	84 COMMERCIAL STREET	2300510014B	23005C0692F
LOMA	01-01-0388A	02/21/2001	15 EDGEWOOD AVENUE	2300510007C	23005C0683F
LOMA	01-01-1030A	06/29/2001	62 MONA ROAD	2300510007C	23005C0683F
LOMA	01-01-1222A	08/17/2001	83 MONA ROAD	2300510007C	23005C0683F
LOMA	02-01-0600A	03/29/2002	LOT 10, BLOCK D, TAX MAP 433--24-26 VAILL STREET	2300510008B	23005C0684F
LOMA	02-01-1142A	06/05/2002	31 SARA LANE	2300510007C	23005C0683F
LOMA	02-01-1450A	10/04/2002	22 VAILL STREET	2300510008B	23005C0684F
LOMA	04-01-0188A	12/15/2003	66 SAMUEL ROAD - LOT 2, MEADOW VIEW PARK, SECTION D	2300510007C	23005C0683F
LOMA	04-01-0712A	03/04/2004	23 EDGEWOOD AVENUE	2300510007C	23005C0683F
LOMR-F	04-01-1366A	08/09/2004	1259 WASHINGTON AVENUE--LOT 8, WADCO PARK	2300510007C	23005C0683F

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	04-01-1554A	09/16/2004	LOT 83, MEADOW VIEW PARK – 12 SARA LANE	2300510007C	23005C0683F
LOMA	04-01-1666A	10/12/2004	LOT 35, PLAN OF MEADOW VIEW PARK - 23 SAMUEL ROAD	2300510007C	23005C0683F
LOMA	04-01-1734A	10/25/2004	LOT 51, SECTION B, MEADOW VIEW PARK -- 27 SAMUEL ROAD	2300510007C	23005C0683F
LOMA	05-01-0282A	04/01/2005	1282 WASHINGTON AVENUE – TAX MAP 437, BLOCK B, LOT 69	2300510007C	23005C0683F
LOMA	05-01-0540A	06/03/2005	1241 WASHINGTON AVENUE – BLOCK A, TAX LOT 29	2300510007C	23005C0683F
LOMA	07-01-0251A	12/12/2006	MEADOW VIEW PARK, SECTION B, LOTS 33 & 34 – 17 SAMUEL ROAD (ME)	2300510007C	23005C0683F
LOMA	07-01-0282A	12/19/2006	LOT 33, SECTION B, PLAN OF MEADOW VIEW PARK	2300510007C	23005C0683F
LOMA	07-01-0297A	01/04/2007	1245 WASHINGTON AVENUE (ME)	2300510007C	23005C0683F
LOMA	07-01-0408A	02/01/2007	THE PINES, SECTION A, PORTION OF LOTS 3-4 -- 1227 WASHINGTON AVENUE	2300510007C	23005C0683F
LOMA	07-01-0279A	04/19/2007	LOT 72, MEADOW VIEW PARK, SECTION B -- 18 SAMUEL ROAD (ME)	2300510007C	23005C0683F
LOMA	07-01-0785A	05/29/2007	1276 WASHIGNTON AVENUE (ME)	2300510007C	23005C0683F
LOMA	07-01-0933A	07/17/2007	LOT 68 – 40 MONA ROAD	2300510007C	23005C0683F
LOMA	07-01-0909A	07/24/2007	WADCO PARK, LOT 34 – 15 LORING AVENUE (ME)	2300510007C	23005C0683F
LOMR-F	07-01-1104A	10/11/2007	1230 WASHINGTON AVENUE -- TAX MAP 437, BLOCK E, LOT 80	2300510007C	23005C0683F
LOMA	08-01-0089A	01/17/2008	BLOCK H, LOT 1, BUILDINGS 1 & 2 -- 450 COMMERCIAL STREET	2300510013B	23005C0694F
LOMA	08-01-0307A	01/17/2008	LOTS 189-190, THE PINES, SECTION A -- 33 MAINE AVENUE	2300510007C	23005C0683F
LOMA	08-01-0971A	07/10/2008	WASHINGTON PARK, LOT 3 -- 11 EDGEWOOD AVENUE	2300510007C	23005C0683F

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	08-01-0988A	07/15/2008	Lot 5-6, Washington Park Subdivision - 19 Edgewood Avenue	2300510007C	23005C0683F
LOMA	09-01-0346A	12/23/2008	TAX MAP 402, BLOCK C, PARCEL 1 -- 1269 WASHINGTON AVENUE	2300510007C	23005C0683F
LOMA	09-01-0997A	05/19/2009	MEADOW VIEW PARK, LOT 4 -- 19 LORING AVENUE	2300510007C	23005C0683F
LOMA	10-01-0261A	01/08/2010	LOT 6, STROUDWATER WOODS SUBDIVISION -- 120 PARTRIDGE CIRCLE	2300510012C	23005C0687F
LOMA	11-01-0277A	12/23/2010	LOTS 58 AND 59, WINDSOR HEIGHTS -- 32 LENNOX STREET	2300510008B	23005C0692F
LOMA	11-01-1766A	06/28/2011	SPRAGUE E4NERGY PORTLAND TERMINAL, TAX MAP 072, LOT 3--92 CASSIDY POINT ROAD, RUBB BUILDINGS 3 & 5	2300510016B	23005C0694F
LOMA	12-01-1402A	04/12/2012	TAX MAP 433-H-1 -- 11 CLEVELAND STREET	2300510008B	23005C0684F
LOMA	12-01-1938A	07/10/2012	LOT 9, WASHINGTON PARK -- 33 EDGEWOOD AVENUE	2300510007C	23005C0683F
LOMA	12-01-1840A	07/17/2012	BLOCK E, LOT 78 -- 1234 WASHINGTON AVENUE	2300510007C	23005C0683F
LOMA	12-01-2069A	07/24/2012	48 BERNARD ROAD	2300510007C	23005C0683F
LOMA	13-01-0124A	10/23/2012	LOTS 134, 135, 136, OCEAN VIEW PARK-- 29 OREGON STREET	2300510008B	23005C0684F
LOMA	13-01-0220A	11/27/2012	TAX MAP 273, BLOCK J, LOT 16 -- 5 POE STREET	2300510006C	23005C0687F
LOMA	13-01-0538A	01/08/2013	MAP 284, LOT G-20 -- 78 DENNETT STREET	2300510006C	23005C0691F
LOMA	13-01-1198A	02/11/2013	Lot 7, Stroudwater Woods Subdivision - 100 Partridge Circle	2300510012C	23005C0687F
LOMA	13-01-2129A	07/16/2013	TAX MAP 333, BLOCK K, LOT 16 -- 159 BEVERLY STREET	2300510001B	23005C0683F
LOMR-F	13-01-2188A	08/29/2013	TAX MAP 245, BLOCK A, LOT 5 -- 64 BLUEBERRY ROAD	2300510012C	23005C0687F 23005C0689F
LOMA	14-01-0558A	11/21/2013	TAX MAP 437, BLOCK B, LOT 2 -- 41 SARA LANE	2300510007C	23005C0683F

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	14-01-1923A	04/29/2014	TAX MAP 105, BLOCK Y – 11 ROCKLEDGE AVENUE	2300510014B	23005C0712F
LOMA	14-01-2181A	07/01/2014	LOT 402C002, BLOCK 402C002 - 1265 Washington Avenue	2300510007C	23005C0683F
LOMA	15-01-0242A	01/08/2015	TAX MAP 31, LOT 34 – 250 COMMERCIAL STREET	2300510013B	23005C0694F
LOMA	15-01-0949A	01/14/2015	Lot Lot #1, Chapman Heights Subdivision - 16 Mayer Road	2300510012C	23005C0691F
LOMA	15-01-1677A	06/09/2015	BERLIN MILLS WHARF -- 400 COMMERCIAL STREET	2300510013B	23005C0694F
LOMR-VZ	17-01-0303A[1]	12/02/2016	OCEAN VIEW LAND COMPANY, LOT 98 -- 143 STEPPING STONE LANE	2300510004B 2300510010B	23005C0709F
LOMA	17-01-2313A	09/01/2017	230 COMMERCIAL STREET	2300510013B	23005C0694F
LOMA	17-01-1809A	09/06/2017	1 UNION WHARF	2300510013B	23005C0694F
LOMA	18-01-2034A[1]	10/19/2018	772 ISLAND AVENUE	2300510004B	23005C0709F
LOMR-VZ	20-01-0090A	11/26/2019	111 REED AVENUE	2300510009B 2300510015B	23005C0716F
LOMA	21-01-0884A	05/17/2021	789 WARREN AVENUE	2300510006C	23005C0679F
LOMR-VZ	21-01-1535A[1]	10/28/2021	PLAN OF OCEAN VIEW LAND COMPANY, LOTS 111 & 112 – 164 ATLANTIC LANE	2300510010B	23005C0709F
LOMA	22-01-0489A	03/18/2022	THOMPSON'S POINT, LOT 8-10 -- 205/207/235 THOMPSONS POINT ROAD	2300510013B	23005C0693F
LOMR-VZ	22-01-0639A	05/13/2022	HOUSE ISLAND	2300510014B	23005C0714F

[1]This LOMC was issued in City of Portland but is now located in Town of Long Island

2B. LOMCs on Unrevised Panels

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
			NO CASES RECORDED		

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

3. LOMCs Superseded

The modifications effected by the LOMCs listed below have not been reflected on the Final revised FIRM panels because they are being superseded by new or revised flood hazard information or the information available was not sufficient to make a determination. The reason each is being superseded is noted below. These LOMCs will no longer be in effect when the revised FIRM becomes effective.

LOMC	Case No.	Date Issued	Project Identifier	Reason Determination Will be Superseded
LOMA	199500204R01	02/07/1995	No Information Available	1
LOMA	190100003D&D	01/31/1996	50 PORTLAND PIER	4
LOMA	199600082R01	05/07/1996	No Information Available	1
LOMA	500031652R01	11/20/1997	62 MONA ROAD	6
LOMA	00-01-0118A	05/09/2000	1220 WASHINGTON AVENUE	6
LOMA	04-01-0912A	04/08/2004	LOT 3, NORTH GATE -- 554 SEASHORE AVENUE	3
LOMA	07-01-0539A	05/15/2007	400 COMMERCIAL STREET -- Berlin Mills Wharf (ME)	6
LOMR	11-01-1058P	09/27/2011	GREAT MAINE WHARF	4
LOMR	12-01-0271P	09/14/2012	CUSHING ISLAND	4
LOMA	21-01-0177A	11/20/2020	58 Fore Street	3
LOMA	21-01-1299A	08/30/2021	1 MARINA WAY	3
LOMA	23-01-0233A	01/18/2023	45 EASTERN PROMENADE	3

FINAL SUMMARY OF MAP ACTIONS

Community: PORTLAND, CITY OF Community No: 230051

1. Insufficient information available to make a determination.
2. Lowest Adjacent Grade and Lowest Finished Floor are below the proposed Base Flood Elevation.
3. Lowest Ground Elevation is below the proposed Base Flood Elevation.
4. Revised hydrologic and hydraulic analyses.
5. Revised topographic information.
6. Superseded by another LOMC.

4. LOMCs To Be Redetermined

The LOMCs in Category 2 above will be revalidated through a single revalidation letter that reaffirms the validity of the determination in the previously issued LOMC. For LOMCs issued for multiple lots or structures where the determination for one or more of the lots or structures is no longer valid, the LOMC cannot be revalidated through this administrative process. Therefore, we will review the data previously submitted for the LOMC requests listed below and if appropriate issue a new determination for the affected properties after the effective date of the revised FIRM.

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
			NO CASES RECORDED		

City of Portland | Department of Public Works
Kevin Deneault, *GIS Mapping Specialist*

City of Portland, Maine
FEMA Letter of Map Revisions (LOMR)

FEMA approved the Letter of Map Revisions (LOMR) for the City of Portland, Maine on February 5, 2024. These Letter of Map Revisions will be approved by the City on June 21, 2024. A Letter of Map Revision represents any changes to the hydrologic or hydraulic characteristics of a flooding source and any modifications to the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Areas (SFHA). As part of the National Flood Insurance Program process, all revisions are individually submitted and then reviewed by FEMA on an ongoing basis. Once the LOMR's are approved by FEMA, revisions are then incorporated into the offical FEMA flood maps.The FEMA approved LOMR's for the City of Portland are focused on Peaks Island and Cliff Island.

The individual LOMR affected panels from the FEMA Flood Insurance Rate Maps (FIRMs) include 23005C0714F, 23005C0716F, 23005C0718F, and 23005C0728F. The majority of these changes focused around the Special Flood Hazard Areas (SFHA): Zone VE, Zone AE, Zone AO, and Zone AH. **Zone VE**, also known as a coastal high hazard area where storm surge, wave action, and fast-moving water can cause extensive damage during a base flood event. In order to address the added wave hazard, more stringent building practices are required in Zone VE. On newer maps or revisions, Zone VE may be used rather than numbered V Zones to accommodate current FEMA methodologies and mapping practices. Next, **Zone AE** indicates areas that have at least a 1%-annual-chance of being flooded, but where wave heights are less than 3 feet. **Zone AO** are areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. Finally, **Zone AH** refers to areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet.

On Peaks Island, there were a couple of focus areas where the LOMR changes occurred. These include areas along the north side of the island adjacent to Pumpkin Knob. The revisions in this area of the island include changes to the velocity zone elevations and transects. Essentially the mapping and modeling lowered the velocity zone elevations from what was previously represented, due to an increase in wave exposure and the steepness of the shoreline. This mapping can be seen on FIRM Panel 716. Further, at the southeastern end of Peaks Island just northeast of Cushing, there are LOMR changes to the velocity zone elevations and base flood elevations (BFE) due to lowered transects, modeling calculations, and the steepness of the shoreline. The mapping of this area is outlined in FIRM Panels 714 and 718.

Cliff Island is another area where LOMR changes occurred. The focus area on Cliff Island was towards the east-facing side of the island closest to Griffin Road and along Church Road. These changes included lowering of velocity zone elevations and resizing the VE zone to a much smaller area to account for changes to wave exposure and the steepness of the shoreline. These adjustments can be seen on FIRM Panel 728.

If there are any further questions or concerns regarding these LOMR changes, please do not hesitate to reach out to the City's Zoning Administrator, Ann Machado.

Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

High Risk - Coastal Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.

ZONE	DESCRIPTION
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1 - 30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

From FEMA Map Service Center:
https://msc.fema.gov/portal/resources/productsandtools

3 DEFINITIONS

Accessory dwelling unit. A dwelling unit subordinate in size to the principal residential structure(s) on a lot and located either within the principal residential structure(s) or in an accessory structure.

Adjacent grade (within the floodplain). For the purposes of calculating floor elevation in areas of special flood hazard, ~~T~~the natural elevation of the ground surface prior to the construction next to the proposed wall of a structure.

Adult business establishment. Any business, including but not limited to any bookstore, newsstand, novelty store, nightclub, bar, cabaret, amusement arcade, or theater, which:

A. Keeps for public patronage or permits or allows the operation of any adult amusement device as defined in Chapter 4 of the City of Portland Code of Ordinances; or

B. Customarily, meaning more often than an average of one calendar week during any calendar month of operation, exhibits motion pictures or displays any other visual representation described or advertised as being "X rated" or "for adults only," or which customarily excludes persons from any portion of the premises by reason of immaturity of age by the use of such, or similar, phrases; or

C. Is adjudged to be in violation of 17 M.R.S. §§ 2911, 2912.

Affordable housing. Housing for which the percentage of income a household is charged in rent and other housing expenses or must pay in monthly mortgage payments (including condominium/HOA fees, mortgage insurance, other insurance and real estate taxes), does not exceed 30% of a household's income, or other amount established in City regulations that does not vary significantly from this amount.

After-hours entertainment license. Any of the music, dancing, and special entertainment licenses required or authorized by Chapter 4, Article III of the City of Portland Code of Ordinances.

Agriculture. The practice of farming, including the cultivation of the soil for the growing of crops and rearing of animals to provide food and other products. Agriculture may include nurseries, greenhouses, and truck gardens, provided that there is no sale of products not produced on the premises.

Airport restricted access areas. Runways, taxiways, and other areas of the Jetport accessible to aircraft, whether access is restricted by the Federal Aviation Administration or not.

Alley. Any way designed primarily for vehicular and pedestrian or utility access to the back or side of premises otherwise abutting on a street, except driveways unless officially designated otherwise.

Animal-related services. Establishments principally for the training or boarding of animals. Such uses shall not include veterinary services.

Approval. An affirmative decision on an application, including an approval with conditions.

Appurtenance. A device or structure not designed for human occupancy and attached to the exterior of a building.

Area of shallow flooding. Area designated AO and AH zone on the Flood Insurance Rate Map (FIRM) with a 1 % or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard. The land in the floodplain having a 1% or greater chance of flooding in any given year as specifically identified in the most recently adopted FEMA Flood Insurance Study for the City of Portland.

Auto service station. A business selling gasoline, diesel, or propane fuel, providing services specific to electric vehicles, or providing motor vehicle repairs including, but not limited to, tune-ups, engine repair, brake work, muffler replacement, tire repair, or similar activities. Such businesses may also include car-washes and/or vacuums.

Back office use. An office-related use with minimal public visitation and minimal direct service to the general public, primarily to provide support services to larger organizations such as educational institutions, social service agencies, or business headquarters.

Bar. Any establishment required to be licensed to sell alcoholic beverages for on-premises consumption, which is not regularly used for the purpose of providing full-course meals, as defined in Title 28-A of the Maine Revised Statutes, on the premises.

Base flood. The flood having a 1% chance of being hereof or exceeded in any given year (i.e., a 100-year storm).

Basement. Area of building that includes a floor that is subgrade (below ground level) on all sides.

Bed and breakfast. A building that contains between two and nine guest rooms; is used to provide or offer overnight accommodations for transient guests; has an owner, manager, or operator living in the building as a permanent resident; does not provide cooking facilities in any of the guest rooms; and does not provide meals other than breakfast, which shall be offered only to overnight guests.

Blasting operations. The use of explosives for purposes of breaking up and removing soil, rock, and ledge, related to construction and development of real estate within the city.

Breakaway wall. A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without damage to the elevated portion of the building or supporting foundation system.

Building. A roofed and walled structure built for permanent use.

Building, accessory. A detached roofed and walled structure that is incidental and subordinate in area and extent, and/or use to the principal building(s) on

the property. A lot may have more than one accessory building.

Building addition. Any increase to footprint, floor area, or volume of an existing building.

Building alteration. A change or rearrangement in the structural supports, exterior appearance, or removing from or otherwise affecting the exterior appearance of a building.

Buildings, attached. Two or more independent buildings that share at least one common party wall but have full building separation and independent principal entries; not free-standing. Attached buildings may or may not have common ownership.

Building, principal. The main roofed and walled structure on a lot having the predominant area, extent, and/or use. A lot may have more than one principal building. When a garage is attached to the principal building in a substantial manner as by an enclosed area with roof or common wall, it shall be considered as a part of the principal building.

Clinics. Any establishment where patients are examined and treated by one or more health care providers, such as, but not limited to, physicians, dentists, psychologists, or social workers. Clinics may include laboratory services and facilities for ambulatory or outpatient surgical procedures.

Coastal AE Zone. The portion of the coastal high hazard area with wave heights between 1.5 feet and 3.0 feet and bounded by a line labeled the "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM). VE Zone floodplain construction standards are applied to development, new construction, and substantial improvements in the Coastal AE Zone.

Coastal high hazard area. ~~T~~An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. Coastal high hazard areas are designated as Zone VE and Zone AE bounded by a line labeled "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM).

Coastal wetland. All tidal and subtidal lands; all lands with vegetation present that is tolerant of salt water and that occurs primarily in a salt water or estuarine habitat; and/or any swamp, marsh, bog, beach, flat, or other contiguous low land that is subject to tidal action during the highest tide level for the year in which an activity is proposed as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes.

Containment wall. Wall surrounding all sides of an above ground tank to contain any spills or leaks.

Commercial vessel. Any watercraft used principally in a business or trade, including common carriers of passenger or freight, whether for governmental, nonprofit, or emergency purposes, but not including pleasure craft used principally for recreational purposes.

Common areas. Portions of a lodging house which are available for use by all residents of the lodging house. Common areas shall include, but are not limited to, one or more of the following: kitchens,

living rooms, recreation rooms, improved basements, and finished porches. Bathrooms, stairways, hallways, and storage areas shall not be counted as common areas.

Communication studio. A commercial or public communication facility, including radio and television broadcasting and receiving stations and studios.

Community hall. A building or portion of a building used for social, recreational, artistic, civic, or educational community functions. Such a facility would be open to the public for such functions, which, for example, could include but not be limited to performances, dance, exhibitions, cultural exchange, training programs and workshops, neighborhood meetings, or gatherings. As part of these functions and activities, it shall be permissible to serve food, subject to other applicable codes and ordinances.

Condominium. Any interest in real estate created pursuant to the Unit Ownership Act, 33 M.R.S. § 560 et seq., or its equivalent, as it may from time to time be amended.

Congregate care facility. A residential development intended to facilitate aging in place that includes individual dwelling units with support services which provide assistance to residents. The population of a congregate care facility shall consist of persons 55 years of age or older and their spouses. A congregate care facility may also accommodate the needs of persons with disabilities and their spouses that are younger than 55 years of age, provided the majority of the residents are 55 years of age or older. Services to be provided shall include the following:

A. Transportation for essential support activities.
B. Provision of at least one meal per day.
C. Programmed social activities which are facilitated by staff.
D. Provision of personal care services including, but not limited to, housekeeping, laundry, and minimal health monitoring.
E. Installation of emergency call buttons or systems in each unit.

Correctional pre-release facility. A facility housing up to 12 persons, plus staff, serving a primary clientele of persons in correctional pre-release programs.

Drive-through. A facility which provides a service directly to a motor vehicle occupant and where the customer drives a motor vehicle onto the premises and to a window or mechanical device through or by which the customer is served with or without exiting the vehicle. Drive-throughs do not include major or minor auto service stations.

Drive-through features. Features associated with drive-throughs including but not limited to designated travel or stacking lanes, intercom systems, menu boards, service windows, kiosks, mechanical devices, etc.

Dwelling unit. One or more rooms forming a single unit for habitation by one family, including food preparation, living, sanitary, and sleeping facilities.

Dwelling, multi-family. A building or portion thereof containing three or more dwelling units.

Dwelling, single-family. A single building containing one dwelling unit.

Dwelling, two-family. A single building containing two dwelling units.

Earth-moving activity. Any removal or placement, excavation, filling, stockpiling, or grading of soil, earth, loam, sand, gravel, rock, and other mineral deposits.

Easement. A right, privilege, or liberty which one has in land owned by another for some special and definite purpose.

Elevation certificate. An official form (FEMA form FF-206-FY-22-152, as amended) that is used to verify compliance with the floodplain management regulations of the National Flood Insurance Program.

Emergency operations. Operations conducted for the public health, safety, or general welfare, such as protection of resources from immediate destruction or loss, law enforcement, and operations to rescue human beings and livestock from the threat of destruction or injury.

Emergency shelter. A facility providing temporary overnight shelter to homeless individuals in a dormitory-style or per-bed arrangement.

Entrance, principal. The main point of access for pedestrians into a building. A building may have more than one principal entrance.

Esplanade. That portion of a street which is located between the curbline and the edge of the sidewalk closest to the street.

Essential services. The construction, alteration, or maintenance of gas, electrical, or communication facilities; steam, fuel, electric power, or water transmission or distribution lines, towers and related equipment; telephone cables or lines, poles, and related equipment; gas, oil, water, slurry, or other similar pipelines; municipal sewage lines, collection, or supply systems; and associated storage tanks. Such systems may include towers, poles, wires, mains, drains, pipes, conduits, cables, fire alarms and police call boxes, traffic signals, hydrants, and similar accessories, but shall not include service drops or buildings which are necessary for the furnishing of such services.

Explosives. Any material or container containing a chemical compound or mixture that is commonly used or intended for the purpose of producing an explosion and that contains any oxidizing and combustible materials or other ingredients in such proportions, quantities, or packaging that an ignition by fire, by friction, by compound or mixture may cause such a sudden generation of highly heated gasses that the resultant gaseous pressures are capable of producing destructive effects on contiguous objects, but shall not mean the components for handloading rifle, pistol and shotgun ammunition, or fireworks.

Family. One or more individuals related by blood, marriage, civil union, adoption, or guardianship and/or up to eight unrelated individuals living together in a dwelling unit as a single nonprofit housekeeping unit.

Fill. Soil, earth, loam, sand, gravel, rock and other mineral deposits.

Filling. The placement of soil, earth, loam, sand, gravel, rock and other mineral deposits. Filling shall include stockpiling.

Fixture, fully shielded. A light fixture or luminous tube constructed and mounted such that all light emitted by the fixture or tube, either directly from the lamp, tube, or a diffusing element, or indirectly by reflection or refraction from any part of the light fixture, is projected below the horizontal. If the lamp or tube, any reflective surface, or lens cover (clear or prismatic) is visible when viewed from above or directly from the side, from any angle around the fixture or tube, the fixture or tube is not fully shielded.

Flag. A fabric sheet of square, rectangular, or triangular shape having no enclosing or supporting framework that is typically mounted on a pole.

Flood or flooding.

A. A general and temporary condition of partial or complete inundation of normally dry land areas from:
   1. The overflow of inland or tidal waters.
   2. The unusual and rapid accumulation or runoff of surface waters from any source.

B. The collapse or subsidence of land along a shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined above.

Flood elevation study. An examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations.

Flood Insurance Rate Map (FIRM). The official map on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the city.

Floodplain or floodprone area. ~~L~~Any land area susceptible to being inundated by water from any source (see Flood or Flooding).

Floodplain management. The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

Floodplain management regulations. Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance, and erosion control ordinance), and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodproofing. Any combination of structural or nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real estate, to water and sanitary facilities, structures, and their contents.

Floodway encroachment lines. The lines marking the limits of floodways on federal, state, and local floodplain maps.

Foundation. The supporting substructure of a building or other structure, excluding wooden sills and post supports, but including basements, slabs, frost walls, or other base consisting of concrete, block, brick, or similar material.

Freeboard. A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed, which could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions.

Freshwater wetland. Freshwater swamps, marshes, bogs, and/or similar areas which are both:

F. Of ten or more contiguous acres or of less than ten contiguous acres and adjacent to a surface water body except for any river, stream or brook such that, in a natural state, the combined surface area is in excess of ten acres or of less than ten acres that is depicted on the Shoreland Zoning map.

G. Inundated or saturated by surface or ground water at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils.

Freshwater wetlands may contain small stream channels or inclusions of land that do not conform to the criteria of this definition.

Functionally-dependent use (within the floodplain). A use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

General office. An office for the conducting or managing of a business or the practice of a profession, including that of a licensed health care provider, so long as such office does not include laboratory services and facilities for ambulatory surgical procedures.

General services. Establishment primarily engaged in rendering services to persons or business on a fee basis, including but not limited to banks, health clubs, laundries, employment services, management services, personnel services, or maintenance services.

Handicapped family unit. A dwelling unit which provides living facilities for handicapped persons. A handicapped family unit may also provide counseling and support services. Staff members may also be included in the population.

Helistop. An area used for the landing of helicopters at any location other than an airport. Such area shall include a landing area or pad, and may include parking required for access to the landing area or pad, a loading and unloading area for emergency vehicles, and other related facilities other than maintenance and repair facilities.

Hospital. An institution providing health services, primarily on an inpatient basis, and medical or surgical care of the sick or injured, including as an integral part of the institution such related facilities as laboratories, outpatient departments, training facilities, central service facilities, and staff offices.

Hostel. An overnight lodging facility for transient guests that provides sleeping rooms and common spaces for cooking. A hostel shall not be used as an emergency shelter.

Hotel. A building used for more or less temporary occupancy of individuals who are lodged with or without meals.

Impervious surface. Area covered with low-permeability material that is highly resistant to infiltration by water, such as asphalt, concrete, or rooftop, and areas such as gravel roads and unpaved parking areas that will be compacted through design or use to reduce their permeability.

Industrial, high-impact. Industrial activity involving the manufacturing, packaging, assembly, or distribution of finished products from either raw materials or previously prepared material which are generally incompatible with residential, commercial, and lower-impact industrial uses and sensitive natural areas due to their high generation of traffic, noise levels, emissions, lighting, and odors.

Industrial, low-impact. Industrial activity involving the manufacturing, packaging, assembly, or distribution of finished products from previously prepared material, including but not limited to the following: artist studios, bakeries; breweries; distilleries; bottling; coffee roasters; commercial kitchens; pharmaceuticals; machine shops; watchmakers; makers of precision instruments, musical instruments, toys and sporting goods, pottery and ceramics using only previously pulverized clay, wood products, jewelry; assembly of electrical components; canteen services; tool and die shops; plant and tree nurseries; and the packaging of foods. Low-impact industrial uses do not include the processing of raw materials or salvaging operations. Low-impact industrial uses are generally compatible, due to their size and nature of impact, with residential, commercial and other low impact industrial uses.

Intermediate care facility. A facility which provides, on a regular basis, health-related care and services for more than 13 individuals who do not require the degree of care and treatment which a hospital or extended care facility is designed to provide but who, because of their mental or physical condition, require such care and services above the level of room and board. Said facility must be licensed as a board care, residential care facility or equivalent pursuant to the regulations promulgated by the State of Maine Department of Health and Human Services.

Kitchen facilities. Facilities used for the preparation of meals, including refrigerators and

devices used for the cooking and preparation of food.

Limit of Moderate Wave Action (LiMWA). The landward limit of the 1.5 foot breaking wave within a Coastal AE Zone. These areas are bounded by a line labeled "Limit of Moderate Wave Action" (LiMWA) on a Flood Insurance Rate Map (FIRM). The LiMWA line delineates that portion of the Special Flood Hazard Area (SFHA) landward of a VE zone in which the principal sources of flooding are astronomical high tides, storm surges, or tsunamis, not riverine sources. These areas may be subject to wave effects, velocity flows, erosion, scour, or combinations of these forces. The floodplain development and construction standards for VE Zones will be applied in the Coastal AE Zone.

Locally-established datum. For purposes of the floodplain ordinance, an elevation established for a specific site to which other elevation at the site are referenced. This elevation is generally not referenced to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or any other established datum and is used in areas where mean sea level data is too far from a specific site to be practically used.

Lodging house. A house, building or portion thereof containing two or more rooming units, as well as common areas, and providing such units to individuals on not less than a monthly basis for compensation.

Long-term or extended care facility. An institution or a distinct part of an institution that is licensed or approved to provide full-time convalescent or chronic care, or health care under medical supervision for 24 or more consecutive hours, to nine or more individuals who, by reason of advanced age, illness, or infirmity are unable to care for themselves, and who are not related to the governing authority by marriage, blood, or adoption.

Lot. A parcel or area of land that is designated as an individual unit for use, development, or ownership that is either: a) a parcel or area of land that is separately described in a deed or on a plan recorded in the Cumberland County Registry of Deeds; b) a contiguous combination of such lots under common ownership and designated as one unit for development; or c) a newly established parcel meeting all the dimensional requirements of the zone in which it is located.

Lot of record. A nonconforming parcel or area of land that: a) is separately described in a deed or on a plan recorded in the Cumberland County Registry of Deeds as of the date designated in the relevant provision of this chapter and b) conformed to the requirements of this chapter as of the date designated in the relevant provision of this chapter.

Lowest floor (within the floodplain). The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of ~~this division~~Article 12.

Low-income household. A household having an income not exceeding 80% of median income for

area of residence as set forth in regulations promulgated from time to time by the United States Department of Housing and Urban Development pursuant to 42 U.S.C. sections 1437 et seq.

Low-income housing unit for rent. A dwelling unit for which:

A. The rent is affordable to a household earning 80% or less of Area Median Income (AMI) as defined by the United States Department of Housing and Urban Development (HUD).

B. The unit is rented to a household earning 80% or less of AMI.

C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

Low-income housing unit for sale. A dwelling unit for which:

A. The sale price is affordable to a household earning 100% or less of Area Median Income (AMI~~).~~

B. The unit is sold to a household earning 100% or less of AMI.

C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for future sales for the applicable length of time in this ordinance.

Manufactured housing. A structural unit or units designed for residential occupancy and constructed in a manufacturing facility and then transported by the use of its own chassis or placement on an independent chassis to a building site. The term includes any type of building which is constructed at a manufacturing facility and then transported to a building site where it is utilized for housing and may be purchased or sold by a dealer in the interim. For purposes of this article, two types of manufactured housing are included. They are:

A. Those units constructed after June 15, 1976, which the manufacturer certifies are constructed in compliance with the standards required by the United States Government Department of Housing and Urban Development, as such standards are from time to time revised or amended, meaning structures, transportable in one or more sections, which in the traveling mode are 14 body feet or more in width and are 750 or more square feet, and which are built on a permanent chassis and designed to be used as dwellings, with or without permanent foundations, when connected to the required utilities, including the plumbing, heating, air conditioning, and electrical systems contained therein. This term also includes any structure which meets all the requirements of this subparagraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the Secretary of the United States Department of Housing and Urban Development and complies with the standards established under the National Manufactured Housing Construction and Safety Standards Act of 1974, United States Code, Title 42, Section 5401 et seq.; and

B. Those units constructed after June 15, 1976, which the manufacturer certifies are constructed in compliance with the state's Manufactured Housing Act and regulations, meaning structures, transportable in one or more sections, which are not constructed on a permanent chassis and are designed to be used as dwellings on foundations when connected to

required utilities, including the plumbing, heating, air conditioning, or electrical systems contained therein.

Any unit which does not fall within the definitions of this section and which is legally sited within the city on December 18, 1989, may be relocated to any location in the city in which manufactured housing is allowed.

Manufactured housing park. A parcel of land under unified ownership approved by the Planning Board under 30-A M.R.S. § 4358 for the placement of single-component manufactured housing.

Marijuana cultivation facility. A cultivation facility required to be licensed pursuant to 28-B M.R.S. § 201 or any other facility engaged primarily in the business of planting, propagation, growing, harvesting, drying, curing, grading, trimming, or other processing of marijuana, including mature marijuana plants, immature marijuana plants, seedlings, and marijuana seeds, for use or sale.

Marijuana manufacturing facility. A manufacturing facility required to be licensed pursuant to 22 M.R.S. § 2423-F or 28-B M.R.S. § 201.

Marijuana product. As defined by 22 M.R.S. § 2422 or 28-B M.R.S. § 102.

Marijuana retail store. A retail establishment licensed to sell marijuana, marijuana products, immature marijuana plants, and seedlings to adult use or medical marijuana customers. A marijuana retail store is only authorized as a principal use, and is not permitted as an accessory use. A marijuana retail store may not exceed a maximum gross floor area of 2,000 square feet. A marijuana retail store shall not include a registered dispensary.

Marijuana testing facility. A facility licensed to develop, research and test marijuana, marijuana products and other substances as defined by 22 M.R.S. § 2422 or 28-B M.R.S. § 102.

Marina. A commercial operation providing floats, slips, and piers intended primarily for berthing of noncommercial vessels and the provision of related services such as supplies, fuel, equipment and repairs, which may be provided both to tenants and non-tenants.

Mean sea level (within the floodplain). For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD), or other datum, to which base flood elevations shown on the City's FIRM are referenced.

Military personnel berthing. A building, or portion thereof, which is primarily used as, and intended for, temporary living quarters for military personnel.

Moderate-income household. A household having an income not exceeding 120% of median income for area of residence as set forth in regulations promulgated from time to time by the United Sates Department of Housing and Urban Development pursuant to 42 U.S.C. sections 1437 et seq.

Multi-family development. The construction or creation of three or more dwelling units on any parcel of land or the addition of two or more dwelling units cumulatively within a three-year period.

Multiplex. A residential development consisting of three or more horizontally or vertically attached dwelling units, or a series of such attached dwelling units, and the construction of at least one building.

National Geodetic Vertical Datum (NGVD). The national vertical datum, a standard established in 1929, which is used by the National Flood Insurance Program (NFIP). NGVD is based upon mean sea level in 1929 and also has been called "1929 Mean Sea Level (MSL)".

Neighborhood center. A building or portion of a building used for recreational, artistic, social, educational, health, culture, or similar activities and services, usually owned and operated by a public or nonprofit group or agency. As part of these functions and activities, it shall be permissible to serve food, subject to other applicable codes and ordinances.

Non-commercial vessel berthing. The use of berthing space for berthing of watercraft other than commercial vessels. Berthing space used in the following manner shall not be included in the calculation of the number of linear feet under this use category:

A. Space used principally for sale or repair of vessels.

B. Commercial vessel tenant space used by a noncommercial vessel for a period not exceeding ten consecutive days while the primary commercial vessel tenant is conducting its business or trade.

Normal high-water line (non-tidal waters). That line which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or changes in vegetation, and which distinguishes between predominantly aquatic and predominantly terrestrial land. Areas contiguous with rivers that support non-forested wetland vegetation and hydric soils and that are at the same or lower elevation as the water level of the river during the period of normal high-water are considered part of the river.

North American Vertical Datum (NAVD). The national datum whose standard was established in 1988, which is the new vertical datum used by the National Flood Insurance Program (NFIP) for all new Flood Insurance Rate Maps. NAVD is based upon vertical datum used by other North American countries such as Canada and Mexico and was established to replace NGVD because of constant movement of the earth's crust, glacial rebound and subsidence, and the increasing use of satellite technology.

Office park. Separate office buildings planned, constructed, or managed on an integrated coordinated basis.

Off-peninsula. All land located north of I-295.

100-year flood. See base flood.

On-peninsula. All land located south of I-295.

Open space. Any park and any other area outside of a building open to the public.

Owner. Any person that has any interest, legal or beneficial, in any parcel or lot.

Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland, temporary. Structures which remain in or over the water for less than seven months in any period of 12 consecutive months.

Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high-water line or within a wetland, permanent. Structures which remain in or over the water for seven months or more in any period of 12 consecutive months.

Place of assembly. A building or portion of a building used as a community hall, neighborhood center, private club, or fraternal organization, or place of religious assembly. This definition shall not include buildings or portions of buildings used as a community hall, neighborhood center, private and fraternal organization, or place of religious assembly where 15 or fewer people, not including the permanent residents of a single-family dwelling, assemble.

Place of religious assembly. A building or portion of a building used for religious worship or instruction including, but not limited to, churches, synagogues, masjids, mosques, and other places of worship.

Planned residential unit development (PRUD). A residential subdivision consisting of attached or detached dwellings intended for separate ownership and land to be owned and used in common, with open spaces, recreational areas, access ways, and buildings which are designed, built, and managed in accordance with a unified development plan.

Planned unit development (PUD). A development consisting of either detached or attached single-family dwelling units and commercial or other uses, on substantially-sized properties of greater than 20 acres and designed to be compatible with the surrounding built and natural environment.

Plant canopy. As defined by 28-B M.R.S. § 102.

Preschool facility. Facility which provides a regular program of care and protection for children generally younger than those attending elementary school, which may also encompass daycare facilities.

Private club or non-profit social and recreational facility. A private club or nonprofit social and recreational facility is open exclusively to members and to their bona fide guests accompanying them, in order to promote fellowship, social living, proper recreation, civic responsibility, neighborhood responsibility, community welfare, or other endeavors. It shall be permissible to serve food and meals on such premises provided adequate dining room space and kitchen facility are available and are provided within all regulations of this Land Use Code and other applicable codes and ordinances.

Recent floodplain soils. Recent floodplain soils include the following soil series as described and identified by the National Cooperative Soil Survey: Alluvial. Charles, Cornish, Fryeburg, Hadley, Limerick, Lovewell, Medomak, Ondawa, Podunk, Rumney, Saco, Suncook, and Winooski.

Recreational vehicle. A vehicle that is:

A. Built on a single chassis;

B. 400 square feet or less when measured at the largest horizontal projection, not including slideouts;
C. Designed to be self-propelled or permanently towable by a motor vehicle; and,
D. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Recreation and amusement centers. Facilities equipped for the conduct of sports or indoor leisure time recreation activities, including games of skill or games of chance licensed either by the City of Portland or by the State of Maine. Such facilities may limit admission either to members or to persons paying an entrance fee.

Registered dispensary. A registered medical marijuana dispensary as defined by 22 M.R.S. § 2422.

Registered patient. As defined by 22 M.R.S. § 2422.

Regulatory floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. When not designated on the Flood Insurance Rate Map (FIRM), it is considered to be the channel of a river or other watercourse and the adjacent land areas to a distance of 1/2 the width of the floodplain, as measured from the normal high-water mark to the upland limit of the floodplain.

Repair services. Establishments primarily engaged in rendering services related to the maintenance or repair of goods. In industrial zones only, repair services shall include motor vehicle repair services.

Restaurant. Any food service establishment with indoor seating capacity for ten or more patrons.

Retail. Any shop or store offering goods or merchandise to the general public for direct consumption and not for resale, or food service establishment with indoor seating capacity for nine or fewer patrons. Retail shall not include gasoline, diesel, or propane fuel sales.

Riverine. Relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

Roadway. That portion of a street between the regularly established curblines, or that part of a street or alley devoted to vehicular traffic.

Rooming unit. One or more rooms forming a single unit used, or intended to be used, for living and sleeping purposes by an individual or a family, but not designed for food preparation. In a suite of rooms, each room that provides sleeping accommodations shall be counted as one rooming unit for the purpose of this chapter.

Self-storage facility. A fully enclosed building with individual, secured units (accessed with or without supervision) used for the exclusive purpose of storage of non-hazardous business or personal materials.

Sexually explicit. The display or depiction of sex organs during actual or simulated sexual intercourse or sexual acts as defined in 17 A M.R.S. § 251.

Sheltered care group home. A facility which, in addition to providing food and shelter to a defined

population of up to 12 individuals, provides guidance or counseling services as a primary function of the facility.

Shore frontage. The length of a lot bordering on a water body or wetland measured in a straight line between the intersections of the lot lines with the shoreline.

Sidewalk. That portion of a street not included in the roadway, and devoted in whole or part to pedestrian traffic.

Site. All contiguous land under the same ownership or control, whether proposed for development or not, except where development is limited to a lot or lots within a subdivision.

Small-scale marijuana caregiver. A registered caregiver who sells or dispenses marijuana to no more than five individual registered patients in any one calendar month; does not process or manufacture marijuana using chemicals or solvents; and cultivates no more than: 1) 250 square feet of plant canopy where located in a single-family dwelling or commercial space; or 2) 125 square feet of plant canopy where located in a dwelling unit within a two-family or multi-family building.

Solar access. Space open to the sun and clear of overhangs or shade, including orientation of buildings and lots to the sun, so as to permit the use of active and/or passive solar energy systems on individual properties.

Solar energy system. A complete assembly consisting of one or more solar collectors and associated mounting hardware or equipment, intended to provide for the collection, storage, and distribution of solar energy for heating or cooling, electricity generation, or solar/thermal hot water systems. Solar energy systems shall include the following:

A. Accessory solar **energy system.** A system as defined above where power generation is incidental to a principal use, which may take the form of either a building integrated or roof-mounted solar array of any size, or a ground-mounted array occupying less than 1,000 square feet of air-space over ground area.

B. Minor solar **energy system.** A system as defined above where power generation is considered a principal use, which may take the form of either a building- or roof-mounted solar array of any size, or a ground-mounted system occupying between 1,000 and 9,999 square feet of ground area.

C. Major solar **energy system.** A system as defined above where power generation is considered a principal use, which may take the form of either a building or roof-mounted solar array of any size, or a ground-mounted system occupying greater than 10,000 square feet of ground area.

Solar energy system, building-integrated. A solar energy system that is an integral part of a principal or accessory building and include, but are not limited to, photovoltaic or hot water systems that are contained within roofing materials, windows, walls, skylights and awnings.

Solar energy system, ground-mounted. Also known as free-standing solar energy systems, a solar energy system that is structurally mounted to the

ground. The panels may be stationary or revolving and of any size.

Solar energy system, roof-mounted. A solar energy system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle.

Sounds, impulse. Sound events characterized by brief excursions of sound pressure, each with a duration of less than 1 second.

Sounds, tonal. Sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

Special Flood Hazard Area. See area of special flood hazard.

Special needs independent dwelling unit. A dwelling unit developed and managed by a nonprofit organization for habitation by persons with special social, physical or mental needs beyond strictly economic needs. Such persons shall be provided required levels of supervision, care and/or counseling services appropriate to their special needs, and the services shall be provided by either the sponsoring nonprofit agency or through another entity with which the agency has entered into a contractual arrangement.

Sports complex. One or more facilities located on the same parcel of land where athletic events are held and with a combined seating capacity of at least 6,000 seats.

Stockpiling. Any placement or creation of piles or loads of soil, loam, sand, gravel, rock, or other mineral deposits upon a site for the purpose of storage, warehousing, or reserving for future use.

Stormwater retention area. A pond or basin used for the permanent storage of stormwater runoff.

Stormwater detention area. A storage area for the temporary storage of stormwater runoff which does not contain water during non-storm conditions.

Stream. A free-flowing body of water from the outlet of the confluence of two perennial streams as depicted on the most recent edition of a United States Geological Survey 7.5-minute series topographic map, or if not available, a 15-minute series topographic map, to the point where the body of water becomes a river or flows to another water body or wetland within a shoreland area, or any stream designated within a Stream Protection Zone.

Street. A public way established by or maintained under public authority, or a way dedicated to the use of the public and appearing on the official map of the city.

Street line. The line of demarcation between private property and a street.

Street, cul-de-sac or dead end. A street with only one outlet.

Structure. Anything constructed or erected of more than one member having a permanent or

semi-permanent location on another structure or in or on the ground, including without limitation buildings, fences, gazebos, signs, antennas, satellite sending or receiving dishes, and swimming pools. Stockpiles shall be considered structures for the purposes of dimensional requirements.

Studios for artists and craftspeople. A facility for the production of arts and crafts products such as paintings, sculpture, or other arts, or the practice of arts such as music or dance, or the production of custom, hand-crafted, or limited production of products such as furniture, wood, clay, and metal products, publications, and similar low-impact arts and crafts activities.

Subdivider. Any individual, firm, association, syndicate, partnership, corporation, trust, or any other legal entity commencing proceedings under these regulations to effect a subdivision of land hereunder for himself, herself, or for another.

Subdivision. As defined in 30 A M.R.S. § 4401 and 4402.

Tasting room. A facility for the sampling of beer, wine, spirits, other alcoholic or non-alcoholic beverages, or food.

Telecommunication tower. Radio masts or tower structures built primarily to hold telecommunication antennas.

Tenant. Any occupant in lawful possession of a rental unit, whether by lease, sublease, or otherwise.

Theater or performance hall. Any establishment devoted to showing motion pictures, or for dramatic, musical, or live performances.

Transient guest. A person who occupies a facility offering accommodations on an overnight basis for compensation and whose actual occupancy is limited to no more than 15 days out of any 60-day period.

Tributary stream. A channel between defined banks created by the action of surface water, which is characterized by the lack of terrestrial vegetation or by the presence of a bed, devoid of topsoil, containing waterborne deposits or exposed soil, parent material or bedrock; and which is connected hydrologically with other water bodies. Tributary stream does not include rills or gullies forming because of accelerated erosion in disturbed soils where the natural vegetation cover has been removed by human activity.

Upland edge of a wetland. The boundary between upland and wetland. For purposes of a coastal wetland, this boundary is the line formed by the landward limits of the salt tolerant vegetation and/or the highest annual tide level, including all areas affected by tidal action. For purposes of a freshwater wetland, the upland edge is formed where the soils are not saturated for a duration sufficient to support wetland vegetation, or where the soils support the growth of wetland vegetation but such vegetation is dominated by woody stems that are six meters or taller.

Use. The purpose for which land or structures thereon is designed, arranged, or intended to be

occupied, or for which it is occupied, maintained, rented, or leased.

Utility substation. Any sewage or water pumping station, electric power substation, transformer station, telephone equipment enclosures, or other similar structures owned or operated by a utility.

Vegetation. All live trees, shrubs, ground cover, and other plants including, without limitation, trees both over and under four inches in diameter, measured at four and one-half feet above ground level.

Very low-income household. A household having an income not exceeding 50% of median income for area of residence as set forth in regulations promulgated from time to time by the United States Department of Housing and Urban Development pursuant to 42 U.S.C. section 1437 et seq.

Warehousing, storage, and distribution. The storage of goods, wares, and merchandise in a warehouse from which distribution occurs. May include wholesale use, but not retail or direct sales to consumers.

Watercourse. Any natural or artificial stream, river, creek, ditch, channel, swale, canal, conduit, culvert, drain, waterway, gully, ravine, or wash in which water flows in a definite direction or course, either continuously or intermittently, or which has a definite channel, bed, and banks, and includes any area adjacent thereto subject to inundation by reason of overflow or floodwater.

Water-dependent uses. Those uses that require, for their primary purpose, location on submerged lands or that require direct access to, or location in, coastal or inland waters and which cannot be located away from these waters.

Wetlands (outside of shoreland zones). Those areas which have two or more of the following:

A. A water table at or near the surface during the growing season;

B. Very poorly drained soils, including Sebago mucky peat; or

C. Obligate wetland vegetation.

Very poorly drained soils and obligate wetland vegetation shall be as defined and illustrated in the United States Department of Interior, Fish and Wildlife Service publication of Wetland Plants of the State of Maine (1986).

Wind energy system. A wind energy generator and all associated facilities.

Wind energy system, useful life. The period for which the system has been designed by the manufacturer to operate in a safe manner, including the period during which new parts and refurbishment allow it to continue operating safely.

Wholesale. Sale for resale, not for direct consumption.

Workforce housing unit for rent. A dwelling unit for which:

A. The rent is affordable to a household earning 80% or less than of AMI.

B. The unit is rented to a household earning 80% or less of AMI.

C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

Workforce housing unit for sale. A dwelling unit for which:

A. The purchase price is affordable to a household earning 80% or less of AMI.

B. The unit is sold to a household earning 80% or less of AMI.

C. The requirements of (A) and (B) above are limited by deed restriction or other legally binding agreement for the applicable length of time in this ordinance.

12 FLOODPLAIN MANAGEMENT

12.1 PURPOSE

Certain areas of the City of Portland, Maine are subject to periodic flooding, causing serious damage to properties within these areas. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968. Therefore, ~~T~~the City of Portland, Maine~~,~~ has chosen to become a participating community in the National Flood Insurance Program and agrees~~elects~~ to comply with the ~~42 USC Section 4001 et seq.~~ requirements of the National Flood Insurance Act of 1968 (P.L. 90-448), as amended from time to time an as delineated in this article. It is the intent of the City of Portland to require the recognition and evaluation of flood hazards in all official actions relating to land use in the floodplain areas having special flood hazards.

The National Flood Insurance Program, established in the aforesaid act, provides that areas of the city having a special flood hazard be identified by the Federal Emergency Management Agency and that floodplain management measures be applied in such flood hazard areas. This article establishes a Flood Hazard Development Permit system and review procedure for development activities in the designated flood hazard areas of the city. The purposes of this article are to reduce future flood risks and losses, protect against financial and human loss resulting from flood disasters, and to control the placement of structures, construction materials, and methods used to minimize potential property damage due to flooding. The City of Portland has the legal authority to adopt land use and control measures to reduce future flood losses pursuant to Title 30-A M.R.S. § 2001-3007, 4352, 4401-4407, and Title 38 M.R.S. § 440.

12.2 APPLICABILITY

This article applies to all land areas, uses, structures, and land use activities lying in the special flood hazard areas, Zones A, AE, AO, AH, and VE, as identified by the Federal Emergency Management Agency in a report entitled *Flood Insurance Study - ~~City of Portland,~~Cumberland County, Maine~~, County of Cumberland~~*, with accompanying "Flood Insurance Rate Map," dated ~~July 17, 1986~~June 20, 2024. This *Flood Insurance Study* with accompanying maps, and any subsequent amendments thereto, including Letters of Map Revision approved by FEMA, is hereby adopted by reference and declared to be a part of this Land Use Code.

12.3 ~~DEFINITIONS~~STRUCTURE AND DEVELOPMENT TYPES

~~**Area of special flood hazard.** The land in the~~ floodplain ~~having a 1% or greater chance of flooding in any given year as specifically identified in the most recently adopted FEMA Flood Insurance Study for the City of Portland.~~

~~**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.**~~

12.3.1 Structure types

A. For the purposes of this article, structure shall mean ~~A~~a walled and roofed building. ~~A~~ ~~,~~ ~~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~~ is also a structure.

B. Accessory structure shall mean a structure which is on the same parcel of property as a

principal structure and the use of which is incidental to the use of the principal structure.

C. The following types of structures shall have the following meanings:

1. *Agricultural structure*. Structures that are used exclusively for agricultural purposes or uses in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock. Structures that house tools or equipment used in connection with these purposes or uses are also considered to have agricultural purposes or uses.

2. *Elevated building*. A non-basement building that is:

   a. Built, in the case of a building in Zones A, AE, AO, or AH, so that the top of the elevated floor, or in the case of a building in Zones VE or Coastal AE, to have the bottom of the lowest horizontal structural member of the elevated floor, elevated above the ground level by means of pilings, columns, posts, or piers; and,

   b. Adequately anchored to not impair the structural integrity of the building during a flood of up to two feet above the magnitude of the base flood.

   In the case of Zones A, AE, AO, or AH, elevated building also includes a building elevated by means of fill or solid foundation perimeter walls with hydraulic openings sufficient to facilitate the unimpeded movement of flood waters, as required in Subsection 12.4.5(N) In the case of Zones VE or Coastal AE, elevated building also includes a building otherwise meeting the definition of elevated building, even though the lower area is enclosed by means of breakaway walls, if the breakaway walls meet the standards of subsection 12.4.5(R)(2)(c)(iii).

3. *Historic structure*. Any structure that is:

   a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

   b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary of the Interior to qualify as a registered historic district;

   c. Individually listed on a Maine state inventory of historic places at such time that one is created; or,

   d. Designated as a local landmark or identified as a contributing property under Article 17.

4. *Manufactured home*. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

5. *Manufactured home park or subdivision.* A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale. Existing manufactured home park or subdivision shall mean a manufactured home park or subdivision that was recorded in the deed registry prior to July 17, 1986.

12.3.2 Development classifications

A. **Development.** Any human-made change to improved or unimproved real estate. This includes, but is not limited to, buildings or other structures; mining, dredging, filling, grading, paving, excavation, drilling operations or storage of equipment or materials; and the storage, deposition, or extraction of materials.

B. **New construction.** Structures for which the "start of construction" commenced on or after July 17, 1986 and includes any subsequent improvements to such structures. For purposes of this article, start of construction shall mean the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, or modification of any construction element, whether or not that alteration affects the external dimensions of the building.

C. **Minor development.** All development that is not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. It also includes, but is not limited to: accessory structures as provided in subsection 12.4.5(L), mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures; and non-structural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers

D. **Substantial damage.** Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed 50% of the market value of the structure before the damage occurred.

E. **Substantial improvement.** Any ~~repair~~, reconstruction, rehabilitation, 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~~start of construction of the improvements. This term includes structures which have incurred substantial damage, regardless of the actual work performed. ~~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:

1. A ~~a~~ny project for improvement of a structure to correct existing violations~~comply with existing~~ of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum~~solely~~ necessary to assure safe living conditions. ~~or~~

~~1.~~2. ~~for a~~Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure, and a variance is obtained from the Zoning Board of Appeals. ~~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

A. The Zoning Administrator shall be designated as the local floodplain administrator. The floodplain administrator shall have the authority to implement the commitment made to administer and enforce the requirements for participation in the National Flood Insurance Program.

~~A.~~B. Before any construction or other development as defined Subsection 12.3.2, including the placement of manufactured homes, begins within any areas of special flood hazard, a Flood Hazard Development Permit shall be obtained from the Building Authority, except as established in Section 12.5. This permit shall be required prior to issuance of a building permit, if one is required, and shall be in addition to any other permit, site plan, and subdivision review which may be required pursuant to the codes and ordinances of the City of Portland. If only a site plan is required for a development, the Flood Hazard Development Permit shall be obtained prior to approval of the site plan.

12.4.2 Filing of application

The application for a Flood Hazard Development Permit shall be submitted in writing to the Building Authority and shall include the following:

A. A final site plan, where applicable, showing information as required by Article 14.

B. A final subdivision plat, where applicable, providing information as required in Article 15. ~~For any development which does not meet the minimum threshold as a development requiring site plan review, the following information shall be provided:~~

C. The name, address, and phone number of the applicant, owner, and contractor.

D. A map with address indicating the location of the development site.

E. A ~~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~~cut and filled, and the dimensions of the lot.

F. A statement of the intended use of any structure and/or ~~other~~ development.

G. A statement of the cost of the development including all materials and labor.

H. A statement of the type of wastewater disposal system proposed.

I. Specification of dimensions of the proposed structure and/or development.

J. For new construction and substantial improvements, t~~T~~he elevation in relation to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or to a locally established datum for Zone A only, of the:

1. Base flood at the proposed site of all new or substantially improved structures, which is determined:

a. ~~i~~In Zones ~~A1-30,~~ AE, AO, AH, ~~V1-30~~, and VE from data contained in the *Flood Insurance Study — ~~City of Portland,~~ Cumberland County, Maine*~~;~~ ~~or~~

~~a.~~b. ~~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~~In Zone A:~~:~~

i. From any base flood elevation data from federal, state, or ~~o~~other technical sources (such as FEMA's Quick-2 model, FEMA 265), including information obtained pursuant to Subsection 12.4.5(M) and 12.4.4.(B)4, or

~~i.~~ii. In the absence of all data described in Subsection 12.4.2(J)(1)(b)(i), information to demonstrate that the structure shall meet the elevation requirement in Subsections 12.4.5(H)(4)(b), 12.4.5(I)(4)(b), or 12.4.5(J)(4)(b).

2. Highest and lowest grades at the site adjacent to the walls of the proposed building.

3. Lowest floor, including basement, and whether or not such structures contain a basement.

4. Lowest machinery and equipment servicing the building.

~~4.~~5. Level, in the case of nonresidential structures only, to which the structure will be floodproofed.

K. For new construction and substantial improvements, ~~A~~a description of an elevation reference point established on the site of all new developments ~~or substantially improved structures~~ for which elevation standards apply as required in Subsection 12.4.5.

L. For new construction and substantial improvements, a written certification by:

1. A professional land surveyor that the grade elevations shown on the application are accurate.

~~1.~~2. A professional land surveyor, registered professional engineer or architect that the base flood elevation shown on the application is accurate~~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.~~

M. For new construction and substantial improvements, the following ~~C~~certifications as required in Subsection 12.4.5 by a registered professional engineer or architect ~~that structures meet the review standards of Subsection 12.4.5.~~ :

1. A floodproofing certificate (FEMA form FF-206-FY-22-153, as amended) to verify that the floodproofing methods for any nonresidential structures will meet the floodproofing criteria of Subsection 12.4.5(I); and other applicable standards of Subsection 12.4.5.
2. A V-Zone Certificate to verify that the construction in coastal high hazard areas, Zones VE and Coastal AE, will meet the criteria of Subsection 12.4.5(R); and other applicable standards in Subsection 12.4.5.
3. A Hydraulic Openings Certificate to verify that engineered hydraulic openings in foundation walls will meet the standards of Subsection 12.4.5(N)(2)(a)

N. A certified statement from a registered professional engineer or architect that bridges will meet the standards of Subsection 12.4.5(O)

O. A certified statement from a registered professional engineer or architect that containment walls will meet the standards of Subsection 12.4.5(P).

~~N.~~P. A description of the extent to which any watercourse will be altered or relocated as a result of the proposed development.

~~O.~~Q. A statement of construction plans describing in detail how each applicable development standard in Subsection 12.4.5 will be met.

~~P.~~R. Cross section(s) of the site acceptable to the Public Works Authority.

12.4.3 Fee

A nonrefundable Flood Hazard Development Permit fee as established by the City Council for all minor development and for all new construction and substantial improvements shall be paid to the Building Authority, and a copy of a receipt for the same shall accompany the application. An additional fee may be charged if the Code Enforcement Officer, Planning Board, and/or Board of Appeals needs the assistance of a professional engineer or other expert. The expert's fee shall be paid in full by the applicant within 10 days after the City submits a bill to the applicant. Failure to pay the bill shall constitute a violation of the ordinance and be grounds for issuance of a stop work order. An expert shall not be hired by the City at the expense of an applicant until the applicant has either consented to such hiring in writing or been given an opportunity to be heard on the subject. An applicant who is dissatisfied with a decision to hire expert assistance may appeal that decision to the Board of Appeals.

12.4.4 Review procedure

A. Upon determination by the Building Authority that an application is complete, the Building

Authority shall coordinate review of the application by the City to assure that proposed developments are reasonably safe from flooding. No permit shall be issued until the Building Authority finds that the development proposal is in compliance with the standards of this article. Compliance with the provisions of this article shall be required prior to beginning any development as defined herein.

B. The Building Authority shall, when reviewing subdivisions under Article 15 and other proposed developments that require review under Article 14 or federal law, state law, or local ordinances or regulations and all projects on five or more acres, or in the case of manufactured home parks divided into two or more lots, assure that:

1. All such proposals are consistent with the need to minimize flood damage.
2. All public utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damages.
3. Adequate drainage is provided so as to reduce exposure to flood hazards.
4. All proposals include base flood elevations, flood boundaries and, in a river~~a~~ine floodplain, floodway data. These determinations shall be based on engineering practices recognized by the Federal Emergency Management Agency.
5. Any proposed development plan must include a condition of plan approval requiring that structures on lots in the development be constructed in accordance with Subsection 12.4.5 of this article. Such requirement shall be included in any deed, lease, purchase and sale agreement, or document transferring or expressing an intent to transfer any interest in real estate or structure, including but not limited to a time-share interest. The condition shall clearly articulate that the municipality may enforce any violation of the construction requirement. The construction requirement shall also be clearly stated on any map, plat, or plan as part of the approval process.

~~B.~~C. In the review of all Flood Hazard Development Permit applications for compliance with the standards herein:

1. The Building Authority shall utilize:
   a. ~~t~~The base flood and floodway data contained in the *Flood Insurance Study – Cumberland County, Maine,* as described in Section 12.2.
   b. In special flood hazard areas where base flood elevation and floodway data are not provided in the above cited study, the ~~Planning~~ Building Authority~~, or Planning Board as appropriate,~~ shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from federal, state, or other ~~reasonably reliable~~technical sources, including information obtained pursuant to Subsection 12.4.2(J)(1)(b)(i), 12.4.5(M), and 12.4.4(B)(4), in order to administer this article.
   ~~a.~~c. When a base flood elevation is established in a Zone A by methods outlined in Section 12.4.2(J)(1)(b)(ii), that data shall be submitted to the

Maine Floodplain Management Program.

2. The Building Authority shall make interpretations of the location of boundaries of special flood hazard areas shown on the maps described in Section 12.2.

~~6.~~3. Prior to approval of issuance of the Flood Hazard Development Permit, the Building Authority shall determine that all necessary permits have been obtained from those federal, state, and local authorities from which prior approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1343~~4~~ 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.

~~7.~~4. The Building Authority shall notify adjacent municipalities, the Maine Department of Environmental Protection and the Maine Floodplain Management Program, prior to any alteration or relocation of a watercourse, and submit copies of such notifications to the Federal Emergency Management Agency.

5. The Building Authority shall maintain, as a permanent record, copies of all Flood Hazard Development Permit applications, corresponding permits issued, and data relevant thereto, including reports of the Board of Appeals on variances granted under the provisions of Section 12.~~6~~ 7 of this article, and copies of elevation certificates, floodproofing certificates, certificates of compliance, and certifications of design standards required under the provisions of Sections 12.4 and 12.~~5~~6.

12.4.5 Review standards

All development in areas of special flood hazard shall meet the following standards:

A. **All development.** All development shall:
   1. Be designed or modified and adequately anchored to prevent flotation (excluding piers and docks), collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
   2. Use construction materials that are resistant to flood damage.
   3. Use construction methods and practices that will minimize flood damage.
   4. Use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.

B. **Water supply.** All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

C. **Sanitary sewage systems.** All new and replacement sanitary sewage systems shall be designed and located to minimize or eliminate infiltration of flood waters into the system and discharges from the system into flood waters.

D. **On-site waste disposal systems.** On site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during floods.

E. **Altered or relocated watercourses.** All development associated with altered or relocated portions of a watercourse shall be constructed and maintained in such a manner that no reduction occurs in the flood carrying capacity of the watercourse.

F. **Utilities.** New construction or substantial improvement of any structure (including manufactured homes) located within:

1. Zones A, AE, AO, and AH shall have the bottom of all electrical, heating, plumbing, ventilation and air conditioning equipment, permanent fixtures and components, HVAC ductwork and duct systems, and any other utility service equipment, facilities, machinery, or connections servicing a structure, elevated to at least two feet above the base flood elevation.

2. Zone VE shall meet the requirements of Subsection 12.4.5(R)(2)(a).

G. **Physical changes to the natural landscape.** Certain development projects, including but not limited to, retaining walls, sea walls, levees, berms, and rip rap, can cause physical changes that affect flooding conditions.

1. All development projects in Zones AE and VE that cause physical changes to the natural landscape shall be reviewed by a professional engineer to determine whether or not the project changes the base flood elevation, zone, and/or the flood hazard boundary line.

   a. If the professional engineer determines, through the use of engineering judgement, that the project would not necessitate a Letter of Map Revision (LOMR), a certified statement shall be provided.

   b. If the professional engineer determines that the project may cause a change, a hydrologic and hydraulic analysis that meets current FEMA standards shall be performed.

2. If the hydrologic and hydraulic analysis performed indicates a change to the base flood elevation, zone, and/or the flood hazard boundary line, the applicant may submit a Conditional Letter of Map Revision (C-LOMR) request to the Federal Emergency Management Agency for assurance that the as-built project will result in a change to the Flood Insurance Rate Map. Once the development is completed, a request for a Letter of Map Revision (LOMR) shall be initiated.

3. If the hydrologic and hydraulic analysis performed show a change to the base flood elevation, zone, and/or the flood hazard boundary line, as soon as practicable, but no later than six months after the completion of the project, the applicant shall submit the technical data to FEMA in the form of a Letter of Map Revision request.

~~F.~~H. **Residential.** New construction or substantial improvement of any residential structure located within:

1. Zones ~~A1-30,~~ AE, AO, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation.

2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
   a. At least two feet higher than the depth specified in feet on the ~~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:
   a. T~~t~~o at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(J)(1)(b)(i)~~D~~)(~~2~~), 12.4.4(~~B~~C)(~~4~~), or 12.4.4(~~C~~B)(~~1~~4), or~~:~~
   ~~a.~~b. In the absence of all data described above, to at least two feet above the highest adjacent grade to the structure.
5. ~~4.~~ Zones ~~V1-30 and~~ VE and Coastal AE shall meet the requirements of Subsection 12.4.5(~~P~~R).

~~G.~~I. **Nonresidential.** New construction or substantial improvement of any nonresidential structure located within:

1. Zones ~~A1-30,~~ AE, AO, and AH shall have the lowest floor (including basement) elevated to at least two feet above the base flood elevation, or together with attendant utility and sanitary facilities shall:
   a. Be floodproofed to at least two feet above the base flood elevation so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water~~.~~;
   b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy~~.~~; and
   c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Subsection 12.4.2(~~G~~M)(N), and (O) and shall include a record of the elevation above mean sea level to which the structure is floodproofed.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
   a. At least two feet higher than the depth specified in feet on the ~~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~~I).

4. Zone A shall have the lowest floor (including basement) elevated:
   a. To at least two feet above the base flood elevation utilizing information obtained pursuant to Subsections 12.4.2(DK)(12)(b)(i), 12.4.4(BC)(4), 12.4.4(CB)(14); or.
   b. In the absence of all data described in Subsection 12.4.5(I)(4)(a), to at least two feet above the highest adjacent grade to the structure, or
   a.c. Together with attendant utility and sanitary facilities, be floodproofed to two feet above the base elevation established in Subsection 12.4.5(I)(4)(a) or (b) above and meet the floodproofing standards of Subsection 12.4.5(I)(1)(a), (b), and (c).

4.5. Zones V1-30 and VE and Coastal AE shall meet the requirements of Subsection 12.4.5(PR).

H.J. **Manufactured homes.** New or substantially improved manufactured homes located within:

1. Zones A1-30, AE, AO, 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.;
   a.b. Be on a permanent foundation, which may be poured masonry slab or foundation walls, with hydraulic openings, or may be reinforced piers or block supports, any of which support the manufactured home so that no weight is supported by its wheels and axles; and
   b.c. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to:
      i. Over the top ties anchored to the ground at the four corners of the manufactured home, plus two additional ties per side at intermediate points (manufactured homes less than 50 feet long require one additional tie per side).
      ii. Frame ties at each corner of the home, plus five additional ties along each side at intermediate points (manufactured homes less than 50 feet long require four additional ties per side).
      iii. All components of the anchoring system shall be capable of carrying a force of 4,800 pounds.
2. Zones AO and AH shall have adequate drainage paths around structures on slopes, to guide flood water away from the proposed structures.
3. Zone AO shall have the lowest floor (including basement) elevated above the highest adjacent grade:
   a. At least two feet higher than the depth specified in feet on the community's Flood Insurance Rate Map, or
   b. At least three feet if no depth number is specified, and
   c. Meet the anchoring requirements of Subsection 12.4.5(HJ)(1)(bc).
4. Zone A shall:

a. Be elevated on a permanent foundation, as described in Subsection 12.4.5(J)(1)(b), such that the lowest floor (including basement of the manufactured home is at least two feet above the base flood elevation utilizing information obtained pursuant to Subsection ~~12.4.2(D)(2),~~ 12.4.2(J)(1)(b)(i), 12.4.4(~~B~~C)~~(4)~~, or 12.4.4(~~C~~B)(~~1~~4), or~~.~~

~~a.~~b. In the absence of all data described in Section 12.4.5(J)(4)(a), to at least two feet above the highest adjacent grade to the structure, and

~~b.~~c. Meet the anchoring requirements of Subsection 12.4.~~4~~5(J~~B~~)(~~2~~1)(c).

5. Zones ~~V1-30 and~~ VE and Coastal AE shall meet the requirements of Subsection 12.4.5(~~P~~R).

~~I.~~K. **Recreational vehicles.** Recreational vehicles located within:

1. Zones A, AE, AO, ~~A1-30,~~ and AH~~, and AE~~ shall either:
   a. Be on the site for fewer than 180 consecutive days~~,~~ ~~or~~and
   b. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only be quick disconnect type utilities and security devices, and has no permanently attached additions, or~~.~~
   ~~b.~~c. Be permitted in accordance with the elevation and anchoring requirements for manufactured homes in Subsection 12.4.5(J)(1).
2. Zones ~~V1-30 and~~ VE and Coastal AE shall meet the requirements of either Subsection 12.4.5(~~I~~K)(1)(a) and~~,~~ ~~12.4.5(I)(1)~~(b), or 12.4.5(~~P~~R).

L. **Accessory structures.** New construction or substantial improvement of accessory structures, as defined in Subsection 12.3.1, shall be exempt from the elevation criteria required Subsections 12.4.5(H) and (I) if all other requirements of Subsection 12.4.5 and all the following requirements are met.

1. Accessory structures located within Zones A~~1-30~~, 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~~:
   a. Meet the requirements of Subsection 12.4.5(A)(1) to (4) as applicable.

~~1. Be 500 square feet or less and have a value less than $3,000.~~

   b. Be limited in size to a one-story two-car garage.
   ~~a.~~c. Have unfinished interiors and not be used for human habitation.
   ~~b.~~d. Have hydraulic openings, as specified in Subsection 12.4.5(~~L~~N)(2), in at least two different walls of the accessory structure.
   ~~c.~~e. Be located outside the floodway.
   ~~d.~~f. When possible be constructed and placed on the building site so as to offer the minimum resistance to the flow of flood waters and be placed further from the source of flooding than is the primary structure.
   g. Have only ground fault interrupt electrical outlets. The electric service disconnect shall be located above the

base flood elevation and when possible outside the special flood hazard area.

h. Be located outside the Coastal AE Zone.

2. Accessory structures in Zones VE and Coastal A shall meet the requirements of Subsection 12.4.5(R).

~~J.~~M. Floodways

1. In Zone~~s A1-30 and~~ AE riverine areas, encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted within a regulatory floodway~~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 c~~ommun~~ity during the occurrence of the base flood discharge.

2. In Zones A~~1-30~~ 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~~city.

   b. Is consistent with the technical criteria contained in FEMA's guidelines and standards for flood risk analysis and mapping. ~~Chapter 5 entitled "Hydraulic Analyses," *Flood Insurance Study – Guidelines and Specifications for Study Contractors* (FEMA 37/January 1995, as amended).~~

3. In Zones A~~1-30,~~ and 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 floodplain as measured from the normal high-water mark to the upland limit of the floodplain. Encroachments, including fill, new construction, substantial improvement, and other development shall not be permitted unless a technical evaluation certified by a registered professional engineer is provided meeting the requirements of (2) above.

~~K.~~N. ~~Enclosed areas below the lowest floor~~Hydraulic openings/flood vents. New construction or substantial improvement of any structure in Zones A~~1-30~~, AE, AO, and AH~~, and A~~ that meets the development standards of Subsection 12.4.5, including the elevation requirements of Subsection 12.4.5(H~~F~~), (~~G~~I), or (J~~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 as defined in Article 3.
2. Enclosed areas shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood water. Designs for meeting this requirement must either:
   a. Be engineered and certified by a registered professional engineer or architect, or
   b. Meet or exceed the following minimum criteria:
      i. A minimum of two openings having a total net area of not less than one square inch for every square foot of the enclosed area.;
      ii. The bottom of all openings shall be below the base flood elevation and no higher than ~~one~~two f~~oo~~eet 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.

~~L.~~O. **Bridges**. New construction or substantial improvement of any bridge in Zones A~~1-30~~, 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~~M).
   b. The foundation and superstructure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all structural components. Water loading values used shall be those associated with the base flood.

~~M.~~P. **Containment walls.** New construction or substantial improvement of any containment wall shall meet the following requirements by zone:

1. Zones A, ~~A1-30,~~ AE, AO, AH, ~~V1-30,~~ and VE shall:
   a. ~~H~~have the containment wall elevated to at least two feet above the base flood elevation;
   b. ~~, h~~Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy~~, and~~.

~~a.~~c. ~~b~~Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a Flood Hazard Development Permit, as required by Subsection 12.4.2.~~(~~(M), (N), and (O).

2. Zones AO and AH shall have adequate drainage paths around containment walls on slopes, to guide flood water away from the proposed walls.

3. Zone AO shall have the top of the containment wall elevated above the highest adjacent grade:

a. ~~a~~At least two feet higher than the depth specified in feet on the ~~community's~~ Flood Insurance Rate Map~~;~~, or

b. ~~a~~At least three feet if no depth number is specified, and

~~a.~~c. Shall meet the requirements of Subsection 12.4.5(P)(1)(b) and (c). ~~-~~

~~3. 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).~~

~~N.~~Q. **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. In Zones A, AE, AO, and AH, w~~W~~harves, piers, and docks shall comply with all applicable local, state, and federal regulations, or~~.~~

2. In Zone VE, ~~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.~~shall have a registered professional engineer develop or review the structural design, specifications, and plans for construction.

~~O.~~R. Coastal floodplains

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~~be located landward of the reach of mean high tide except as provided in Subsection 12.4.5(R)(6)..

2. New construction or substantial improvement of any structure located within Zones ~~V1-30 or~~ VE or Coastal AE shall:

a. Have the bottom of all electrical, heating, plumbing, ventilation and air conditioning equipment, permanent fixtures and components, HVAC ductwork and duct systems, and any other utility service equipment, facilities, machinery, or connections servicing a structure, elevated to at least two feet above the base flood elevation. Systems, fixtures, equipment, and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

~~a.~~b. ~~b~~Be elevated on posts or columns such that:

i. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to two feet above the base flood elevation.

ii. The pile or column foundation and the elevated portion of the structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

iii. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable state and local building standards.

c. ~~New construction or substantial improvement of any structure located within Zones V1-30 or VE shall~~H~~-h~~Have the space below the lowest floor:

i. Free of obstructions, or

ii. Constructed with open wood lattice work~~,~~ or insect screening intended to collapse under wind and water without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting piles or columns, or

iii. Constructed with non-supporting breakaway walls which have a design safe loading resistance of not less than 10 or more than 20 pounds per square foot.

d. Require ~~A~~a registered professional engineer or architect ~~shall~~ to:

i. ~~d~~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~~).

ii. ~~A registered professional engineer or architect shall~~ ~~c~~Certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the criteria of Subsections 12.4.5(R~~P~~)(2)(b), (c), and (d) ~~and (3)~~.

3. The use of fill for structural support in Zones ~~V1-30 and~~ VE and Coastal AE is prohibited.

4. Human alteration of sand dunes within Zones ~~V1-30 and~~ VE and Coastal AE is prohibited unless it can be demonstrated that such alterations will not increase potential flood damage.

5. The ~~enclosed areas~~area below the lowest floor may be used solely for parking vehicles, building access, and storage.

6. Lobster sheds and fishing sheds may be located seaward of mean high tide and shall be exempt from the elevation requirement in Subsection 12.4.5(I~~G~~) only ~~upon~~ if ~~r~~reviewed and approved as a conditional use ~~al~~ by the ~~Planning Authority or Planning Board~~Zoning Board of Appeals, as provided in Section 12.5, and if all the following requirements of

Subsections 12.4.5(A), (~~K~~M), and (~~L~~N) are met:

a. The conditional use shall be limited to low value structures such as metal or wood sheds 200 square feet or less and shall not exceed more than one story.

b. The structure shall be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.

c. The structure will not adversely increase wave or debris impact forces affecting nearby buildings.

d. The structure shall have unfinished interiors and shall not be used for human habitation.

e. Any mechanical, utility equipment and fuel storage tanks must be anchored and either elevated or floodproofed to two-feet above the base flood elevation.

f. All electrical outlets shall be ground fault interrupt type. The electrical service disconnect shall be located on shore above the base flood elevation and when possible outside the special flood hazard area. If a flood hazard permit application is granted, the applicant shall be notified in writing that flood insurance is not available for structures located entirely over water or seaward of mean high tide.

12.4.6 Permit

A. Upon determination that the development or substantial improvement plan is in compliance with this article, the Building Authority shall issue one of the following Flood Hazard Development Permits based on the type of development:

1. *Two-part Flood Hazard Development Permit for elevated structures*. Part I shall authorize the applicant to build a structure to and including the first horizontal floor only above the base flood level. At that time the applicant shall provide the Code Enforcement Officer with an "under construction" ~~second~~ elevation certificate (FEMA form FF-206-FY-22-152) 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~~H), (~~G~~I), (~~H~~J), or (~~P~~R). Following review of the elevation certificate data, which shall take place within 72 hours of receipt of the application, or as soon as practicable thereafter, the Code Enforcement Officer shall issue Part II of the Flood Hazard Development Permit. Part II shall authorize the applicant to complete the construction project.
2. *Flood Hazard Development Permit for floodproofing of nonresidential structures*. This permit shall apply for nonresidential structures that are new construction or substantially improved nonresidential structures that are not being elevated but that meet the floodproofing standards of Subsection 12.4.5(I~~G~~)(1). The application

for this permit shall include a floodproofing certificate signed by a registered professional engineer or architect.

3. *Flood Hazard Development Permit for minor development*. This permit shall apply for all other development and building permits that are not new construction or a substantial improvement, such as repairs, maintenance, renovations, or additions, whose value is less than 50% of the market value of the structure. This includes, but is not limited to: accessory structures as provided for in Subsection 12.4.5(~~J~~L), mining, dredging, filling, grading, paving, excavation, drilling operations, storage of equipment or materials, deposition or extraction of materials, public or private sewage disposal systems or water supply facilities that do not involve structures, and nonstructural projects such as bridges, dams, towers, fencing, pipelines, wharves, and piers.

B. For development that requires review and approval as a conditional use, as provided for in this article, the Flood Hazard Development Permit application shall be acted upon by the Zoning Board of Appeals as required under Section 12.5.

12.5 CONDITIONAL USE REVIEW

12.5.1. Review authority

The Zoning Board of Appeals shall hear and approve, approve with conditions, or disapprove all applications for conditional uses provided for in this article. An applicant informed by the Building Authority that a conditional use approval is required shall file an application for the permit with the Zoning Board of Appeals.

12.5.2 Review procedure

A. The Flood Hazard Development Permit application with additional information attached addressing how each of the conditional use criteria specified in this article will be satisfied may serve as the application for the conditional use review.

B. Before deciding any application, the Zoning Board of Appeals shall hold a public hearing on the application within thirty days of their receipt of the application.

C. If the Zoning Board of Appeals finds that the application satisfies all relevant requirements of this article, the Zoning Board of Appeals must approve the application or approve with conditions within 45 days of the date of the public hearing.

D. A conditional use approval issued under the provisions of this article shall expire if the work or change involved is not commenced within 180 days of the approval by the Zoning Board of Appeals.

E. The applicant shall be notified by the Zoning Board of Appeals in writing over the signature of the Chair of the Board of Appeals that flood insurance is not available for structures located entirely over water or seaward of mean high tide.

12.5.3 Expansion of conditional uses

No existing building or use of premises may be expanded or enlarged without approval under this section if that building or use was stablished or constructed under a previous conditional use approval or if it is a building or use which would

require a conditional use approval if being newly-established or constructed under this article.

~~12.5~~12.6 CERTIFICATE OF COMPLIANCE

A. A certificate of compliance shall be signed by the Building Authority stating that a structure is in compliance with all of the provisions of this article.

B. No land in an area of special flood hazard shall be occupied or used in violation of this article, and no structure in such an area which is developed or substantially improved shall be occupied until a ~~Certificate~~ certificate of ~~C~~compliance is issued by the Building Authority. Said ~~C~~certificate of ~~C~~compliance shall be issued only after the Building Authority has received all permits and certificates from the applicant as required by this article.

C. For new construction or substantial improvement of any elevated structure, the applicant shall submit to the Building Authority:

1. An elevation certificate (FEMA form FF-206-FY-22-152) completed by a professional land surveyor for compliance with Subsection 12.4.5(H), (I), (J), or (R).
2. For structures in Zones ~~V1-30 and~~ VE and Coastal AE~~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(R)(2)(b), (c), and (d).

D. The applicant shall submit written notification to the Building Authority that the development is complete and complies with the provisions of this article.

~~A.~~E. Within ~~3~~10 working days, the Building Authority shall review the elevation certificate (FEMA form FF-206-FY-22-152) and the applicant's written notification and, upon determination that the development conforms with the provisions of this article, shall issue a certificate of compliance.

~~12.6~~12.7 VARIANCES AND APPEALS

12.7.1 Authority

A. The Zoning Board of Appeals of the City of Portland may, upon written application of an aggrieved party, hear and decide appeals where it is alleged that there is an error in any order, requirement, decision, or determination made, or failure to act, in the administration or enforcement of the provisions of this article.

~~A.~~B. The Board of Appeals may authorize variances, meaning the granting of relief ~~-~~from the provisions of this article, as authorized in Subsection 2.3.11 except:

1. As otherwise expressly provided in Subsection 2.3.11(E).
2. Variances shall not be granted within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result.

12.7.2 Standards

Subsection 2.3.11 notwithstanding, variances from the requirements of this article shall be granted only upon:

A. A showing of good and sufficient cause.

B. A determination that should a flood comparable to the base flood occur, the granting of a variance will not result in increased flood heights, additional threats to public safety, or public expense, or create

nuisances, cause fraud or victimization of the public, or conflict with existing local laws or ordinances.

C. A showing that the issuance of the variance will not conflict with other state, federal, or local laws or ordinances.

D. A determination that failure to grant the variance would result in "undue hardship," which in this subsection means:

1. That the land in question cannot yield a reasonable return unless a variance is granted.
2. That the need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood.
3. That the granting of a variance will not alter the essential character of the locality.
4. That the hardship is not the result of action taken by the applicant or a prior owner.

E. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief, and the Zoning Board of Appeals may impose such conditions to a variance as is deemed necessary.

12.7.3 Standards for specific variances

A. Variances may be issued for new construction, substantial improvements, or other development for the conduct of a functionally-dependent use provided that:

1. The criteria in Subsection 12.7.2 and 12.4.5(M) are met.
2. The structure or other development is protected by methods that minimize flood damage during the base flood and create no additional threats to public safety.

~~A.~~B. Variances may be issued for the repair, reconstruction, rehabilitation, or restoration of historic structures upon the determination that:

1. The development meets the criteria of Subsection 12.7~~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.~~C. Variances may be issued for new construction~~,~~ and substantial improvement~~s, or other development for the conduct of a functionally dependent use~~ of agricultural structures being used for the conduct of agricultural uses provided that:

1. The development meets the criteria of Subsection 12.7.2~~6~~ and Subsection 12.4.5 are met.
2. The development meets the criteria of Subsection 12.4.5(M) and (N).

~~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.~~

12.7.4 Notice to applicants

Any applicant who meets the criteria of ~~this section~~Subsections 12.7.2 and 12.7.3(A), (B), or (C) shall be notified by the Board of Appeals in writing with the signature of the Chair of the Board of Appeals that:

A. The issuance of a variance to construct a structure below the base flood level will result in greatly increased premium rates for flood insurance up to amounts as high as $25 per $100 of insurance coverage.

B. Such construction below the base flood level increases risks to life and property.

C. The applicant agrees in writing that the applicant is fully aware of all the risks inherent in the use of land subject to flooding, assumes those risks and agrees to indemnify and defend the municipality against any claims filed against it that are related to the applicant's decision to use land located in a floodplain and that the applicant individually releases the municipality from any claims the applicant may have against the municipality that are related to the use of land located in a floodplain.

~~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).~~

12.7.5 Record of variances

The Board of Appeals shall submit to the Building Authority a report of all variance actions, including justification for the granting of the variance and an authorization for the Building Authority to issue a Flood Hazard Development Permit, which includes any conditions to be attached to said permit.

12.7.6 Appeal procedure

A. An administrative appeal may be taken to the Board of Appeals by an aggrieved party within 30 days after receipt of a written decision of the Building Authority.

B. Upon being notified of an appeal, the Building Authority shall transmit to the Board of Appeals all of the documents constituting the record of the decision appealed from.

C. The Board of Appeals shall hold a public hearing on the appeal within 35 days of its receipt of an appeal request.

D. The person filing the appeal shall have the burden of proof.

E. The Board of Appeals shall decide all appeals within 35 days after the close of the hearing and shall issue a written decision on all appeals.

F. Any aggrieved party who participated as a party during the proceedings before the Board of Appeals may take an appeal to Superior Court

in accordance with state laws within 45 days from the date of any decision of the Board of Appeals.

~~12.7~~12.8 RECORDS & REPORTING

A. The Building Authority shall maintain, as a permanent record, copies of all Flood Hazard Development Permits issued, certificates of compliance and data relevant thereto, including reports of the Board of Appeals on variances granted hereunder.

B. The Building Authority shall be responsible for filing such annual reports regarding participation in the National Flood Insurance Program as may be required by FEMA. Said annual reports shall include, but not be limited to, a report on implementation of this article and on any variances granted hereunder. A copy of such annual reports shall also be sent to the Maine Floodplain Management Program.

~~12.8~~12.9 PENALTIES

It shall be the duty of the Building Authority to enforce the provisions of this ordinance pursuant to Title 30-A M.R.S. § 4452. The penalties contained in Title 30-A M.R.S. § 4452 shall apply to any violation of this ordinance. In addition to any other actions, the Building Authority, upon determination that a violation exists, shall submit a declaration to the Administrator of the Federal Insurance Administration requesting a denial of flood insurance. The valid declaration shall consist of:

A. The name of the property owner and address or legal description of the property sufficient to confirm its identity and location.

B. A clear and unequivocal declaration that the property is in violation of a cited state or local law, regulation, or ordinance.

C. A clear statement that the public body making the declaration has authority to do so and a citation to that authority.

~~D.~~ Evidence that the property owner has been provided notice of the violation and the prospective denial of insurance.

D. A clear statement that the declaration is being submitted pursuant to Section 1316 of the National Flood Insurance Act of 1968, as amended.

12.10 DISCLAIMER OF LIABILITY

The degree of flood protection required by the ordinance is considered reasonable but does not imply total flood protection.

186 Woodford Street
Major Site Plan and Subdivision
PL-002753-2023
Community Housing of Maine, Applicant

Submitted to:	Portland Planning Board	**Prepared By:**	Maya Balassa
Public Hearing Date:	March 26, 2024	**Date:**	March 22, 2024

I. INTRODUCTION

Community Housing of Maine (CHOM) has submitted a Major Site Plan and Subdivision application to facilitate the development of 82 affordable housing units at 186 Woodford Street zoned B-2 Community Business. The project proposes the renovation of an ell of the existing Parish House into 40 age-restricted affordable units, and the construction of a new building with 42 age-restricted affordable units. The project also includes various parking, utility and landscaping improvements. A subdivision is proposed to divide the existing lot into three lots, one with the new building, one with the redeveloped Parish House, and one with the remaining church. The lots containing the Parish House and the new affordable housing building will be owned and maintained by CHOM, and the church will continue to function as a place of worship under the existing ownership authority. The subject property totals 1.92 acres.

The Planning and Urban Development Department mailed 129 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the March 16 and 19, 2024 editions of the Portland Press Herald.

Applicant: Community Housing of Maine and Community Housing of Maine Development Corp

Applicant Representatives: Acorn Engineering, Inc.

II. REQUIRED REVIEWS

Review	*Applicable Standards*
Site Plan	Section 14.6
Subdivision	Section 15.4
Design Review	Design Manual Section D

Waiver Requests	*Applicable Standards*
The applicant is requesting a drive aisle width of 23 feet through the parking lot due to site constraints and low turnover.	Technical Manual, Section 1.10.3 requires that the minimum two-way drive aisle width be 24 feet for right-angle parking. *Staff are supportive*

III. PROJECT DATA

Existing Zoning	B-2 Community Business

Property Size	1.92 acres
Existing Use	Place of assembly
Proposed Use	Residential / Place of assembly

	Existing	*Proposed*	*Net Change*
Building Footprint	19,805 square feet	28,199 square feet	+8,394 square feet
Building Floor Area	24,600 square feet	79,472 square feet	+54,872 square feet
Impervious Surface Area	60,065 square feet	58,880 square feet	-1,185 square feet
Parking Spaces	83	56	-27
Bicycle Parking Spaces	0	15	+15
EV Charging Stations	0	12	+12

IV. BACKGROUND AND EXISTING CONDITIONS

The site currently contains the Woodfords Congressional Church and a large surface parking lot with 83 parking spaces. The property also leases space to A Company of Girls, Maine Council of Churches, Project Feed, and Stages Youth Theater. There are two curb cuts along Woodford Street that are used for both an entrance and exit and a curb cut along Beacon Street. The property at 186 Woodford Street is bounded by Woodford Street to the north and Beacon Street to the west. The site is zoned B-2 Community Business zone, which runs along Forest Avenue to the east and along Woodford Street, up to Beacon Street. Beyond Beacon Street to the west is a swath of B-1 Business zone. Surrounding the Business zones along Woodford Street to the north and south are large swaths of R-5 Residential zone, with an R-3 Residential zone mapped several blocks south.

Figure 1 Google Street View of the site from June, 2011

The surrounding area contains a mixture of residential, commercial, institutional, and light industrial uses. Woodfords Corner is two blocks to the east, which serves as a commercial node for the neighboring Back Cove, Rosemont, and Deering neighborhoods along Forest Avenue. Woodford Street includes a mixture of both commercial and residential uses. Low-density residential uses largely surround the site to the north and south.

On October 10, 2023, the Planning voted unanimously to recommend to the City Council adoption of a zoning map amendment (ZN-002535-2023) (Report Attachment 1) to rezone the Woodford's Congregational Church property from B-1 Neighborhood Business, B-2 Community Business and R-5 Residential to B-2 Community Business zone. The rezoning was adopted by the City Council on December 18, 2023.

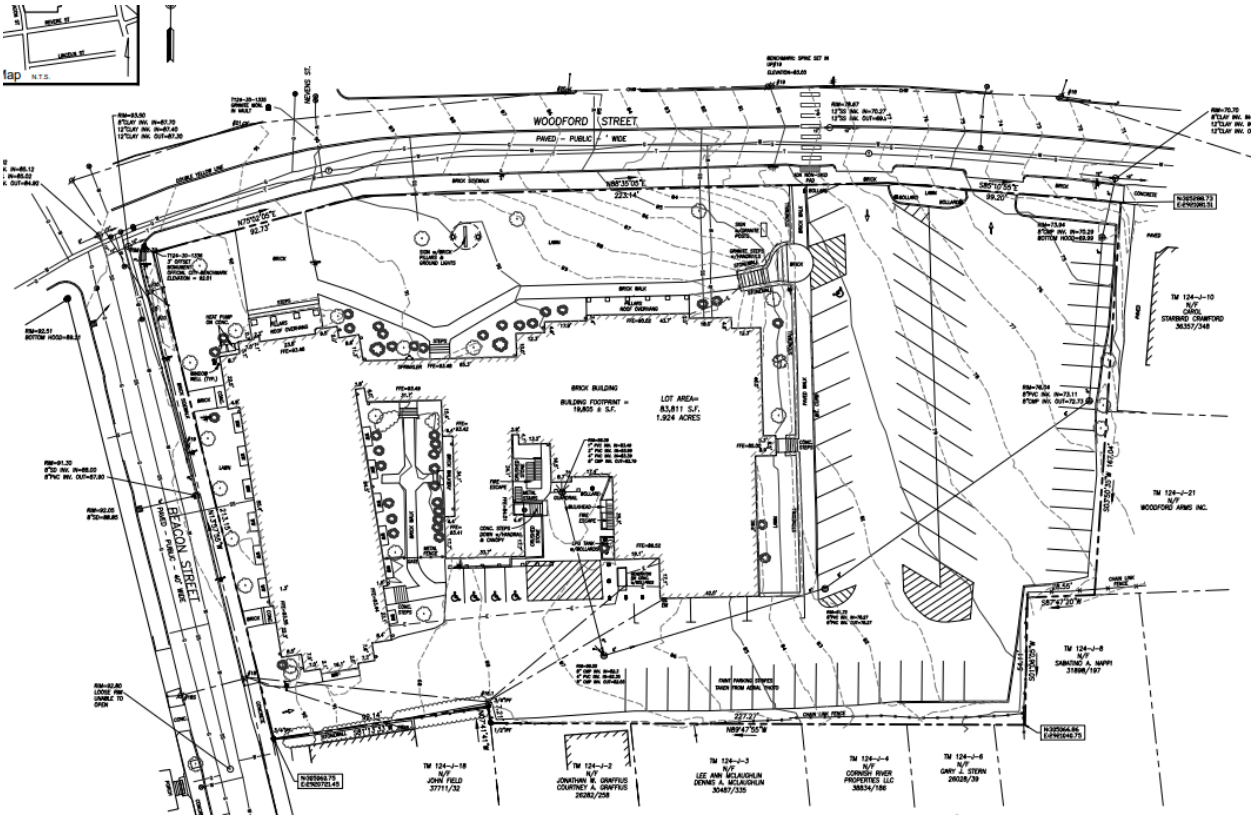


Figure 2 Existing Conditions survey of 186 Woodford Street

V. PROPOSED DEVELOPMENT

The applicant is proposing to demolish the parish house that is connected to the existing building and then construct a four-story building with 40 low-income residential units in its place. Additionally, the applicant is also proposing to construct a separate four-story building along the easterly property boundary with 42 low-income residential units, and redesign the remaining parking lot. The applicant is proposing two-way access from the Woodford Street driveway and one-way ingress from the Beacon street driveway.

A three-lot subdivision is being proposed in conjunction with the development. An access, utility, and maintenance easement (depicted on the Subdivision, Plan 17) is proposed within the shared drive aisle onsite, that would benefit all three proposed lots. In support of the residential units, the applicant is proposing a subsurface stormwater system to meet treatment standards, adding landscaping around the site, and reconstructing parts of the existing sidewalk along Woodford Street.

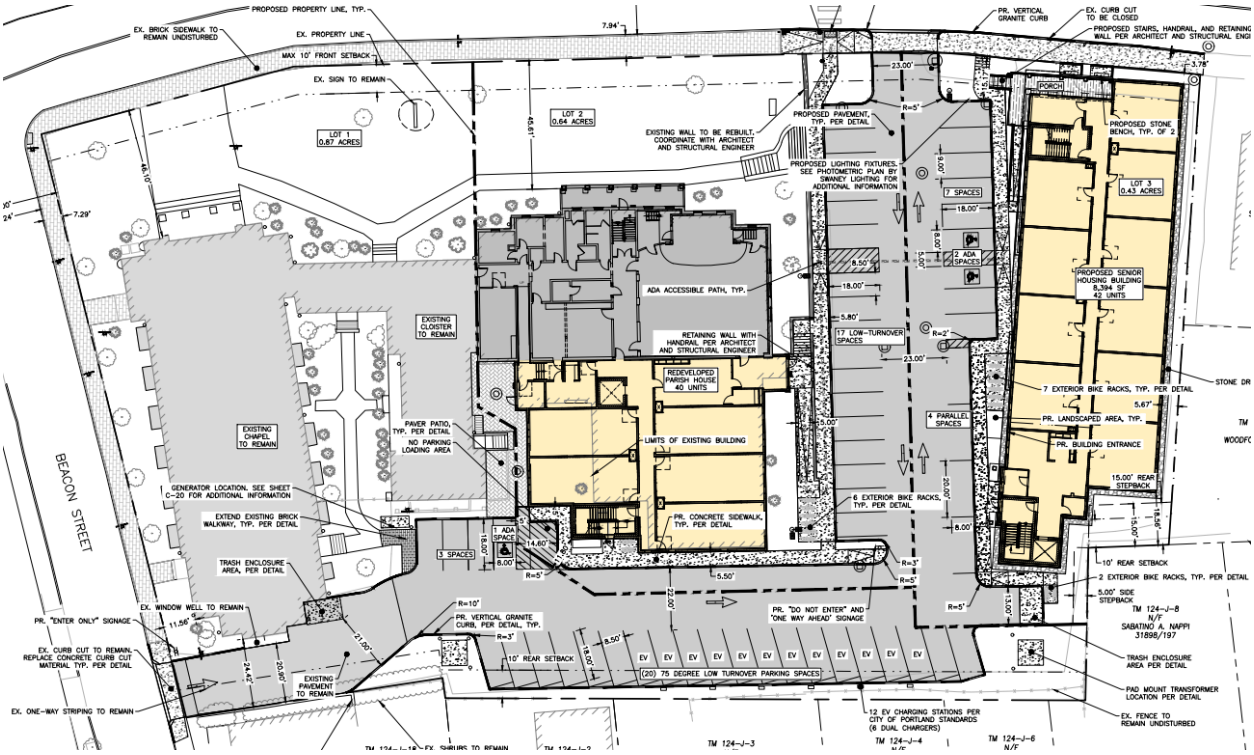


Figure 3 Site plan

VI. PREVIOUS WORKSHOPS

A workshop was held on February 13, 2024 for this project. During the meeting the Planning Board discussed the design, traffic movement, landscaping and ADA routing. Staff brought up concerns around the originally proposed one-way circulation, with the Board varying on opinion on the ideal routing. Since the workshop, the applicant has altered the site plan to provide two-way traffic from Woodford Street with one-way ingress from Beacon Street. The Board echoed staff's concerns around the design and the proposed ADA routing from Woodford Street to the new senior housing building. In response, the applicant has updated the design of the building to address the front façade comments and has proposed an improved ADA routing plan from Woodford Street to the new 42-unit building. The landscaping plan has been updated, and a calculated fee for the tree fund is provided below.

VII. RIGHT, TITLE, & INTEREST

The applicant submitted the option to purchase agreement from Woodford Congregational Church of the United Church of Christ by Community Housing of Maine showing right, title and interest.

VIII. FINANCIAL & TECHNICAL CAPACITY

The Community Housing of Maine submitted a letter self-certifying they have financial capacity to finance the proposed project. (Applicant Submittal H) The project team includes Acorn Engineering and CWS Architects, demonstrating technical capacity to complete the project. (Applicant Submittal I)

IX. ZONING ANALYSIS

The site is located within the B-2 Community Business zone. Alongside the proposed development, the applicant is proposing to subdivide the site into three lots. The proposed multi-family residential is a

permitted use in the B-2 Community Business zone. The analysis of the dimensional standards is provided in the table below:

Standard	*Requirement*	*Proposed (Lot 1)*	*Proposed (Lot 2)*	*Proposed (Lot 3)*	*Finding*
Lot Size (SF)	*None*	*37,289 SF*	*27,883 SF*	*18,641 SF*	*Standard Met.*
Area per D.U.	*1,000 SF/ unit* *400 SF/ Unit (Table 18-C Affordable Housing Bonus)*	*N/A*	*753*	*444*	*Standard Met.*
Street Frontage	*20 feet*	*369.13 feet*	*152.56 feet*	*106.52 feet*	*Standard Met.*
Front Setback (Max)	*10 feet*	*46.10 feet (existing)*	*45.61 feet (existing)*	*3.78 feet*	*Standard Met.*
Rear Setback	*10 feet* *0 feet (Table 18-C Affordable Housing Bonus)*	*24.42 feet*	*16.55 feet*	*20.05 feet*	*Standard Met.*
Side Setback	*None*	*n/a*	*n/a*	*n/a*	*Standard Met.*
Stepback (above 35 ft is abutting residential)	*Side: 5 ft.* *Rear: 15 ft.*	*n/a*	*Rear: 50 feet*	*Side: 5 feet* *Rear: 25 feet*	
Building Height	*45 feet* *70 feet (Table 18-C Affordable Housing Bonus)*	*n/a*	*41.96 feet*	*46.76 feet*	*Standard Met.*
Lot Coverage (max)	*None*	*n/a*	*n/a*	*n/a*	*Standard Met.*
Impervious surface ratio (max)	*Residential: None* *Other uses in B-2: 80%*	*73.3%*	*75.1%*	*88.3% (Residential)*	*Standard Met*

The project is exempt from Section 18.2 Affordable Housing standards as the project is utilizing public financing requiring affordability restrictions.

X. SUBDIVISION REVIEW STANDARDS (Section 15.4)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's Subdivision Ordinance and applicable regulations. Staff comments are listed below:

1. Will Not Result in Undue Water and Air Pollution (Section 15.4.1.A), and will not result in undue soil erosion (Section 15.4.1.D)

   The project site currently comprises Woodfords Congressional Church and a large surface parking lot. Included in the applicant's proposal is a subsurface stormwater treatment system that will then discharge into the City's separated stormwater system. The proposed project will decrease

impervious area onsite by 1,185 square feet. The subdivision associated with the development is not anticipated to result in undue water or air pollution. The standard is being met.

2. Has sufficient water available and will not cause unreasonable burden on existing water supply (Section 15.4.1.B and C)
   The applicant has requested ability to serve confirmation from the Portland Water District. A condition has been added for the applicant to submit confirmation once received.

3. 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 (Section 15.4.1.E)
   The site is located along Woodford Street, which runs between Forest Avenue and Stevens Avenue. The project is utilizing the proximity to transit parking exemption (Table 19-B) to reduce the off-street parking requirement for the project. The existing roadways can reasonably accommodate the additional traffic associated with the development and therefore the subdivision will not cause unreasonable highway or public congestion, or unsafe conditions in relation to roadways. The project is meeting the standard.

4. Will provide for adequate sanitary sewer and stormwater disposal (Section 15.4.1.F) and will not cause an unreasonable burden on municipal solid waste and sewage (Section 15.4.1.G)
   The new building is proposed to connect into the City sewer and stormwater systems below Woodford Street.

5. Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat (Section 15.4.1.H)
   The site is currently improved with a church and existing surface parking lot surrounded by a mix of uses including businesses and multi-family housing. The location for the proposed housing is in context with the neighborhood, is located near community amenities and will not negatively impact the aesthetics. The site is not within a historic district or within 100 feet of a historic district or landmark.

6. Is in conformance with the Comprehensive Plan (Section 15.4.1.I)
   The proposed subdivision is in line with the Comprehensive Plan as it complies with the B-2 zoning requirements, and it facilitates the development of high-density, affordable housing that is proximate to existing transit, sidewalks, jobs, and amenities.

   The project supports several Comprehensive Plan goals including:

   Housing
   - "Increase, preserve, and modify the overall supply of housing city-wide to meet the needs, preferences and financial capabilities of all Portland residents"
   - "Encourage additional contextually appropriate housing density in and proximate to neighborhood centers, concentrations of services, and transit nodes and corridors as a means of supporting complete neighborhoods."
   - "Pursue policies to enable people who work in Portland to have the option to live in Portland."

   Support Age-Friendly Housing Options

- "Create, promote, and facilitate safe, affordable, and practical housing solutions that will meet the evolving needs of Portland residents as they age."

Future Land Use: Priority Nodes & Corridors

- "Priority nodes and corridors indicate areas that would be appropriate for new development to provide needed housing, businesses, and services proximate to transit, or areas that otherwise warrant some examination of potential for positive change in form and/or function."

7. Adequate financial and technical capacity (Section 15.4.1.J)
   The applicant has provided documentation to verify they have financial and technical capacity to complete the proposed project (Applicant Submittal H). CHOM has developed several projects in Portland (Applicant Submittal I). The standard is being met.

8. 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, will not adversely affect the quality of such body of water or unreasonably affect the shoreline of such body of water (Section 15.4.1.K)
   Not applicable. The site is not within a watershed or within 250 feet of a wetland, great pond, river or other body of water.

9. Will not, adversely affect the quality and quantity of groundwater (Section 15.4.1.L)
   The project is not proposing activities that are known for impacting the quality of groundwater. The standard is being met.

10. Is or is not in a flood-prone area (Section 15.4.1.M)
    Not applicable. The site is not located in a flood prone area.

11. Will provide for adequate stormwater management (Section 15.4.1.N)
    The project is providing a subsurface stormwater treatment system that is meeting City and State standards in regards to the on-site detention of stormwater, water quality treatment, and erosion and sedimentation control. The standard is being met.

12. 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 (Section 15.4.1.O)
    Not applicable. The site does not have shore frontage.

13. 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 (Section 15.4.1.P)

Not applicable. The site does not cross municipal boundaries.

XI. SITE PLAN STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's Site Plan Ordinance, Section 14.6. Staff comments are below.

1. Transportation Standards (Section 14.6.1)
   A. Impact on surrounding street systems

The applicant is proposing to retain the existing traffic pattern. The two curb cuts from Woodford Street will be reduced to one, two-way driveway. The existing curb cut from Beacon Street will remain a one-way entrance. The switch to two-way movement occurs at the end of either straight away. Staff are supportive of the traffic pattern as it limits traffic from Beacon Street and keeps it on Woodford Street, a larger arterial.

The applicant is proposing to reconstruct the Woodford Street sidewalk along Lot 3 and the driveway entrance along Beacon Street. Staff have proposed a condition of approval for the applicant to expand the reconstruction to the Woodford Street sidewalk along Lot 2. DPW finds the sidewalk along Lot 2 to be in substandard condition and the applicant is proposing utility connections through the sidewalk in Lot 2.

Access and circulation

There is an existing sidewalk along the Woodford Street and Beacon Street frontage. There are currently two curb cuts along Woodford Street to the site that are proposed to be reduced to one, two-way driveway. The existing curb cut off of Beacon Street is being proposed to remain as a one way, enter only, driveway. The parking spaces along the rear of the lot are proposed to be angled and accessible only by the Beacon street entrance. Staff are proposing a condition to change those spaces to perpendicular to allow access for vehicles entering from the Woodford Street entrance, while retaining the one-way from Beacon Street.

The new 42-unit building has the main entrance along Woodford Street with stairs leading up to the front porch, and lobby. There is an ADA ramp along the west side of the new building, leading from the ADA parking spaces to the porch and front entrance. The front entrance of the renovated Parish house is proposed on the eastern façade with an ADA ramp coming from the west.

The internal sidewalks are proposed to be five-feet in width. Based on staff and Board feedback, the applicant has adjusted the proposed ADA routing from Woodford Street to the 42-unit building to cross between the two ADA parking spaces on the eastern side of the parking lot. A parking space on the west has been dashed at the tip down to provide safe access. Staff have proposed a condition of approval to require the applicant to install a painted crosswalk between the tip downs to support safety for pedestrians and clarity for drivers. In addition, staff are suggesting the applicant designate the two parking spaces on the opposite side of the parking as the proposed ADA spaces also be designated ADA.

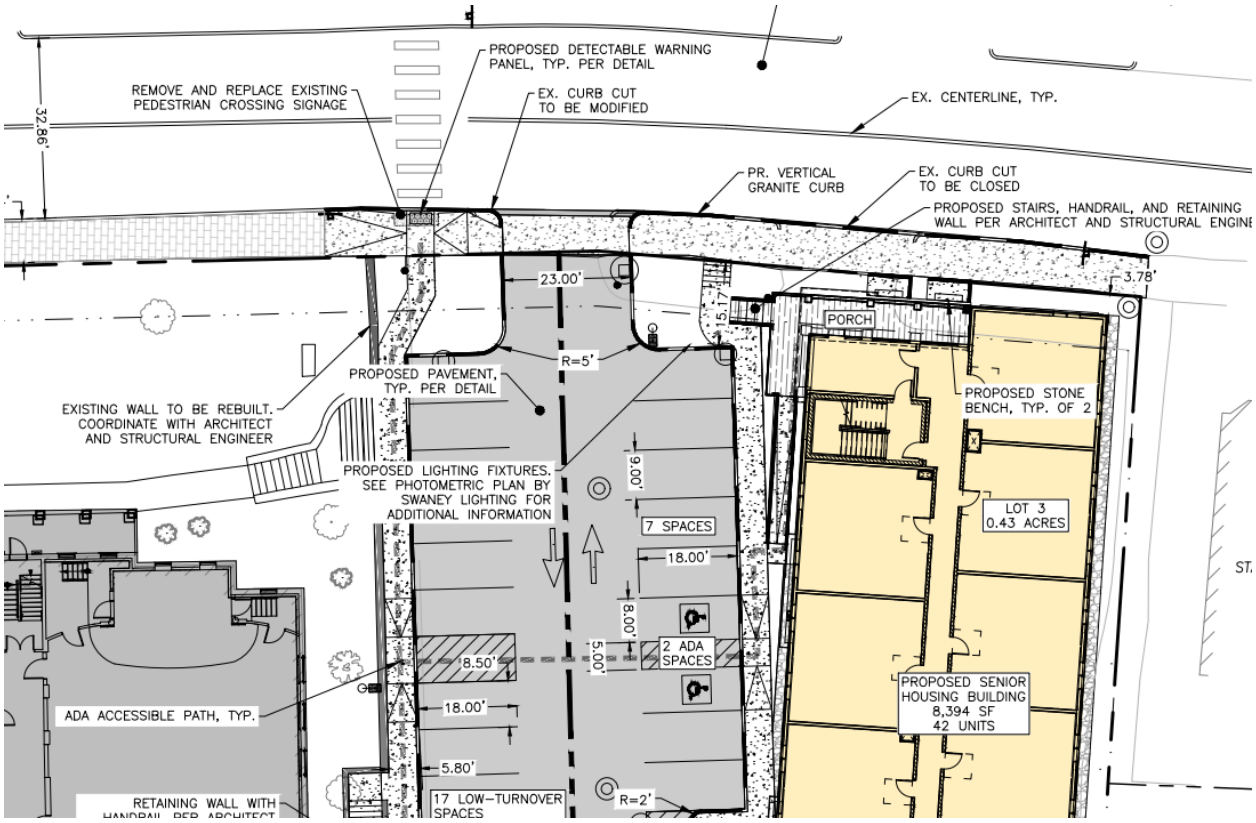


Figure 4 Proposed ADA routing to 42-unit building

WAIVER REQUESTS

The applicant is seeking one waiver for this project.

I. *Technical Manual, Section 1.10.3:* Technical Manual Section 1.10.3 requires 90-degree standard parking spaces to have a minimum aisle width of 24 feet. The applicant is proposing a drive aisle width of 23 feet, for a total reduction of one foot. The reduction in the drive aisle would allow the proposed development, which is expected to have low turnover, to minimize impervious surfaces and maximize construction of on-site housing with other amenities such as sidewalks. Staff recommend that the Planning Board support the requested waiver.

B. Public transit access

Not applicable. The site is not located along an existing public transit route.

C. Parking

The applicant is utilizing the exception to the off-street parking minimum per table 19-B, which allows for no off-street parking for development sites within a quarter mile of transit. The applicant has submitted a Transportation Demand Management Plan (TDM) (Applicant Submittal T) in accordance with this exception. The applicant is proposing 56 parking spaces (of which, three are ADA and three are compact), a reduction of 27 spaces from the existing condition. The applicant is proposing 12 EV charging parking spaces along the rear of the site, which meets the City's requirement per Technical Manual Section 1.14. A total of 32 bike parking spaces are proposed for the housing units near the building entrances. The two bike-parking location, as proposed, are not spaced properly to maintain

adequate clear sidewalk width and/or full functionality of the bike racks. A condition has been added to require the applicant to reconfigure the racks or reduce one rack from the two areas highlighted in Figure 4.

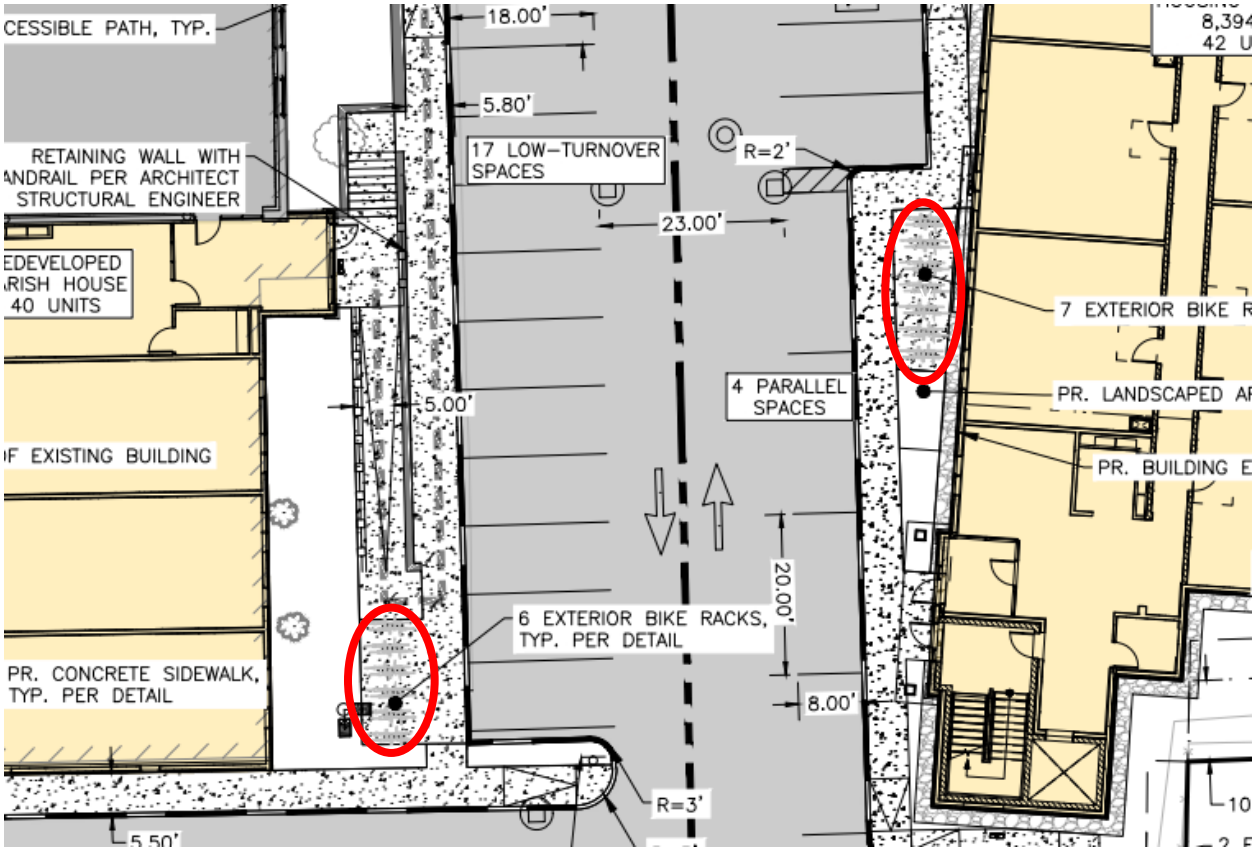


Figure 5 Bike racks locations

The 56 parking spaces will be first come, first serve for residents, visitors, employees and the church. There will be a staff member of CHOM designated to coordinate parking in the event there is an issue, but as of now, there is no formal agreement between the uses and number of spaces designated for each. From the applicant's research of other similar facilities, there are between 0.2 and 0.3 spaces needed for each unit, which equates to 16.4 to 24.6 spaces anticipated being needed for residents. The rest of the 31 spaces are left open for visitors of the site and employees.

D. Transportation demand management (TDM)

The applicant has submitted a TDM Plan (Applicant Submittal T). The plan outlines key strategies for promoting and supporting the transportation methods of biking, public transportation, and walking for residents. The location of the project is within walking distance of many restaurants and business for residents to utilize. The Metro bus 2 and 4 are nearby and route across the city including downtown and South Portland. To support residents to utilize the bus, the owners are offering educational materials and initial funds for riding the METRO. The project is providing 32 bike parking spaces and a bike repair station inside.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

No significant natural features have been identified onsite. The project site is an existing parking lot and building.

B. Landscape preservation

The development site is an already developed site with a church, associated buildings, landscaped open space, and a surface parking lot. There are three trees along the eastern edge of the property that are proposed to be removed. The existing trees along the Woodford Street frontage are proposed to be preserved.

C. Site landscaping and buffers

The project is proposing five street trees (Northern Red Oak), six internal trees ('Street keeper' Honeylocust), 64 shrubs, and 86 perennials.

The 82 units requires 82 street trees. The applicant is proposing five street trees, with three existing trees to remain. For remaining street trees (74) that cannot feasibly fit on the site, the applicant shall pay $29,600 (74*$400) into the City's tree fund. A condition has been added.

The site landscaping standard requires developments subject to zoning setbacks to include at least one shade tree or six plantings per 30 linear feet of all frontages- to be planted anywhere on the site. The existing lot, to be subdivided, has 623.21 linear feet on frontage, which requires 20 trees or 125 plantings (623.21/30). One planting is defined as one shrub, one ornamental grass, or three perennials. The landscaping plan proposes more than the required number of plantings to meet this requirement.

D. Water quality/storm water management/erosion control

The project is subject to the Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 for stormwater management. The applicant is proposing underground stormwater detention to treat 57% of the redeveloped non-roof impervious area with a StormTech subsurface sand filter. Staff and the third-party stormwater engineer find the proposed detention volume and flow to be adequate and meet the standard.

The applicant will be required to submit a Stormwater Maintenance Agreement for the proposed stormwater system, per the standard conditons.

3. Public Infrastructure and Community Safety Standards (Section 14.6.3)

A. Consistency with City Master Plans

The project is in line with the City's Comprehensive Plan. The addition of high density, housing, including affordable housing on an existing parking lot near transit and businesses is in line with housing and transportation goals for the City.

B. Public safety and fire prevention

There is an existing fire hydrant at the corner of Revere Street and Beacon Street and a fire hydrant in front of 170 Woodford Street, both within 500 feet. The site has space for emergency vehicle access.

C. Availability and capacity of public utilities

The applicant has requested ability to serve confirmation from utilities. The applicant has received confirmation from CMP, but is still awaiting Portland Water District. A condition is proposed to submit capacity confirmation of all utilizes once received.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The building bulk and height is appropriate for the area, is meeting zoning requirements, and is not anticipated to have negative impacts.

B. Shadows

Not applicable.

C. Snow and ice loading

The applicant has stated that snow storage areas will not encroach on parking, walkways, or stormwater management systems. The applicant has stated that snow will be removed offsite in the case of a large snow event. The standard is being met.

D. View corridors

Not applicable. The project is not in a view corridor.

E. Historic resources

Not applicable. The project is not a designated historic resource.

F. Exterior lighting

Lighting is proposed around the residential building and surface parking. The plan is meeting maximum foot candle and light trespass standards.

G. Noise and vibration

Heating, ventilation, and air conditioning equipment are proposed to be located on the roof. The applicant is proposing rooftop screening for the neighboring properties.

H. Signage and wayfinding

The existing signage along Woodford Street in the right-of-way will likely be impacted by construction. Staff are proposing a condition to address the replacement of any impacted signage.

Any proposed signage will be reviewed by the Office of Permitting and Inspection as part of a separate sign permit application.

I. Zoning-related design standards

The project is being reviewed against B-2 multi-family design standards (Report Attachment 3). The applicant has responded to the initial design review by adding a new stepped sidewalk entrance near the front entrance of the new senior housing building, by adding additional landscaping in front of the new building, and by creating a more consistent fenestration pattern along the front façade of the new building. The updated design review suggests a fence along the eastern property line to screen the abutting residential building, an updated annotation on the elevations to reflect the proposed materiality, and a painted crosswalk at the mid-parking lot ADA routing cross.

XII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on January 31, 2024 at 5:30 pm at 186 Woodford Street. Several questions were raised during the neighborhood meeting in regards to parking, public transportation, open space, resident demographics, façade treatment, and construction. There have been zero public comments submitted to the city in regards to this project.

XIII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Department staff recommends that the Planning Board find the site plan and subdivision at 186 Woodford Street to build 82 affordable housing units in two buildings meets the applicable standards of Portland's Land Use Code.

XIV. PROPOSED MOTIONS

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024 for application PL-002753-2023 relevant to the Site Plan Standards of the Land Use Code and Portland's Technical and Design Standards, and other regulations, and testimony presented at the Planning Board public hearing:

1. Drive aisle width

The Planning Board [finds/does not find] based upon the City's and the Traffic Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard Section 1.10.3, which requires that the minimum two-way drive aisle width be 24 feet for right-angle parking, that substantial justice and the public interest are secured with the proposed variation in this standard, and that variation is consistent with the intent of the ordinance. The Planning Board [waives/does not waive] the Technical Manual standard Section 1.10.3 to allow for a drive aisle width of 23 feet.

B. SUBDIVISION REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024 for application PL-002753-2023 relevant to the subdivision regulations, and the testimony presented at the Planning Board hearing, the Planning Board [finds/does not find] that the plan is in conformance with the subdivision standards of the land use code subject to the following conditions of approval:

PRIOR TO THE SUBMISSION OF THE PLAT FOR PLANNING BOARD SIGNATURE

1. The subdivision plat shall be finalized to the satisfaction of the Planning Authority, Corporation Counsel and Department of Public Works and include clear descriptions of the number, location, type and size of all subdivided units, along with relevant notes and conditions.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

2. The signed subdivision plat shall be recorded at the Cumberland County Registry of Deeds.

C. SITE PLAN REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024 for application PL-002753-2023 relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [**finds/does not find**] that the plan is in conformance with the site plan standards of the land use code subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The applicant shall submit ability to serve confirmation from PWD for the additional capacity needed to support the development, to be reviewed and approved by the Planning Authority.
2. The applicant shall update the site plan to reconfigure the bike racks in order to retain sidewalk width and functionality. Updated plans shall be reviewed and approved by the Planning Authority.
3. The applicant shall update the site plan to add a painted crosswalk across the parking lot to be reviewed and approved by the Planning Authority.
4. The applicant shall update the site plan to change the rear row of parking to be perpendicular to the drive aisle. Updated plans shall be reviewed and approved by the Planning Authority.
5. The applicant shall update the site plan to include reconstruction of the portion of sidewalk along the Woodford Street frontage of Lot 2, which shall be reviewed and approved by the Planning Authority and Department of Public Works.
6. The applicant shall provide a signage plan to ensure any street signage within the right-of-way that is being disturbed as part of construction will be reset and/or replaced as needed in its current location. The signage plan shall be reviewed and approved by the Public Works Authority.
7. The applicant shall update the plans to dimension proposed improvements in the right-of-way, which shall be reviewed and approved by the Planning Authority.
8. The applicant shall update the plans with either striping, signage, or a combination thereof, to better enforce and communicate that the driveway off of Beacon Street is for one-way ingress only. Updated plans shall be reviewed and approved by the Public Works Authority.
9. The applicant shall update the plans to show the existing crosswalk and accessible ramp at Nevens Street and Woodford Street, which shall be reviewed and approved by the Public Works Authority.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

10. The applicant shall coordinate with the Transportation Program Manager to update the TDM.

PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY

11. The applicant shall pay a total of $29,600 into the City of Portland's Tree Fund.

D. PLANNING BOARD DECISION

On the basis of the findings, conclusions and recommendations contained in the Planning Board report for the public hearing on March 26, 2024 related to application PL-002753-2023 at 186 Woodford Street, which is attached to the draft approval letter and incorporated therein, the Planning Board [adopts/does not adopt] the approval letter as drafted as the Planning Board's decision for application PL-002753-2023, and authorizes the Planning Board Chair to sign the approval letter as drafted.

XV. ATTACHMENTS

Applicant Submittal

A. Cover Letter
B. Major Site Plan Application and Subdivision Application
C. Zoning Analysis Table
D. Right, Title and Interest
E. Easements
F. Wavier Table
G. Financial Capacity
H. Technical Capacity
I. Conformity with Land Use ordinance
J. Stormwater Report
K. Erosion and Sedimentation Control Report
L. Fire Department Letter
M. Wastewater Capacity
N. Lighting
O. Arch Design Narrative
P. Utilities
Q. Construction Management Report
R. Solid Waste Disposal
S. Parking Analysis
T. TDM Plan 186 Woodford Street
U. Meeting Certification letter
V. Woodford CHOM Neighborhood Letter
W. Sign-in Sheet
X. Meeting Minutes
Y. Parking Management Letter
Z. Comment Response Letter

Plans

P1. Cover Letter
P2. General Notes
P3. Survey
P4. CM Plan
P5. Site Plan
P6. Utility Plan
P7. Grading Plan
P8. Site Details -1
P9. Site Details -2
P10. Site Details -3
P11. Utility Details -1
P12. Utility Details-2
P13. Drainage Details
P14. Stormwater BMP Details
P15. Erosion and Sedimentation Control Details
P16. Erosion and Sedimentation Control Notes

P17. Subdivison Plat
P18. Photometric Plan
P19. Parish House Floor Plans and Elevations
P20. Senior Housing Building Floor Plans and Elevations

Report Attachments

1. City Staff Site Plan Comment Letter 1.26.24
2. Woodford Street – 186 Rezoning Report (ZN-002325-2023)
3. Design Review Memo (Updated 3.14.24)

Att. 1

Dear Applicant,

We have completed our review of your application (PL-002753-2023) proposing to develop two residential buildings with 79 affordable housing units in the B2 Community Business zone. This development triggers major site plan review and subdivision review, and is subject to the following regulations:

- Site Plan – Article 14.6
- Zoning – Table 6C, and Table 7E
- Subdivision – Article 15
- Design Review

An overview of the City's review can be viewed in the attached project review worksheets and peer review comments.

Next Steps

Please review all feedback and reach out to the project review manager if you have any questions or would like to discuss this feedback in more detail. In order to proceed, the applicant shall prepare a written response to all feedback, and shall update plans, documents and other materials as necessary to address the above listed comments. The applicant shall notify the project review manager when a resubmission is uploaded to ProjectDox. Once received, the project review manager will notify the applicant of their scheduled review timeline for this resubmission.

Based upon the City's findings related to your application, the City will advance this application for a workshop with the Planning Board on **Tuesday, 02/13/24**. Please let me know at your earliest convenience if there are any conflicts with proposed date.

Sincerely,

Maya Balassa
Planner

Attachments

1. Site Plan Worksheet
2. Zoning Worksheet
3. Subdivision Worksheet
4. Design Review

Review Comments Round 1 | 1.26.23 | PL-02753-2023 | 186 Woodford Street

Planner: Maya Balassa | mbalassa@portlandmaine.gov | 207-874-8718

City Staff and Third-Party Peer Reviewers have completed the latest review of this application based off of the most recent submissions. Comments below have been provided to the Planning & Urban Development Department from the Department of Public Works, Water Resources, Zoning, and Third-Party Consulting Engineers (Stormwater + Traffic).

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

Be advised that additional comments may be forthcoming and other changes may still be required if the comments are not addressed adequately. If you have any questions, please do not hesitate to ask.]

Green signifies the standard is being met; red signifies the there are outstanding comments.

General Review Comments		
Review	***Discussion***	***Status***
RTI	Overview: The applicant submitted the option to purchase agreement of the lot from Woodford Congregational Church of the United Church of Christ by Community Housing of Maine. Comments: •	
Financial & Technical Capacity	Overview: The Community Housing of Maine submitted a letter self-certifying they have financial capacity to finance the proposed project. The project team includes Acorn Engineering and CWS Architects, showing technical capacity. Comments: •	
Permits / Other Requirements	Overview: A access, utility, and maintenance easement is proposed within the shared drive aisle onsite benefiting all three proposed lots, seen of the Subdivision Plat. Comments: • Please provide the finalized easement, once created. This can be a condition of approval.	
Zoning	Overview: The site is located within the B-2 zone. Alongside the proposed development, the applicant is proposing to subdivide the site into three properties- each of which is required to meet zoning requirements. Comments: • Regarding the Parish House, Plan A1.10 shows the front part of the ground floor having Memorial hall with a stage, and balcony, a kitchen and two rooms labeled Germaine Room and Crib Room. The first floor includes the balcony of the memorial hall, a kitchenette and a lounge. The proposed use of this building is 37 dwelling units. Who is going to be using Memorial Hall, the kitchens and the other rooms mentioned above? • The height for the new addition to the Parish House and the height for the new building are both given as 44'. The applicant needs to provide an average grade calculation for both buildings and include the average grade line on the elevations.	
Additional Submissions Requested:		

14.6.1: Transportation Standards		
Standard	***Discussion***	***Status***

Impact on Surrounding Street Systems	Overview: The applicant is proposing to change the traffic pattern to a one way, entering the site from Beacon Street and exiting on Woodford Street. Comments: • The applicant shall review the entire sidewalk along their frontage and repair all identified hazards within the pedestrian walkway to ensure ADA compliance. These areas shall be depicted on a plan. • The applicant shall consolidate any proposed service trenches (where possible) to have one final trench repair. The proposed trenches shall be repaired per the Minor Excavation Pavement Repair Details (prior to paving the finished surface) found in the Rules and Regulations for Excavation Activity. Update the plans and detail sheets to show these requirements. • If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope. • The applicant shall dimension existing conditions in the ROW in addition to proposed improvements on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths as well as when a width changes. • The proposed 3 foot bituminous strip on the driveway does not meet the current City standard and shall not exceed a 1 foot bituminous strip. Update the plans and detail sheets to meet the requirements of City Driveway Apron standards I-9 and I-10. CAD files can be obtained upon request.	
Access and Circulation	Overview: There is an existing sidewalk along the frontage of Woodford Street. There are currently two curb cuts along Woodford Street to the site that are proposed to be reduced to one, exit only driveway. The new 42-unit building has the main entrance along Woodford Street with two stairs up to the front porch, with an ADA ramp along the side leading to the front entrance. There is sidewalk proposed around the rear and side of the reconstructed 37 unit building that leads to Woodford Street. Internal sidewalks are proposed to be 5 feet wide. Comments: • The plans do not show a clear ADA pedestrian route from Woodford Street to the 42-unit building. Please adjust the site plan to show safe pedestrian routing. Staff are happy to meet and discuss ideas to accomplish this. • To minimize traffic impacts to Beacon Street, the site could include two-way circulation aisles so that traffic can enter the site from Woodford Street. The one-way driveway on Beacon Street would still need to remain. If the one-way circulation plan is to remain, the applicant shall implement angled parking spaces. • I support a waiver for parking lot aisle width given expected low vehicle turnover. This applies to a two-way traffic circulation system. If angled parking spaces are implemented, a waiver may not be required. • The warning signs at the existing crosswalk on Woodford Street shall be upgraded to meet current MUTCD standards.	
Public Transit Access	Overview: The project in within .25 miles on a Metro bus stop. The nearest bus stop is .15 miles away along Forest Avenue. Comments: •	
Parking	Overview: The applicant is utilizing the exception to off-street parking minimum per table 19-B, allowing no off-street parking required within a quarter mile of transit. The applicant has submitted a Transportation Demand Management. Despite using the parking exception, the applicant is proposing	

	53 parking spaces (3 ADA, 3 compact). The applicant is proposing 12 EV charging parking spaces along the rear of the site. 32 bike parking spaces are proposed for the housing units near entrances. Comments: • It is unclear how the parking spaces will be allocated between the existing and proposed uses and therefore I would suggest a parking management plan be provided. The applicant should also note if there are any site plan requirements for Jones, Rich, and Hutchins Funeral Home for use of the proposed parking area for overflow parking.	
Transportation Demand Management	Overview: The applicant has submitted a Transportation Demand Management Plan. Comments: •	
Additional Submissions Requested: •		

14.6.2: Environmental Quality Standards		
Standard	***Discussion***	***Status***
Preservation of Significant Natural Features	Overview: No significant natural features have been identified onsite. The project site is existing parking. Comments: •	
Landscape Preservation	Overview: There are three trees along the eastern edge that are proposed to be removed. Comments: • Please add preservation details to all existing trees proposed to remain within the area of disturbance. • Please include DBH and species of existing trees on the property survey o Please indicate which existing trees are proposed for removal and which are designated for preservation	
Site Landscaping and Buffers	Overview: The project is proposing four maple trees. Internally, the applicant is proposing 36 shrubs and 99 perennials. The project is proposing 42 plantings of Common Ivy and 14 plantings of Great Masterwort, which are both non-native. The project is required to plant 79 street trees. For remaining trees that cannot feasibly fit in the site, a fee-in-leiu of 400$ per tree is acceptable alternative. Comments: • Please update the landscaping plan to replace the ivy with a native perennial. • It appears that additional trees within 20 feet of the right of way could be added to the site. • Maples are no longer a suitable tree due to their percentage of the canopy and risk of loss from an invasive beetle. Please choose a different native approved tree. • The narrative states the development is unable to meet the 2 trees per 5 spaces parking lot landscaping standard. Paying into the tree fund can be part of meeting the standard, but please add additional landscaping to work towards the standard- staff are supportive of reducing parking space count to meet the standard, especially since the applicant is using proximity to transit to eliminate onsite parking requirement. • Please refrain from using maple species as proposed street trees o The greater Portland area is oversaturated with maple tree species leaving the city extremely vulnerable to infestation by Asian Longhorned Beetle	

	▪ The large grassy area and absence of overhead infrastructure create the opportunity to choose from several large growth form tree species that would compliment the existing maple trees on site • Street tree requirement: o 79 residential units * 1 tree/unit = 79 street tree ▪ Credit will be given for any new trees planted within 20' of the public ROW o Tree Fund contribution ▪ 79 required trees - 4 proposed new plantings = 75 remaining trees • 75 trees * $400/tree = $30,000 contribution to the tree fund in lieu of planting the remaining 75 required street trees ▪ The cost of site improvements that create a more hospitable environment for trees can be deducted from the in lieu contribution amount of $30k • Installing dedicated mulch rings around existing and newly planted trees • Providing decompaction and soil amendments (compost) for existing trees o Air spading the root zone of existing trees and applying compost	
Water Quality, Stormwater Management and Erosion Control	Overview: The applicant is proposing underground stormwater detention to treat 57% of the redeveloped non-roof impervious area with a StormTech subsurface sand filter. Comments: • Private connections into municipal catch basin structures are not permitted per technical manual standard 2.9.7. The private storm drain should be connected directly to the Woodford Street storm drain line with a new manhole. • The applicant should clarify the pipe size being proposed for the storm drain connecting into the Woodford Street storm drain pipe. The plans show conflicting information. • Per DPW's request the applicant has provided adequate stormwater detention volume and flow control for this project. • The project is required to comply with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 for stormwater management. The Applicant has proposed a subsurface sand filter for stormwater management on the site. The system will provide for treatment of greater than 50% of the non-roof redeveloped impervious area on the site and will provide storage as required by the City. They've provided an inspection and maintenance plan, and will ultimately need a stormwater maintenance agreement. • The outlet control structure detail should be updated to include all of the proposed pipes, the isolator row pipe connection is not shown. The detail also calls for a frame and cover that are no longer manufactured. • The piping and grading around the proposed F-Basin at the northeast corner should be clarified. Notes call for both 8" and 12" pipe exiting this structure. The contours in the area also appear to show that the grade is a couple of feet higher than what is called out as the structure's rim. The pipe out of this structure ties into an existing manhole in the street, and based on the inverts provided and a 12-inch pipe, there will be only 1.25 feet of cover at the manhole, although it's noted that the existing pipes into the manhole appear to have similar amounts of cover. Adequate insulation should be used, and there will need to be care taken with the installation of the curbing as it appears that it will be close to the top of the pipe. • The Applicant has noted that they've made requests for utility ability to serve. They've received confirmation from CMP, and have noted they will provide others upon receipt.	

	• Based on my recent experience with PWD, they will require the demolition of the existing water service back to the main in the street, which will require some pavement repair at that location on Woodford Street.	
Transportation Demand Management	Overview: Comments: •	
Additional Submissions Requested: •		

14.6.3: Public Infrastructure + Community Safety Standards		
Standard	***Discussion***	***Status***
Public Safety and Fire Prevention	Overview: There is an existing fire hydrant at the corner of Revere Street and Beacon Street and a fire hydrant in front of 170 Woodford Street, both within 500 feet. The internal site has space for emergency vehicle access. Comments: •	
Public Utilities	Overview: Comments: • Please submit ability to serve confirmation when received by the applicant.	
Additional Submissions Requested: •		

14.6.4: Site Design Standards		
Standard	***Discussion***	***Status***
Massing, Ventilation and Wind Impact	Overview: The building bulk and height is appropriate for the area, is meeting zoning requirements, and is not anticipated to have negative impacts. Comments: •	
Shadow	Overview: Not applicable. Comments: •	
Snow and Ice Loading	Overview: The applicant has stated that snow storage areas will not encroach on parking, walkways, or stormwater management systems. Comments: • Please identify these snow storage locations on the site plan.	
View Corridors	Overview: Not applicable. The project is not in a view corridor. Comments: •	
Historic Resources	Overview: Not applicable. The project is not located in a historic district. Comments: •	

Exterior Lighting	Overview: Lighting is proposed around the residential building and surface parking. Comments: • In the Technical Manual, the maximum foot-candle for surface parking lots is 4 and the maximum foot-candle for site lighting is 5. Please adjust photometric plan to meet the maximum foot candle standard. • Please provide cutsheet details of proposed lighting to confirm they are full-cutoff and they are meeting color temperature standards. • The lighting trespass standard in the Tech Manual, states that lighting shall not exceed .1 along the property line. Lighting along the rear property line should show house-side shielding in the details. Please update photometric plan accordingly..	
Noise and Vibration	Overview: Comments: • Please show where the heating, ventilation, and air conditioning equipment is located and provide details for how it will be screened.	
Signage and Wayfinding	Overview: Comments: • Please clarify if any signage is proposed.	
Design Standards	Overview: The project is being reviewed under B-2 multi-family design standards. Comments: • The Design Review is attached below.	
Additional Submissions Requested: •		

	Zoning Use Review (Article 6)				
	Use Permissions (Table 6-A – Table 6-F)				
Proposed Use	***Permitted, Conditional or Accessory Use***		***Zone***		***Use Std***
Multi-family Residential	***Permitted***		***B-2 Community Business***		

	Zoning Dimensional Review (Article 7)				
	Dimensional Standards (Table 7-A – Table 7-H)				
Standard	***Requirement 1***	***Proposed (Lot 1)***	***Proposed (Lot 2)***	***Proposed (Lot 3)***	***Finding***
Lot Size (SF)	***None***	***37,289 SF***	***27,883 SF***	***18,641 SF***	
Area per D.U.	***1,000 SF/ unit 400 SF/ Unit (Table 18-C Affordable Housing Bonus)***	***N/A***	***753***	***444***	
Street Frontage	***20 feet***	***369.13 feet***	***152.56 feet***	***106.52 feet***	
Front Setback (Max)	***10 feet***	***46.10 feet (existing)***	***45.61 feet (existing)***	***3.78 feet***	
Rear Setback	***10 feet 0 feet (Table 18-C Affordable Housing Bonus)***	***24.42 feet***	***16.55 feet***	***20.05 feet***	
Side Setback	***None***				
Building Height	***45 feet 70 feet (Table 18-C Affordable Housing Bonus)***		***41.96 feet***	***46.76 feet***	

Subdivision Review Standards (Sec. 15.4 and 15.5)

General Standards of Review (Sec. 15.4.1)

Standard	*Discussion*	*Finding*
Will not result in undue water or air pollution.	Overview: The project site currently contains parking. Included in the proposal is a subsurface stormwater treatment system that will then discharge into the city's separated stormwater system. The subdivision associated with the development is not anticipated to result in undue water or air pollution. Updates Requested	Met
Has sufficient water available	Overview: The applicant has requested ability to serve confirmation from the Portland Water District. Updates Requested • Please submit ability to serve confirmation when received.	Not Met
Will not cause unreasonable burden on water supply	Overview: The applicant has requested ability to serve confirmation from the Portland Water District. Updates Requested • Please submit ability to serve confirmation when received.	
Will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water	Overview: The site is an existing parking lot. Updates Requested: •	
Will not cause unreasonable highway or public road congestion	Overview: The site is located along Woodford Street, which runs between Forest Avenue and Stevens Avenue. The affordable housing for older populations is utilizing the proximity to transit to reduce onsite parking. The existing roadways can reasonably manage the additional traffic associated with the development. Updates Requested •	
Will provide for adequate sanitary waste and stormwater disposal	Overview: The new buildings are proposed to connect into the sewer and stormwater systems under Woodford Street. Updates Requested •	
Will not cause an unreasonable burden for the City to dispose of solid waste	Overview: Updates Requested • Please add additional information about how waste will be disposed of.	
Will not have undue adverse effect on the scenic or natural beauty of the area	Overview: The site is currently a parking lot. The new building is subject to design review of a multi-family in the B-2 Community Business zone. Updates Requested • Please respond to design review comments.	

Will conform with the Comprehensive Plan	Overview: The proposed development will add 72 units of low-income housing. The project is in line with Portland 2030 goals for meeting housing needs. Updates Requested •	
Subdivider has adequate financial and technical capacity to complete the project.	Overview: The applicant, Community Housing of Maine, has provided evidence of financial and technical capacity. Updates Requested •	
Will not adversely affect the quality of water within a water body situated within 250 feet of the subdivision	Overview: There is not a body of water within 250 feet of the subdivision. Updates Requested •	
Will not adversely impact the quality or quantity of groundwater	Overview: Adverse impacts on the groundwater is not anticipated. Updates Requested •	
Adequately addresses floodplain requirements if applicable	Overview: The site is not located a floodplain. Updates Requested •	
Will provide for adequate stormwater management	Overview: The project is proposing a subsurface stormwater treatment system under the parking lot to store and treat stormwater before slowly releasing into the City system within Woodford Street. Updates Requested • See site plan comments regarding stormwater management	
Will not have lot depth to width ratio greater than 5 to 1 if property fronts water body or water course	Overview: The site does not front a water body or water course. Updates Requested •	
Will not cause unreasonable traffic congestion or unsafe conditions on public ways within other municipalities if property is	Overview: The low-income housing units are being built on an existing parking lot, on a street that directs traffic between two large arterials. The project is not anticipated to cause unreasonable traffic or congestion or unsafe conditions on public ways. Updates Requested •	

situated partially within that municipality.		
Sewers and Storm Drains (15.5.5)		
Standard	***Discussion***	***Finding***
	Overview: A stormwater system in proposed onsite. DPW Water Resources has approved the approach taken by the applicant. Updates Requested •	
Blocks (15.5.6)		
Standard	***Discussion***	***Finding***
	Overview: The street distances are not changing from this application. Updates Requested •	
Lots (15.5.7)		
Standard	***Discussion***	***Finding***
	Overview: The proposed lots are meeting zoning dimensional standards. Updates Requested •	
Public Open Space (15.5.7)		
Standard	***Discussion***	***Finding***
	Overview: Public open space is not proposed for this subdivision.	

Att. 2

Subject: 186 Woodford Street
Zone: B2
Date of Review: Wednesday, March 14, 2024
Reviewer(s): Sean King (Urban Designer), Natasha Kypfer (Senior Planner), Maya Balassa (Planner)
Project ID: PL-002753-2023

I. INTRODUCTION

The development project at 186 Woodford Street is subject to the site design review standards, Land Use Code section 14.6.4.I Design standards.

The proposed redevelopment of the building at 186 Woodford Street is located in the B-2 Community Business zone, and is subject to the design standards of the City of Portland *Design Manual* – ***(d) B-2 Commercial Business Zone, Appendix 2*** and ***(i) Two-family, special needs independent living units, multiple-family, lodging houses, bed and breakfasts and emergency shelters.***

II. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, red text denotes standards not met and require resubmission.

(d) B-2 STANDARDS

a. Urban street wall: In the B-1, B-1b and B-2b zone it shall be required that buildings shall be located to create and preserve an urban street wall

Staff comment: Not applicable, the proposed development is located in the B-2 zone and is required to meet front setback of 10 feet maximum as required per LUC Article 7, Table 7-E Mixed Use Zone Dimensional Standards. Please refer to B-2 Guidelines (Appendix 2) for concerning the creation and preservation of an urban street wall.

b. Mixed Uses: In B-1b zone buildings shall be multi-stories with mixed uses.

Staff comment: Not applicable, the proposed development is located in the B-2 zone

c. *Building entrances: In the B-1 and B-2b zone building entrances shall be oriented toward, located adjacent to, and directly accessible from, a sidewalk in a public right-of-way.*

Staff comment: Not applicable, the proposed development is located in the B-2 zone, however the Applicant has proposed a main entrance oriented towards Woodford Street.

d. *Windows: In the B-1, B-1b, B-2, B-2b zones windows shall be required along the street frontage of a building. Windows shall be transparent (with visible transmittance (VT) of .7 or greater) and installed at a height to allow views into the building by passerby.*

Staff comment: The proposed Senior Housing building is located along the street frontage of Woodford Street with an internal program that includes a main entrance lobby and residential units. **The Applicant has indicated in their response letter the transparent visible transmittance (VT) of .7 or greater for windows adjacent to the public sidewalk along Woodford Street that Staff finds acceptable.**

e. *Façade character: In the B-1, B-1b, B-2, B-2b zones, active and public portions of the buildings (e.g. doors, windows, entries retail displays) shall be oriented to and, where possible, be located adjacent to the public sidewalk to create an active presence along the sidewalk.*

Staff comment: The proposed Senior Housing building is oriented towards Woodfords Street with the main entrance and porch, **the Applicant has proposed to setback the exterior stair at the front entry and align the Westbury rail system along the front property line that Staff finds to enhance the façade character adjacent to the public sidewalk.**

f. *Building design: B-1, B-1b, B-2 and B-2b commercial buildings shall be designed to be compatible with their residential and commercial neighbors.*

Staff comment: The proposed Senior Housing and Redeveloped Parish House buildings function as residential structures and are compatible with their residential neighbors through the arrangement of windows that indicate units and façade materials.

g. *Building materials: Façade materials of buildings located in the B-1, B-1b, B-2 and B-2b zones shall be compatible with those materials of surrounding residential and commercial use.*

Staff comment: **The proposed building materials for the Senior Housing include fiber cement lap siding and paneling in three tones of various reveals that articulate the building's composition to express the delineation of floors and building projections. Other building materials include metal trim, fiberglass windows and painted PVC at the front porch that Staff finds to be appropriate based on the neighborhood context and longevity of materials proposed.** Staff is requesting the Applicant revise annotations on the building elevations to reflect the building materials proposed.

The proposed building materials for the Redeveloped Parish House building include fiber cement lap siding and panel in three tones **of various reveals to articulate the building's composition. Other building materials include metal trim and fiberglass windows.** Staff finds the proposed building materials to be appropriate with an arrangement that is compatible with the surrounding residential multi-family use.

h. *Building scale: In the B-1 and B-1b zones building scale must relate and be compatible with surrounding residential structures.*

Staff comment: Not applicable, the proposed development is located in zone B-2.

i. *Landscaping and buffers: In the B-1, B-1b, B-2 and B-2b zones buildings and associated parking areas must be screened to buffer abutting properties. A densely planted landscape buffer and/or fencing will be required to protect neighboring properties from the impacts associated with the development,*

including lighting, parking, traffic, noise, odor, smoke, or other incompatible uses. Where buildings are setback from the street, a landscaped area must be planted along the front yard street line.

Staff comment: The proposed development plan includes the Senior Housing building abutting residential properties at the side and rear and surface parking abutting residential properties. **The Applicant has resubmitted a landscape plan to sufficiently screen abutting properties at the rear property adjacent from the surface parking area.** Staff recommends the addition of fencing at a minimum height of seven feet along the east property line to properly screen abutting residential properties from the impacts of the proposed Senior Housing building with residential units located on four floors.

(d) B-2 GUIDELINES

Please refer to Appendix 2 of this manual, The B-1, B-1b, B-2, B-2b Design Guidelines, for applicable design guidelines for the B-1 and B-2 zones. In addition, the following design guidelines shall also apply:

1) Buildings located in the **B-2** zone are specifically encouraged to adhere to the design guidelines contained in *the B-1, B-1b, B-2, B-2b Design Guidelines* (Appendix 2) of this section concerning the creation and preservation of an urban street wall.

2) In the B-1b and **B-2** zones, buildings are specifically encouraged to adhere to the guidelines contained in *the B-1, B-1b, B-2, B-2b Design Guidelines* (Appendix 2) of this section concerning building entrances.

B-2 STANDARDS (Appendix 2 of the Design Manual)

1. *Building location and form*

Buildings shall be located near the street so as to create an urban street wall.

Staff comment: The proposed development plan includes the Senior Housing building located near Woodford Street to create an urban street wall. As the abutting residential and commercial properties vary in location for street frontage, Staff finds this design standard to be met.

2. *Building function*

An urban street and business district requires a substantial intensity and variety of uses.

Staff comment: Not applicable, B-2 Guidelines do not specifically encourage a variety of uses.

3. *Orientation of buildings and their entrances to the street*

Major building entries shall be designed and located to provide the primary building access oriented to the public street and sidewalk.

Staff comment: The proposed Senior Housing building is oriented towards Woodfords Street with the main entrance and porch, **the Applicant has resubmitted plans that allow for a stairwell setback from the front property line that Staff finds appropriate and incorporated into the overall building entrance.**

The proposed Redeveloped Parish House, as a building addition, is not required to provide a major building entry oriented to the public street and sidewalk, **the Applicant has resubmitted plans that indicate the main entrance projection at the east elevation with a stair and ramp incorporated into the site design that Staff finds appropriate.**

4. Windows
Windows shall be located in all building facades visible from the public way, especially on building facades along the major public street.

Staff comment: Not applicable, B-2 Guidelines do not specifically encourage windows located in all building facades visible from the public way.

5. Building character, detail, scale and graphic qualities
Building design will include various architectural and graphic amenities to provide a strong presence along a street and relate a building to its community.

Staff comment: The proposed Senior Housing building is oriented towards Woodfords Street with architectural elements to articulate the main entrance, porch, bay projection and detailing at windows and trim that Staff finds appropriate.

6. Signage and Building Entrances
Building entrances and building signage in the B-1, B-1b and B-2b zones will be designed and constructed at the pedestrian scale.

Staff comment: **The Applicant has resubmitted plans that revise the Senior Housing building's front entrance to relocate the proposed stairwell setback from the front property to allow for a planted transition area that Staff finds to be appropriate for the neighborhood context.**

7. Development relationship to the street
Building facades and site amenities shall form a cohesive wall of enclosure along a street.

Staff comment: Staff finds that the proposed Senior Housing building is located appropriately towards Woodford Street, **the Applicant has revised the Senior Housing building design to further segment the front façade vertically to draw more visual presence of the main entrance and porch oriented towards the street.**

8. *Parking lots*
Parking lots shall be screened from view of the public way.

Staff comment: Not applicable, B-2 Guidelines do not specifically evaluate parking lot design.

Parking lots shall be screened from neighboring properties.

Staff comment: Not applicable, B-2 Guidelines do not specifically evaluate parking lot design.

Crosswalks shall be provided within parking lots and across entrance driveways, directing pedestrians to building entrances.

Staff comment: Staff recommends an internal painted crosswalk across the driveway to further identify the accessible route from the public sidewalk to the proposed building entries.

Street trees shall be planted along property frontage 25 feet on center.

Staff comment: Not applicable, B-2 Guidelines do not specifically evaluate street trees as the development plan does not propose trees to establish a street wall.

9. *Transit connections*
Development proposed along established transit corridors must design uninterrupted access from the proposed development to the transit stop.

Staff comment: Not applicable, B-2 Guidelines do not specifically evaluate transit connections

(i) MULTIPLE-FAMILY STANDARDS
Multiple-family shall meet the following standards:
a. Proposed structures and related site improvements shall meet the following standards:

1. *The exterior design of the proposed structure, shall be designed to complement and enhance the nearest residential neighborhood.*

Staff comment: The proposed development relates to the architectural style of adjacent multi-family residential buildings within the neighborhood at two-to- three-story heights, orientation to the street and consistency of exterior building materials of masonry, cementitious products and arrangement of windows to demonstrate the delineation of floors that Staff finds to meet this design standard.

2. *The proposed development shall respect the existing relationship of buildings to public streets.*

Staff comment: The proposed development locates the new Senior Housing building towards the street, the Applicant has resubmitted plans to create a landscape transition space between the public sidewalk and porch that Staff finds respects the building placement in relationship to the public street.

3. *Open space on the site for all multiple-family development shall be integrated into the development site.*

Staff comment: The Applicant has resubmitted a Landscape Plan with proposed planting material to indicate screening at abutting properties and has incorporated planting material at proposed building entrances and along façades that Staff finds appropriate to partially meet this design standard. The Applicant has stated the use of the church facility property to function as communal open space, Staff is requesting the Applicant provide a painted crosswalk to allow Senior Housing residents an accessible route across the proposed driveway.

4. *The design of proposed dwellings shall provide ample windows to enhance opportunities for sunlight and air in each dwelling in principle living areas and shall also provide sufficient storage areas.*

   Staff comment: Staff finds the development provides ample windows and internal storage throughout the Senior Housing building, **the Applicant has resubmitted elevations that indicate additional fenestrations to allow for more natural light that Staff finds appropriate. Staff finds the Redeveloped Parish House includes windows for each unit, the Applicant has resubmitted elevations that indicate additional fenestrations to allow for more natural light and has revised floor plans to match that Staff finds appropriate.**

5. *The scale and surface area of parking and driveways and paved areas are arranged and landscape to properly screen vehicles from adjacent properties and streets.*

   Staff comment: The proposed development plan includes surface parking abutting residential properties, **the Applicant has resubmitted plans that indicate appropriate screening for adjacent properties from surface parking located at the south property line.**

6. *Multiple-family dwellings shall not be converted to lodging houses unless all units in building have been vacant for at least one (1) year.*

   Staff comment: Not applicable, the proposed development plan does not convert multi-family dwellings to lodging houses.

CITY OF PORTLAND, MAINE

PLANNING BOARD

Brandon Mazer, Chair
Justin Barker, Vice Chair
Marpheen Chann
Sean Murphy
David Silk
Austin Smith
Maggie Stanley

March 26, 2024

Brian Kilgallen
CHOM DEVELOPMENT CORP
City Center Unit: 4th Floor
Portland, ME 04101

Pete Heil
Acorn Engineering, Inc.
65 Hanover Street 1
Portland, ME 04101

Project Name:	Major Site Plan and Subdivision	**Project ID:**	PL-002753-2023
Address:	186 Woodford Street	**CBL:**	124 J005001
Applicant:	Brian Kilgallen		
Planner:	Maya Balassa		

Dear Brain Kilgallen:

On March 26, the Planning Board approved a major site plan and subdivision for the development of 82 residential units in two buildings on a surface parking lot and with the renovation of the parish house on the lot with the existing Woodfords Congregational Church in the B-2 Community Business zone. The project consists of renovating an existing section of the parish house with 40 affordable units and constructing a new 42 unit building on the associated surface parking lot. The project will also update parts of the sidewalk along Woodford Street, install a subsurface stormwater system, add landscaping, and reduce parking spots. The decision is based upon the application, documents and plans as submitted. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance, Ch. 14, Article 14, Section 14.6, and Ch. 15. Based on the information provided to the Board in the application, plans, reports, through testimony and other information submitted by the applicant, the Planning Board adopted the findings, conclusions and recommendations contained in the Planning Board Report for the public hearing on March 26, 2024, which is attached hereto and incorporated herein by reference. Based upon those findings, conclusions and recommendations, the Planning Board found that the application met all relevant standards and voted [add vote] to approve the application with the following waivers and conditions as presented below.

Waivers

The Planning Board voted [add vote] to waive the following City of Portland Technical standards:

1. The Planning Board waives the Technical Standard, 1.10.3, requiring 90-degree parking to have an aisle width of 24 feet, to allow for a width of 23 feet.

Subdivision Review

The Planning Board voted [insert vote] that the plan is in conformance with the subdivision standards of the Land Use Code, subject to the following conditions of approval:

1. The subdivision plat shall be finalized to the satisfaction of the Planning Authority, Corporation Counsel and Department of Public Works and include clear descriptions of the number, location, type and size of all subdivided units, along with relevant notes and conditions.

2. The signed subdivision plat shall be recorded at the Cumberland County Registry of Deeds.

Site Plan Review

The Planning Board finds that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following conditions of approval:

1. The applicant shall submit ability to serve confirmation from PWD for the additional capacity needed to support the development, to be reviewed and approved by the Planning Authority.
2. The applicant shall update the site plan to reconfigure the bike racks in order to retain sidewalk width and functionality. Updated plans shall be reviewed and approved by the Planning Authority.
3. The applicant shall update the site plan to add a painted crosswalk across the parking lot to be reviewed and approved by the Planning Authority.
4. The applicant shall update the site plan to change the rear row of parking to be perpendicular to the drive aisle. Updated plans shall be reviewed and approved by the Planning Authority.
5. The applicant shall update the site plan to include reconstruction of the portion of sidewalk along the Woodford Street frontage of Lot 2, which shall be reviewed and approved by the Planning Authority and Department of Public Works.
6. The applicant shall provide a signage plan to ensure any street signage within the right-of-way that is being disturbed as part of construction will be reset and/or replaced as needed in its current location. The signage plan shall be reviewed and approved by the Public Works Authority.
7. The applicant shall update the plans to dimension proposed improvements in the right-of-way, which shall be reviewed and approved by the Planning Authority.
8. The applicant shall update the plans with either striping, signage, or a combination thereof, to better enforce and communicate that the driveway off of Beacon Street is for one-way ingress only. Updated plans shall be reviewed and approved by the Public Works Authority.
9. The applicant shall update the plans to show the existing crosswalk and accessible ramp at Nevens Street and Woodford Street, which shall be reviewed and approved by the Public Works Authority.

10. The applicant shall coordinate with the Transportation Program Manager to update the TDM.

11. The applicant shall pay a total of $29,600 into the City of Portland's Tree Fund.

The approval is based on the submitted plans and findings related to site plan and subdivision review as contained in the Planning Board report dated 03/26/2024 for application PL-002753-2023 which is attached.

Standard Procedures

Note: The following standard procedures and requirements apply to all approved site plans:

1. Subdivision Recording Plat A final recording plat, listing all conditions of subdivision approval, must be submitted to the Planning and Urban Development Department for review. Once approved, the plat shall be signed by the Planning Board. A performance guarantee must be issued prior to release of the recording plat for recording at the Cumberland County Registry of Deeds. One mylar copy of the recording plat with signatures and the recorded book and page must be returned to the Planning and Urban Development Department.

2. Subdivision Waivers Pursuant to 30-A MRSA section 4406(B)(1), any waiver must be specified on the subdivision plan or outlined in a notice. The plan or notice must be recorded in the Cumberland County Registry of Deeds within two (2) years of the final subdivision approval.

3. Site Plan Expiration The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.

4. Subdivision Expiration Subdivision approval is valid for up to three (3) years from the date of Planning Board approval.

5. Separate Building Permits Are Required This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Permitting and Inspections Department.

6. Performance Guarantee and Inspection Fees A performance guarantee covering the site improvements and an inspection fee payment of 2.0% of the guarantee amount and three (3) final sets of plans must be submitted to and approved by the Planning and Urban Development Department and Public Works Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans.

7. Construction Management Plans The applicant, contractor and subcontractors are required to conform to the approved Construction Management Plan, and all conditions contained within the project's approval, for the entire duration of the project. Any amendments to the approved Construction Management Plan shall be reviewed and approved by the Department of Public Works prior to the execution. The Planning Authority and the Department of Public Works have the right to seek revisions to an approved Construction Management Plan. The applicant shall coordinate the project's construction schedule with the timing of nearby construction activities to avoid cumulative impacts on a neighborhood and prevent unsafe vehicle and pedestrian

movements. Accordingly, nearby construction activities could involve a delay in the commencement of construction.

8. Preconstruction Meeting Prior to the release of a building permit and scheduling of a preconstruction meeting, a hard copy set of approved plans shall be submitted to the Development Review Coordinator. A pre-construction meeting shall be held at the project site with the contractor, Development Review Coordinator, Public Works representative, and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan and the approved Construction Management Plan. The site/building contractor shall provide one (1) copy of a detailed construction schedule to the attending City representative. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

9. Department of Public Works Permits If work or obstructions will occur within the public right-of-way, such as utilities, curb, sidewalk, driveway construction, site deliveries and equipment siting, a Street Opening and/or Occupancy Permits are required for your site. Please contact the Department of Public Works Permit Clerk at (207) 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

10. Develop Site According to Plan The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Any modifications of an approved site plan or alteration of a parcel, or of any approved exterior elevations, which were the subject of site plan approval after May 20, 1974, shall require the prior approval of an amended site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.

11. Stormwater Management The owner/operator of an approved stormwater management system, and all assigns shall comply with the conditions of Chapter 32, Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements.

    A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form, shall be submitted for review by Corporation Counsel. Once approved, the document shall be signed and recorded at the Cumberland County Registry of Deeds prior to the issuance of a building permit. Final copies shall be submitted to both the Department of Planning and Urban Development and the Department of Public Works.

12. Third Party Inspections For all sites with one acre or greater of disturbance, the applicant shall retain the services of a third-party inspector for the duration of construction until final site stabilization is in place. The inspection is required in order to ensure that all construction and stabilization activities comply with the approved drawings and specifications; that field decisions regarding erosion control implementation, stormwater system installation, and natural resource protection are based on sound engineering and environmental considerations; and that any changes to the development's erosion control plan, stormwater management plan, or final stabilization plan is communicated to the City of Portland for additional review and approval.

The inspector will submit weekly written reports to the Stormwater Coordinator(s) in the Water Resources Division of Public Works. Reports must include: project ID, project address, the date(s) and time(s) of inspection(s), site photographs of areas under construction, and the date(s) and approximate duration(s) of any rainfall events. The report will identify and describe any erosion problems or discharge of pollutants and what actions will be taken to address these issues and repair any damage to other properties or natural resources, actions to eliminate the erosion source, and actions to prevent future sediment discharges from the area.

13. Defect Guarantee A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.

14. As-Built Final Plans Final sets of as-built plans shall be submitted digitally to the Planning and Urban Development Department, on a CD or DVD, in AutoCAD format (.dwg), release AutoCAD 2005 or greater. Please provide one hard copy of the mylar.

15. Mylar Copies Mylar copies of the as-built drawings for the public streets and other public infrastructure in the subdivision must be submitted to Public Works prior to the issuance of a certificate of occupancy.

16. Impact Fees New development or changes of use that result in net new residential dwelling units, non- residential building square footage, or water meters, are subject to the City of Portland's impact fee ordinance (Chapter 14, Article XVII). Impact fees are calculated at the time of building permit and must be paid prior to the certificate of occupancy. For more information, visit https://www.portlandmaine.gov/2409/Impact-Fees

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning and Urban Development Department at (207)874-8901. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Maya Balassa at (207)847-8718 or via mbalassa@portlandmaine.gov.

Sincerely,

Brandon Mazer, Planning Board Chair

Attachments:

1. Planning Board Report
2. Portland City Code: Chapter 32
3. Sample Stormwater Maintenance Agreement

4. Performance Guarantee Packet

ACORN ENGINEERING, INC.

Planning & Urban Development Department
Attn: Matthew Grooms, Development Review Manager
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

February 7, 2024

Subject: Major Site Plan & Subdivision Application
186 Woodford Street, Portland, ME

Mr. Grooms:

On behalf of Community Housing of Maine (CHOM), we are pleased to submit a Major Site Plan & Subdivision Application for the approximate 1.92-acre parcel located at 186 Woodford Street (Map 124, Block J, Lot 5). The parcel is currently located within the Community Business B2 zoning district. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 40 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (82 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new subdivision separating the existing church lot and individual lots for the respective affordable housing projects onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

The project is subject to a Major Site Plan Development and Subdivision Application and approval from the Planning Board. We look forward to your review of this project, if you have any questions regarding these application materials, please do not hesitate to reach out.

Sincerely,

Peter Heil, P.E.
Project Manager
Acorn Engineering, Inc.

The following documents and drawings will be uploaded onto the City's electronic submission site per the procedure outlined in the application:

Documents:

- Section A: Cover Letter
- Section B: Major Site Plan and Subdivision Checklists
- Section C: Zoning Assessment
- Section D: Right, Title, Interest
- Section E: Easements
- Section F: Waiver Table
- Section G: Financial Capacity
- Section H Technical Capacity
- Section I: Conformity with Land Use Ordinance
- Section J: Stormwater Management Report
- Section K: Erosion & Sedimentation Control Report
- Section L: Fire Department Letter
- Section M: Wastewater Capacity Letter
- Section N: Lighting
- Section O: Architectural Design Narrative
- Section P: Utility Cover
- Section Q: Construction Management Plan
- Section R: Solid Waste
- Section S: Parking Analysis
- Section T: Transportation Demand Management Plan

Drawings:

- Civil Site Plan Set
- Architectural Plan Set

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	• 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.

Portland, Maine — Yes. Life's good here.

Planning & Urban Development Department

ZONING ANALYSIS Relevant Zone(s) B2 - Community Business

All Projects: This project includes multiple lots, therefore we request you review sheet C-10 (Site Plan) to observe the conformance with the space and bulk standards.

	Required	Proposed
Lot Size	None	See C-10
Area Per Dwelling Unit	435 SF	See C-10
Minimum Street Frontage	20'	See C-10
Front Yard Minimum	10'	See C-10
Front Yard Maximum	10'	See C-10
Rear Yard	10'	See C-10
Yard Right	None	See C-10
Yard Left	None	See C-10
Side Street Setback	N/A	See C-10
Step Back	N/A	See C-10
Maximum Lot Coverage	N/A	See C-10
Minimum Lot Coverage	N/A	See C-10
Maximum Height	45'	See C-10
Open Space	N/A	See C-10
Maximum Impervious Area	80%	See C-10
Pavement Setback	N/A	N/A
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces	None	See C-10
Loading Bays	N/A	N/A
Other 1		
Other 2		
Other 3		

Planned Residential Unit Developments (PRUD) Requirements

	Required	Proposed
Minimum Lot Size		
Minimum Lot Area per Dwelling		
Maximum # Units per Building		
Maximum Building Length		
Maximum Accessory Building Length		
Minimum Setbacks		
Minimum Building Separation		
Minimum Open Space		

Affordable Housing Density Bonuses (if applicable)

	Bonus Increase or Decrease	Maximum Allowable With Bonus	Proposed
Density	Increase	See Sheet C-10	See Sheet C-10
Height	Increase	See Sheet C-10	See Sheet C-10
Setback Reduction	Decrease	See Sheet C-10	See Sheet C-10
Recreation Space			
Maximum Accessory Building Length			
Minimum Setbacks			
Minimum Building Separation			
Minimum Open Space			
Explanatory Text 1 (optional): Project proposed 82 affordable housing units			
Explanatory Text 2 (optional): (100% affordable)			
Explanatory Text 3 (optional):			

OPTION AGREEMENT

THIS OPTION AGREEMENT (the "Agreement") made and entered into as of the 5th day of April, 2023 (the "Effective Date"), by and between WOODFORDS CONGREGATIONAL CHURCH OF THE UNITED CHURCH OF CHRIST, a Maine nonprofit corporation with a place of business and mailing address of 202 Woodford Street, Portland, Maine 04103 ("Grantor") and COMMUNITY HOUSING OF MAINE, INC., a Maine nonprofit corporation with a place of business and mailing address of One City Center, 4th Floor, Portland, Maine 04101 ("Grantee").

WITNESSETH:

WHEREAS, Grantor wishes to grant the option set forth below to Grantee on the terms and conditions set forth in this Agreement; and

NOW THEREFORE, in consideration of $5,000 paid by Grantee to Grantor (the "Initial Option Consideration") and the covenants and agreements set forth herein, the receipt and sufficiency of which are hereby acknowledged, Grantor and Grantee hereby agree as follows:

1. Grant of Option. Grantor hereby grants to Grantee, its successors and assigns, the exclusive and irrevocable option to purchase certain land and a portion of that certain existing building commonly known as the Parish House, all located on Woodfords Street, Portland, Maine, an amount of land sufficient to accommodate the construction of a new four (4) story building, which, together with the portion of the Parish House, will accommodate up to 85 residential units, with required frontage on public ways, all as determined pursuant to the City of Portland zoning ordinance, together with the fixtures and improvements thereon, all as more particularly shown on the drawing attached hereto as Exhibit A, being a portion of the real property and improvements conveyed to Grantor by deed of Woodfords Congregational Parish dated May 17, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30671, Page 65 (the "Property"). The Property shall be conveyed to Grantee together with (i) a perpetual and non-exclusive appurtenant easement for ingress and egress by foot and vehicles and for the installation, maintenance, repair and replacement of utilities from Beacon Street to the Property over other land of the Grantor in a location mutually agreeable to Grantor and Grantee (the "Access Easement"), and (i) a perpetual appurtenant easement for the exclusive use of the parking area as shown on Exhibit A (the "Parking Lot Easement"). The Property shall also be conveyed subject to a reciprocal easement agreement concerning Grantor's and Grantee's use, maintenance and enjoyment of the Access Easement and the Parking Lot Easement, and the sharing of expenses associated therewith (the "Reciprocal Easement Agreement"). The scope of use and provisions of the Reciprocal Easement Agreement shall be mutually agreed to by the parties prior to the Closing Date (defined below) and is subject to approval by Grantee's lenders and investors. The parties further agree to negotiate and enter into an amendment to this Agreement within sixty (60) days of receipt of a boundary survey prepared by a professional land surveyor of Grantee's choosing, which amendment shall specify the precise boundaries of the Property and replace and supersede Exhibit A attached hereto. The boundary survey shall be subject to Grantor's approval, which

approval shall not be unreasonably delayed, conditioned, or withheld provided that the boundary survey is materially consistent with Exhibit A attached here. The amendment shall not have a material adverse effect upon Grantee's proposed development or the approvals necessary for such development or the conveyance contemplated herein. As the conveyance of the Property to Grantee will result in the creation of a subdivision under Maine law, Grantee shall pursue all necessary permits and approvals for the creation of such subdivision, at Grantee's sole cost and expense.

2. Expiration. This option shall expire twenty four (24) months from the date of execution of this Agreement, at midnight, Maine time (the "Option Period") unless earlier terminated or extended as set forth herein, or exercised by that date and time. Grantee may extend the Option Period for up to two (2) additional periods of six (6) months each by providing written notice to Grantor of its election to extend prior to the expiration of the then-current Option Period, together with an additional payment of $2,500 for each such extension, to be credited against the Purchase Price (the "Additional Option Consideration;" together with the Initial Option Consideration, the "Option Consideration").

3. Notice of Exercise; Failure to Exercise. This option may be exercised only by Grantee giving written notice of election to exercise ("Grantee's Notice of Election") to Grantor by nationally recognized overnight delivery service (such as Federal Express or UPS), addressed to Grantor at the address set forth at the beginning of this Agreement, or to such other address as Grantor may designate to Grantee in writing. Said notice shall be deemed to have been duly given if postmarked prior to the expiration date and time specified in Section 2 above. In the event that Grantee fails to exercise the option granted in this Agreement within the Option Period, as it may be extended, the Option Consideration shall be retained by Grantor, and thereafter neither Grantor nor Grantee shall have any further rights or claims against the other; provided, however, and notwithstanding anything to the contrary elsewhere in this Agreement, the Option Consideration is fully refundable to the Grantee until satisfactory completion of the environmental review process required by the United States Department of Housing and Urban Development, at which time the Option Consideration shall become non-refundable, unless Grantor defaults in its obligations hereunder beyond the expiration of all applicable notice, grace, and cure periods or is unable to transfer the Property to Grantee with good and marketable title free and clear of liens and encumbrances, except for the Permitted Exceptions (defined below) .

4. Exercise. In the event that Grantee timely and duly exercises the option granted in this Agreement, the following provisions shall be applicable:

(a) Purchase Price. At the Closing Date as defined below, Grantee shall pay to Grantor the sum of Four Hundred Fifty Thousand Dollars ($450,000), by wire transfer or bank cashier's check at closing (the "Purchase Price"). The Option Consideration shall be credited against the Purchase Price at closing.

(b) Title. Grantee shall examine title to the Property during the Option Period. Grantor shall cooperate with Grantee in good faith to cure any title conditions during the Option Period that are unsatisfactory to Grantee. Any title conditions not objected to by Grantee during the Option Period shall be deemed "Permitted Exceptions." On the Closing Date, title to the Property shall be good and marketable and free and clear of all liens, claims and encumbrances except for the

Permitted Exceptions, zoning restrictions, taxes for the current year which may be due and payable as of the Closing Date, and other easements, restrictions, and covenants that appeared of record during the Option Period and were not objected to by Grantor during the Option Period. In the event that title to the Property is not in accordance with the preceding sentence as of the Closing Date, Grantor shall be given a reasonable period of time, not to exceed thirty (30) days, after receipt of notice from Grantee in which to remedy any title defects. In the event that said defects cannot be corrected or remedied within said time period, or in the event that Grantor elects not to remedy same, then this Agreement shall terminate whereupon Grantor shall fully refund to Grantee the Option Consideration. Grantee may elect to close notwithstanding such defects as may exist at no cost or liability to Grantor.

(c) Closing. The closing under this Agreement shall take place not later than ninety (90) days after the date of Grantee's Notice of Election (the "Closing Date") at 10:00 AM, local time, at Grantee's counsel's office, or at such other time and place as Grantor and Grantee shall mutually agree upon in writing. At the closing, Grantor shall execute and deliver a Quitclaim Deed with Covenant as to the Property, a quitclaim bill of sale as to any Personal Property, the Reciprocal Easement Agreement, an assignment of leases, rents and security deposits (if any), an underground storage tank certification, such title insurance affidavits as may be required in order to omit from Grantee's title insurance policy all exceptions for parties in possession and mechanics' liens, REW and FIRTPA forms and such other affidavits, instruments and documents as Grantee may reasonable request and which are customary in commercial real estate transactions in Maine. The deed shall include the Access Easement and the Parking Easement in form and substance reasonably acceptable to Grantor and Grantee. If it shall be reasonable or necessary for the parties to create and declare a condominium on all or any portion of the Property and/or the larger property of which the Property is a part, the parties shall cooperate in good faith to execute and deliver such documents at closing as shall be reasonable and necessary to effectuate the foregoing.

(d) Adjustments, Prorations and Closing Costs. The recording fee for the deed and any expenses related to Grantee's financing will be paid for by Grantee. The parties shall pay their respective shares of the Maine real estate transfer tax in accordance with 36 M.R.S.A. § 4641-A. Real estate taxes shall be prorated as of the closing date on the basis of the latest available tax bill. Grantor is responsible for paying all past due property taxes, if any.

(e) Possession. Grantor shall deliver possession of the Property to Grantee at the closing, free and clear of all leases, tenancies or occupancies by any person.

(f) Risk of Loss. All risk of loss to the Property prior to the closing shall be on Grantor.

(g) Default; Remedies. In the event either party defaults under this Agreement, and such default is not cured within thirty (30) days of written notice thereof, the sole remedy of either party shall be to terminate this Agreement. In addition, if Grantor is the defaulting party, the Option Consideration shall immediately be returned to Grantee, and if the Grantee is the defaulting party, Grantor shall be entitled to retain the Option Consideration as liquidated damages and not as a penalty.

(h) Condition Precedent. Grantee's obligation to purchase the Property is subject to Grantee's full and complete satisfaction with all of the following:

i. There shall have been no material adverse change in or to the Property between the Effective Date and the Closing Date.

ii. Title to the Property shall be good and marketable, and the same shall be conveyed to the Grantee free and clear of all liens, claims and encumbrances except as provided in Section 4(b) above.

If the conditions described in subsections (i)-(ii) of this Section 5(h) are not satisfied as of the Closing Date, Grantee shall have the option of terminating this Agreement, whereupon the Option Consideration shall promptly be refunded to Grantee by the Grantor, and neither party shall any further obligation hereunder.

5. Inspection. Upon reasonable prior notice, Grantee and any prospective lender or investor of Grantee's shall have the right to enter the Property and perform, at Grantee's expense, any and all inspections, tests, surveys or other due diligence inquiries with respect to the Property as Grantee deems necessary or appropriate for a period of 120 days from the date of this Agreement (the "Due Diligence Period"). Grantee agrees to return the Property as nearly as possible to its original condition after any of such tests and inspections. Grantee shall indemnify Grantor for any property damage, bodily injury or death occurring by reason of such entry and/or testing. Grantor shall cooperate with Grantee in such inspections. All inspections shall occur at reasonable times agreed upon by Grantor and Grantee, and Grantee shall use good faith efforts not to interfere unreasonably with the use and enjoyment of the Property or the larger property of which the Property is a part by Grantor. In the event Grantee is not satisfied for any reason by the results of such due diligence inspections, Grantee shall have the option of terminating this Agreement by written notice to Grantor, and the Option Consideration shall promptly be refunded to Grantee. Without limiting the generality of the foregoing, this Agreement and Grantee's purchase of the Property are subject to a determination by Maine State Housing Authority ("MaineHousing") as to the desirability of the Property for Grantee's intended use as a result of the completion of the environmental review process required by the United States Department of Housing and Urban Development, and if such determination is unsatisfactory, at any time during the Option Period, Grantee may terminate this Agreement, whereupon the Option Consideration shall promptly be refunded to Grantee.

6. Assignment. Grantee may assign this Agreement and all its rights and obligations hereunder to an affiliate of Grantee without the prior written consent of Grantor; provided, however, that Grantee shall provide notice of such assignment within a reasonable period of time following such assignment. Upon notice of such assignment, Grantor agrees to look solely to such affiliate for performance of the obligations of the Grantee hereunder.

7. Brokerage. The parties represent to one another that neither has dealt with or had contact with any broker in connection with the transaction described in this Agreement. The parties shall indemnify, defend and hold harmless one another from and against any breach of the foregoing representation.

8. Recording of Option. Grantor and Grantee agree that this Option shall not be recorded. Grantor agrees upon request of Grantee to execute and tender for recording a memorandum summarizing the terms of this Agreement (except the Purchase Price).

9. Notices. Except as provided in Section 3 above, all notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, registered or certified, return receipt requested, or by nationally recognized overnight delivery service (such as Federal Express or UPS), addressed to the recipient at the addresses set forth at the beginning of this Agreement. Either party may change its address for purposes of this Section by giving the other party notice of the new address in the manner described herein.

10. Condition of Property as of the Closing Date. The parties agree that no work shall be done on the Property between the Effective Date and the date Grantee receives written notice of environmental clearance from MaineHousing. In the event Grantor takes any action on or near the Property before the Closing Date that is determined to be a "choice limiting action" and thus causes Grantee to lose either any MaineHousing funding or any project based vouchers awarded to it, Grantee shall have the option of terminating this Agreement in writing and receiving a full refund of the Option Consideration.

11. Miscellaneous. Time is of the essence hereof. This Agreement constitutes the entire agreement between Grantor and Grantee, there are no agreements or understandings between the parties except as set forth herein, and all prior agreements and understandings, including, are superseded by this Agreement. This Agreement will inure to the benefit of and bind the respective successors and assigns of Grantor and Grantee. As used in this Agreement, the singular number shall include the plural, the plural the singular, and the use of one gender shall be deemed applicable to all genders. This Agreement shall be governed by and construed in accordance with the laws of Maine. The recitals contained in this Agreement are deemed by the parties to be accurate statements of fact. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

[remainder of page left blank intentionally; signatures begin on next page]

IN WITNESS WHEREOF, Grantor and Grantee have executed this Option Agreement as of the day and year first written above.

WITNESS:

WOODFORDS CONGREGATIONAL CHURCH OF THE UNITED CHURCH OF CHRIST, Grantor

By: _____
Name: JOHN E F ENGLAND
Title: MODERATOR

WITNESS:

COMMUNITY HOUSING OF MAINE, INC., Grantee

By: _____
Cullen Ryan, its Executive Director

\\CTFILE2\Wpdocs\CHOM (16577)\Woodfords Church (330)\Option Agreement\Option Agreement CHOM Woodfords Church_3-14-23_clean.docx

E. Summary of Written Easements

Exiting Easements:

There are no existing easements shown on the plan titled ALTA / NSPS Land Title Survey dated March 10, 2022, and last revised on October 12, 2023, prepared by Owen Haskell, Inc.

Proposed Easements:

There is a proposed access, utility, and maintenance easement located within the shared drive aisle onsite benefitting all (3) proposed lots. Please review the Subdivision Plat for additional information.

Standard to be Waived: Cite Ordinance or Technical Manual Standard	**Cite Standard Language:** Cite specific language of applicable Ordinance or Technical Manual Standard	**Waiver Being Sought:** Describe waiver being sought. Ex. – We are requesting a two-way parking lot drive aisle width of 20' feet.	**Justification for Waiver:** Address specific waiver criteria, if applicable, and document reasons for the waiver request.
Vehicle Parking Dimensions Figure I-16A	90 degree parking shall have a drive aisle width of 24'.	We are requesting a one-way parking lot drive aisle width of 23'.	Due to the site constraints and low turnover of residential uses, we believe the 23' wide drive aisle will be functional.

G. Financial Capacity

A letter from the Applicant confirming financial capacity is attached to this section.

Financing Capacity – Woodford

Community Housing of Maine (CHOM) serf-certifies that the organization has the financial capacity and experience to complete the Woodford development. CHOM has over 20 years of experience in real estate development, sustainable design, community planning, finance, and construction. CHOM has a demonstrated capacity to secure and assemble project financing from a broad range of local, state, and federal sources.

CHOM anticipates securing the remaining funds by the end of 2024, in accordance with MaineHousing's Low Income Housing Tax Credit Schedule (LIHTC). Assembly of financing is in the early stages and will be completed within the development timeline based upon CHOM's existing relationships and strong track record.

Pre-Development:

CHOM will self-finance the pre-development expenses with unrestricted funds and will then be reimbursed at the construction loan closing.

Construction Financing:

The project team has relationships with several banks and will be selecting a bank partner or MaineHousing for construction financing. Typical terms are expected for this loan, which will extend the duration of the construction period with interest payments at a market-based interest rate typical of such loans.

Low Income Housing Tax Credits Equity:

CHOM will apply this summer for a 9% allocation of LIHTC from MaineHousing. The tax credits will generate equity to fund the development. The MaineHousing LIHTC award will also include subsidy (payment deferred for 30 years at 0% interest) and a commitment to provide permanent debt. The project scores well for this application.

H. Technical Capacity

Community Housing of Maine (CHOM) Development Corporation was formed in 2003 and is the managing General Partner in eleven (11) limited partnerships. Each partnership was formed for the purpose of owning affordable rental housing created, in part, by an allocation of Low-Income Housing Tax Credits. Please refer to the attached CHOM Development Corporation Resume for additional information.

Acorn Engineering specializes in providing urban redevelopment, civil/site design, environmental services, municipal consulting and construction administration. Acorn Engineering, Inc. have successfully designed and permitted more than 20 level II/III (Major/Minor) projects in Portland during the past several years, including: Munjoy Heights, East Bayside Lofts, The Hiawatha, The Nightingale (Mercy Redevelopment), Winter Landing (CHOM Affordable Senior Housing), and The Equinox (CHOM Affordable Family Housing).

CWS Architects was founded in 1992 and has an extensive portfolio of multifamily housing, historic preservation, commercial and industrial buildings mostly concentrated in Southern and Central Maine. With numerous awards and over 75 residential developments with over 3,200 units completed, CWS is one of Northern New England's most respected residential apartment design firms. Notable local developments include the Passive House certified Village Centre Apartments in Brewer, 409 Cumberland, Oak Street Lofts (LEED Silver) and Elm Terrace (LEED Platinum) and the recently completed 57-unit Solterra (58 Boyd St Apts), all located in Portland.

CHOM Development Corporation Resume

CHOM Development Corporation was formed in 2003 and is the managing General Partner in eleven (11) limited partnerships. Each partnership was formed for the purpose of owning affordable rental housing created, in part, by an allocation of Low Income Housing Tax Credits.

Stevens Green

2004 / Stevens Green Associates, L.P.
4% bond financing and tax credits / 26 family units, 24,871 Sq. Ft., 5 Lovejoy Street, Rockland, Maine
New construction, $4.1 million total development cost
Delivered on time and slightly under budget / Benchmark as General Contractor by Select Bid
Initial occupancy December 2005
Architect: Ben Walter, CWS Architects
Construction Lender: Camden National Bank
Syndicator: Michael Associates, Ltd.
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation

Townhouses at Davis Island

2006 / Davis Island Housing Partners, L.P.
9% tax credits / 26 family units, 27,376 Sq. Ft., 45 US Route 1, Edgecomb, Maine
New construction, $5.5 million total development cost
Delivered early and on budget / Portland Builders as General Contractor by Select Bid
Initial occupancy October 2007
Architect: Ben Walter, CWS Architects
Construction Lender: Camden National Bank
Syndicator: Boston Capital Corporation
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Meets MaineHousing's green design requirements

Clearwater Bend

2007 / Reed Street Neighborhood Housing, L.P.
9% tax credits / 23 family units, 26,190 Sq. Ft., 27 Reed Street, Westbrook, Maine
New construction, $5.5 million total development cost
Delivered early and under budget / Benchmark as Construction Manager-at-Risk
Initial occupancy July 2008
Architect: Ben Walter, CWS Architects
Construction Lender: Camden National Bank
Syndicator: Boston Capital Corporation
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Meets MaineHousing's green design requirements

Maine Hall

2009 / Seminary Housing Partners, L.P.
9% tax credits / state and federal historic tax credits / 28 senior units, 25,350 Sq. Ft., 288 Union Street, Bangor, Maine
Acquisition and rehabilitation of historic brick building with new construction addition
$6 million total development cost
Delivered on time and on budget / Nickerson O'Day as Construction Manager-at-Risk
Initial occupancy August 2011
Architect: Ben Walter, CWS Architects
Construction Lender: People's United Bank
Syndicator: Boston Capital Corporation
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Certified by the U.S. Green Building Council (USGBC) and achieved Leadership in Energy and Environmental Design (LEED) Silver Certification

Elm Terrace

2010 / Children's Hospital Housing Partners, L.P.
9% tax credits / state and federal historic tax credits / 38 family units, 42,864 Sq. Ft., 68 High Street, Portland, Maine
Acquisition and rehabilitation of historic brick building with new construction addition
$10.5 million total development cost
Delivered on time and on budget / Wright-Ryan as Construction Manager-at-Risk
Initial occupancy February 2013
Architect: Ben Walter, CWS Architects
Construction Lender: TD Bank
Syndicator: Boston Capital Corporation
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Certified by the U.S. Green Building Council (USGBC) and achieved Leadership in Energy and Environmental Design (LEED) Platinum Certification

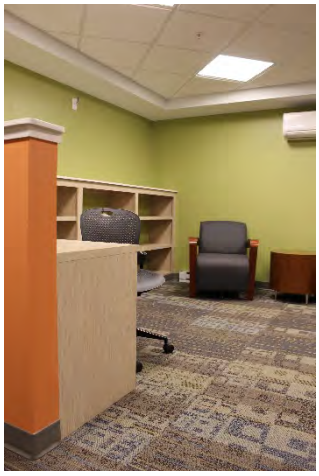
Danforth on High

2011 / Danforth on High, L.P.
4% bond deal / 30 senior units, 23,450 Sq. Ft., 81 Danforth Street, Portland, Maine
New construction, $5.6 million total development cost
Delivered on time and under budget / Hebert Construction as General Contractor by Select Bid
Initial occupancy July 2013
Architect: David Lloyd, Archetype
Construction Lender: Gorham Savings Bank
Syndicator: Boston Capital Corporation
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Meets MaineHousing's green design requirements

Campbell Creek Village (formerly Harbor Pines and West Harbor Pines)

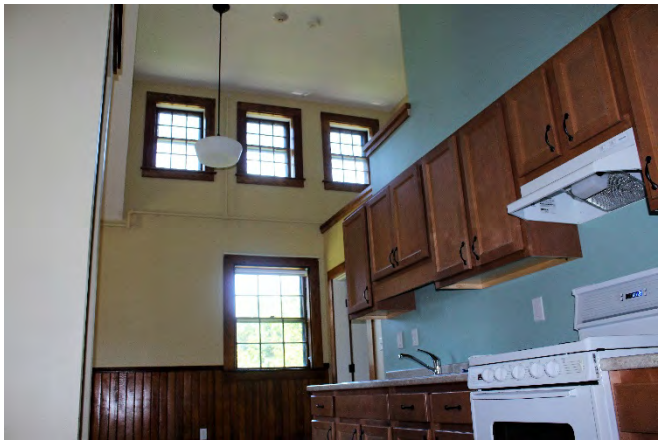
2012 / Campbell Creek Housing Partners, L.P.
4% bond financing and tax credits / USDA Rural Development Multifamily Revitalization Program
16 family units and 20 senior units, 31,165 Sq. Ft., Andrea Lane, Boothbay Harbor, Maine
Acquisition and occupied rehabilitation; $ 4.8 million total development cost
Delivered early and on budget / Great Falls Construction as General Contractor by Open Bid
Initial Occupancy September 2012 (occupied renovation)
Architect: Ben Walter, CWS Architects
Construction Lender: Maine State Housing Authority
Syndicator: Northern New England Housing Investment Fund
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Meets MaineHousing's green design requirements

Village Centre Family Apartments



2015 / Village Centre Housing Partners, L.P.
9% tax credits / 48 family units, 54,886 Sq. Ft., 266 Center Street, Brewer, Maine
New construction, $9.5 million total development budget
Delivered on time and on budget / Wright-Ryan as Construction Manager-at-Risk
Initial occupancy April 2016
Architect: Ben Walter, CWS Architects
Construction Lender: TD Bank
Syndicator: Northern New England Housing Investment Fund
Architect: Ben Walter, CWS Architects
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation
Certified by the Passive House Institute US (PHIUS) achieving PHIUS+ 2015 Passive House certification.

Parish House

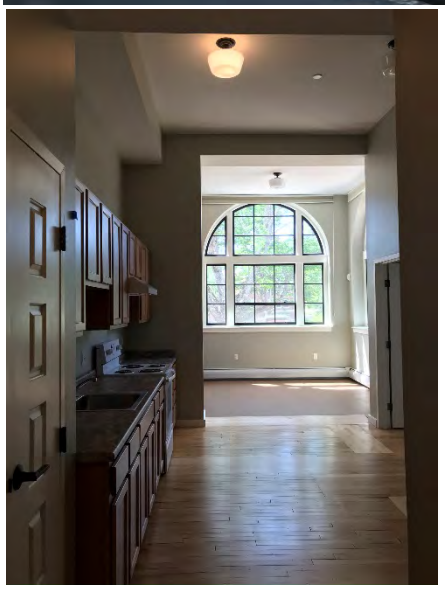


2016 / Parish House Associates, L.P.
State and federal historic tax credits / 6 units, 6,561 Sq. Ft., 27 Kennebec St., Bar Harbor, Maine
Acquisition and rehabilitation of historic brick building
$2.03 million development cost
Delivered on time and on budget / E. L. Shea as Construction Manager-at-Risk
Initial occupancy August 2017
Architect: George Lavigne, CWS Architects
Construction Lender: Camden National Bank
Investment Limited Partner: Camden National Bank
Property Manager: Community Housing of Maine
Project Manager: Erin Cooperrider for CHOM Development Corporation

Northfield Green

2017 / NFG Housing Partners, L.P.
4% tax credits / 201 units, 198,898 Sq. Ft., 145 Allen Ave., Portland, Maine
Occupied rehabilitation; $30 million development cost
Anticipated on time and on budget / Zachau Construction as Construction Manager-at-Risk
Initial occupancy December 2017 (occupied rehabilitation)
Architect: Ben Walter, CWS Architects
Construction Lender: TD Bank
Syndicator: Boston Capital Corporation
Property Manager: Preservation Management, Inc.
Project Manager: Erin Cooperrider for CHOM Development Corporation

Central Commons



2018 / Central Commons Housing Partners, L.P.
4% tax credits / state and federal historic tax credits / 29 senior units, 25,000 Sq. Ft., 6 Beech St., Hallowell, Maine
Acquisition and rehabilitation of historic brick building
$7.9 million development cost
On time and on budget / Wright-Ryan as Construction Manager-at-Risk
Initial occupancy in June 2020
Architect: Ryan Senatore Architects
Construction Lender: Bangor Savings Bank and Maine State Housing Authority
Syndicator: Evernorth (formerly Northern New England Housing Investment Fund (NNEHIF))
Property Manager: Preservation Management, Inc.
Project Manager: Bree LaCasse for CHOM Development Corporation

I. Conformity with Land Use Ordinance

The following outline is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14.6.1 through 14.6.4.

OVERVIEW

This project conforms with the majority of the applicable standards of Portland's Land Use Ordinance Section 14.6.1 through 14.6.4 as demonstrated in the following narrative.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

a. The project will not generate 100 or more cars during peak hour; therefore a Traffic Movement Permit will not be required. The site is located on Woodford Street and can be accessed via Beacon Street and Woodford Street. The project will not create any significant hazard to safety on the surrounding street network.

b. This project is not expected to increase traffic flow. Congestion at the Woodford Street/Forest Avenue intersection is not anticipated.

B. Access and Circulation:

1) In general

a. The development will provide safe access and internal circulation for both pedestrians, vehicles and emergency vehicles as seen on the Site Plan and in accordance with the Technical Manual.

b. Continuous internal walkways will be provided and will connect to the proposed sidewalk along Woodford Street.

c. The proposed driveway is proposed to remain in the current location on Woodford Street and Beacon Street. There are no anticipated conflicts with vehicular turning movements.

d. The site does not feature drive-up services as mentioned in this section.

2) Loading and Servicing:

The Site has an existing drop off location south of the Parish House that is anticipated to remain functional as part of the proposed project.

3) Curbs and Sidewalks:

   a. The developments frontage on Woodford Street and Beacon Street contains curb and sidewalk. A brick sidewalk exists along Woodford Street and a section will be rebuilt with concrete part of the project as identified in the City's Sidewalk Material Policy.

   b. There is an existing sidewalk along Woodford Street and Beacon Street. Any curbing or sidewalk disturbed during construction is to be repaired and rebuilt as necessary in conformance with City standards.

   c. Not applicable

   d. Not applicable

C. Public Transit Access:

1) The Project is located 0.15 miles (765 ft) from the Forest Avenue bus stop.

2) Not applicable.

3) Not applicable.

D. Parking:

1) Vehicular Parking

   a. Per table 19-B: Categorial exceptions to off-street parking minimums, no off-street parking shall be required within ¼ mile of fixed route transit service. Please also refer to the provided Transportation Demand Management Plan for additional information, in conformance with the exception for transit proximate development.

   b. A Transportation Demand Management Plan is provided in Section T. No Parking Study is required as part of this project.

   c. Not applicable.

   d. The parking space and aisle dimensions are in conformance with the Technical Standards. Please refer to the Site Plan for more information.

2) Location and Required Number of Bicycle Parking Spaces:

   a. A minimum of 32 exterior bicycle parking spaces will be provided on site to serve the project. Please refer to the Site Plan for locations and details.

   b. Not applicable

3) Snow Storage:

   a. The Owner will be responsible for managing snow at their discretion and/or coordinating snow removal from the site when necessary.

   b. Snow storage areas will not encroach on parking, walkways, or stormwater management systems.

4) Electric Vehicle (EV) charging

   a. The project will provide EV charging per the City Standards. Please refer to the Site Plan for more information.

E. Transportation Demand Management (TDM):

1) A Transportation Demand Management (TDM) plan has been submitted as part of this application. Please see Section T. for additional information.

14.6.2 Environmental Quality Standards

A. Preservation of Significant Natural Features:

1. The site is primarily occupied by the existing church and parking lot and does not consist of any significant natural features. There are no known endangered species or plants existing on the site.

2. Not applicable

3. Not applicable

B. Landscape Preservation:

1) The site will limit disturbance of existing trees.

2) The project will include adequate measures to protect existing vegetation.

3) Not applicable.

4) A waiver is not requested.

5) Not applicable.

C. Site Landscaping and Buffers

1) Within the B2 zone, shade trees or plantings will be installed per the City of Portland Technical Manual standards.

2) Buffers

   a. All solid waste will be located towards the rear of the site and out of site from the public way.

   b. Not applicable

   c. The existing buffers are anticipated to remain along all residential abutters.

3) Parking Landscaping

   a. The Development is unable to plant 2 trees per 5 parking spaces (or 1 tree and 3 shrubs per 5 parking spaces) and requests to pay the proportionate cost into the tree fund.

   b. The parking lot does not exceed 40 uninterrupted parking spots.

   c. See above.

4) Street Trees

   a. Street trees within the right-of-way are not proposed due to the existing sidewalk constraints, however additional trees are proposed on the backside of the sidewalk within the private property. Please refer to the Site Plan for locations and planting schedule.

   b. The applicant requests to pay the proportionate cost into the tree fund.

D. Water Quality, Stormwater Management and Erosion Control:

   a. The site drainage will not be directed to flow or pond onto adjacent lots. The runoff created from the site will be collected, attenuated, and released at a rate that does not exceed the existing condition.

   b. Provisions are in place to ensure stormwater from the development will not exceed the pre-development flows.

   c. Not applicable

   d. A site-specific Stormwater Management Plan has been developed for the project to show compliance with Section 5 of the Technical Manual, including the basic standards of MEDEP Chapter 500. Please refer to sections J and K, the Erosion & Sedimentation Control and Stormwater Management Plans, respectively, for more information.

   e. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The project will be serviced by a public wastewater system. The development will provide for adequate and

sanitary disposal of sewage in accordance with adequate the Technical Manual.

14.6.3 Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans:

a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure.

b. Not applicable.

B. Public Safety and Fire Prevention:

a. The site has been designed to promote safe and inviting public access.

b . Emergency access has been provided. Fire trucks and ambulances will be able to access all of the site and buildings.

C. Public Utilities

a . Requests for Ability to Serve letters have been sent to the respective companies. Responses are forthcoming and will be provided upon receipt.

b . The electrical service will be wired underground in the site via a new pole mounted transformer as shown on the Utility Plan.

c . The new sewer and stormwater infrastructure will meet the provisions of the Technical Manual.

d . The project will be served by connection to the public sewer system within Pine Street. The stormwater management system is designed to meet the standards of Chapter 500.

e . The project anticipates providing external solid waste storage with private hauling of the waste.

16.4.4 Site Design Standards

A. **Massing, Ventilation and Wind Impact**:

a. Please refer to Section O, Architectural Design Narrative.

B. Shadows:

a. The shadows created by the building will not influence public open spaces.

C. Snow and Ice Loading:

a. The structure will not distribute snow and ice onto adjacent properties.

D. View Corridors:

a. Not applicable

E. Historic Resources:

a. The development is not located in a historic district, historic landscape district or City designated landmark.

b. The development is not located adjacent to designated landmarks, historic district, or historic landscape district.

c. It is our understanding that there are no known archaeological resources that exist on site.

F. Exterior Lighting:

a. Site Lighting

i. Exterior lighting will be designed to meet the requirements of Section 12 of the Technical Manual.

ii. Any lighting that may adversely impact the abutting residential properties will feature house-side shielding.

b. Architectural and Specialty Lighting

i. No architectural or specialty lighting is proposed, at this time.

ii. No up-lighting is proposed, at this time.

c. Street Lighting

i. No new street lights are proposed.

G. Noise and Vibration:

a. All proposed heating, ventilation and air conditioning equipment, and emergency generators are to meet the applicable state and federal emissions requirements as defined by the Architect. They are to be located within the interior of the site or the top of the building and will also be screened when necessary.

H. Signage and Wayfinding:

a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

   i. The project is not located in a historic district or subject to Article IX.

   ii. Signage will complement the subject building and its immediate context.

   iii. Signage will only be related to vehicular access.

   iv. Signage will be facing downwardly to avoid glare and light spillover towards the sky.

   v. No proposed signs will be located along rooftops.

b. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

I. Design Standards.

a. The project has been designed to meet the standards set forth in the B2 zone. Please refer to the Site Plan for more information on the Space & Bulk Standards.

I.1 Subdivision Standards Assessment

The following outline is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 15.4

15.4.1 Standards of Review

A. The proposed project will not result in undue water of air pollution. The proposed project is not located near or within a flood plain and is at least 72 feet above the mean sea level. Refer to the Soil Report as well as the Erosion and Sedimentation Control Report for more information regarding the nature of soils and subsoils and their ability to adequately support waste disposal. Refer to Sheet C-30 for more information on the proposed drainage conditions and slope of land.

B. The proposed utility infrastructure is designed to provide an ample and sustainable water supply for the foreseeable needs of the subdivision.

C. An ability to serve letter sent to the Portland Water Department to confirm the project won't overburden the existing water supply and has sufficient capacity to serve the proposed project.

D. The proposed project is designed in accordance with the City of Portland Technical Manual– Section 5 – Portland Stormwater Management Standards and will not result in unreasonable soil erosion or reduction in the capacity of the land to hold water such that a dangerous or unhealthy condition may result.

E. The proposed project will not result in excessive highway or public road congestion, nor will it create unsafe conditions for the current or planned use of these routes.

F. The proposed project will utilize a proposed storm/sewer system to adequately serve the proposed building as well as the redeveloped portion of the existing Parish House. Proposed subsurface stormwater retention infrastructure will ensure the post development stormwater runoff will not overburden the existing stormwater system. In addition, an ability to serve letter sent to the Department of Public Works confirms that the project won't overburden the existing storm/sewer system within Woodford Street.

G. The proposed project will relocate and utilize an existing solid waste enclosure to serve the existing Woodfords Church as well as install a proposed solid waste enclosure to serve the proposed buildings. The project will not cause an unreasonable burden on the ability of the city to dispose of solid waste and sewage.

H. The proposed project will not have an adverse effect on the scenic/natural and historic beauty of the area. Refer to the architectural design narrative for more information. The proposed project is not located within a significant wildlife habitat identified by the Department of Inland Fisheries and Wildlife. The proposed project does not contain rare and irreplaceable natural areas. The proposed does not have visual or physical access to the shoreline. The proposed project is not located within local historic districts.

I. The proposed project is in conformity with the Comprehensive Plan as previously indicated during the map amendment process for the property.

J. The subdivider has adequate financial and technical capacity to meet the standards of this subsection. Refer to the financial and technical capacity sections of this submission for more information.

K. The proposed project is not located 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.

L. The proposed project will collect, treat and discharge stormwater to the combined storm/sewer system within Woodford Street to the greatest extent possible such that the quality and quantity of groundwater is not adversely affected.

M. The proposed project is not located within a flood prone area delineated by the Federal Emergency Management Agency's flood boundary and floodway maps.

N. The proposed project will provide adequate stormwater management via the existing drainage system within the Woodfords Church parking lot as well as updated stormwater infrastructure to serve the proposed development.

O. The proposed project does not have shore frontage on a river, stream, brook, great pond, or coastal wetland.

P. The proposed subdivision does not cross municipal boundaries.

A C O R N
ENGINEERING, INC.

STORMWATER MANAGEMENT REPORT

Prepared For:

Community Housing of Maine
One City Center, 4th Floor
Portland, ME 04101

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104

December 2023

INTRODUCTION

Acorn Engineering, Inc. has been retained by Community Housing of Maine to provide civil engineering services for the proposed work located at 186 Woodford Street, Portland, ME 04103. The site is currently comprised of the existing Woodfords Church with surface parking and landscaping. The property consists of approximately 1.92 acres of land in Portland's Woodfords Corner neighborhood. The proposed project anticipated increasing the total impervious area by approximately 50 square feet, and is subject to stormwater treatment due to redevelopment of non-roof impervious area greater than 5,000 sf.

A stormwater analysis was prepared to demonstrate that the project will meet the requirements set forth by Maine DEP Chapter 500 Basic and General Standards and the following requirements from the City of Portland (the City):

- City of Portland Land Use Ordinance Article 14.6.2.D.
- City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.
- City of Portland Code of Ordinances Chapter 32 – Post-Construction Stormwater Management
- DPW Specific Standard: Provide a minimum detention volume of 1" of rainfall over the entire project redeveloped area being proposed on the parcel with a maximum outflow rate of 0.1 CFS per acre until the storage is maximized.

EXISTING CONDITIONS

The proposed project site is located at 186 Woodford Street, bounded by Woodford Street, and Beacon Street. An ALTA/NSPS Land Title Survey has been prepared by Owen Haskell, Inc., dated March 20, 2022, and last revised October 12, 2023.

The existing property is covered by approximately 75.3% impervious surfaces including the existing Woodfords Church, Parish House, pavement, and concrete.

The project team is not aware of the presence of any existing significant natural features located on the site. Given the urban setting and existing impervious surfaces, a field inventory of significant natural features was not undertaken. The project is not located within a watershed classified as an Urban Impaired Stream.

PROPOSED DEVELOPMENT

The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 40 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (82 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements.

Due to the proposed senior housing building construction within the existing parking lot storm drain network modifications are necessary. Proposed drainage improvements include catch basins, roof drains, and a StormTech Isolator ROW with a subsurface sand filter to provide treatment & storage onsite. Ultimately the proposed storm drain network outlets to the existing drainage system within Woodford Street.

The development will be served by the Portland Water District, underground power/cable/communications, natural gas and the municipal sewer system. The project anticipates incorporating Maine DEP approved stormwater Best Management Practices (BMP) to meet the General and Flooding Standards.

For an analysis on water quality, please refer to the following section.

GENERAL STANDARDS – WATER QUALITY

The proposed project was designed to provide primary water quality treatment through the use of an Underdrained Subsurface Sand Filter (USSF). The system has been designed in accordance with the MDEP Volume III BMPs Technical Design Manual, Chapter 7.3. Subsurface Sand Filters BMP, and the City of Portland Technical Manual (Section 5) Redevelopment Standards. The Municipal code states: *"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."*

Treatment Area

The development shall provide water quality treatment in accordance with the DEP Chapter 500 General Standards for no less than 50% of the redeveloped impervious area. Water quality treatment will be provided through the use of a subsurface sand filter and a stormtech Isolator ROW pretreatment device, which is an approved system per Appendix B of the Maine Stormwater BMP Manual.

Table 1 – Treatment Area

Existing Impervious Area	Proposed Impervious Area	Redeveloped Impervious Area	Redeveloped Impervious Area with Treatment
60,066 SF	60,108 SF	31,658	18,275 SF (57.7%)

Filter Area Sizing

A calculation for sand filter area is necessary to meet the requirements below the surface of the USSF. As defined in the Volume III: BMPs Technical Design Manual, Chapter 7, the surface area of the filter shall be no less than the sum of 5% of the tributary impervious area and 2% of the tributary vegetated area. The filter area is calculated by the following formula:

[(Imp. SF x 0.05) + (Veg. SF x 0.02)] = Filter Area (SF)

Please refer to Table 2 below for the required area calculations.

Table 2 – Total Filter Surface Area, displays the proposed USSF sizing requirement, actual size and the percentage of required area.

Table 2 – Total Filter Surface Area		
	Required Filter Area (SF)	Actual Filter Area (SF)
USSF	1,019	1,040

As shown, the size of the soil filter area will exceed the surface area requirements.

Isolator Row Sizing

The isolator row was sized based upon a letter from Mark Bergeron, Director of the MDEP Bureau of Land Resources, to StormTech dated July 29, 2016. The calculation that Mr. Bergeron references to determine the minimum number of stormwater chambers needed for the isolator row is defined as the one-year peak flow rate divided by the specific flow rate of the chamber. This rate was implemented into the HydroCAD model and divided by the flow rate of the SC-740 chamber (0.2 cfs). Please refer to Table 3 below which provides the isolator row sizing in comparison with the required amount.

Table 3 – Isolator Row Sizing			
	1-Year Peak Flow (cfs)	Required Chambers	Provided Chambers
USSF	0.8	4	6

The StormTech Isolator Row provides initial treatment of the larger sized pollutants. The model includes two catch basins, with two (2) - 24" pipes at each side of the isolator row. Access is provided at each catch basin, on both ends of the system, in addition to a 10" inspection port placed within the system. The design includes additional manifold pipes out of the catch basin into the StormTech system to further disperse flow throughout the system in the event the isolator row is at capacity.

Water Quality Volume

In accordance with the Volume III: BMPs Technical Design Manual, a water quality volume of 1.0 inches times the tributary impervious area plus 0.4 inches times the tributary

vegetated area is required to be treated by the USSF. The water quality volume is calculated by the following formula:

$$\left(\frac{\text{Imp. SF x 1.0"}}{\text{12"/1'}}\right) + \left(\frac{\text{Veg. SF x 0.4"}}{\text{12"/1'}}\right) = \text{Treatment Volume (CF)}$$

Table 4 – Water Quality Volume Table				
	Upgradient Landscaped Area (SF)	Upgradient Impervious Area (SF)	Total Treatment Volume Required (CF)	Treatment Volume Provided (CF)
USSF	5,238	18,275	1,697	3,038

The water quality treatment volume was confirmed by using the HydroCAD model. HydroCAD calculations are attached to this report to demonstrate the compliance. The storage volume within the crushed stone, chambers, and filter sand is added together to calculate the water quality volume.

FLOODING STANDARD – WATER QUANTITY

To meet the City's requirement of limiting the burden on the combined sewer main, the project is subject to provide a minimum detention volume of 1" of rainfall over the entire project redeveloped area being proposed on the parcel with a maximum outflow rate of 0.1 CFS per acre until the storage is maximized. The project will utilize a Stormtech Isolater ROW that will sit above crushed stone and a USSF to provide storage before being collected by an orifice-controlled underdrain and piped to the street.

See below table for the project redevelopment requirements and calculations for water quality volume.

Table 5 – DPW Detention Volume Requirement			
	Redeveloped Area (SF)	Total Detention Volume Required (CF)	Detention Volume Provided (CF)
USSF	36,433	3,036	3,038*
* Storage provided at 12" Bypass outlet pipe (76.80') within catch basin downstream of USSF / Isolator ROW BMP			

To meet the 0.1 CFS per acre requirement. A 1" orifice will be installed within the downgradient catch basin on the USSF underdrain outlet pipe. The 1" orifice will decrease the flow out of the USSF and as a result storage will be provided within the Stormtech Isolator ROWs. Once the detention volume required has been reached the stormwater will overflow into an 12" outlet pipe and enter the municipal system within Woodford Street.

The proposed project was modeled using HydroCAD to verify that the post-development conditions do not exceed the pre-development conditions. A 24-hour SCS Type III storm distribution for the 2, 10, and 25-year storm events were used. The corresponding rainfall amounts for these storms are 3.10", 4.60", and 5.80" respectively. Due to the numerous variables, and inherent inaccuracies with the modeling program used to calculate stormwater runoff it is custom at Acorn Engineering to round to the nearest whole number. However due to the small size of the project and the minimal existing flows, the stormwater runoff shall be rounded to the nearest tenth of a cubic feet per second (cfs).

Time of Concentration (Tc)

The times of concentration for subcatchments in both the pre and post conditions were calculated by entering the flow path with the associated ground cover and slopes. HydroCAD then calculated the Tc's and incorporated the total Tc for each subcatchment into the model. When the calculated Tc was less than six minutes (0.1 hours), a direct entry of six minutes was used as advised by the TR-55 model. Consistent with previous submissions and best practices, the sheet flow length for any Tc path was capped at 100 feet.

Curve Number (CN)

Within the pre-development model, the vegetated areas were considered fair grass, and impervious areas consisted of either roof of existing building or pavement from parking lot.

Pre-Development

- Pavement, Walkways, Roofs – CN 98
- 75% Grass Cover – Good, HSG A – CN 39

Post-Development

- Pavement, Walkways, Roofs – CN 98
- >75% Grass Cover (new landscaping) – Good, HSG A – CN 39

Pre-development Calculations

The pre-development model was broken into two separate subcatchments.

- Subcatchment 1 – This tributary area includes the south and east side of the parcel including the paved parking lot and adjacent landscaped areas. This area drains toward Woodford Street.
- Subcatchment 2 – This tributary area includes the north and west side of the parcel and includes mostly landscaped area with various paved walkways. This area drains toward Woodford Street.
- Subcatchment 3 – This tributary area includes the entire building footprint with a small landscape perimeter. This area drains toward Woodford Street.
- Subcatchment 4 – This tributary area is small and includes some landscape area to the rear (Southwest) of the site.

A pre-development watershed map developed for this project can be viewed in Attachment A and a copy of the HydroCAD calculations is included within Attachment C, of this report. Point of interest flow rates for the two sub catchments outlined above are as follows:

Table 6 – Pre-Development Peak Stormwater Flows			
	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
Total Runoff	3.5	5.9	8.0

Post-development Calculations

The post-development model was broken into three separate sub catchments.

- Subcatchment 1 – This tributary area includes the north and east side of the parcel including a section of the paved parking lot, adjacent landscaped areas, and the new senior housing building. This area drains toward Woodford Street.
- Subcatchment 1.1 - This tributary area includes the south and east side of the parcel including a section of the paved parking lot and adjacent landscaped areas. This area drains toward the treatment BMP and is ultimately directed toward Woodford Street.
- Subcatchment 2 – This tributary area includes the north and west side of the parcel and includes mostly landscaped area with various paved walkways. This area drains toward Woodford Street.
- Subcatchment 3 – This tributary area includes the entire building footprint with a small landscape perimeter. This area drains toward Woodford Street.
- Subcatchment 4 – This tributary area is small and includes some landscape area to the rear (Southwest) of the site.

Total Peak flow rates for the post-development storm events are as follows:

Table 7 – Post-Development Peak Stormwater Flows			
	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
Total Runoff	2.7	4.3	5.7

The post-development calculations include changes to the land use and the compensation provided by the stormwater BMPs. It should be noted that the project is also reducing the overall impervious area. As a result, the total peak flow rates in the post development are reduced in comparison to the total predevelopment flow rates for the 2, 10, & 25-year storms.

The following table represents a comparison of pre- development and post-development condition peak runoff rates for the proposed development and tributary area.

Table 9 – Comparison of Peak Flows						
POI	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
Total Runoff	3.5	2.7	5.9	4.3	8.0	5.7

A post-development watershed map developed for this project can be viewed in Attachment B, and a copy of the HydroCAD calculations is included within Attachment C of this report.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Lyman-Tunbridge Complex	0.32 / 0.20	0.32 / 0.20
Windsor Loamy Sand	0.17	0.17

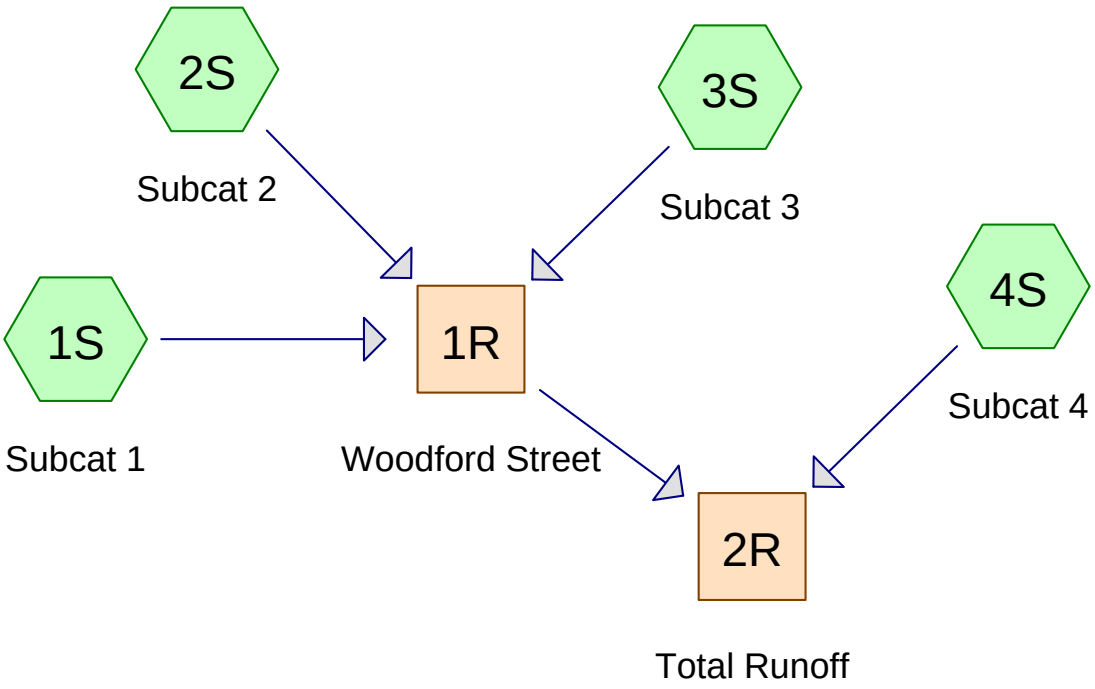
The soil "K" value for the soil, listed above, shows a low susceptibility to erosion. The site's susceptibility to erosion is sourced from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County.

CONCLUSION

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way. Overall, the project will provide an improvement to stormwater runoff and overall management from several perspectives as outlined above.

ATTACHMENTS

Attachment A: Pre-Development Watershed Map
Attachment B: Post-Development Watershed Map
Attachment C: HydroCAD Calculations
Attachment D: Redevelopment Exhibit
Attachment E: Stormwater Inspection and Maintenance Plan
Attachment F: Medium Intensity Web Soil Survey



Subcat Reach Pond Link

Routing Diagram for PRE
Prepared by {enter your company name here}, Printed 12/22/2023
HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.545	39	>75% Grass cover, Good, HSG A (1S, 2S, 3S, 4S)
0.064	98	Paved Walkway (2S)
0.860	98	Pavement (1S)
0.454	98	Roof (3S)
1.924	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.545	HSG A	1S, 2S, 3S, 4S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
1.379	Other	1S, 2S, 3S
1.924		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.545	0.000	0.000	0.000	0.000	0.545	>75% Grass cover, Good	1S, 2S, 3S, 4S
0.000	0.000	0.000	0.000	0.064	0.064	Paved Walkway	2S
0.000	0.000	0.000	0.000	0.860	0.860	Pavement	1S
0.000	0.000	0.000	0.000	0.454	0.454	Roof	3S
0.545	**0.000**	**0.000**	**0.000**	**1.379**	**1.924**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1 Runoff Area=46,626 sf 80.39% Impervious Runoff Depth=1.75"
Tc=6.0 min CN=86 Runoff=2.20 cfs 0.156 af

Subcatchment 2S: Subcat 2 Runoff Area=15,618 sf 17.84% Impervious Runoff Depth=0.11"
Tc=6.0 min CN=50 Runoff=0.01 cfs 0.003 af

Subcatchment 3S: Subcat 3 Runoff Area=20,807 sf 95.15% Impervious Runoff Depth=2.55"
Tc=6.0 min CN=95 Runoff=1.35 cfs 0.101 af

Subcatchment 4S: Subcat 4 Runoff Area=745 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Reach 1R: Woodford Street Inflow=3.55 cfs 0.261 af
Outflow=3.55 cfs 0.261 af

Reach 2R: Total Runoff Inflow=3.55 cfs 0.261 af
Outflow=3.55 cfs 0.261 af

Total Runoff Area = 1.924 ac Runoff Volume = 0.261 af Average Runoff Depth = 1.63"
28.32% Pervious = 0.545 ac 71.68% Impervious = 1.379 ac

Summary for Subcatchment 1S: Subcat 1

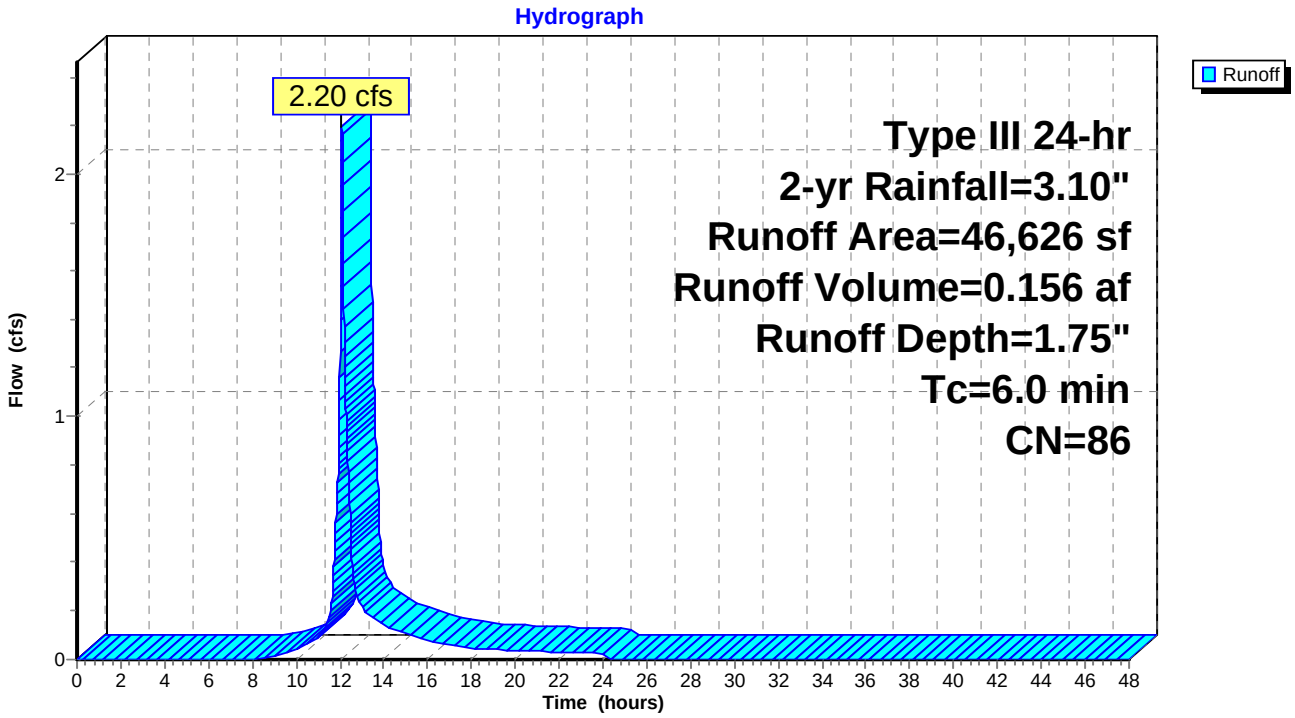
Runoff = 2.20 cfs @ 12.09 hrs, Volume= 0.156 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	37,482	98	Pavement
	9,144	39	>75% Grass cover, Good, HSG A
	46,626	86	Weighted Average
	9,144		19.61% Pervious Area
	37,482		80.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Subcat 1



Summary for Subcatchment 2S: Subcat 2

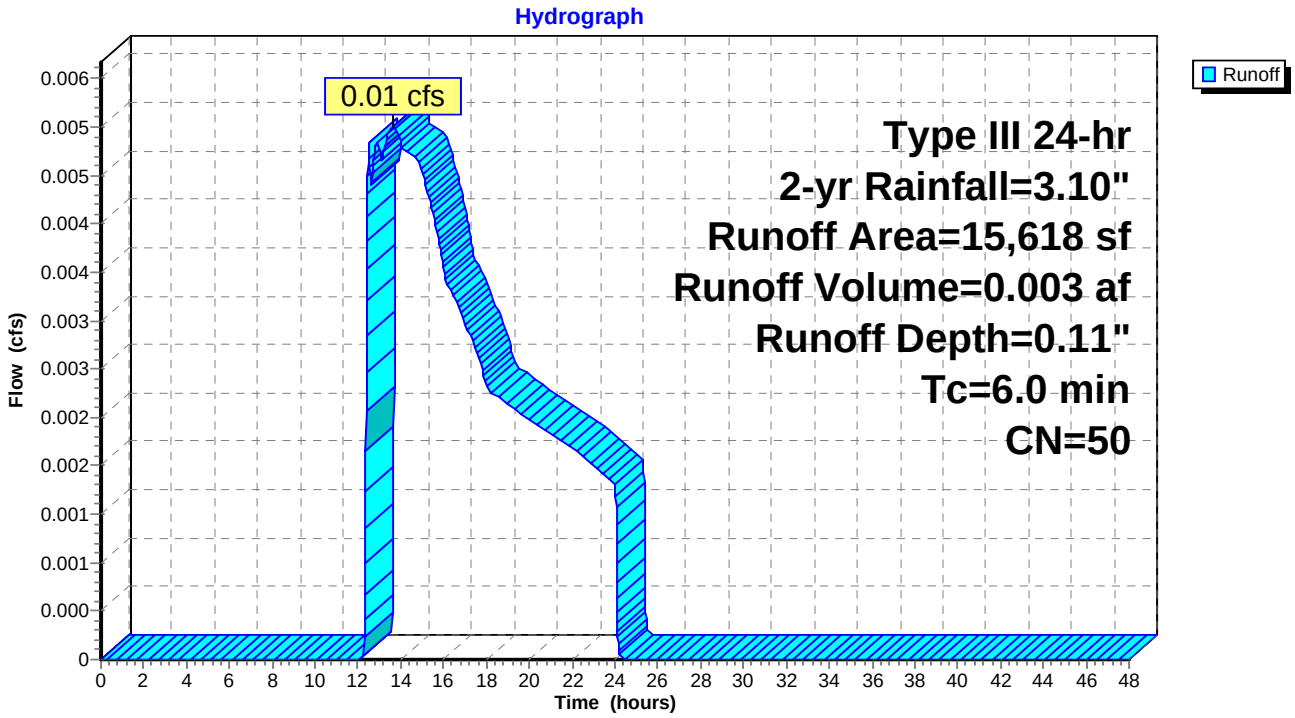
Runoff = 0.01 cfs @ 13.62 hrs, Volume= 0.003 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	2,787	98	Paved Walkway
	12,831	39	>75% Grass cover, Good, HSG A
	15,618	50	Weighted Average
	12,831		82.16% Pervious Area
	2,787		17.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Subcat 2



Summary for Subcatchment 3S: Subcat 3

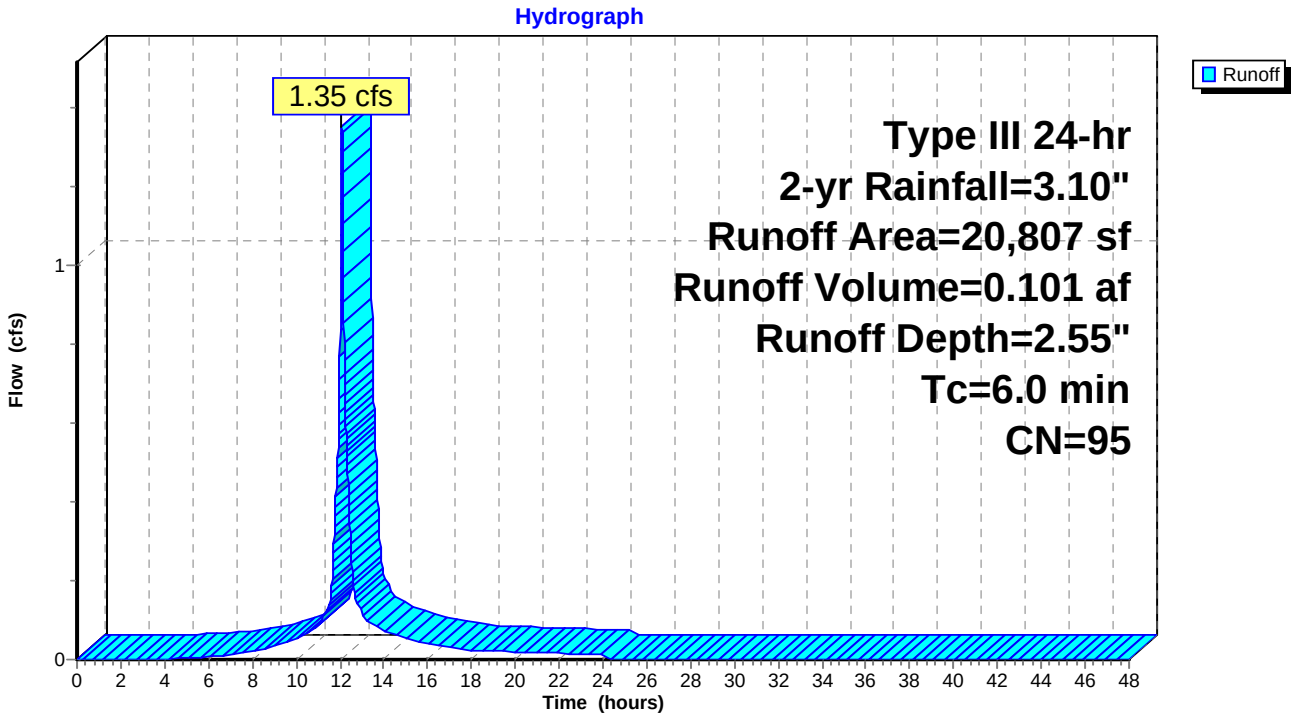
Runoff = 1.35 cfs @ 12.08 hrs, Volume= 0.101 af, Depth= 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	19,797	98	Roof
	1,010	39	>75% Grass cover, Good, HSG A
	20,807	95	Weighted Average
	1,010		4.85% Pervious Area
	19,797		95.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Subcat 3



Summary for Subcatchment 4S: Subcat 4

[45] Hint: Runoff=Zero

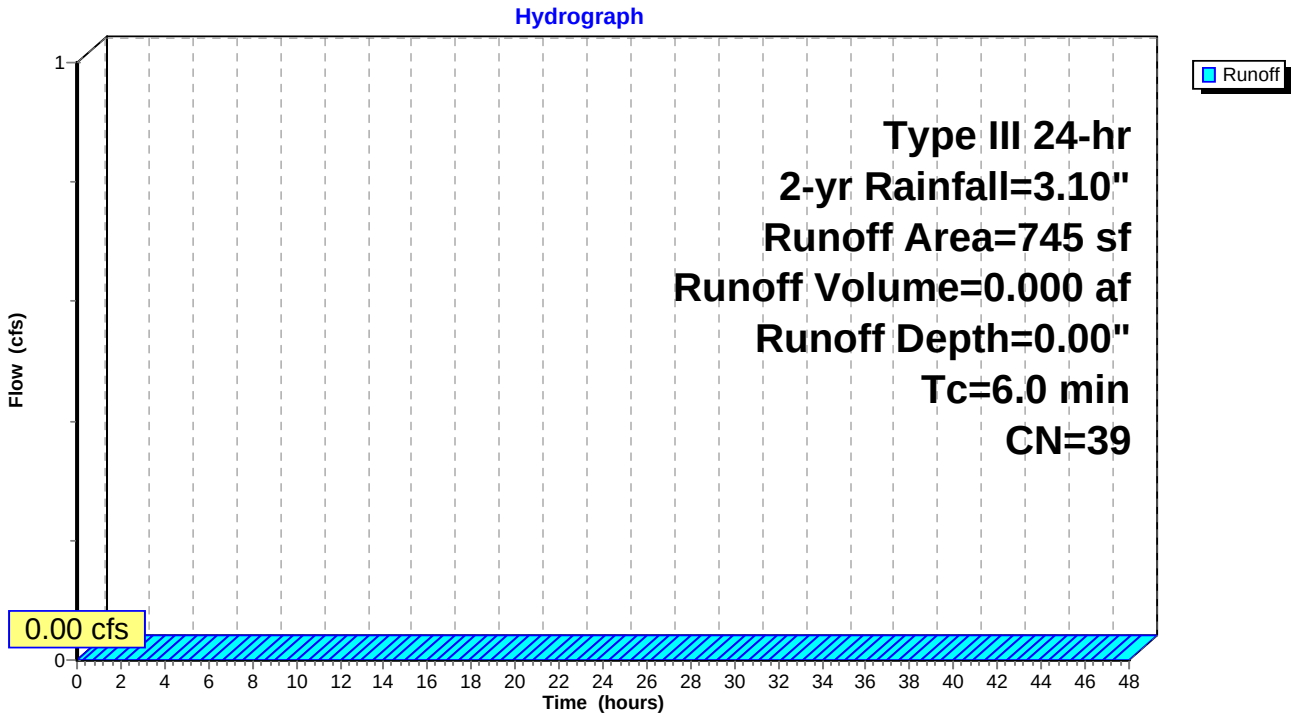
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

Area (sf)	CN	Description
745	39	>75% Grass cover, Good, HSG A
745		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Subcat 4



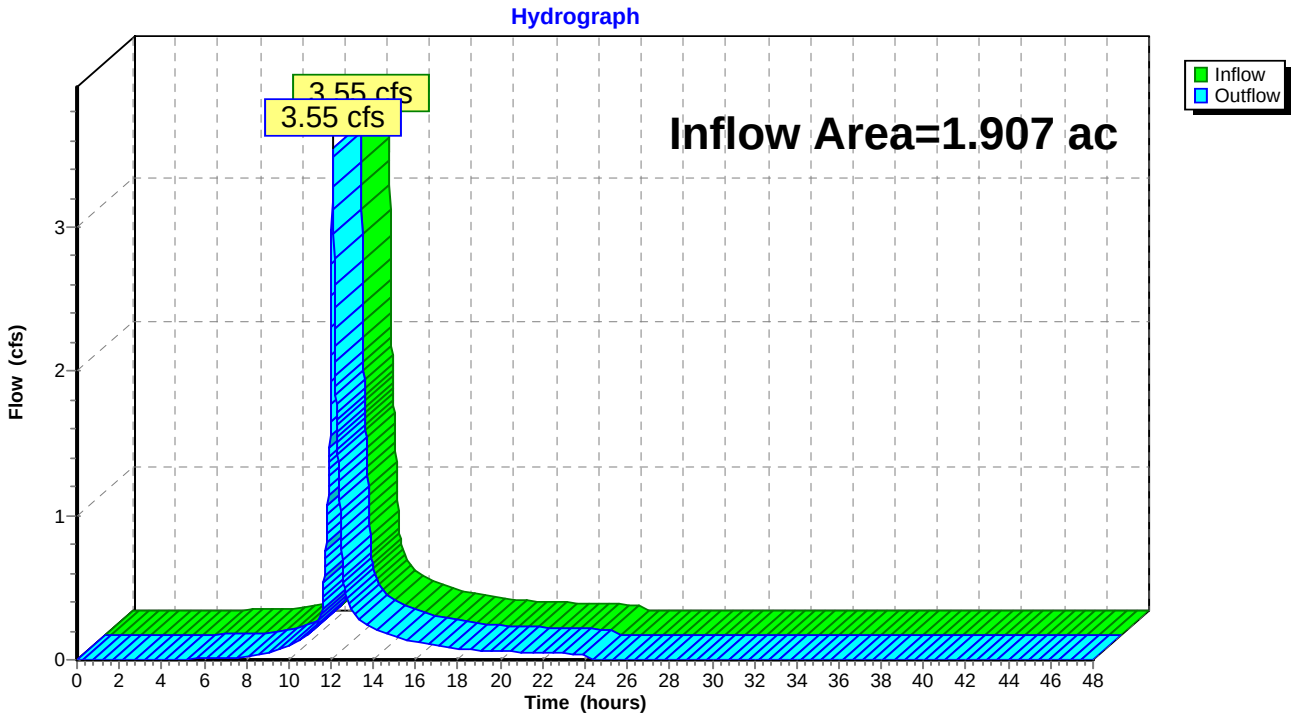
Summary for Reach 1R: Woodford Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.907 ac, 72.32% Impervious, Inflow Depth = 1.64" for 2-yr event
Inflow = 3.55 cfs @ 12.09 hrs, Volume= 0.261 af
Outflow = 3.55 cfs @ 12.09 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: Woodford Street



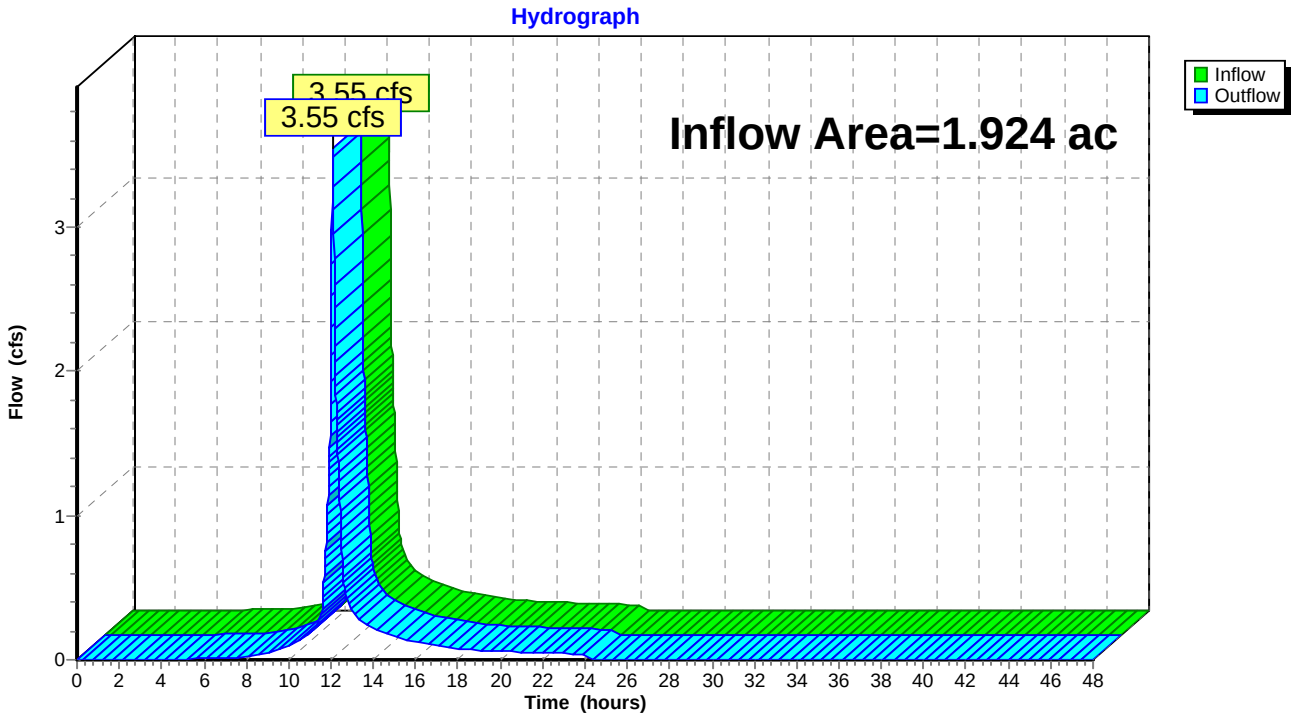
Summary for Reach 2R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.924 ac, 71.68% Impervious, Inflow Depth = 1.63" for 2-yr event
Inflow = 3.55 cfs @ 12.09 hrs, Volume= 0.261 af
Outflow = 3.55 cfs @ 12.09 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: Total Runoff



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1 Runoff Area=46,626 sf 80.39% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=86 Runoff=3.85 cfs 0.276 af

Subcatchment 2S: Subcat 2 Runoff Area=15,618 sf 17.84% Impervious Runoff Depth=0.54"
Tc=6.0 min CN=50 Runoff=0.12 cfs 0.016 af

Subcatchment 3S: Subcat 3 Runoff Area=20,807 sf 95.15% Impervious Runoff Depth=4.02"
Tc=6.0 min CN=95 Runoff=2.08 cfs 0.160 af

Subcatchment 4S: Subcat 4 Runoff Area=745 sf 0.00% Impervious Runoff Depth=0.13"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Reach 1R: Woodford Street Inflow=6.02 cfs 0.452 af
Outflow=6.02 cfs 0.452 af

Reach 2R: Total Runoff Inflow=6.02 cfs 0.452 af
Outflow=6.02 cfs 0.452 af

Total Runoff Area = 1.924 ac Runoff Volume = 0.452 af Average Runoff Depth = 2.82"
28.32% Pervious = 0.545 ac 71.68% Impervious = 1.379 ac

Summary for Subcatchment 1S: Subcat 1

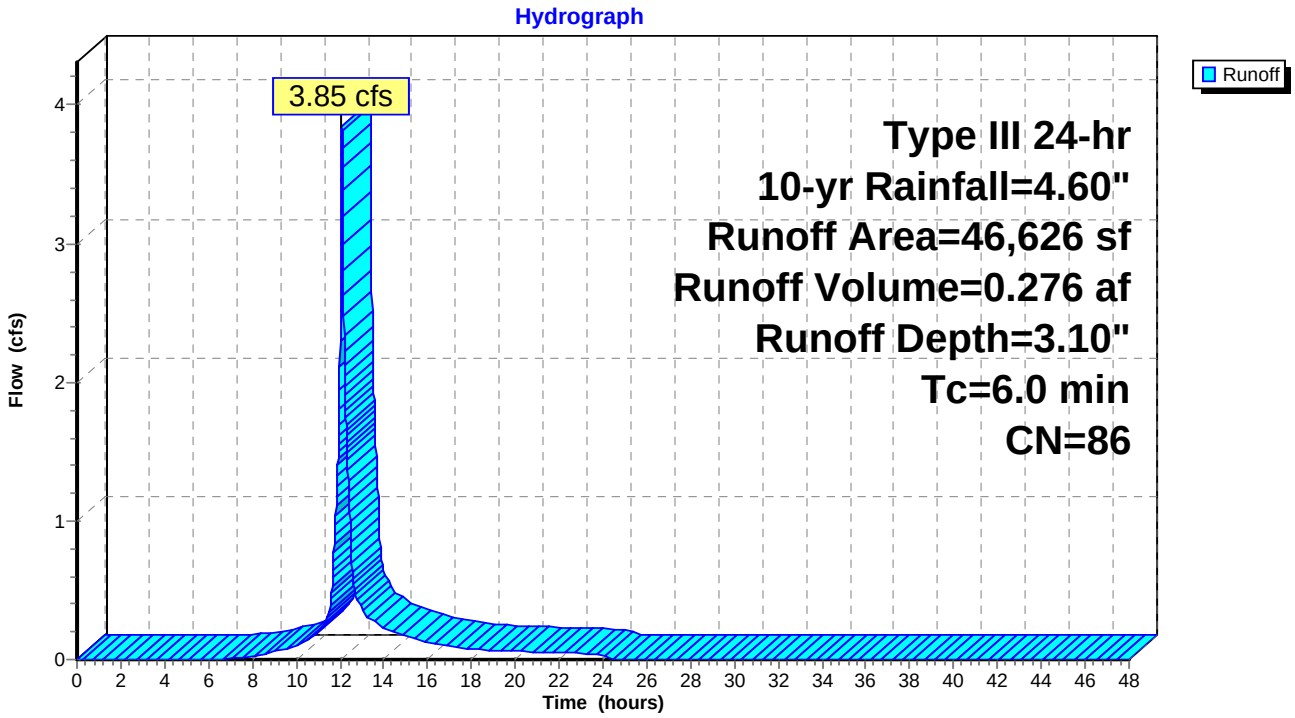
Runoff = 3.85 cfs @ 12.09 hrs, Volume= 0.276 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	37,482	98	Pavement
	9,144	39	>75% Grass cover, Good, HSG A
	46,626	86	Weighted Average
	9,144		19.61% Pervious Area
	37,482		80.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Subcat 1



Summary for Subcatchment 2S: Subcat 2

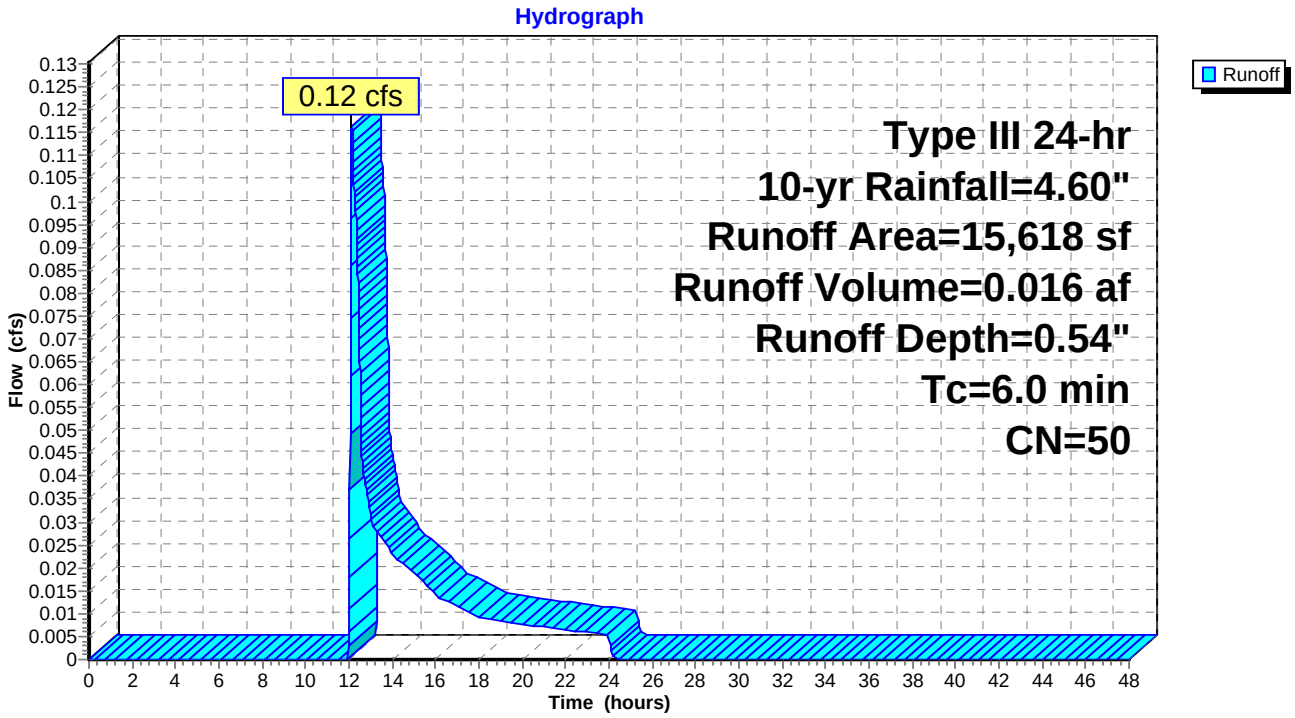
Runoff = 0.12 cfs @ 12.14 hrs, Volume= 0.016 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	2,787	98	Paved Walkway
	12,831	39	>75% Grass cover, Good, HSG A
	15,618	50	Weighted Average
	12,831		82.16% Pervious Area
	2,787		17.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Subcat 2



Summary for Subcatchment 3S: Subcat 3

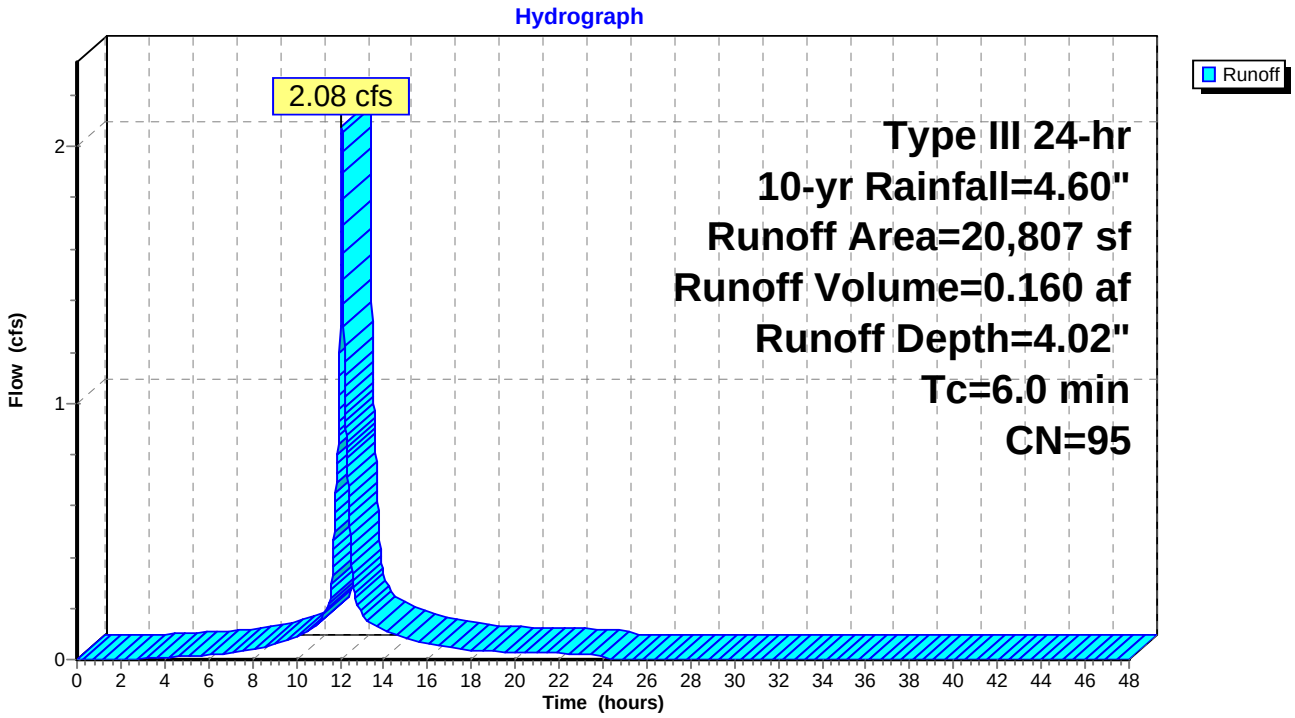
Runoff = 2.08 cfs @ 12.08 hrs, Volume= 0.160 af, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	19,797	98	Roof
	1,010	39	>75% Grass cover, Good, HSG A
	20,807	95	Weighted Average
	1,010		4.85% Pervious Area
	19,797		95.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Subcat 3



Summary for Subcatchment 4S: Subcat 4

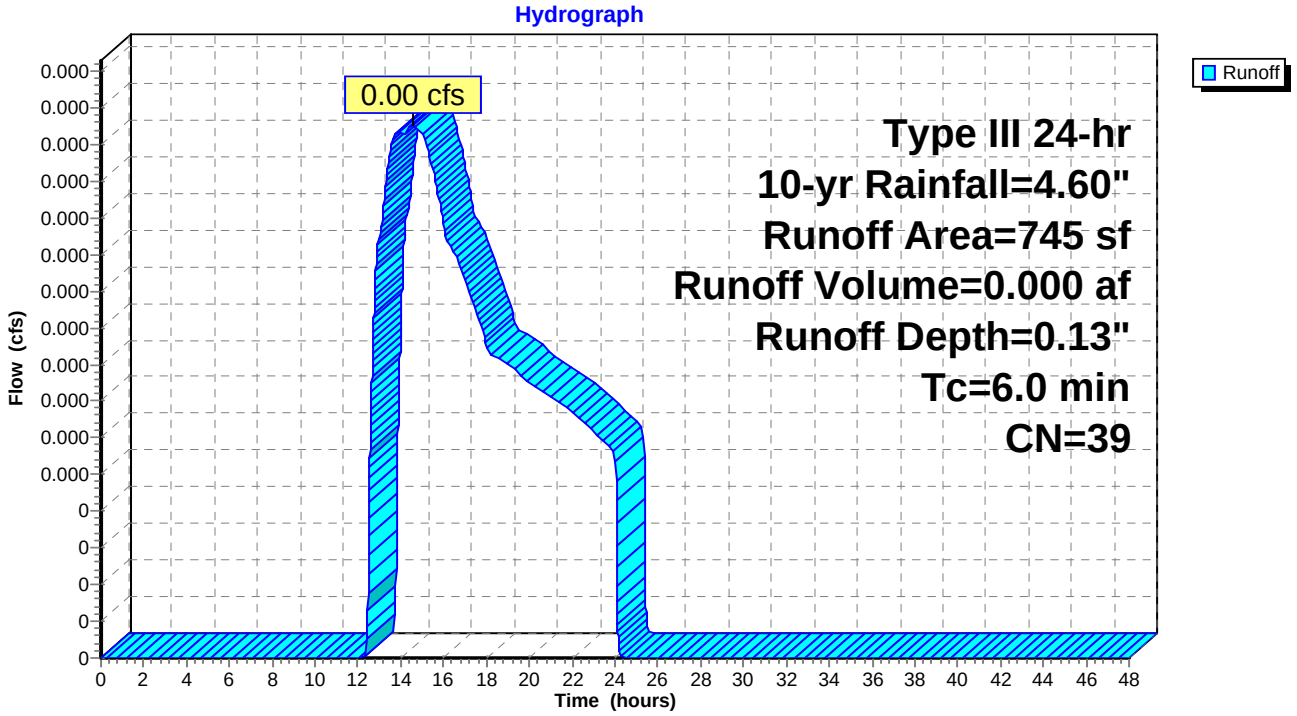
Runoff = 0.00 cfs @ 14.58 hrs, Volume= 0.000 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

Area (sf)	CN	Description
745	39	>75% Grass cover, Good, HSG A
745		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Subcat 4



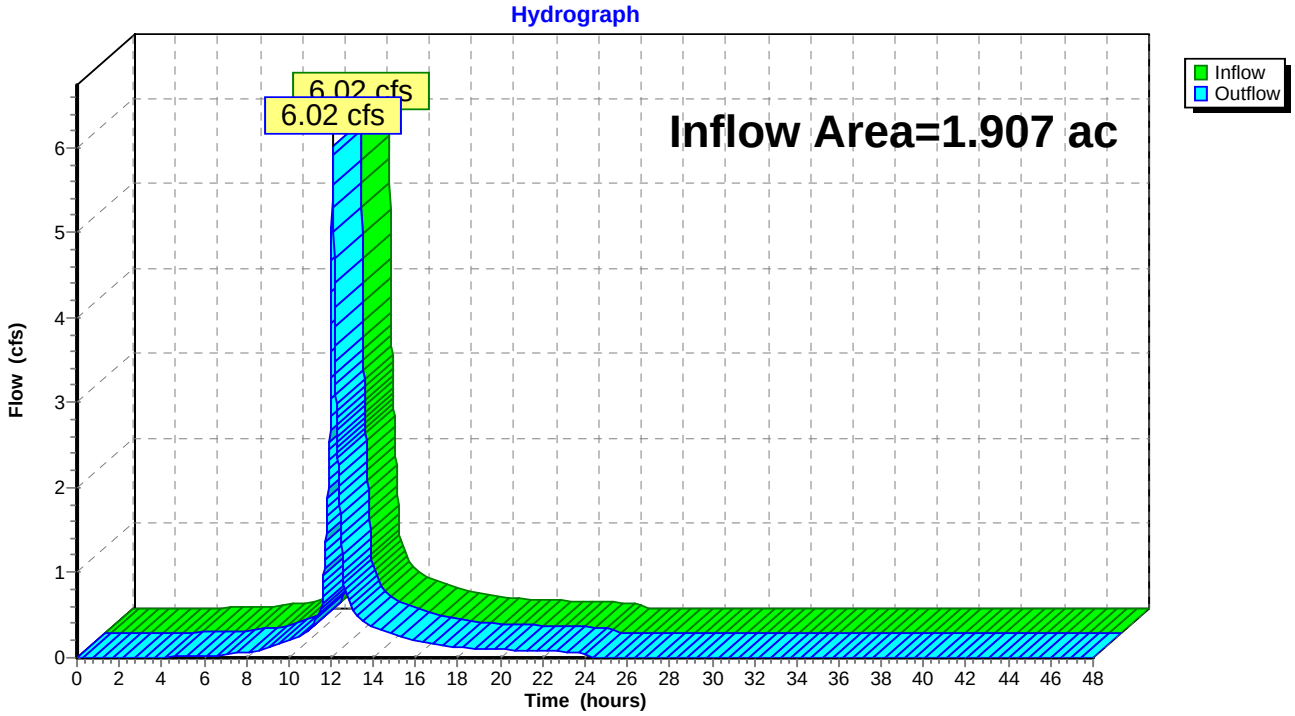
Summary for Reach 1R: Woodford Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.907 ac, 72.32% Impervious, Inflow Depth = 2.85" for 10-yr event
Inflow = 6.02 cfs @ 12.09 hrs, Volume= 0.452 af
Outflow = 6.02 cfs @ 12.09 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: Woodford Street



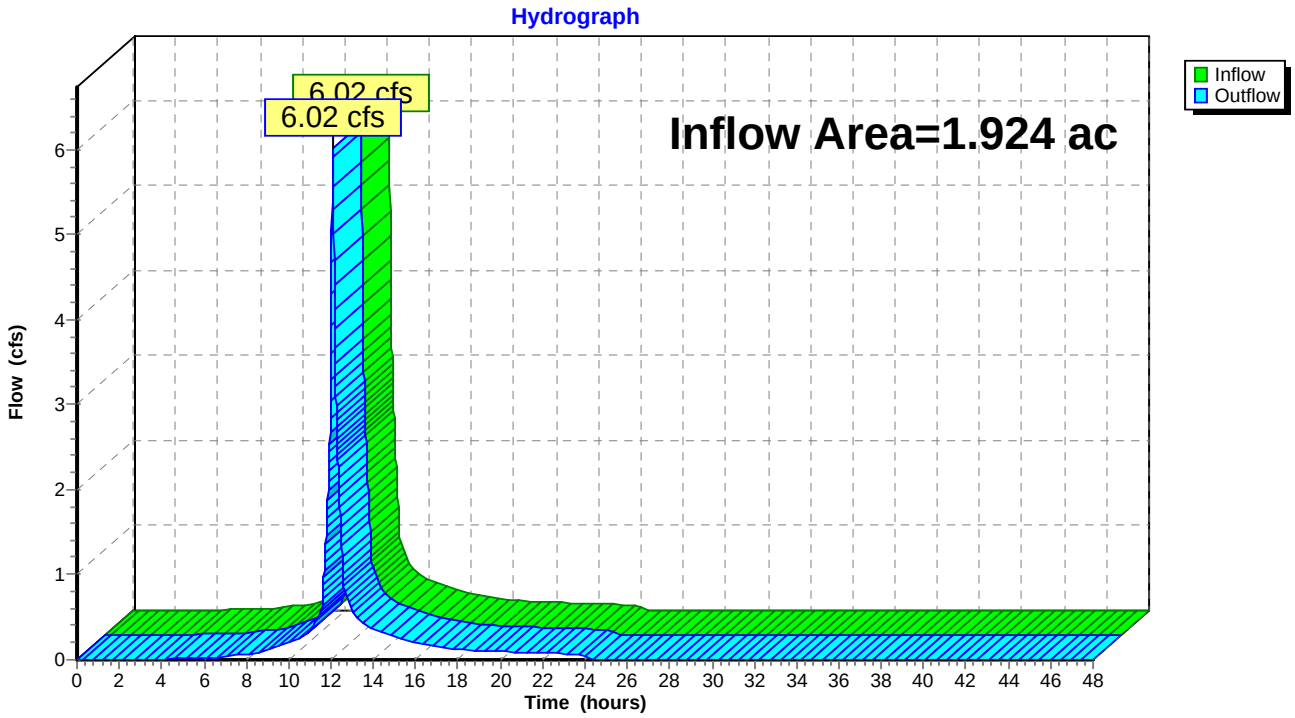
Summary for Reach 2R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.924 ac, 71.68% Impervious, Inflow Depth = 2.82" for 10-yr event
Inflow = 6.02 cfs @ 12.09 hrs, Volume= 0.452 af
Outflow = 6.02 cfs @ 12.09 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: Total Runoff



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1 Runoff Area=46,626 sf 80.39% Impervious Runoff Depth=4.22"
Tc=6.0 min CN=86 Runoff=5.18 cfs 0.376 af

Subcatchment 2S: Subcat 2 Runoff Area=15,618 sf 17.84% Impervious Runoff Depth=1.05"
Tc=6.0 min CN=50 Runoff=0.34 cfs 0.031 af

Subcatchment 3S: Subcat 3 Runoff Area=20,807 sf 95.15% Impervious Runoff Depth=5.21"
Tc=6.0 min CN=95 Runoff=2.66 cfs 0.208 af

Subcatchment 4S: Subcat 4 Runoff Area=745 sf 0.00% Impervious Runoff Depth=0.39"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.001 af

Reach 1R: Woodford Street Inflow=8.16 cfs 0.615 af
Outflow=8.16 cfs 0.615 af

Reach 2R: Total Runoff Inflow=8.16 cfs 0.616 af
Outflow=8.16 cfs 0.616 af

Total Runoff Area = 1.924 ac Runoff Volume = 0.616 af Average Runoff Depth = 3.84"
28.32% Pervious = 0.545 ac 71.68% Impervious = 1.379 ac

Summary for Subcatchment 1S: Subcat 1

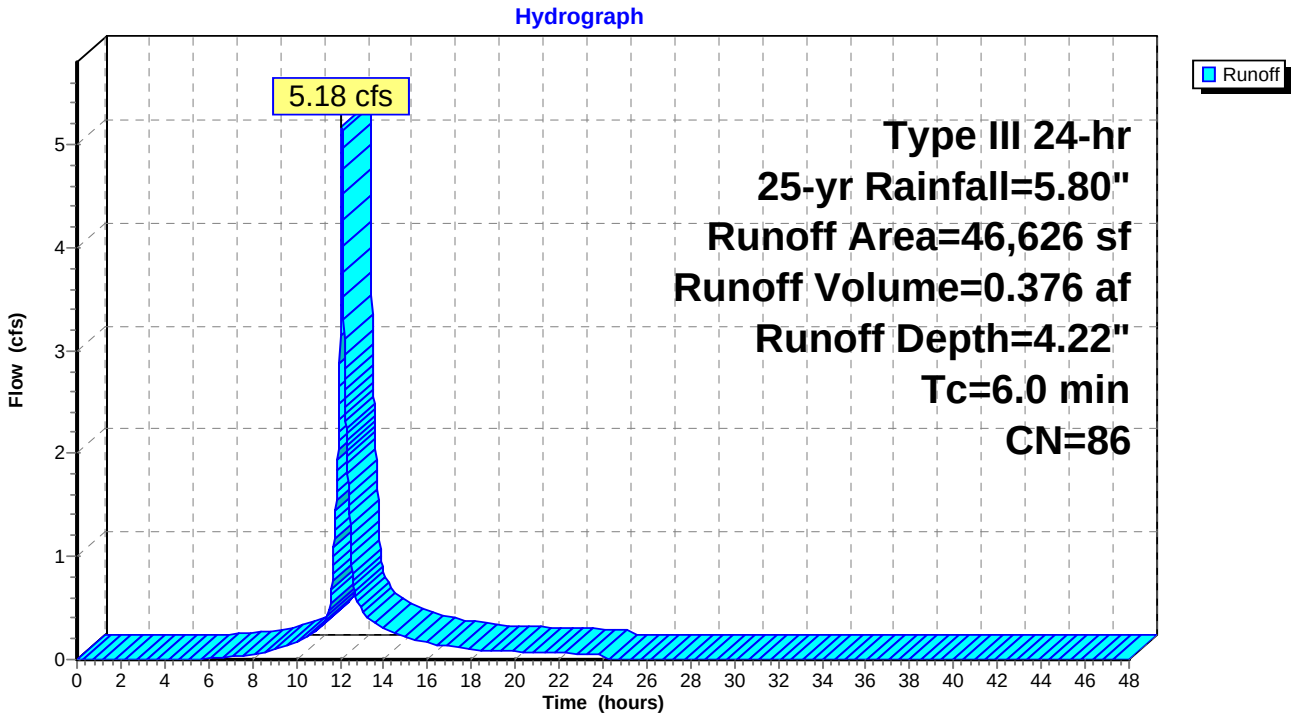
Runoff = 5.18 cfs @ 12.09 hrs, Volume= 0.376 af, Depth= 4.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	37,482	98	Pavement
	9,144	39	>75% Grass cover, Good, HSG A
	46,626	86	Weighted Average
	9,144		19.61% Pervious Area
	37,482		80.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Subcat 1



Summary for Subcatchment 2S: Subcat 2

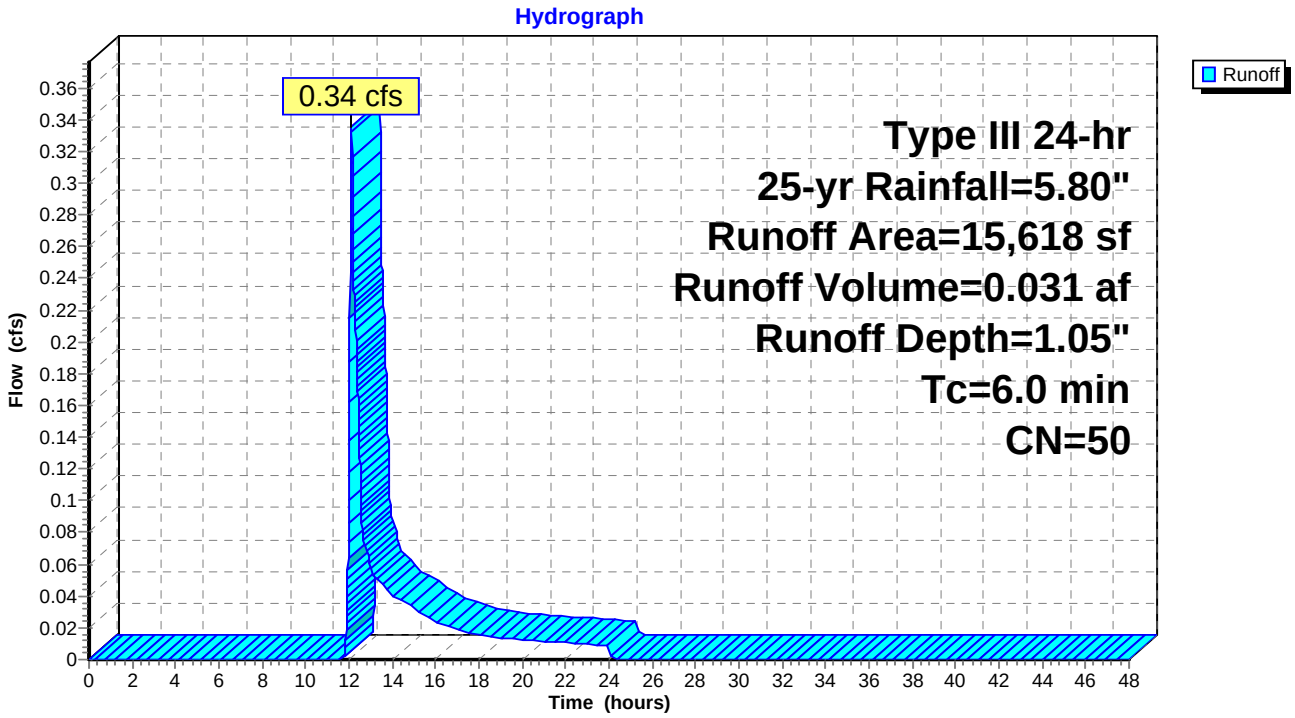
Runoff = 0.34 cfs @ 12.11 hrs, Volume= 0.031 af, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	2,787	98	Paved Walkway
	12,831	39	>75% Grass cover, Good, HSG A
	15,618	50	Weighted Average
	12,831		82.16% Pervious Area
	2,787		17.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Subcat 2



Summary for Subcatchment 3S: Subcat 3

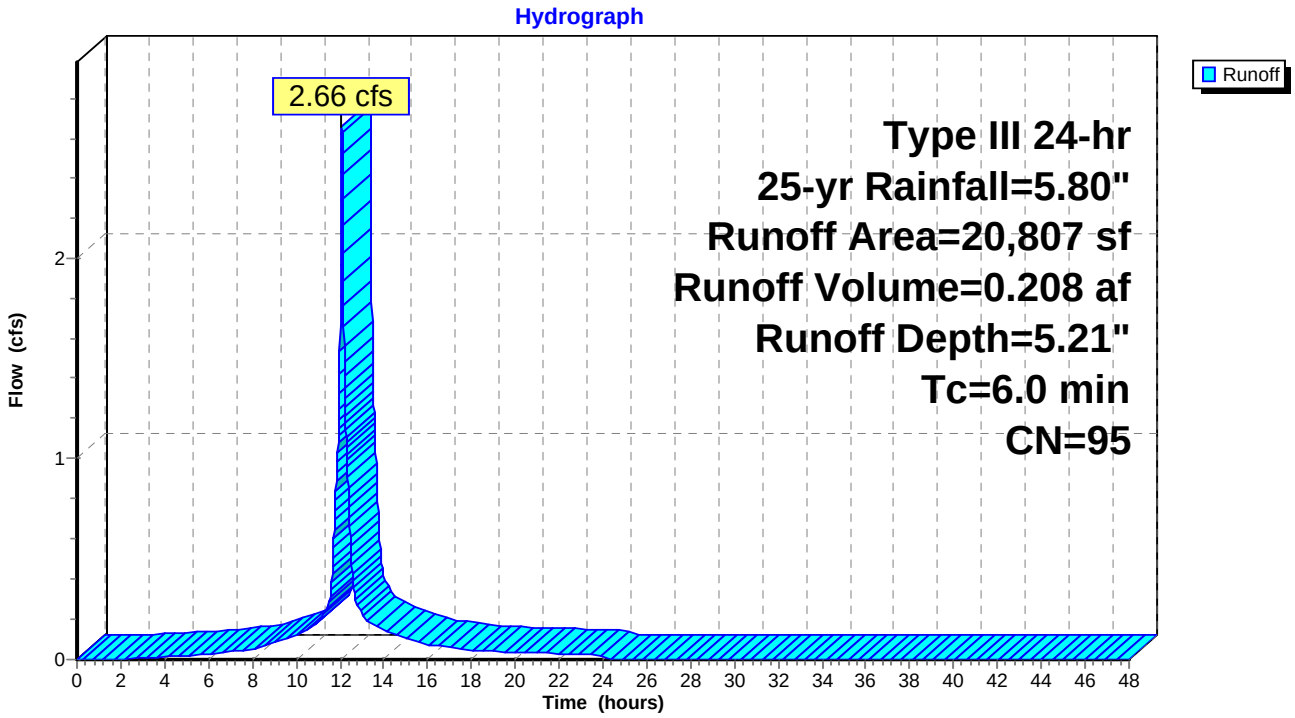
Runoff = 2.66 cfs @ 12.08 hrs, Volume= 0.208 af, Depth= 5.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	19,797	98	Roof
	1,010	39	>75% Grass cover, Good, HSG A
	20,807	95	Weighted Average
	1,010		4.85% Pervious Area
	19,797		95.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Subcat 3



Summary for Subcatchment 4S: Subcat 4

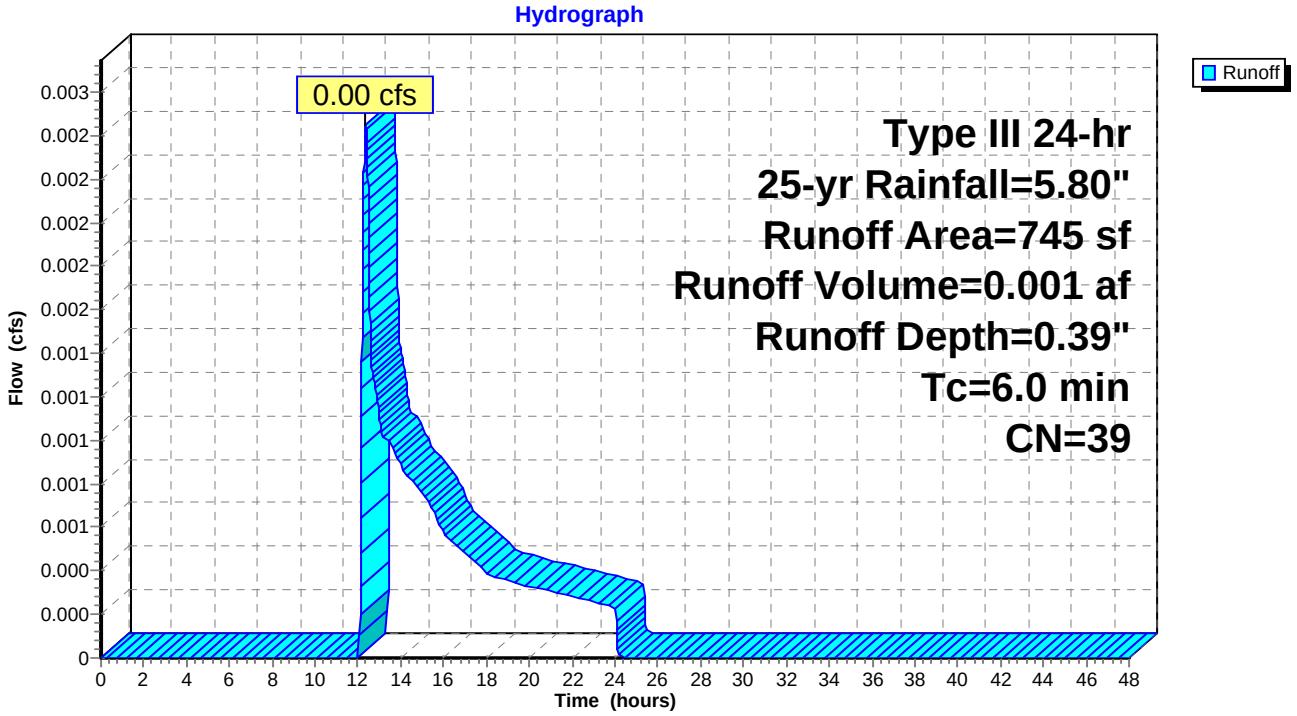
Runoff = 0.00 cfs @ 12.37 hrs, Volume= 0.001 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

Area (sf)	CN	Description
745	39	>75% Grass cover, Good, HSG A
745		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Subcat 4



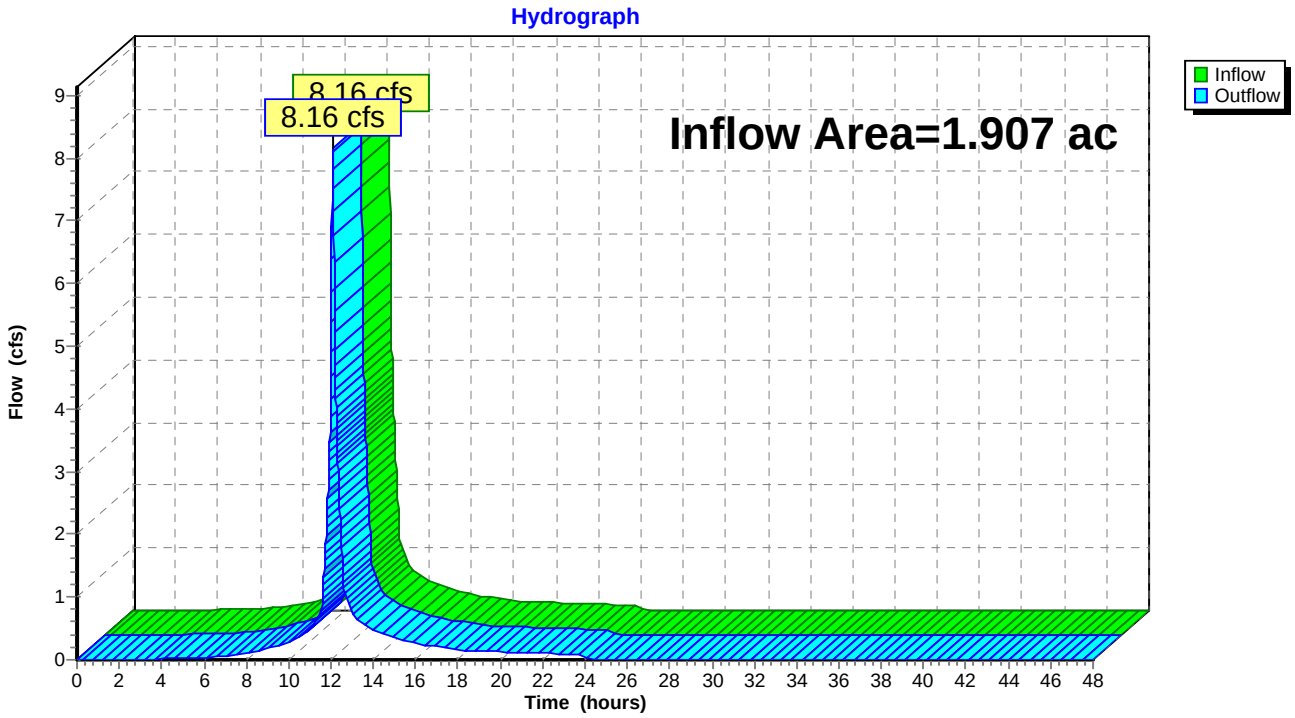
Summary for Reach 1R: Woodford Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.907 ac, 72.32% Impervious, Inflow Depth = 3.87" for 25-yr event
Inflow = 8.16 cfs @ 12.09 hrs, Volume= 0.615 af
Outflow = 8.16 cfs @ 12.09 hrs, Volume= 0.615 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: Woodford Street



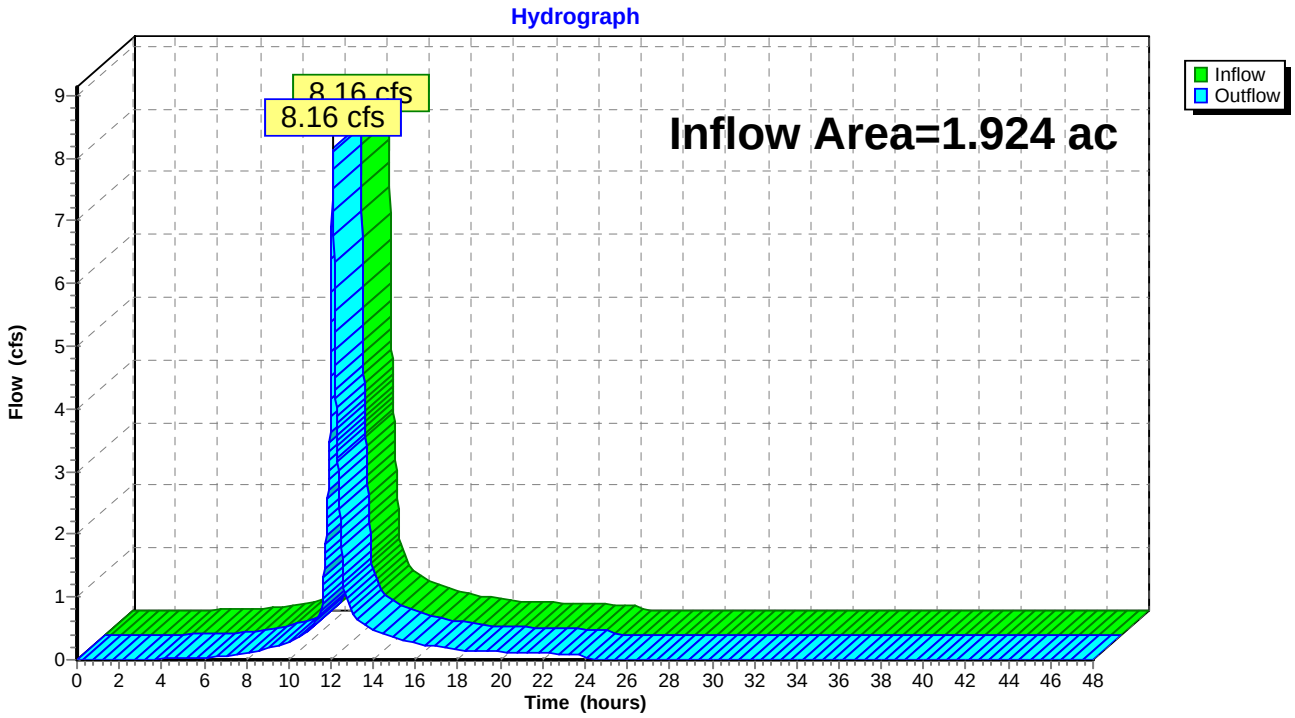
Summary for Reach 2R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.924 ac, 71.68% Impervious, Inflow Depth = 3.84" for 25-yr event
Inflow = 8.16 cfs @ 12.09 hrs, Volume= 0.616 af
Outflow = 8.16 cfs @ 12.09 hrs, Volume= 0.616 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: Total Runoff



NOTE:

1. REFER TO STORMWATER REPORT AND SHEET C-30 FOR MORE INFORMATION.

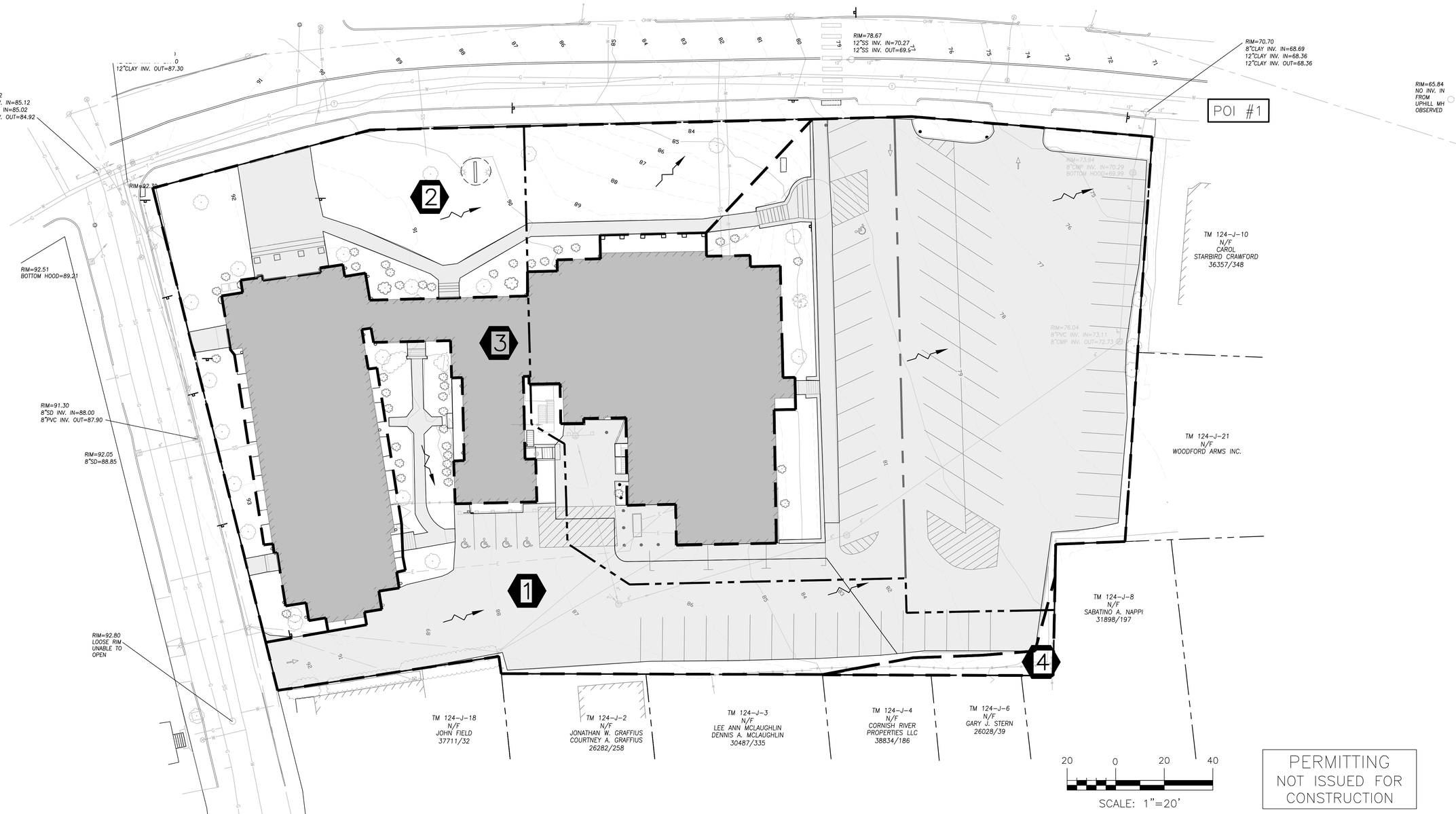
P1 STORMWATER POND

1 SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 POINT OF INTEREST (POI)

FLOW LINE



PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
CSS	PFH	12/1/23
MAJOR SITE PLAN	PFH	12/21/23

DRAWING NAME: PRE-DEVELOPMENT WATERSHED MAP

PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

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ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED
PROFESSIONAL ENGINEER
12/21/23

DRAWING NO.
PRE

NOTE:

1. REFER TO STORMWATER REPORT AND SHEET C-30 FOR MORE INFORMATION.

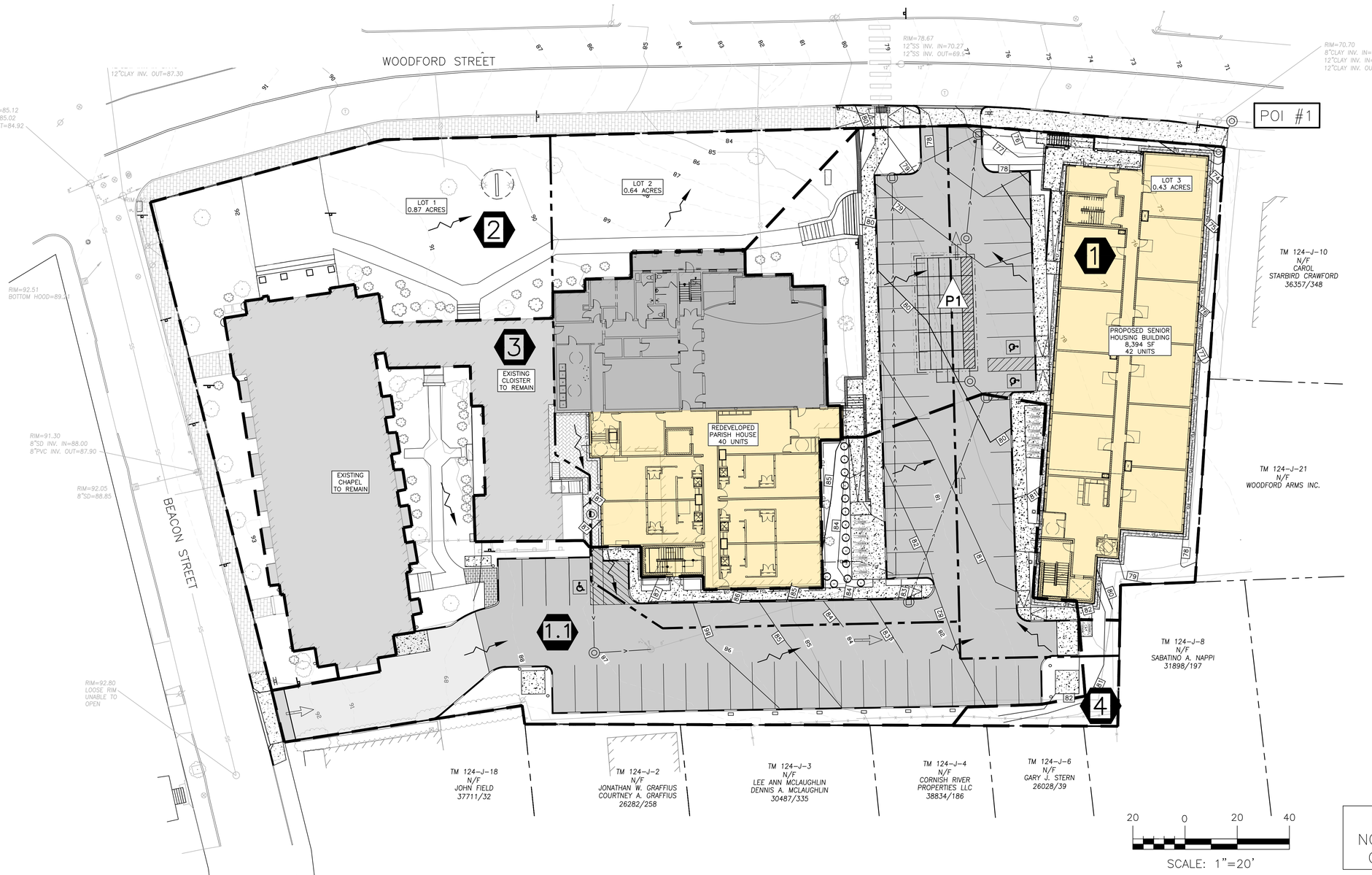
P1 — STORMWATER POND

1 — SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 — POINT OF INTEREST (POI)

FLOW LINE



PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
CSS	PFH	12/1/23
MAJOR SITE PLAN	PFH	12/21/23
COMMENT RESPONSE	PFH	2/7/24

DRAWING NAME: **POST-DEVELOPMENT WATERSHED MAP**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT:
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

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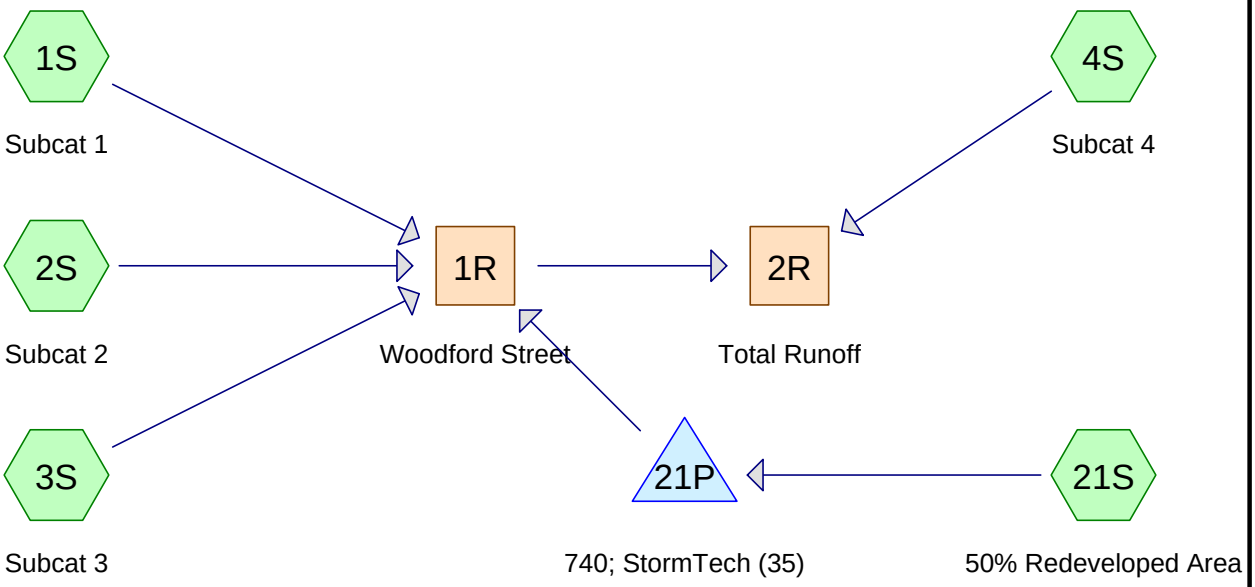
FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
2/7/24

DRAWING NO.
POST



Subcat Reach Pond Link

Routing Diagram for POST_zms
Prepared by {enter your company name here}, Printed 12/22/2023
HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.107	49	50-75% Grass cover, Fair, HSG A (1S, 3S)
0.437	39	>75% Grass cover, Good, HSG A (2S, 4S, 21S)
0.055	98	Concrete (1S)
0.017	98	Drip Edge Stone (1S)
0.026	98	Patio (3S)
0.064	98	Paved Walkway (2S)
0.471	98	Pavement (1S, 21S)
0.668	98	Roof (1S, 3S)
0.079	98	Walkways (21S)
1.924	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.544	HSG A	1S, 2S, 3S, 4S, 21S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
1.380	Other	1S, 2S, 3S, 21S
1.924		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.107	0.000	0.000	0.000	0.000	0.107	50-75% Grass cover, Fair	1S, 3S
0.437	0.000	0.000	0.000	0.000	0.437	>75% Grass cover, Good	2S, 4S, 21S
0.000	0.000	0.000	0.000	0.055	0.055	Concrete	1S
0.000	0.000	0.000	0.000	0.017	0.017	Drip Edge Stone	1S
0.000	0.000	0.000	0.000	0.026	0.026	Patio	3S
0.000	0.000	0.000	0.000	0.064	0.064	Paved Walkway	2S
0.000	0.000	0.000	0.000	0.471	0.471	Pavement	1S, 21S
0.000	0.000	0.000	0.000	0.668	0.668	Roof	1S, 3S
0.000	0.000	0.000	0.000	0.079	0.079	Walkways	21S
0.544	**0.000**	**0.000**	**0.000**	**1.380**	**1.924**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	21P	70.85	70.74	21.6	0.0051	0.012	12.0	0.0	0.0

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1 Runoff Area=21,153 sf 80.36% Impervious Runoff Depth=1.91"
Tc=6.0 min CN=88 Runoff=1.08 cfs 0.077 af

Subcatchment 2S: Subcat 2 Runoff Area=15,618 sf 17.84% Impervious Runoff Depth=0.11"
Tc=6.0 min CN=50 Runoff=0.01 cfs 0.003 af

Subcatchment 3S: Subcat 3 Runoff Area=22,543 sf 97.80% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=97 Runoff=1.53 cfs 0.119 af

Subcatchment 4S: Subcat 4 Runoff Area=965 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 21S: 50% Redeveloped Area Runoff Area=23,513 sf 77.72% Impervious Runoff Depth=1.67"
Tc=6.0 min CN=85 Runoff=1.06 cfs 0.075 af

Reach 1R: Woodford Street Inflow=2.66 cfs 0.275 af
Outflow=2.66 cfs 0.275 af

Reach 2R: Total Runoff Inflow=2.66 cfs 0.275 af
Outflow=2.66 cfs 0.275 af

Pond 21P: 740; StormTech (35) Peak Elev=75.25' Storage=1,815 cf Inflow=1.06 cfs 0.075 af
Outflow=0.05 cfs 0.075 af

Total Runoff Area = 1.924 ac Runoff Volume = 0.275 af Average Runoff Depth = 1.71"
28.27% Pervious = 0.544 ac 71.73% Impervious = 1.380 ac

Summary for Subcatchment 1S: Subcat 1

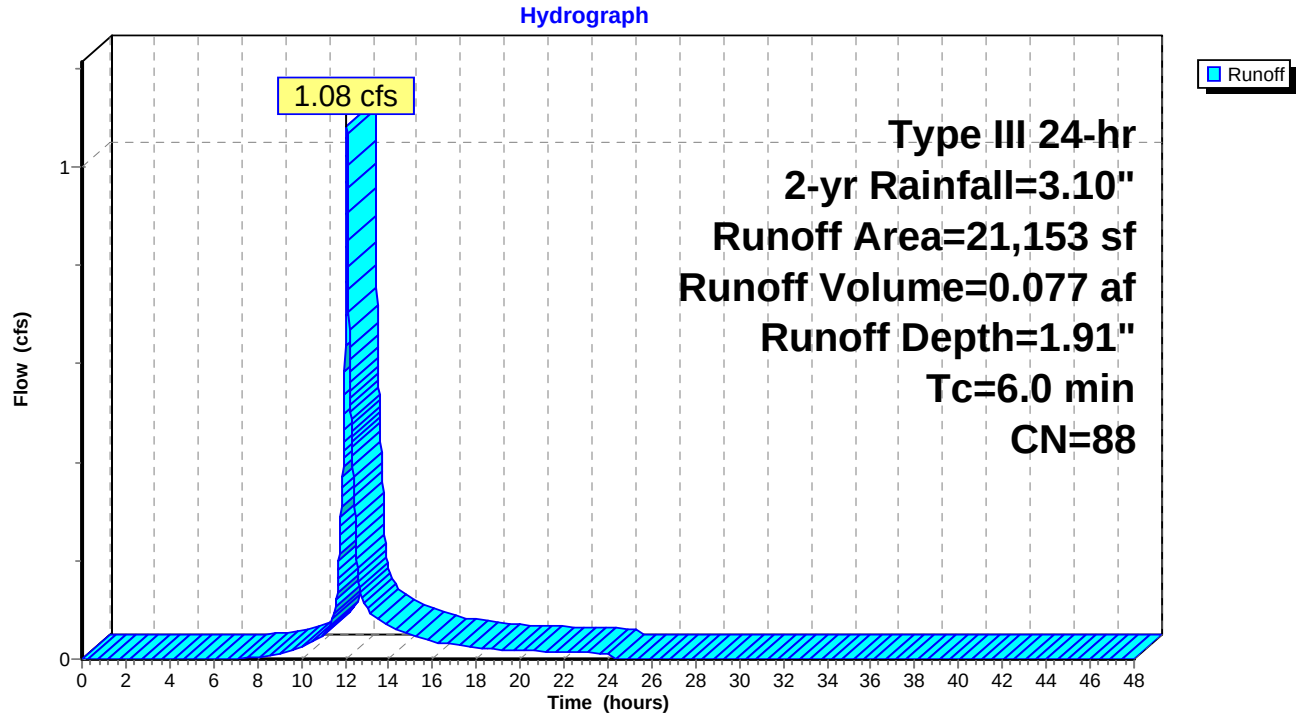
Runoff = 1.08 cfs @ 12.09 hrs, Volume= 0.077 af, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	8,205	98	Roof
*	5,665	98	Pavement
*	2,409	98	Concrete
*	719	98	Drip Edge Stone
*	4,155	49	50-75% Grass cover, Fair, HSG A
	21,153	88	Weighted Average
	4,155		19.64% Pervious Area
	16,998		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Subcat 1



Summary for Subcatchment 2S: Subcat 2

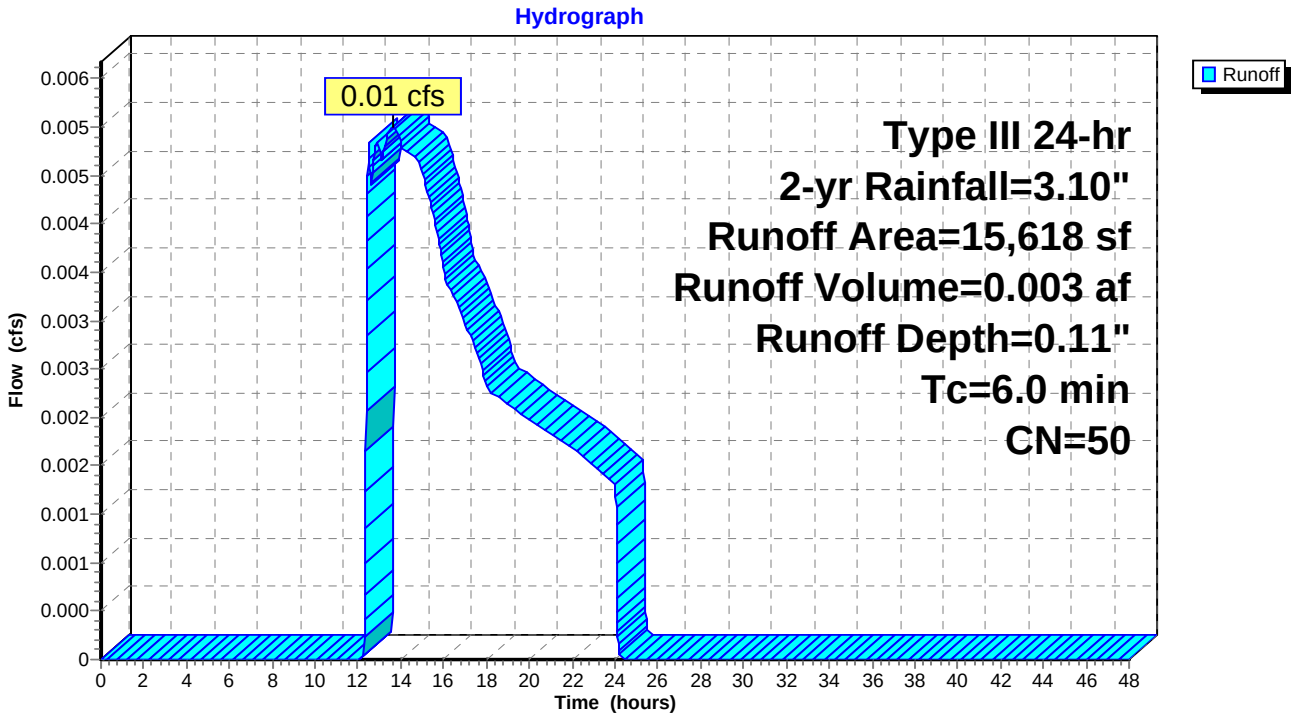
Runoff = 0.01 cfs @ 13.62 hrs, Volume= 0.003 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	2,787	98	Paved Walkway
	12,831	39	>75% Grass cover, Good, HSG A
	15,618	50	Weighted Average
	12,831		82.16% Pervious Area
	2,787		17.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Subcat 2



Summary for Subcatchment 3S: Subcat 3

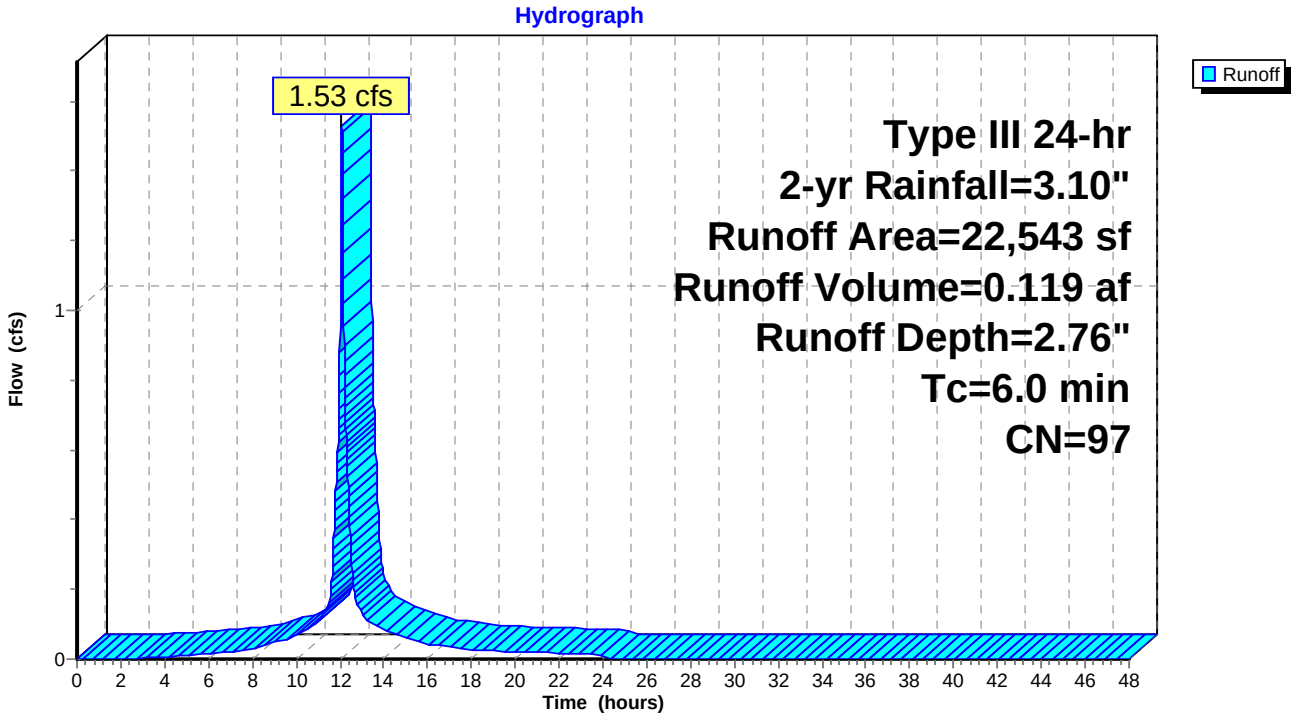
Runoff = 1.53 cfs @ 12.08 hrs, Volume= 0.119 af, Depth= 2.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	20,900	98	Roof
*	1,148	98	Patio
*	495	49	50-75% Grass cover, Fair, HSG A
	22,543	97	Weighted Average
	495		2.20% Pervious Area
	22,048		97.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Subcat 3



Summary for Subcatchment 4S: Subcat 4

[45] Hint: Runoff=Zero

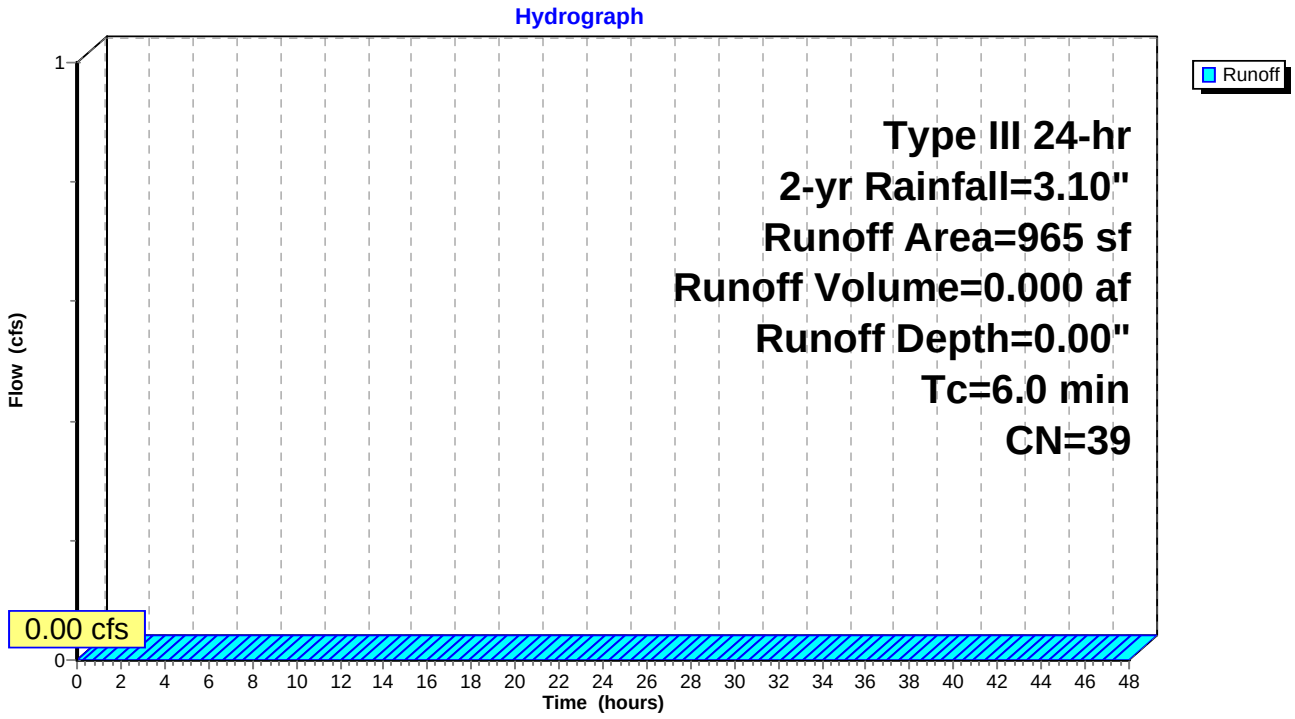
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

Area (sf)	CN	Description
965	39	>75% Grass cover, Good, HSG A
965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Subcat 4



Summary for Subcatchment 21S: 50% Redeveloped Area

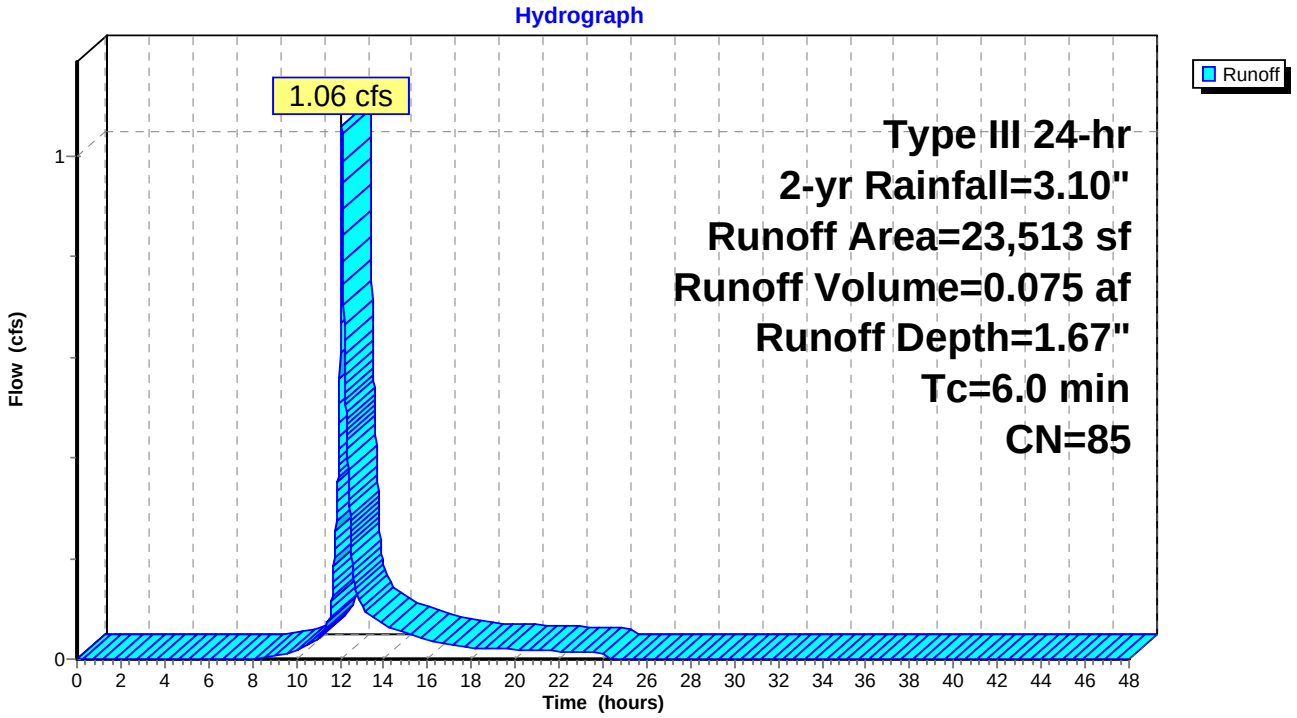
Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.075 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=3.10"

	Area (sf)	CN	Description
*	14,841	98	Pavement
*	3,434	98	Walkways
	5,238	39	>75% Grass cover, Good, HSG A
	23,513	85	Weighted Average
	5,238		22.28% Pervious Area
	18,275		77.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: 50% Redeveloped Area



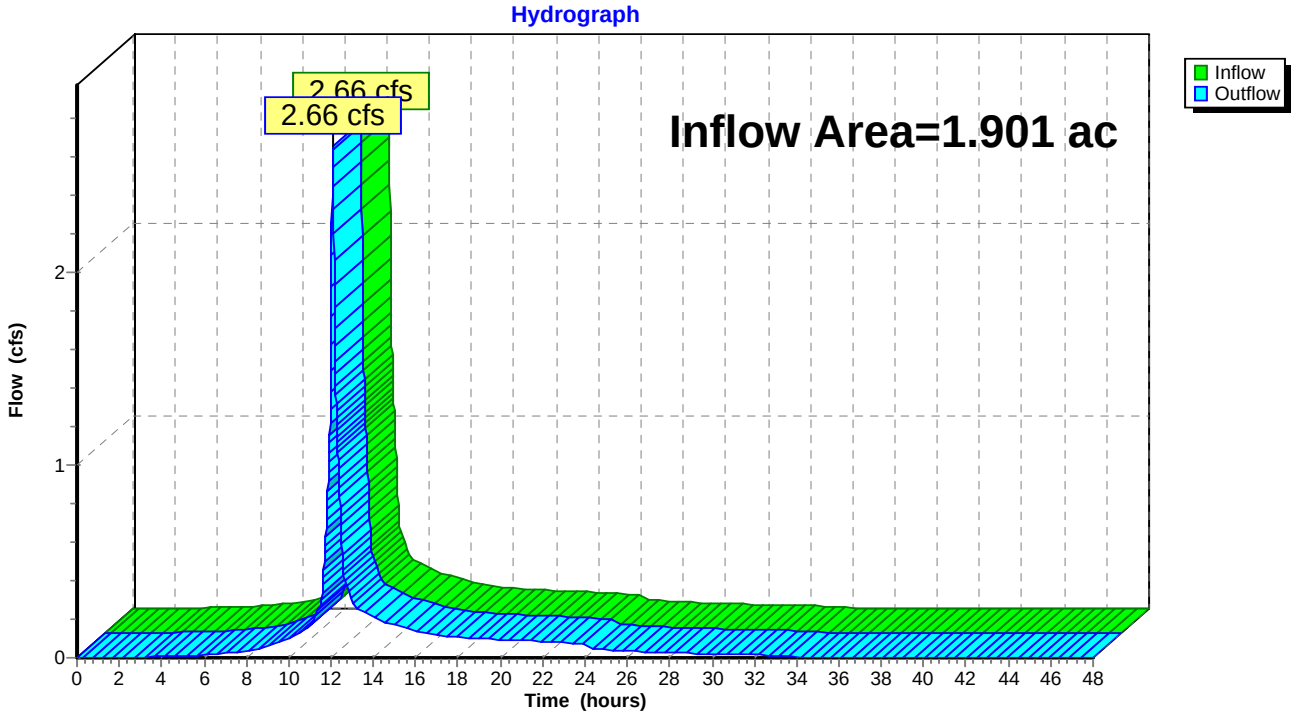
Summary for Reach 1R: Woodford Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.901 ac, 72.57% Impervious, Inflow Depth = 1.73" for 2-yr event
Inflow = 2.66 cfs @ 12.09 hrs, Volume= 0.275 af
Outflow = 2.66 cfs @ 12.09 hrs, Volume= 0.275 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: Woodford Street



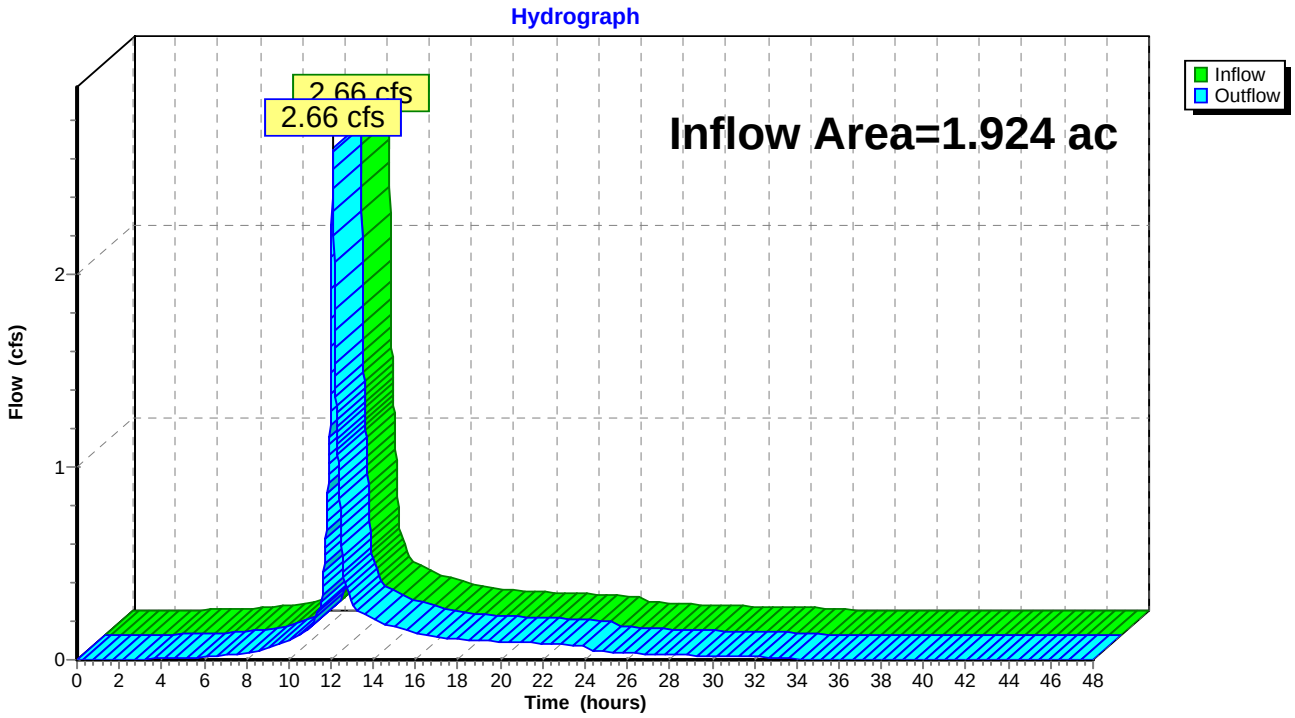
Summary for Reach 2R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.924 ac, 71.73% Impervious, Inflow Depth = 1.71" for 2-yr event
Inflow = 2.66 cfs @ 12.09 hrs, Volume= 0.275 af
Outflow = 2.66 cfs @ 12.09 hrs, Volume= 0.275 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: Total Runoff



Summary for Pond 21P: 740; StormTech (35)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.540 ac, 77.72% Impervious, Inflow Depth = 1.67" for 2-yr event
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 0.075 af
Outflow = 0.05 cfs @ 14.86 hrs, Volume= 0.075 af, Atten= 95%, Lag= 166.2 min
Primary = 0.05 cfs @ 14.86 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 75.25' @ 14.86 hrs Surf.Area= 4,308 sf Storage= 1,815 cf
Flood Elev= 78.70' Surf.Area= 4,341 sf Storage= 3,384 cf

Plug-Flow detention time= 390.1 min calculated for 0.075 af (100% of inflow)
Center-of-Mass det. time= 390.2 min (1,217.7 - 827.5)

Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	416 cf	**Crushed Stone (Prismatic)** Listed below (Recalc) 1,040 cf Overall x 40.0% Voids
#2	72.00'	156 cf	**Course Gravel Transition Layer (Prismatic)** Listed below (Recalc) 520 cf Overall x 30.0% Voids
#3	72.50'	312 cf	**Sand Filter (Prismatic)** Listed below (Recalc) 1,560 cf Overall x 20.0% Voids
#4A	74.00'	1,122 cf	**25.25'W x 46.34'L x 3.50'H Field A Z=0.1** 4,183 cf Overall - 1,378 cf Embedded = 2,805 cf x 40.0% Voids
#5A	74.50'	1,378 cf	**ADS_StormTech SC-740 +Cap** x 30 Inside #4 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 5 Rows
		3,384 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	1,040	0	0
72.00	1,040	1,040	1,040

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	1,040	0	0
72.50	1,040	520	520

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.50	1,040	0	0
74.00	1,040	1,560	1,560

Device	Routing	Invert	Outlet Devices
#1	Primary	70.85'	**12.0" Round 12" SD** L= 21.6' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.85' / 70.74' S= 0.0051 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	70.85'	**1.0" Vert. Orifice on OCS Outlet** C= 0.600
#3	Device 1	76.55'	**12.0" Horiz. Bypass Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 14.86 hrs HW=75.25' (Free Discharge)
└─**1=12" SD** (Passes 0.05 cfs of 5.89 cfs potential flow)
  ├─**2=Orifice on OCS Outlet** (Orifice Controls 0.05 cfs @ 10.05 fps)
  └─**3=Bypass Orifice** (Controls 0.00 cfs)

Pond 21P: 740; StormTech (35) - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

6 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 44.34' Row Length +12.0" End Stone x 2 = 46.34' Base Length
5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

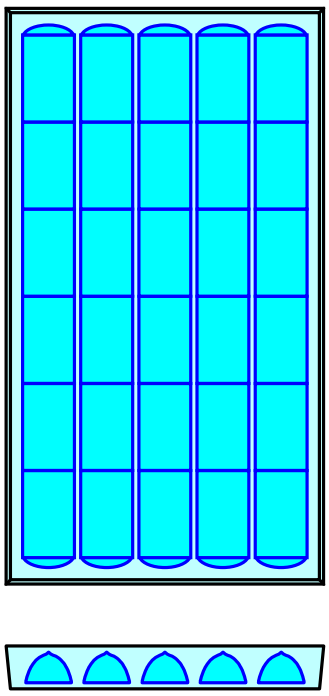
0.1 '/' Side-Z x Height = 4.2" Flare/Side
Base Length + Flare x 2 = 47.04' Top Length
Base Width + Flare x 2 = 25.95' Top Width

30 Chambers x 45.9 cf = 1,378.2 cf Chamber Storage

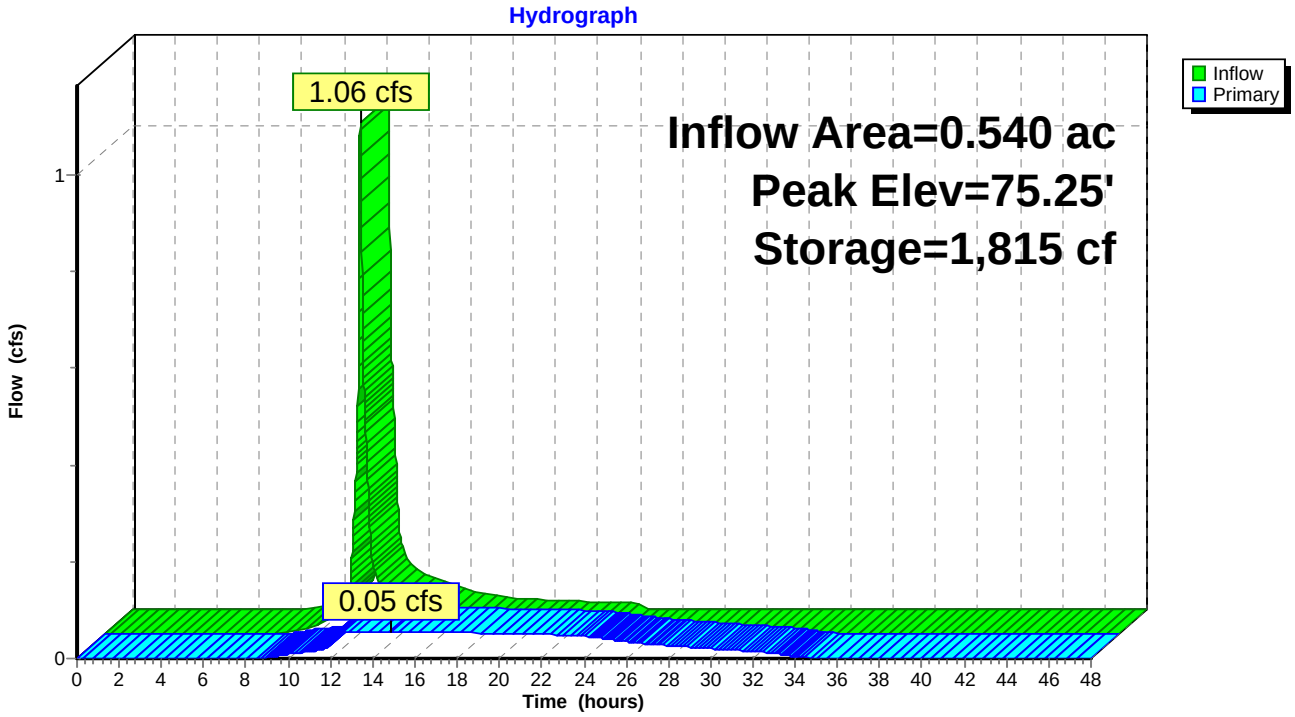
4,183.3 cf Field - 1,378.2 cf Chambers = 2,805.1 cf Stone x 40.0% Voids = 1,122.0 cf Stone Storage

Chamber Storage + Stone Storage = 2,500.2 cf = 0.057 af
Overall Storage Efficiency = 59.8%
Overall System Size = 46.34' x 25.25' x 3.50'

30 Chambers
154.9 cy Field
103.9 cy Stone



Pond 21P: 740; StormTech (35)



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1 Runoff Area=21,153 sf 80.36% Impervious Runoff Depth=3.29"
Tc=6.0 min CN=88 Runoff=1.84 cfs 0.133 af

Subcatchment 2S: Subcat 2 Runoff Area=15,618 sf 17.84% Impervious Runoff Depth=0.54"
Tc=6.0 min CN=50 Runoff=0.12 cfs 0.016 af

Subcatchment 3S: Subcat 3 Runoff Area=22,543 sf 97.80% Impervious Runoff Depth=4.25"
Tc=6.0 min CN=97 Runoff=2.31 cfs 0.183 af

Subcatchment 4S: Subcat 4 Runoff Area=965 sf 0.00% Impervious Runoff Depth=0.13"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 21S: 50% Redeveloped Area Runoff Area=23,513 sf 77.72% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=85 Runoff=1.89 cfs 0.135 af

Reach 1R: Woodford Street Inflow=4.29 cfs 0.467 af
Outflow=4.29 cfs 0.467 af

Reach 2R: Total Runoff Inflow=4.29 cfs 0.468 af
Outflow=4.29 cfs 0.468 af

Pond 21P: 740; StormTech (35) Peak Elev=76.65' Storage=2,947 cf Inflow=1.89 cfs 0.135 af
Outflow=0.38 cfs 0.135 af

Total Runoff Area = 1.924 ac Runoff Volume = 0.468 af Average Runoff Depth = 2.92"
28.27% Pervious = 0.544 ac 71.73% Impervious = 1.380 ac

Summary for Subcatchment 1S: Subcat 1

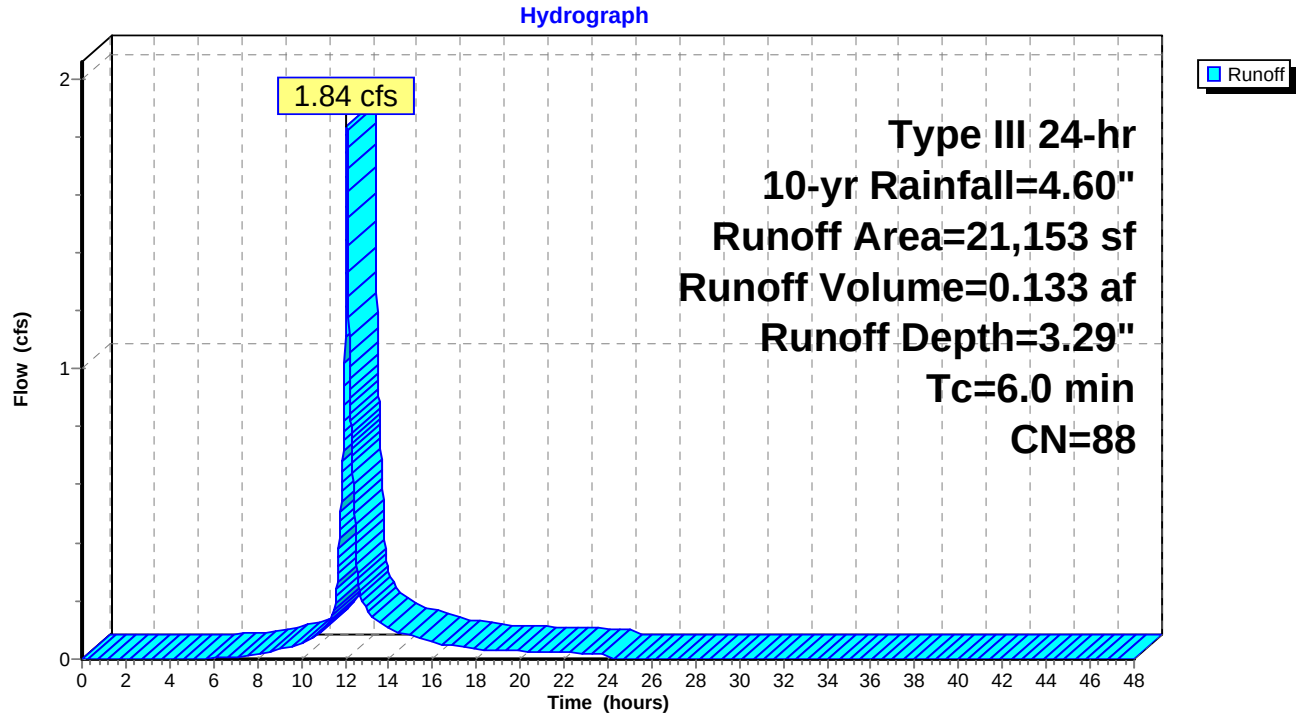
Runoff = 1.84 cfs @ 12.09 hrs, Volume= 0.133 af, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	8,205	98	Roof
*	5,665	98	Pavement
*	2,409	98	Concrete
*	719	98	Drip Edge Stone
*	4,155	49	50-75% Grass cover, Fair, HSG A
	21,153	88	Weighted Average
	4,155		19.64% Pervious Area
	16,998		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Subcat 1



Summary for Subcatchment 2S: Subcat 2

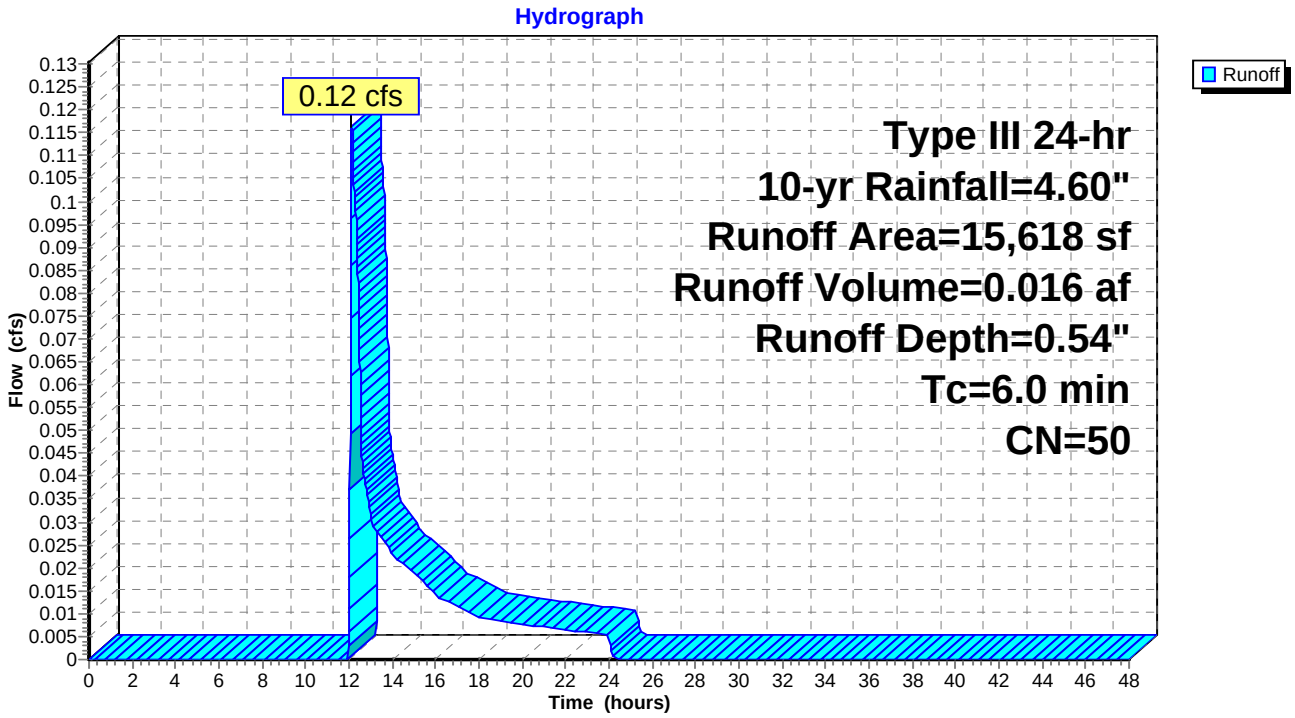
Runoff = 0.12 cfs @ 12.14 hrs, Volume= 0.016 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	2,787	98	Paved Walkway
	12,831	39	>75% Grass cover, Good, HSG A
	15,618	50	Weighted Average
	12,831		82.16% Pervious Area
	2,787		17.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Subcat 2



Summary for Subcatchment 3S: Subcat 3

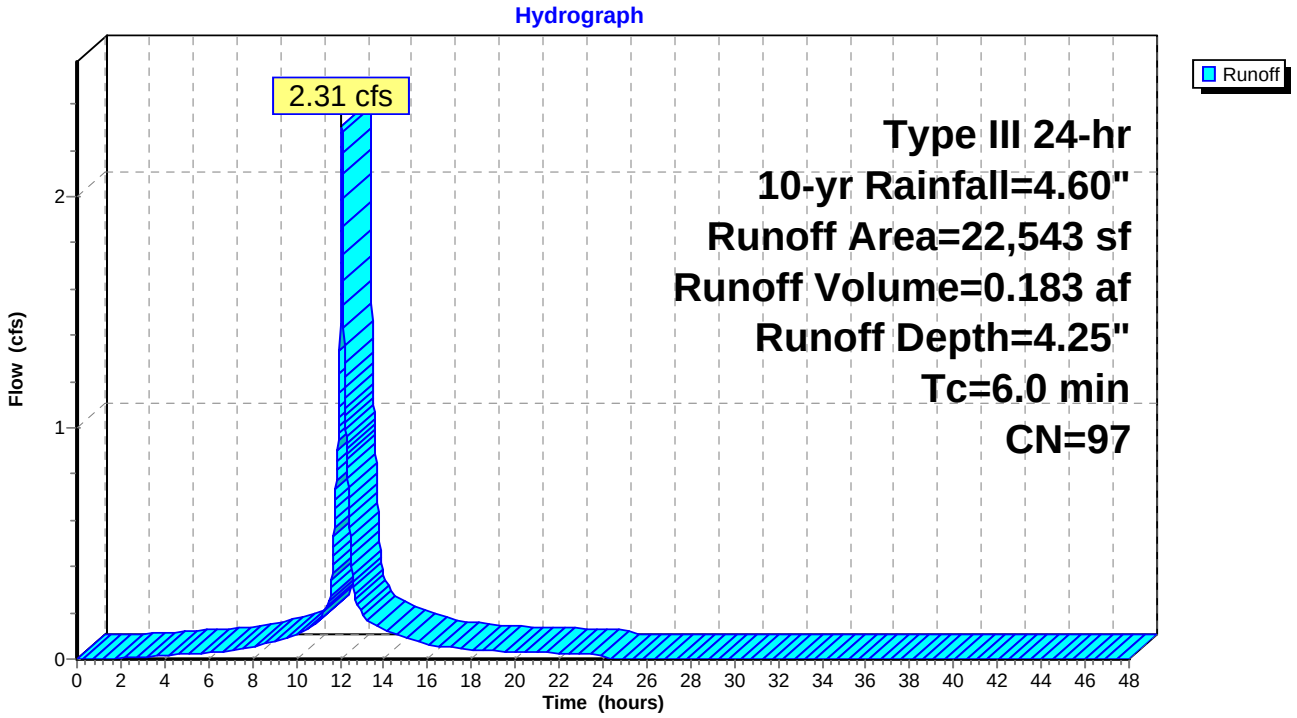
Runoff = 2.31 cfs @ 12.08 hrs, Volume= 0.183 af, Depth= 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	20,900	98	Roof
*	1,148	98	Patio
*	495	49	50-75% Grass cover, Fair, HSG A
	22,543	97	Weighted Average
	495		2.20% Pervious Area
	22,048		97.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Subcat 3



Summary for Subcatchment 4S: Subcat 4

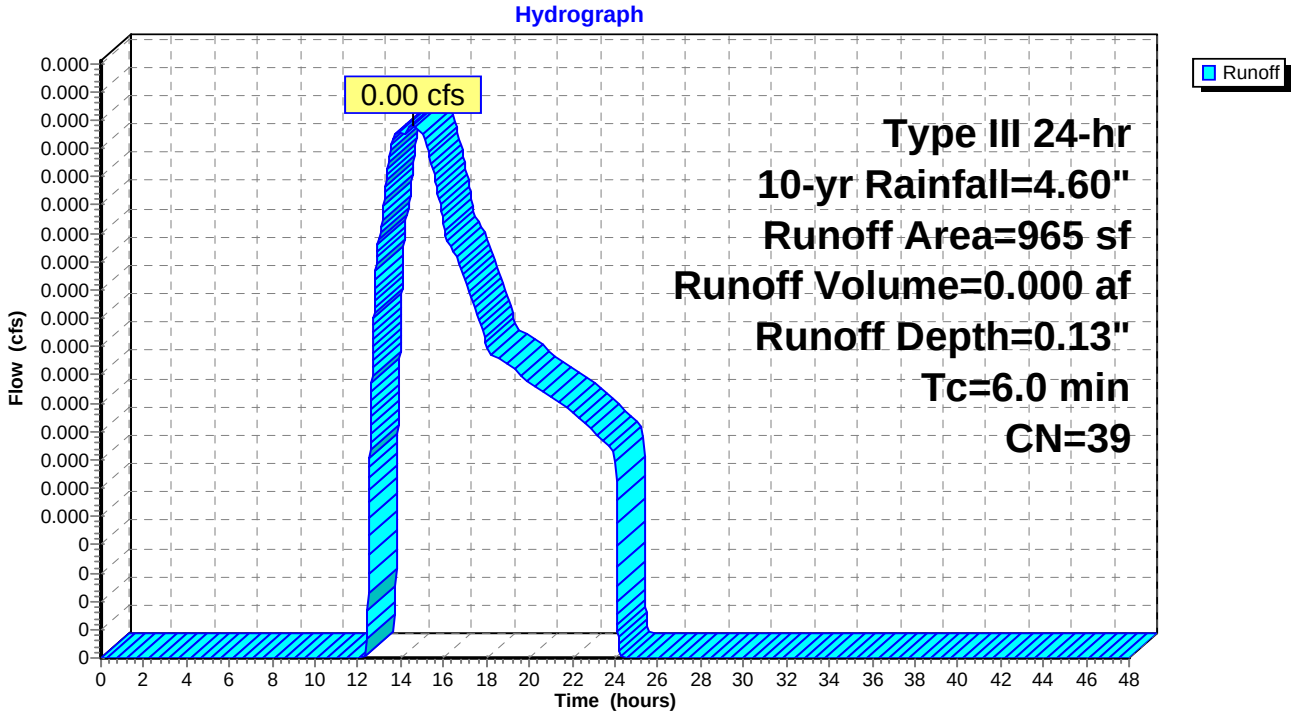
Runoff = 0.00 cfs @ 14.58 hrs, Volume= 0.000 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

Area (sf)	CN	Description
965	39	>75% Grass cover, Good, HSG A
965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Subcat 4



Summary for Subcatchment 21S: 50% Redeveloped Area

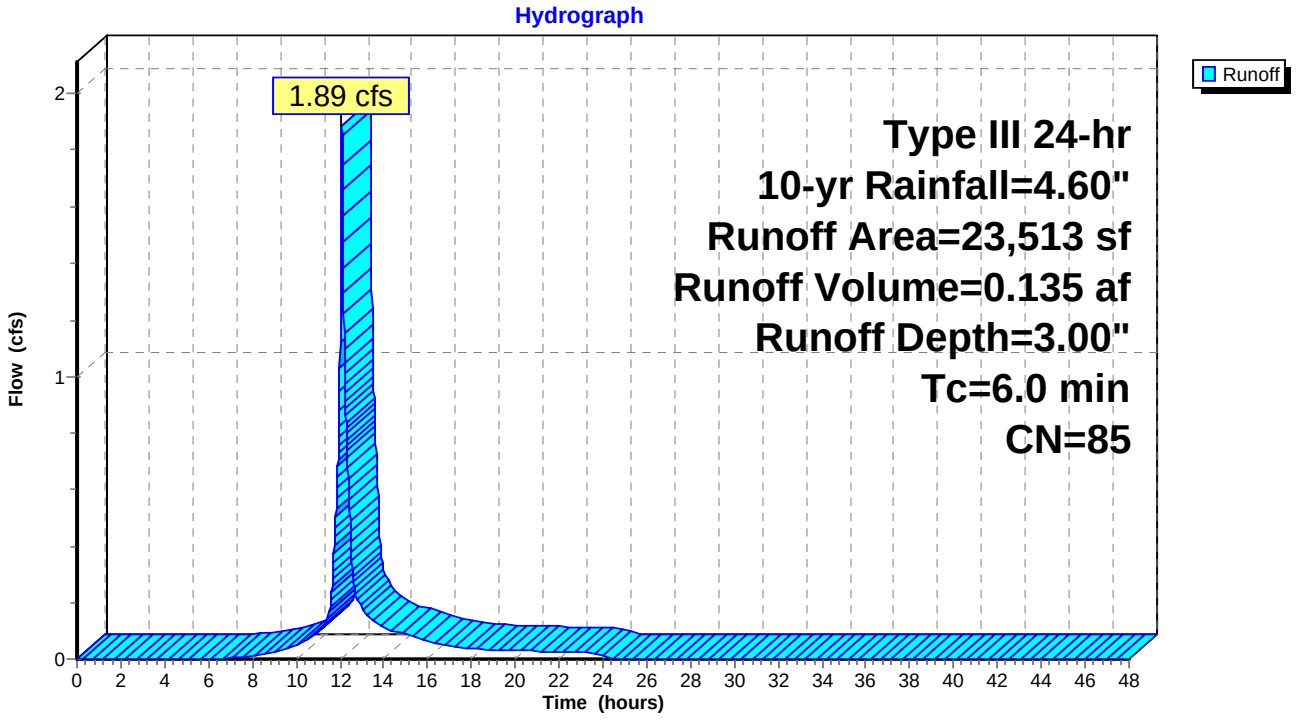
Runoff = 1.89 cfs @ 12.09 hrs, Volume= 0.135 af, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.60"

	Area (sf)	CN	Description
*	14,841	98	Pavement
*	3,434	98	Walkways
	5,238	39	>75% Grass cover, Good, HSG A
	23,513	85	Weighted Average
	5,238		22.28% Pervious Area
	18,275		77.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: 50% Redeveloped Area



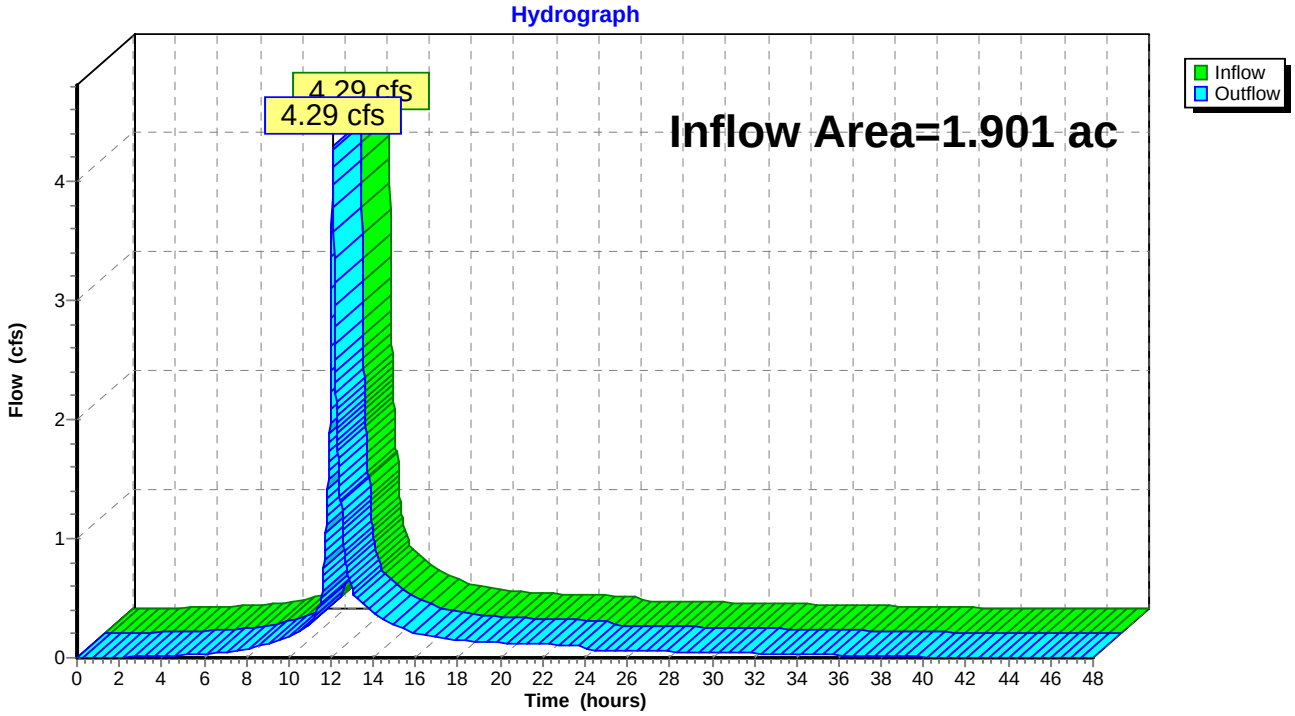
Summary for Reach 1R: Woodford Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.901 ac, 72.57% Impervious, Inflow Depth = 2.95" for 10-yr event
Inflow = 4.29 cfs @ 12.09 hrs, Volume= 0.467 af
Outflow = 4.29 cfs @ 12.09 hrs, Volume= 0.467 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: Woodford Street



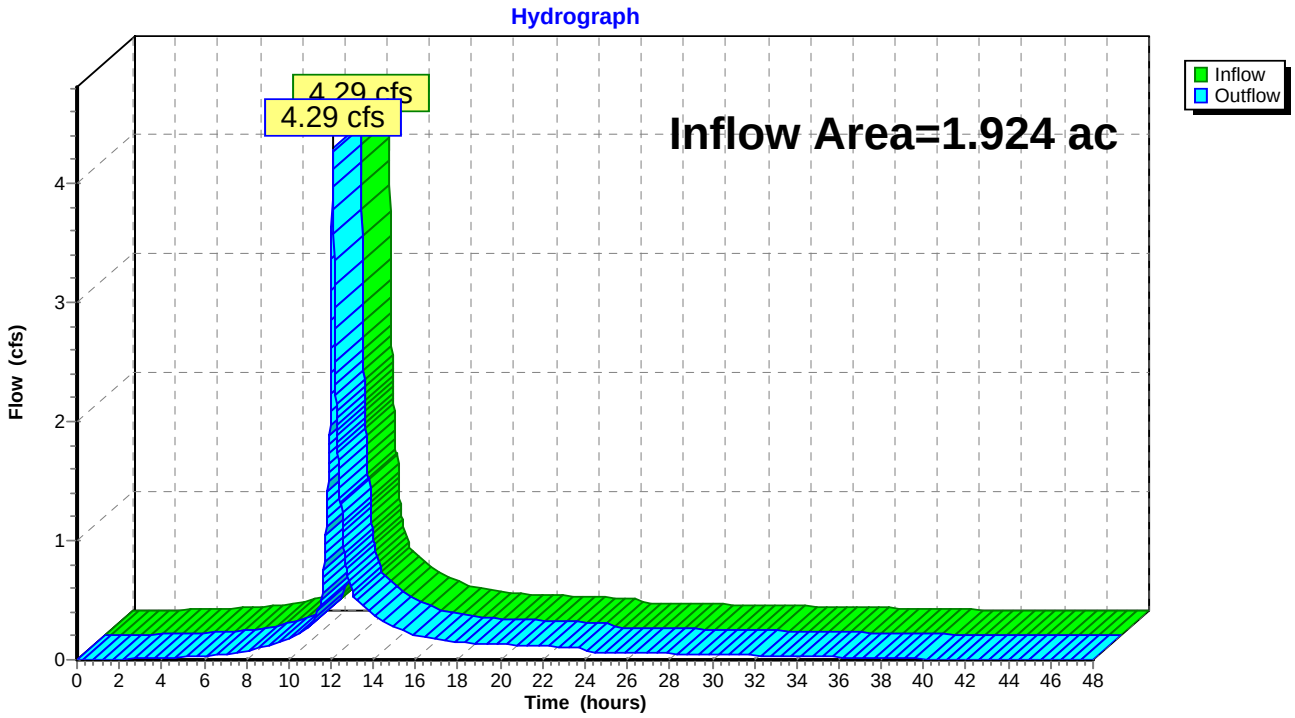
Summary for Reach 2R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.924 ac, 71.73% Impervious, Inflow Depth = 2.92" for 10-yr event
Inflow = 4.29 cfs @ 12.09 hrs, Volume= 0.468 af
Outflow = 4.29 cfs @ 12.09 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: Total Runoff



Summary for Pond 21P: 740; StormTech (35)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.540 ac, 77.72% Impervious, Inflow Depth = 3.00" for 10-yr event
Inflow = 1.89 cfs @ 12.09 hrs, Volume= 0.135 af
Outflow = 0.38 cfs @ 12.52 hrs, Volume= 0.135 af, Atten= 80%, Lag= 26.2 min
Primary = 0.38 cfs @ 12.52 hrs, Volume= 0.135 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 76.65' @ 12.52 hrs Surf.Area= 4,328 sf Storage= 2,947 cf
Flood Elev= 78.70' Surf.Area= 4,341 sf Storage= 3,384 cf

Plug-Flow detention time= 464.9 min calculated for 0.135 af (100% of inflow)
Center-of-Mass det. time= 464.8 min (1,275.6 - 810.8)

Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	416 cf	**Crushed Stone (Prismatic)** Listed below (Recalc) 1,040 cf Overall x 40.0% Voids
#2	72.00'	156 cf	**Course Gravel Transition Layer (Prismatic)** Listed below (Recalc) 520 cf Overall x 30.0% Voids
#3	72.50'	312 cf	**Sand Filter (Prismatic)** Listed below (Recalc) 1,560 cf Overall x 20.0% Voids
#4A	74.00'	1,122 cf	**25.25'W x 46.34'L x 3.50'H Field A Z=0.1** 4,183 cf Overall - 1,378 cf Embedded = 2,805 cf x 40.0% Voids
#5A	74.50'	1,378 cf	**ADS_StormTech SC-740 +Cap** x 30 Inside #4 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 5 Rows
		3,384 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	1,040	0	0
72.00	1,040	1,040	1,040

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	1,040	0	0
72.50	1,040	520	520

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.50	1,040	0	0
74.00	1,040	1,560	1,560

Device	Routing	Invert	Outlet Devices
#1	Primary	70.85'	**12.0" Round 12" SD** L= 21.6' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.85' / 70.74' S= 0.0051 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	70.85'	**1.0" Vert. Orifice on OCS Outlet** C= 0.600
#3	Device 1	76.55'	**12.0" Horiz. Bypass Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.38 cfs @ 12.52 hrs HW=76.65' (Free Discharge)
└─**1=12" SD** (Passes 0.38 cfs of 6.87 cfs potential flow)
  ├─**2=Orifice on OCS Outlet** (Orifice Controls 0.06 cfs @ 11.55 fps)
  └─**3=Bypass Orifice** (Weir Controls 0.31 cfs @ 1.02 fps)

Pond 21P: 740; StormTech (35) - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

6 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 44.34' Row Length +12.0" End Stone x 2 = 46.34' Base Length
5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

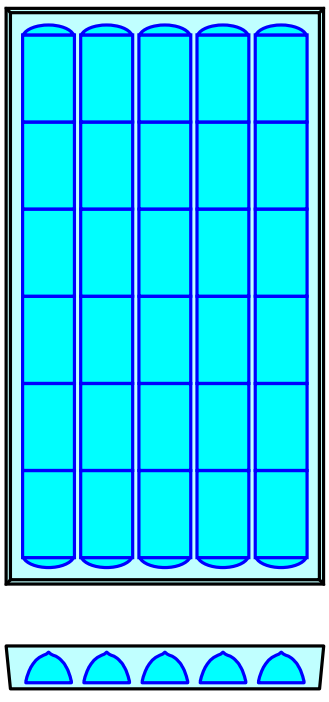
0.1 '/' Side-Z x Height = 4.2" Flare/Side
Base Length + Flare x 2 = 47.04' Top Length
Base Width + Flare x 2 = 25.95' Top Width

30 Chambers x 45.9 cf = 1,378.2 cf Chamber Storage

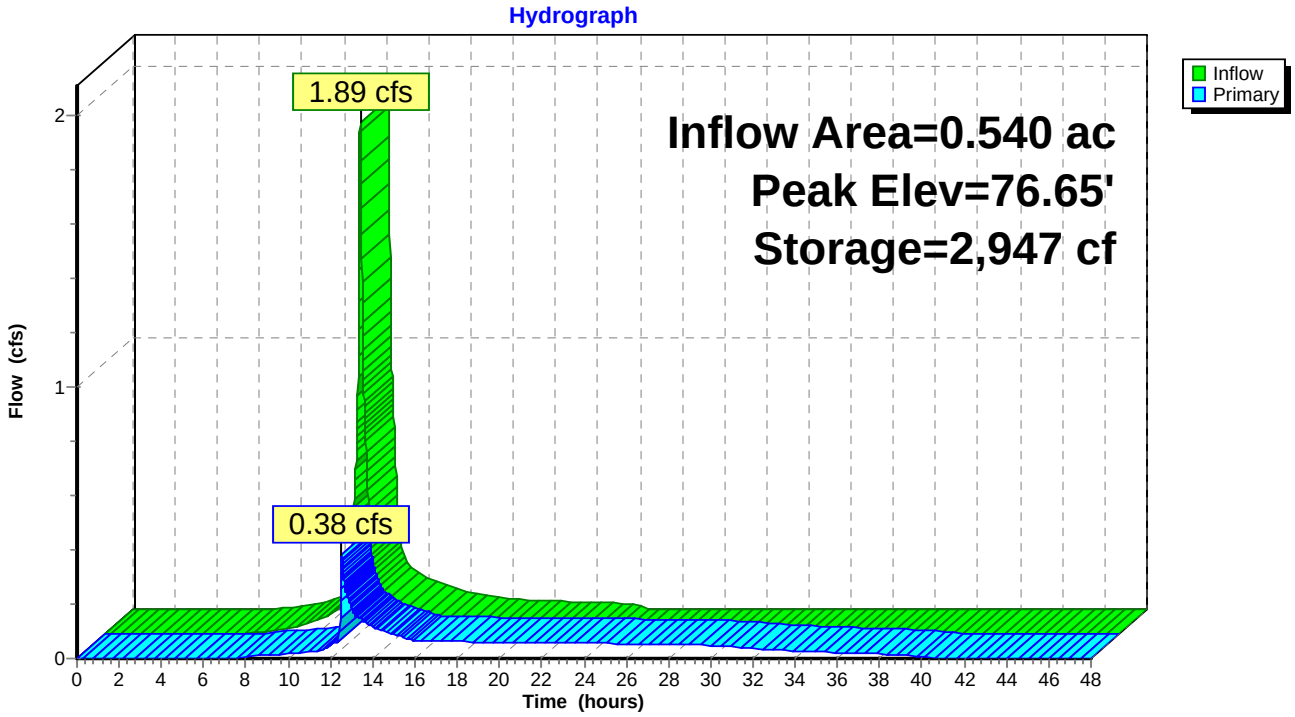
4,183.3 cf Field - 1,378.2 cf Chambers = 2,805.1 cf Stone x 40.0% Voids = 1,122.0 cf Stone Storage

Chamber Storage + Stone Storage = 2,500.2 cf = 0.057 af
Overall Storage Efficiency = 59.8%
Overall System Size = 46.34' x 25.25' x 3.50'

30 Chambers
154.9 cy Field
103.9 cy Stone



Pond 21P: 740; StormTech (35)



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subcat 1 Runoff Area=21,153 sf 80.36% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=88 Runoff=2.44 cfs 0.179 af

Subcatchment 2S: Subcat 2 Runoff Area=15,618 sf 17.84% Impervious Runoff Depth=1.05"
Tc=6.0 min CN=50 Runoff=0.34 cfs 0.031 af

Subcatchment 3S: Subcat 3 Runoff Area=22,543 sf 97.80% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=97 Runoff=2.93 cfs 0.235 af

Subcatchment 4S: Subcat 4 Runoff Area=965 sf 0.00% Impervious Runoff Depth=0.39"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.001 af

Subcatchment 21S: 50% Redeveloped Area Runoff Area=23,513 sf 77.72% Impervious Runoff Depth=4.11"
Tc=6.0 min CN=85 Runoff=2.56 cfs 0.185 af

Reach 1R: Woodford Street Inflow=5.75 cfs 0.631 af
Outflow=5.75 cfs 0.631 af

Reach 2R: Total Runoff Inflow=5.75 cfs 0.631 af
Outflow=5.75 cfs 0.631 af

Pond 21P: 740; StormTech (35) Peak Elev=76.83' Storage=3,052 cf Inflow=2.56 cfs 0.185 af
Outflow=1.55 cfs 0.185 af

Total Runoff Area = 1.924 ac Runoff Volume = 0.631 af Average Runoff Depth = 3.94"
28.27% Pervious = 0.544 ac 71.73% Impervious = 1.380 ac

Summary for Subcatchment 1S: Subcat 1

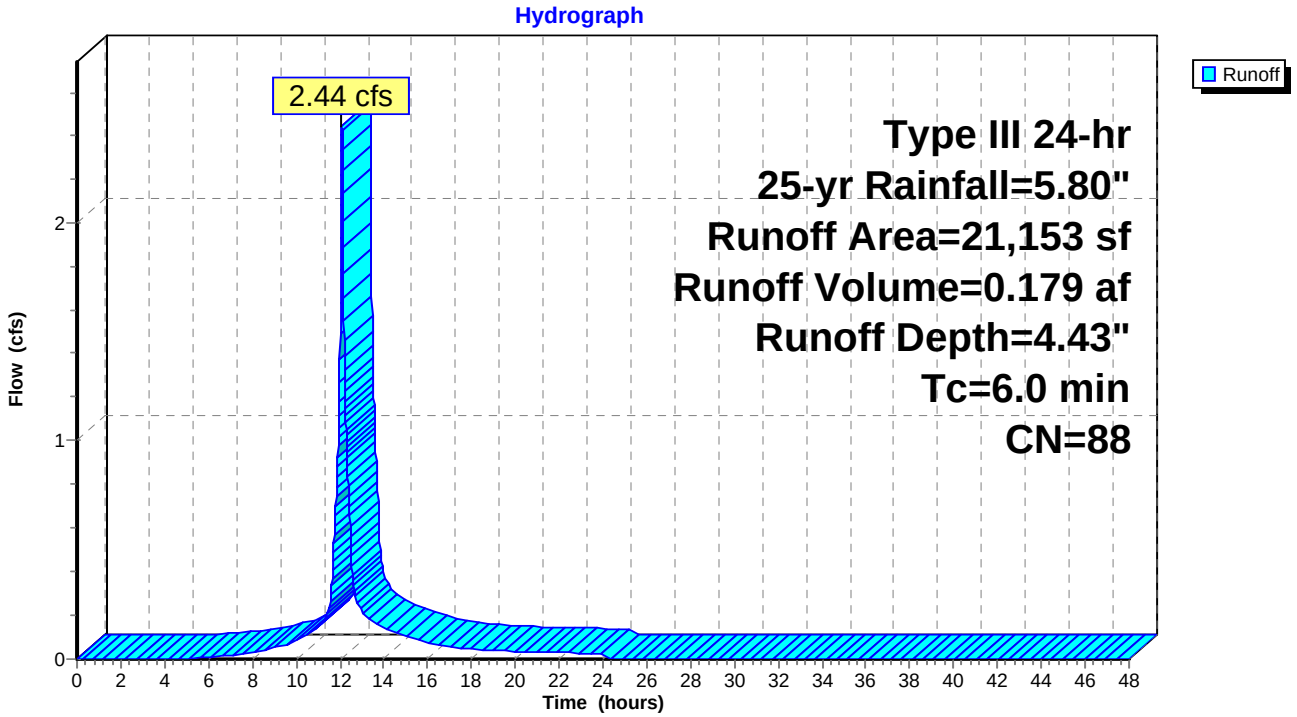
Runoff = 2.44 cfs @ 12.09 hrs, Volume= 0.179 af, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	8,205	98	Roof
*	5,665	98	Pavement
*	2,409	98	Concrete
*	719	98	Drip Edge Stone
*	4,155	49	50-75% Grass cover, Fair, HSG A
	21,153	88	Weighted Average
	4,155		19.64% Pervious Area
	16,998		80.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Subcat 1



Summary for Subcatchment 2S: Subcat 2

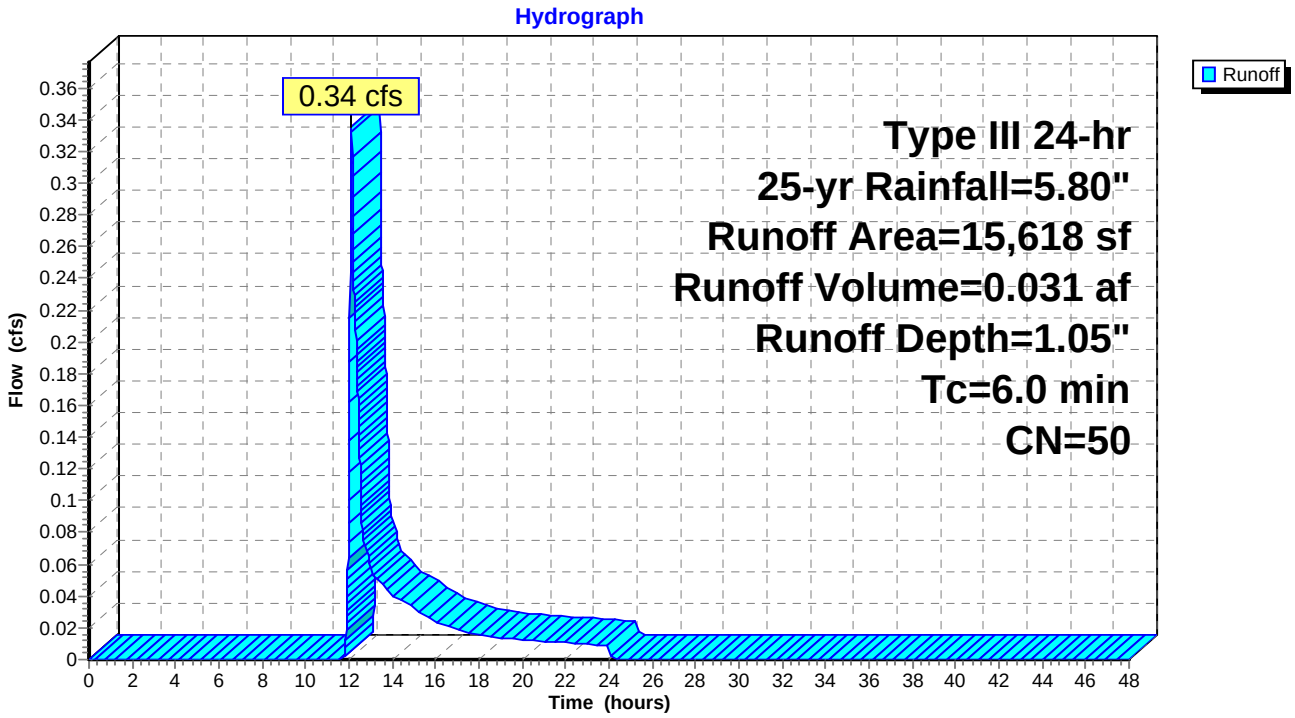
Runoff = 0.34 cfs @ 12.11 hrs, Volume= 0.031 af, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	2,787	98	Paved Walkway
	12,831	39	>75% Grass cover, Good, HSG A
	15,618	50	Weighted Average
	12,831		82.16% Pervious Area
	2,787		17.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Subcat 2



Summary for Subcatchment 3S: Subcat 3

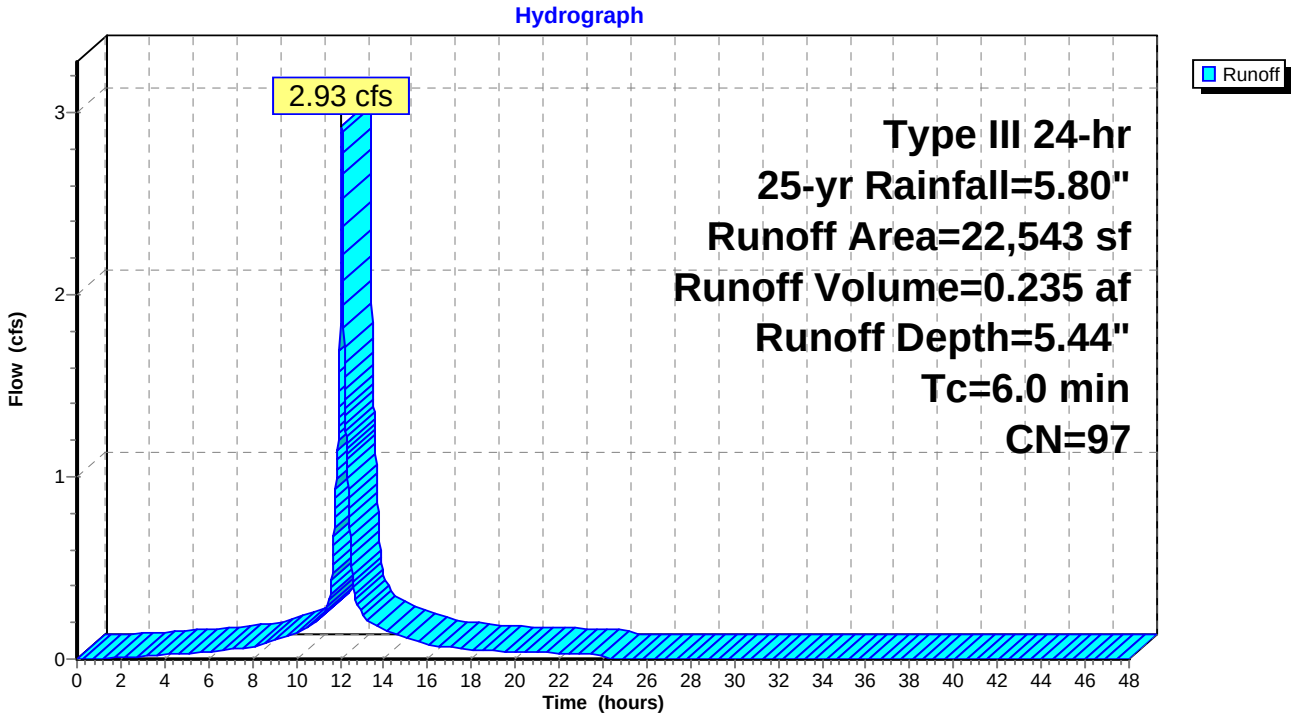
Runoff = 2.93 cfs @ 12.08 hrs, Volume= 0.235 af, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	20,900	98	Roof
*	1,148	98	Patio
*	495	49	50-75% Grass cover, Fair, HSG A
	22,543	97	Weighted Average
	495		2.20% Pervious Area
	22,048		97.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: Subcat 3



Summary for Subcatchment 4S: Subcat 4

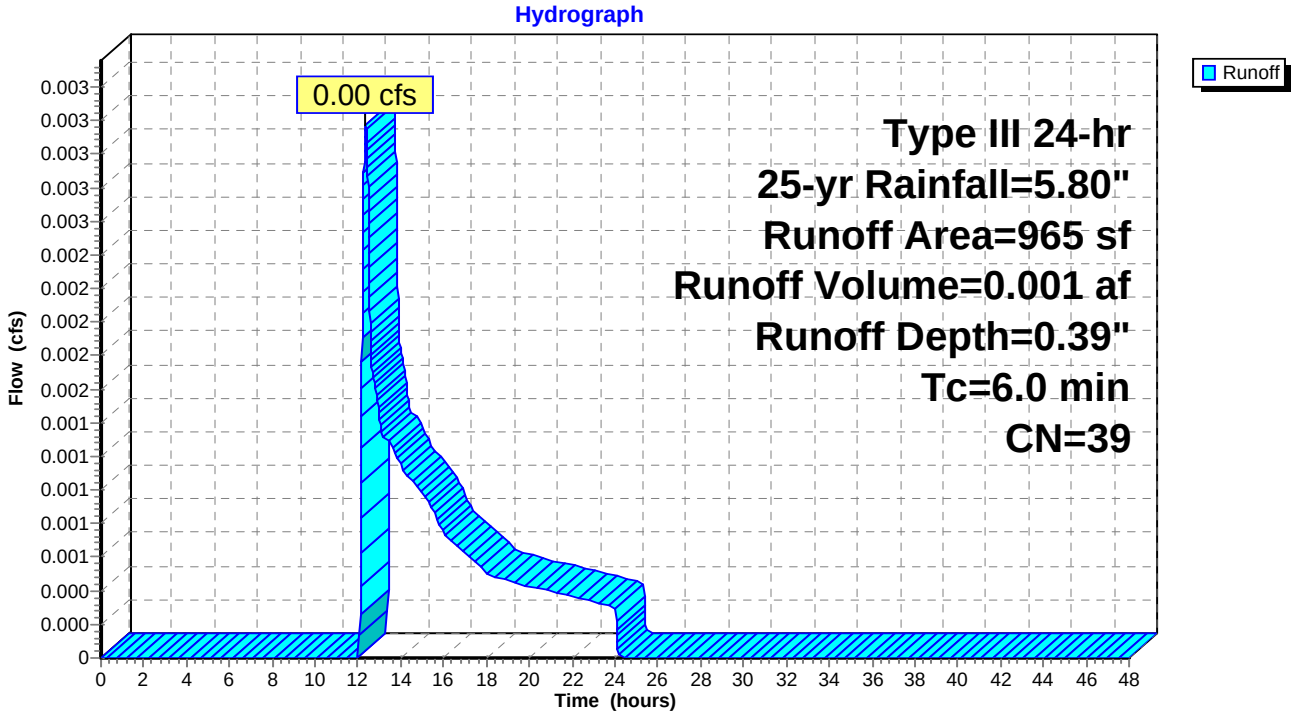
Runoff = 0.00 cfs @ 12.37 hrs, Volume= 0.001 af, Depth= 0.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

Area (sf)	CN	Description
965	39	>75% Grass cover, Good, HSG A
965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Subcat 4



Summary for Subcatchment 21S: 50% Redeveloped Area

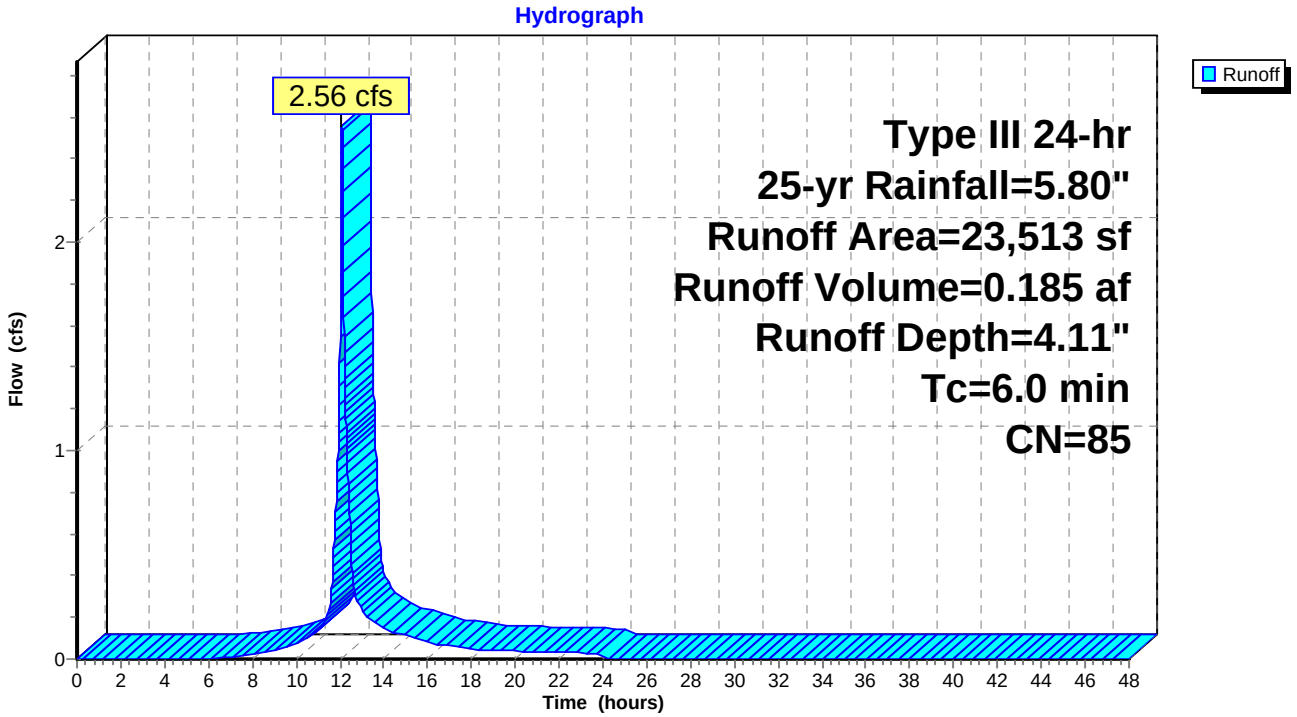
Runoff = 2.56 cfs @ 12.09 hrs, Volume= 0.185 af, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.80"

	Area (sf)	CN	Description
*	14,841	98	Pavement
*	3,434	98	Walkways
	5,238	39	>75% Grass cover, Good, HSG A
	23,513	85	Weighted Average
	5,238		22.28% Pervious Area
	18,275		77.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 21S: 50% Redeveloped Area



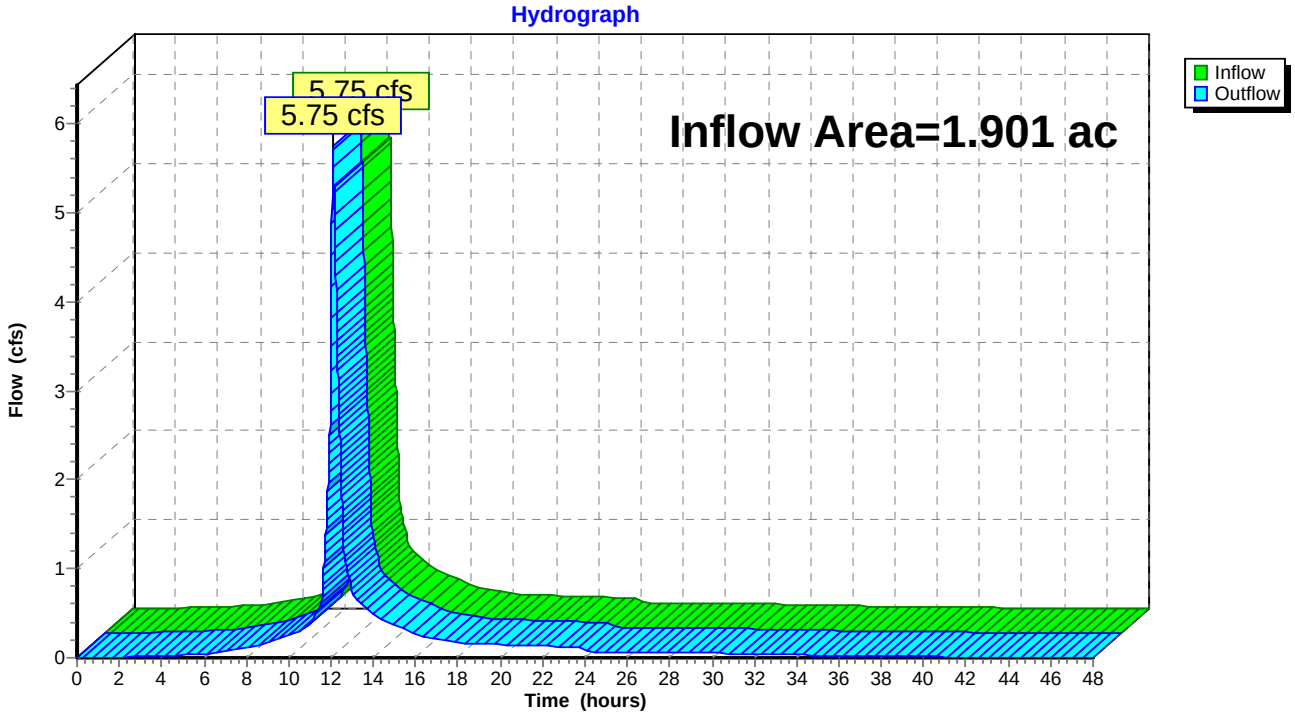
Summary for Reach 1R: Woodford Street

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.901 ac, 72.57% Impervious, Inflow Depth = 3.98" for 25-yr event
Inflow = 5.75 cfs @ 12.09 hrs, Volume= 0.631 af
Outflow = 5.75 cfs @ 12.09 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 1R: Woodford Street



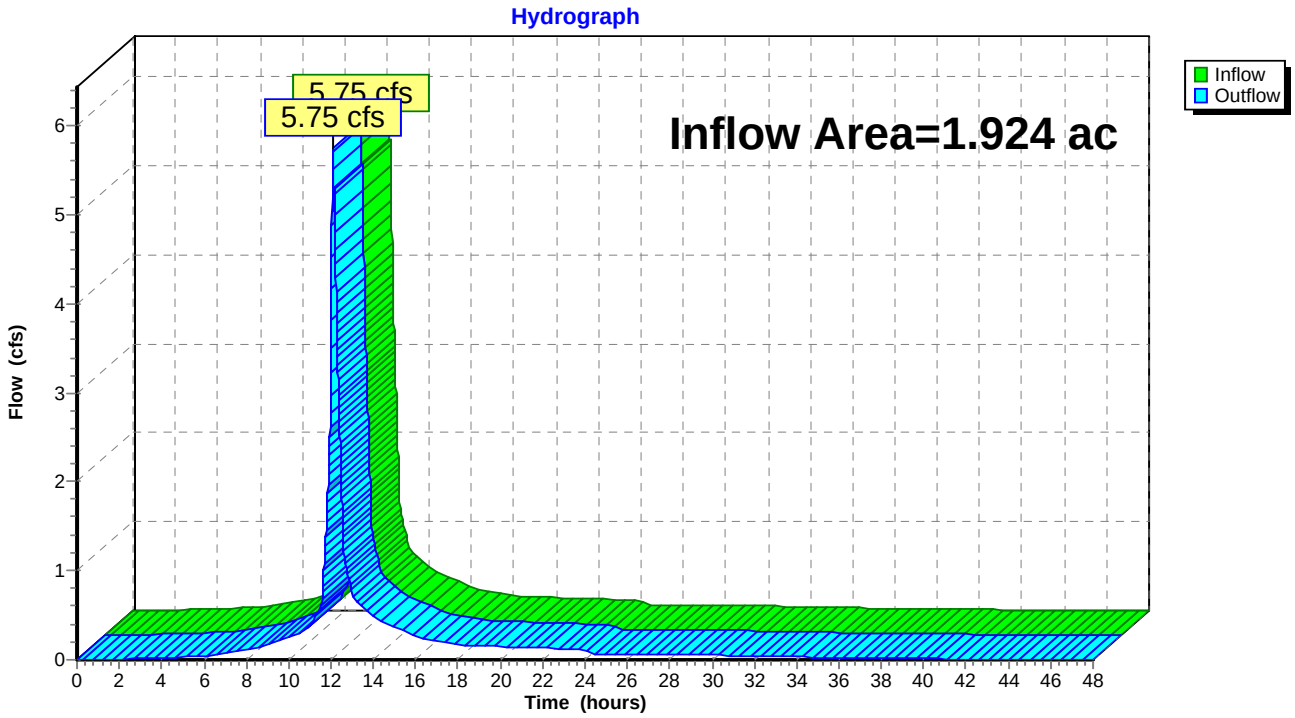
Summary for Reach 2R: Total Runoff

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.924 ac, 71.73% Impervious, Inflow Depth = 3.94" for 25-yr event
Inflow = 5.75 cfs @ 12.09 hrs, Volume= 0.631 af
Outflow = 5.75 cfs @ 12.09 hrs, Volume= 0.631 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Reach 2R: Total Runoff



Summary for Pond 21P: 740; StormTech (35)

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 0.540 ac, 77.72% Impervious, Inflow Depth = 4.11" for 25-yr event
Inflow = 2.56 cfs @ 12.09 hrs, Volume= 0.185 af
Outflow = 1.55 cfs @ 12.19 hrs, Volume= 0.185 af, Atten= 39%, Lag= 6.3 min
Primary = 1.55 cfs @ 12.19 hrs, Volume= 0.185 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 76.83' @ 12.19 hrs Surf.Area= 4,331 sf Storage= 3,052 cf
Flood Elev= 78.70' Surf.Area= 4,341 sf Storage= 3,384 cf

Plug-Flow detention time= 372.2 min calculated for 0.185 af (100% of inflow)
Center-of-Mass det. time= 372.3 min (1,174.2 - 801.9)

Volume	Invert	Avail.Storage	Storage Description
#1	71.00'	416 cf	**Crushed Stone (Prismatic)** Listed below (Recalc) 1,040 cf Overall x 40.0% Voids
#2	72.00'	156 cf	**Course Gravel Transition Layer (Prismatic)** Listed below (Recalc) 520 cf Overall x 30.0% Voids
#3	72.50'	312 cf	**Sand Filter (Prismatic)** Listed below (Recalc) 1,560 cf Overall x 20.0% Voids
#4A	74.00'	1,122 cf	**25.25'W x 46.34'L x 3.50'H Field A Z=0.1** 4,183 cf Overall - 1,378 cf Embedded = 2,805 cf x 40.0% Voids
#5A	74.50'	1,378 cf	**ADS_StormTech SC-740 +Cap** x 30 Inside #4 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 30 Chambers in 5 Rows
		3,384 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.00	1,040	0	0
72.00	1,040	1,040	1,040

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.00	1,040	0	0
72.50	1,040	520	520

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.50	1,040	0	0
74.00	1,040	1,560	1,560

Device	Routing	Invert	Outlet Devices
#1	Primary	70.85'	**12.0" Round 12" SD** L= 21.6' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 70.85' / 70.74' S= 0.0051 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	70.85'	**1.0" Vert. Orifice on OCS Outlet** C= 0.600
#3	Device 1	76.55'	**12.0" Horiz. Bypass Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.55 cfs @ 12.19 hrs HW=76.83' (Free Discharge)
└─**1=12" SD** (Passes 1.55 cfs of 6.99 cfs potential flow)
  ├─**2=Orifice on OCS Outlet** (Orifice Controls 0.06 cfs @ 11.73 fps)
  └─**3=Bypass Orifice** (Weir Controls 1.49 cfs @ 1.72 fps)

Pond 21P: 740; StormTech (35) - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

6 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 44.34' Row Length +12.0" End Stone x 2 = 46.34' Base Length
5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

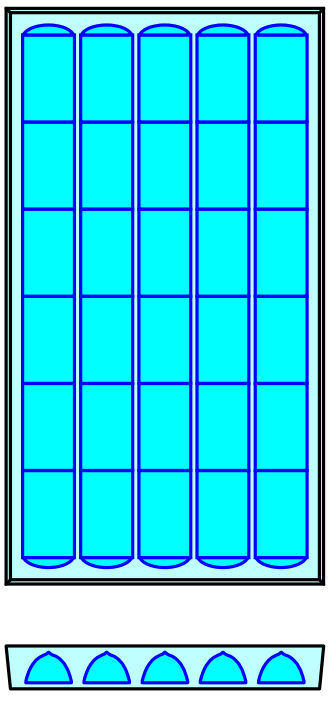
0.1 '/' Side-Z x Height = 4.2" Flare/Side
Base Length + Flare x 2 = 47.04' Top Length
Base Width + Flare x 2 = 25.95' Top Width

30 Chambers x 45.9 cf = 1,378.2 cf Chamber Storage

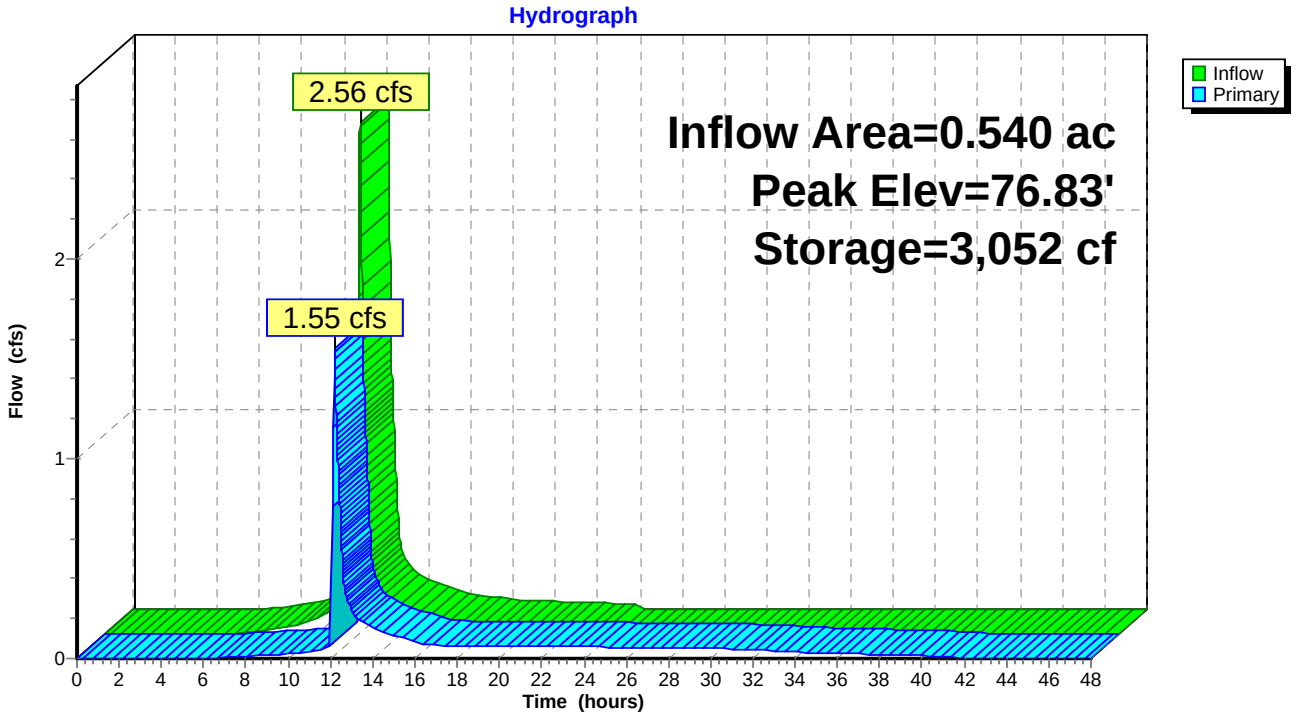
4,183.3 cf Field - 1,378.2 cf Chambers = 2,805.1 cf Stone x 40.0% Voids = 1,122.0 cf Stone Storage

Chamber Storage + Stone Storage = 2,500.2 cf = 0.057 af
Overall Storage Efficiency = 59.8%
Overall System Size = 46.34' x 25.25' x 3.50'

30 Chambers
154.9 cy Field
103.9 cy Stone



Pond 21P: 740; StormTech (35)



36,433 SF		APPROXIMATE LIMITS OF PROJECT REDEVELOPMENT
17,569 SF		REDEVELOPED PAVEMENT OR CONCRETE FOOTPRINT
14,035 SF		REDEVELOPED BUILDING FOOTPRINT
6,293 SF		MAINTENANCE – NOT INCLUDED IN IMPERVIOUS AREA OR REDEVELOPMENT CALCULATIONS
31,604 SF	=	TOTAL IMPERVIOUS AREA
15,802 SF	=	50% REDEVELOPED IMPERVIOUS AREA REQUIRED TO BE TREATED

PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
CSS	PFH	12/1/23
MAJOR SITE PLAN	PFH	12/21/23
COMMENT RESPONSE	PFH	2/7/24

DRAWING NAME: **REDEVELOPMENT EXHIBIT**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.
EX

ACORN ENGINEERING, INC.

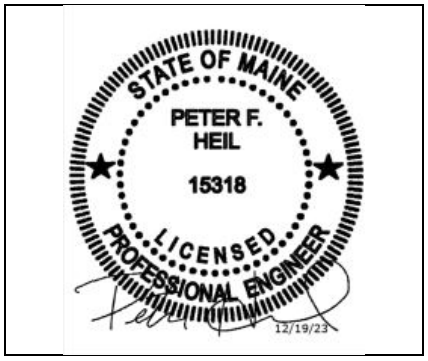
POST CONSTRUCTION - STORMWATER INSPECTION & MAINTENANCE PLAN

Prepared For:

Community Housing of Maine
One City Center, 4th Floor,
Portland Maine 04101

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04102



December 2023

RESPONSIBLE PARTY

The owner, Community Housing of Maine and/or their successor shall be responsible for contracting with a qualified stormwater professional to implement the Inspection and Maintenance Plan. The qualified stormwater professional shall maintain a stormwater log (report) summarizing inspections, maintenance, and corrective action taken. The Qualified Stormwater Professional shall annually submit the Stormwater Log to the Engineering Department prior to June 15th.

The following is an example of a qualified stormwater professional that the owner may contract through.

Organization: Peter Heil, PE
Acorn Engineering, Inc
Portland, Maine

Phone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #15318
- Maine DEP – Certified in Maintenance & Inspection of Stormwater BMP's Cert
- Maine DEP – Certified Third-Party Inspector
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #7071

The inspection and maintenance criteria are based upon the Maine DEP - Stormwater Management for Maine, Volume III: BMPs Technical Design Manual. Refer to the Grading and Drainage Plan for the location of the BMPs

PURPOSE

This Inspection and Maintenance Plan has been individually tailored to this parcel's stormwater infrastructure, site characteristics, and their respective opportunities and limitations related to reducing the pollutant load on the receiving watershed. The maintenance of a parcel's impervious surfaces and stormwater infrastructure is critical to extending the long-term performance and effectiveness of Best Management Practices (BMPs). The Inspection and Maintenance Plan represents the parcel's minimum activities to meet the permit requirements. The parcel shall still be subject to any applicable Civil Site Plans, Permit Applications, Erosion and Sedimentation Control Plans Reports, Stormwater Management Plans, Inspection and Maintenance Manuals, and all Municipal, State, and Federal rules. The applicant shall be responsible for retaining post construction and maintenance documents for at least 5 years.

OPERATION AND MAINTENANCE ACTIVITY

Catch Basins / Field Inlets:

Catch basins and field inlets shall be inspected to confirm that the structure is operating properly.

- Inspect the presence of accumulated sediment or debris any sediment shall be removed. The equipment shall meet the following minimum specifications; power jet and water source for washing down the storm drain, vacuum attachment for catch basin cleaning, and a liquid handling method to dewater the material.
- Sediment shall be removed when accumulation is within 6 inches of the outfall pipe invert. Legally dispose of accumulated sediment and debris from the bottom of the basin, inlet grates, and inflow channels to the basin.
- If the basin outlet is designed with a hood to trap floatable materials (e.g. Snout), check to ensure watertight seal is working.
- Appropriately dispose of all collected material.

Sweeping:

Annual sweeping of the parking lot following the snow melt, if necessary. Appropriately dispose of all collected material.

Storm Drains:

The storm drain shall be annually inspected for the presence of accumulated sediment or debris. Any sediment shall be removed as required.

- The equipment shall meet the following minimum specifications; power jet and water source for washing down the storm drain, vacuum attachment for catch basin cleaning, and a liquid handling method to dewater the material.
- Inspect and legally dispose of accumulated sediment and debris within the storm drains between basins. Liquids must be decanted on-site and returned to the catch basin.

Underdrained Subsurface Sand Filter and Stormtech Isolator ROW:

The maintenance of the underdrained subsurface sand filters shall be in accordance with the following activities identified below and the Stormwater Drainage System Maintenance Agreement included within Stormwater Report.

- The system should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected annually.
- Inspect and maintain the StormTech Isolator Row in accordance with the attached proprietary Operation and Maintenance Plan.

Vegetated Areas and Embankments:

Inspect all landscaped and or vegetated slopes and embankments on an annual basis. Vegetated areas with bare areas or sparse growth (<90% coverage) shall be revegetated. Mulch shall be applied to landscaped areas, as necessary. Dead or decaying landscaping (ground cover, shrubs, trees etc.) shall be replanted in accordance with the approved Site Plan

INSPECTION AND MAINTENANCE TABLE

Inspection and Maintenance Frequency	Spring or Yearly	Summer	Fall	As Necessary
Catch Basins	X			X
Vegetated Areas & Slopes	X			X
Underdrained subsurface sand filter & Stormtech Isolator ROW	X			X
Storm Drains	X			X
Sweeping	X			X

In the above chart, it is assumed the certified stormwater professional will inspect each item in the spring. Inspections outside of the spring visits can likely be conducted by the property manager.

ATTACHED

1. Isolator ROW Product Sheet
2. Isolator ROW Manual

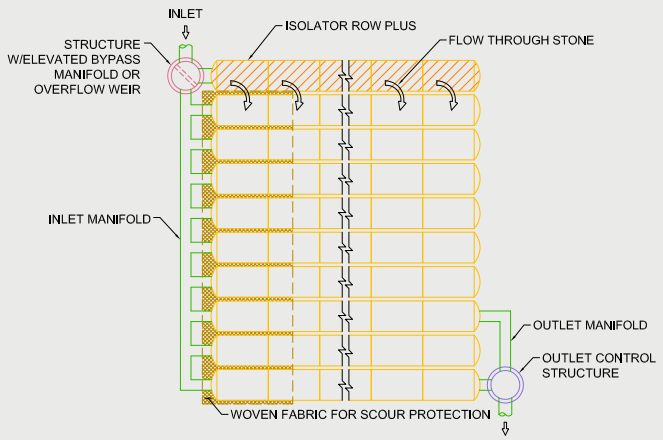
Isolator® Row Plus

The StormTech Isolator Row Plus is an enhancement to our proven water quality treatment system. This updated system is an NJCAT verified water quality treatment device that can be incorporated into any system layout.

Features

- Isolator Row Plus is now NJCAT verified. As a Manufactured Treatment Device it achieves over 81% TSS removal by filtration NJDEP Laboratory Protocol Assessment NJCAT Technology Verification.
- A patented Flamp™ (Flared End Ramp) provides a smooth transition from pipe invert to fabric bottom. The Flamp is attached to the inlet pipe inside the chamber end cap and improves chamber function over time by distributing sediment and debris that would otherwise collect at the inlet. It also serves to improve the fluid and solid flow back into the inlet pipe during maintenance and cleaning.
- Proprietary ADS Plus fabric maintains durability and sediment removal while allowing for higher water quality flow rates. A single layer of ADS Plus fabric is placed between the angular base stone and the Isolator Row Plus chambers.

Schematic of the StormTech Isolator Row Plus System



Technology Descriptions

The Isolator Row Plus is designed to capture the “first flush” runoff and offers the versatility to be sized on a volume or a flow basis. An upstream manhole not only provides access to the Isolator Row Plus but includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with either an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the StormTech chamber system it is either infiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

Summary of Verified Claims[1]

Treatment Rate (gpm/ft²)	4.1
Underlying Geotextile Layers	1
NJDEP Test Sediment	1-1000µ
Mean Particle Concentration (mg/L)	200
TSS Removal Efficiency	81%

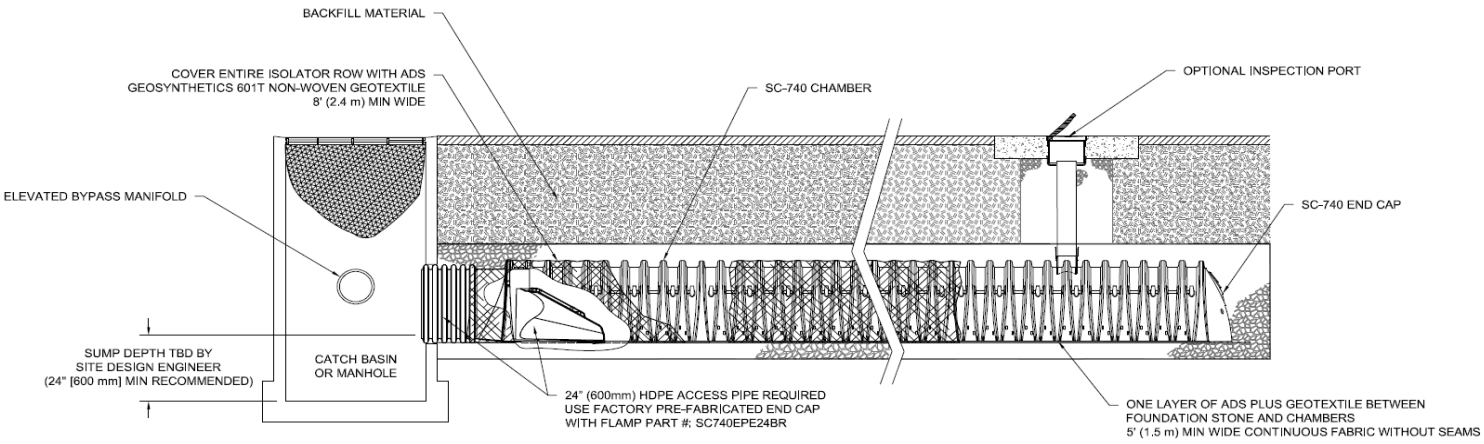
[1] Verification testing of the StormTech SC-740 Isolator Row PLUS in accordance with NJDEP Laboratory protocol to access total suspended solids removal by filtration manufactured treatment device, 2013

ADS StormTech™

adspipe.com
800-821-6710

StormTech Isolator Row Plus (not to scale)

Note: Non-woven fabric is only required over the chambers for the SC-310 and SC-740 chamber models.



Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By "isolating" sediment to just one row of the StormTech system, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout.

Maintenance is accomplished with the JetVac® process. The JetVac process utilizes a high-pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediment. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency.

StormTech Isolator Row Plus

Chamber Model	Chamber Storage	Chamber Footprint	Treatment Rate
SC-160LP	15.0 cf (0.42 m^3)	11.45 sf (1.06 m^2)	0.11 cfs (3.11 L/s)
SC-310	31.0 cf (0.88 m^3)	17.7 sf (1.64 m^2)	0.16 cfs (4.53 L/s)
SC-740	74.9 cf (2.12 m^3)	27.8 sf (2.58 m^2)	0.26 cfs (7.36 L/s)
DC-780	78.4 cf (2.22 m^3)	27.8 sf (2.58 m^2)	0.26 cfs (7.36 L/s)
MC-3500	175.0 cf (4.96 m^3)	42.9 sf (3.99 m^2)	0.40 cfs (11.32 L/s)
MC-4500	162.6 cf (4.60 m^3)	30.1 sf (2.80 m^2)	0.28 cfs (7.93 L/s)
MC-7200	267.3 cf (7.57 m^3)	50.0 sf (4.65 m^2)	0.45 cfs (12.74 L/s)

Installation

Installation of the stormwater treatment unit(s) shall be preformed per manufacture's installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems Inc. at (800) 821-6710 or by logging on to www.ads-pipe.com or www.stormtech.com

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Isolator® Row Plus
O&M Manual

The Isolator® Row Plus

Introduction

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row Plus is a technique to inexpensively enhance Total Suspended Solids (TSS), Total Phosphorus (TP), Total Petroluem Hydrocarbons (TPH) and Total Nitrogen (TN) removal with easy access for inspection and maintenance.

The Isolator Row Plus

The Isolator Row Plus is a row of StormTech chambers, either SC-160, SC-310, SC-310-3, SC-740, DC-780, MC-3500, MC-4500 or MC-7200 models, are lined with filter fabric and connected to a closely located manhole for easy access. The fabric lined chambers provide for sediment settling and filtration as stormwater rises in the Isolator Row Plus and passes through the filter fabric. The open bottom chambers allow stormwater to flow both vertically out of the chambers. Sediments are captured in the Isolator Row Plus protecting the adjacent stone and chambers storage areas from sediment accumulation.

ADS Isolator Row and Plus fabric are placed between the stone and the Isolator Row Plus chambers. The woven geotextile provides a media for stormwater filtration, a durable surface for maintenance, prevents scour of the underlying stone and remains intact during high pressure jetting.

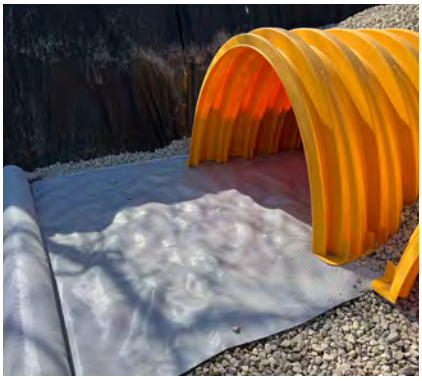
The Isolator Row Plus is designed to capture the “first flush” runoff and offers the versatility to be sized on a volume basis or a flow-rate basis. An upstream manhole provides access to the Isolator Row Plus and includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the chamber system it is either exfiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

The Isolator Row Plus Flamp™ is a flared end ramp apparatus attached to the inlet pipe on the inside of the chamber end cap. The FLAMP provides a smooth transition from pipe invert to fabric bottom. It is configured to improve chamber function performance by enhancing outflow of solid debris that would otherwise collect at the chamber's end, or more difficult to remove and require confined space entry into the chamber area. It also serves to improve the fluid and solid flow into the access pipe during maintenance and cleaning and to guide cleaning and inspection equipment back into the inlet pipe when complete.

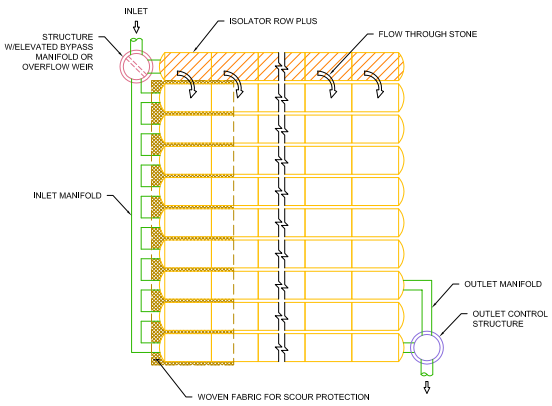
The Isolator Row Plus may be part of a treatment train system. The treatment train design and pretreatment device selection by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, StormTech recommend using the Isolator Row Plus to minimize maintenance requirements and maintenance costs.

Note: *See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row Plus.*

Looking down the Isolator Row PLUS from the manhole opening, ADS PLUS Fabric is shown between the chamber and stone base.



StormTech Isolator Row PLUS with Overflow Structure (not to scale)



Isolator Row Plus Inspection/Maintenance

Inspection

The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row Plus should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

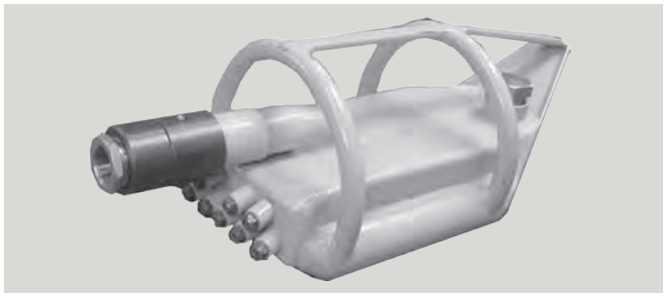
The Isolator Row Plus incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3 inches throughout the length of the Isolator Row Plus, clean-out should be performed.

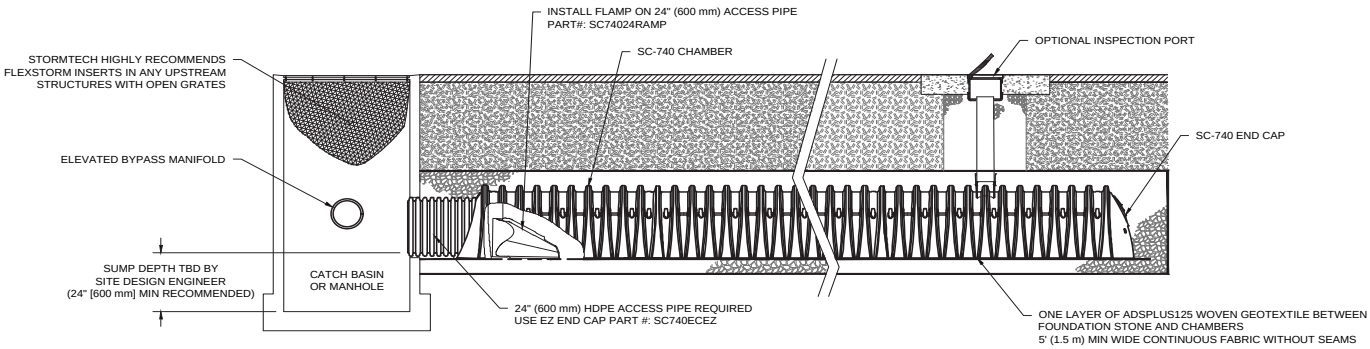
Maintenance

The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By “isolating” sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entry.

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45” are best. StormTech recommends a maximum nozzle pressure of 2000 psi be utilized during cleaning. JetVac reels can vary in length. For ease of maintenance, ADS recommends Isolator Row Plus lengths up to 200' (61 m). **The JetVac process shall only be performed on StormTech Isolator Row Plus that have ADS Plus Fabric (as specified by StormTech) over their angular base stone.**



StormTech Isolator Row PLUS (*not to scale*)



Isolator Row Plus Step By Step Maintenance Procedures

Step 1

Inspect Isolator Row Plus for sediment.

A) Inspection ports (if present)
   i. Remove lid from floor box frame
   ii. Remove cap from inspection riser
   iii. Using a flashlight and stadia rod,measure depth of sediment and record results on maintenance log.
   iv. If sediment is at or above 3 inch depth, proceed to Step 2. If not, proceed to Step 3.

B) All Isolator Row Plus
   i. Remove cover from manhole at upstream end of Isolator Row Plus
   ii. Using a flashlight, inspect down Isolator Row Plus through outlet pipe
      1. Mirrors on poles or cameras may be used to avoid a confined space entry
      2. Follow OSHA regulations for confined space entry if entering manhole
   iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches), proceed to Step 2.
   If not, proceed to Step 3.

Step 2

Clean out Isolator Row Plus using the JetVac process.

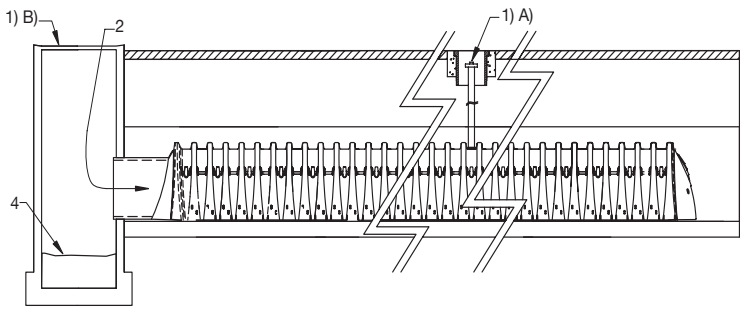
A) A fixed floor cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
B) Apply multiple passes of JetVac until backflush water is clean
C) Vacuum manhole sump as required

Step 3

Replace all caps, lids and covers, record observations and actions.

Step 4

Inspect & clean catch basins and manholes upstream of the StormTech system.



Sample Maintenance Log

Date	Stadia Rod Readings		Sediment Depth (1)–(2)	Observations/Actions	Inspector
	Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)			
3/15/11	6.3 ft	none		New installation. Fixed point is CI frame at grade	DJM
9/24/11		6.2	0.1 ft	Some grit felt	SM
6/20/13		5.8	0.5 ft	Mucky feel, debris visible in manhole and in Isolator Row PLUS, maintenance due	NV
7/7/13	6.3 ft		0	System jetted and vacuumed	DJM

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800-821-6710

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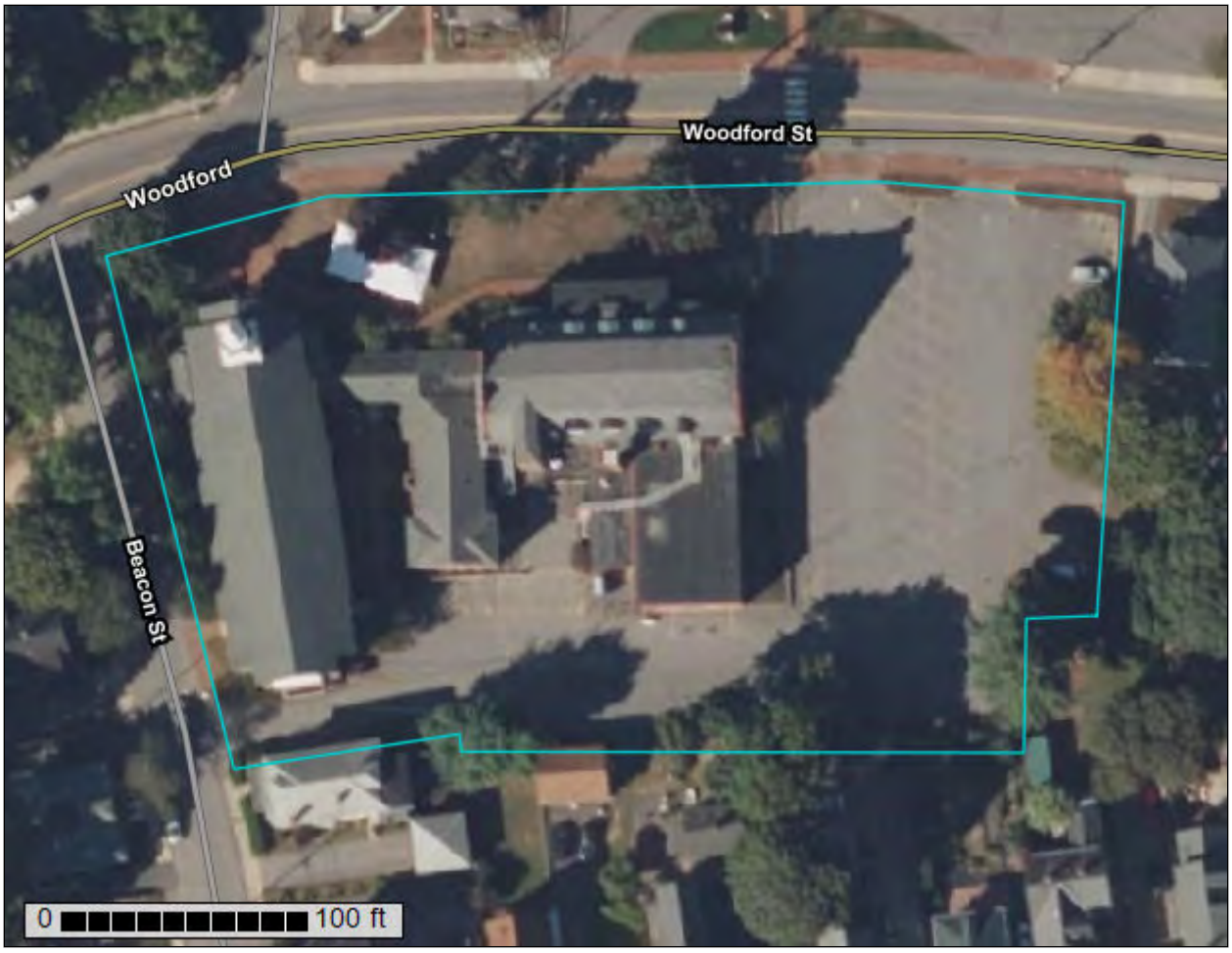
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



October 3, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

70° 17' 17" W
70° 17' 10" W
43° 40' 15" N
43° 40' 12" N
396160
396170
396180
396190
396200
396210
396220
396230
396240
396250
396260
396270
396280
396290
396300
396310
4836130
4836120
4836110
4836100
4836090
4836080
4836070
4836060
4836050
4836040
Woodford
Beacon St
HrB
WmB
Soil Map may not be valid at this scale.
Map Scale: 1:688 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
10
20
40
60
Feet
0
30
60
120
180
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 20, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	0.2	10.4%
WmB	Windsor loamy sand, 0 to 8 percent slopes	1.7	89.6%
Totals for Area of Interest		**1.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till

Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

WmB—Windsor loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w2x2
Elevation: 0 to 1,410 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Windsor and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: Dunes, outwash plains, deltas, outwash terraces
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

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ACORN ENGINEERING, INC.

K. EROSION & SEDIMENTATION CONTROL REPORT

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December 2023

INTRODUCTION

Acorn Engineering, Inc. has been retained by Community Housing of Maine to provide civil engineering services for the proposed work located at 186 Woodford Street, Portland, ME 04103. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 40 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (82 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements.

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended August 12, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016.

1.0 EXISTING CONDITIONS

The proposed project is located at 186 Woodford Street. An ALTA / NSPS Land Title Survey has been prepared by Owen Haskell, Inc. on March 10, 2022 and last revised on October 12, 2023.

Abutting Uses:

- North B2 Zone — Commercial Services
- East B2 Zone — Residential
- South R5 Zone — Residential
- West R5 Zone — Residential

A large majority of the existing site is impervious surface that mainly includes buildings and parking lot. The average slope is moderate with grades dropping from the Southwest to Northeast across the site.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11;12/8/20 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Lyman-Tunbridge Complex	0.32 / 0.20	0.32 / 0.20
Windsor Loamy Sand	0.17	0.17

The soil "K" value for the soil, listed above, shows a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although soil "K" values for the soils show a moderate susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

There are no critical areas.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public roadways.

2.1.2 Siltation fence or erosion control berm shall be installed down gradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam.

2.1.3 Hay mulch including hydro seeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.

2.1.5 Woodford Street shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.

2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.

2.2.2 All stormwater devices shall be installed, and tributary areas stabilized prior receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Erosion and Sedimentation Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the

mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6

Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Peter Heil, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #15318
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's
- Maine DEP – Certified Third-Party Inspector
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #7071

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Commence installation of drainage infrastructure.
4. Install all other erosion control devices as necessary throughout the remainder of this schedule.
5. Commence earthwork operations, associated with the roadway construction.
6. Commence installation of utilities.
7. Continue earthwork and grading to subgrade as necessary for construction.
8. Complete installation of drainage infrastructure, as well as other utility work.
9. Complete remaining earthwork operations.
10. Install sub-base and base gravels in paved areas.
11. Install paving, curbing and brickwork.
12. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
13. Once the site is stabilized, 90% catch of grass has been obtained, or mulching of landscape areas is complete, remove all temporary erosion control measures.
14. Touch up areas without a vigorous catch of grass with loam and seed.
15. Complete site signage and striping.
16. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan
- Permanent Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

PERMANENT SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of permanent seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.
Kentucky Bluegrass	0.46
Creeping Red Fescue	0.46
Perennial Ryegrass	0.11
Total	1.03

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Recommendations

Permanent seeding is recommended to be completed in the spring. Later summer seeding is allowed if completed prior to September 1st. If seeding cannot be accomplished during the periods recommended for permanent seeding, then the contractor shall perform temporary seeding per the temporary seeding plan.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to permanent seeding and mulching.

ACORN ENGINEERING, INC.

Chief Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

December 22, 2023

Subject: 186 Woodford Street – Fire Department Checklist
Section L of Application

On behalf of Community Housing of Maine, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant:

   Community Housing of Maine
   One City Center, 4th Floor,
   Portland, ME 04101
   (207) 879-0347

2. Name address, telephone number of architect:

   CWS Architecture
   246 US-1, Unit 2a
   Scarborough, Maine 04074
   207-774-4441

3. Proposed uses of any structures [NFPA and IBC classification]

   NFPA: Apartment / IBC: R-2

4. Square footage of all structures, including decks [total and per story]

Existing

Existing Building		
Total	Approx. 24,600	**gfa**

Proposed

Church to Remain		
Total	Approx. 10,600	**gfa**

Parish House		
1st Floor	9,518	sf
2nd Floor	9,400	sf
3rd Floor	9,400	sf
4th Floor	7,812	sf
Total	Approx. 36,130	**gfa**

Senior Housing Building		
1st Floor	8,118	sf
2nd Floor	8,208	sf
3rd Floor	8,208	sf
4th Floor	8,208	sf
Total	Approx. 32,742	**gfa**

5. Elevation of all structures

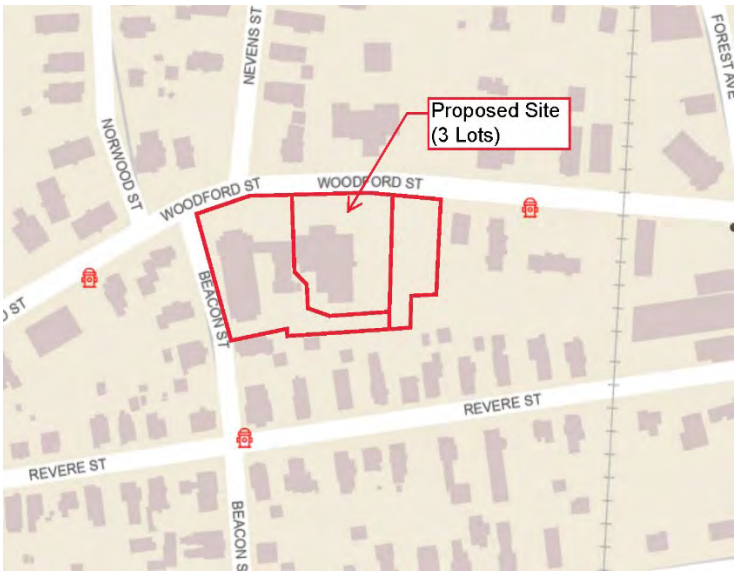
   The proposed 4-story structure's height will be below the allowable 45 feet within the B-2 zoning district. Please refer to the building elevations provided by the Architect for additional information.

6. Proposed fire protection of all structures

   The proposed buildings will have a sprinkler system per code. Fire flows and requirements for system storage or booster pumping are subject to the fire designer which will be performed prior to the request for a building permit.

7. Hydrant locations

   a. An existing hydrant is located southwest of the existing building on the corner of Beacon Street and Revere Street. Additionally, there are two hydrants location on Woodford Street, one to the east and one to the west of the project (see hydrant map below). Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.



8. Water main size and location

   The existing Woodfords Church will continue to utilize the existing water service connection from the main within Woodford Street. The proposed parish house redevelopment and new senior hosing residential building will be serviced by a proposed 2" domestic water service connection as well as a 6" fire suppression service from the existing water main within Woodford Street. The size of the water main within Woodford Street is unknown at this time.

9. Access to all structures [min. 2 sides]

   Access to the structure is provided directly on Woodford Street and from the parking lot that circulates around the site.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is located in a heavily developed area and is fronted by a public street. The following pavement street width is currently available:

- Woodford Street: 33 feet
- Beacon Street: 26 feet

Per NFPA 1 – Chapter 18.2.3.3.1, there will be public street access within 50 feet of at least one exterior door. Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 feet from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

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).

Response: There are no dead-end roadway conditions more than one hundred fifty feet in length included as part of the proposed project.

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.

Response: Access to structures onsite is provided directly from Woodford Street/Beacon Street and from the internal parking lot. See the Site Plan for additional information.

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.*

Response: The proposed development layout has contemplated emergency access conditions and provides for safe and efficient access along the public street for emergency vehicles.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Response: The building will be provided with exterior doors that will be within 50' of a Fire Department access route, namely Woodford Street or Beacon Street.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Response: The proposed site maintains the required clearance height of nine feet in all cases.

3.4.6. Elevators shall be sized to accommodate an 80 x 24-inch stretcher.

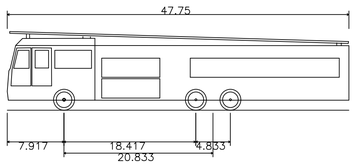
Response: elevators will be sized to accommodate an 80 x 24-inch stretcher.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Response: The site's address is 186 Woodford Street in Portland Maine. The final address locations will be coordinated with public works as part of the proposed subdivision application process.

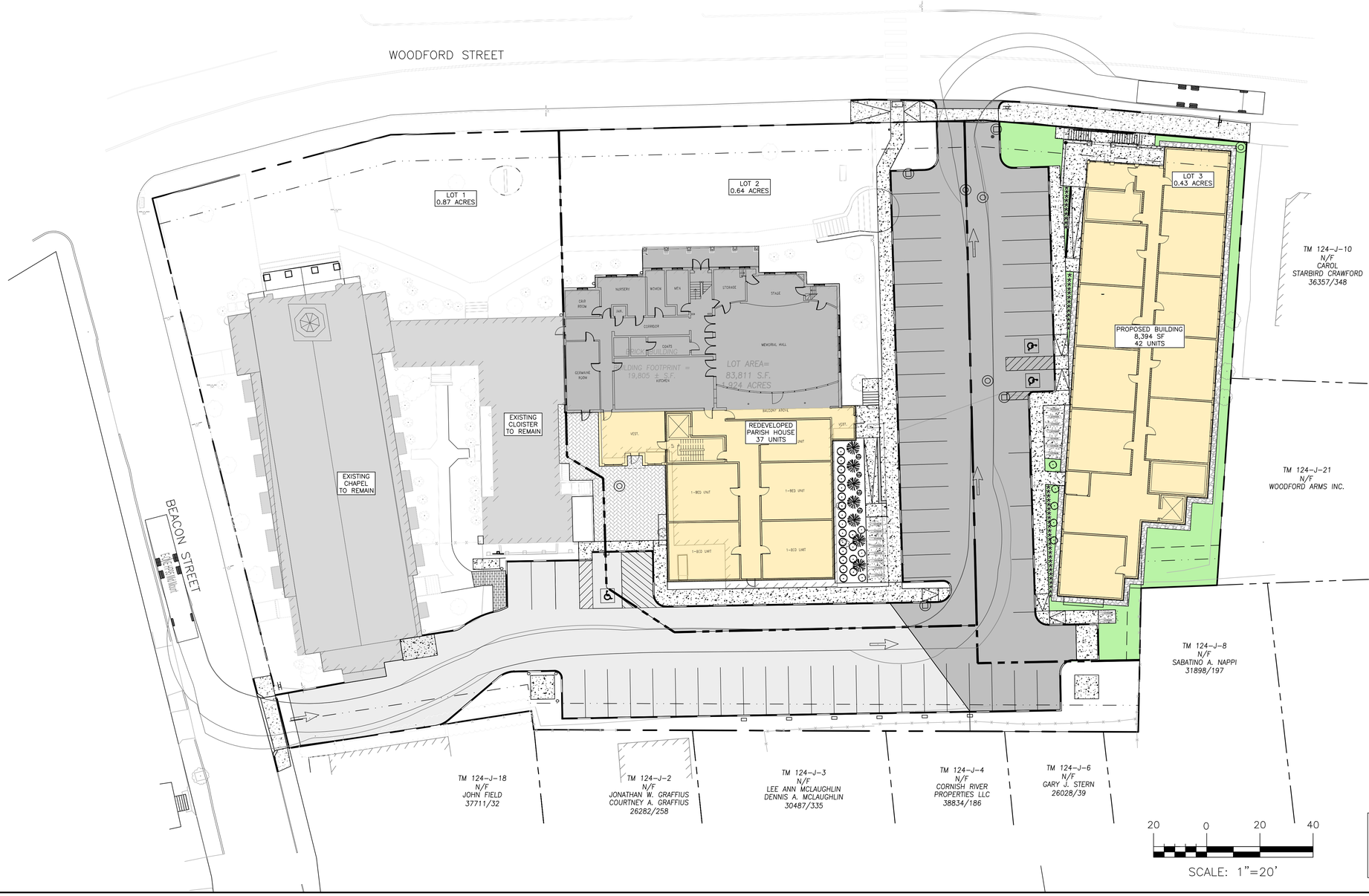
Thank you for your review. Please let me know if you have any additional questions or comments.
Sincerely,

Peter Heil, P.E.
Project Manager
Acorn Engineering, Inc.



E-ONE HP95 Mid Mount

Overall Length	47.750ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°



PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
CSS	PFH	12/1/23

DRAWING NAME: TURNING EXHIBIT

PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

DRAWING NO.
EX

M. Calculation of Wastewater Flowrate for 186 Woodford Street

The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

Based upon Section 4 of the *Maine Subsurface Wastewater Disposal Rules*, the table below outlines the proposed flow. We have negated the existing church from the calculations as the flows are anticipated to remain the same or decrease as a result of the proposed redevelopment.

Estimate of Anticipated Daily Flows			
Development	Unit Size	Gallons per Day per Unit	Total Gallons per Day (GPD)
Existing Flow			
Church	-	-	-
Total Gallons per Day (Existing)			**-**
Proposed Flow			
Redeveloped Parish House (37 Units)	1-Bedroom	120 GPD/ Unit	4,440 GPD
Proposed Senior Housing Building (42 Units)	1-Bedroom / Studio	120 GPD/ Unit	5,040 GPD
Church	-	-	No change
Total Gallons per Day (Proposed)			**9,480 GPD**
Net Change			**+9,480 GPD**
*Values based on Chapter 241 State of Maine: Subsurface Wastewater Disposal Rules, most recent edition			

The proposed project is anticipated to increase the net flow by approximately 9,480 gallons per day (GPD).

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Portland Dept. of Public Works -
Water Resources
212 Canco Road
Portland, Maine 04103

Bradley Roland, P.E.
Water Resources Division
Department of Public Works
212 Canco Road
Portland, ME 04103

Date: 12/22/23

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 186 Woodford Street, Portland, Maine 04103

Chart Block Lot Number: Map 124, Block J, Lot 5

Proposed Use: Two Affordable Housing Buildings & Church
Previous Use: Church & Parking Lot
Existing Sanitary Flows: Unknown GPD
Existing Process Flows: 0 GPD
Description and location of City sewer that is to receive the proposed building sewer lateral.

Woodford Street (12" Sanitary Sewer)

Site Category

Commercial *(see part 4 below)*	
Industrial *(complete part 5 below)*	
Governmental	
Residential	✔
Other *(specify)* Church	✔

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Matthew Grooms Phone: 207-874-8719
Owner/Developer Name: Community Housing of Maine - Brian Kilgallen
Owner/Developer Address: One City Center, 4th Floor, Portland, Maine, 04101
Phone: 207-879-0347 Fax: E-mail: brain@chomhousing.org
Engineering Consultant Name: Acorn Engineering - Peter F. Heil, PE
Engineering Consultant Address: 500 Washington Avenue, Portland, Maine, 04103 (Suite #2)
Phone: 207-775-2655 Fax: E-mail: pheil@acorn-engineering.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: Net increase: 9,480 GPD
Peaking Factor/ Peak Times: Diurnal
Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, __ Other (specify)*
Handbook of Subsurface Wastewater Disposal in Maine

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: N/A

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: N/A 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.

N. Lighting

Existing mounted lighting on the Church is anticipated to remain. All new construction will have exterior lighting at egresses and will be down shaded and dark sky compliant. Please refer to the Photometric Plan and attached cut sheets for additional information.

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
Fax: (207) 885-9606

Date: Feb 12, 2024

Job Name
WOODFORD STREET HOUSING
SLA23-57191
PORTLAND ME

Bid Date
Dec 13, 2023

Submittal Date
Feb 12, 2024

Transmittal

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
From: Therese Freeman X-103

Project **WOODFORD STREET HOUSING**
Quote# SLA23-57191
Location PORTLAND ME
To SWANEY LIGHTING
15 PLEASANT HILL ROAD
SCARBOROUGH ME 04074
Contact: WANDA RICHARD

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☒ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☐ Prior Approval
- ☒ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record

Bids due on:
Other:

Type	MFG	Part
A4	BEACON PRODUCTS	VP-1-160L-100-3K7-4W-UNV-A-DBT
A4	BEACON PRODUCTS	SSSB20-40A-1-B3-DBT-VM2
B4	BEACON PRODUCTS	VP-1-160L-35-3K7-4W-UNV-A-DBT-BC
	Item Note: 2 @ 90 DEGREES	
B4	BEACON PRODUCTS	SSSB20-40A-2L-B3-DBT-VM2
S4	BEACON PRODUCTS	VP-1-160L-35-3K7-4W-UNV-A-DBT-BC
S4	BEACON PRODUCTS	SSSB20-40A-1-B3-DBT-VM2
WP	KIM	CY1-15-3K7-1-1D-UNV-DBT-R-FPP

BEACON design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

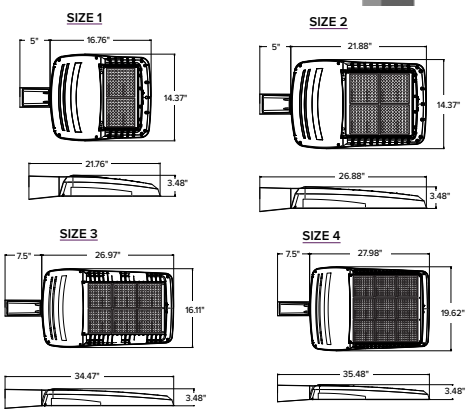
VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | OPTICS STRIKE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



c UL us IP65 DLC LISTED DLC LISTED PREMIUM ida DARK SKY APPROVED 2016 BAA TAA

CONTROL TECHNOLOGY

CONNECT WIRED WIRELESS LIGHTGRID

SERVICE PROGRAMS

STOCK QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG # VP – – –

BEACON design . performance . technology

VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE (CONT'D)

CATALOG # _____

Accessory Type		Size		Option		Color	
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	BLS	Black Gloss Smooth
		2	Size 2	HSS-90-F	House Side Shield 90° Front	BLT	Black Matte Textured
		3	Size 3	HSS-90-S	House Side Shield 90° Side	DBS	Dark Bronze Gloss Smooth
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side	DBT	Dark Bronze Matte Textured
				HSS-270-FSS	House Side Shield 270° Front/Side/Side	GTT	Graphite Matte Textured
				HSS-270-FSB	House Side Shield 270° Front/Side/Back	LGS	Light Gray Gloss Smooth
				HSS-360	House Side Shield 360°	PSS	Platinum Silver Smooth
				BC	Back Light Control	WHS	White Gloss Smooth
MTG	Mounting			A	Arm Mount for square pole/flat surface	WHT	White Matte Textured
				ASQU	Universal Arm Mount for square pole	VGT	Green Landscape Decorative
				AAU	Adjustable Arm for pole mounting	LEG	Legacy Colors
				ADU	Decorative upswept Arm	**Color Option**	
				RPA	Round Pole Adapter	CC	Custom Color
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm		
				K	Knuckle		
				T	Trunnion		
				WB	Wall Bracket (compatible with universal arm mounts)		

Accessory Type		Option	
MSC	Miscellaneous	BIRD SPK	Bird Spike

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

- ☐ **NXOFM-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

- ☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC
- ☐ **SCP-REMOTE** — Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor

For additional information related to these accessories please visit currentlighting.com/beacon. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

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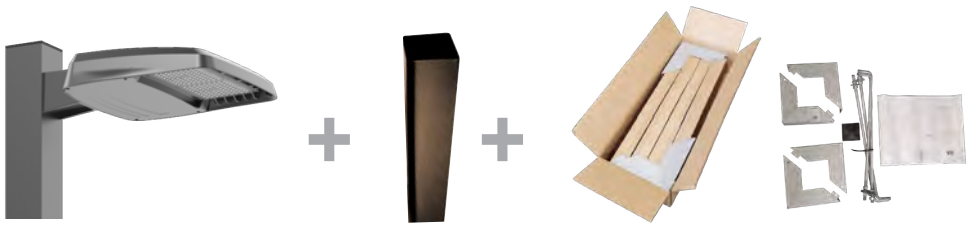
VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration

VM14DB

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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

LIGHTGRID+

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming	✓	✓	✓	Paired with external control	✓	✓	✓	✓	–		NXOFM-1R1D-UV
	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
	WIR-RME-L	LightGRID+ On Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR-RME-L
	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

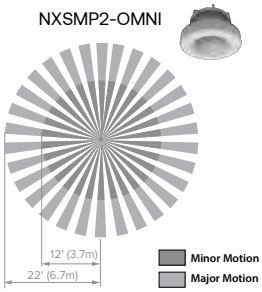
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

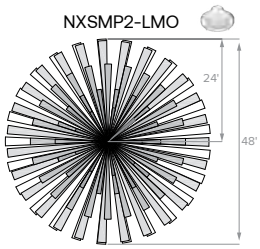
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI

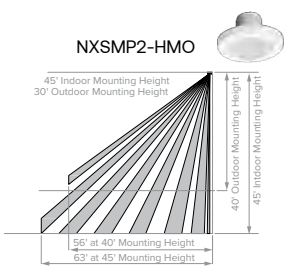


NXSMP2-LMO



Sensor Lens Coverage and Detection Patterns When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns When Mounted at 40ft and 45ft with Standard Lens

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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

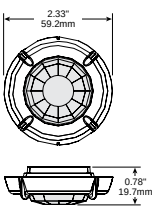
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

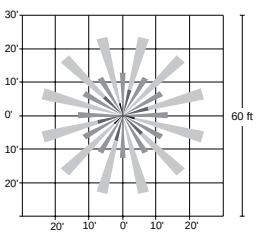
CONTROLS FUNCTIONALITY

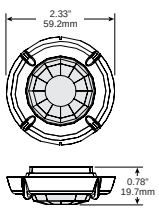
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	–	–	–	✓	✓	✓	✓	–	8ft or 40ft		SCP_F
	ADD	AutoDIM Timer Based Dimming	–	–	✓	–	–	–	✓	–	–		ADD
	ADT	AutoDIM Time of Day Dimming	–	–	✓	–	–	–	✓	–	–		ADT
	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–		7PR
	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		7PR-SC
	3PR	3-Pin twist lock	–	–	–	–	–	–	Paired with external control	–	–		3PR
	3PR-SC	3-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		3PR-SC
	3PR-TL	3-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–		3PR-TL

COVERAGE PATTERNS FOR SCP_F

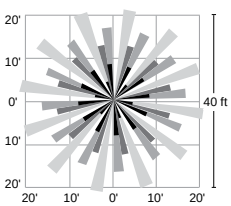


Coverage Top View @ 12ft.

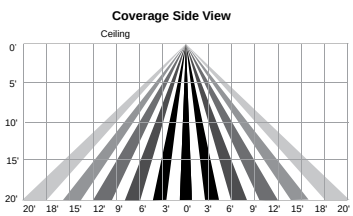




Coverage Top View @ 20 ft.



Coverage Side View



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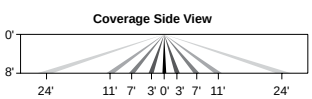
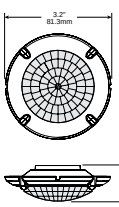
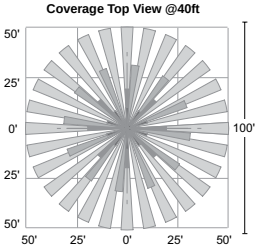
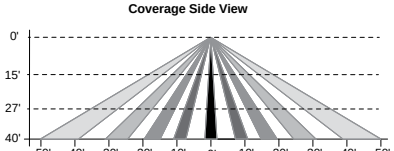




Coverage Top View @40ft



Coverage Side View



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VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
AP-Amber Phosphor Converted Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

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VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS		162				
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)		CURRENT (Amps)				
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

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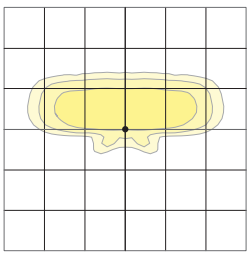
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type 2



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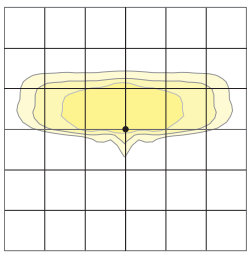
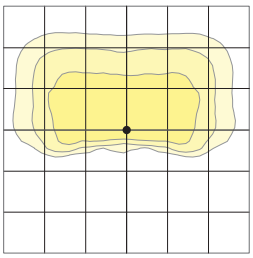


Type 4 Wide



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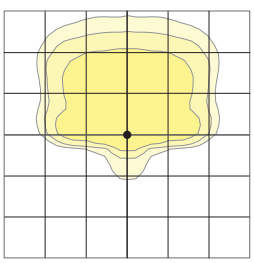
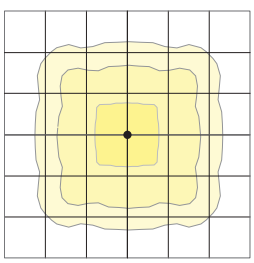


Type 5QW



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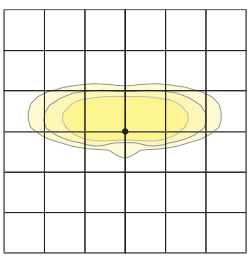
VIPER LUMINAIRE

OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

Type FR – Front Row/Auto Optic



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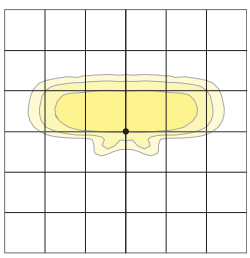

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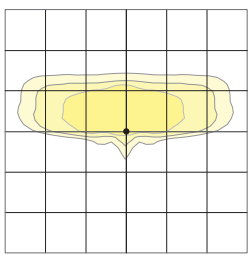
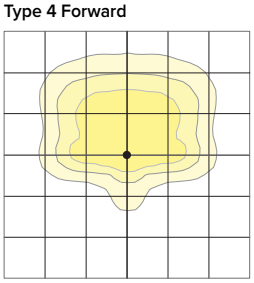


Type 4 Forward



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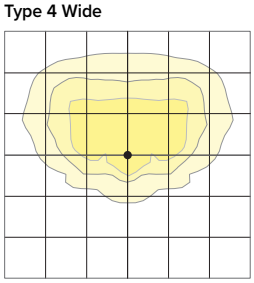

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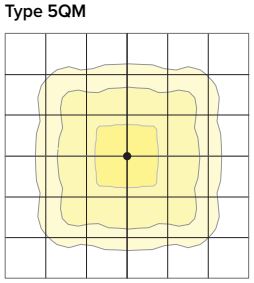
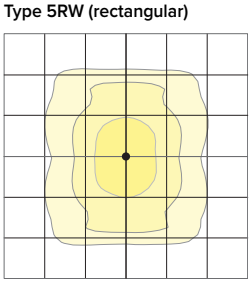
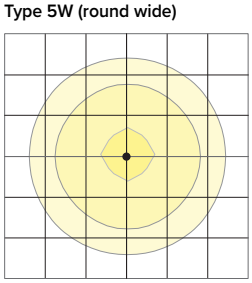


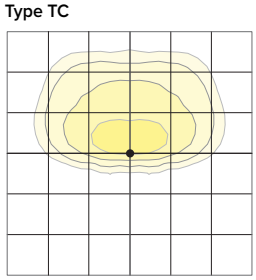
Type 5RW (rectangular)



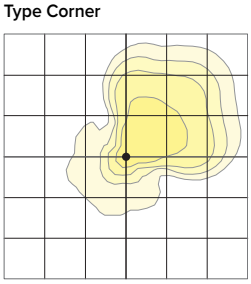
Type 5W (round wide)



Type TC



Type Corner



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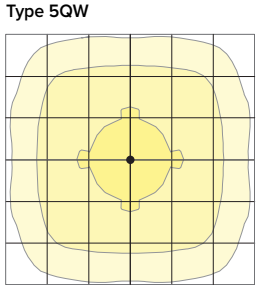

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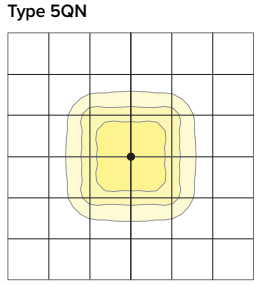

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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

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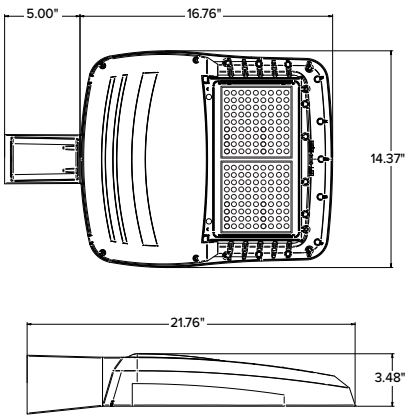
DIMENSIONS

SIZE 1



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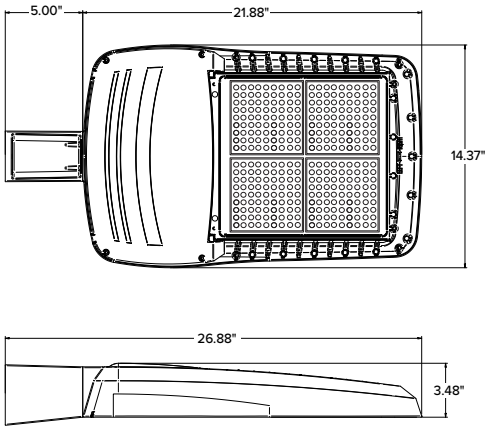

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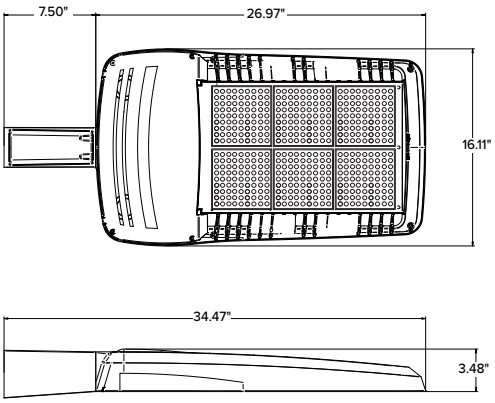

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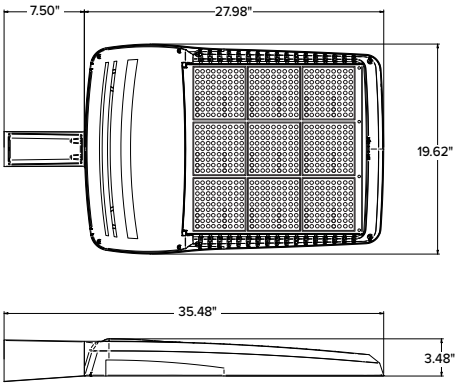

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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DATE: LOCATION:

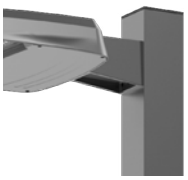
TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

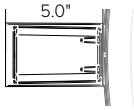
VIPER LUMINAIRE

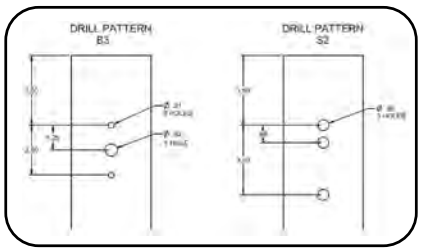
MOUNTING

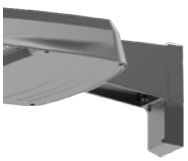


A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

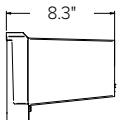


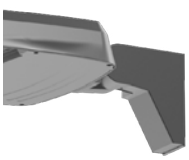




ASQU–UNIVERSAL ARM MOUNT

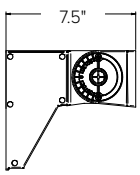
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

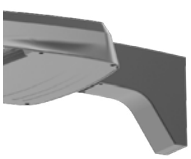




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

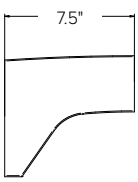
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation.
Strike configurations have a 30° aiming limitation.

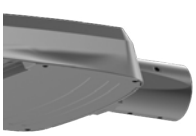




ADU–DECORATIVE UPSWEPT ARM

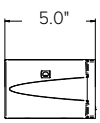
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

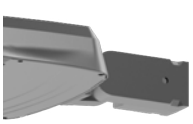




MAF–MAST ARM FITTER

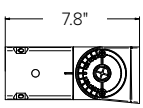
Fits 2-3/8" OD horizontal tenons.

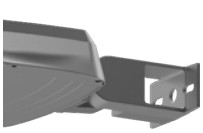




K–KNUCKLE

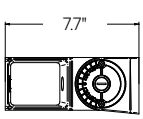
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





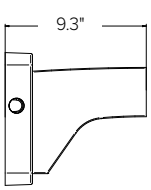
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

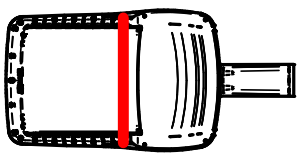
CATALOG #:

ADDITIONAL INFORMATION (CONTINUED)

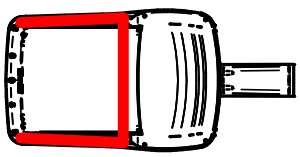
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

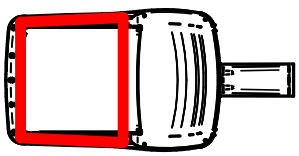
VPR2x HSS-90-B-xx



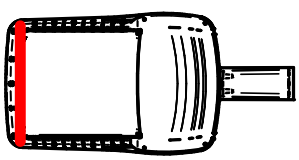
VPR2x HSS-270-BSS-xx



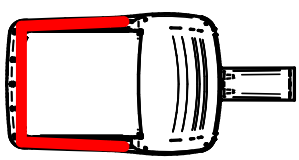
VPR2x HSS-360-xx



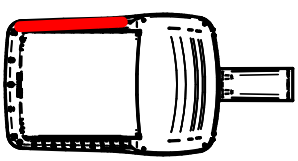
VPR2x HSS-90-F-xx



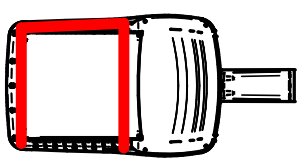
VPR2x HSS-270-FSS-xx



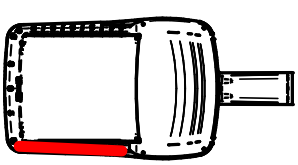
VPR2x HSS-90-S-xx



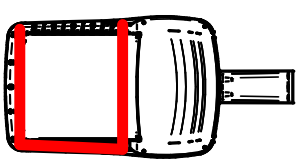
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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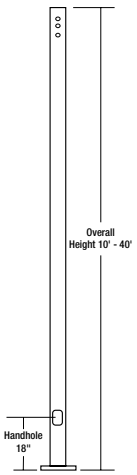
SSS-B Series Poles

SQUARE STRAIGHT STEEL



APPLICATIONS

- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT: One-piece straight steel with square cross section, flat sides and minimum 0.23" radius on all corners; Minimum yield of 46,000 psi (ASTM-A500, Grade B); Longitudinal weld seam to appear flush with shaft side wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER: Two-piece square aluminum base cover included standard
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

  Anchor bolt part numbers: 3/4 x 30 x 3 — TAB-30-M38

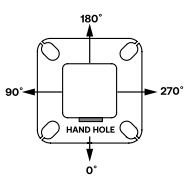
  1 x 36 x 4 — TAB-36-M38

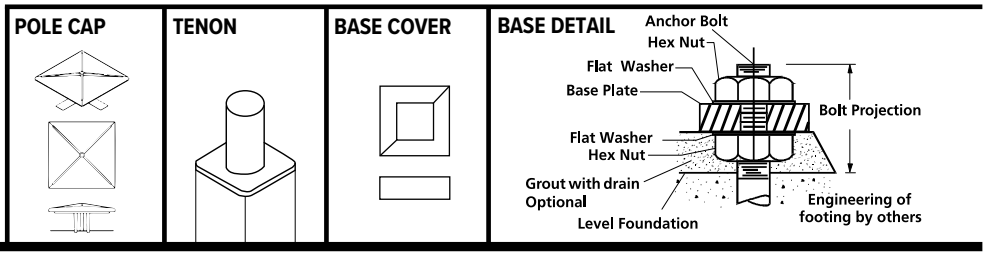
FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

WAREHOUSE 'STOCKED' POLES:

- SSSH20-40A-4-HV-DB-RDC, SSSH25-40A-4-HV-DB-RDC and SSSH30-50B-4-HV-DB-RDC
- The HV designation in the above catalog numbers is a combination drill pattern of the Current S2 pattern and the Beacon B3/B4 Viper pattern (rectangular arm mounting)





ORDERING INFORMATION

Reference page 2 for available configurations

ORDERING EXAMPLE:

SSS -B - 25 - 40 - A/B/C - 2L - B3 - BLT - UL

SERIES	HEIGHT	SHAFT	THICKNESS
SSS-B Square Straight Steel Pole Beacon	Reference page 2 Ordering matrix **20'**	Reference page 2 Ordering matrix **40**	Reference page 2 Ordering matrix **A** - .125" Wall B - .188" Wall C - .250" Wall

MOUNTING

- **1** Single arm mount
- **2** Two fixtures at 180°
- **2L** Two fixtures at 90°
- **3T** Three fixtures at 90°
- **4** Four fixtures at 90°
- **TA** Tenon (2.38" OD x 4" Tall)
- **TB** Tenon (2.88" OD x 4" Tall)
- **TC** Tenon (3.5" OD x 6" Tall)
- **TR**[1] Removable Tenon (2.375 x 4.25)
- **OT** Open Top (includes pole cap)

FINISH

- **BLT** Black Matte Textured
- **BLS** Black Gloss Smooth
- **DBT** Dark Bronze Matte Textured
- **DBS** Dark Bronze Gloss Smooth
- **GTT** Graphite Matte Textured
- **LGT** Light Grey Gloss Textured
- **LGS** Light Grey Gloss Smooth
- **PSS** Platinum Silver Smooth
- **WHT** White Matte Textured
- **WHS** White Gloss Smooth
- **VGT** Verde Green Textured

Color Option

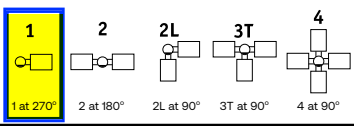
- **CC** Custom Color

OPTIONS

- **GFI**[2] 20 Amp GFCI Receptacle and Cover
- **EHH**[2] Extra Handhole
- **C05**[2] .5" Coupling
- **C07**[2] .75" Coupling
- **C20**[2] 2" Coupling
- **MPB**[2] Mid-pole Luminaire Bracket
- **VM1**[3] 1st mode vibration damper
- **VM2** 2nd mode vibration damper
- **LAB** Less Anchor Bolts
- **UL** UL Certified

MOUNTING ORIENTATION

Denotes handhole location



DRILL PATTERN

- **B1** Cruzer, "AM" arm
- **B3** 2 bolt (2-½" spacing), Viper "A" arm
- **S2** 2 bolt (3-½" spacing), Viper "AD" arm
- **UDP** Universal Drill Pattern

1 Removable tenon used in conjunction with side arm mounting. First specify desired arm configuration followed by the **"TR"** notation. Example: **SSS-B-25-40-A-1-B1-TR-BBT**

2 Specify option location using logic found on page 2 **(Option Orientation)**

3 VM1 recommended on poles 20' and taller with EPA of less than 1.

ACCESSORIES - Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thick-ness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters									
SSS-B-10-40-A-XX-XX	10	3.0	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	77
SSS-B-12-40-A-XX-XX	12	3.7	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	90
SSS-B-14-40-A-XX-XX	14	4.3	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	103
SSS-B-16-40-A-XX-XX	16	4.9	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	116
SSS-B-18-40-A-XX-XX	18	5.5	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	129
SSS-B-20-40-A-XX-XX	20	6.1	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	142
SSS-B-25-40-A-XX-XX	25	7.6	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	175
SSS-B-14-40-B-XX-XX	14	4.3	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	152
SSS-B-16-40-B-XX-XX	16	4.9	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	171
SSS-B-18-40-B-XX-XX	18	5.5	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	190
SSS-B-20-40-B-XX-XX	20	6.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	209
SSS-B-25-40-B-XX-XX	25	7.6	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	257
SSS-B-30-40-B-XX-XX	30	9.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	304
SSS-B-16-50-B-XX-XX	16	4.9	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	219
SSS-B-18-50-B-XX-XX	18	5.5	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	243
SSS-B-20-50-B-XX-XX	20	6.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	267
SSS-B-25-50-B-XX-XX	25	7.6	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	327
SSS-B-30-50-B-XX-XX	30	9.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	387
SSS-B-25-50-C-XX-XX	25	7.6	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	427
SSS-B-30-50-C-XX-XX	30	9.1	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	507
SSS-B-20-60-B-XX-XX	20	6.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	329
SSS-B-25-60-B-XX-XX	25	7.6	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	404
SSS-B-30-60-B-XX-XX	30	9.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	479
SSS-B-35-60-B-XX-XX	35	10.7	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	554
SSS-B-40-60-B-XX-XX	40	12.2	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	629

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

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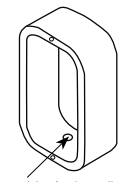
SSS-B Series Poles

SQUARE STRAIGHT STEEL

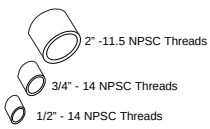
ADDITIONAL INFORMATION

EHH - EXTRA HANDHOLE

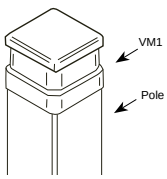


Provision for Grounding

C05 - C07 - C20 - COUPLING

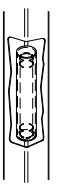


VM1 - VIBRATION DAMPER 1ST MODE



Field Installed Pole Top damper designed to reduce pole top deflection or sway. VM1 is recommended for pole systems 25' and taller with a total EPA of 1.0 or less.

VM2 - VIBRATION DAMPER 2ND MODE



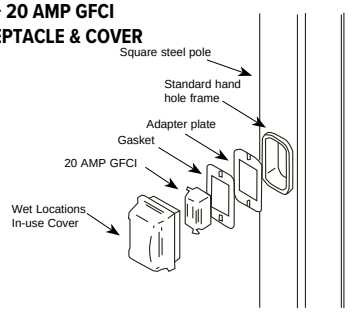
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

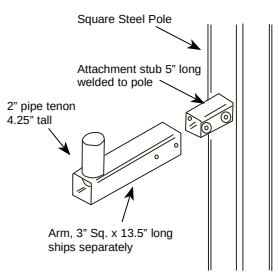
VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

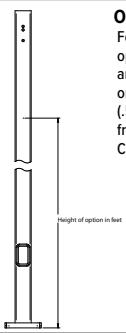
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI – 20 AMP GFCI RECEPTACLE & COVER



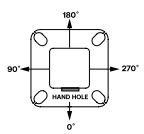
MPB - MID POLE BRACKET



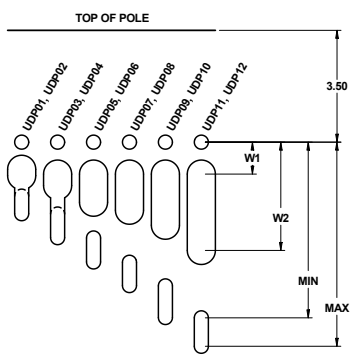


OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C05 should be ordered as: **SSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



UNIVERSAL DRILL PATTERN (UDP)



TWO BOLT MOUNTING WITH CENTER WIREWAY						
MOUNTING HARDWARE	Universal Mounting Patterns					
3/8" OR LESS	UDP01	UDP03	UDP05	UDP07	UDP09	UDP11
7/16" TO 1/2"	UDP02	UDP04	UDP06	UDP08	UDP10	UDP12
"MIN" ATTACHMENT DIMENSION	1.69	2.25	3.00	3.76	4.50	5.50
"MAX" ATTACHMENT DIMENSION	2.24	2.99	3.75	4.49	5.49	6.00
W1 (Wireway min)	0.85	1.00	1.00	1.00	1.00	1.00
W2 (Wireway max)	1.05	1.36	1.88	2.13	2.60	3.00

For more information about pole vibration and vibration dampers, please consut factory
Due to our continued efforts to improve our products, product specifications are subject to change without notice.
Unwrap poles immediately upon receipt to avoid condensation build up and possible corrosion
Note: There will be a weld witness mark on the side of the pole with the Factory installed VM2

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SSS-B Series Poles

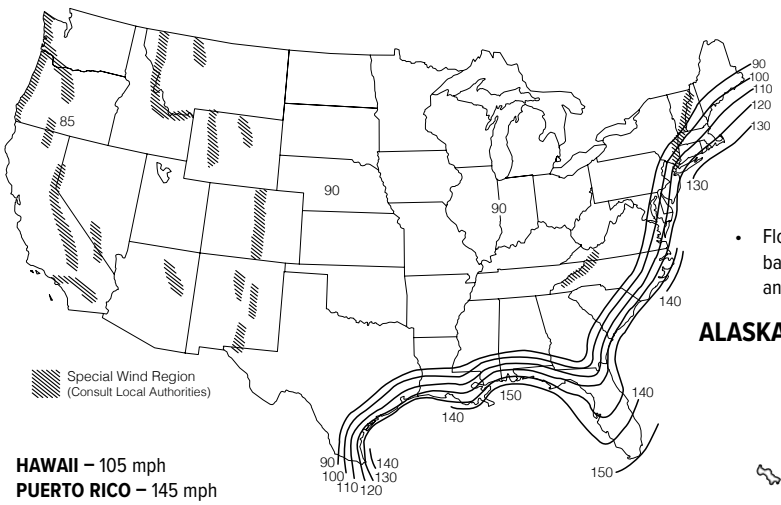
SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

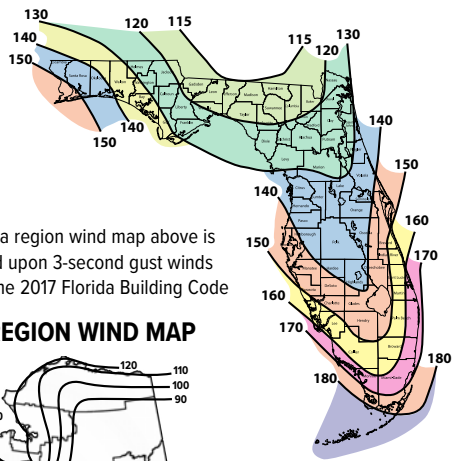
CATALOG #:

ASCE7-05 WIND MAP



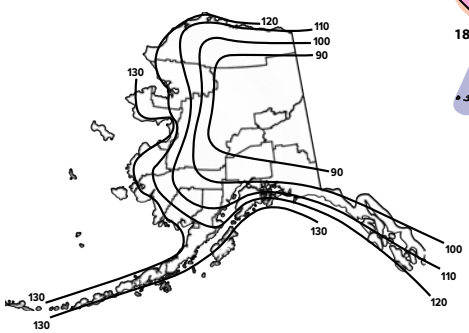
HAWAII – 105 mph
PUERTO RICO – 145 mph

FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)										
Catalog Number	**85**	**90**	**100**	**105**	**110**	**120**	**130**	**140**	**145**	**150**
SSS-B-10-40-A	25.0	25.0	25.0	22.8	20.6	17.0	14.2	11.9	11.0	10.1
SSS-B-12-40-A	25.0	25.0	20.0	18.0	16.1	13.2	10.8	8.9	8.1	7.4
SSS-B-14-40-A	23.1	20.4	16.1	14.3	12.8	10.2	8.2	6.6	5.9	5.3
SSS-B-16-40-A	19.0	16.7	13.0	11.5	10.1	7.9	6.2	4.7	4.1	3.6
SSS-B-18-40-A	15.6	13.6	10.0	9.0	7.8	5.9	4.4	3.1	2.6	2.1
SSS-B-20-40-A	12.7	10.9	7.9	6.9	5.9	4.2	2.8	1.7	1.3	0.9
SSS-B-25-40-A	7.3	5.9	3.8	2.9	2.1	0.8	NR	NR	NR	NR
SSS-B-14-40-B	25.0	25.0	23.3	20.8	18.6	15.1	12.3	10.2	9.2	8.4
SSS-B-16-40-B	25.0	24.9	19.4	17.3	15.4	12.3	9.9	8.0	7.2	6.4
SSS-B-18-40-B	24.0	20.8	16.1	14.2	12.5	9.8	7.7	6.1	5.3	4.7
SSS-B-20-40-B	20.2	17.5	13.2	11.6	10.1	7.7	5.9	4.4	3.8	3.2
SSS-B-25-40-B	12.8	11.0	7.9	6.7	5.5	3.7	2.3	1.2	0.7	NR
SSS-B-30-40-B	8.0	6.6	4.1	3.1	2.2	0.8	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	24.8	20.1	16.5	13.6	12.3	11.2
SSS-B-18-50-B	25.0	25.0	25.0	22.9	20.4	16.4	13.2	10.7	9.6	8.6
SSS-B-20-50-B	25.0	25.0	21.3	18.9	16.7	13.2	10.4	8.1	7.2	6.3
SSS-B-25-50-B	20.7	17.8	13.3	11.5	9.8	7.2	5.0	3.3	2.6	1.9
SSS-B-30-50-B	13.5	11.3	7.7	6.2	4.9	2.8	1.1	NR	NR	NR
SSS-B-25-50-C	25.0	25.0	19.4	17.1	15.1	11.7	9.0	6.9	6.0	5.1
SSS-B-30-50-C	20.1	17.3	12.7	10.9	9.3	6.6	4.5	2.8	2.1	1.4
SSS-B-20-60-B	25.0	25.0	25.0	25.0	25.0	20.2	16.1	12.9	11.5	10.3
SSS-B-25-60-B	25.0	25.0	20.6	18.0	15.6	11.8	8.7	6.2	5.2	4.2
SSS-B-30-60-B	21.4	18.1	12.9	10.7	8.8	5.7	3.3	1.3	NR	NR
SSS-B-35-60-B	14.0	11.3	6.9	5.2	3.6	1.0	NR	NR	NR	NR
SSS-B-40-60-B	8.1	5.8	2.2	nr	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)								
Catalog Number	**115**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
SSS-B-10-40-A	25.0	25.0	25.0	25.0	21.4	18.4	15.9	13.9
SSS-B-12-40-A	25.0	25.0	23.6	19.8	16.7	14.2	12.1	10.4
SSS-B-14-40-A	25.0	23.1	19.0	15.7	13.1	10.9	9.1	7.6
SSS-B-16-40-A	20.8	18.7	15.2	12.3	10.1	8.2	6.7	5.4
SSS-B-18-40-A	16.8	15.0	11.9	9.4	7.5	5.9	4.5	3.4
SSS-B-20-40-A	13.6	11.9	9.2	7.1	5.3	3.9	2.7	1.7
SSS-B-25-40-A	7.4	6.2	4.1	2.5	1.1	NR	NR	NR
SSS-B-14-40-B	25.0	23.6	19.4	16.1	13.4	11.2	9.4	7.8
SSS-B-16-40-B	21.4	19.2	15.6	12.7	10.4	8.5	6.9	5.6
SSS-B-18-40-B	17.2	15.4	12.2	9.7	7.7	6.1	4.7	3.6
SSS-B-20-40-B	13.9	12.3	9.5	7.3	5.5	4.1	2.9	1.9
SSS-B-25-40-B	7.7	6.4	4.3	2.6	1.3	NR	NR	NR
SSS-B-30-40-B	3.2	2.1	NR	NR	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	25.0	21.4	18.2	15.5
SSS-B-18-50-B	25.0	25.0	25.0	24.4	20.4	17.0	14.2	11.9
SSS-B-20-50-B	25.0	25.0	24.4	19.9	16.3	13.4	11.0	8.9
SSS-B-25-50-B	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-B	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-25-50-C	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-C	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-20-60-B	25.0	25.0	25.0	21.9	17.8	14.5	11.7	9.4
SSS-B-25-60-B	23.8	20.9	16.1	12.3	9.2	6.6	4.5	2.8
SSS-B-30-60-B	14.6	12.3	8.4	5.3	2.8	0.8	NR	NR
SSS-B-35-60-B	7.5	5.6	2.4	NR	NR	NR	NR	NR
SSS-B-40-60-B	1.8	NR	NR	NR	NR	NR	NR	NR

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

NOTES

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

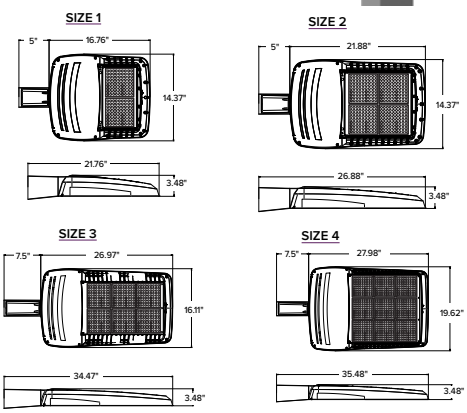
VIPER Area/Site

VIPER LUMINAIRE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

MICRO STRIKE | OPTICS STRIKE



c UL us IP65 DLC LISTED DLC LISTED PREMIUM ida DARK SKY APPROVED 2016 BAA TAA

CONTROL TECHNOLOGY

CONNECT WIRED WIRELESS LIGHTGRID

SERVICE PROGRAMS

STOCK QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG # VP – _____ – _____ – _____ – _____ – _____ – _____ – _____ – _____ – _____ – _____

Series	Optic Platform	Size	Light Engine		CCT/CRI		Distribution		Optic Rotation		Voltage	
VP	Viper	Micro Strike	1	Size 1	160L-35 [6]	5500 lumens	AP	AP-Amber Phosphor Converted	2	Type 2	BLANK	No Rotation	UNV	120-277V
					160L-50 [6]	7500 lumens	27K8	2700K, 80 CRI	3	Type 3	L	Optic rotation left	120	120V
					160L-75	10000 lumens	3K7	3000K, 70 CRI	4F	Type 4 Forward	R	Optic rotation right	208	208V
					160L-100	12500 lumens	3K8	3000K, 80 CRI	4W	Type 4 Wide			240	240V
					160L-115	15000 lumens	35K8	3500K, 80 CRI	5QW	Type 5 Square Wide			277	277V
					160L-135	18000 lumens	3K9	3000K, 90 CRI					347	347V
					160L-160	21000 lumens	4K7	4000K, 70 CRI					480	480V
			2	Size 2	320L-145	21000 lumens	4K8	4000K, 80 CRI						
					320L-170	24000 lumens	4K9	4000K, 90 CRI						
					320L-185	27000 lumens	5K7	5000K, 70 CRI						
					320L-210	30000 lumens	5K8	5000K, 80 CRI						
					320L-235	33000 lumens								
					320L-255	36000 lumens								
					320L-315 [6]	40000 lumens								
			3	Size 3	480L-285	40000 lumens								
					480L-320	44000 lumens								
					480L-340	48000 lumens								
					480L-390	52000 lumens								
					480L-425	55000 lumens								
					480L-470	60000 lumens								
			4	Size 4	720L-435	60000 lumens								
					720L-475	65000 lumens								
					720L-515	70000 lumens								
					720L-565 [6]	75000 lumens								
					720L-600 [6]	80000 lumens								
					CLO	Custom Lumen Output [1]								

Mounting		Color		Options		Network Control Options	
A	Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter)	BLT	Black Matte Textured	F	Fusing	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
A_	Arm mount for round pole [2]	BLS	Black Gloss Smooth	2PF	Dual Power Feed	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
ASQU	Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern	DBT	Dark Bronze Matte Textured	2DR	Dual Driver	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
A_U	Universal arm mount for round pole [2]	DBS	Dark Bronze Gloss Smooth	TE	Tooless Entry	WIR	LightGRID+ In-Fixture Module [3,4]
AAU	Adjustable arm for pole mounting (universal drill pattern)	GTT	Graphite Matte Textured	BC	Backlight Control [8]	WIRSC	LightGRID+ Module and Occupancy Sensor [3,4]
AA_U	Adjustable arm mount for round pole [2]	LGS	Light Grey Gloss Smooth	TB	Terminal Block	**Stand Alone Sensors**	
ADU	Decorative upswept Arm (universal drill pattern)	LGT	Light Grey Gloss Textured			BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
AD_U	Decorative upswept arm mount for round pole [2]	PSS	Platinum Silver Smooth			BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
MAF	Mast arm fitter for 2-3/8" OD horizontal arm	WHT	White Matte Textured			BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
K	Knuckle	WHS	White Gloss Smooth			7PR	7-Pin Receptacle [4]
T	Trunnion	VGT	Verde Green Textured			7PR-SC	7-Pin Receptacle with shorting cap [4]
WB	Wall Bracket, horizontal tenon with MAF	**Color Option**				3PR	3-Pin twist lock [4]
WM	Wall mount bracket with decorative upswept arm	CC	Custom Color			3PR-SC	3-Pin receptacle with shorting cap [4]
WA	Wall mount bracket with adjustable arm					3PR-TL	3-Pin PCR with photocontrol [4]
						Programmed Controls	
						SCP-_F	Sensor Control Programmable, 8F or 40F [9]
						ADD	AutoDim Timer Based Dimming [4]
						ADT	AutoDim Time of Day Dimming [4]
						Photocontrols	
						PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
3 – Networked Controls cannot be combined with other control options
4 – Not available with 2PF option
5 – Not available with Dual Driver option
6 – Some voltage restrictions may apply when combined with controls
7 – Not available with 480V
8 – BC not available on 4F and type 5 distributions
9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONT'D)

CATALOG #

Accessory Type		Size		Option		Color	
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	BLS	Black Gloss Smooth
		2	Size 2	HSS-90-F	House Side Shield 90° Front	BLT	Black Matte Textured
		3	Size 3	HSS-90-S	House Side Shield 90° Side	DBS	Dark Bronze Gloss Smooth
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side	DBT	Dark Bronze Matte Textured
				HSS-270-FSS	House Side Shield 270° Front/Side/Side	GTT	Graphite Matte Textured
				HSS-270-FSB	House Side Shield 270° Front/Side/Back	LGS	Light Gray Gloss Smooth
				HSS-360	House Side Shield 360°	PSS	Platinum Silver Smooth
				BC	Back Light Control	WHS	White Gloss Smooth
MTG	Mounting			A	Arm Mount for square pole/flat surface	WHT	White Matte Textured
				ASQU	Universal Arm Mount for square pole	VGT	Green Landscape Decorative
				AAU	Adjustable Arm for pole mounting	LEG	Legacy Colors
				ADU	Decorative upswept Arm	**Color Option**	
				RPA	Round Pole Adapter	CC	Custom Color
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm		
				K	Knuckle		
				T	Trunnion		
				WB	Wall Bracket (compatible with universal arm mounts)		

Accessory Type		Option	
MSC	Miscellaneous	BIRD SPK	Bird Spike

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

- ☐ **NXOFM-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

- ☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC
- ☐ **SCP-REMOTE** — Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor

For additional information related to these accessories please visit currentlighting.com/beacon. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

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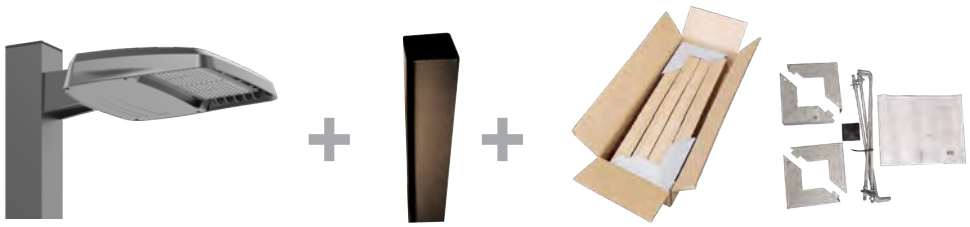
VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration

VM14DB

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VIPER Area/Site

VIPER LUMINAIRE

DATE: | LOCATION:

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CATALOG #:

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

LIGHTGRID+

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming	✓	✓	✓	Paired with external control	✓	✓	✓	✓	–		NXOFM-1R1D-UV
	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
	WIR-RME-L	LightGRID+ On Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR-RME-L
	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

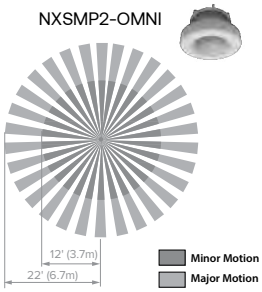
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

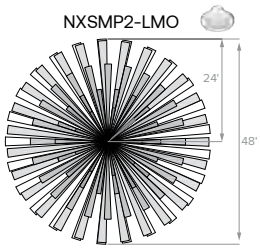
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI

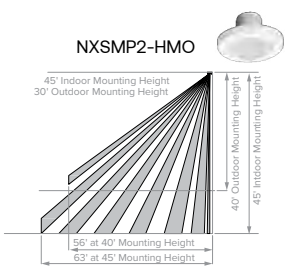


NXSMP2-LMO



Sensor Lens Coverage and Detection Patterns When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns When Mounted at 40ft and 45ft with Standard Lens

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VIPER Area/Site
VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

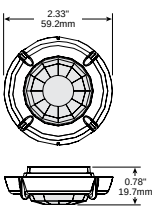
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

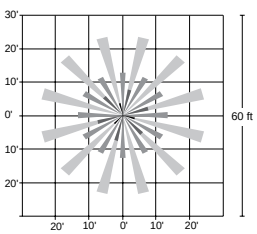
CONTROLS FUNCTIONALITY

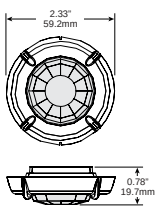
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	–	–	–	✓	✓	✓	✓	–	8ft or 40ft		SCP_F
	ADD	AutoDIM Timer Based Dimming	–	–	✓	–	–	–	✓	–	–		ADD
	ADT	AutoDIM Time of Day Dimming	–	–	✓	–	–	–	✓	–	–		ADT
	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–		7PR
	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		7PR-SC
	3PR	3-Pin twist lock	–	–	–	–	–	–	Paired with external control	–	–		3PR
	3PR-SC	3-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		3PR-SC
	3PR-TL	3-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–		3PR-TL

COVERAGE PATTERNS FOR SCP_F

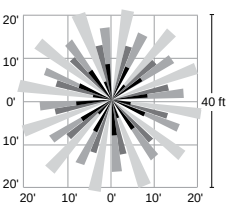


Coverage Top View @ 12ft.

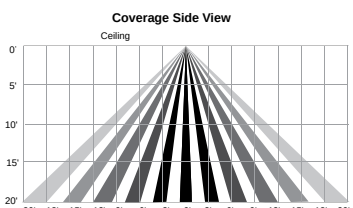




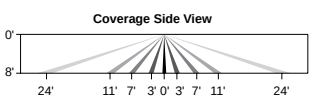
Coverage Top View @ 20 ft.

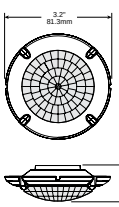


Coverage Side View

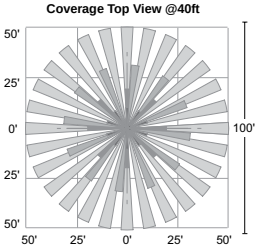


Coverage Side View

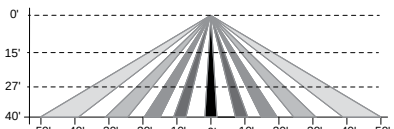




Coverage Top View @40ft



Coverage Side View



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VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
AP-Amber Phosphor Converted Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

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VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS		162				
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)		CURRENT (Amps)				
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

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VIPER LUMINAIRE

DATE: LOCATION:

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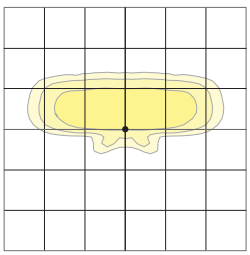
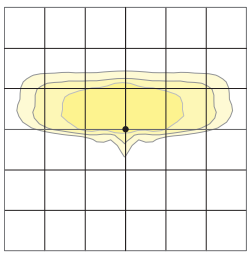
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

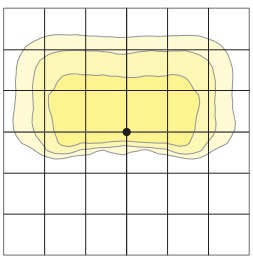
Type 2



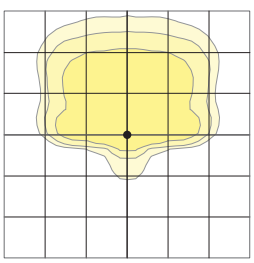
Type 3



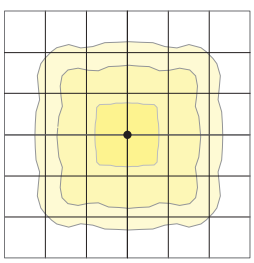
Type 4 Wide



Type 4F



Type 5QW



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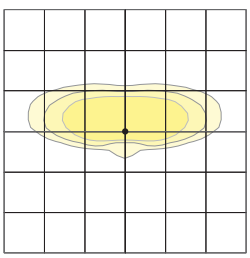
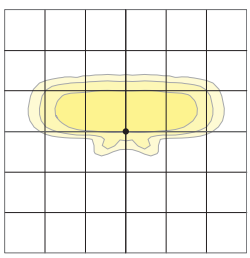
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

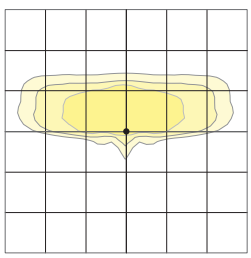
Type FR – Front Row/Auto Optic



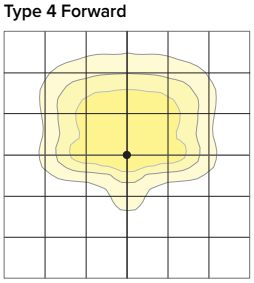
Type 2



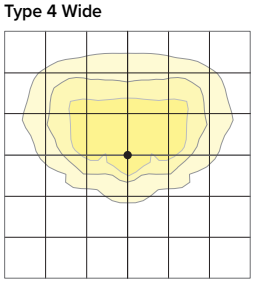
Type 3



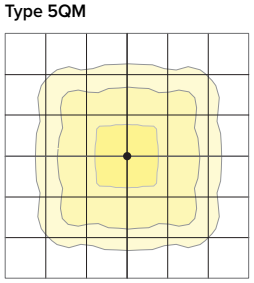
Type 4 Forward



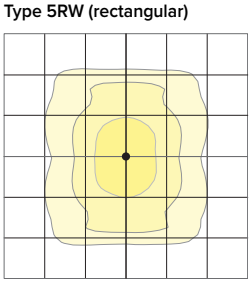
Type 4 Wide



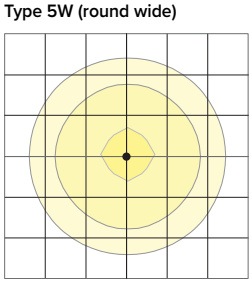
Type 5QM



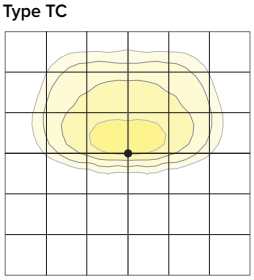
Type 5RW (rectangular)



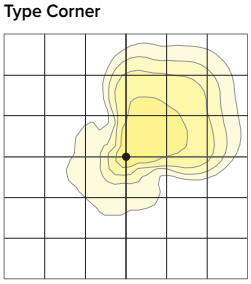
Type 5W (round wide)



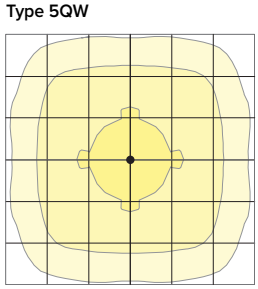
Type TC



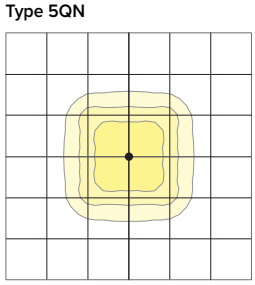
Type Corner



Type 5QW



Type 5QN



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VIPER Area/Site

VIPER LUMINAIRE

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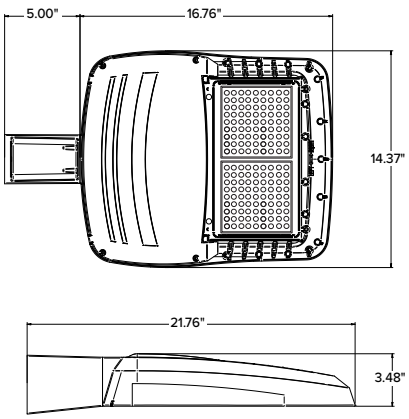
DIMENSIONS

SIZE 1



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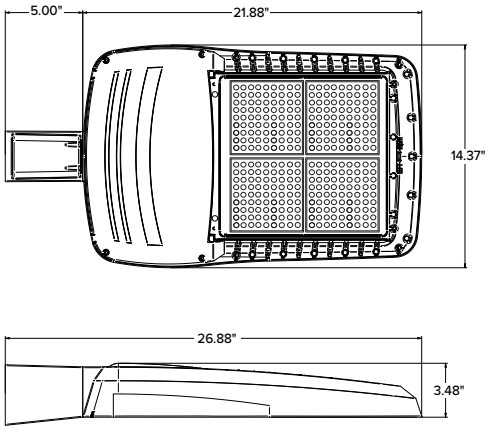
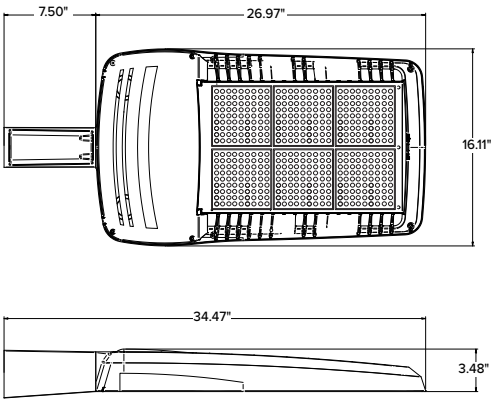


SIZE 3



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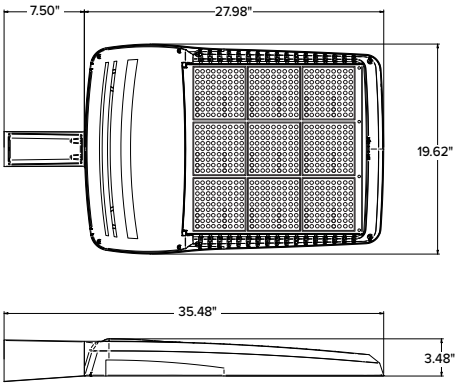

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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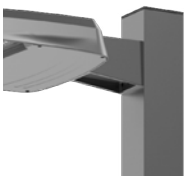
VIPER Area/Site

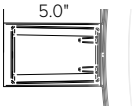
VIPER LUMINAIRE

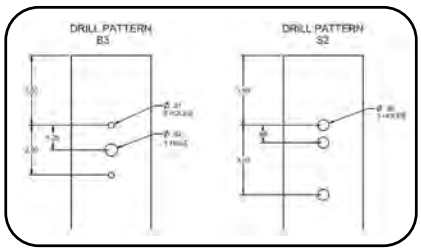
MOUNTING

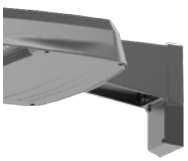


A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

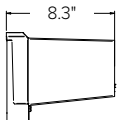


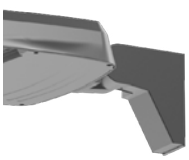




ASQU–UNIVERSAL ARM MOUNT

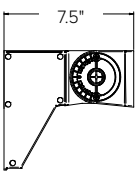
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

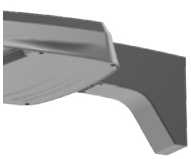




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

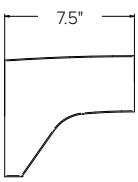
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation.
Strike configurations have a 30° aiming limitation.

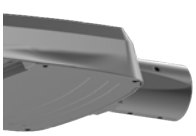




ADU–DECORATIVE UPSWEPT ARM

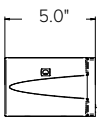
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

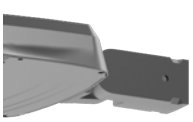




MAF–MAST ARM FITTER

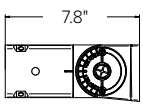
Fits 2-3/8" OD horizontal tenons.

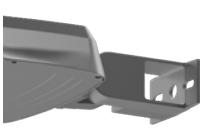




K–KNUCKLE

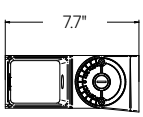
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





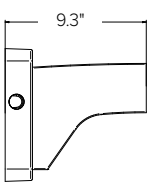
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



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VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

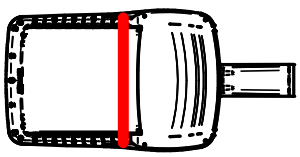
CATALOG #:

ADDITIONAL INFORMATION (CONTINUED)

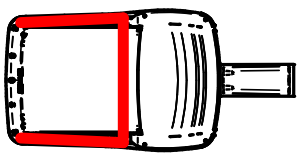
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

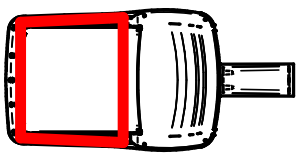
VPR2x HSS-90-B-xx



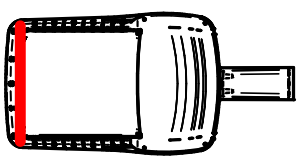
VPR2x HSS-270-BSS-xx



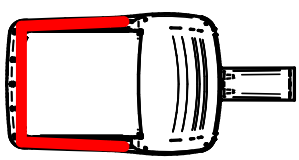
VPR2x HSS-360-xx



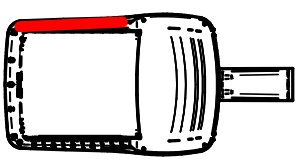
VPR2x HSS-90-F-xx



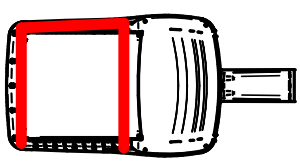
VPR2x HSS-270-FSS-xx



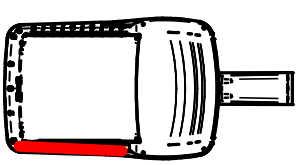
VPR2x HSS-90-S-xx



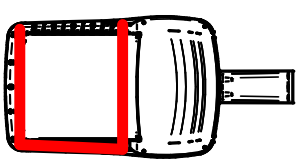
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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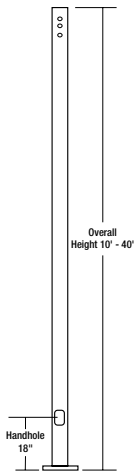
SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:



APPLICATIONS

- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT: One-piece straight steel with square cross section, flat sides and minimum 0.23" radius on all corners; Minimum yield of 46,000 psi (ASTM-A500, Grade B); Longitudinal weld seam to appear flush with shaft side wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER: Two-piece square aluminum base cover included standard
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

  Anchor bolt part numbers: 3/4 x 30 x 3 — TAB-30-M38

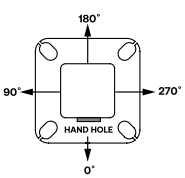
  1 x 36 x 4 — TAB-36-M38

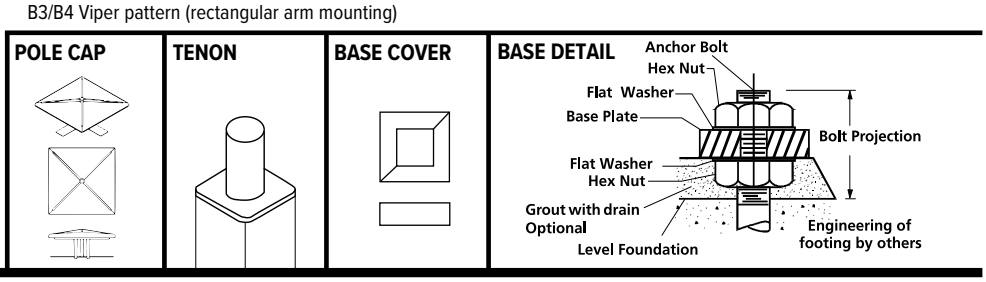
FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

WAREHOUSE 'STOCKED' POLES:

- SSSH20-40A-4-HV-DB-RDC, SSSH25-40A-4-HV-DB-RDC and SSSH30-50B-4-HV-DB-RDC
- The HV designation in the above catalog numbers is a combination drill pattern of the Current S2 pattern and the Beacon B3/B4 Viper pattern (rectangular arm mounting)





ORDERING INFORMATION

Reference page 2 for available configurations

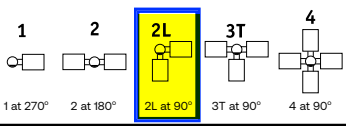
ORDERING EXAMPLE:

SSS -B - 25 - 40 - A/B/C - 2L - B3 - BLT - UL

SERIES	HEIGHT	SHAFT	THICKNESS
SSS-B Square Straight Steel Pole Beacon	Reference page 2 Ordering matrix **20'**	Reference page 2 Ordering matrix **40**	Reference page 2 Ordering matrix **A** - .125" Wall B - .188" Wall C - .250" Wall

MOUNTING ORIENTATION

Denotes handhole location



MOUNTING	
1	Single arm mount
2	Two fixtures at 180°
2L	Two fixtures at 90°
3T	Three fixtures at 90°
4	Four fixtures at 90°
TA	Tenon (2.38" OD x 4" Tall)
TB	Tenon (2.88" OD x 4" Tall)
TC	Tenon (3.5" OD x 6" Tall)
TR[1]	Removable Tenon (2.375 x 4.25)
OT	Open Top (includes pole cap)

FINISH	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGT	Light Grey Gloss Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

OPTIONS	
GFI[2]	20 Amp GFCI Receptacle and Cover
EHH[2]	Extra Handhole
C05[2]	.5" Coupling
C07[2]	.75" Coupling
C20[2]	2" Coupling
MPB[2]	Mid-pole Luminaire Bracket
VM1[3]	1st mode vibration damper
VM2	2nd mode vibration damper
LAB	Less Anchor Bolts
UL	UL Certified

DRILL PATTERN	
B1	Cruzer, "AM" arm
B3	2 bolt (2-½" spacing), Viper "A" arm
S2	2 bolt (3-½" spacing), Viper "AD" arm
UDP	Universal Drill Pattern

1 Removable tenon used in conjunction with side arm mounting. First specify desired arm configuration followed by the **"TR"** notation. Example: **SSS-B-25-40-A-1-B1-TR-BBT**

2 Specify option location using logic found on page 2 **(Option Orientation)**

3 VM1 recommended on poles 20' and taller with EPA of less than 1.

ACCESSORIES - Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thick-ness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters									
SSS-B-10-40-A-XX-XX	10	3.0	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	77
SSS-B-12-40-A-XX-XX	12	3.7	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	90
SSS-B-14-40-A-XX-XX	14	4.3	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	103
SSS-B-16-40-A-XX-XX	16	4.9	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	116
SSS-B-18-40-A-XX-XX	18	5.5	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	129
SSS-B-20-40-A-XX-XX	20	6.1	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	142
SSS-B-25-40-A-XX-XX	25	7.6	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	175
SSS-B-14-40-B-XX-XX	14	4.3	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	152
SSS-B-16-40-B-XX-XX	16	4.9	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	171
SSS-B-18-40-B-XX-XX	18	5.5	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	190
SSS-B-20-40-B-XX-XX	20	6.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	209
SSS-B-25-40-B-XX-XX	25	7.6	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	257
SSS-B-30-40-B-XX-XX	30	9.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	304
SSS-B-16-50-B-XX-XX	16	4.9	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	219
SSS-B-18-50-B-XX-XX	18	5.5	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	243
SSS-B-20-50-B-XX-XX	20	6.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	267
SSS-B-25-50-B-XX-XX	25	7.6	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	327
SSS-B-30-50-B-XX-XX	30	9.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	387
SSS-B-25-50-C-XX-XX	25	7.6	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	427
SSS-B-30-50-C-XX-XX	30	9.1	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	507
SSS-B-20-60-B-XX-XX	20	6.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	329
SSS-B-25-60-B-XX-XX	25	7.6	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	404
SSS-B-30-60-B-XX-XX	30	9.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	479
SSS-B-35-60-B-XX-XX	35	10.7	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	554
SSS-B-40-60-B-XX-XX	40	12.2	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	629

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

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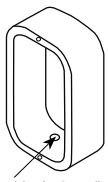
SSS-B Series Poles

SQUARE STRAIGHT STEEL

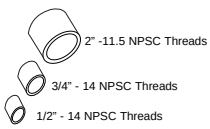
ADDITIONAL INFORMATION

EHH - EXTRA HANDHOLE

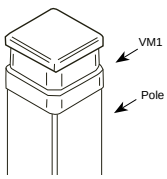


Provision for Grounding

C05 - C07 - C20 - COUPLING

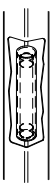


VM1 - VIBRATION DAMPER 1ST MODE



Field Installed Pole Top damper designed to reduce pole top deflection or sway. VM1 is recommended for pole systems 25' and taller with a total EPA of 1.0 or less.

VM2 - VIBRATION DAMPER 2ND MODE



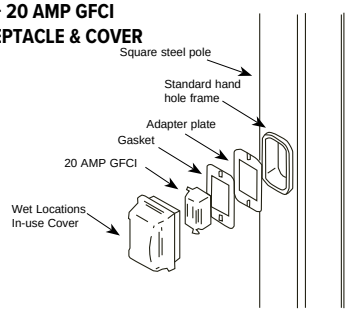
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

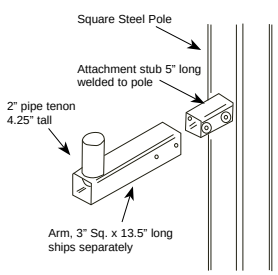
VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

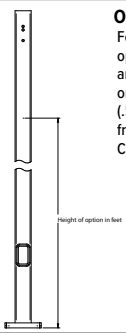
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI – 20 AMP GFCI RECEPTACLE & COVER



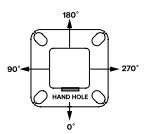
MPB - MID POLE BRACKET



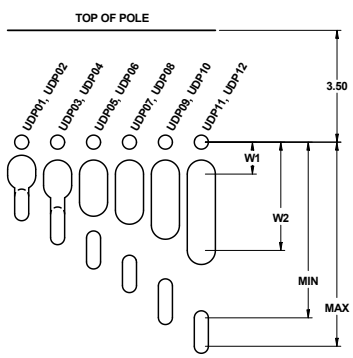


OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C05 should be ordered as: **SSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



UNIVERSAL DRILL PATTERN (UDP)



TWO BOLT MOUNTING WITH CENTER WIREWAY						
MOUNTING HARDWARE	Universal Mounting Patterns					
3/8" OR LESS	UDP01	UDP03	UDP05	UDP07	UDP09	UDP11
7/16" TO 1/2"	UDP02	UDP04	UDP06	UDP08	UDP10	UDP12
"MIN" ATTACHMENT DIMENSION	1.69	2.25	3.00	3.76	4.50	5.50
"MAX" ATTACHMENT DIMENSION	2.24	2.99	3.75	4.49	5.49	6.00
W1 (Wireway min)	0.85	1.00	1.00	1.00	1.00	1.00
W2 (Wireway max)	1.05	1.36	1.88	2.13	2.60	3.00

For more information about pole vibration and vibration dampers, please consut factory
Due to our continued efforts to improve our products, product specifications are subject to change without notice.
Unwrap poles immediately upon receipt to avoid condensation build up and possible corrosion
Note: There will be a weld witness mark on the side of the pole with the Factory installed VM2

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SSS-B Series Poles

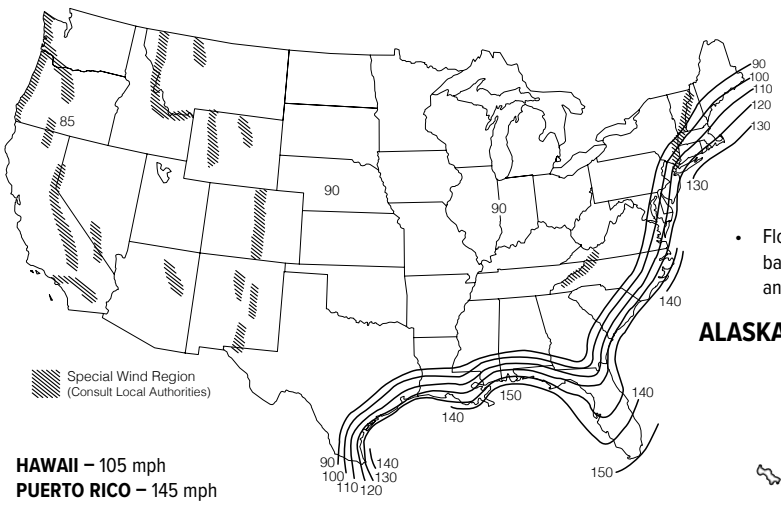
SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

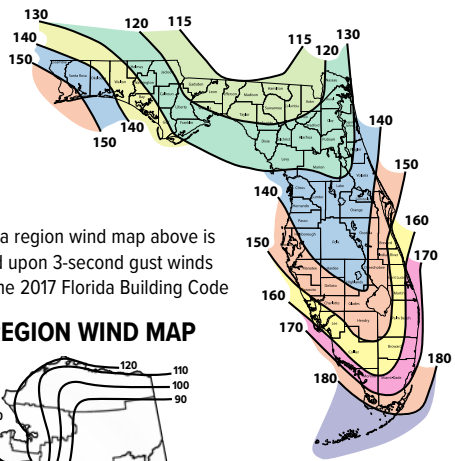
CATALOG #:

ASCE7-05 WIND MAP



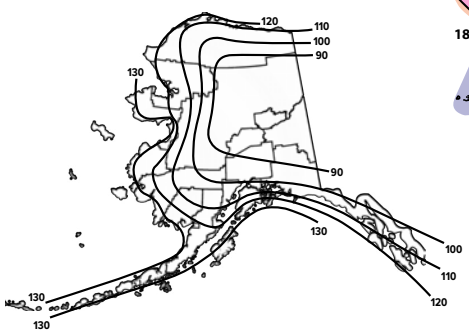
HAWAII – 105 mph
PUERTO RICO – 145 mph

FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)										
Catalog Number	**85**	**90**	**100**	**105**	**110**	**120**	**130**	**140**	**145**	**150**
SSS-B-10-40-A	25.0	25.0	25.0	22.8	20.6	17.0	14.2	11.9	11.0	10.1
SSS-B-12-40-A	25.0	25.0	20.0	18.0	16.1	13.2	10.8	8.9	8.1	7.4
SSS-B-14-40-A	23.1	20.4	16.1	14.3	12.8	10.2	8.2	6.6	5.9	5.3
SSS-B-16-40-A	19.0	16.7	13.0	11.5	10.1	7.9	6.2	4.7	4.1	3.6
SSS-B-18-40-A	15.6	13.6	10.0	9.0	7.8	5.9	4.4	3.1	2.6	2.1
SSS-B-20-40-A	12.7	10.9	7.9	6.9	5.9	4.2	2.8	1.7	1.3	0.9
SSS-B-25-40-A	7.3	5.9	3.8	2.9	2.1	0.8	NR	NR	NR	NR
SSS-B-14-40-B	25.0	25.0	23.3	20.8	18.6	15.1	12.3	10.2	9.2	8.4
SSS-B-16-40-B	25.0	24.9	19.4	17.3	15.4	12.3	9.9	8.0	7.2	6.4
SSS-B-18-40-B	24.0	20.8	16.1	14.2	12.5	9.8	7.7	6.1	5.3	4.7
SSS-B-20-40-B	20.2	17.5	13.2	11.6	10.1	7.7	5.9	4.4	3.8	3.2
SSS-B-25-40-B	12.8	11.0	7.9	6.7	5.5	3.7	2.3	1.2	0.7	NR
SSS-B-30-40-B	8.0	6.6	4.1	3.1	2.2	0.8	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	24.8	20.1	16.5	13.6	12.3	11.2
SSS-B-18-50-B	25.0	25.0	25.0	22.9	20.4	16.4	13.2	10.7	9.6	8.6
SSS-B-20-50-B	25.0	25.0	21.3	18.9	16.7	13.2	10.4	8.1	7.2	6.3
SSS-B-25-50-B	20.7	17.8	13.3	11.5	9.8	7.2	5.0	3.3	2.6	1.9
SSS-B-30-50-B	13.5	11.3	7.7	6.2	4.9	2.8	1.1	NR	NR	NR
SSS-B-25-50-C	25.0	25.0	19.4	17.1	15.1	11.7	9.0	6.9	6.0	5.1
SSS-B-30-50-C	20.1	17.3	12.7	10.9	9.3	6.6	4.5	2.8	2.1	1.4
SSS-B-20-60-B	25.0	25.0	25.0	25.0	25.0	20.2	16.1	12.9	11.5	10.3
SSS-B-25-60-B	25.0	25.0	20.6	18.0	15.6	11.8	8.7	6.2	5.2	4.2
SSS-B-30-60-B	21.4	18.1	12.9	10.7	8.8	5.7	3.3	1.3	NR	NR
SSS-B-35-60-B	14.0	11.3	6.9	5.2	3.6	1.0	NR	NR	NR	NR
SSS-B-40-60-B	8.1	5.8	2.2	nr	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)								
Catalog Number	**115**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
SSS-B-10-40-A	25.0	25.0	25.0	25.0	21.4	18.4	15.9	13.9
SSS-B-12-40-A	25.0	25.0	23.6	19.8	16.7	14.2	12.1	10.4
SSS-B-14-40-A	25.0	23.1	19.0	15.7	13.1	10.9	9.1	7.6
SSS-B-16-40-A	20.8	18.7	15.2	12.3	10.1	8.2	6.7	5.4
SSS-B-18-40-A	16.8	15.0	11.9	9.4	7.5	5.9	4.5	3.4
SSS-B-20-40-A	13.6	11.9	9.2	7.1	5.3	3.9	2.7	1.7
SSS-B-25-40-A	7.4	6.2	4.1	2.5	1.1	NR	NR	NR
SSS-B-14-40-B	25.0	23.6	19.4	16.1	13.4	11.2	9.4	7.8
SSS-B-16-40-B	21.4	19.2	15.6	12.7	10.4	8.5	6.9	5.6
SSS-B-18-40-B	17.2	15.4	12.2	9.7	7.7	6.1	4.7	3.6
SSS-B-20-40-B	13.9	12.3	9.5	7.3	5.5	4.1	2.9	1.9
SSS-B-25-40-B	7.7	6.4	4.3	2.6	1.3	NR	NR	NR
SSS-B-30-40-B	3.2	2.1	NR	NR	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	25.0	21.4	18.2	15.5
SSS-B-18-50-B	25.0	25.0	25.0	24.4	20.4	17.0	14.2	11.9
SSS-B-20-50-B	25.0	25.0	24.4	19.9	16.3	13.4	11.0	8.9
SSS-B-25-50-B	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-B	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-25-50-C	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-C	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-20-60-B	25.0	25.0	25.0	21.9	17.8	14.5	11.7	9.4
SSS-B-25-60-B	23.8	20.9	16.1	12.3	9.2	6.6	4.5	2.8
SSS-B-30-60-B	14.6	12.3	8.4	5.3	2.8	0.8	NR	NR
SSS-B-35-60-B	7.5	5.6	2.4	NR	NR	NR	NR	NR
SSS-B-40-60-B	1.8	NR	NR	NR	NR	NR	NR	NR

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

NOTES

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

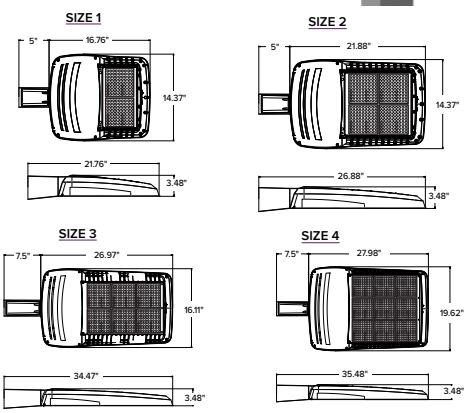
VIPER Area/Site

VIPER LUMINAIRE

MICRO STRIKE | STRIKE OPTICS

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



c UL us IP65 DLC LISTED DLC LISTED PREMIUM ida DARK SKY APPROVED 2016 BAA TAA

CONTROL TECHNOLOGY

NX CONNECT NX WIRED NX WIRELESS LIGHTGRID

SERVICE PROGRAMS

STOCK QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40˚C to 40˚C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40˚C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to https://www.currentlighting.com/resources/america-solutions).

WARRANTY

- 5 year warranty

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CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP–2–320L-145–3K7–2–R–UNV–A3–BLT

CATALOG #

VP –

Series	Optic Platform	Size	Light Engine		CCT/CRI		Distribution		Optic Rotation		Voltage	
VP	Viper	Micro Strike	1	Size 1	160L-35 [6]	5500 lumens	AP	AP-Amber Phosphor Converted	2	Type 2	BLANK	No Rotation	UNV	120-277V
					160L-50 [6]	7500 lumens	27K8	2700K, 80 CRI	3	Type 3	L	Optic rotation left	120	120V
					160L-75	10000 lumens	3K7	3000K, 70 CRI	4F	Type 4 Forward	R	Optic rotation right	208	208V
					160L-100	12500 lumens	3K8	3000K, 80 CRI	4W	Type 4 Wide			240	240V
					160L-115	15000 lumens	35K8	3500K, 80 CRI	5QW	Type 5 Square Wide			277	277V
					160L-135	18000 lumens	3K9	3000K, 90 CRI					347	347V
					160L-160	21000 lumens	4K7	4000K, 70 CRI					480	480V
			2	Size 2	320L-145	21000 lumens	4K8	4000K, 80 CRI						
					320L-170	24000 lumens	4K9	4000K, 90 CRI						
					320L-185	27000 lumens	5K7	5000K, 70 CRI						
					320L-210	30000 lumens	5K8	5000K, 80 CRI						
					320L-235	33000 lumens								
					320L-255	36000 lumens								
					320L-315 [6]	40000 lumens								
			3	Size 3	480L-285	40000 lumens								
					480L-320	44000 lumens								
					480L-340	48000 lumens								
					480L-390	52000 lumens								
					480L-425	55000 lumens								
					480L-470	60000 lumens								
			4	Size 4	720L-435	60000 lumens								
					720L-475	65000 lumens								
					720L-515	70000 lumens								
					720L-565 [6]	75000 lumens								
					720L-600 [6]	80000 lumens								
					CLO	Custom Lumen Output [1]								

Mounting		Color		Options		Network Control Options	
A	Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter)	BLT	Black Matte Textured	F	Fusing	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
A_	Arm mount for round pole [2]	BLS	Black Gloss Smooth	2PF	Dual Power Feed	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming [1,3,4]
ASQU	Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern	DBT	Dark Bronze Matte Textured	2DR	Dual Driver	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor [3,4]
A_U	Universal arm mount for round pole [2]	DBS	Dark Bronze Gloss Smooth	TE	Tooless Entry	WIR	LightGRID+ In-Fixture Module [3,4]
AAU	Adjustable arm for pole mounting (universal drill pattern)	GTT	Graphite Matte Textured	BC	Backlight Control [8]	WIRSC	LightGRID+ Module and Occupancy Sensor [3,4]
AA_U	Adjustable arm mount for round pole [2]	LGS	Light Grey Gloss Smooth	TB	Terminal Block	**Stand Alone Sensors**	
ADU	Decorative upswept Arm (universal drill pattern)	LGT	Light Grey Gloss Textured			BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
AD_U	Decorative upswept arm mount for round pole [2]	PSS	Platinum Silver Smooth			BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
MAF	Mast arm fitter for 2-3/8" OD horizontal arm	WHT	White Matte Textured			BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
K	Knuckle	WHS	White Gloss Smooth			7PR	7-Pin Receptacle [4]
T	Trunnion	VGT	Verde Green Textured			7PR-SC	7-Pin Receptacle with shorting cap [4]
WB	Wall Bracket, horizontal tenon with MAF	**Color Option**				3PR	3-Pin twist lock [4]
WM	Wall mount bracket with decorative upswept arm	CC	Custom Color			3PR-SC	3-Pin receptacle with shorting cap [4]
WA	Wall mount bracket with adjustable arm					3PR-TL	3-Pin PCR with photocontrol [4]
						Programmed Controls	
						SCP-_F	Sensor Control Programmable, 8F or 40F [9]
						ADD	AutoDim Timer Based Dimming [4]
						ADT	AutoDim Time of Day Dimming [4]
						Photocontrols	
						PC	Button Photocontrol [4,7]

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Replace "_" with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
3 – Networked Controls cannot be combined with other control options
4 – Not available with 2PF option
5 – Not available with Dual Driver option
6 – Some voltage restrictions may apply when combined with controls
7 – Not available with 480V
8 – BC not available on 4F and type 5 distributions
9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

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DATE: LOCATION:

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CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONT'D)

CATALOG #

Accessory Type		Size		Option		Color	
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	BLS	Black Gloss Smooth
		2	Size 2	HSS-90-F	House Side Shield 90° Front	BLT	Black Matte Textured
		3	Size 3	HSS-90-S	House Side Shield 90° Side	DBS	Dark Bronze Gloss Smooth
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side	DBT	Dark Bronze Matte Textured
				HSS-270-FSS	House Side Shield 270° Front/Side/Side	GTT	Graphite Matte Textured
				HSS-270-FSB	House Side Shield 270° Front/Side/Back	LGS	Light Gray Gloss Smooth
				HSS-360	House Side Shield 360°	PSS	Platinum Silver Smooth
				BC	Back Light Control	WHS	White Gloss Smooth
MTG	Mounting			A	Arm Mount for square pole/flat surface	WHT	White Matte Textured
				ASQU	Universal Arm Mount for square pole	VGT	Green Landscape Decorative
				AAU	Adjustable Arm for pole mounting	LEG	Legacy Colors
				ADU	Decorative upswept Arm	**Color Option**	
				RPA	Round Pole Adapter	CC	Custom Color
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm		
				K	Knuckle		
				T	Trunnion		
				WB	Wall Bracket (compatible with universal arm mounts)		

Accessory Type		Option	
MSC	Miscellaneous	BIRD SPK	Bird Spike

Current Control Solutions — Accessories (Sold Separately)

NX Lighting Controls

- ☐ **NXOFM-1R1D-UNV** — On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC

LightGRID+ Lighting Control

- ☐ **WIR-RME-L** — On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC
- ☐ **SCP-REMOTE** — Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor

For additional information related to these accessories please visit currentlighting.com/beacon. Options provided for use with integrated sensor, please view specification sheet ordering information table for details.

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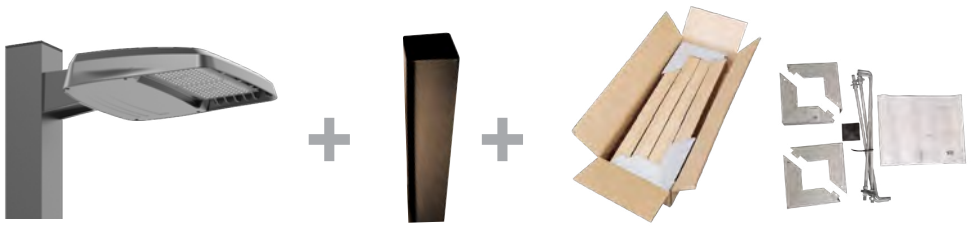
VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration

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VIPER Area/Site

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OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

LIGHTGRID+

	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UNV	NX 7-Pin Twist-Lock® with NX Networked Wireless Radio, Integral Automatic Dimming Photocell, Integral Single Pole Relay with Dimming, and Bluetooth Programming	✓	✓	✓	Paired with external control	✓	✓	✓	✓	–		NXOFM-1R1D-UV
	NXW	NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor	✓	✓	✓	–	–	✓	✓	✓	–		NXRM2-H
	NXWS12F	NX Networked Wireless Enabled Integral NXSMP2-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
	NXWS16F	NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
	NXWS40F	NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	LightGRID+ In-Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR
	WIR-RME-L	LightGRID+ On Fixture Module	✓	–	✓	–	–	✓	✓	Gateway	–		WIR-RME-L
	WIRSC	LightGRID+ Module and Occupancy Sensor	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
	BTS-14F	Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
	BTS-40F	Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens	–	–	–	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

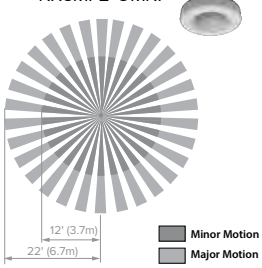
DEFAULT SETTINGS

NX Wireless	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	15 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	0%
Daylight Sensor	Disabled
Bluetooth	Enabled
2.4GHz Wireless Mesh	On
"Passcode Factory Passcode: HubbN3T!"	Enabled

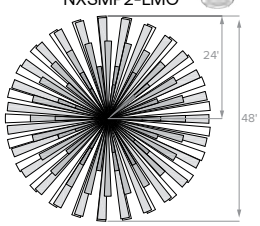
Stand Alone	
Occupancy Sensor	Enabled
Occupancy Sensor Sensitivity	7
Occupancy Sensor Timeout	8 Minutes
Occupied Dim Level	100%
Unoccupied Dim Level	50%
Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS

NXSMP2-OMNI

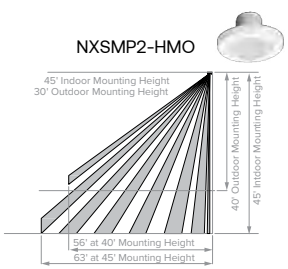


NXSMP2-LMO



Sensor Lens Coverage and Detection Patterns When Mounted at 8ft with Low Mount Lens

NXSMP2-HMO



Sensor Lens Coverage and Detection Patterns When Mounted at 40ft and 45ft with Standard Lens

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DATE: LOCATION:

TYPE: PROJECT:

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NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)

The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminiares and program NX system settings.

Apple App: https://apps.apple.com/us/app/nx-lighting-controls/id962112904

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&gl=US

Apple App

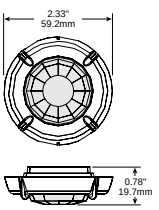
Google Play

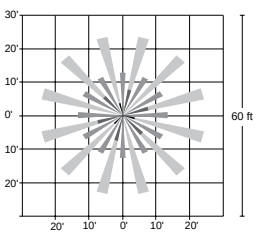
OUTDOOR LIGHTING CONTROLS OPTIONS

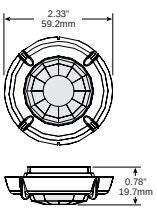
CONTROLS FUNCTIONALITY

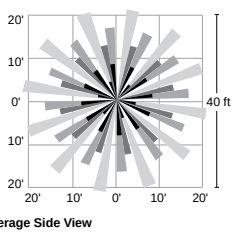
	Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
			Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	–	–	–	✓	✓	✓	✓	–	8ft or 40ft		SCP_F
	ADD	AutoDIM Timer Based Dimming	–	–	✓	–	–	–	✓	–	–		ADD
	ADT	AutoDIM Time of Day Dimming	–	–	✓	–	–	–	✓	–	–		ADT
	7PR	7-Pin Receptacle	–	–	Paired with external control	–	Paired with external control	–	Paired with external control	–	–		7PR
	7PR-SC	7-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		7PR-SC
	3PR	3-Pin twist lock	–	–	–	–	–	–	Paired with external control	–	–		3PR
	3PR-SC	3-Pin Receptacle with shorting cap	–	–	–	–	–	–	–	–	–		3PR-SC
	3PR-TL	3-Pin with photocontrol	–	–	–	–	✓	–	✓	–	–		3PR-TL

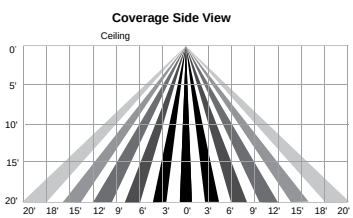
COVERAGE PATTERNS FOR SCP_F



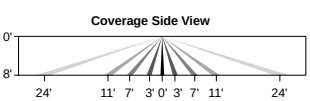


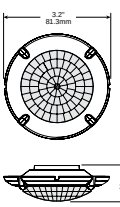


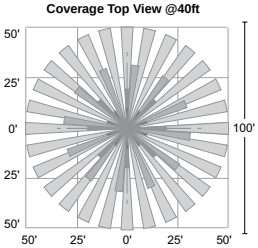


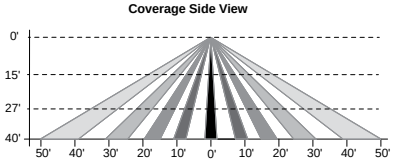


Coverage Side View









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VIPER Area/Site

VIPER LUMINAIRE

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L_{70} (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Micro Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	–	0.841	–
3000K	0.977	0.861	0.647
3500K	–	0.900	–
4000K	1	0.926	0.699
5000K	1	0.937	0.791
AP-Amber Phosphor Converted Multiplier			
Amber	0.710		

Strike Lumen Multiplier			
CCT	70 CRI	80 CRI	90 CRI
2700K	0.9	0.81	0.62
3000K	0.933	0.853	0.659
3500K	0.959	0.894	0.711
4000K	1	0.9	0.732
5000K	1	0.9	0.732
Monochromatic Amber Multiplier			
Amber	See Amber Spec Sheet		

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VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

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ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS		162				
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)		CURRENT (Amps)				
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

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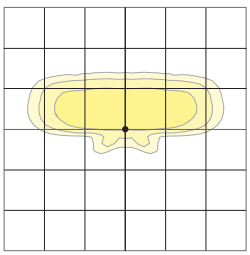
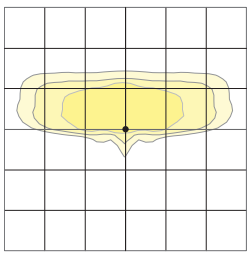
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

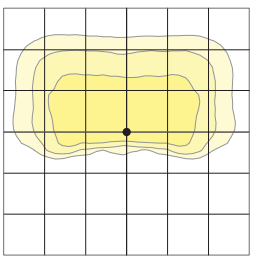
Type 2



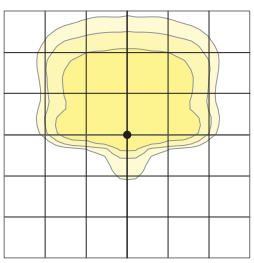
Type 3



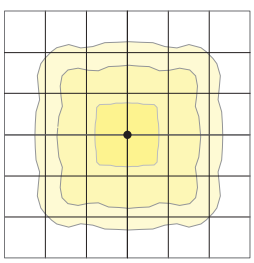
Type 4 Wide



Type 4F



Type 5QW



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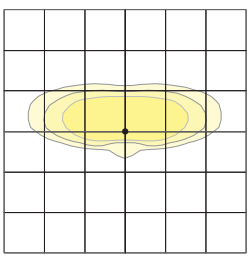
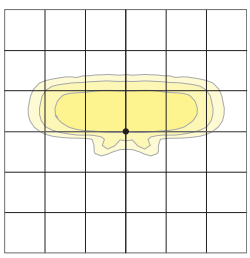
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

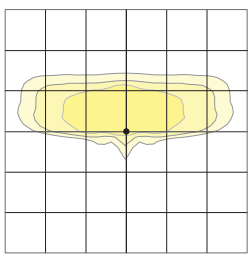
Type FR – Front Row/Auto Optic



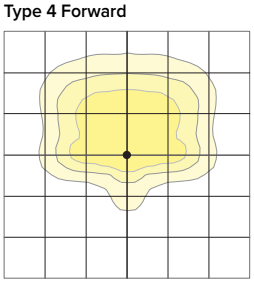
Type 2



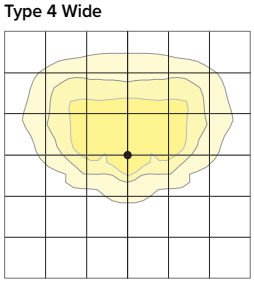
Type 3



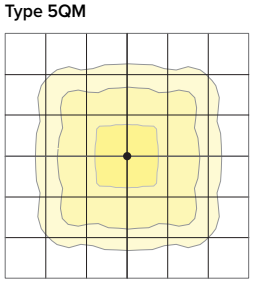
Type 4 Forward



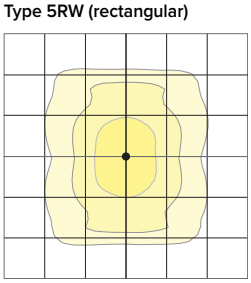
Type 4 Wide



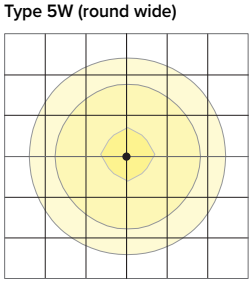
Type 5QM



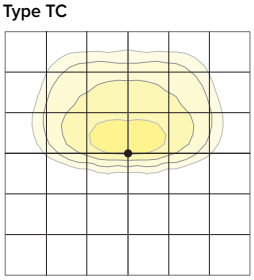
Type 5RW (rectangular)



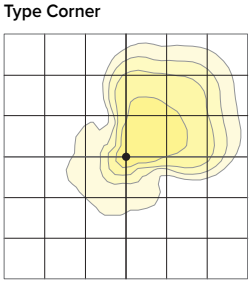
Type 5W (round wide)



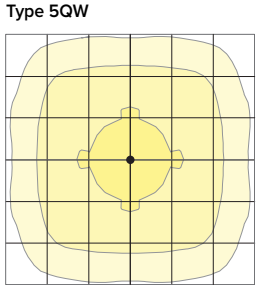
Type TC



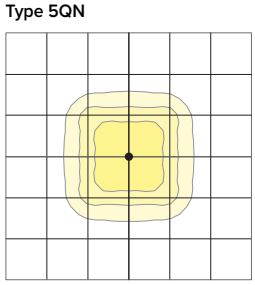
Type Corner



Type 5QW



Type 5QN



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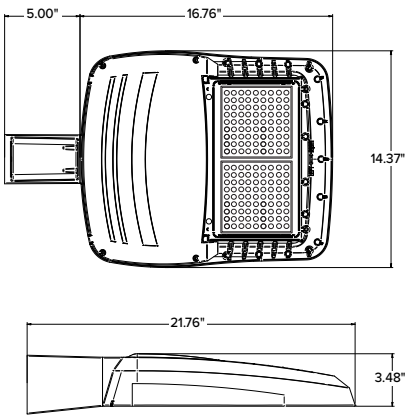
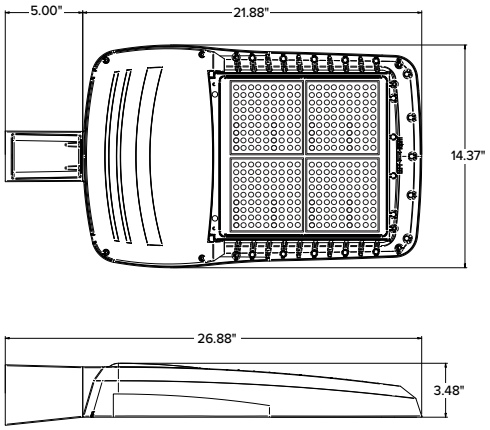
DIMENSIONS

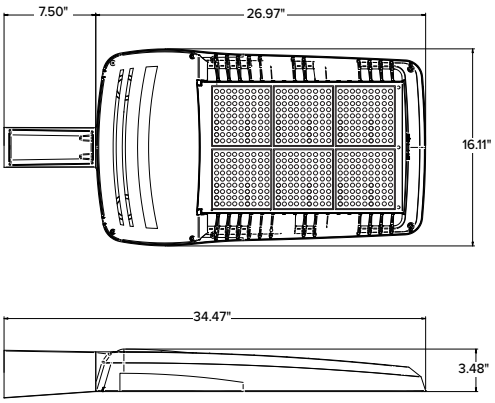
SIZE 1



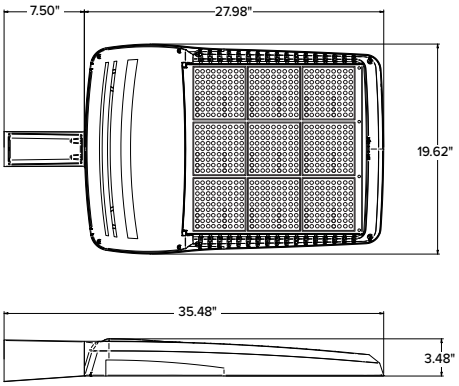
SIZE 2



SIZE 3



SIZE 4



	EPA				
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

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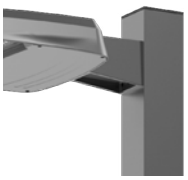
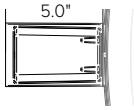
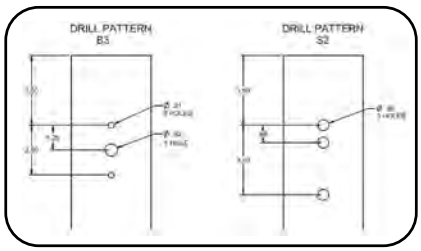
MOUNTING

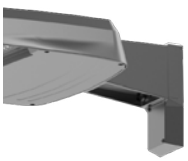


A–STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)

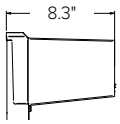


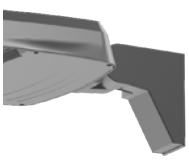




ASQU–UNIVERSAL ARM MOUNT

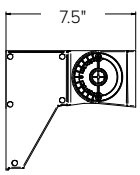
Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)

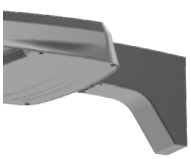




AAU–ADJUSTABLE ARM FOR POLE MOUNTING

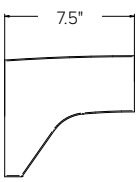
Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 15˚ aiming angle increments. Micro Strike configurations have a 45° aiming limitation.
Strike configurations have a 30° aiming limitation.

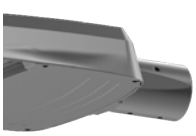




ADU–DECORATIVE UPSWEPT ARM

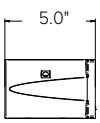
Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).

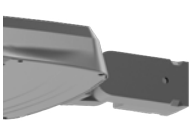




MAF–MAST ARM FITTER

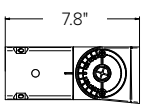
Fits 2-3/8" OD horizontal tenons.

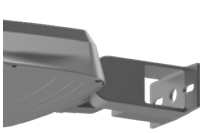




K–KNUCKLE

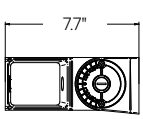
Knuckle mount 15˚ aiming angle increments for precise aiming and control, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.





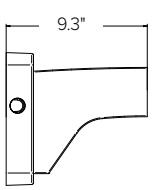
T–TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM–WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



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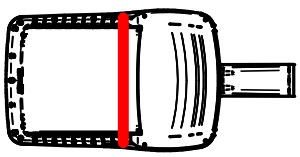
ADDITIONAL INFORMATION (CONTINUED)

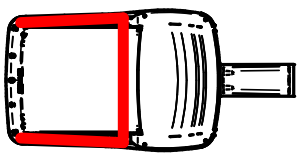
HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

HSS has a depth of 5" for all Viper sizes
Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

VPR2x HSS-90-B-xx



VPR2x HSS-270-BSS-xx



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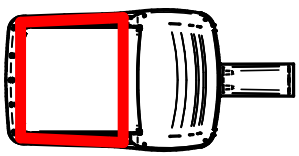
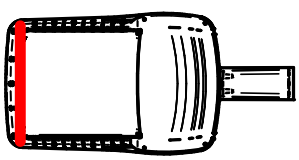
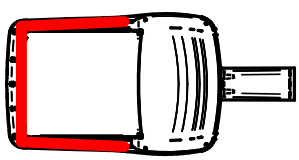


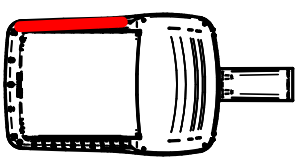
VPR2x HSS-90-F-xx



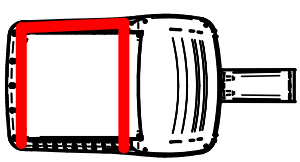
VPR2x HSS-270-FSS-xx



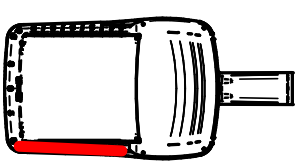
VPR2x HSS-90-S-xx



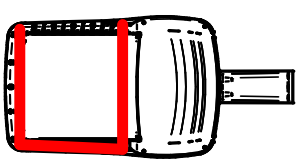
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



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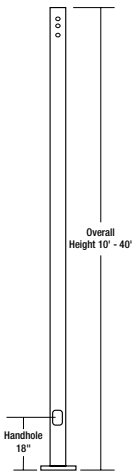
DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

SSS-B Series Poles

SQUARE STRAIGHT STEEL



APPLICATIONS

- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

- SHAFT: One-piece straight steel with square cross section, flat sides and minimum 0.23" radius on all corners; Minimum yield of 46,000 psi (ASTM-A500, Grade B); Longitudinal weld seam to appear flush with shaft side wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER: Two-piece square aluminum base cover included standard
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

  Anchor bolt part numbers: 3/4 x 30 x 3 — TAB-30-M38

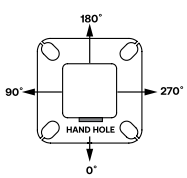
  1 x 36 x 4 — TAB-36-M38

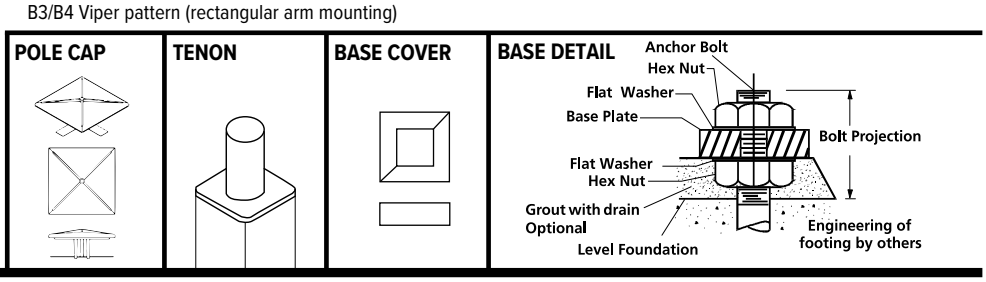
FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

WAREHOUSE 'STOCKED' POLES:

- SSSH20-40A-4-HV-DB-RDC, SSSH25-40A-4-HV-DB-RDC and SSSH30-50B-4-HV-DB-RDC
- The HV designation in the above catalog numbers is a combination drill pattern of the Current S2 pattern and the Beacon B3/B4 Viper pattern (rectangular arm mounting)





ORDERING INFORMATION

Reference page 2 for available configurations

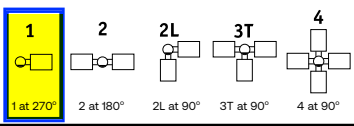
ORDERING EXAMPLE:

SSS -B - 25 - 40 - A/B/C - 2L - B3 - BLT - UL

SERIES	HEIGHT	SHAFT	THICKNESS	MOUNTING	FINISH	OPTIONS
SSS-B Square Straight Steel Pole Beacon	Reference page 2 Ordering matrix **20'**	Reference page 2 Ordering matrix **40**	Reference page 2 Ordering matrix **A** - .125" Wall B - .188" Wall C - .250" Wall	**1** Single arm mount **2** Two fixtures at 180° **2L** Two fixtures at 90° **3T** Three fixtures at 90° **4** Four fixtures at 90° **TA** Tenon (2.38" OD x 4" Tall) **TB** Tenon (2.88" OD x 4" Tall) **TC** Tenon (3.5" OD x 6" Tall) **TR**[1] Removable Tenon (2.375 x 4.25) **OT** Open Top (includes pole cap)	**BLT** Black Matte Textured **BLS** Black Gloss Smooth **DBT** Dark Bronze Matte Textured **DBS** Dark Bronze Gloss Smooth **GTT** Graphite Matte Textured **LGT** Light Grey Gloss Textured **LGS** Light Grey Gloss Smooth **PSS** Platinum Silver Smooth **WHT** White Matte Textured **WHS** White Gloss Smooth **VGT** Verde Green Textured **Color Option** **CC** Custom Color	**GFI**[2] 20 Amp GFCI Receptacle and Cover **EHH**[2] Extra Handhole **C05**[2] .5" Coupling **C07**[2] .75" Coupling **C20**[2] 2" Coupling **MPB**[2] Mid-pole Luminaire Bracket **VM1**[3] 1st mode vibration damper **VM2** 2nd mode vibration damper **LAB** Less Anchor Bolts **UL** UL Certified

MOUNTING ORIENTATION

Denotes handhole location



1 Removable tenon used in conjunction with side arm mounting. First specify desired arm configuration followed by the **"TR"** notation. Example: **SSS-B-25-40-A-1-B1-TR-BBT**

2 Specify option location using logic found on page 2 **(Option Orientation)**

3 VM1 recommended on poles 20' and taller with EPA of less than 1.

DRILL PATTERN

- **B1** Cruzer, "AM" arm
- **B3** 2 bolt (2-½" spacing), Viper "A" arm
- **S2** 2 bolt (3-½" spacing), Viper "AD" arm
- **UDP** Universal Drill Pattern

ACCESSORIES - Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

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SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Anchor bolt size	Bolt Projection	Pole weight
	Feet	Meters									
SSS-B-10-40-A-XX-XX	10	3.0	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	77
SSS-B-12-40-A-XX-XX	12	3.7	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	90
SSS-B-14-40-A-XX-XX	14	4.3	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	103
SSS-B-16-40-A-XX-XX	16	4.9	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	116
SSS-B-18-40-A-XX-XX	18	5.5	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	129
SSS-B-20-40-A-XX-XX	20	6.1	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	142
SSS-B-25-40-A-XX-XX	25	7.6	4" square	0.125"	9"	8" - 10"	5.66" - 7.07"	9"	3/4" x 30" x 3"	3.5	175
SSS-B-14-40-B-XX-XX	14	4.3	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	152
SSS-B-16-40-B-XX-XX	16	4.9	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	171
SSS-B-18-40-B-XX-XX	18	5.5	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	190
SSS-B-20-40-B-XX-XX	20	6.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	209
SSS-B-25-40-B-XX-XX	25	7.6	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	257
SSS-B-30-40-B-XX-XX	30	9.1	4" square	.188"	11"	10" - 12"	7.07" - 8.48"	10.50"	3/4" x 30" x 3"	3.5	304
SSS-B-16-50-B-XX-XX	16	4.9	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	219
SSS-B-18-50-B-XX-XX	18	5.5	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	243
SSS-B-20-50-B-XX-XX	20	6.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	267
SSS-B-25-50-B-XX-XX	25	7.6	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	327
SSS-B-30-50-B-XX-XX	30	9.1	5" square	.188"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	387
SSS-B-25-50-C-XX-XX	25	7.6	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	427
SSS-B-30-50-C-XX-XX	30	9.1	5" square	.25"	11"	10.25" - 13.25"	7.25" - 9.37"	11.50"	1" x 36" x 4"	4.5	507
SSS-B-20-60-B-XX-XX	20	6.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	329
SSS-B-25-60-B-XX-XX	25	7.6	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	404
SSS-B-30-60-B-XX-XX	30	9.1	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	479
SSS-B-35-60-B-XX-XX	35	10.7	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	554
SSS-B-40-60-B-XX-XX	40	12.2	6" square	.188"	12"	11.00" - 13.25"	7.81" - 9.37"	12.25"	1" x 36" x 4"	4.5	629

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

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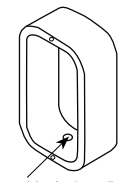
SSS-B Series Poles

SQUARE STRAIGHT STEEL

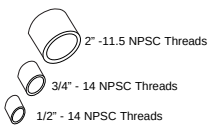
ADDITIONAL INFORMATION

EHH - EXTRA HANDHOLE

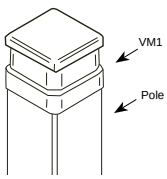


Provision for Grounding

C05 - C07 - C20 - COUPLING

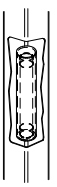


VM1 - VIBRATION DAMPER 1ST MODE



Field Installed Pole Top damper designed to reduce pole top deflection or sway. VM1 is recommended for pole systems 25' and taller with a total EPA of 1.0 or less.

VM2 - VIBRATION DAMPER 2ND MODE



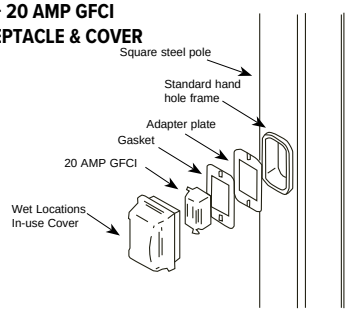
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

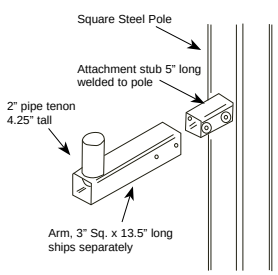
VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

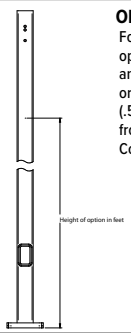
Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI – 20 AMP GFCI RECEPTACLE & COVER



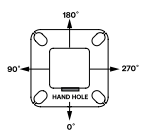
MPB - MID POLE BRACKET



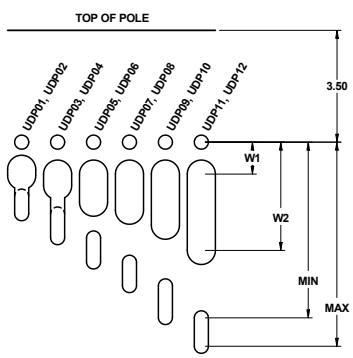


OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C05 should be ordered as: **SSS-B-20-40-A-TA-DB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.



UNIVERSAL DRILL PATTERN (UDP)



TWO BOLT MOUNTING WITH CENTER WIREWAY						
MOUNTING HARDWARE	Universal Mounting Patterns					
3/8" OR LESS	UDP01	UDP03	UDP05	UDP07	UDP09	UDP11
7/16" TO 1/2"	UDP02	UDP04	UDP06	UDP08	UDP10	UDP12
"MIN" ATTACHMENT DIMENSION	1.69	2.25	3.00	3.76	4.50	5.50
"MAX" ATTACHMENT DIMENSION	2.24	2.99	3.75	4.49	5.49	6.00
W1 (Wireway min)	0.85	1.00	1.00	1.00	1.00	1.00
W2 (Wireway max)	1.05	1.36	1.88	2.13	2.60	3.00

For more information about pole vibration and vibration dampers, please consut factory
Due to our continued efforts to improve our products, product specifications are subject to change without notice.
Unwrap poles immediately upon receipt to avoid condensation build up and possible corrosion
Note: There will be a weld witness mark on the side of the pole with the Factory installed VM2

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SSS-B Series Poles

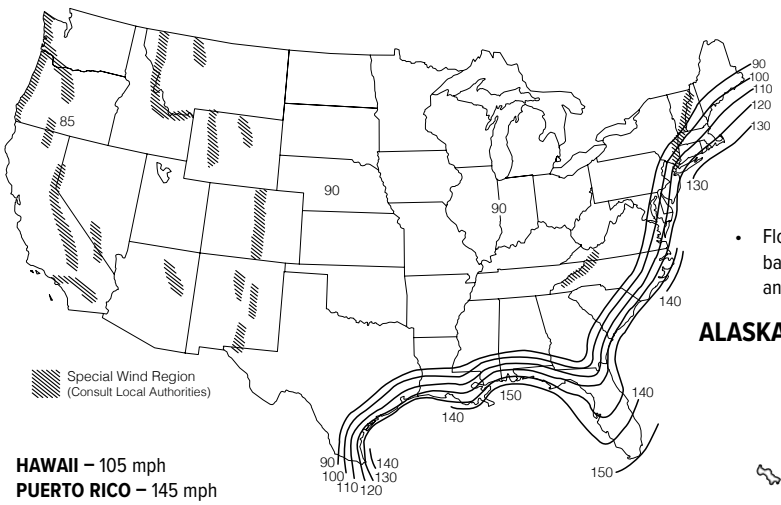
SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

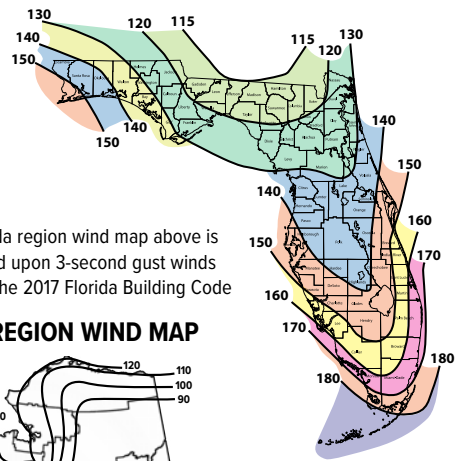
CATALOG #:

ASCE7-05 WIND MAP



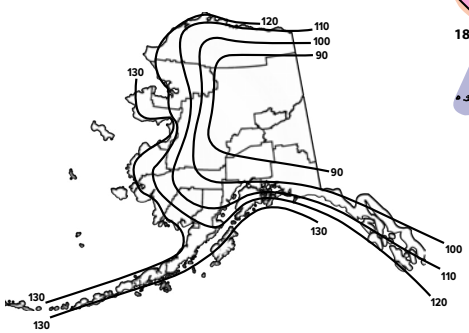
HAWAII – 105 mph
PUERTO RICO – 145 mph

FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds (Use for all locations except Florida)										
Catalog Number	**85**	**90**	**100**	**105**	**110**	**120**	**130**	**140**	**145**	**150**
SSS-B-10-40-A	25.0	25.0	25.0	22.8	20.6	17.0	14.2	11.9	11.0	10.1
SSS-B-12-40-A	25.0	25.0	20.0	18.0	16.1	13.2	10.8	8.9	8.1	7.4
SSS-B-14-40-A	23.1	20.4	16.1	14.3	12.8	10.2	8.2	6.6	5.9	5.3
SSS-B-16-40-A	19.0	16.7	13.0	11.5	10.1	7.9	6.2	4.7	4.1	3.6
SSS-B-18-40-A	15.6	13.6	10.0	9.0	7.8	5.9	4.4	3.1	2.6	2.1
SSS-B-20-40-A	12.7	10.9	7.9	6.9	5.9	4.2	2.8	1.7	1.3	0.9
SSS-B-25-40-A	7.3	5.9	3.8	2.9	2.1	0.8	NR	NR	NR	NR
SSS-B-14-40-B	25.0	25.0	23.3	20.8	18.6	15.1	12.3	10.2	9.2	8.4
SSS-B-16-40-B	25.0	24.9	19.4	17.3	15.4	12.3	9.9	8.0	7.2	6.4
SSS-B-18-40-B	24.0	20.8	16.1	14.2	12.5	9.8	7.7	6.1	5.3	4.7
SSS-B-20-40-B	20.2	17.5	13.2	11.6	10.1	7.7	5.9	4.4	3.8	3.2
SSS-B-25-40-B	12.8	11.0	7.9	6.7	5.5	3.7	2.3	1.2	0.7	NR
SSS-B-30-40-B	8.0	6.6	4.1	3.1	2.2	0.8	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	24.8	20.1	16.5	13.6	12.3	11.2
SSS-B-18-50-B	25.0	25.0	25.0	22.9	20.4	16.4	13.2	10.7	9.6	8.6
SSS-B-20-50-B	25.0	25.0	21.3	18.9	16.7	13.2	10.4	8.1	7.2	6.3
SSS-B-25-50-B	20.7	17.8	13.3	11.5	9.8	7.2	5.0	3.3	2.6	1.9
SSS-B-30-50-B	13.5	11.3	7.7	6.2	4.9	2.8	1.1	NR	NR	NR
SSS-B-25-50-C	25.0	25.0	19.4	17.1	15.1	11.7	9.0	6.9	6.0	5.1
SSS-B-30-50-C	20.1	17.3	12.7	10.9	9.3	6.6	4.5	2.8	2.1	1.4
SSS-B-20-60-B	25.0	25.0	25.0	25.0	25.0	20.2	16.1	12.9	11.5	10.3
SSS-B-25-60-B	25.0	25.0	20.6	18.0	15.6	11.8	8.7	6.2	5.2	4.2
SSS-B-30-60-B	21.4	18.1	12.9	10.7	8.8	5.7	3.3	1.3	NR	NR
SSS-B-35-60-B	14.0	11.3	6.9	5.2	3.6	1.0	NR	NR	NR	NR
SSS-B-40-60-B	8.1	5.8	2.2	nr	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds (Use for Florida only)								
Catalog Number	**115**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
SSS-B-10-40-A	25.0	25.0	25.0	25.0	21.4	18.4	15.9	13.9
SSS-B-12-40-A	25.0	25.0	23.6	19.8	16.7	14.2	12.1	10.4
SSS-B-14-40-A	25.0	23.1	19.0	15.7	13.1	10.9	9.1	7.6
SSS-B-16-40-A	20.8	18.7	15.2	12.3	10.1	8.2	6.7	5.4
SSS-B-18-40-A	16.8	15.0	11.9	9.4	7.5	5.9	4.5	3.4
SSS-B-20-40-A	13.6	11.9	9.2	7.1	5.3	3.9	2.7	1.7
SSS-B-25-40-A	7.4	6.2	4.1	2.5	1.1	NR	NR	NR
SSS-B-14-40-B	25.0	23.6	19.4	16.1	13.4	11.2	9.4	7.8
SSS-B-16-40-B	21.4	19.2	15.6	12.7	10.4	8.5	6.9	5.6
SSS-B-18-40-B	17.2	15.4	12.2	9.7	7.7	6.1	4.7	3.6
SSS-B-20-40-B	13.9	12.3	9.5	7.3	5.5	4.1	2.9	1.9
SSS-B-25-40-B	7.7	6.4	4.3	2.6	1.3	NR	NR	NR
SSS-B-30-40-B	3.2	2.1	NR	NR	NR	NR	NR	NR
SSS-B-16-50-B	25.0	25.0	25.0	25.0	25.0	21.4	18.2	15.5
SSS-B-18-50-B	25.0	25.0	25.0	24.4	20.4	17.0	14.2	11.9
SSS-B-20-50-B	25.0	25.0	24.4	19.9	16.3	13.4	11.0	8.9
SSS-B-25-50-B	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-B	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-25-50-C	21.8	19.3	15.0	11.5	8.8	6.5	4.7	3.1
SSS-B-30-50-C	13.7	11.7	8.2	5.5	3.3	1.5	NR	NR
SSS-B-20-60-B	25.0	25.0	25.0	21.9	17.8	14.5	11.7	9.4
SSS-B-25-60-B	23.8	20.9	16.1	12.3	9.2	6.6	4.5	2.8
SSS-B-30-60-B	14.6	12.3	8.4	5.3	2.8	0.8	NR	NR
SSS-B-35-60-B	7.5	5.6	2.4	NR	NR	NR	NR	NR
SSS-B-40-60-B	1.8	NR	NR	NR	NR	NR	NR	NR

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BEACON
design . performance . technology

SSS-B Series Poles

SQUARE STRAIGHT STEEL

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

NOTES

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CY1

ARCHITECTURAL AREA/SITE

CYPHER™

FEATURES

- Integral Battery Backup Option
- 360° Light Distribution
- RGBW or Static White Luminous Front Option
- Multiple Fascia Options and Finishes
- 4G Vibration Tested

3000K and warmer CCTs only

Cypher 9"

CONTROL TECHNOLOGY

SPECIFICATIONS

CONSTRUCTION

- Main housing shroud is made of fabricated 5052-H32 aluminum alloy
- Housing mounting interface has a stamped silicone gasket
- Luminaire housing is free of any visible heat fins, hardware or fasteners
- Bracketry and hardware is stainless steel
- Luminaire finish consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish
- Luminaire finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance

LED/OPTICS

- LEDs are mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features
- Optical lenses is clear injection molded PMMA acrylic
- Optical array is recessed in order to shield each LED optic across the length of the aperture
- Optical array is sealed for IP66 rating
- Secondary lens is impact resistant 5/32" tempered glass

INSTALLATION

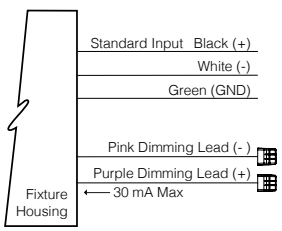
- JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box
- Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates

INSTALLATION (CONTINUED)

- Fixture attaches by two Allen-head hidden fasteners for tamper resistance
- Optional mounting arrangements utilize a die-cast mounting adaptor to allow for surface conduit and through branch wiring
- Housing is able to hang freely in an open service position for inspection of internal wire connections. Once in service position, the housing shall be able to be removed for service by lifting the assembly up off the rear mounting plate and disconnecting the wiring plugs
- •Driver assembly is mounted to a prewired internal tray with quick disconnects for removal

ELECTRICAL

- Drivers are in direct contact with the die-cast aluminum housing across the entire surface area of the widest face for maximum thermal transfer
- "Thermal Shield", primary side, thermister provides protection for the sustainable life of LED module and electronic components
- Drivers have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments
- Luminaires have integral surge protection that shall be U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device shall be wired in series
- Drivers are 0-10V dimming control with a dimming range of 100%-10%. Drivers are U.L. listed. All luminaires shall accept 120-277 volt input and have integral surge protection."Thermal Shield", secondary side, thermistor provides protection for the sustainable life of LED module and electronic components



ELECTRICAL (CONTINUED)

- Integral battery backup provides emergency path of egress lighting for the required 90 minutes for -20°C ambient environments
- Luminaire are capable of operating at 100% brightness in a 40°C environment. Both driver and optical array shall have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C

CONTROLS

- Button photocontrol for dusk to dawn energy savings
- Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others. Photocell adapter shall include an internal twist lock receptacle. Photocell by others

continued on page 3

KEY DATA	
LUMEN RANGE	1,353–2,752
WATTAGE RANGE	17–26
EFFICACY RANGE (LPW)	75–116
WEIGHT	Refer to page 5

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CY1

ARCHITECTURAL AREA/SITE

ORDERING GUIDE

Example: CY1-15-3K7-1-2D-UNV-BLS-F-RGBW-FPP-PCU-SF

CATALOG #

Series-Output (Base)	CCT-CRI	Model (Light Engine) [1]	Main Distribution (Down)	Secondary Distribution (Up, Sides)	Voltage
CY1-15 15W, 1500 nominal lumens	**27K8** 2700K, 80CRI	**1** DownLight Only	**1** IES Type I	**1** IES Type I	**UNV** 120-277V
CY1-25 25W, 2500 nominal lumens	**3K7** 3000K, 70CRI	**2** 50/50 Down/Up, **Down/Up distributions must match**	**2** IES Type II	**2** IES Type II	
	3K8 3000K, 80CRI	**3** 90/10 Down/Up	**3** IES Type III	**3** IES Type III	
	4K7 4000K, 70CRI	**4** 25/25/25/25 Split, **Down/Up/ Side Distributions must match**	**4** IES Type IV	**4** IES Type IV	
	4K8 4000K, 80CRI	**5** 70/10/10/10 Spit, **Top/Side distributions must match**	**SP** 15° Spot/Column	**SP** 15° Spot/Column	
	5K7 5000K, 70CRI		**WG** 60° Wall Graze	**WG** 60° Wall Graze	
			1D Type 1 Diffused	**PB** [2] Pencil Beam	
			2D Type 2 Diffused	**1D** Type 1 Diffused	
			3D Type 3 Diffused	**2D** Type 2 Diffused	
			4D Type 4 Diffused	**3D** Type 3 Diffused	
				4D Type 4 Diffused	

Base Housing Finish	Fascia Form [1]	Luminous Front [4]	Fascia Panel [5]	Control Options	Options
BLS Black Gloss Smooth	**F** Flat	**Blank** Standard None	**FPP** Full Panel Painted	**PCU** Universal Button Photocell (120-277V)	**EM** [7] Battery Backup Unit -20° C
BLT Black Matte Textured	**R** Radius/Curved	**RGBW** RGBW Luminous Front	**FPS** Full Panel Stainless Steel		**SF** Single Fuse (120, 277)
DBS Dark Bronze Gloss Smooth	**T** Triangle/Wedge	**LFSW** Static White Luminous Front	**FPC** Full Panel Copper		**DF** Double Fuse (208, 240)
DBT Dark Bronze Matte Textured	**E** Rounded/Edge		**OPP** [6] Open Panel Painted		**SCB** Surface Conduit Box
GTT Graphite Matte Textured	**C** Circle/Curved		**OPS** [6] Open Panel Stainless Steel		
LGS Light Gray Gloss Smooth	**CB** Cylinder Balanced		**OPC** [6] Open Panel Copper		
LGT Light Gray Matte Textured	**CT** Cylinder Tall		**4PP** [6] 4-Square Panel Painted		
PSS Platinum Silver Gloss Smooth	**CBM** [8] Custom Building Material Mount Ghost Fascia		**4PS** [6] 4-Square Panel Stainless Steel		
VGT Verde Green Matte Textured			**4PC** 4-Square Panel Copper		
WHS White Gloss Smooth			**PPP** Perforated Panel Painted		
WHT White Matte Textured			**PPS** Perforated Panel Stainless Steel		
Color Options			**PPC** Perforated Panel Copper		
CC [3] Custom Color					

Notes:

1. Consult factory for custom distributions. See Distribution Matrix on page 4 restrictions
2. PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended. See Distribution Matrix on page 2 for restrictions.
3. Consult factory for custom color, marine and corrosive finish
4. RGBW and LFSW luminous fronts are only available with open, four square and perforated fascia panels
5. Flat and Radius Fascia forms only. Painted panels by default match base housing finish/color. Consult factory for custom panel finishes.
6. Luminous front is required to select the Open Panel and 4-Square Panel fascia panels.
7. Battery Backup not available with Triangle and Rounded Edge Fascia Forms.
8. Custom Building Material Mount Ghost Fascia option allows the Cypher to blend seamlessly into the building architecture by matching the finish of the architectural background. See page 5 for dimensions and contact factory for additional information.

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CY1

ARCHITECTURAL AREA/SITE

SPECIFICATIONS (CONTINUED)

CONTROL (CONTINUED)

- Each fixture comes equipment with a dual control driver that supports Bluetooth® operation of individual fixtures or DMX control of an entire system of fixtures.

Bluetooth®:

- Free Bluetooth® Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the Internet at Apple App Store or Google Play.
- Modular wiring harness in the service area provides user access to the dimming circuitry via DMX.

DMX:

- Fully DMX/RDM Compatible
- Utilizes 4 DMX Channels per fixture

DMX MAP

- Start Address – Red
- Start Address +1 – Green
- Start Address +2 – Blue
- Start Address +3 – White

DMX Addressing is performed by using a compatible RDM handheld unit or via the Bluetooth® App.

- Performed by using a compatible RDM handheld unit or via the Bluetooth® App

DMX WIRING COLOR CODE

- Red Wire – DMX +
- Brown Wire – DMX-
- Yellow Wire – Shield/Ground
- DMX termination must be achieved by adding a DMX terminator to the last fixture in a Daisy-Chain. Fixture does not auto terminate.
- Kim Lighting is proud to offer the Pharos Architectural Controls DMX Controllers and Touch screens. See Pharos Spec Sheet for more details.
  See the Pharos® Spec Sheet for more details.

MOBILE APP:

- Mobile App specification in additional information section.
- Mobile App. dimming range from 0% to 100% through the use of Current RGBW app (available on IOS and Android).
- Color selection and adjustment.
- Camera function for color matching.
- Intensity slider for dimming/ramping up.
- Save and rename up to 10 presets.
- Group and rename fixtures.
- Fixture is password protected, refer to instructions to set unique password.

CERTIFICATIONS

- Luminaire is listed with UL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250
- IP66 rated assembly
- IDA approved, 3000K and warmer CCTs only
- ANSI C136.31-2010 4G Vibration tested and compliant
- Complies with “Americans with Disabilities Act” or "ADA" on select versions for low mounting height applications (fixtures extend maximum of 4 inches from wall for mounting heights of 80 inches or less)
- Emergency battery back options are California Energy Commission (CEC) Title 20 Compliant

WARRANTY

- 5 year warranty

Bluetooth®

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ANDROID APP ON Google play Available on the App Store

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KIM LIGHTING®

DATE: LOCATION:

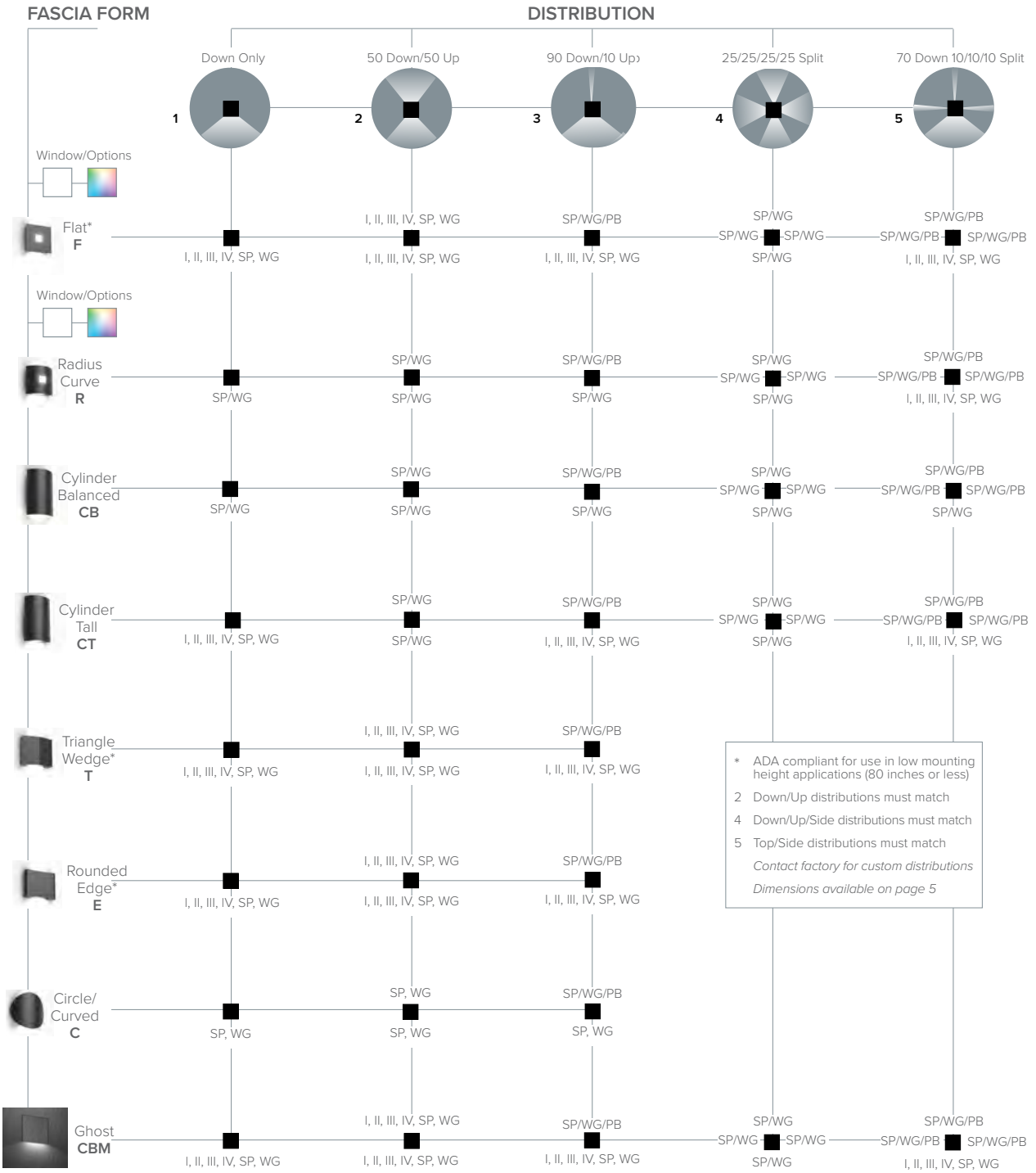
TYPE: PROJECT:

CATALOG #:

CY1

ARCHITECTURAL AREA/SITE

DISTRIBUTION MATRIX



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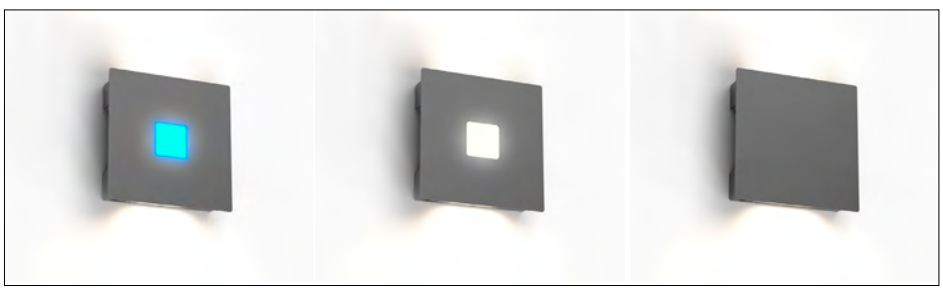
KIM LIGHTING®

CY1

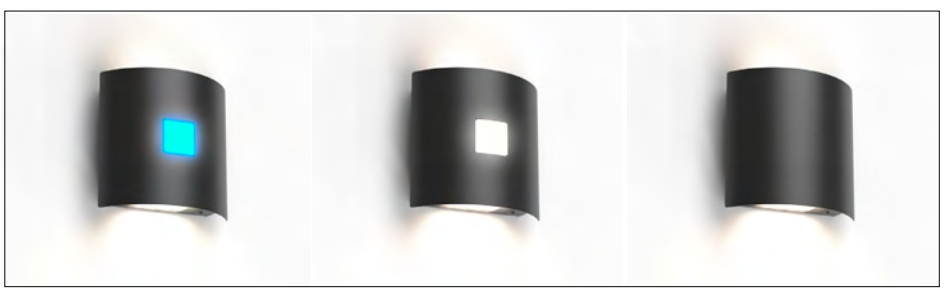
ARCHITECTURAL AREA/SITE

FASCIA

FLAT



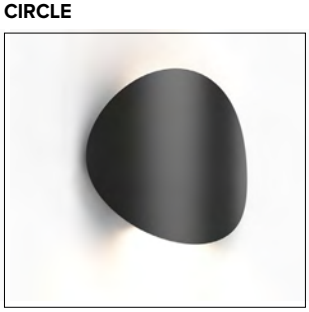
CURVE



ROUNDED EDGE

TRIANGLE

CIRCLE



CYLINDER TALL

CYLINDER BALANCED

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

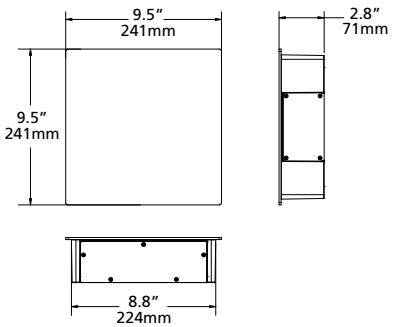
CATALOG #:

CY1

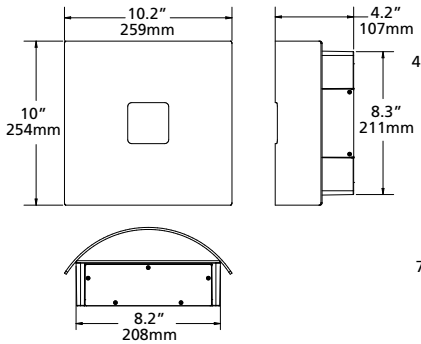
ARCHITECTURAL AREA/SITE

DIMENSIONS

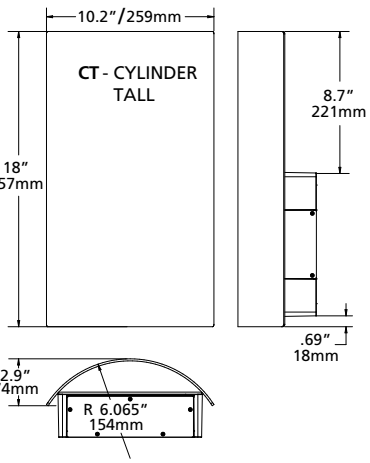
F - FLAT
ADA approved.



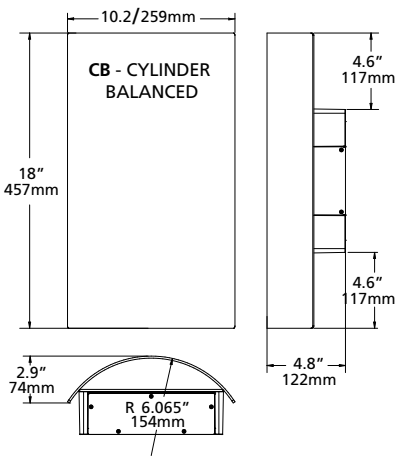
R - RADIUS/CURVED



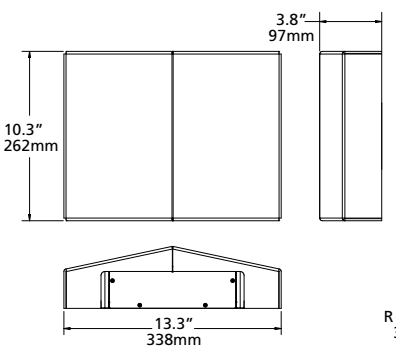
CT - CYLINDER TALL



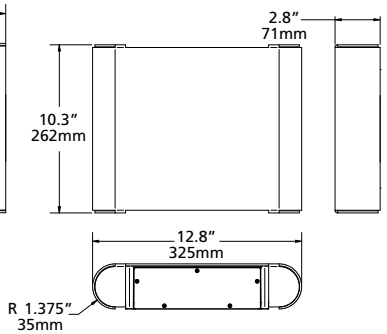
CB - CYLINDER BALANCED



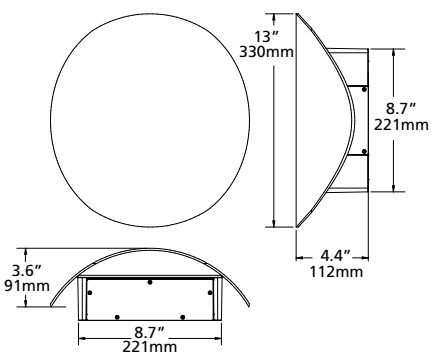
T - TRIANGLE/WEDGE
ADA approved.



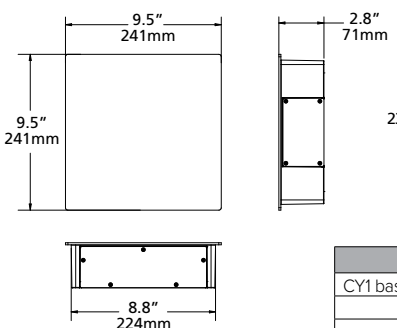
E - ROUNDED EDGE
ADA approved.



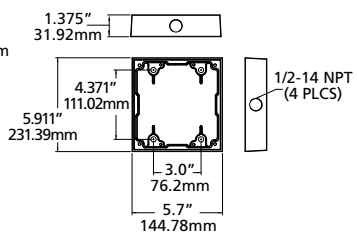
C - CIRCLE/CURVED



CBM - CUSTOM BUILD MATERIAL MOUNT GHOST FASCIA



SCB - SURFACE CONDUIT BOX



CY1 WEIGHT		FIXTURE + FASCIA WEIGHT	
CY1 base fixture	6.5 lb		
F	2 lb	CY1 + F	8.5 lb
R	2 lb	CY1 + R	8.5 lb
CB	3 lb	CY1 + CB	9.5 lb
CT	3 lb	CY1 + CT	9.5 lb
T	3 lb	CY1 + T	9.5 lb
E	3 lb	CY1 + E	9.5 lb
C	2 lb	CY1 + C	8.5 lb

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KIM LIGHTING®

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

CY1

ARCHITECTURAL AREA/SITE

DELIVERED LUMENS

Nominal Output (Lm)	System Watts	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
			Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
				B	U	G			B	U	G			B	U	G	
1,500	17	Type 1	1825	0	0	0	107	1928	0	0	0	113	1923	0	0	0	113
		Type 2	1638	0	0	0	96	1730	0	0	0	102	1726	0	0	0	102
		Type 3	1661	0	0	1	98	1755	0	0	1	103	1750	0	0	1	100
		Type 4	1668	0	0	0	98	1762	0	0	0	104	1757	0	0	0	103
		Wall Graze	1871	1	0	0	110	1976	1	0	0	116	1971	1	0	0	114
		Spot/Column	1701	2	0	0	100	1797	2	0	0	106	1792	2	0	0	103
		Type 1 Diffused	1547	1	0	0	91	1634	1	0	0	96	1629	1	0	0	96
		Type 2 Diffused	1493	1	0	0	88	1577	1	0	0	93	1573	1	0	1	93
		Type 3 Diffused	1353	1	0	0	80	1429	1	0	0	84	1425	1	0	0	84
		Type 4 Diffused	1521	1	0	0	89	1607	1	0	0	95	1602	1	0	1	94
2,500	26	Type 1	2390	0	0	0	92	2524	0	0	0	97	2517	0	0	0	96
		Type 2	2120	1	0	1	82	2239	1	0	1	86	2233	1	0	1	85
		Type 3	2117	1	0	1	80	2236	1	0	1	85	2229	1	0	1	85
		Type 4	2201	1	0	1	85	2325	1	0	1	89	2319	1	0	1	88
		Wall Graze	2605	2	0	0	100	2752	2	0	0	106	2744	2	0	0	104
		Spot/Column	2346	2	0	0	90	2478	2	0	0	95	2471	2	0	0	94
		Type 1 Diffused	2225	1	0	1	86	2350	1	0	1	90	2344	1	0	1	89
		Type 2 Diffused	1958	1	0	1	75	2068	1	0	1	80	2062	1	0	1	79
		Type 3 Diffused	1946	1	0	1	75	2056	1	0	1	79	2050	1	0	1	78
		Type 4 Diffused	2016	1	0	1	78	2129	1	0	1	82	2123	1	0	1	80

ELECTRICAL CHARACTERISTICS

LUMEN PACKAGE	SYSTEM WATTAGE (W)	LINE VOLTAGE		INPUT (A)				MIN. POWER FACTOR	MAX THD (%)	DIMMING RANGE	SOURCE/SINK CURRENT (MA)		ABSOLUTE VOLTAGE RANGE ON 0-10V (+) PURPLE	
		VAC	HZ	120	208	240	277				MIN.	MAX.	MIN.	MAX.
1,500	17	120-277	50/60	0.14	0.08	0.07	0.06	>0.9	20	10% to 100%	0 mA	1 mA	0V	10V
2,500	26			0.22	0.13	0.11	0.09							

TM-21 LIFETIME CALCULATION (500mA)

LUMEN PACKAGE	AMBIENT ENVIRONMENT °C	PROJECTED LUMEN MAINTENANCE (KHRS)					REPORTED L70
		15	25	50	60 (TM-21)	100	
2,500	25	98%	97%	94%	92%	87%	>60Khrs.
	40	95%	93%	89%	87%	80%	

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O. Architectural Design Narrative

Please find attached the design narrative completed by CWS Architecture.

CWS ARCHITECTURE + INTERIOR DESIGN

December 11, 2023 **DRAFT**

Architectural Design Narrative for 186 Woodford Street
Reuse/Renovation/Addition: Woodfords Church Parish House Senior Apartments
New: Senior Apartment Building to the Woodfords Senior Apartments
Developer: Community Housing of Maine

Community Housing of Maine has entered into a mutually beneficial agreement with Woodfords Church to procure and redevelop the existing Parish House portion of the Woodfords Church Site into a Senior Housing Community on a subdivided parcel from the existing site. This redevelopment will change the use of the new Senior Housing parcel from Office and Assembly uses to Senior Apartments that will retain the existing Memorial Hall in the Parish House as an Assembly use. Together, it is anticipated that the redeveloped parcel will provide ~79 senior units in the two proposed buildings (1. Renovation/Addition; and 2. New Construction).

Design Approach and Character:

1. **Parish House Apartments (Renovation w/Rear Addition)**: The renovation/addition of the existing Parish House structure has been designed to retain/preserve the existing Parish House's aesthetic, color scheme and character facing Woodfords Street and the Parking lot with no noticeable changes to the facades and roof forms. The existing Gymnasium (presumed to be a very early addition to the Parish House) will be a) removed, and b) replaced with a new 4-level apartment wing designed to respect and reinforce a campus design character and detailing between the Parish House Addition and the New Senior Apartment Building. The buildings will include 37 0- and 1-bedroom units. The three-color scheme of the addition and New Senior Apartment building compliments the three-color scheme of the Parish House. The Parish House Apartments will have three (3) entrances accessed by campus residents form a) the 'formal' front entrance facing Woodfords Street, b) a new HC accessible side parking lot entrance facing the new Senior Apartment Building, and c) a new HC Accessible rear entrance vestibule accessed from a new outdoor patio area.
2. **New Senior Apartment Building**: The new 4-level senior 42 1 bedroom unit apartment building's details are designed to match the design character of the rear addition to the Parish House Apartments, and vice versa, to reinforce a uniform campus design character. The primary 'formal' entrance will face Woodford Street and be accessed from both Woodford Street and the parking lot, and will include an outdoor 'covered porch' to reinforce the existing residential character of the neighborhood. A secondary entrance directly across from the Parish House parking lot entrance will provide a convenient connection between the two building. Both entrances will be handicap accessible.

P. Utilities

Please see below for the proposed utility breakdown as part of the redevelopment of 186 Woodford Street.

Water:

The existing domestic and sprinkler water services from the water main within Woodford Street are anticipated to continue to serve the existing Woodfords Church as part of the project. A proposed 2" domestic and 6" fire suppression service tapped off the water main within Woodford Street are anticipated to serve the proposed Senior Housing building. A proposed 2" domestic and 6" fire suppression service tapped off the water main within Woodford Street are anticipated serve the redeveloped portion of the Parish House.

Sewer:

The existing sewer service connections are anticipated to continue to serve the existing church. Two separate 6" domestic sewer service connections from the existing 12" sewer main within Woodford Street are anticipated serve the Parish House Redevelopment and the Proposed Senior Housing Building.

Stormwater:

The existing stormdrain network is proposed to be modified to accommodate the proposed senior housing building that is to be constructed within the existing parking lot. Roof drains, foundation drains, catch basins, and a stormtech isolater ROW with a subsurface sand filter BMP will be installed and connect to the modified storm drain network that ultimately discharges to Woodford Street.

The project includes reducing the impervious area onsite, effectively lowering the peak runoff. Additionally, the project will redevelop non-roof impervious greater than 5,000 sf and due to the DPW's requirement of "providing a minimum detention volume of 1" of rainfall over the entire project redeveloped area being proposed on the parcel with a maximum outflow rate of 0.1 CFS per acre until the storage is maximized" treatment and storage will be provided onsite in the form of a stormtech isolater ROW and subsurface sand filter BMP. Please refer to the Stormwater Management Report for additional information.

UGE/T/C:

It is proposed to maintain the existing services for Woodfords Church as part of the project. It is proposed to install riser poles on Woodfords Street and run three phase overhead primary & telecom across Woodford Street and transition underground at the project's frontage. The project includes two separate buildings (the proposed senior housing building and the redeveloped parish house) that are anticipated to be serviced by separate 9x'9' padmount transformers onsite. External metering is anticipated for the parish house and the senior housing building. External pedestal locations will be provided for each buildings respective telecommunication service.

Gas:

There is no proposed gas service for this project.

Ability to serve letters have been sent out to the respective utility companies in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use Code. Responses received thus far from the utility companies can be found attached.

ACORN ENGINEERING, INC.

Charter Communications
Attn: Mr. Mark Pelletier
118 Johnson Road
Portland, Maine 04102

December 6, 2023

Subject: 186 Woodford Street Redevelopment
Re: Ability to Serve Request

Mr. Pelletier:

On behalf of Community Housing of Maine (CHOM), we are pleased to submit the following request for Charter Communication's ability to serve at a proposed project at 186 Woodford Street in Portland, Maine. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

The existing telecom connections are anticipated to continue to serve the existing church. Two separate underground telecom conduit services are proposed to service the Parish House Redevelopment and the Proposed Senior Housing Building. Please refer to the attached Utility Plan for additional information.

1. Additional information, such as utility mapping within Woodford Street and Beacon Street.
2. Easements for services currently crossing the proposed development.
3. Alternative connection locations from the property to the existing communication system.
4. Charter's proposed infrastructure improvements within the project vicinity.
5. Charter's ability to serve the project.

I have attached an ALTA / NSPS Land Title Survey created by Owen Haskell, Inc., to facilitate your review, as well as a preliminary utility plan developed by our office. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter Heil, PE
Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Central Maine Power Company
Attn: Katherine Dumont
162 Canco Road
Portland, Maine 04103

December 6, 2023

Subject: 186 Woodford Street Redevelopment
Re: Ability to Serve Request

Katherine,

On behalf of Community Housing of Maine (CHOM), we are pleased to submit the following request for Central Maine Power's ability to serve at a proposed project at 186 Woodford Street in Portland, Maine. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

It is proposed to maintain the existing service for Woodfords Church as part of the project. It is proposed to install riser poles on Woodfords Street and run three phase overhead primary across Woodford Street and transition underground electric at the project's frontage. The project includes two separate structures (the proposed senior housing building and the redeveloped parish house) that are anticipated to be serviced by separate 9x'9' padmount transformers onsite. External metering is anticipated for the parish house and the senior housing building.

On behalf of the client, we are requesting the following information:

1. Additional information, such as utility mapping confirming single and three-phase power locations along Woodford Street and Beacon Street.
2. Existing easements for underground services currently crossing the proposed development.
3. Alternative connection locations from the development to the existing system.
4. CMP's proposed infrastructure improvements within the project vicinity.
5. CMP's ability to serve the project.
6. Access requirements to the CMP meters.
7. Please send a list of communication/telecom providers that are located on the utility pole in front of the 186 Woodford Street Building

I have attached an ALTA / NSPS Land Title Survey created by Owen Haskell, Inc., to facilitate your review, as well as a preliminary utility plan developed by our office. Forthcoming electrical loading computations and final metering will be performed by the project's M.E.P designer &/or architect. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter Heil, PE
Project Manager
Acorn Engineering, Inc.

Pete Heil

From: Dumont, Katherine <Katherine.Dumont@cmpco.com>
Sent: Tuesday, December 5, 2023 3:02 PM
To: Pete Heil
Subject: CMP Three Phase Service Process and Ability to Serve Letter 186 Woodford St Portland Maine
Attachments: Easement_Information_Worksheet.doc; Standard Easement Sample.pdf; blank W9.pdf; August 2022 EDET.xlsx

Peter Heil
PO Box 3372
Portland, ME 04104

RE: CHOM
186 Woodford Street Portland, Maine
Letter of Ability to Serve Request

SAP TBD
Project Description:

This letter is in regards to your project located at 186 Woodford Street in Portland. The project is looking t construct a 42-unit affordable senior housing in the existing parking lot. CMP has the ability to serve this project.

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

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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ACORN ENGINEERING, INC.

Consolidated Communications
Attn: Mr. Jay Cunha
5 Davis Farm Road
Portland, Maine 04103

December 6, 2023

Subject: 186 Woodford Street Redevelopment
Re: Ability to Serve Request

Mr. Cunha:

On behalf of Community Housing of Maine (CHOM), we are pleased to submit the following request for Consolidated Communication's ability to serve at a proposed project at 186 Woodford Street in Portland, Maine. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

The existing telecom connections are anticipated to continue to serve the existing church. Two separate underground telecom conduit services from Woodford Street are proposed to service the Parish House Redevelopment and the Proposed Senior Housing Building. Please refer to the attached Utility Plan for additional information.

1. Additional information, such as utility mapping within Woodford Street and Beacon Street.
2. Easements for services currently crossing the proposed development.
3. Alternative connection locations from the property to the existing communication system.
4. Consolidated's proposed infrastructure improvements within the project vicinity.
5. Consolidated's ability to serve the project.

I have attached an ALTA / NSPS Land Title Survey created by Owen Haskell, Inc., to facilitate your review, as well as a preliminary utility plan developed by our office. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter Heil, PE
Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Department of Public Works
Attn: Bradley Roland
212 Canco Road
Portland, Maine 04103

December 6, 2023

Subject: 186 Woodford Street Redevelopment
Re: Ability to Serve Request

Mr. Roland:

On behalf of Community Housing of Maine (CHOM), we are pleased to submit the following request for Portland Department of Public Work's ability to serve at a proposed project at 186 Woodford Street in Portland, Maine. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

The existing sewer service connections are anticipated to continue to serve the existing church. Two separate 6" domestic sewer service connections from the existing 12" sewer main within Woodford Street are anticipated serve the Parish House Redevelopment and the Proposed Senior Housing Building. Please refer to the attached Utility Plan for additional information.

Based upon Section 4 of the *Maine Subsurface Wastewater Disposal Rules*, the table below outlines the proposed flow. We have negated the existing church from the calculations as the flows are anticipated to remain the same or decrease as a result of the proposed redevelopment.

Estimate of Anticipated Daily Flows			
Development	Unit Size	Gallons per Day per Unit	Total Gallons per Day (GPD)
Existing Flow			
Church	-	-	Unknown
Total Gallons per Day (Existing)			-
Proposed Flow			
Redeveloped Parish House (37 Units)	1-Bedroom	120 GPD/ Unit	4,440 GPD

Proposed Senior Housing Building (42 Units)	1-Bedroom / Studio	120 GPD/ Unit	5,040 GPD
Church	-	-	No change
Total Gallons per Day (Proposed)			**9,480 GPD**
Net Change			**+9,480 GPD**
*Values based on Chapter 241 State of Maine: Subsurface Wastewater Disposal Rules, most recent edition			

The proposed project is anticipated to increase the net flow by approximately 9,480 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. We will provide any changes to the anticipated sewage demand as the project design progresses.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Woodford Street and Beacon Street and confirmation of the location and size of the services to the existing property and the size and material of the main within Woodford Street and Beacon Street.
2. DPW's proposed infrastructure improvements within the project vicinity.
3. DPW's ability to serve the project.
4. Any project related offsite sewer main improvements.

I have attached an ALTA / NSPS Land Title Survey created by Owen Haskell, Inc., to facilitate your review, as well as a preliminary utility plan developed by our office. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter Heil, PE
Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

First Light
Attn: Mike Ellingwood
14 Resilient Circle
Brunswick, ME 04011

December 6, 2023

Subject: 186 Woodford Street Redevelopment
Re: Ability to Serve Request

Mr. Ellingwood:

On behalf of Community Housing of Maine (CHOM), we are pleased to submit the following request for First Light's ability to serve at a proposed project at 186 Woodford Street in Portland, Maine. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

The existing telecom connections are anticipated to continue to serve the existing church. Two separate underground telecom conduit services are proposed to service the Parish House Redevelopment and the Proposed Senior Housing Building. Please refer to the attached Utility Plan for additional information.

On behalf of the client, we are requesting the following information:

1. Additional information, such as utility mapping within Woodford Street and Beacon Street as well as abutting properties, and/or existing service connections.
2. Alternative connection locations from the property to the existing communication system.
3. First Light's proposed infrastructure improvements within the project vicinity.
4. First Light's ability to serve the project.

I have attached an ALTA/NSPS Land Title Survey created by Owen Haskell inc., and a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter Heil, PE
Project Manager
Acorn Engineering, Inc.

A C O R N
ENGINEERING, INC.

Portland Water District
Attn: MEANS Department
225 Douglass Street
Portland, Maine 04104

December 20, 2023

Subject: 186 Woodford Street Redevelopment
Re: Ability to Serve Request

To Whom It May Concern:

On behalf of Community Housing of Maine (CHOM), we are pleased to submit the following request for Portland Water District's ability to serve at a proposed project at 186 Woodford Street in Portland, Maine. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. It is anticipated that the senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to create a new lot division separating the existing church from the rest of the development onsite. The land containing the Parish House and the new affordable housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

The existing domestic and sprinkler water services from the water main within Woodford Street are anticipated to continue to serve the existing Woodfords Church as part of the project. A proposed 2" domestic and 6" fire suppression service tapped off the water main within Woodford Street are anticipated to serve the proposed Senior Housing building. A proposed 2" domestic and 6" fire suppression service tapped off the water main within Woodford Street are anticipated serve the redeveloped portion of the Parish House. Please refer to the Utility Plan for additional information.

Based upon Section 4 of the *Maine Subsurface Wastewater Disposal Rules*, the table below outlines the proposed flow. We have negated the existing church from the calculations as the flows are anticipated to remain the same or decrease as a result of the proposed redevelopment.

Estimate of Anticipated Daily Flows			
Development	Unit Size	Gallons per Day per Unit	Total Gallons per Day (GPD)
Existing Flow			
Church	-	-	Unknown
Total Gallons per Day (Existing)			-

Proposed Flow			
Redeveloped Parish House (37 Units)	1-Bedroom	120 GPD/ Unit	4,440 GPD
Proposed Senior Housing Building (42 Units)	1-Bedroom / Studio	120 GPD/ Unit	5,040 GPD
Church	-	-	No Change
Total Gallons per Day (Proposed)			**9,480 GPD**
Net Change			**+9,480 GPD**
*Values based on Chapter 241 State of Maine: Subsurface Wastewater Disposal Rules, most recent edition			

The proposed project is anticipated to increase the net flow by approximately 9,480 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. We will provide any changes to the anticipated sewage demand as the project design progresses.

On behalf of the client, we are requesting the following information:

1. Additional information, such as utility mapping within Woodford Street and Beacon Street and confirmation of the location and size of the services to the existing property.
2. PWD's proposed infrastructure improvements within the project vicinity.
3. Flow data for adjacent hydrants.
4. PWD's ability to serve the project.
5. Any project related offsite water main improvements.

I have attached a fixture count and an ALTA / NSPS Land Title Survey created by Owen Haskell, Inc., to facilitate your review, as well as a preliminary utility plan developed by our office. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter Heil, PE
Project Manager
Acorn Engineering, Inc.

Q. Construction Management Plan

Project Address: 186 Woodford Street, Portland, ME

Project Description:

The project proposes to convert a portion of the existing Woodfords Church building into a affordable housing residential building. Additionally, a new senior housing residential building will be constructed in the location of the existing parking lot. Each building includes associated utility, parking and landscaping improvements as part of the proposed project.

Project Team Summary:

Owner:	Community Housing of Maine
General Contractor:	TBD
Civil Engineer:	Acorn Engineering, Inc.
Architect:	CWS Architecture
Structural Engineer:	TBD

The Owner/GC and all subcontractors will work with the City of Portland and adjacent landowners to minimize any project impacts.

The GC will remain responsible for enforcement of all compliance with 1) all contract plans and specifications in their scope of work and 2) all site working conditions and safety requirements, day and night, for both persons and property, in each case for the duration of their work. These include OSHA, NIOSH, U.S. EPA, local ordinance and any other applicable governmental regulations. Both the Owner/GC and any subcontractors will remain responsible for safeguarding the general public.

The GC shall review all permits and conditions associated with the project. The GC will prepare a Construction Management Plan their means and methods to be taken during construction.

The following outline has been developed in accordance with the City of Portland Construction Management Plan General Template and shall be referenced by the GC during construction.

A. Construction Management Principles

The control of noise, vibrations, ground movement, truck traffic, and other construction related factors will be of utmost importance. Care shall be taken to minimize these effects in the best interest of neighbors and the general public. GC to ensure that work hours conform to the City of Portland's Ordinance.

B. Development Review of Construction Management Plan

Logistics and safety program shall be submitted at or prior to the preconstruction meeting by the GC with all pertinent information required by the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

C. Performance Guarantees, Inspection Fees, Preconstruction Meeting, and Permits

Guarantees and fees will be paid at the time of the respective application. Sections 14-530 and 13-532 will be complied with all necessary permits will be obtained prior to work.

1. Street Opening and Street Occupancy Permits:

   Required permits regarding street opening and occupancy will be obtained from the Department of Public Works. The requests shall conform to the approved Construction Management Plan.

2. Blasting:

   Although not anticipated, if blasting occurs, it shall conform to Article VIII. In Chapter 14 of the City Code and Section 3.7 in the City's Technical Manual.

3. Building Code:

   Employ the best practices, as applicable, of Chapter 33 Safeguards During Construction, from the 2009 International Building Code.

D. Construction Administration and Communication

The Contractor will work closely with adjacent abutters, businesses, and all parties informed, as far in advance as possible, of scheduled work, particularly work anticipated to cause significant noise, vibrations, or dust. Communication in order to comply with all agreements, ordinances, and special permits will be of the utmost importance. Contractor contact information shall be posted on a sign on the construction fence along Woodford Street frontage. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project. The contact information for the project personnel is:

Brian Kilgallen
Community Housing of Maine
(207) 879-0347

GC and Subcontractor information will be posted along Woodford Street frontage once contracted.

E. Construction Schedule

The GC shall submit a construction timeline at or prior to the preconstruction meeting. Construction may occur during the daytime hours as defined in Section 17-18 of the Construction Activities for Building permit and City Code Section 25-129, Noise, dust and debris. Between September 1 and May 31, the following year, no person shall engage in construction activities generating noise exceeding 50 decibels, between the hours of 7 pm and 7 am of the following day within 500 feet of any buildings. From June 1 to August 31, construction activity may continue until 8 pm. No construction activity shall begin before 8 am on a Saturday, Sunday, or legal holiday. Extended hours or night work may be

requested for special circumstances and street utility work if needed. These requests will be subject to approval by the Public Works Authority.

Due to the limited space within the project parcel, deliveries will need to be stored in an alternate location or deliveries must be small enough to fit within the property. Deliveries will be scheduled between 7 am and 5 pm.

The estimated timeframe of the proposed project is outlined below:

Project Start Date:	2024
Project End Date:	2026

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

F. Security & Public Safety

1. The GC will provide all fencing and other barriers, with the intent of separating pedestrian and vehicle circulation from the construction site. Construction entrances per detail shall be installed.

2. Structures undergoing construction, alteration, or demolition operations, including those in underground locations, shall comply with NFPA 1 Chapter 16. *Safeguarding Construction, Alteration, and Demolition Operations.*

3. Fire Safety Program: Prior to construction, an overall construction and demolition fire safety program shall be developed. Essential items to be emphasized include the following:
    - 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
    - Consideration of special hazards resulting from previous occupancies
    - Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations.

4. Blasting, if required, shall conform with all measures of Article VIII. Regulation of Explosives in the Land Use Code and Section 3.7 Standards for Blasting and Regulation of Explosives in Portland's Technical Manual.

5. Temporary security lighting shall be shown on the Construction Management Plan, and all fixtures shall be full cutoffs.

G. Construction Permitting and Traffic Control Plans

1. Construction Activity in Public Streets

Construction activity in the public right-of-way shall be compliant with Chapter 25 Article VII of the City Code. At no time will it be permissible for construction activity including delivery vehicle to close or block streets or affect public safety access without prior notice and approval of the Department of Public Works.

2. Sewer and Stormwater

   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 and in Section II of the Technical Manual. This will apply to the new connections within Woodford Street.

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. The contractor shall submit a satisfactory "Maintenance of Traffic" (MOT) plan prior to any street opening permit approval. This document shall contain all pertinent information from the Maine Department of Transportation's Traffic Control Plan Standard Specification 652.3.3.

   The MOT will address the work required for utility connections in Woodford Street. Traffic will be channelized utilizing drums and cones. Proper signage will be installed prior to the through work zone. Alternating traffic will be controlled with flaggers. Trenches will be patched with pavement daily.

   The MOT plan shall provide for the safe passage of the public through or along the construction work zone. It may be permissible to close a portion of Woodford Street during utility connections and/or detour a mode of traffic when absolutely necessary for safety. All requests shall be subject to City approval. 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 would create any obstructions to bicycles or pedestrians.
   - Flaggers will be utilized when necessary.

   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 and laying out the work zone; no pre-existing travel mode may be eliminated without the express approval of the Department of Public Works. The MOT should also address on-street parking impacts, including deliveries and parking for adjoining businesses and property owners, analysis of roadway capacity or diversion capacity if street closure or change to roadway capacity is required, and coordination with other on-going or future construction or utility projects in the vicinity.

- Traffic control 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 bicycle and pedestrians.
- 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.
- ADA compliance in all capacities shall be maintained.

Use of public parking spaces on Beacon Street shall not be permissible. 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.

H. Site Management and Controls

1. Regular trash and debris shall be managed appropriately, and its removal shall comply with all local, state, and federal regulations.

2. Street cleaning and sweeping shall be followed as outlined in the erosion and sedimentation control notes and report. Damage to the street shall be avoided and shall be the responsibility of the contractor.

3. Dust shall be controlled and shall comply with Section 25-129 and the erosion and sedimentation control notes, plan, and details.

4. Noise shall be controlled and shall comply with Section 17-18 and Section 25-129.

5. Rodent Control shall be provided, if applicable, by a professional exterminator and shall be consistent with Chapter 22 of the City Code.

6. Snow and Ice Removal shall be provided. Pursuant to Section 25-173, the Contractor shall ensure a safe means of travel within the work zone by the following steps:

    a. Snow/ice removal or commence automatically from 1" or greater of snow or ice
    b. Remove snow as needed within the work zone, including parking spaces. Driveways and site lines shall not be blocked by piles of snow.
    c. Clear all walks and ramps within the work zone
    d. Sand or salt as needed
    e. Clear all basin or drainage to help snow melt
    f. The above steps shall be carried out Sunday-Saturday including holidays.

I. Erosion Control and Preservation of Trees

1. The Contractor shall install all erosion and sedimentation controls as outlined in the plan set, and the approved erosion and sedimentation control report, 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 storm events (0.5" or more in 24 hours). Additionally, temporary or permanent stormwater management systems shall be inspected and maintained to ensure 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 (MDEP) or the U.S. Environmental Protection Agency (EPA) upon request.

2. Due to the existing sparse landscaping on site, no protection during construction will be necessary.

3. Stored materials shall be identified and avoid being located under/near trees.

J. Construction Staging Area

1. The Contractor shall submit a plan with locations depicted for the location of material staging areas, the location of on-site temporary construction trailers, the location of on-site truck delivery holding areas, the location of on-site truck washing stations, masonry mixing stations, the general location of the construction security fence and the general location of temporary construction dumpsters. This plan shall be submitted at or prior to the pre-construction meeting. Any open storage areas shall be shown on the plan.

2. Delivery Truck Holding Areas On-Site: The majority of materials delivered to the site will be scheduled such that they are able to be off-loaded immediately. On days when the construction activities require multiple truck deliveries, these deliveries will be carefully scheduled so that there is always adequate on-site area for the holding of trucks until they can be unloaded. Once at the site all vehicles will be brought within the fence line and will make every attempt to avoid queuing on public streets. If, for any reason, on-site holding of trucks is not feasible, an off-site location must be designated and shown on the submitted plan referenced above in J.1.

3. All deliveries for materials shall comply with the City's noise requirements.

K. Parking During Construction

1. Adequate parking for construction workers shall be provided on site or arrangements for off-street parking at an off-site location shall be provided.

2. Truck Routes and Volumes: The following quantities are estimated as part of the reconstruction:

    - Gravel & Stone – Approx. 600 CY. Earthwork subcontractor(s) pit to project site.
    - Hot Mix Asphalt – Approx. 235 tons. Paving subcontractor(s) pit to project site.

L. Dewatering Plans

1. A basic dewatering plan for any construction work is required and shall be submitted by the Contractor. The plan must cover construction sites where groundwater is not expected but the impact of rainwater may require dewatering. The plan must include operating procedures, equipment to be used, including filters, erosion and sediment control measures, or other methods of removing sediment from approved discharges.

2. For construction work that will require frequent dewatering of groundwater from site, a dewatering plan must be prepared by the Contractor and approved by the Department

of Public Works. Groundwater and/or soil testing may be required to determine course of action if treatment is necessary. Approval for all discharges to City infrastructure is required. The proposed plan must address the following:

- Project duration, discharge location, storage equipment on-site, dewatering schematic, and emergency contact.
- General requirements include trained staff on-site for all approve discharges and required site log for documentation of all discharges.
- Storage and/or treatment process should include proper settling time and maintain proper use of filtering medium as required.
- Contingency/maintenance plan for all dewatering equipment devices and filtration mediums.

Any water that is removed from an excavation must be pumped from a perforated device buried in crush stone prior discharge and/or prior to storage and treatment. There will be no discharge allowed during precipitation events.

M. Special Measures as Necessary

No special measures are necessary for the proposed reconstruction.

R. Solid Waste Disposal

An existing solid waste container is located in the southwestern corner of the existing parking lot on site. The solid waste container is anticipated to be slightly relocated and continue to service the existing church.

The proposed affordable housing buildings will utilize a new solid waste container located on the southeastern corner of the parking lot. A private hauler will be contracted for removal services.

S. Parking Analysis

Per Land Use Code Section 19 Off Street Parking Table 19-B Categorical Exceptions to Off-Street Parking Minimums, Transit Proximate Development and Uses: No off-street parking shall be required within 1/4 mile of a fixed route transit service. New uses 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.

Please refer to the attached Traffic Management Demand for additional information.

TRANSPORTATION DEMAND MANAGEMENT PLAN

186 WOODFORD STREET, PORTLAND, MAINE

Submitted for Community Housing of Maine

by Levine Planning Strategies, LLC

December 2023

LEVINE PLANNING STRATEGIES
Tools for Building Communities

Project Overview

On behalf of Community Housing of Maine, we are pleased to submit a Transportation Demand Management (TDM) Plan for the proposed below-market affordable housing project located at 186 Woodford Street. The site is in the B-2 zoning district.

The project involves construction of a new multistory residential building with 79 residential units on an existing parking lot. No additional on-street parking is being proposed.

By providing a robust TDM plan, this project aims to significantly reduce the number of tenants who choose to rent off-site spaces or utilize street parking. In addition, by not incorporating on-site parking into the cost of the development will allow financial feasibility within the cost constraints of affordable housing finance programs.

A Transportation Demand Management Plan is required for this project per the Portland Land Use Code Table 19.b: " 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."

For ease of review, we have drafted this TDM plan generally following the format of the City's Technical Manual Section 17.3. ("Transportation Demand Management.")

Transportation Narrative

This project is located in the Woodfords Corner neighborhood, with a myriad of transportation options that lend themselves towards transportation demand management. Woodfords Corner is identified as an "enhance" node identified in *Portland's Plan*. The building is located close to the METRO Route 2 and not far from the Route 4, 9A/B and Husky Lines. In addition, via Route 2, the South Portland Bus Service offers nearby service to South Portland locations.

Roadways

As mentioned above, this project is located on Woodford Street, between Forest Avenue and Stevens Avenue. These streets are designed to provide multimodal access, with good sidewalk connections that are generally compliant with accessibility standards. Bicycle accommodations, while good, could be improved along all these corridors, though new bike lanes on Stevens Avenue have provided significant new options for bikers.

Figure 1: 186 Woodford Street on City Map

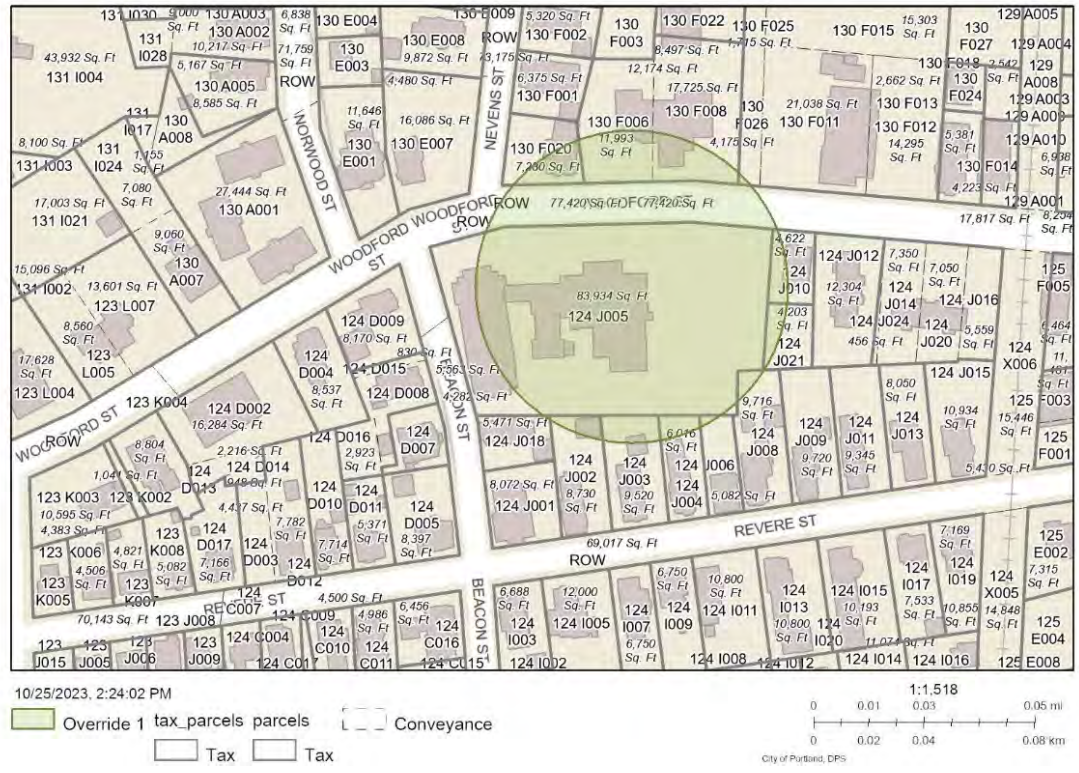
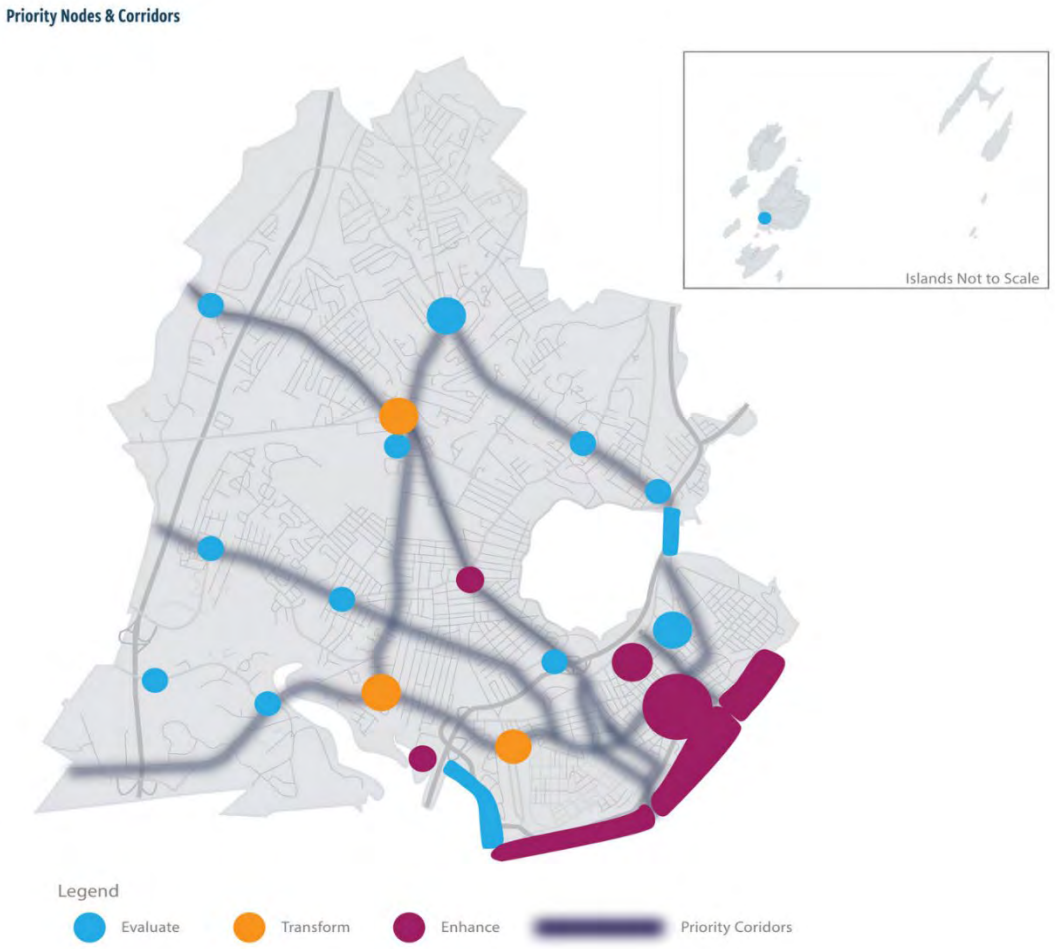


Figure 2: 196 Woodford Street on Tax Map



Transit

Very few developments are in as good a position as this one to take advantage of existing transit.

This project is served well by the Greater Portland Transit District's system. The Route 2 is just a block away and the Route 4 and Husky Line stop nearby, as do the Route 9A/B Loop.

The Gorham-Westbrook-Portland Rapid Transit project is being led by the Greater Portland Council of Governments to assess the potential for rapid transit service along that general corridor. All of the alternatives under consideration pass relatively close to 186 Woodford Street, increasing the mobility options for residents. Three of the top four alternatives use Stevens Avenue or Forest Avenue.

In addition, the South Portland Bus Service operates routes via transfer from this area to destinations across the Casco Bay Bridge, including Southern Maine Community College and services and offices in South Portland.

Ridership recovery since the start of the COVID pandemic in 2020 has been very strong, reaching approximately 80 to 90 percent of 2019 levels.

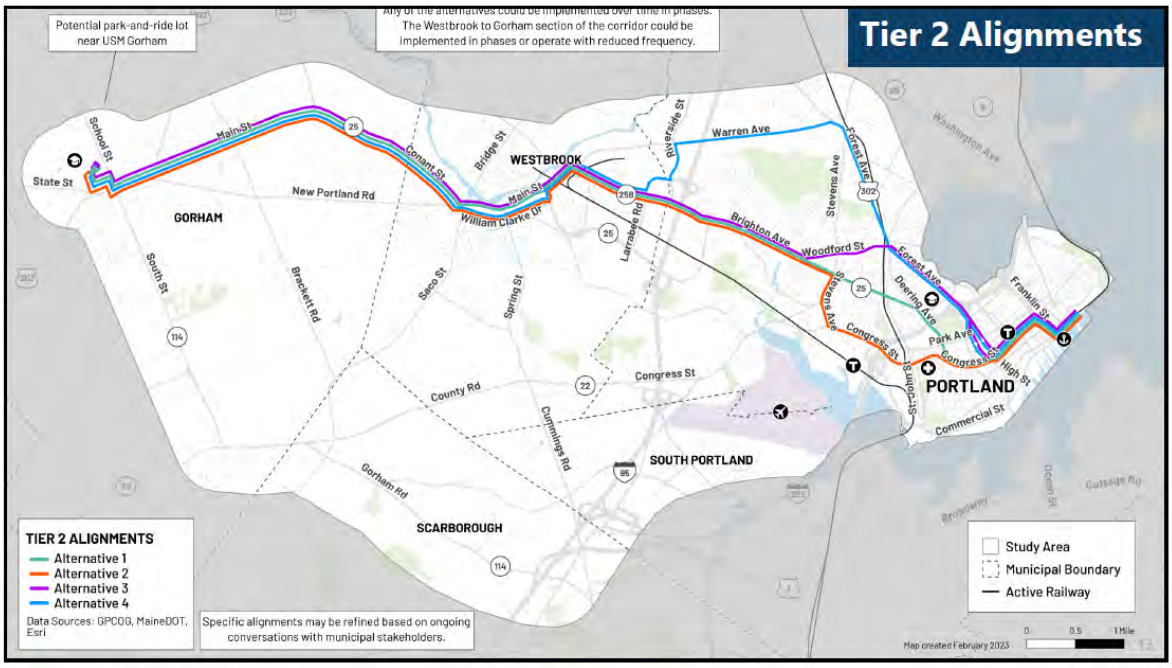


Figure 3: Alignments under Consideration for the Gorham-Westbrook-Portland Rapid Transit project

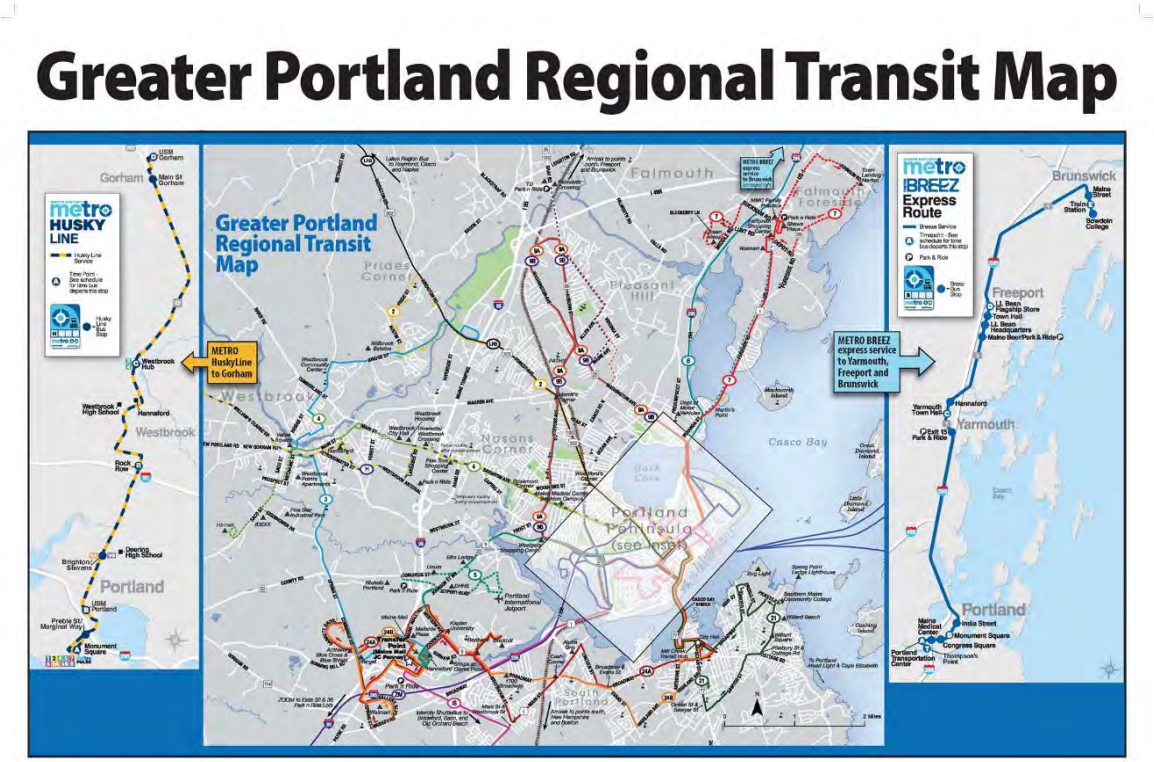
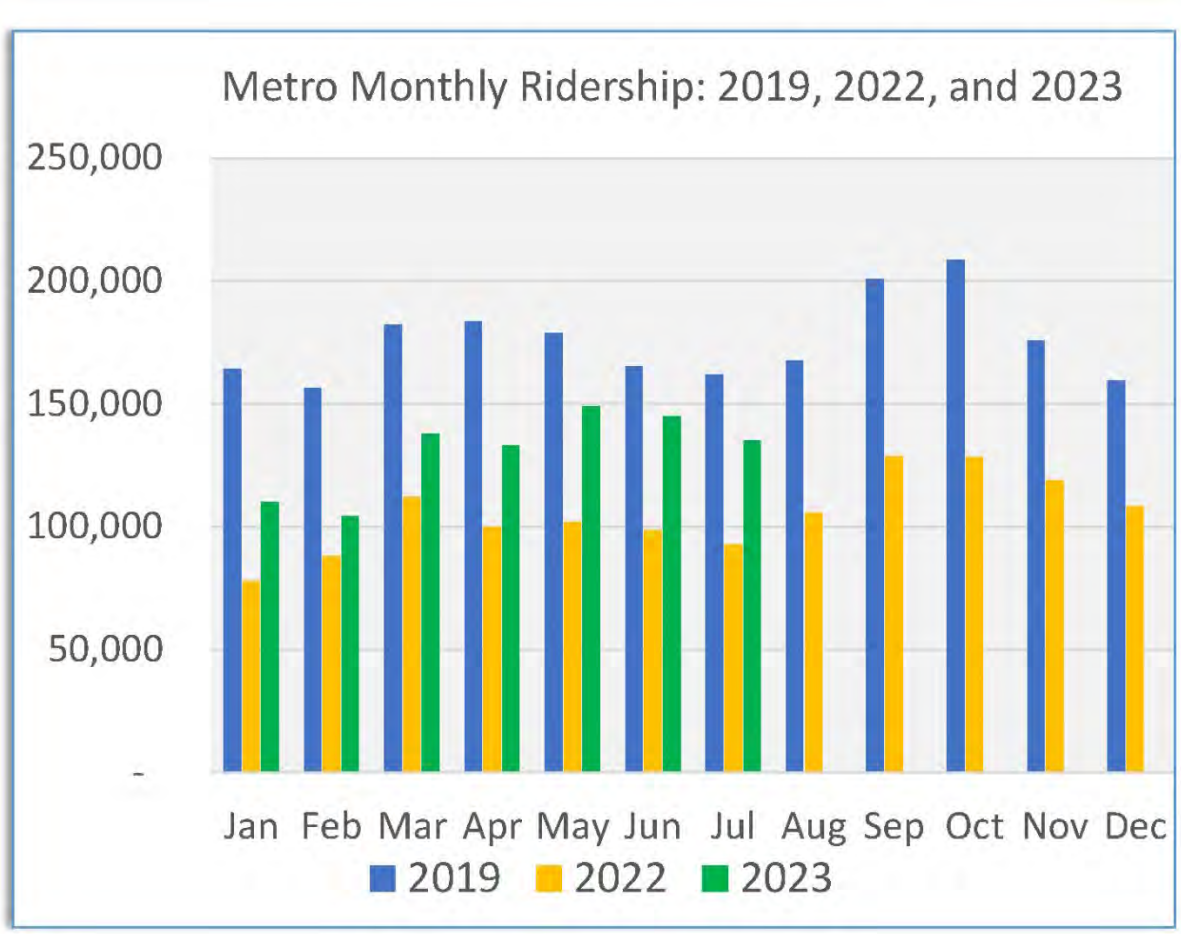


Figure 4: Greater Portland METRO's transit network



Figures 5a and 6b: Ridership recovery on METRO routes since the start of the pandemic

Figure 6: New Portland Bikeshare Station Nearby

Bicycle and Pedestrian Facilities

As mentioned above, all the nearby roadways have sidewalks on both sides. Accessibility is generally acceptable on these sidewalks, with tip downs generally provided. Many of these sidewalks are cleared in the winter as part of Portland Downtown's services. Some of the brick surfaces are not ideal in the rain or snow for those with limited mobility, making Portland Downtown's services particularly important.

The area has excellent bike facilities. The Back Cove Trail nearby offers safe, grade-separated access to the Peninsula. In addition, the City recently partnered with Tandem Mobility to launch a bike sharing system. That system offers both conventional and e-bikes for general use. In 2023, a new Portland Bikeshare station opened nearby at Revere Street and Deering Avenue.

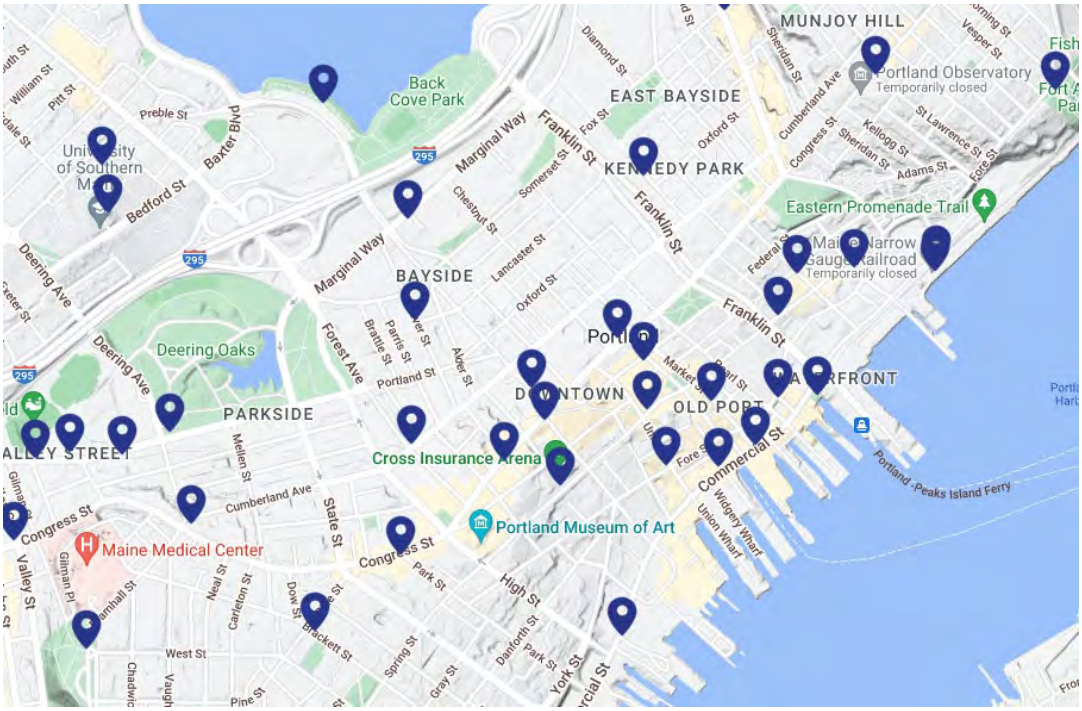


Figure 7: Other Portland Bikeshare Stations near 196 Woodford Street providing connectivity

Walkability

The Woodfords Corner area has been the subject of a great deal of public investment to improve mobility by foot. The transportation system was entirely rebuilt in the last ten years to improve sidewalks, crossings, and public spaces. In addition, this past fall, crossings were tightened in two places nearby to improve pedestrian safety. An active local organization, the Active Transportation Committee of the Friends of Woodfords Corner, works to improve multimodal transportation options generally in the area.

Figure 8: The Active Transportation Committee of the Friends of Woodfords Corner, working with the City, has been activating streetscapes as well as raising awareness of walking, biking and transit

Characteristics of Likely Residents and Workers

In thinking through who may be likely to live in this building, it makes sense to first look at who currently lives in the neighborhood. Census Tracts 15 and 18 include much of the surrounding neighborhood. For that reason, we've looked at data from the 2021 American Community Survey 5-year data from the U.S. Census. That data provides a sense of some key characteristics of likely residents, with respect to car ownership, household size and commuting patterns. This data informs the best TDM strategies for this development.

In Tract 15, almost 40% of all households have just one vehicle available. In Tract 18, that number is just over 25%. The proximity of key assets, such as downtown amenities, jobs, and supermarkets, make this a good place to live car-free, or car-light.

As shown in Figure 9 below, many workers in these Census tracts walk to work, work from home, or use alternative modes to get to work. Less than 2/3 of the workers in these tracts drive to work.

The uses in the remaining church buildings will attract a combination of pass-by visitors – who simply added a visit as part of another trip – and those making special trips to visit. Those trips will be accommodated through a mix of automobile trips, walking, biking, and transit. Restaurant visitors who choose to drive will have on-street parking options as well as local garages, though given the residential density downtown and in West Bayside many visitors will walk.

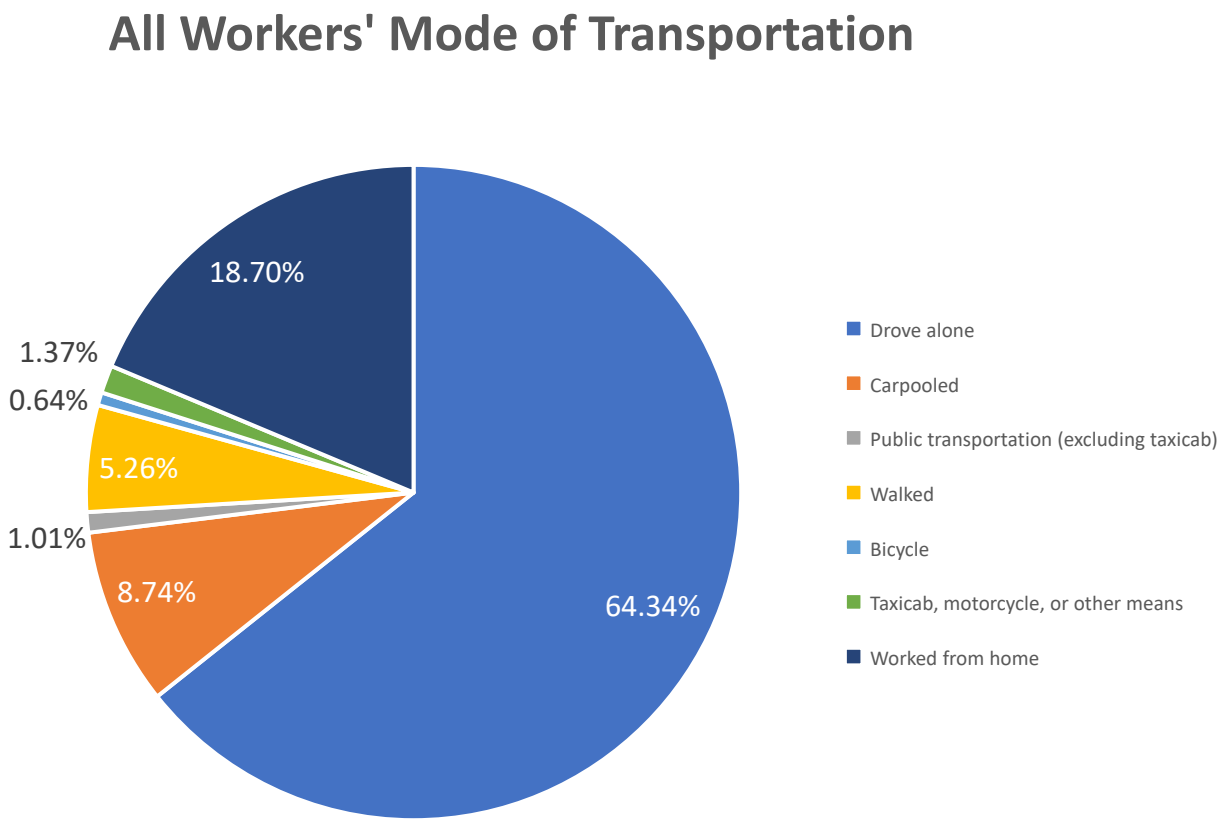


Figure 9: Commuting modes for workers in Census Tracts 15 and 18 (2021 5-Year American Community Survey)

TDM Administrator

The TDM Administrator for this project will be:

Brian Kilgallen (he/him)
Development Officer
Community Housing of Maine
One City Center, 4th Floor
Portland, Maine 04101
(207) 879-0347
brian@chomhousing.org

Mr. Kilgallen may work with property management to implement details of this TDM plan but will be the one-stop contact when needed.

Resident and Employee Survey

To gauge the effectiveness of this TDM plan – and to adjust it if needed – the TDM Administrator will conduct an annual survey of residents in the building as well as employees of the ground level spaces.

This survey will be conducted electronically using contact information on file with the management office for each unit. It will include questions on:

- Vehicle ownership and parking location
- Modes of transportation for commuting, household chores, and recreation
- Interest in carpooling or otherwise sharing transportation expenses with other tenants to reduce trips
- Barriers to vehicle trip reduction best practices, such as bicycle use and transit ridership, and
- Other transportation needs and/or interests of tenants.

Those tenants and employees that express interest in sharing information for carpooling or other trip reduction purposes will have their information provided to others who have also expressed interest.

The results of this survey will be provided to the City's Planning & Urban Development Department using a form like the one provided on the City's web site (see Attachment.) The survey will remain substantively consistent from year to year, to allow the results to be used to monitor the effectiveness of this TDM plan and allow for adjustments as needed.

Trip Generation and Parking Supply

This project's trip generation rates were determined using the following ITE Trip Generation Land Use Code:

- ✓ LUC 223 Affordable Housing – Income Limits

In total, the development is expected to generate 81 trips at morning peak hour and 49 at evening peak hour. Those figures are based on a typical development without nearby amenities. For this project, there is likely to be some trip-chaining, or combining of separate trips. We would also expect significant walking and biking trips as part of the coffee shop/drive through morning trip generation.

Research has shown that parking demand in transit-oriented developments such as this one can be as little as one-fifth the ITE supply guideline (see, for example, Ewing et al, *Landscape & Urban Planning* 160 (2017) 69-78.) We believe that, given the project's location, the decoupling of parking costs from rents, and the robust measures proposed in this TDM plan, the parking generation of this project can be accommodated in nearby lots and overnight on-street parking with limited negative impacts. For those who may need it, there is on-street parking on Woodford Street as well as other locations nearby.

Mode Shift Targets

The mode and distance of these trips is likely to vary from a typical housing development in Maine. In many cases, most of the trips generated would involve long individual vehicle trips. However, in this case, with good TDM strategies in place, most of the expected trips from residences and commercial spaces will be on foot, on bike, or on transit. This project sets the following mode split targets as per the City TDM guidelines:

Mode Split Targets

	Baseline	3-5 Year Target	7 Year Target
Drive Alone	64%	55%	46%
Carpool/Vanpool	9%	12%	15%
Transit	1%	3%	5%
Bicycle	1%	2%	3%
Walk	5%	6%	7%
Other	20%	22%	24%

Mode Shift Strategies

As a residential building with units best suited to one to three persons, this project will have different mode shift strategies than commercial buildings, or even residential buildings with larger units.

The mode shift strategies for this development are focused on the needs of likely tenants, including younger workers in a variety of fields and older single persons seeking the convenience of a downtown location.

These strategies are designed to respond to the following needs:

- Convenience
- Cost-effectiveness
- Leverage of downtown location, and
- Pushing of information to users rather than expecting them to pull information from on-line sources.

Shift strategies will include education as well as provision of convenient alternatives.

A key part of this TDM plan is to convey clear, compelling and accurate information to tenants and visitors as to the transportation options available other than driving. As part of a welcome packet, all new tenants will be provided information including the following:

- Transit maps, schedules, and information about real-time transit trackers
- Information about transportation providers, including transit operators, transportation-as-a-service (TAAS) companies, and other options to avoid driving
- A building-wide ride board to allow tenants to share trips, and
- Information on bike routes, parking infrastructure, and other incentives.

This educational packet will be provided online as well, so tenants and visitors can refer to it at any time.

Monitoring

As mentioned above, there is a TDM Administrator designated for this development who will be responsible for monitoring this plan. Following an annual survey of residents, the TDM Administrator will report results to the City's Department of Planning & Urban Development and propose modifications to this plan to make it more effective, if need. This reporting will also be helpful in

reviewing future TDM plans, as we expect that additional developments will propose using the option in Table 19-B in the future.

The report for this development will include, at a minimum, the following:

1. Building occupation
2. Mode split, and
3. Suggested enhancements to transit, bicycle and pedestrian infrastructure.

TDM Action Steps

The core actions of this TDM Plan are consistent with, and in many cases exceed, the recommended actions in the Technical Manual. These action steps will result in trip and parking demand reductions that meet the goals listed. In addition, by providing residents with transportation options that reduce per-capita emissions, these steps will have external benefits that will improve the quality of the air in downtown Portland and help address the goals of the *One Climate Future* plan. Finally, by reducing vehicle trips in individual vehicles, this TDM Plan will save the City and state money by reducing the wear and tear on city streets.

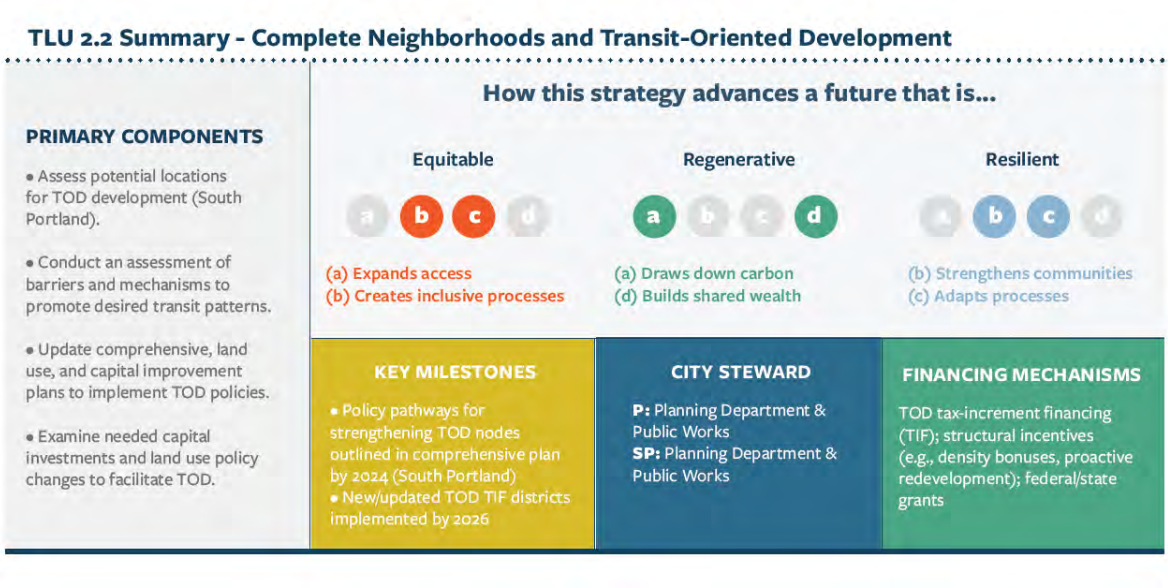


Figure 10: Portland's Climate Action Plan calls for infill development such as this project (Source: One Climate Future, p. 151)

1. **Infrastructure**
    a. Transit Lounge: With the closest transit stops nearby, it will be easy for tenants to access the Route 2 and other lines. The developer will work with METRO to develop a "transit lounge" in the lobby that provides a comfortable place to wait for buses, with posted schedules and, as noted below, cost-effective real-time transit arrival information as current technology permits.
    b. Transit Information: As has become a best practice in transit-oriented developments in other cities, real-time transit information is key. The developer will plan to provide cost-effective transit information to residents.
    c. Bicycle Parking: This development will provide at least 32 bicycle parking spaces available to residents.
    d. Bike Repair Station: The development will offer a bike repair station for the use of residents, located conveniently in a common area.

2. Incentives

a. Unbundled Parking: As mentioned above, the cost of parking has been "unbundled" from the cost of developing and operating the building. Tenants who choose not to own their own vehicle are then able to enjoy the full benefit of a reduction in their housing and transportation cost by not having to pay for a parking space.

b. Transit Incentives: Research has shown that moving into a new home is a chance for residents to try new transportation options. To make sure that new tenants are aware of, and have incentives to try, transit, will provide all new tenants with easy access to the Umo app for use on METRO, BSOOB Transit and/or South Portland Bus Service. All new tenants will also receive $25 pre-loaded onto their Umo account to allow them to try transit options and develop new habits (or continue previous ones) in this location. For tenants without smartphones, a METRO fare card loaded with $50 will be provided.

c. Car and Bike Sharing: While Portland currently does not have a car-sharing vendor, should one become available, the owners commit to working with the City to provide a carsharing vehicle nearby. Similarly, they agree to working with the City as it seeks to expand Portland Bikeshare nearby and will provide new tenants with a one-month membership in Portland Bikeshare so they can try it out (not to exceed current cost of $15.)

d. Telecommuting: This building will be wired with broadband infrastructure that meets the build-to standard of the Maine Connectivity Authority and ConnectMaine, to encourage telecommuting as a trip reduction strategy.

3. Education

a. Information: As part of a welcome packet, all new tenants will be provided information including the following:
   - Transit maps, schedules, and information about real-time transit trackers
   - Information about transportation providers, including transit operators, transportation-as-a-service (TAAS) companies, and other options to avoid driving
   - A building-wide ride board to allow tenants to share trips, and
   - Information on bike routes, parking infrastructure, and other incentives.
   - This educational packet will be provided online as well, so tenants and visitors can refer to it at any time.

b. Recognition: To recognize and provide positive reinforcement for resident TDM efforts, the building management will also provide an annual recognition of leaders in trip reduction from the building.

ACORN ENGINEERING, INC.

Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

February 6, 2024

Subject: Woodfords Affordable Housing Major Site Plan Neighborhood Meeting

I, Peter Heil, hereby certify that a neighborhood meeting was held on January 31, 2024 at 186 Woodford Street at 5:30 pm.

I also certify that on January 19, 2024, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development.
2. Residents on the "interested parties" list.

Sincerely,

Peter F. Heil, P.E.
Project Manager
Acorn Engineering, Inc.

Included with this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

ACORN ENGINEERING, INC.

Dear Neighbor: January 19th, 2024

On behalf of Community Housing of Maine (CHOM), we are pleased to invite you to a neighborhood meeting to discuss the Major Site Plan & Subdivision Application for the proposed redevelopment of 202 (aka 186) Woodford Street. The project proposes to construct a 42-unit affordable senior housing building in the location of the existing parking lot and partially demolish and rebuild/renovate the existing Parish House to contain 37 affordable housing units. The senior housing building will contain all single bedroom units while the Parish House will be a mixture of single bedroom and studio units. (79 affordable housing units total for the project). The project also includes various parking, utility, and landscape improvements. Lastly, the project proposes to separate the existing church, parish house, and senior housing building into three individual lots. The land containing the Parish House and the senior housing building will be owned and maintained by CHOM and the church will continue to function as a place of worship under existing ownership.

A sign-in sheet will be circulated, and a record of the meeting will be taken. Both the sign-in sheet and record will be submitted to the Planning Board. If you have any questions, please call (207) 775-2655.

Meeting Location: Woodfords Congregation Church – Lounge Room
186 Woodford Street, Portland, ME 04101
Meeting Date/Time: Wednesday, January 31, 2024 at 5:30 p.m.

Note: Under the City of Portland land use code, an applicant for a major site plan, master development plan, subdivision of over five lots, or zoning map amendment is required to hold a neighborhood meeting within 30 days of an application being deemed complete and no less than seven calendar days before a public hearing. Should you wish to offer additional comments on this proposed development, you may forward them by e-mail to planning@portlandmaine.gov or by mail to the Planning and Urban Development Department, Planning Division, 4th Floor, 389 Congress Street Portland, ME 04101.

Woodford Street Affordable Housing
1/31/24 | 5:30 pm

Sign-in Sheet

Name	Email
Amy Johnson	Amyfjohn@gmail.com
John England	Jefengland@gmail.com
Robin Carter	Robinbcarter@gmail.com
Margery Pattison	Email Not Provided
Greg Byrer	Email Not Provided
Joe O'Donnell	Jodennel@maine.rr.com
Carol E. Fletcher	Fletcher.caroleve@gmail.com
Wendall M Fletcher	Gbartlett5@Gmail.com
Mary Standford	Email Not Provided
Stephen Bithe	Bithelaw@Gmail.com
John Field	Fieldgeology@Gmail.com

Project Team	
Brian Kilgallen	brian@chomhousing.org
Zach Stevens, P.E.	zstevens@acorn-engineering.com
David Horne, E.I.	dhorne@acorn-engineering.com
Peter F. Heil, P.E.	pheil@acorn-engineering.com
Ben Walter	bwalter@cwsarch.com

CHOM Woodfords Senior Apartments
Major Site Plan Application

Neighborhood Meeting Minutes

January 31, 2024 / 5:30 pm
186 Woodford Street – Memorial Hall

Project Team Attendees:

Brian Kilgallen (BK): Developer/Presenter – (CHOM)

Pete Heil (PH): Project Manager/Presenter (Acorn Engineering)

Zachary Stevens (ZS): Civil Engineer/Presenter (Acorn Engineering)

David Horne (DH): Civil Engineer/Note Taker (Acorn Engineering)

Ben Walter (BW): Architect/Presenter (CWS)

The meeting started at approximately 5:30 pm.

Presentation:

Brian Kilgallen:

- Introduction of project team and Community Housing of Maine (CHOM).
    - The project will utilize the space that was previously under-utilized. Allow the congregation to fully take advantage of the space they have.

Pete Heil/ Zachary Stevens:

- Introduction to meeting and sign in sheet
    - Next step after this meeting is Planning Board meeting at City Hall on February 13th.
    - Project overview
        - The parcel was recently rezoned to the B2 zone.
        - The project proposes a new senior housing building as well as redeveloping the existing parish house. Both of which will have to conform to the B2 zoning district.
        - The exisitng parcel will be subdivided into three (3) lots.
        - There are no parking spaces required as part of this project, however, 57 parking spaces will be provided and 3 will be ADA. Exterior bike parking will also be provided.

- New street frontage improvement including street trees as well as sidewalk improvements. One curb cut will be closed as part of the project.
- The stormwater on site will be treated via a sub-surface sand filter.

Ben Walter:

- Presentation of the new building floorplans and amenities, community space.
  - Renderings of new building
  - Discussed potential landscaping on building frontage.
- The whole site slopes down towards Woodford Street which requires a stair entrance at the front of the building.
- The parish house floorplans.
  - A portion of the parish house will remain the same including the memorial hall.
  - The rear portion of the building will be reconstructed and converted into units as well as the floors above memorial hall.
- The parish house design character.
  - Provide new materials that replicate the color schemes of what is already existing. Maintain the character of the church, rhythm of the windows and elevations of the building.
  - Fiber cement siding as well as thin brick siding provide a historic look while incorporating modern technology for durability.
- 3-D renderings show how you will not be able to easily notice the parish house addition from the street.
- The proposed building as well as the parish house addition will be 100% electric.

Comments, Questions & Answers:

Please note that the following questions and answers were not recorded verbatim and aim to represent and summarize the actual questions, answers, and discussion that took place at the meeting.

Neighbor: How will the new buildings be heated?

- **Brian**: The building will be heated via heat pumps.

Neighbor: Are you concerned with the electrical billing rates since the building is all electric?

- **Brian**: We are always concerned with the costs of building, but sustainability is more important to CHOM.

Neighbor: Will the taxpayer have to pick up the cost of an electric building on the grid?

- **Brian**: We pay for all the heat and hot water for the building. If you add more renewable energy to the grid, you only have to pay for the maintenance of it.

Neighbor: I live at 175 Beacon Street which is adjacent to the church. Will the construction noise be an issue? Also, how will the parking be handled. Will there be more traffic through the beacon street entrance?

- **Brian**: In terms of noise of construction, the building will be constructed in panels which helps reduce construction noise. It's not quiet but we work with contractors who have the highest standard of construction to ensure the building process will be done right the first

time. The contractor will create a construction management plan that will set a high standard for construction practices. You will also always be able to contact me with any questions during construction. As for parking, we have found time and time again that projects provide too much parking. We believe most residents will not have a car and there is a public transit station in Woodfords Corner. Despite this, the project will have ample parking space for friends and family visiting, and church members.

Neighbor: What is the timeline for construction?
- **Brian**: 16-18 months. Most of which will happen inside the building.

Neighbor: Could you explain the landscaping plan more?
- **Brian**: We are working with the city and a landscape architect to get some outdoor space that people can use that will not interfere with the space that is utilized by the Church.

Neighbor: Are the units age restricted?
- **Brian**: Yes, they are age restricted to 55 and over. All the units are going to be senior housing units.
-

Neighbor: Will there be metro passes provided for the residents?
- **Brian**: We are interested in the options of providing metro passes to residents.

Neighbor: How will the shared parking lot work?
- **Brian**: Most of the parking spaces will be available to people who need them. However, there will be spaces dedicated to residents.

Neighbor: How many parking spaces will there be?
- **Brian**: 57.

Neighbor: Will there be a dedicated bus stop in front of the building?
- **Neighbor (On the Metro Board)**: There is no service on Woodford Street. We *are* looking into it but I'm not optimistic there will be a Woodford Street line. Woodfords corner has been rebuilt to provide safer street crossing for people taking the bus.

Neighbor: Are the apartments relatively the same dimensions?
- **Brian**: The layout of units in the proposed senior housing building are very similar. The parish house has a more variety of shaped units.

Neighbor: Are they all 1-bedroom units?
- **Brian**: The majority are 1-bedroom units, there are a couple of studio units.

Neighbor: Will there be pets allowed?
- **Brian**: Generally, pets are allowed if they are service animals.

Neighbor: How will the front of the new building look?
- **Brian**: (displaying renders of the new buildings front entrance) We are working to provide some more character to the building by adding color and landscaping.

Neighbor: Have you thought about an elevated porch out front of the building?
- **Brian**: Yes, there is a porch out front of the building.

Neighbor: Have you considered having a brick façade on more sides of the proposed building?
- **Brian**: We will investigate that option.

Neighbor: Are there any opportunities for outdoor recreation space?
- **Brian**: We have given guidance to the LA to provide outdoor recreation area. The project is located within 1000 feet of two different parks in Portland.

Brain: I want to note that Memorial Hall will also be upgraded as part of the project. We don't want to create a community space that will go dark after we leave it. We will maintain a campus for activity.

Neighbor: Who can live here?
- **Brian**: You need to be over 55 years of age and meet the low-income requirements.

Neighbor: Will there be health services provided at the building?
- **Brian**: We have not coordinated that yet but are working with a myriad of non-profits to be the vessel for them to get work done.

Brain: Thank you all for coming. If there is anything else, you need from me do not hesitate to reach out.

The meeting concluded at approximately 6:20 pm.

The abovementioned material was as interpreted and recorded from handwritten notes. Please note and relay any discrepancies or disputed information in the recorded minutes to the below address so that they can be reviewed, revised, and resubmitted, as necessary.

Recorded by,

David Horne, EI
Design Engineer, Acorn Engineering, Inc.
Dhorne@acorn-engineering.com

Att.

CHOM
Community Housing of Maine

Board Members

Aaron Shapiro
Retired Community Development Director, Cumberland County
Board President

Chip Newell
Principal, The NewHeight Group
Board Treasurer

Gunnar Hubbard
Principal, Thornton Tomasetti
Board Secretary

David Birkhahn
Vice President, TD Bank

Elizabeth Boepple
Partner, Murray, Plumb, & Murray

Jan McCormick
Retired Affordable Housing Investment Executive

Luc Nya
Mental Health Program Coordinator OCFS/Corrections Liaison, Maine DHHS

Angela Perkins
Westbrook Resident

Thomas Ptacek
Huston Commons Caseworker, Preble Street

Jennifer Putnam
Executive Director, Waypoint

Jennifer Rottmann
Deputy Director/CFO, The Genesis Fund

John Ryan
President, Wright-Ryan Construction

Bill Shanahan
Co-President, Evernorth

Kimberly Twitchell
Maine Regional President, NBT Bank

Staff Contacts

Cullen Ryan
Executive Director

Kyra Walker
Chief Operating Officer

Sarah Gaba
Asset Management Director

Meredith Smith
Supportive Housing Manager

Sarah Derosier
Asset Manager

Sam Lowry
Compliance Manager

Chris Harmon
Controller

Jenny Jimino
Office Manager

Vickey Merrill
Advocacy Director

Bree LaCasse
Development Director

Brian Kilgallen
Development Officer

Robyn Wardell
Development Officer

Maya Balassa – City Planner
Department of Planning & Urban Development
City Hall, 389 Congress Street, 4th Floor
Portland, Maine 04101

January 31st, 2024

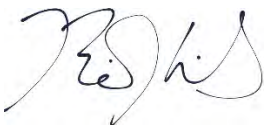
Re: 186 Woodford Street Parking Management Letter

Dear Maya,

Shared use parking is an important Traffic Demand Management (TDM) strategy that will be employed by Community Housing of Maine (CHOM) on the redeveloped parcel now occupied by Woodfords Congregational Church as identified in the previously provided TDM plan. The parking management plan will maximize use of the parking spaces around the site for the use of the future residential tenants, as well as continued access to the Church parishioners.

Representatives from CHOM and their property management team will be available to help assist residents and coordinate parking with the Church. Unbundled parking, leased separately from the units, is also an important TDM strategy and a part of the plan for the property. Successful management of all parking spaces that are a part of the property is in the best interest of the neighborhood and the property owner and an important part of this urban residential development.

Sincerely,



Brian Kilgallen
Development Officer
Community Housing of Maine

ACORN ENGINEERING, INC.

Maya Balassa – City Planner
Department of Planning & Urban Development
City Hall, 389 Congress Street, 4th Floor
Portland, Maine 04101

February 7, 2024
March 7, 2025

Subject: Woodford Street Affordable Housing Redevelopment
186 Woodford Street, Portland, ME
Comment Response Letter

On behalf of Community Housing of Maine (CHOM), we are pleased to respond to the comments that we received dated January 26th, 2024, related to the proposed affordable housing redevelopment project located at 186 Woodford Street in Portland, ME.

On March 7th, the project team updated the plan set to respond to remaining comments provided by City Staff and from the Planning Board Workshop Meeting held on 2/13/24.

General Review Comments

Permits/ Other Requirements

Overview *– A access, utility, and maintenance easement is proposed within the shared drive aisle onsite benefiting all three proposed lots, seen of the Subdivision Plat.*

Comment *– Please provide the finalized easement, once created. This can be a condition of approval.*

Response – Understood. We request finalized easements are a condition of approval to be provided prior to a Certificate of Occupancy.

Zoning

Overview *– The site is located within the B-2 zone. Alongside the proposed development, the applicant is proposing to subdivide the site into three properties- each of which is required to meet zoning requirements.*

Comment *– Regarding the Parish House, Plan A1.10 shows the front part of the ground floor having Memorial hall with a stage, and balcony, a kitchen and two rooms labeled Germaine Room and Crib Room. The first floor includes the balcony of the memorial hall, a kitchenette and a lounge. The proposed use of this building is 37 dwelling units. Who is going to be using Memorial Hall, the kitchens and the other rooms mentioned above?*

Response – The Parish house footprint has been minorly adjusted, and the proposed unit

count has increased from 37 units to 40 units. Please refer to the updated Site Plan and architectural plan set for new details and additional information on the updated footprint. Memorial Hall will be used by community members as a performance place for Stages and various other groups to hold meetings. This is a continuation of the current use of the space. The Kitchen is only used to warm snacks and small meals. The other rooms will be used as storage.

Ground and First Floor Uses have been further defined on the updated plans. The Auditorium will remail a multi-use assembly space supporting the existing 'A Compony of Girls' and 'Stages' programs as well as meeting space for the residents and broader community. The first floor will include 1 residential unit and a portion will be leased back to the church for continued use as meeting space.

Comment *– The height for the new addition to the Parish House and the height for the new building are both given as 44'. The applicant needs to provide an average grade calculation for both buildings and include the average grade line on the elevations.*

Response – Please refer to the grading plan for the building height calculations. See Sheet C-30 for additional information, as well as updated elevations showing the average grade line and average grade building height.

Comments Related to Transportation Standards

Impact on Surrounding Street Systems

Overview *– The applicant is proposing to change the traffic pattern to a one way, entering the site from Beacon Street and exiting on Woodford Street.*

Comment *– The applicant shall review the entire sidewalk along their frontage and repair all identified hazards within the pedestrian walkway to ensure ADA compliance. These areas shall be depicted on a plan.*

Response – Acorn met with the Department of Public Works on March 4th, 2024. The limit of the existing brick sidewalk that is to be replaced with concrete was determined. Please refer to the Civil Plan set for final sidewalk disturbance limits as discussed with DPW.

Comment *– The applicant shall consolidate any proposed service trenches (where possible) to have one final trench repair. The proposed trenches shall be repaired per the Minor Excavation Pavement Repair Details (prior to paving the finished surface) found in the Rules and Regulations for Excavation Activity. Update the plans and detail sheets to show these requirements.*

Response – The plans have been updated to minimize trench cuts per the minor excavation pavement repair detail. We are requesting one trench cut for the senior housing building and a second trench cut for the parish house renovation. See sheet C-20 for additional information.

***Comment** – If the existing sidewalk grades are not compliant at the property line, then the limits of sidewalk replacement shall be extended to include a 5 foot minimum transition zone from the proposed 2% to the existing sidewalk slope.*

Response – Acorn met with the Department of Public Works on March 4th, 2024 and it was determined that this condition does not apply to this project.

***Comment** – The applicant shall dimension existing conditions in the ROW in addition to proposed improvements on the plan view sheets. For example ROW, street, lanes sidewalk, esplanade driveways (and other improvements) widths as well as when a width changes.*

Response – Existing condition widths have been added to the site plan. See sheet C-10 for additional information.

***Comment** – The proposed 3 foot bituminous strip on the driveway does not meet the current City standard and shall not exceed a 1 foot bituminous strip. Update the plans and detail sheets to meet the requirements of City Driveway Apron standards I-9 and I-10. CAD files can be obtained upon request.*

Response – Understood. The bituminous strip located at the driveway entrance has been reduced to 1' in width and we are no longer requesting a waiver. See Sheet C-10 and C-41 for additional information.

Access and Circulation

***Overview** – There is an existing sidewalk along the frontage of Woodford Street. There are currently two curb cuts along Woodford Street to the site that are proposed to be reduced to one, exit only driveway. The new 42-unit building has the main entrance along Woodford Street with two stairs up to the front porch, with an ADA ramp along the side leading to the front entrance. There is sidewalk proposed around the rear and side of the reconstructed 37 unit building that leads to Woodford Street. Internal sidewalks are proposed to be 5 feet wide.*

***Comment** – The plans do not show a clear ADA pedestrian route from Woodford Street to the 42-unit building. Please adjust the site plan to show safe pedestrian routing. Staff are happy to meet and discuss ideas to accomplish this.*

Response – An ADA route has been added to the site plan to clarify the internal ADA pedestrian route and how it connects to the public sidewalk on Woodford Street. See Sheet C-10 for additional information. The plans have been updated to address comments received during the Planning Board workshop to halve the ADA accessible route through the parking area.

***Comment** – To minimize traffic impacts to Beacon Street, the site could include two-way circulation aisles so that traffic can enter the site from Woodford Street. The one-way driveway on Beacon Street would still need to remain. If the one-way circulation plan is to remain, the applicant shall implement angled parking spaces.*

Response – The project proposes one-way access from Beacon Street and two-way access from Woodford Street. The project has updated the parking layout to include 75-degree low turnover parking stalls on the southern side of the site. Please refer to C-10 Site Plan for additional information.

Comment *– I support a waiver for parking lot aisle width given expected low vehicle turnover. This applies to a two-way traffic circulation system. If angled parking spaces are implemented, a waiver may not be required.*

Response – It is our understanding that low turnover parking stalls can apply to 75-degree parking spaces as well.

Comment *– The warning signs at the existing crosswalk on Woodford Street shall be upgraded to meet current MUTCD standards.*

Response – Acorn met with the Department of Public Works on March 4th, 2024 and it was stated that existing crosswalks will be upgraded as part of City improvements in 2024, including adding in new warning signs as part of the City project scope. When the 186 Woodford Street Project goes to construction (anticipated in 2025) the MUTCD signage will be maintained, and reset in place if necessary.

Parking

Overview *– The applicant is utilizing the exception to off-street parking minimum per table 19-B, allowing no off-street parking required within a quarter mile of transit. The applicant has submitted a Transportation Demand Management. Despite using the parking exception, the applicant is proposing 53 parking spaces (3 ADA, 3 compact).*
The applicant is proposing 12 EV charging parking spaces along the rear of the site.
32 bike parking spaces are proposed for the housing units near entrances.

Comment *– It is unclear how the parking spaces will be allocated between the existing and proposed uses and therefore I would suggest a parking management plan be provided. The applicant should also note if there are any site plan requirements for Jones, Rich, and Hutchins Funeral Home for use of the proposed parking area for overflow parking.*

Response – Please refer to the attached Parking Management Letter to address the parking space allocation between the existing and proposed uses. We would also clarify that the project is proposing 54 parking spaces (3 ADA, 12 EV) and 34 exterior bike parking spaces. We are unaware of any formal site plan requirements for the funeral home for the use of the proposed parking area for overflow parking.

Comments Related to Environmental Quality Standards

Preservation of Significant Natural Features

Overview *– There are three trees along the eastern edge that are proposed to be removed.*

Comment *– Please add preservation details to all existing trees proposed to remain within the area of disturbance.*

Response – A note has been added to the construction management plan to protect trees located within or adjacent to areas of disturbance. See Sheet C-03 for additional information.

Comment *– Please include DBH and species of existing trees on the property survey.*

- *Please indicate which existing trees are proposed for removal and which are designated for preservation.*

Response – Understood. Please refer to sheet C-03 for exisitng tree DBH and species.

Site Landscaping and Buffers

Overview *– The project is proposing four maple trees. Internally, the applicant is proposing 36 shrubs and 99 perennials. The project is proposing 42 plantings of Common Ivy and 14 plantings of Great Masterwort, which are both non-native. The project is required to plant 79 street trees. For remaining trees that cannot feasibly fit in the site, a fee-in-leiu of 400$ per tree is acceptable alternative.*

Comment *– Please update the landscaping plan to replace the ivy with a native perennial.*

Response – The project team is working with a landscape architect, Tony Muench RLA, and an independent landscape plan has been created as part of this submission with revised plant species. Please refer to sheet L-1 for additional information.

Comment *– It appears that additional trees within 20 feet of the right of way could be added to the site.*

Response – The plans have been updated to add an additional street tree within 20 feet of the ROW for a total of (5) new street trees.

Comment *– Maples are no longer a suitable tree due to their percentage of the canopy and risk of loss from an invasive beetle. Please choose a different native approved tree.*

Response – The proposed tree trees have been updated to Northern Red Oak. Please see Sheet C-10 for additional information.

Comment *– The narrative states the development is unable to meet the 2 trees per 5 spaces parking lot landscaping standard. Paying into the tree fund can be part of meeting the standard, but please add additional landscaping to work towards the standard- staff are supportive of reducing parking space count to meet the standard, especially since the applicant is using proximity to transit to eliminate onsite parking requirement.*

Response – Some additional landscaping is provided on sheet L-1, please refer to the plan for an updated planting schedule. We've tried to maximize the number of plantings to meet the code to the greatest extent practical but are still unable to meet the full requirements due to parking and subsurface utility conflicts. We understand a pay-in-lieu fee will still be required.

Comment *– Please refrain from using maple species as proposed street trees*

- *The greater Portland area is oversaturated with maple tree species leaving the city extremely vulnerable to infestation by Asian Longhorned Beetle.*
  - *The large grassy area and absence of overhead infrastructure create the opportunity to choose from several large growth form tree species that would compliment the existing maple trees on site*

Response – The proposed tree trees have been updated to Northern Red Oak. Please see Sheet L-1 for additional information.

Comment *– Street Tree Requirement:*

- *79 Residential Units * 1 tree/unit = 79 street trees*
  - *Credit will be given for any new trees planted within 20' of the public ROW*
- *Tree Fund Contribution*
  - *79 required trees – 4 proposed new plantings = 75 remaining trees*
    - *75 trees *400/tree = $30,000 contributions to the tree fund in lieu of planting the remaining 75 required street trees.*
  - *The cost of site improvements that create a more hospitable environment for trees can be deducted from the in-lieu contribution amount of $30K*
    - *Installing dedicated mulch rings around existing and newly planted trees*
    - *Providing decimation and soil amendments (compost) for existing trees*
      - *Air spading the root zone of existing trees and applying compost.*

Response – Notes have been added to L-1 to specify installing dedicated mulch rings around existing and newly planted trees, as well as providing decimation and soil amendments for existing trees, including air spading the root zone of existing trees and applying compost. The plan has also been updated to propose (5) street trees at this time. We also note, the total number of units has increased to 82 proposed units. We request that the final impact fee is calculated prior to the final planning board meeting, including incorporating credits associated with the landscaping measures identified above.

Water Quality, Stormwater Management and Erosion Control

Overview *– The applicant is proposing underground stormwater detention to treat 57% of the redeveloped non-roof impervious area with a StormTech subsurface sand filter.*

Comment *– Private connections into municipal catch basin structures are not permitted per technical manual standard 2.9.7. The private storm drain should be connected directly to the Woodford Street storm drain line with a new manhole.*

Response – Understood. A new connection to the Woodford Street municipal storm drain system with a new drain manhole is proposed, as the proposed connection is greater than 8" per City standards. See Sheet C-30 for additional information.

Comment *– The applicant should clarify the pipe size being proposed for the storm drain connecting into the Woodford Street storm drain pipe. The plans show conflicting information.*

Response – The pipe size has been clarified and shown as 12". See Sheet C-30 for additional information.

Comment *– Per DPW's request the applicant has provided adequate stormwater detention volume and flow control for this project.*

Response – Understood, thank you for the review.

Comment *– The project is required to comply with Maine DEP Chapter 500 and City of Portland Technical Manual Section 5 for stormwater management. The Applicant has proposed a subsurface sand filter for stormwater management on the site. The system will provide for treatment of greater than 50% of the non-roof redeveloped impervious area on the site and will provide storage as required by the City. They've provided an inspection and maintenance plan, and will ultimately need a stormwater maintenance agreement.*

Response – Understood, thank you for the review.

Comment *– The outlet control structure detail should be updated to include all of the proposed pipes, the isolator row pipe connection is not shown. The detail also calls for a frame and cover that are no longer manufactured.*

Response – The outlet control structure detail has been updated to reflect all of the inverts as shown on the grading plan. The frame and cover detail has also been updated. See Sheets C-30 and C-46 for additional information.

Comment *– The piping and grading around the proposed F-Basin at the northeast corner should be clarified. Notes call for both 8" and 12" pipe exiting this structure. The contours in the area also appear to show that the grade is a couple of feet higher than what is called out as the structure's rim. The pipe out of this structure ties into an existing manhole in the street, and based on the inverts provided and a 12-inch pipe, there will be only 1.25 feet of cover at the manhole, although it's noted that the existing pipes into the manhole appear to have similar amounts of cover. Adequate insulation should be used, and there will need to be care taken with the installation of the curbing as it appears that it will be close to the top of the pipe.*

Response – Thank you for the comment. The pipe size, insulation, and grading has been clarified. See Sheet C-30 for additional information.

Comment *– The Applicant has noted that they've made requests for utility ability to serve. They've received confirmation from CMP, and have noted they will provide others upon receipt.*

Response – Thank you for the comment.

***Comment** – Based on my recent experience with PWD, they will require the demolition of the existing water service back to the main in the street, which will require some pavement repair at that location on Woodford Street.*

Response – We are currently coordinating with PWD and will retire the existing water service per their standards.

Comments Related to Public Infrastructure + Community Safety Standards

Public Utilities

***Comment** – Please submit ability to serve confirmation when received by the applicant.*

Response – Understood, all utility ability to serve letters will be provided upon receipt.

Comments Related to Site Design Standards

Snow and Ice Loading

***Overview** – The applicant has stated that snow storage areas will not encroach on parking, walkways, or stormwater management systems.*

***Comment** – Please identify these snow storage locations on the site plan.*

Response – During large snow events, the property owner will have to remove snow from the parcel. A note has been added to C-10 Site Plan stating the same.

Exterior Lighting

***Overview** – Lighting is proposed around the residential building and surface parking.*

***Comment** – In the Technical Manual, the maximum foot-candle for surface parking lots is 4 and the maximum foot-candle for site lighting is 5. Please adjust photometric plan to meet the maximum foot candle standard.*

Response – See attached for the revised photometric plan.

***Comment** – Please provide cutsheet details of proposed lighting to confirm they are full-cutoff and they are meeting color temperature standards.*

Response – The revised cutsheet details are attached.

***Comment** – The lighting trespass standard in the Tech Manual, states that lighting shall not exceed .1 along the property line. Lighting along the rear property line should show house-side shielding in the details. Please update photometric plan accordingly.*

Response – See attached for the revised photometric plan.

Noise and Vibration

Comment *– Please show where the heating, ventilation, and air conditioning equipment is located and provide details for how it will be screened.*

Response – Please refer to the attached updated architectural plans which show the HVAC equipment to be installed in the center of the roof with screening around the units.

Signage and Wayfinding

Comment *– Please clarify if any signage is proposed.*

Response – The project includes "enter only", "do not enter", and "one way ahead" signage to help clarify the one-way access on site. Callouts for the locations of the new signage are shown on the Site Plan. Please refer to Sheet C-10 for additional information.

Comments Related to Subdivision Review Standards

Has Sufficient Water Available

Overview *– The applicant has requested ability to serve confirmation from the Portland Water District.*

Updates Requested *– Please submit ability to serve confirmation when received.*

Response – Understood, the ability to serve letter from PWD will be provided upon receipt.

Will Not Cause an Unreasonable Burden for the City to Dispose of Solid Waste

Updates Requested *– Please add additional information about how waste will be disposed of.*

Response – A private hauler will remove waste on a scheduled basis. At this phase of the project a specific company solid waste removal company has not been contacted.

Will Not Have Undue Adverse Effect on the Scenic or Natural Beauty of the Area

Overview *– The site is currently a parking lot. The new building is subject to design review of a multi-family in the B-2 Community Business zone.*

Updates Requested *– Please respond to design review comments.*

Response – Please see below for additional information and responses.

Will Provide for Adequate Stormwater Management

Overview *– The project is proposing a subsurface stormwater treatment system under the parking lot to store and treat stormwater before slowly releasing into the City system within*

Woodford Street.

***Updates Requested** – See site plan comments regarding stormwater management.*

Response – Please see above for additional information.

Design Review Comments

***Comment** – The proposed Senior Housing building is located along the street frontage of Woodford Street with an internal program that includes a main entrance lobby and residential units. The Applicant shall specify the transparent visible transmittance (VT) of .7 or greater for windows adjacent to the public sidewalk along Woodford Street at the north elevation for Staff review.*

Response – The plans have been updated to show window glazing with a visible transmittance (VT) of .7 or greater for all windows adjacent to public sidewalks.

***Comment** – The proposed Senior Housing building is oriented towards Woodfords Street with the main entrance and porch. Staff finds that the proposed floor elevation is not directly accessible from the public sidewalk, and recommends that the Applicant lower the finished floor elevation of the lobby to match the adjacent sidewalk elevation and allow for a flush main entrance and porch to the public sidewalk. In addition, Staff finds the proposed staircases to access the porch elevation at 81.35' does not create an active presence along the sidewalk at the Senior Housing building, and recommends the Applicant create an internal stair transition accessible for residences to mitigate a change in finished floor elevation.*

Response – Due to the substantial grade change between the front and rear of the site, it is not feasible to enter the building 'at grade' facing Woodford Street without loosing the ability to incorporate any first-floor residential units since the grade slopes up quickly toward the rear of the site. This would then raise the first occupiable floor with residential units 6' above the site's internal grade making a rear entrance inaccessible. Additionally, elevated first floor porches with substantial exterior front entry stairs are a character defining element of the Woodfords Corner neighborhood. As such, we propose maintaining the proposed floor elevations and engaging the pedestrian experience at grade level via a robustly landscaped outdoor pedestrian sitting area. The updated plans incorporate this approach.

As discussed with the Planning Board, the site's unique grades require a raised from entry porch, which is a character defining element of the neighborhood. Modifications to the entry element have been incorporated into the updated design. The front entry stair element has been moved to the parking lot side of the entry porch to accommodate a new stepped sidewalk entrance to the entry and site.

It should also be noted that the FFE of the new senior housing building has been revised from 81.35' to 81.75'.

***Comment** – The proposed building materials for the Senior Housing include fiber cement lap siding and panel in three tones, brick, metal trim, fiberglass windows and PVD siding as an accent at the front porch. Staff recommends a replacement of the PVD siding at the front porch*

for a longevity material, such as fiber cement and fiberglass columns, to reduce the amount of overall building materials.

Response – The applicant proposes using painted fiberglass columns. The applicant assumes the PVD comment is in reference to the vertical PVC slats below and trimming the front entry porch. The space below the front entry porch is proposed to be 'open' (ventilated) similar to the traditional painted residential porches in the neighborhood, albeit with somewhat more contemporary detailing and materials selected for long term durability and low maintenance. To achieve this character and longevity, the space below the porch will be 'vented' via 3 ½" vertical boards with a 1/2" open air space between each board. We are concerned that unrestrained fiber cement vertical slats are brittle and easily broken, whereas 1" thick PVC is very durable, will hold paint for a very long time, will not rot and is forgiving with respect to damage. For all these reasons, painted PVC has become the durable long-life alternative to traditional wood trim' for the past 15 years. When executed correctly, painted PVC looks just like painted wood, with the added benefit of a very long lifespan, exceptional durability and limited maintenance. We are proposing that the entire porch cladding system be painted to achieve a consistent traditional appearance.

Comment *– The proposed development plan includes the Senior Housing building abutting residential properties at the side and rear and surface parking abutting residential properties. The Applicant has not provided sufficient screening at abutting properties and Staff recommends the addition of a densely planted landscape buffer and/or fencing to screen vehicles parked, in addition to add fencing along the east property line to screen abutting residential properties.*

Response – Additional planted landscape buffering has been proposed along the rear property line behind the parking areas to help screen and buffer between the abutting residential properties and the parking area. Due to the building location, grade differential, and screening associated with the dumpster enclosure and transformer, the parking area is not anticipated to be visual from the properties to the east, and no fencing is proposed along the eastern property line.

Comment *– The proposed Senior Housing building is oriented towards Woodfords Street with the main entrance and porch. Staff finds that the proposed floor elevation is not directly accessible from the public sidewalk, and recommends that the Applicant lower the finished floor elevation of the lobby to match the adjacent sidewalk elevation and allow for a flush main entrance and porch to the public sidewalk. In addition, Staff recommends an external stair that would connect from the public sidewalk on Woodford Street to the building entrance located at the west elevation.*

Response – Due to the substantial grade change between the front and rear of the site, it is not feasible to enter the building 'at grade' facing Woodford Street without loosing the ability to incorporate any first-floor residential units since the grade slopes up quickly toward the rear of the site. This would then raise the first occupiable floor with residential units 6' above the site's internal grade making a rear entrance inaccessible. Additionally, elevated first floor porches with substantial exterior front entry stairs are a character defining element of the Woodfords Corner neighborhood. As such, we propose maintaining the proposed floor elevations and engaging the pedestrian experience at grade level via a robustly landscaped outdoor pedestrian sitting area. The updated plans incorporate this approach.

Comment *– Staff finds the proposed staircases to access the porch elevation at 81.35' does not create an active presence along the sidewalk at the Senior Housing building, and recommends the Applicant create an internal stair transition accessible for residences to mitigate a change in finished floor elevation. Staff recommends the Applicant revise the south elevation to account for the removal of external stairs and modify the porch, awning and bay projection accordingly.*

Response – Due to the substantial grade change between the front and rear of the site, it is not feasible to enter the building 'at grade' facing Woodford Street without loosing the ability to incorporate any first-floor residential units since the grade slopes up quickly toward the rear of the site. This would then raise the first occupiable floor with residential units 6' above the site's internal grade making a rear entrance inaccessible. Additionally, elevated first floor porches with substantial exterior front entry stairs are a character defining element of the Woodfords Corner neighborhood. As such, we propose maintaining the proposed floor elevations and engaging the pedestrian experience at grade level via a robustly landscaped outdoor pedestrian sitting area. The updated plans incorporate this approach.

Comment *– Staff finds that the proposed Senior Housing building is located appropriately towards Woodford Street, however requests the Applicant create a stronger relationship for the main entrance by lowering the finish floor elevation to meet Woodford Street grade.*

Response – Due to the substantial grade change between the front and rear of the site, it is not feasible to enter the building 'at grade' facing Woodford Street without loosing the ability to incorporate any first-floor residential units since the grade slopes up quickly toward the rear of the site. This would then raise the first occupiable floor with residential units 6' above the site's internal grade making a rear entrance inaccessible. Additionally, elevated first floor porches with substantial exterior front entry stairs are a character defining element of the Woodfords Corner neighborhood. As such, we propose maintaining the proposed floor elevations and engaging the pedestrian experience at grade level via a robustly landscaped outdoor pedestrian sitting area. The updated plans incorporate this approach.

Comment *– The proposed development locates the new Senior Housing building towards the street, Staff is requesting that the Applicant remove the proposed staircases that parallel the sidewalk and lower the lobby finish floor elevation to sidewalk grade to engage with the public street and allow residents an accessible entry directly from the public sidewalk.*

Response – Due to the substantial grade change between the front and rear of the site, it is not feasible to enter the building 'at grade' facing Woodford Street without loosing the ability to incorporate any first-floor residential units since the grade slopes up quickly toward the rear of the site. This would then raise the first occupiable floor with residential units 6' above the site's internal grade making a rear entrance inaccessible. Additionally, elevated first floor porches with substantial exterior front entry stairs are a character defining element of the Woodfords Corner neighborhood. As such, we propose maintaining the proposed floor elevations and engaging the pedestrian experience at grade level via a robustly landscaped outdoor pedestrian sitting area. The updated plans incorporate this approach.

***Comment** – Staff is requesting that the Applicant prepare a narrative and/or exhibit to clearly state the proposed open space on the site. Staff has concerns about the allocation of open space and accessibility to these open spaces for the residents and recommends clearly visible and accessible walkways, crosswalks and surfaces that promote a comfortable outdoor experience.*

Response – The applicant has engaged the services of a Landscape Architect to better use and define the open space. More information will be provided in the next submission package ahead of the final plan hearing. The goal is to use the outdoor space by respecting the existing church grounds. The location of the development also allows easy access to multiple nearby city parks including the Back Cove Trail, Barrows Park, and Heseltine Park.

***Comment** – Staff finds the development provides ample windows and internal storage throughout the Senior Housing building. Staff finds the Redeveloped Parish House includes windows for each unit, however requests the Applicant resubmit architectural floor plans and elevations to match the proposed arrangement of windows.*

Response – See attached updated architectural floor plans and elevations to address the arrangement of windows.

Additional windows on the front façade were suggested. These were discussed with the planning board as to limitations within the plan and alternative façade treatments were discussed and incorporated into a revised design. These included more articulated siding colors, treatments and plantings and seating areas.

***Comment** – The proposed development plan includes surface parking abutting residential properties, Staff finds that the Applicant has not provided sufficient screening at abutting properties and Staff recommends the addition of a densely planted landscape buffer and/or fencing to screen vehicles parked for adjacent properties.*

Response – Additional planted landscape buffering has been proposed along the rear property line behind the parking areas to help screen and buffer between the abutting residential properties and the parking area. Due to the building location, grade differential, and screening associated with the dumpster enclosure and transformer, the parking area is not anticipated to be visual from the properties to the east, and no fencing is proposed along the eastern property line.

Please let us know if you have any additional questions or comments.

Sincerely,

Pete F. Heil, P.E.
Project Manager
Acorn Engineering, Inc.

John Field <fieldgeology@gmail.com> Feb 11, 2024, 2:28:03 PM (19 hours ago)
to planningboard@portlandmaine.gov

Dear Planning Board,

I am the owner of 173-175 Beacon Street in Portland that sits directly behind Woodfords Church where some of the proposed community housing will be built. My bedroom window is less than 100 ft from where a 4-story building will be built to create a portion of this housing and only 5 feet from the driveway accessing the church from Beacon Street. I have several concerns regarding the project including the noise during the construction phase of the project and the additional noise after residents move in. In addition, there will also be a permanent impact on my viewscape from the house and blockage of natural lighting to the house after the 4-story construction is complete.

That said, I am not so naive to think that a single homeowner is going to be able to stop a community housing project when the need for affordable housing in Portland is so great. I do respectfully request consideration of the following ideas to minimize the impact of construction noise and permanent noise once construction is complete:

1) restrict access for construction trucks, deliveries, etc to the Woodford St entrance only as each vehicle that would come from Beacon St will literally make my house shake (as happens now when the garbage truck empties the church's dumpsters);

2) restrict construction hours and deliveries to 9am-5pm;

3) restrict access of residents to the new housing to the Woodford St entrance only. There is currently minimal traffic with just church activities but if many residents start driving 5 feet from the house it will be a great disturbance;

4) I realize church activities will need access to Beacon St as they do now, so I'm not asking that the access be blocked but perhaps placing signs at the entrance to the driveway and in the back of the church just after the new housing building that says "For Church Use Only" would greatly limit the traffic - such a sign during and after construction would be much appreciated; and

5) Any trash dumpsters for the housing project should not be placed where the current church dumpsters are as those are literally outside my bedroom window. I don't mind the noise for a few minutes once or twice a week as occurs now but do not want that to multiply greatly.

Thanks very much for considering these sensible recommendations that will greatly minimize impacts to the abutting properties. I plan to come to the planning board workshop Tuesday February 13, 2024 and will be happy to discuss these ideas further then and would also like to invite the planning board and Community Housing of Maine to my house so they can view firsthand my concerns.

Thanks,

John Field
173-175 Beacon St
Portland, ME 04103
207-491-9541

WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT

COMMUNITY HOUSING OF MAINE
PORTLAND, MAINE

LEGEND

EXISTING

REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION

PROPOSED

	UNDERDRAIN
	GREEN SPACE
	UTILITY PAVEMENT CUTS
	STRIPING
ECB ECB	SEDIMENTATION BARRIER
	EDGE OF EX. PAVEMENT
	CURB
	SIGN
	LAMP OR LIGHT POLE
	UTILITY POLE
	GUY WIRE
	WATER VALVE
	FIRE HYDRANT
	SEWER MANHOLE
	CATCH BASIN
	DRAIN MANHOLE
UGE UGE	UNDERGROUND ELECTRIC LINE
	UNDERGROUND WATER LINE
84	MINOR CONTOURS (1 FT)
85	MAJOR CONTOURS (5 FT)
	GAS LINE
	STORM DRAIN LINE
S S	SEWER LINE
	EXISTING/PROPOSED BUILDING
	OVERHEAD ELECTRICAL/TELEPHONE/CABLE
	PROPERTY LINE
	SETBACKS

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CALL BEFORE YOU DIG
1-888-DIG-SAFE
1-888-344-7233

UTILITIES

SEWER

DEPARTMENT OF PUBLIC WORKS (DPW)
250 CANCO ROAD
PORTLAND, MAINE 04101
CONTACT: BRADLEY ROLAND, P.E.
(207) 874-8840

WATER

PORTLAND WATER DISTRICT
225 DOUGLASS STREET
PO BOX 3553
PORTLAND, MAINE 04104
ATTN: MEANS DIVISION
(207) 774-5961

ELECTRIC

CENTRAL MAINE POWER COMPANY (CMP)
162 CANCO ROAD
PORTLAND, MAINE 04103
CONTACT: KATHERINE DUMONT
(207) 828-2882

CABLE

SPECTRUM CABLE
118 JOHNSON ROAD
PORTLAND, MAINE, 04102
CONTACT: STEVEN HOLMES
(207) 631-1618

TELEPHONE

CONSOLIDATED COMMUNICATIONS
(FORMERLY FAIRPOINT)
5 DAVIS FARM ROAD
PORTLAND, MAINE 04103
CONTACT: JAY CUNHA
(207) 745-9363

FIBER

FIRST LIGHT
41 STATE STREET
ALBANY NY, 12207
CONTACT: MIKE ELLINGWOOD
(207)-462-2759

VICINITY MAP
SCALE: NTS

PROJECT TEAM

DEVELOPER

COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR,
PORTLAND MAINE, 04101
CONTACT: BRIAN KILGALLEN
(207) 879-0347

ARCHITECT

CWS ARCHITECTURE
264 U.S. ROUTE 1, SUITE 100-2A
SCARBOROUGH, ME, 04074
CONTACT: BEN WALTER
(207) 774-4441

SURVEYOR

OWEN HASKELL, INC
390 U.S. ROUTE 1,
FALMOUTH, MAINE, 04105
CONTACT: RANDY R. LOUBIER PLS
(207) 774-0424

CIVIL ENGINEER:

ACORN ENGINEERING, INC.
500 WASHINGTON AVE
PORTLAND, MAINE
CONTACT: PETER HEIL, P.E.
(207) 775-2655

MEP:

BENNETT ENGINEERING
P.O. BOX 297
FREEPORT, MAINE 04032
CONTACT: WILLIAM S. BENNETT, PE
(207) 865-1800

LANDSCAPE ARCHITECT:

ANTHONY MUENCH
94 COMMERCIAL STREET
PORTLAND, MAINE 04101
CONTACT: ANTHONY MUENCH, RLA
(207) 751-1937

ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION

APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CAD	COMPUTER AIDED DESIGN
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CL	CENTERLINE
CM	CONSTRUCTION MANAGER
CMP	CENTRAL MAINE POWER
CONC.	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARD
DI	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
HDPE	HIGH DENSITY POLY ETHYLENE
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDEP	MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
M.E.P	MECHANICAL, ELECTRICAL, PLUMBING DESIGNER
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OHE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWD	PORTLAND WATER DISTRICT
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC
VIF	VERIFY IN FIELD

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24
COMMENT RESPONSE II	PFH 3/7/24

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE
CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.

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PORTLAND, MAINE 04104
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FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
11419
3/7/24
LICENSED PROFESSIONAL ENGINEER

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE (IF APPLICABLE), ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.
4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE CITY OF PORTLAND AND SERVICING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.
5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN .DWG FORMAT AND PAPER, STAMPED ''AS-BUILT''. IF AUTOCAD CAPABILITY IS NOT AVAILABLE, EXCLUDE FROM BID IN WRITING.
6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.
7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED ALTA/NSPS LAND TITLE SURVEY BY **OWEN HASKELL INC. FOR COMMUNITY HOUSING OF MAINE, LAST REVISED 10/12/23.**
8. SUBSURFACE DATA HAVE BEEN OBTAINED BY **THE GEOTECHNICAL ENGINEER** AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ALSO REVIEW THE REPORT PRIOR TO SUBMITTING A BID.
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.
10. **CONSTRUCTION MANAGEMENT PLAN AND SITE LOGISTICS NARRATIVE** SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.
12. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT-OF-WAY.
13. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM ADJACENT STRUCTURES. PROVIDE A COPY OF THE SURVEY TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.
14. **THE CONTRACTOR SHALL PROVIDE A GPS MODEL OF THE PROPERTY TO PROVIDE TO ACORN ENGINEERING.**
15. THE CONTRACTOR SHALL SURVEY ROCK SURFACE PRIOR TO EXCAVATION AND DEVELOP VOLUME CALCULATIONS TO SHARE WITH THE ENGINEER, ACORN ENGINEERING INC. (ACORN), IF ANY.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY. REMOVAL OF WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE END OF THE WARRANTY PERIOD. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.
2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.
4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.
5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.
6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.
8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.
9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILLING, CONCRETE SHALL BE CURED PER STRUCTURAL ENGINEER'S SPECIFICATIONS.
11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.
12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.
14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAVER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

SPECIAL INSPECTION NOTES

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN.
3. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.
4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.
5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

5.1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

5.2. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, AND NET CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE ENGINEER OF RECORD.

5.3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.

5.4. SPECIAL INSPECTOR SHALL BE EMPLOYED BY COMMUNITY HOUSING OF MAINE AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A LICENSED PROFESSIONAL LAND SURVEYOR.
2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF PORTLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.
6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF A MAJOR **SITE PLAN & SUBDIVISION APPLICATION FOR THE CITY OF PORTLAND.**
2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.
3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE **CITY OF PORTLAND**. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.
2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS. **SEE BORING LOGS FOR ADDITIONAL INFORMATION.**
3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.
4. THE MINIMUM SLOPE SHALL MEET OR EXCEED 1.0% IN ALL CASES WHERE NOT NOTED ON THE GRADING PLAN. SLOPES IDENTIFIED ON THE GRADING PLAN TAKE PRECEDENT. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST **GEOTECHNICAL REPORT PREPARED BY THE PROJECT GEOTECHNICAL ENGINEER.**
6. CONTRACTOR TO REVIEW EXISTING SOIL CONDITIONS, TEST PITS, AND BORINGS. THERE WILL BE NO ADDITIONAL PAYMENT FOR UNSUITABLE SOILS.
7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.
8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
9. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.
10. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT **GEOTECHNICAL** ENGINEER, IF APPLICABLE.

EROSION CONTROL NOTES:

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.
2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.
3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.
4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.
6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.
7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
2. **CONTRACTOR TO BYPASS EXISTING SEWER FLOW CONTROL AT CONNECTION TO EXISTING SYSTEM AT NO ADDITIONAL COST.**
3. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES, PRIOR TO THE ORDERING OF STRUCTURES.
4. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED AND SHOWN TO PASS PRIOR TO BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.
5. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.
6. CONTRACTOR TO PROVIDE 5.5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.
7. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAINT ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.
8. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT ''WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE'', MOST RECENT REVISION.
9. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH **CITY OF PORTLAND**, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.
10. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.
11. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE **PORTLAND WATER DISTRICT** SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
13. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.
14. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.
15. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH **THE CITY OF PORTLAND TECHNICAL MANUAL** PRIOR TO ANY WORK.
16. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.
17. ALL UTILITY PIPES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS OR SAGS IN THE PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED PIPE LINES SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS. RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY. PROVIDE ALL BENDS, HORIZONTAL AND VERTICAL, AS REQUIRED TO MEET THE GRADES AND ALIGNMENTS INDICATED ON THE DRAWINGS.
18. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.
19. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO ENSURE A COMPLETE AND PROPERLY FUNCTIONING CONNECTION. CONTRACTOR TO VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. ADAPTERS AND FITTINGS ARE INCIDENTAL TO THE PIPE INSTALLATION.
20. WHENEVER POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTEWATER LINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTEWATER LINE SHALL BE MAINTAINED WHERE POSSIBLE. WHERE A WATER LINE CROSSES UNDER THE WASTEWATER LINE, A FULL LENGTH OF WASTEWATER PIPE SHALL BE CENTERED ABOVE THE WATER LINE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE,
21. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.
22. GROUNDWATER SHALL BE CONTROLLED TO A LEVEL OF AT LEAST ONE FOOT BELOW SUBGRADE OF THE PIPE OR STRUCTURE. THE CONTRACTOR SHALL MAINTAIN THE LOWERED GROUNDWATER LEVEL UNTIL CONSTRUCTION HAS BEEN COMPLETED TO SUCH AN EXTENT THAT THE STRUCTURES OR PIPES WILL NOT BE FLOATED OR OTHERWISE DAMAGED.
23. EXCAVATION TO SUBRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.
24. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

DEMOLITION NOTES:

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:
   - ROCK AND CONCRETE FOUNDATIONS
   - CONCRETE SLABS
   - BITUMINOUS ASPHALT PAVEMENT
   - CONCRETE PADS AND BLOCKS
   - FENCE POST AND FENCING
   - UNDERGROUND UTILITY LINES
   - ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
   - STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
   - OTHER TRASH & MISCELLANEOUS SOLID WASTES
2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED
3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
4. **THE CLIENT HAS NOT REQUESTED NOR HAS ACORN COMPLETED A PHASE I - ENVIRONMENTAL SITE ASSESSMENT FOR THE PROPERTY.**

PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23

DRAWING NAME: **GENERAL NOTES**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

A C O R N ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

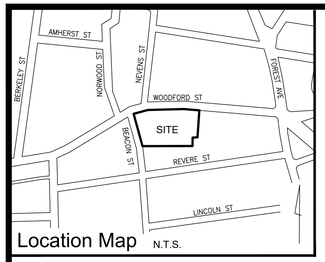
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED
PROFESSIONAL ENGINEER
12/21/23

DRAWING NO.

C-02



Location Map N.T.S.

Flood Zone Note

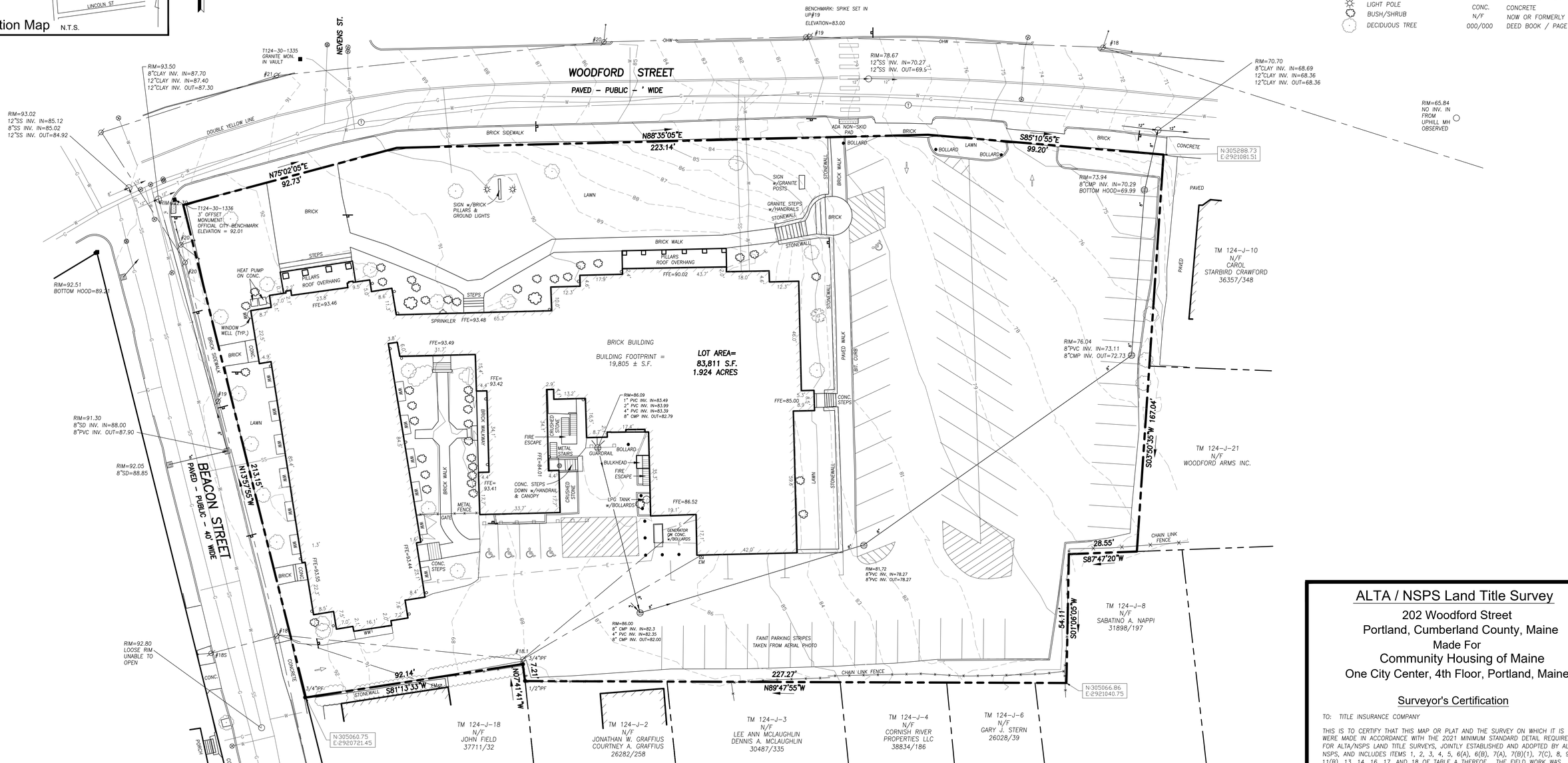
BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE C (AREAS OF MINIMAL FLOODING) OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 230051 0013B, WHICH BEARS AN EFFECTIVE DATE OF JULY 17, 1986 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

Zoning Information

ZONES: B1, B2, R5

Legend

●	IRON PIPE OR ROD FOUND		GUARDRAIL
■	MONUMENT FOUND		CURB
⌀	UTILITY POLE	x x	FENCE
○	MANHOLE	OHW	OVERHEAD WIRES
EM	ELECTRIC METER	W	WATER LINE
	SIGN	G	GAS LINE
	BOLLARDS	T	TELEPHONE
	CATCH BASIN	90	1' CONTOUR
	HYDRANT	FFE	FINISHED FLOOR ELEVATION
	WATER VALVE OR SHUTOFF	W/W	WINDOW WELL
	GAS VALVE	L/S	LANDSCAPED AREA
	LIGHT POLE	CONC.	CONCRETE
	BUSH/SHRUB	N/F	NOW OR FORMERLY
	DECIDUOUS TREE	000/000	DEED BOOK / PAGE



SCALE : 1" = 20'

0' 10' 20' 40'

Plan References

1. CITY OF PORTLAND STREET RIGHT OF WAY RECORDS.
2. PROPERTY IN PORTLAND MAINE BELONGING TO HEIRS OF G. W. SMITH SURVEYED BY E. C. JORDAN & CO. AS RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 17, PAGE 9.
3. CONDOMINIUM PLAT, 174–176 BEACON STREET CONDOMINIUM, #174–176 BEACON STREET, PORTLAND, MAINE MADE FOR RECORD OWNERS BURAK SEZEN AND SONYA LACHANGE JANUARY 3, 2022 BY OWEN HASKELL, INC.
4. PLAN OF LAND IN PORTLAND, MAINE FOR WOODSFORDS CONGREGATIONAL PARISH, JUNE 1, 1977 BY OWEN HASKELL, INC.
5. SURVEY PLAN OF WOODFORD ARMS CONDOMINIUM, WOODFORDS STREET, PORTLAND, MAINE MADE FOR VILLAGE ASSOCIATES, PORTLAND, MAINE DEC. 9, 1980 REV. 1 5/23/86 BY OWEN HASKELL, INC.
6. PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR WOODFORDS CONGREGATIONAL CHURCH JUNE 5, 1956 REVISED MARY 17, 1999 BY H.I. & E.C. JORDAN.

Utility Note

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

General Notes

1. OWNER OF RECORD: WOODFORDS CONGREGATIONAL CHURCH OF THE UNITED CHURCH OF CHRIST
   CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30671 PAGE 65
2. LOCUS IS SHOWN AS LOT 5 BLOCK J ON CITY OF PORTLAND'S ASSESSORS MAP 124.
3. BEARINGS ARE BASED ON CITY CONTROL POINTS SHOWN.
4. ELEVATIONS ARE BASED ON CITY DATUM.
5. THERE ARE 80 REGULAR SPACES AND 5 HANDICAP SPACES, FOR A TOTAL OF 85 PARKING SPACES.
6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED.
7. NO PROPOSED CHANGES IN STREET LINES IS KNOWN BY THIS SURVEYOR.
8. THE SEWER SERVICE LOCATIONS ARE APPROXIMATE BASED ON CITY PLANS.

ALTA / NSPS Land Title Survey

202 Woodford Street
Portland, Cumberland County, Maine
Made For
Community Housing of Maine
One City Center, 4th Floor, Portland, Maine

Surveyor's Certification

TO: TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 10, 11(B), 13, 14, 16, 17, AND 18 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON FEBRUARY 23, 2022, WITH ADDITIONAL LOCATION ON OCTOBER 11, 2023.

RANDY R. LOUBIER
PROFESSIONAL LAND SURVEYOR NO. 2407

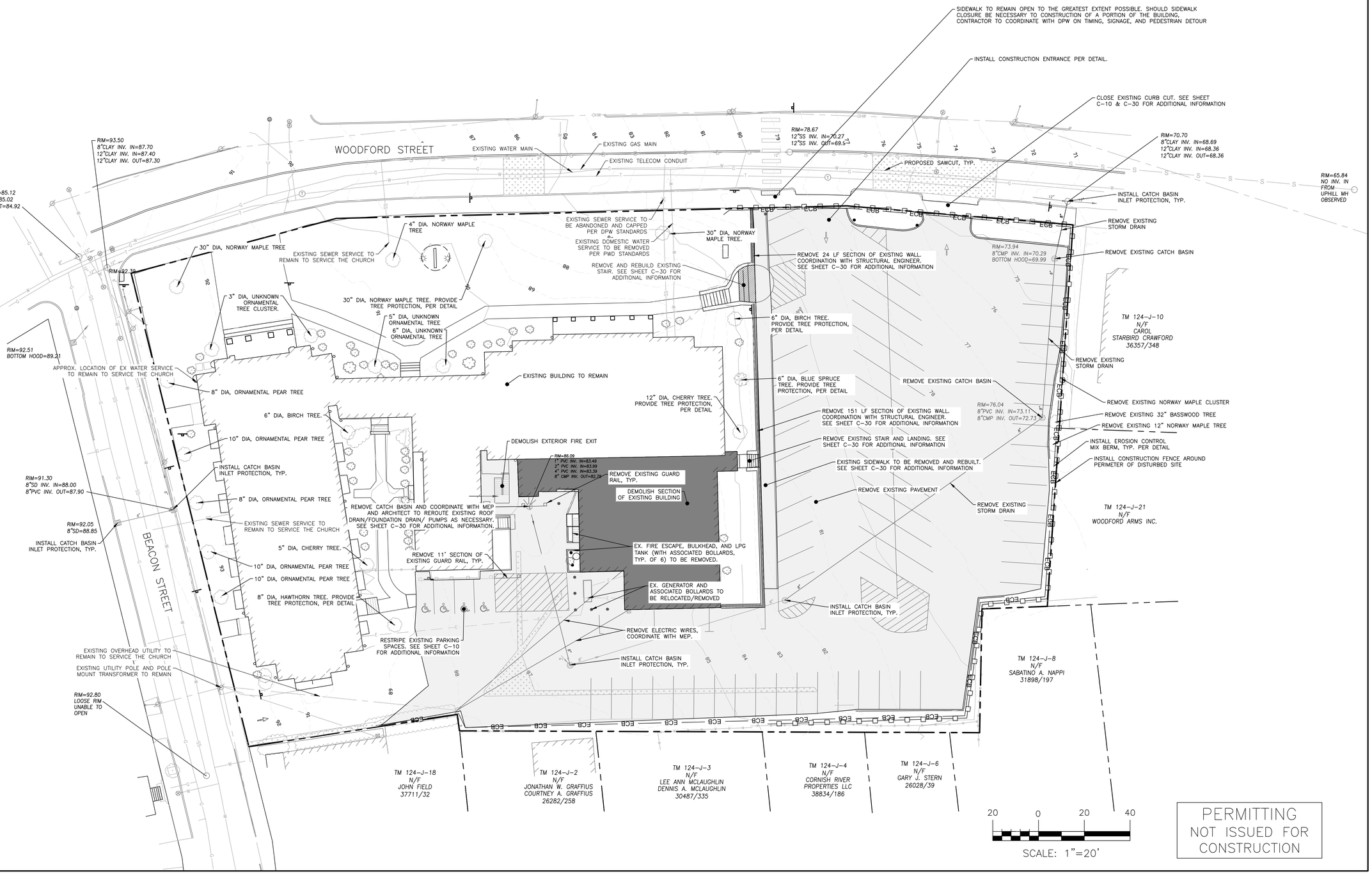
DATE OF PLAT OR MAP: MARCH 10, 2022
DATE OF LAST REVISION: OCTOBER 12, 2023

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY:	RRL / JLW	FIELD BOOK:	FILE	JOB NO.	2021-365 P
CHECKED BY:	RRL	SCALE:	1" = 20'	DRWG. NO.	1

GENERAL NOTES:

1. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
2. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
3. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
5. ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
6. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
7. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
8. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.
9. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
11. CONTRACTOR TO SUBMIT A DEWATERING PLAN FOR REVIEW AND APPROVAL TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE PRE-CONSTRUCTION MEETING, DURING THE BUILDING PERMIT APPLICATION PROCESS, OR PRIOR TO ADVANCED SITE WORK. CONTACT THE DEPARTMENT OF PUBLIC WORKS FOR ADDITIONAL INFORMATION AND CURRENT REGULATIONS.



PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24

DRAWING NAME: **CONSTRUCTION MANAGEMENT PLAN**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT:
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
P.O. BOX 1222, EDGECOMB, MAINE 04104
(207) 775-2655

THESE PLANS SHALL NOT BE MODIFIED WITHOUT THE WRITTEN CONSENT OF ACORN ENGINEERING, INC. AND SHALL NOT BE REUSED BY ANY PERSON FOR OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF ACORN ENGINEERING, INC. ANY UNAUTHORIZED REUSE OR MODIFICATION WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
27724

DRAWING NO.
C-03

SPACE AND BULK STANDARDS

ZONE: B2 – COMMUNITY BUSINESS	REQUIRED	EXISTING	LOT 1	PROPOSED LOT 2	PROPOSED LOT 3
MIN. LOT AREA	NONE	83,811 SF	37,208 SF	27,961 SF	18,641 SF
MIN. LOT AREA PER DWELLING UNIT (OFF-PENINSULA)*	1,000 SF / UNIT 400 SF/ UNIT*	N/A	N/A	753*	444*
BUILDING (PRINCIPAL): MAX. FRONT SETBACK	10'**	46.10'	EX. 46.10'	45.61'	3.78'
BUILDING MIN. SIDE SETBACK	NONE	11.56'	11.56'	0'	5.67'
BUILDING MIN. REAR SETBACK	10' 0'*	24.42'	24.42'	11.80'	18.56'
BUILDING MIN. SIDE STEPBACK ABOVE 35'	5'	–	–	N/A	N/A
BUILDING MIN. REAR STEPBACK ABOVE 35'	15'	–	–	N/A	N/A
MIN. STREET FRONTAGE	20'	628.22'	369.13'	152.56'	106.52'
LOT COVERAGE	N/A	24.1%	28.3%	37.0%	44.0%
MAX. BUILDING HEIGHT	45' 70'*	N/A	N/A	41.07'	46.37' *
IMPERVIOUS SURFACE RATIO	RESIDENTIAL: NONE	75.3%	66.0%	75.1%	88.3%

* PER CITY OF PORTLAND LAND USE CODE, TABLE 18-C: BONUSES FOR ELIGIBLE PROJECTS: (75% LOW INCOME UNITS GRANTS A 2.5X BONUS DENSITY FROM THE BASE OF 1,000 SF/UNIT TO 400 SF/UNIT) & (GRANTS 10' SETBACK REDUCTIONS) & (GRANTS AN ADDITIONAL 25' BUILDING HEIGHT).

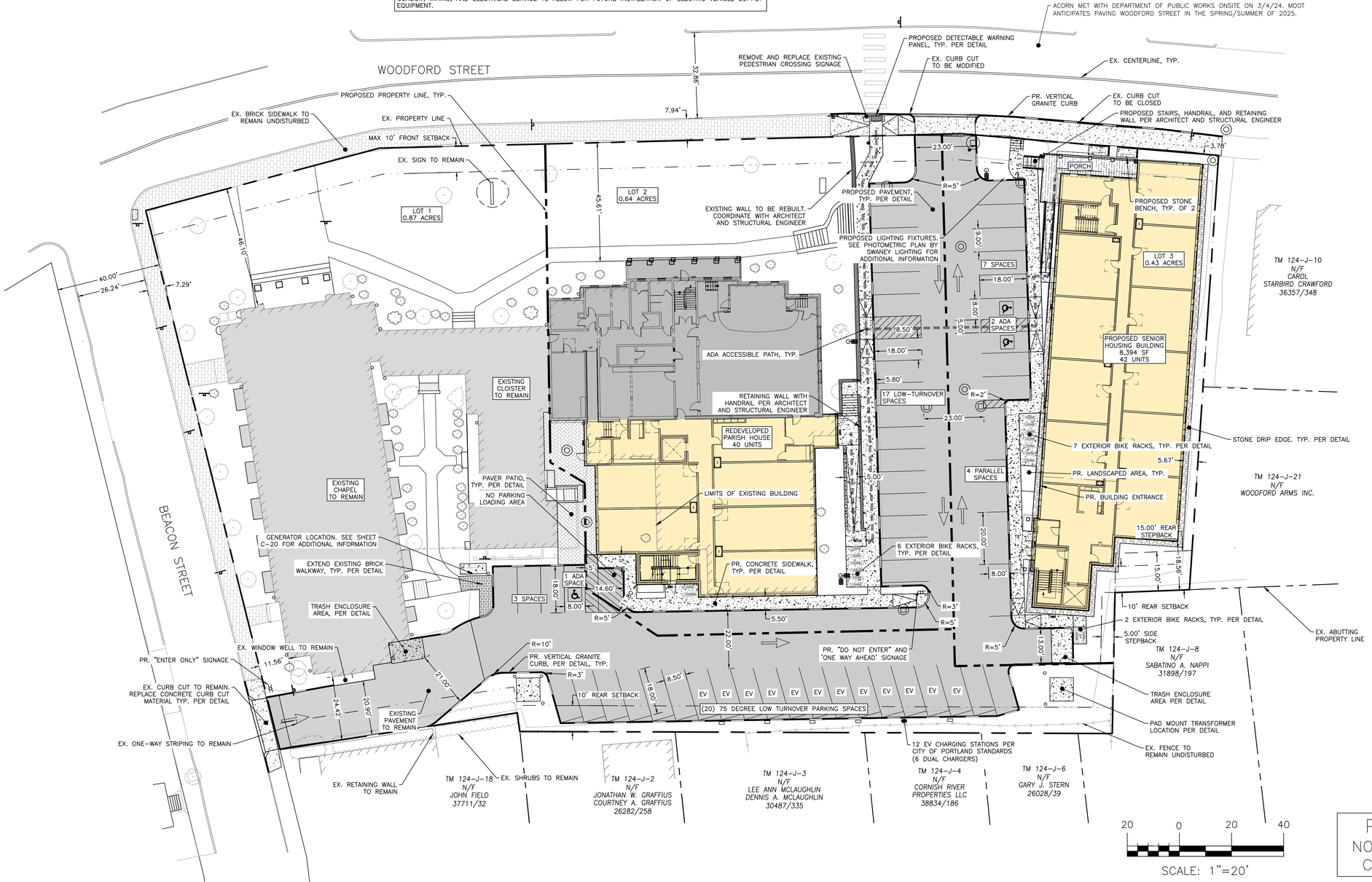
PARKING SUMMARY

	UNITS	SPACES REQUIRED	EXISTING	PROPOSED	PROPOSED EV
MULTIFAMILY	82	1 SPACE PER DWELLING UNIT = 82 SPACES*	–	–	–
PLACES OF ASSEMBLY	APPROX. 5,200SF FLOOR AREA	1 SPACE PER 150 SF OF FLOOR AREA = 35 SPACES	–	–	–
ADA (8'X18')	–	–	5	3	–
STANDARD (9'X18')	–	–	36	10	–
LOW TURNOVER (8.5' X 18')	–	–	0	17	–
PARALLEL (8' X 20')	–	–	3	4	–
ANGLED 60° (9' X 18')	–	–	41	0	–
ANGLED 75° LOW TURNOVER (8.5' X 18')	–	–	–	20	12
TOTAL SPACES	–	117*	85	54*	12

* PER THE CITY OF PORTLAND LAND USE CODE, TABLE 19-B: CATEGORICAL EXCEPTIONS TO OFF-STREET PARKING MINIMUMS.
1. NO OFF STREET PARKING SHALL BE REQUIRED FOR NON RESIDENTIAL USES IN THE B-2 ZONE.
2. NO OFF-STREET PARKING SHALL BE REQUIRED WITHIN 1/4 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.
3. AFFORDABLE HOUSING: THE PLANNING BOARD MAY ESTABLISH A PARKING REQUIREMENT WITHIN THAT IS LESS THAN 1 SPACE PER AFFORDABLE HOUSING UNIT REGARDLESS OF SIZE OF STRUCTURE
** IN ACCORDANCE WITH SECTION 14.6.1 OF THE CITY OF PORTLAND LAND USE CODE, AND SECTION 1.14 OF THE PORTLAND TECHNICAL MANUAL, NEW PARKING LOTS WITH FIVE OR MORE SPACES SHALL INCLUDE ENERGIZED ELECTRICAL OUTLETS OR INSTALLED CHARGERS CAPABLE OF PROVIDING LEVEL 2 ELECTRIC VEHICLE CHARGING OR HIGHER TO 20% OF PARKING SPACES. REMAINING SPACES MUST BE SERVED BY SUFFICIENT CONDUIT, WIRING, AND ELECTRICAL SERVICE TO ALLOW FOR FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT.

GENERAL NOTES:

1. ALL SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARD.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
8. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.
9. DURING LARGE SNOW EVENTS, THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR SNOW REMOVAL FOR THE PARCEL
10. PLAN REFERENCE
    10.1. PLAN TITLED ALTA/NSPS LAND TITLE SURVEY MADE BY OWEN HASKELL, INC., FOR COMMUNITY HOUSING OF MAINE, LAST REV. 10/12/2023.



PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24
COMMENT RESPONSE II	PFH 3/7/24

DRAWING NAME: SITE PLAN
PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE
CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 1237 ELIOT, MAINE 04104
(207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY MODIFICATIONS MADE TO THIS PLAN WITHOUT SUCH PERMISSION SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
3/7/24

DRAWING NO.
C-10

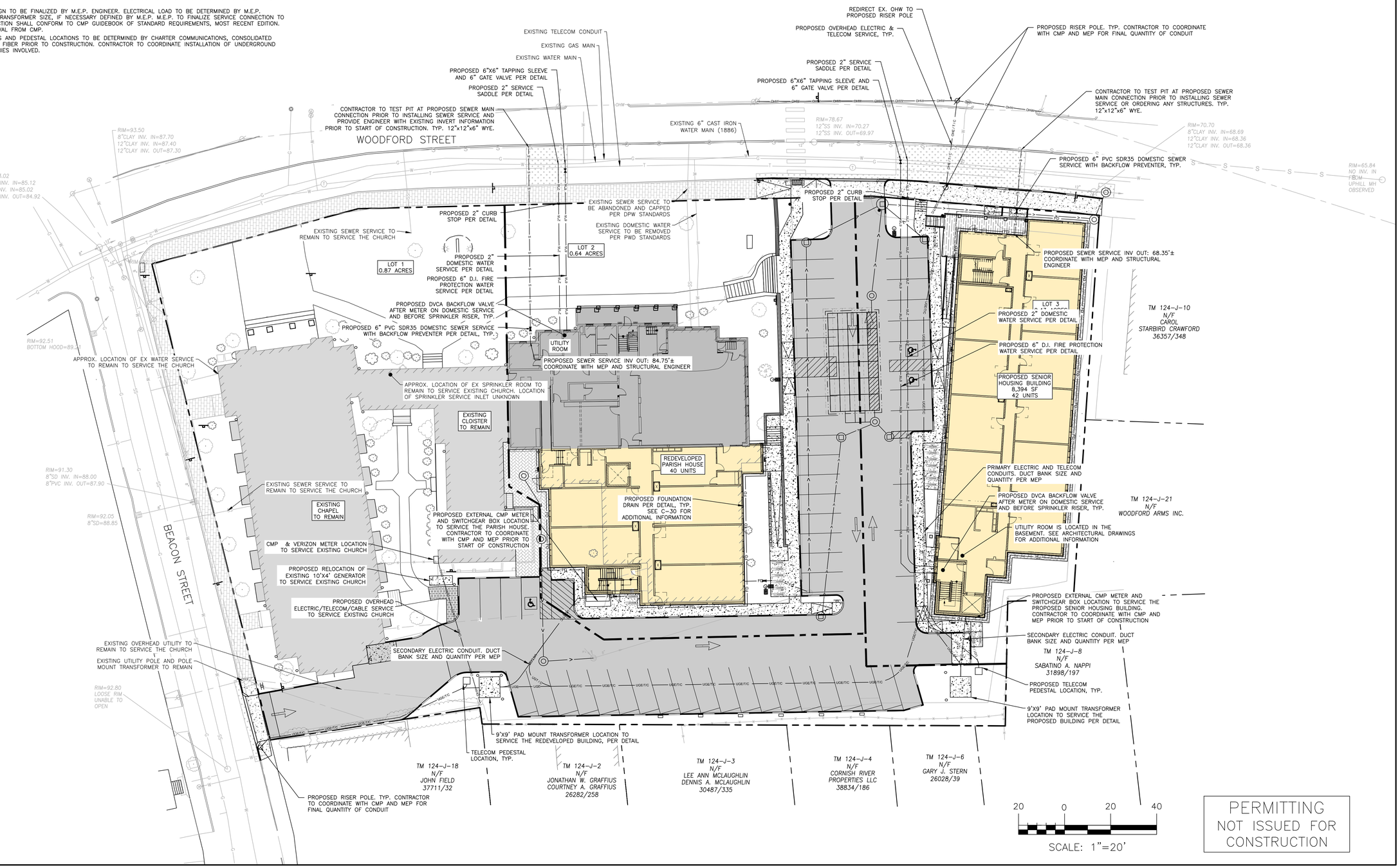
GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS, CONSOLIDATED COMMUNICATIONS AND FIRST LIGHT FIBER PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.

MINIMUM HORIZONTAL UTILITY SEPARATION

UTILITY	UGE/T/C	WATER	SEWER	GAS	STORMWATER
UGE/T/C	–	6'	5'	4'	6'
WATER	6'	–	5'*	6'	3'
SEWER	5'	5'*	–	5'	10'
GAS	4'	6'	5'	–	3'
STORMWATER	6'	3'	10'	3'	–

*PERMISSIBLE ONLY IF SEWER IS LAID MIN. 18" BELOW WATER SERVICE; OTHERWISE, 10' OF HORIZONTAL SEPARATION MUST BE MAINTAINED.



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CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24
COMMENT RESPONSE II	PFH 3/7/24

DRAWING NAME: UTILITY PLAN
PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE
CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
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ACORN ENGINEERING, INC
ONE CITY CENTER, PORTLAND, MAINE 04104
PO BOX 7371 PORTLAND, ME 04112 (207) 775-2655

FILE: 1200_CIVL
JN: 1200
SCALE: AS NOTED
DESIGNED BY: PFH
DRAWN BY: DSH
CHECKED BY: WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
3/7/24

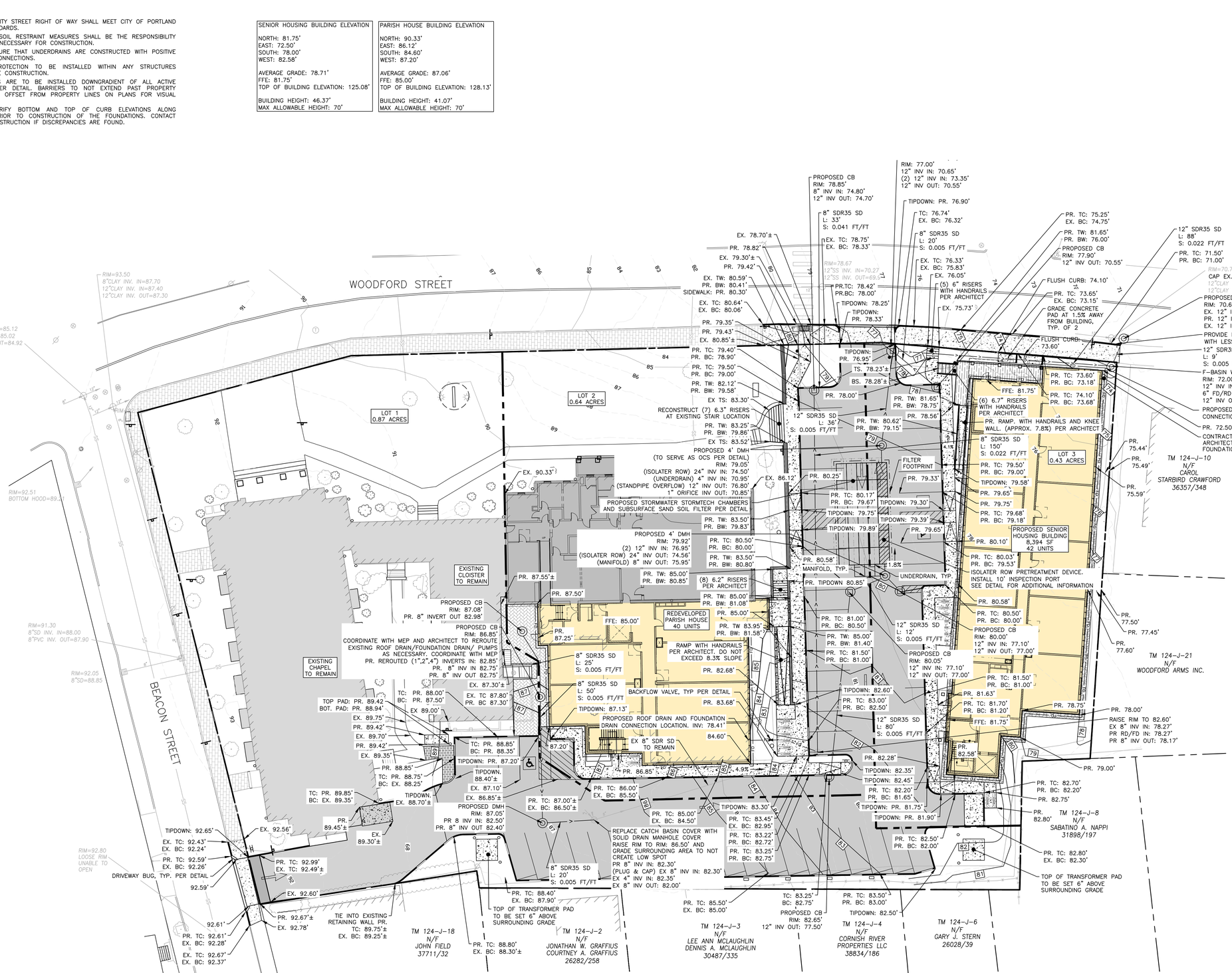
DRAWING NO.
C-20

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
6. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTAGES PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.

SENIOR HOUSING BUILDING ELEVATION
NORTH: 81.75'
EAST: 72.50'
SOUTH: 78.00'
WEST: 82.58'
AVERAGE GRADE: 78.71'
FFE: 81.75'
TOP OF BUILDING ELEVATION: 125.08'
BUILDING HEIGHT: 46.37'
MAX ALLOWABLE HEIGHT: 70'

PARISH HOUSE BUILDING ELEVATION
NORTH: 90.33'
EAST: 86.12'
SOUTH: 84.60'
WEST: 87.20'
AVERAGE GRADE: 87.06'
FFE: 85.00'
TOP OF BUILDING ELEVATION: 128.13'
BUILDING HEIGHT: 41.07'
MAX ALLOWABLE HEIGHT: 70'



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MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24
COMMENT RESPONSE II	PFH 3/7/24

DRAWING NAME: **GRADING PLAN**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT:
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
P.O. BOX 1237 DEDHAM, MAINE 04104
(207) 775-2655

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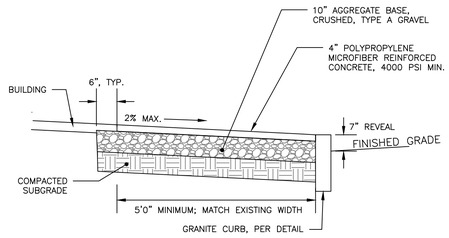
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
3/7/24

DRAWING NO.
C-30

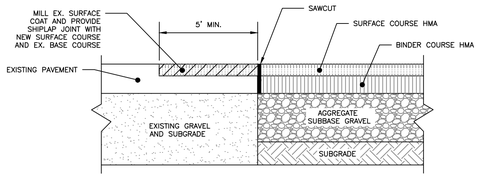
1. AT A MINIMUM, TESTING SHALL CONSIST OF ENTRAINED AIR AND SLUMP TESTS ON SITE PRIOR TO POURING THE SIDEWALKS. ENTRAINED AIR TESTS SHALL BE DONE IN ACCORDANCE WITH AASHTO T152. TEST FIRST TWO LOADS AND EVERY THIRD LOAD THEREAFTER PROVIDED CONSISTENT RESULTS ARE ACHIEVED.
2. SLABS SHALL BE PLACED ALTERNATELY IN LENGTHS NOT TO EXCEED 30 FEET OR AS DIRECTED AND SHALL BE SEPARATED BY AN EXPANSION JOINT OF PREFORMED EXPANSION FILLER ½ INCH IN THICKNESS.
3. WHEN CONSTRUCTED ADJACENT TO A BUILDING, RETAINING WALL OR OTHER FIXED STRUCTURE, A ½ INCH THICK PREFORMED JOINT FILLER SHALL BE USED BETWEEN THE SLAB AND THE STRUCTURE.
4. THE SIDEWALK SURFACE SHALL BE SCORED INTO BLOCK UNITS NO GREATER THAN 40 SQUARE FEET AS DIRECTED. THE DEPTH OF THE SCORING SHALL BE AT LEAST ONE QUARTER OF THE THICKNESS OF THE SLAB.
5. ANY MATCHING INTO EXISTING SIDEWALKS SHALL BE DONE SO WITH A CLEAN VERTICAL FACE CONNECTION.
6. THE SURFACE SHALL BE FINISHED TO PRODUCE A BROOMLIKE "BRUSHED" PATTERN. NO PLASTERING OF THE SURFACE WITH MORTAR WILL BE PERMITTED. THE FINISH SHALL RESULT IN A SURFACE OF UNIFORM TEXTURE AND COLOR. ALL OUTSIDE EDGES OF THE SLAB AND ALL JOINTS SHALL BE ROUNDED WITH A ½ INCH RADIUS EDGING TOOL.
7. CONCRETE SHALL BE CURED FOR 72 HOURS. CURING SHALL BE BY MEANS OF THOMPSON'S WATER SEAL AS MANUFACTURED BY E.A. THOMPSON CO., INC. OF MEMPHIS, TENNESSEE, BOILED LINSEED OIL, WHITE PIGMENTED CURING COMPOUND, OR BY OTHER APPROVED METHODS. CONCRETE SIDEWALK TO BE SEALED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL 28 DAYS AFTER PLACEMENT. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR APPLICATION.
8. GENERAL CONTRACTOR TO COLLECT DELIVERY SLIPS AND TRANSFER TO THE OWNER.
9. REFER TO CITY OF PORTLAND CONCRETE SPECIFICATIONS SECTION 608 FOR MORE INFORMATION.



REINFORCED CONCRETE SIDEWALK
NOT TO SCALE

NOTES:

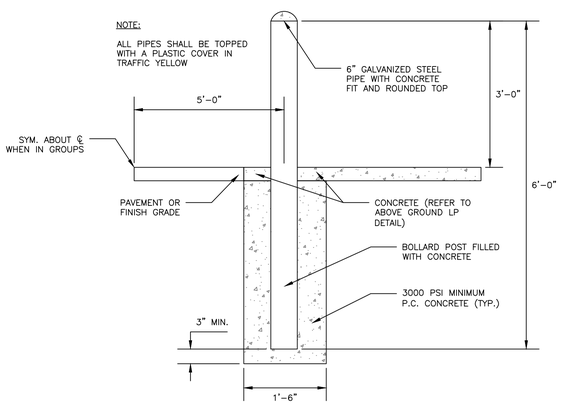
1. SAWCUT EXISTING PAVEMENT AND REMOVE 5' STRIP OF EXISTING PAVEMENT TO CREATE A UNIFORM AND RIGID BUTT JOINT TO CREATE SHIPLAP JOINTS BETWEEN THE PAVEMENT LAYERS.
2. APPLY BITUMINOUS TACK COAT AT AN APPLICATION RATE OF 0.10 TO 0.14 GALLONS PER SQUARE YARD TO EXISTING PAVEMENT JOINTS AND SURFACES PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
3. THE NEW PAVEMENT SECTION SHALL MEET "PAVEMENT PROFILE DETAIL" AT A MINIMUM OR THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



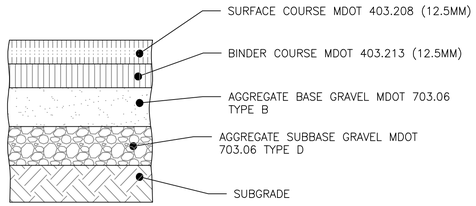
PAVEMENT SAWCUT WITH SHIPLAP JOINTS DETAIL
NOT TO SCALE

NOTE:

ALL PIPES SHALL BE TOPPED WITH A PLASTIC COVER IN TRAFFIC YELLOW



PIPE BOLLARD
NOT TO SCALE

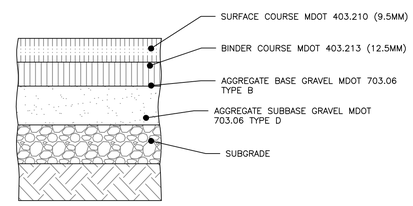


NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. SURFACE AND AGGREGATE MATERIALS SHALL MEET THE CITY OF PORTLAND STANDARDS IN ADDITION TO MDOT STANDARDS.

	THICKNESS OF LAYERS
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.208 (12.5mm)
3"	BINDER COURSE MDOT 403.213 (12.5mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT PROFILE
NOT TO SCALE

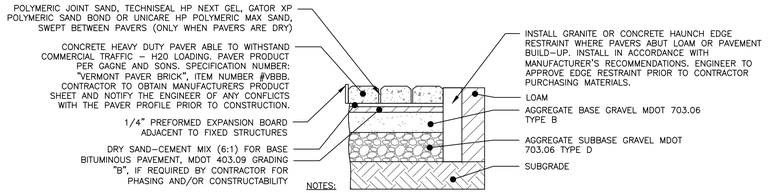


NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. SURFACE AND AGGREGATE MATERIALS SHALL MEET THE CITY OF PORTLAND STANDARDS IN ADDITION TO MDOT STANDARDS.

	THICKNESS OF LAYERS
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 403.210 (9.5mm)
2"	BINDER COURSE MDOT 403.213 (12.5mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

PRIVATE PAVEMENT PROFILE
NOT TO SCALE



NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. SURFACE AND AGGREGATE MATERIALS SHALL MEET THE CITY OF BIDDEFORD STANDARDS IN ADDITION TO MDOT STANDARDS.
3. JOINT SAND COMPRESSION STRENGTH: PROVEN RESISTANCE TO COMPRESSION OF 550 PSI AFTER DRYING FOR 7 DAYS UNDER CONTROLLED CONDITIONS (73 DEGREE F AT 50% HUMIDITY)

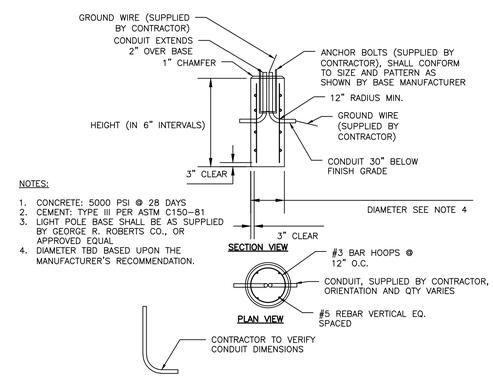
GRADATION REQUIREMENTS FOR JOINT SAND		
SIEVE SIZE	NATURAL SAND PERCENT PASSING	MANUFACTURED SAND PERCENT PASSING
NO. 4 (4.75mm)	100	100
NO. 8 (2.36mm)	95-100	95-100
NO. 16 (1.18mm)	70-100	70-100
NO. 30 (0.60mm)	40-75	40-75
NO. 50 (0.30mm)	10-30	20-40
NO. 100 (0.15mm)	2-15	10-25
NO. 200 (0.075)	0-1	0-10

	THICKNESS OF LAYERS
STANDARD	LAYERS
3.149"	CONCRETE PAVER (DEPTH TBD BASED UPON MANUFACTURER)
1"	DRY SAND-CEMENT MIX (6:1)
2"	BITUMINOUS MDOT 403.09 GRADING "B"
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

PAVER PROFILE
NOT TO SCALE

SCHEDULE	
MIN DIAMETER	MIN EMBEDMENT
1.5'	5'

REVEALS	
APPLICATIONS	REVEAL
STREET/SIDEWALK	4"



NOTES:

1. CONCRETE: 5000 PSI @ 28 DAYS
2. CEMENT: TYPE III PER ASTM C150-81
3. LIGHT POLE BASE SHALL BE AS SUPPLIED BY GEORGE R. ROBERTS CO., OR APPROVED EQUAL
4. DIAMETER TBD BASED UPON THE MANUFACTURER'S RECOMMENDATION.

LIGHT POLE BASE
NOT TO SCALE

PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24

DRAWING NAME: SITE DETAILS - 1

PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.

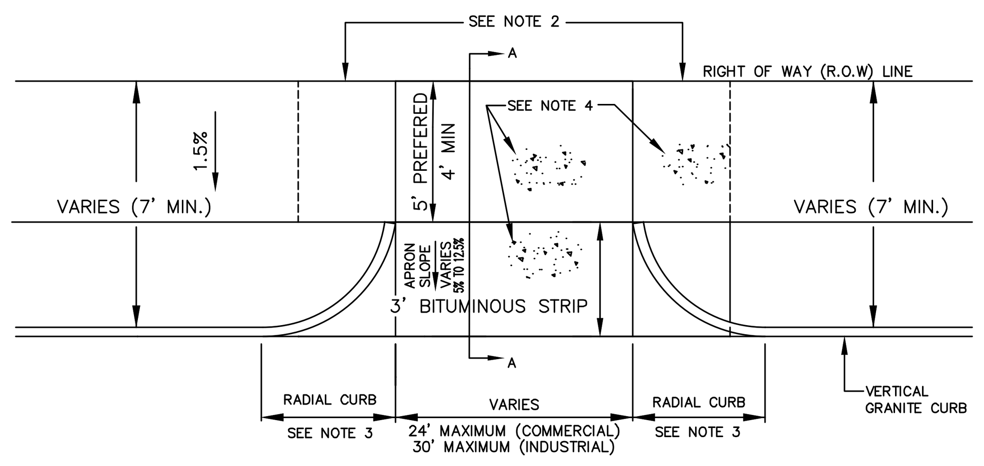
THIS PLAN SHALL NOT BE MODIFIED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION OF ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED MODIFICATIONS OR REUSE OF THIS PLAN SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC
PO BOX 2372, KENNEBUNK, MAINE 04043
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

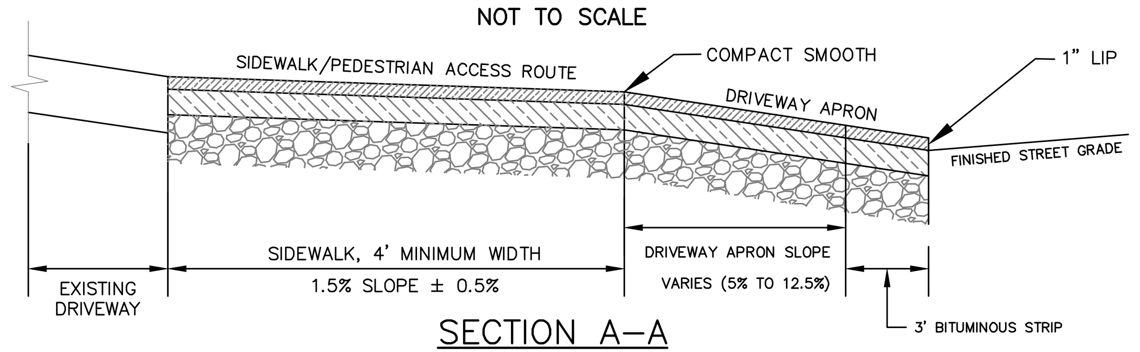
STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-40



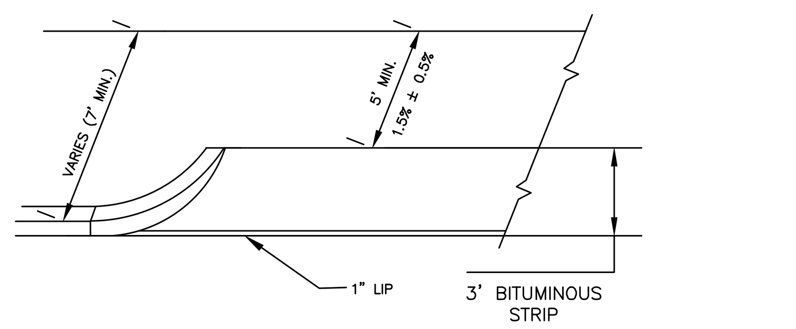
WOODFORD STREET DRIVEWAY APRON LAYOUT

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. CONCRETE IN DRIVEWAY APRONS, WHERE APPLICABLE.

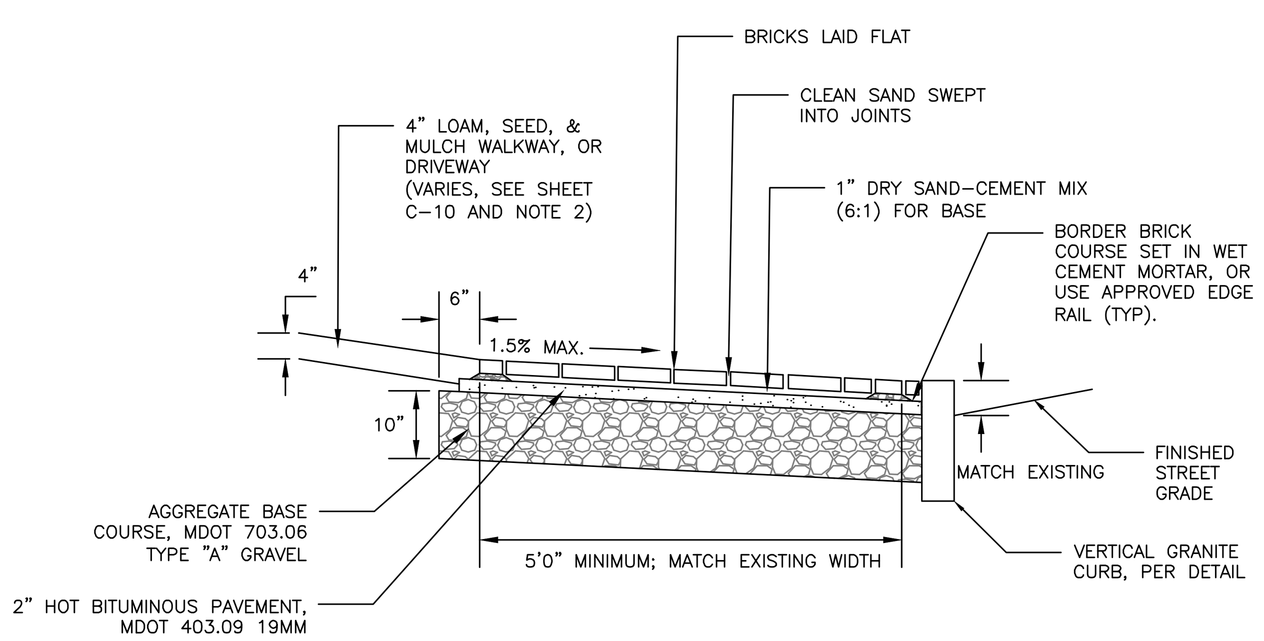
NOTES:

1. 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 BACKER SUPPLIED BY GAGNE AND SONS SPECIFICATION NUMBER: "VERMONT PAVER BRICK", ITEM NUMBER #VBBB

2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.

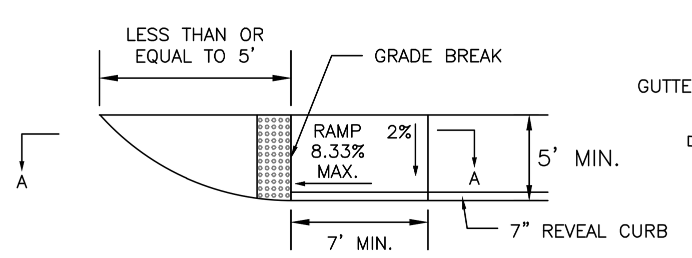


BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL

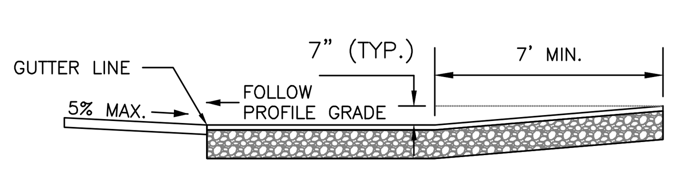
NOT TO SCALE

NOTES:

1. ALL PEDESTRIAN RAMPS SHALL COMPLY WITH ADA STANDARDS.
2. PEDESTRIAN RAMP CROSS SLOPE SHALL BE A MAXIMUM OF 2%.
3. ADJACENT SURFACE TO PEDESTRIAN RAMP SHALL BE FLUSH WITH THE BOTTOM OF THE PEDESTRIAN RAMP.
4. DETECTABLE WARNINGS SHALL SPAN THE WIDTH OF THE PEDESTRIAN RAMP.
5. FOR USE ONLY WHEN NO SIDEWALK IS PRESENT ON THE SIDE ROAD.



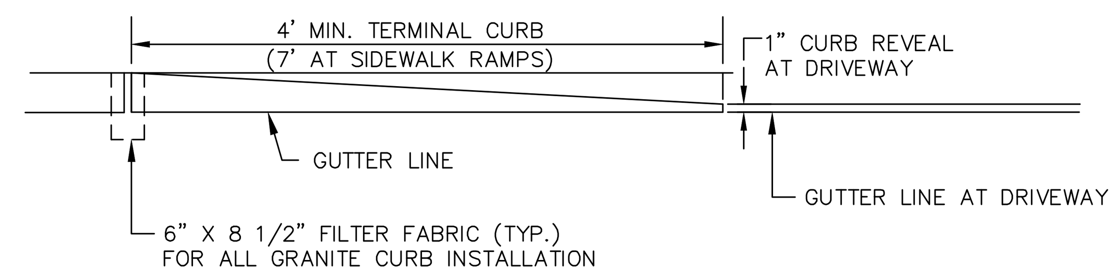
PLAN VIEW



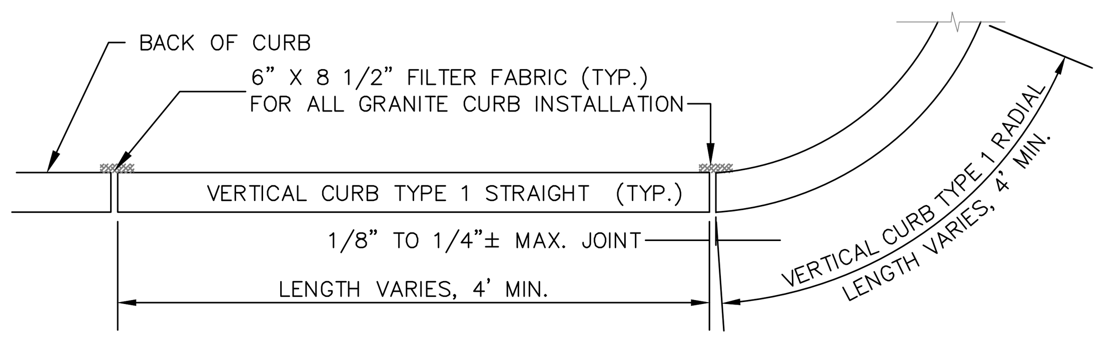
SECTION A–A

SIDE STREET PEDESTRIAN RAMP DETAIL

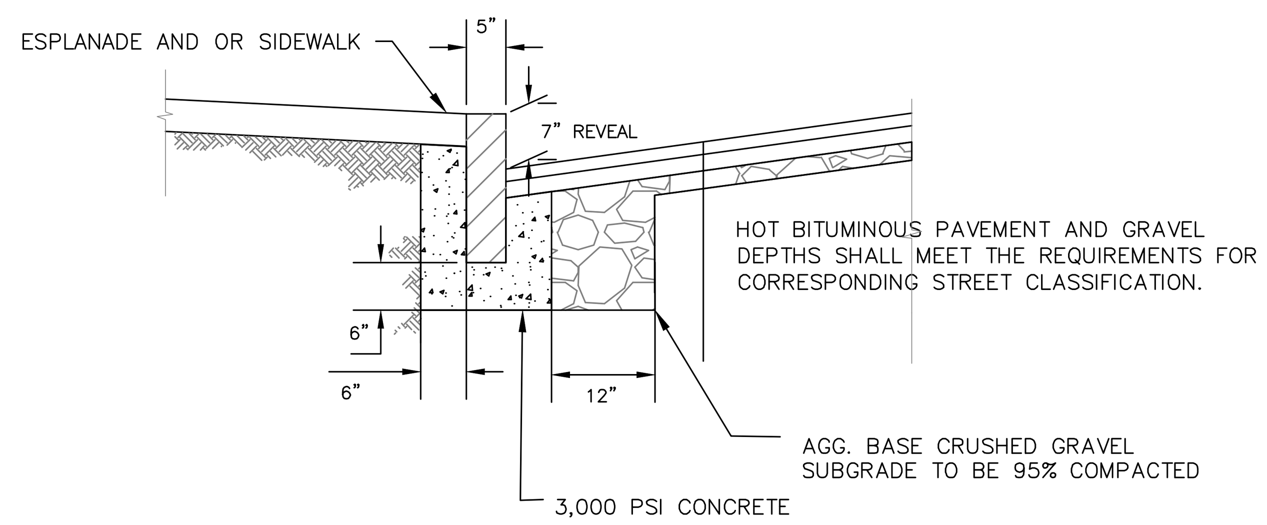
NOT TO SCALE



TERMINAL CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

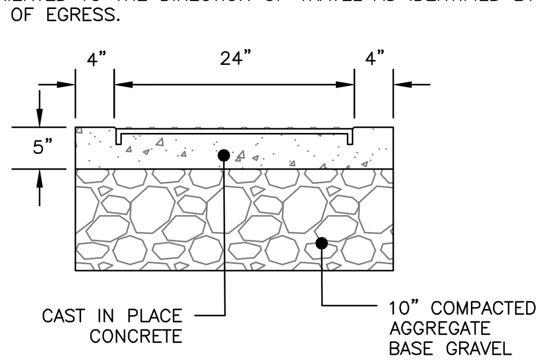
NOTES:
1. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
2. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10–INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
3. CURBING SHALL BE SET 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

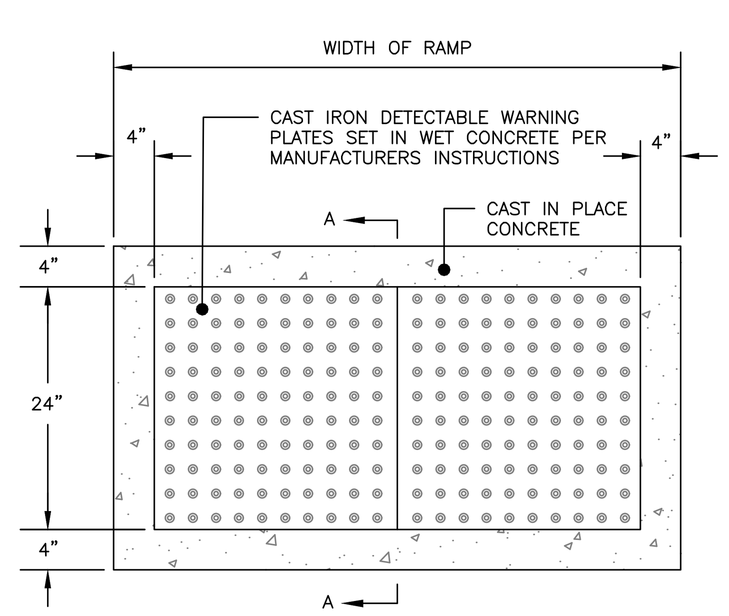
NOT TO SCALE

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.



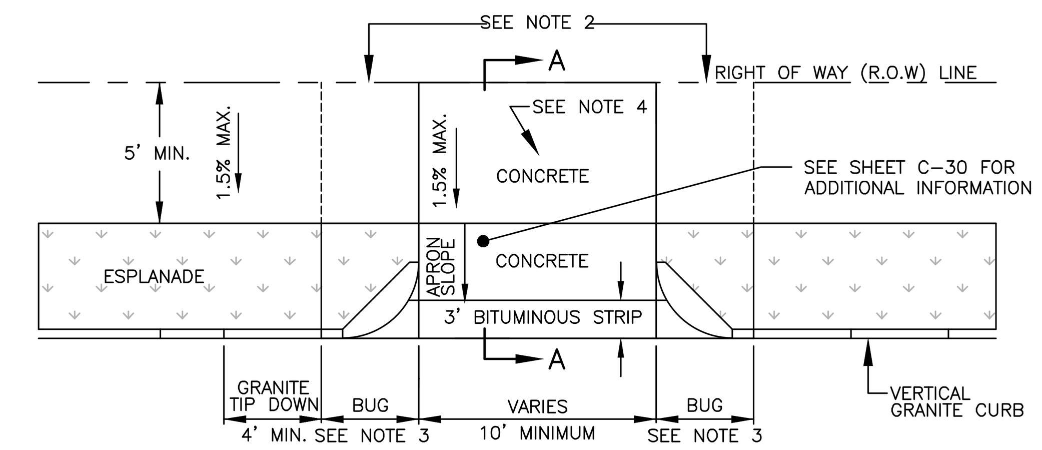
SECTION A–A



PLAN VIEW

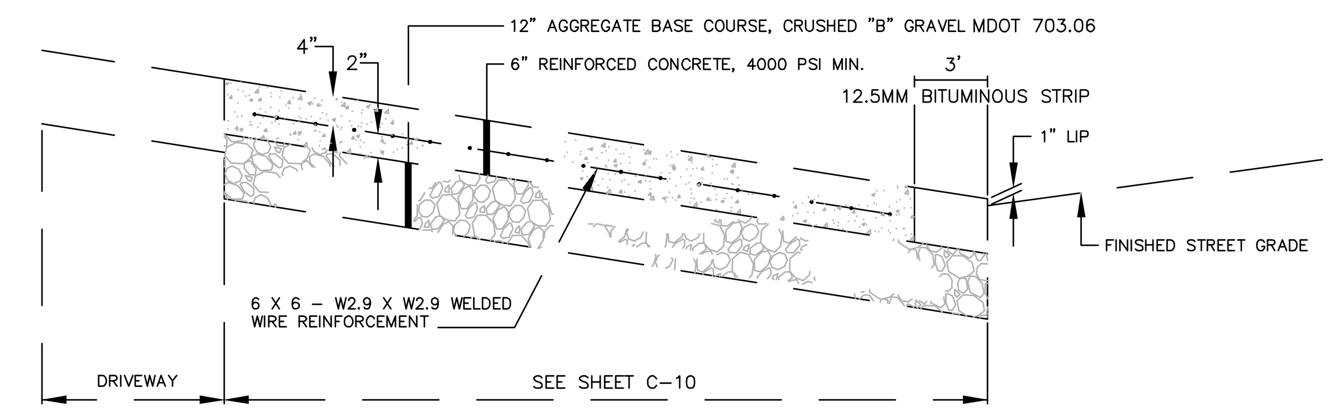
SIDEWALK RAMP DETECTABLE WARNING PANEL

NOT TO SCALE



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 TO COMPLY WITH CITY'S SIDEWALK & DRIVEWAY MATERIAL POLICY.

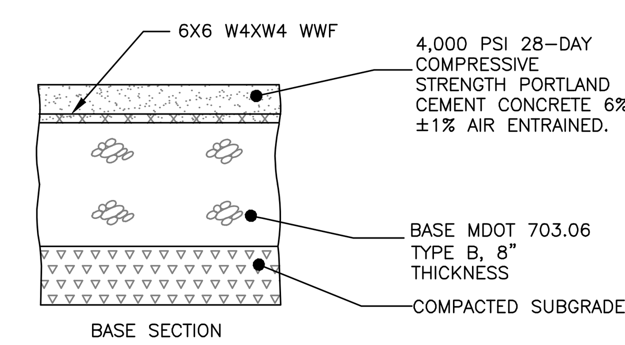


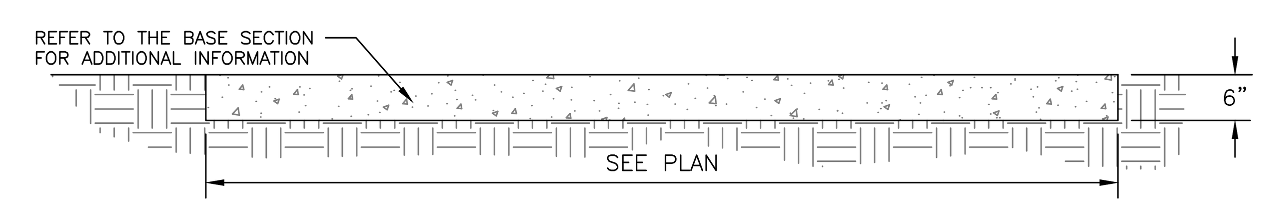
BEACON STREET DRIVEWAY APRON

NOT TO SCALE

NOTES:

1. PROOFROLL AND COMPACT SUBGRADE
2. COMPACT AGGREGATES TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D–1557.
3. FINISH WITH A STIFF, COARSE, FIBER BROOM.
4. REFER TO PLANS FOR DIMENSIONS.



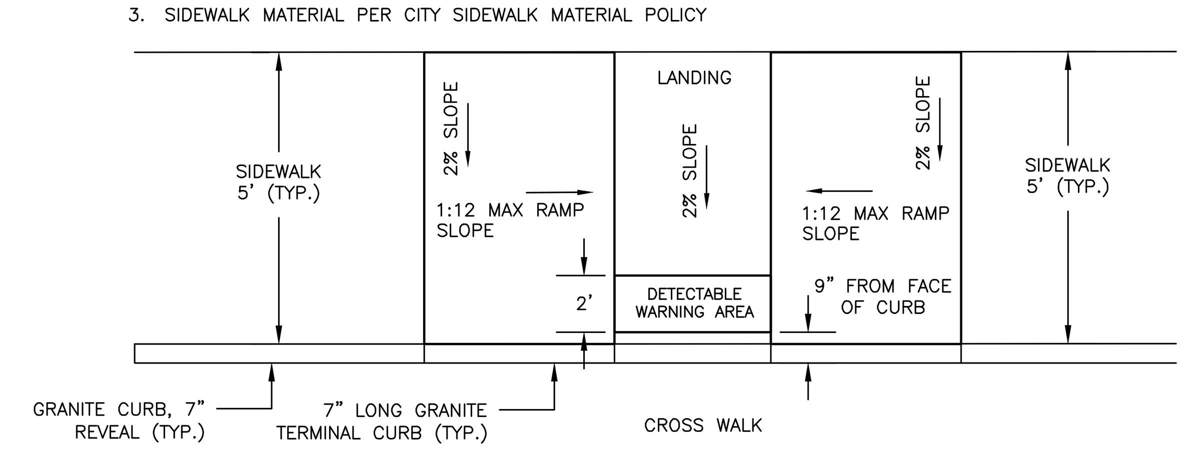


CONCRETE PAD DETAIL

NOT TO SCALE

NOTES:

1. ALL RAMPS SHALL COMPLY WITH ADA STANDARDS
2. GRANITE CURB ADJACENT TO RAMP SHALL BE FLUSH WITH STREET
3. SIDEWALK MATERIAL PER CITY SIDEWALK MATERIAL POLICY



PARALLEL SIDEWALK RAMP LAYOUT FOR SIDEWALK WITHOUT ESPLANADE

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24

DRAWING NAME: **SITE DETAILS – 2**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

A C O R N ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775–2655

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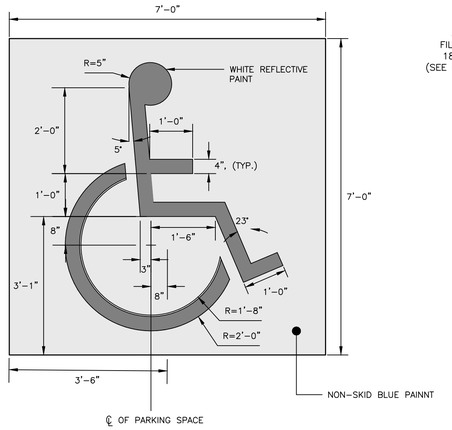
FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

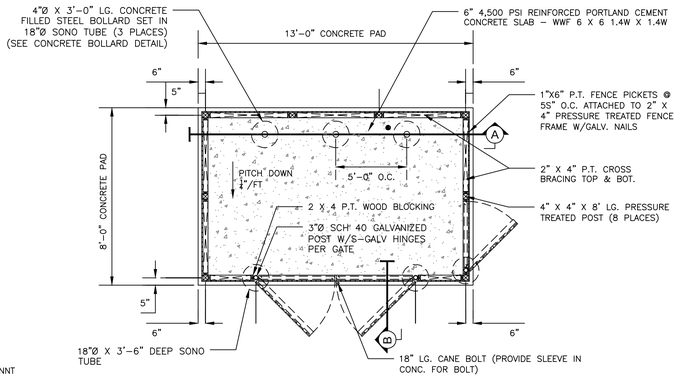
STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
2/7/24

DRAWING NO.

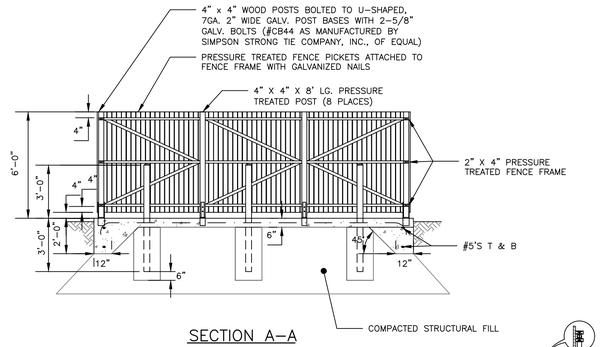
C-41



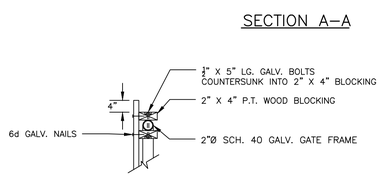
INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



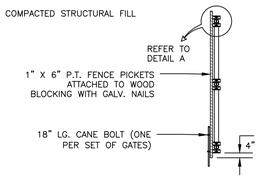
DUMPSTER ENCLOSURE PLAN AND DETAILS
NOT TO SCALE



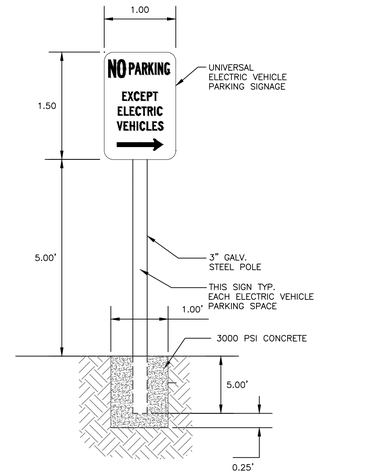
SECTION A–A



DETAIL A



SECTION B–B



NOTES:

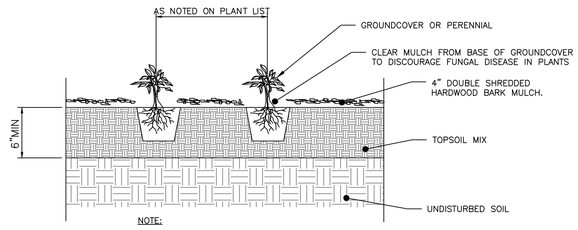
1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7-111 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.

ELECTRIC VEHICLE PARKING SIGN
NOT TO SCALE

NOTES:

1. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY.
2. INSTALL PROTECTIVE FENCING TO LIMIT OF DRIPLINE ON TREE OR A MINIMUM OF 6' FROM TRUNK WHEN NECESSARY, WITH PRIOR PERMISSION OF LANDSCAPE ARCHITECT.
3. DO NOT STORE CONSTRUCTION EQUIPMENT, MATERIALS, TOOLS, ETC. WITHIN PROTECTIVE FENCING.
4. MAINTAIN FENCING IN A NEAT AND ORDERLY FASHION THROUGHOUT CONSTRUCTION PERIOD.

TREE PROTECTION DETAIL
NOT TO SCALE



NOTE:

1. PLANTINGS SHALL CONFORM WITH ANSI A300 PLANTING STANDARDS

PERENNIAL PLANTING DETAIL
NOT TO SCALE

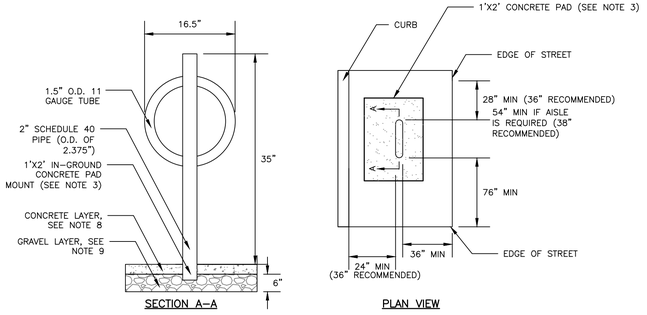
NOTE:

1. PLANTINGS SHALL CONFORM WITH ANSI A300 PLANTING STANDARDS

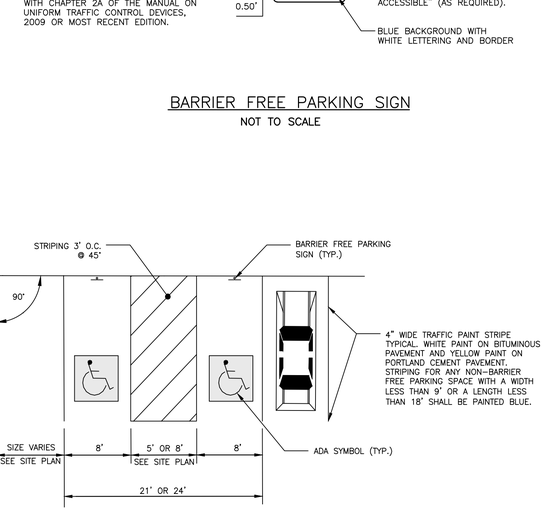
SHRUB PLANTING DETAIL
NOT TO SCALE

NOTES:

1. BICYCLE RACK SHALL BE "DERO BIKE HITCH", AS MANUFACTURED BY DERO BIKE RACKS.
2. BICYCLE RACK SHALL HAVE CAPACITY FOR TWO BICYCLES.
3. BICYCLE RACK PARTS SHALL BE OF UNIFORM COLOR AND SHALL BE FINISHED IN ACCORDANCE WITH PRODUCT SPECIFICATION.
4. BICYCLE RACK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S MOST RECENT INSTALLATION RECOMMENDATIONS, AND SHALL BE INSTALLED WITH AN IN-GROUND MOUNT UNLESS OTHERWISE APPROVED BY ENGINEER.
5. MINIMUM OFFSETS SHOWN. MANUFACTURER'S RECOMMENDED OFFSETS SHALL BE ENFORCED WHERE POSSIBLE.
6. MINIMUM DISTANCE BETWEEN BICYCLE RACKS SHALL BE 24". RECOMMENDED DISTANCE BETWEEN BICYCLE RACKS SHALL BE 38".
7. ALL OFFSETS ARE FROM OUTSIDE EDGES OF ITEMS.
8. CONCRETE SHALL BE 4000 PSI @28 DAYS. BOTTOM OF CONCRETE SHALL BE AT TOP OF SIDEWALK GRAVEL ELEVATION, DEPTH VARIES APPROX. 4"-7".
9. GRAVEL LAYER SHALL BE INSTALLED IN ACCORDANCE WITH CONCRETE SIDEWALK DETAIL, AND SHALL BE MAINEDOT 703.06 TYPE B.



DERO BIKE HITCH
NOT TO SCALE



NOTES:

1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7-8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7-8a OR R7-8b.
3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.

BARRIER FREE PARKING SIGN
NOT TO SCALE

PARKING SPACE DIMENSIONS
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23

DRAWING NAME: **SITE DETAILS – 3**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT:
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

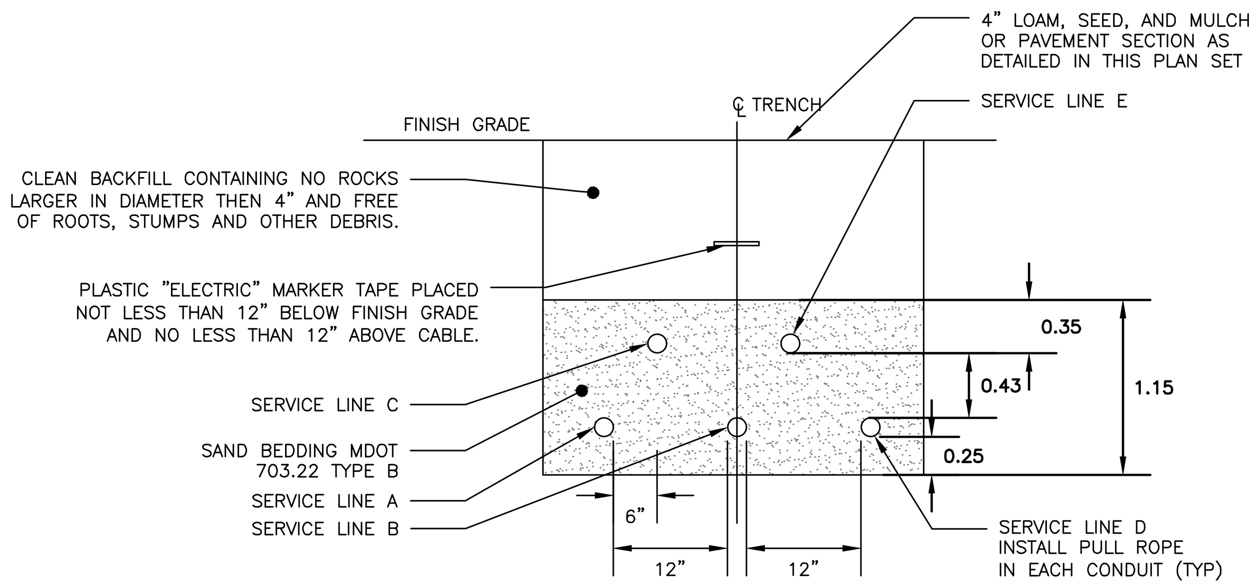
ACORN ENGINEERING, INC.
ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3287, PORTLAND, MAINE 04104
(207) 775-2655

ALL PLANS SHALL NOT BE MODIFIED, WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY REUSE OF THESE PLANS, OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-42



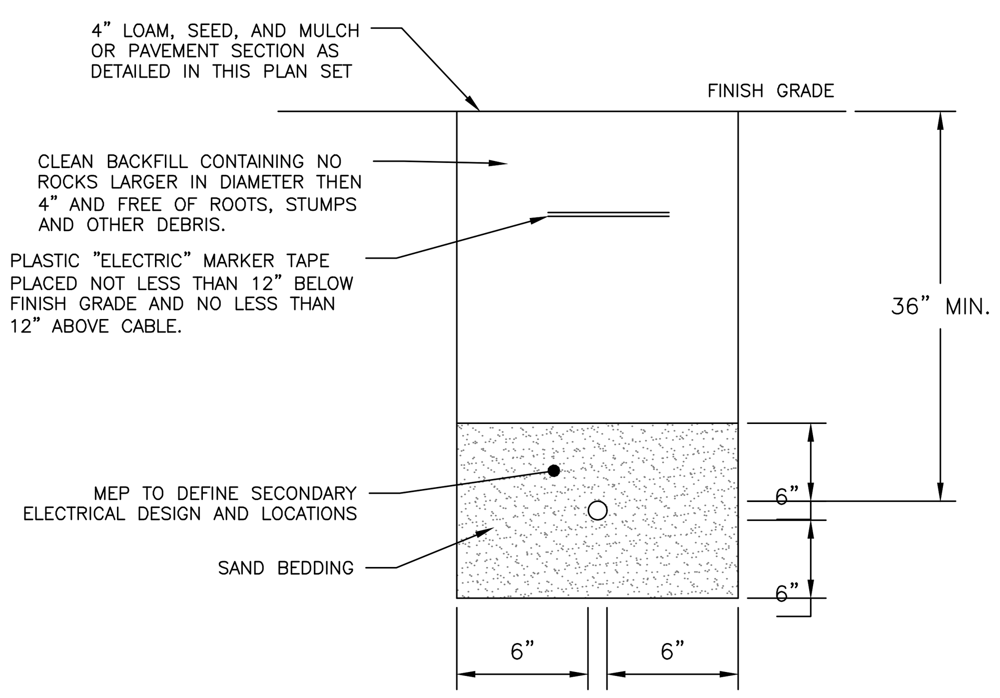
CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	2–4"	SCHEDULE 40 PVC	COMMUNICATION	–
D	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	SEE NOTE 1
E	2–4"	SCHEDULE 40 PVC	CABLE	–

NOTES:

1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND–OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT–OF–WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

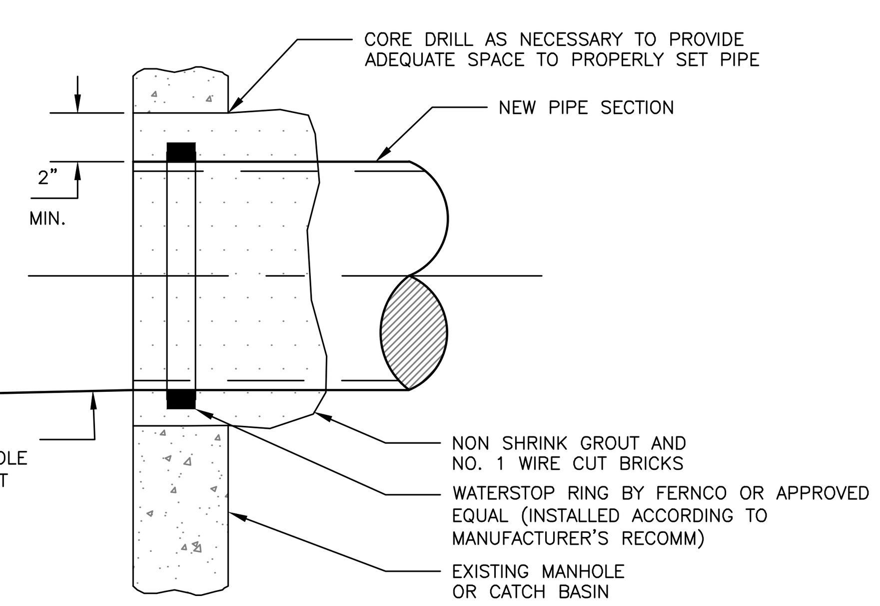


SECONDARY ELECTRICAL TRENCH

NOT TO SCALE

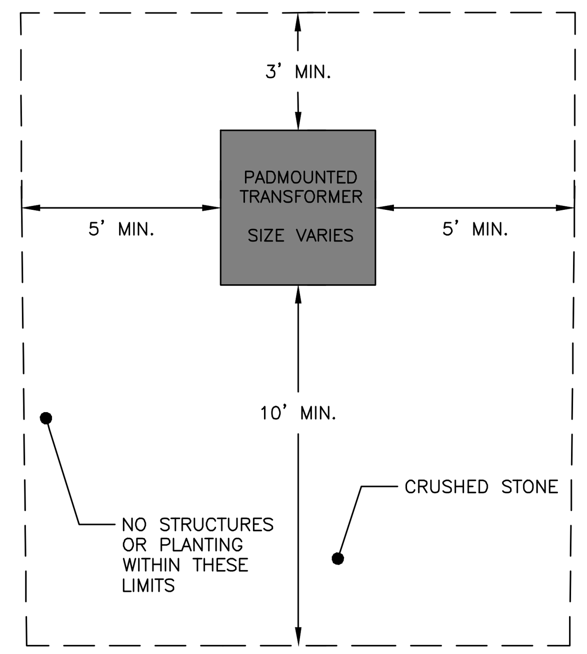
NOTE:

1. EXISTING MANHOLE OR CATCH BASIN SHALL BE CORE DRILLED FOR PIPE INSTALLATION
2. PLACE NON–SHRINK GROUT AND WIRE–CUT BRICKS AROUND PIPE CONNECTIONS AS NECESSARY



NEW PIPE TO EXISTING STRUCTURE CONNECTION DETAIL

NOT TO SCALE

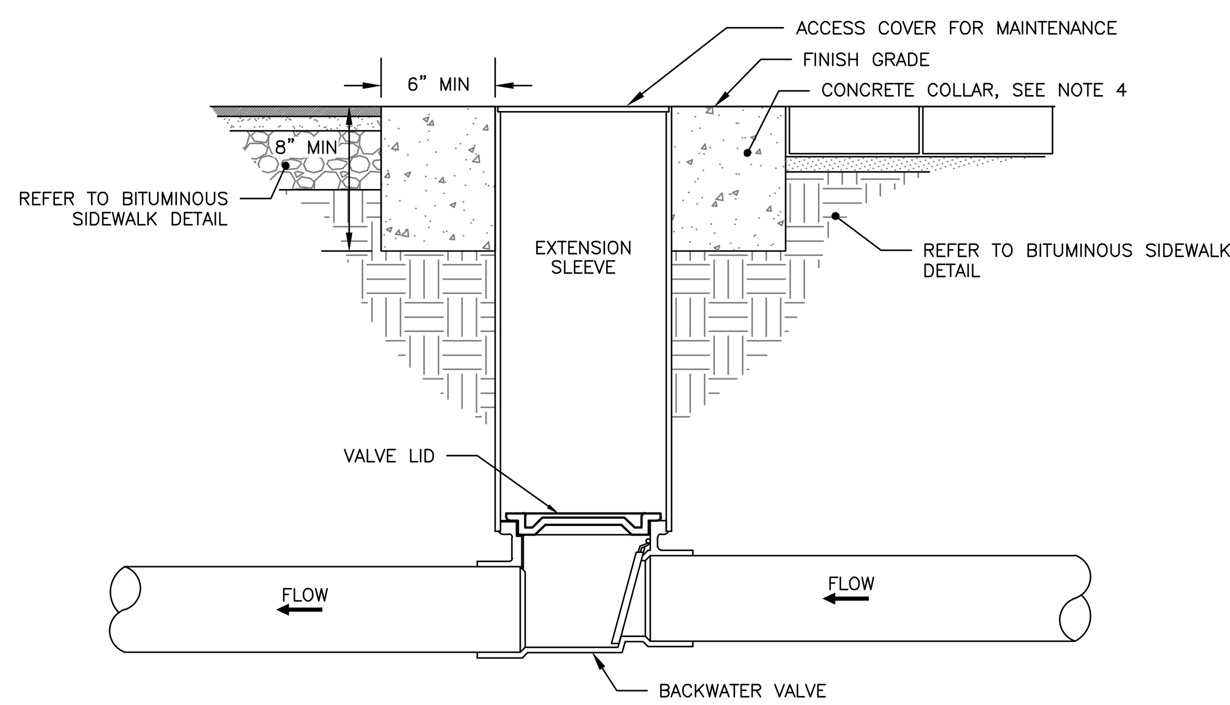


NOTES:

1. WHERE DANGER OF PLOW OR TRAFFIC DAMAGE EXISTS, BARRIERS CONSISTING OF CONCRETE FILLED 6 INCH IPS STEEL POSTS SET 4 FEET DEEP SHALL BE PROVIDED FOR PROTECTION (PRESSURE TREATED 6X6 INCH MIN. TIMBER POSTS MAY BE SUBSTITUTED IN RESIDENTIAL AREAS). POSTS SHALL NOT INTERFERE WITH TRANSFORMER ACCESS. GENERALLY THE POSTS SHALL BE LOCATED NEAR THE CORNERS OF THE TRANSFORMERS.
2. THE SETBACKS DEPICT CLEARANCES FROM OBSTRUCTIONS INCLUDING TREES, SHRUBS, AND FENCES.
3. THERE SHALL BE NO OPENINGS IN THE BUILDING WALL IN BACK OF, BESIDE, OR OVER THE TRANSFORMER UNLESS THE TRANSFORMER IS A MIN. OF 10 FEET FROM THE BUILDING.
4. SIDE CLEARANCES FROM DOORS OR WINDOWS SHALL NOT BE LESS THAN 10 FEET.
5. THERE SHALL BE A MIN. OF 10 FEET BETWEEN THE TRANSFORMER AND ANY GAS METER/REGULATOR, GAS RELIEF VALVE, GAS VENT DISCHARGE, GAS FILLING CONNECTION, OR PROPANE TANK. SOME INSURANCE COMPANIES MAY REQUIRE INCREASED CLEARANCES.
6. TRANSFORMER SHALL BE LOCATED FAR ENOUGH AWAY FROM BUILDING OVERHANGS SO THAT THEY WILL NOT BE SUBJECT TO DAMAGE BY FALLING ICE AND SNOW.
7. IF TRANSFORMER IS NOT INSTALLED IMMEDIATELY UPON THE INSTALLATION OF THE CABLE IN THE PAD, THE CONTRACTOR SHALL PROVIDE AND INSTALL A CMP APPROVED CONCRETE, STEEL, OR FIBERGLASS COVER OVER THE PAD OPENING TO ELIMINATE EXPOSURE OF THE CABLE.

CMP TRANSFORMER SETBACKS

NOT TO SCALE



NOTES:

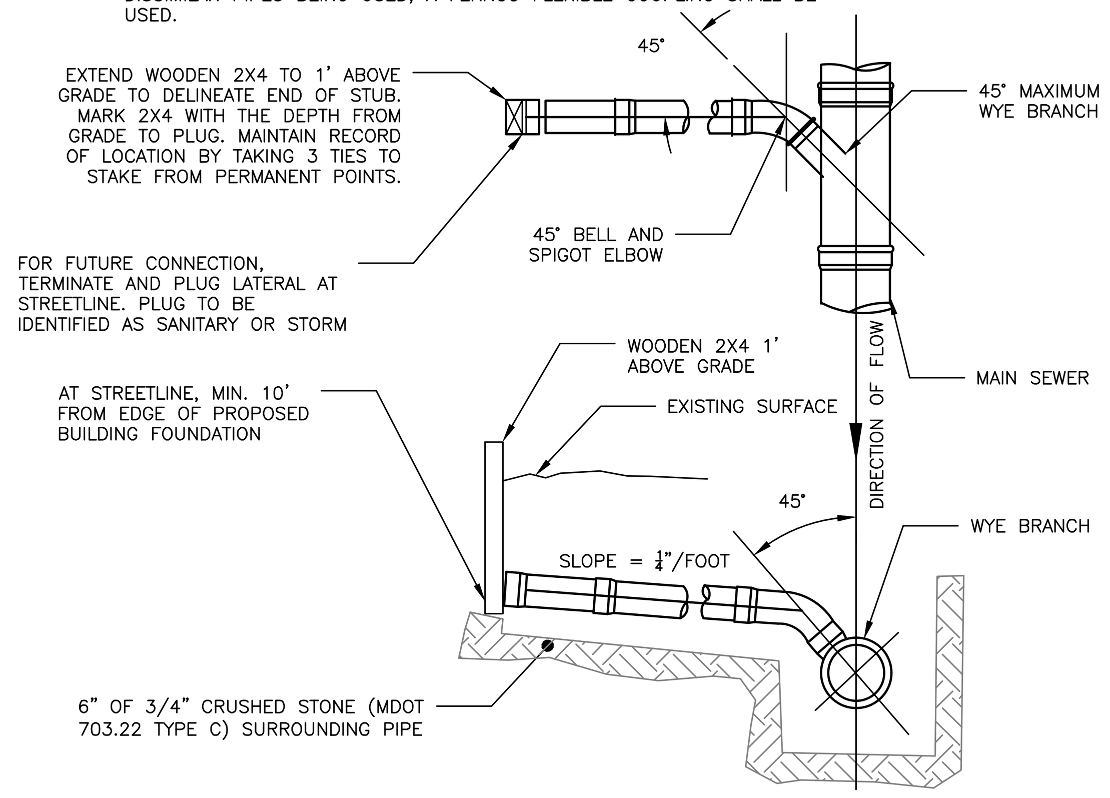
1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS OF THE CITY OF PORTLAND TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE 'SEWER' ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24–HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

BACKFLOW VALVE ASSEMBLY

NOT TO SCALE

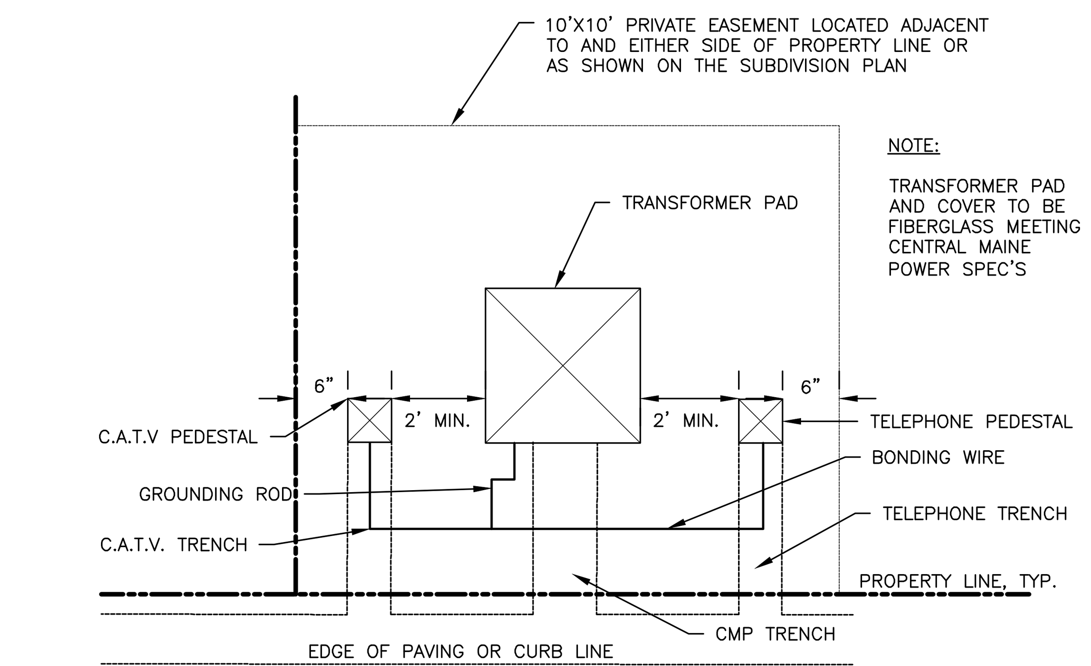
NOTES:

1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR
3. CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.



SEWER AND STORM DRAIN TEE/WYE CONNECTION DETAIL

NOT TO SCALE



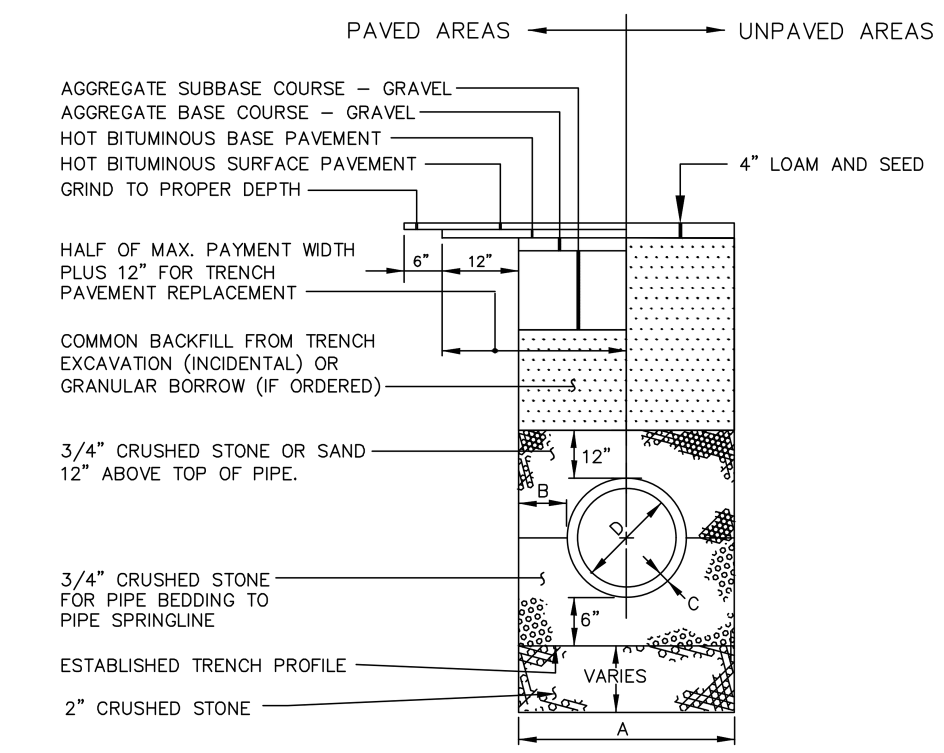
TYPICAL TRANSFORMER DETAIL

NOT TO SCALE

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.



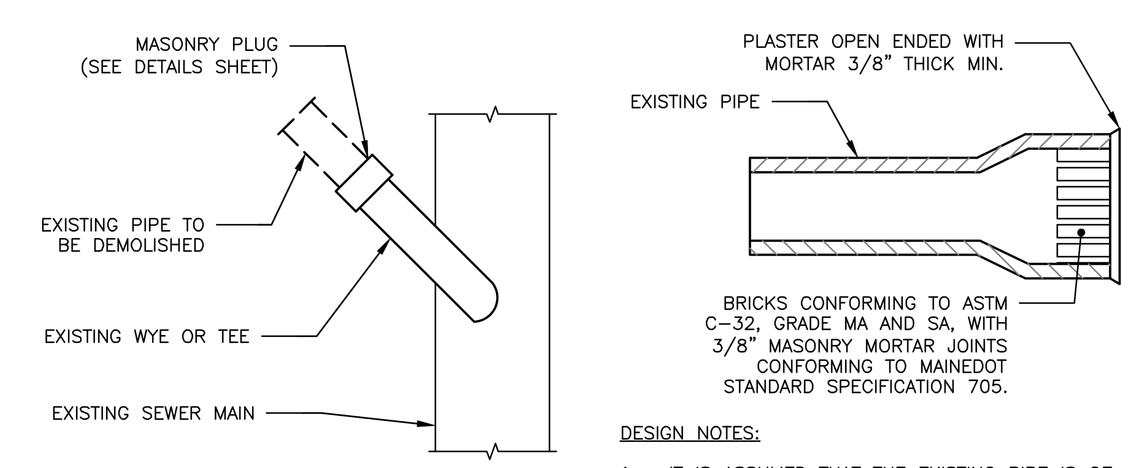
NOTES:

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 CRUSH 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



DESIGN NOTES:

1. IT IS ASSUMED THAT THE EXISTING PIPE IS OF VITRIFIED CLAY CONSTRUCTION. USE CAP OR PLUG FOR PVC PIPE

MASONRY PLUG DETAIL

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23

DRAWING NAME: UTILITY DETAILS – 1

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775–2655

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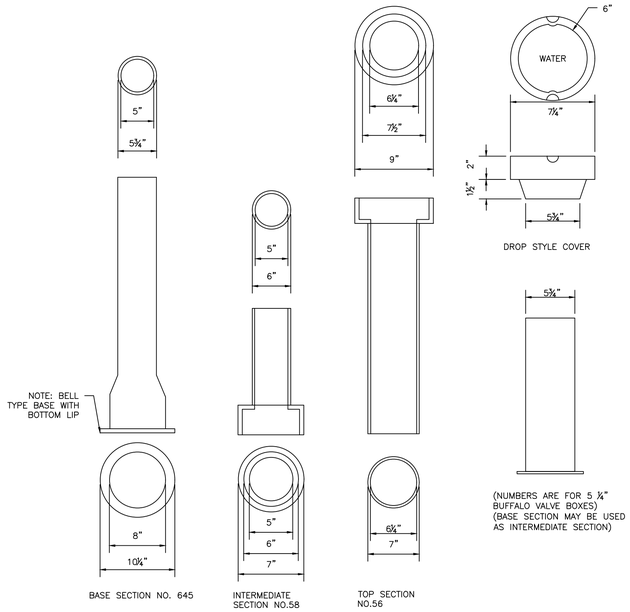
FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
12/21/23

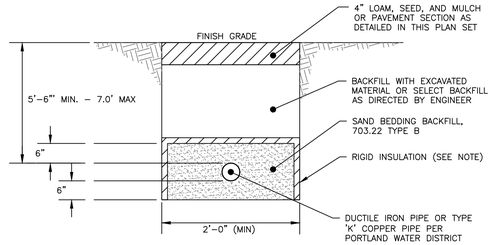
DRAWING NO.
C-43



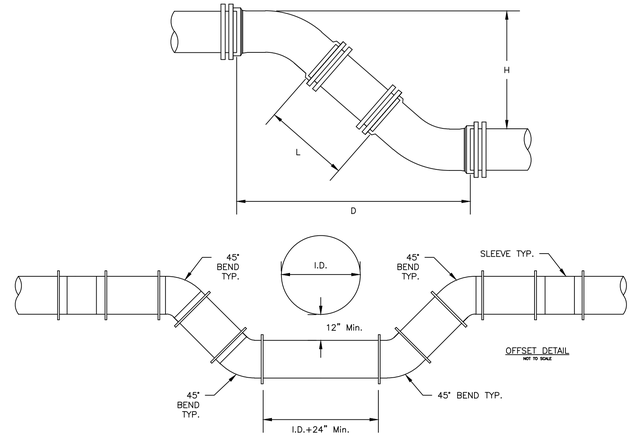
VALVE BOX & COVER
NOT TO SCALE

NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'-6" OF COVER IS NECESSARY ADD 1 INCH OF "BLUE DOW" RIGID INSULATION FOR EVERY 12" LESS COVER.
3. 12" MIN. HORIZONTAL CLEARANCE BETWEEN PIPES IN JOINT TRENCH.



WATER SERVICE TRENCH SECTION DETAIL
NOT TO SCALE



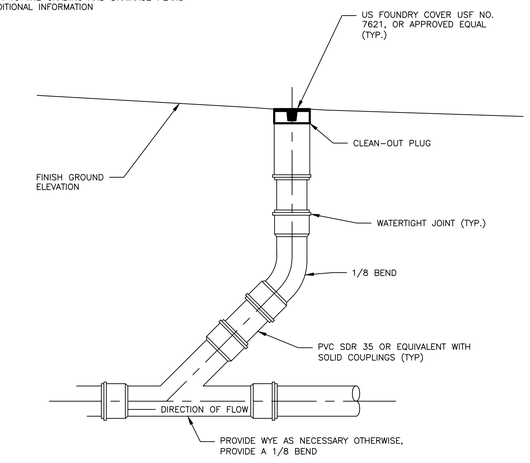
NOTE:

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.

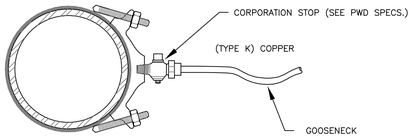
	8" PIPE	
H	D	L
12"	1' 7-1/2"	0' 9-1/2"
13"	1' 8-1/2"	0' 10-7/8"
14"	1' 9-1/2"	1' 0-5/16"
15"	1' 10-1/2"	1' 1-11/16"
16"	1' 11-1/2"	1' 3-1/8"
17"	2' 0-1/2"	1' 4-9/16"
18"	2' 1-1/2"	1' 5-15/16"
19"	2' 2-1/2"	1' 7-3/8"
20"	2' 3-1/2"	1' 8-13/16"
21"	2' 4-1/2"	1' 10-3/16"
22"	2' 5-1/2"	1' 11-5/8"
23"	2' 6-1/2"	2' 1"
24"	2' 7-1/2"	2' 2-7/16"
25"	2' 8-1/2"	2' 3-7/8"
26"	2' 9-1/2"	2' 5-1/4"
27"	2' 10-1/2"	2' 6-11/16"
28"	2' 11-1/2"	2' 8-1/8"
29"	3' 0-1/2"	2' 9-1/2"
30"	3' 1-1/2"	2' 10-15/16"
31"	3' 2-1/2"	3' 0-5/16"
32"	3' 3-1/2"	3' 1-3/4"
33"	3' 4-1/2"	3' 3-3/16"
34"	3' 5-1/2"	3' 4-9/16"
35"	3' 6-1/2"	3' 6"
36"	3' 7-1/2"	3' 7-7/16"
37"	3' 8-1/2"	3' 8-13/16"
38"	3' 9-1/2"	3' 10-1/4"
39"	3' 10-1/2"	3' 11-11/16"
40"	3' 11-1/2"	4' 1-1/16"
41"	4' 0-1/2"	4' 2-1/2"
42"	4' 1-1/2"	4' 3-7/8"
43"	4' 2-1/2"	4' 5-5/16"
44"	4' 3-1/2"	4' 6-3/4"
45"	4' 4-1/2"	4' 8-1/8"
46"	4' 5-1/2"	4' 9-9/16"
47"	4' 6-1/2"	4' 10-15/16"
48"	4' 7-1/2"	5' 0-3/8"
49"	4' 8-1/2"	5' 1-13/16"
50"	4' 9-1/2"	5' 3-3/16"
51"	4' 10-1/2"	5' 4-5/8"
52"	4' 11-1/2"	5' 6-1/16"
53"	5' 0-1/2"	5' 7-7/16"
54"	5' 1-1/2"	5' 8-7/8"
55"	5' 2-1/2"	5' 10-5/16"

TYPICAL MAIN OFFSET
NOT TO SCALE

DESIGN NOTES:
1. REFER TO THE GRADING AND DRAINAGE PLANS FOR ADDITIONAL INFORMATION



CLEANOUT DETAIL
NOT TO SCALE

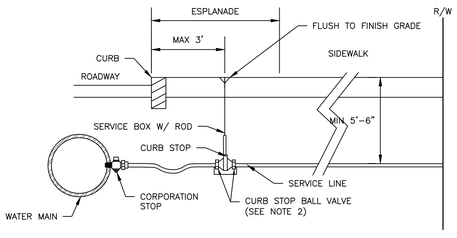


SERVICE SADDLE: 1-1/2" AND 2" C.C. THREAD
NOT TO SCALE

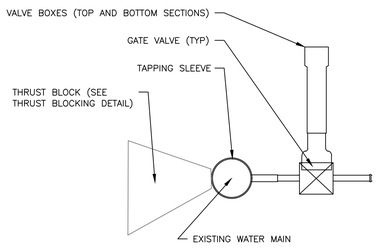
END SECTION

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH PORTLAND WATER DISTRICT (PWD) SPECIFICATIONS.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE PORTLAND WATER DISTRICT.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.
5. CURB STOP TO BE INSTALLED IN PERVIOUS AREAS TO THE GREATEST EXTENT FEASIBLE. FOR LOTS IN WHICH THE CURB STOP MUST BE LOCATED IN A SIDEWALK OR DRIVEWAY, CONTRACTOR TO CONTACT PWD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
6. CONTRACTOR TO COIL ACCESS PIPE ON PRIVATE PROPERTY PRIOR TO CONNECTION TO HOUSE. ACCESS PIPE TO BE ADEQUATELY MARKED IF BURIED OR PROTECTED IF STORED ABOVE GROUND.

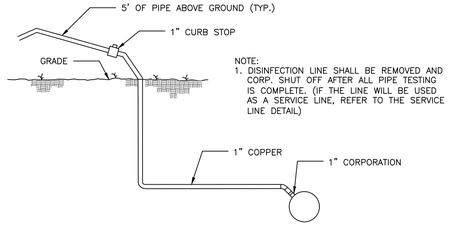


TYPICAL SERVICE CONNECTION
NOT TO SCALE

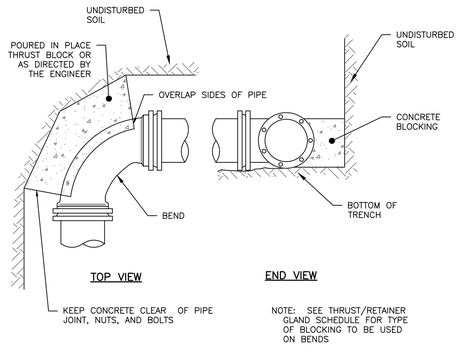


SIDE VIEW

TAPPING SLEEVE AND VALVE
NOT TO SCALE



DISINFECTION LINE DETAIL
NOT TO SCALE



TOP VIEW | END VIEW

REGULAR BEND

THRUST BLOCKING
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR | BY | DATE
CSS | PFH | 12/1/23
MAJOR SITE PLAN | PFH | 12/21/23

DRAWING NAME: **UTILITY DETAILS - 2**
PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE
CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.

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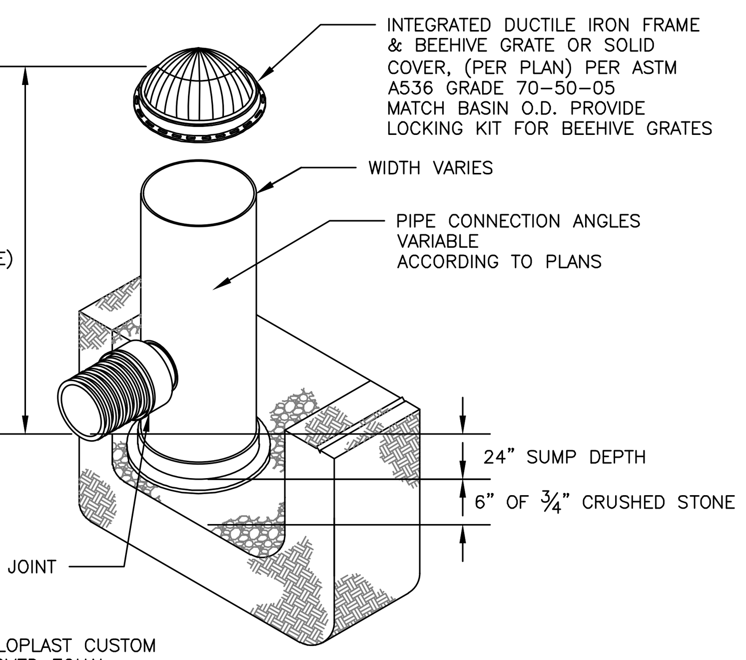
ACORN ENGINEERING, INC.
PO BOX 3257 PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-44

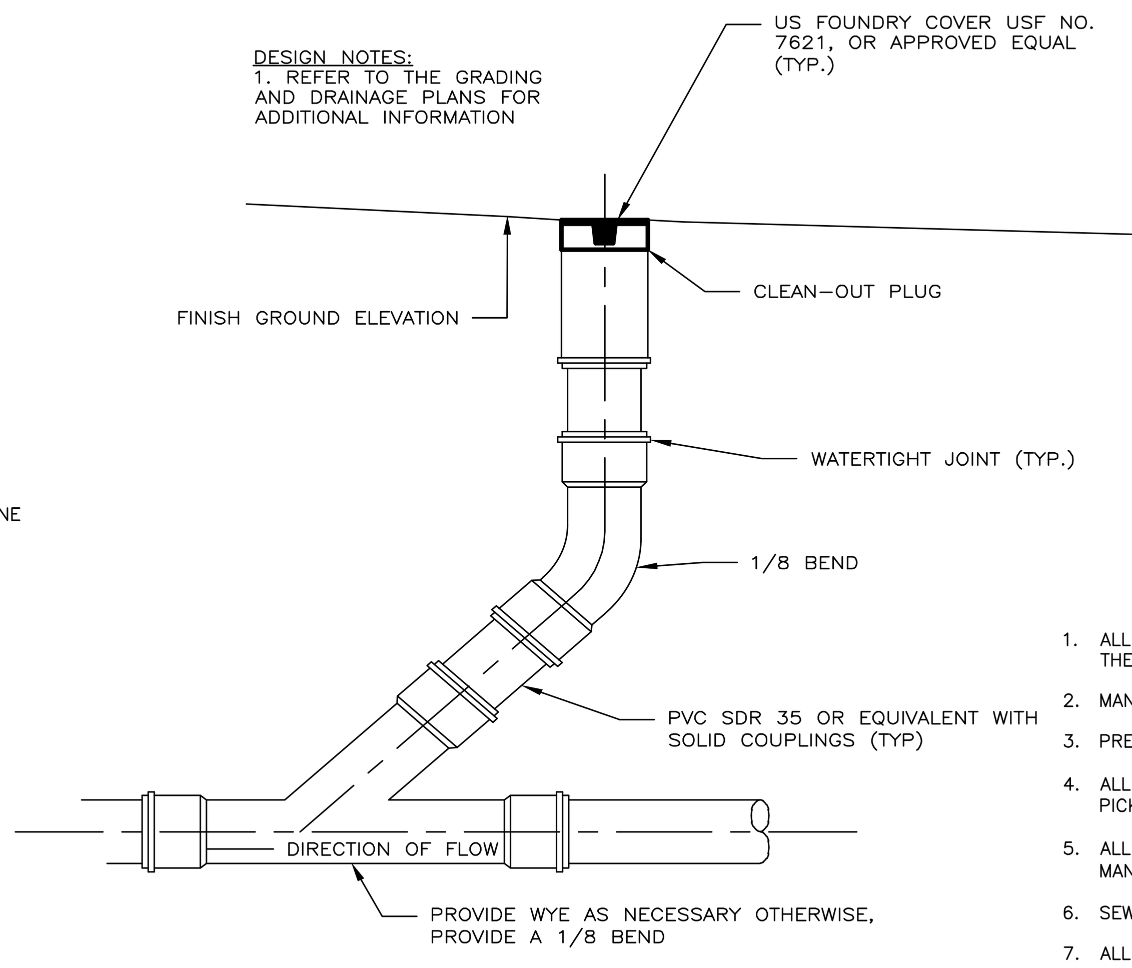


NOTE:

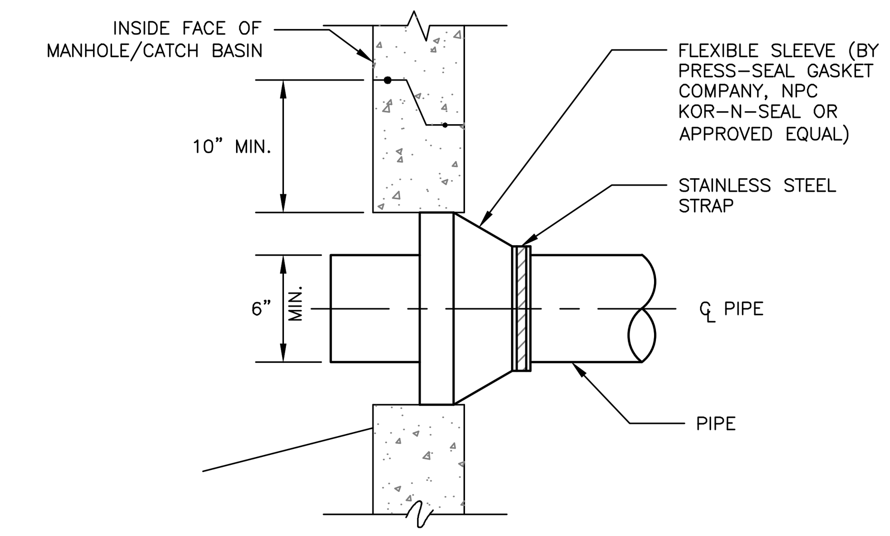
AREA DRAIN TO BE NYLOPLAST CUSTOM DRAIN BASIN OR APPROVED EQUAL.

BEEHIVE DRAIN DETAIL
NOT TO SCALE

DESIGN NOTES:
1. REFER TO THE GRADING AND DRAINAGE PLANS FOR ADDITIONAL INFORMATION



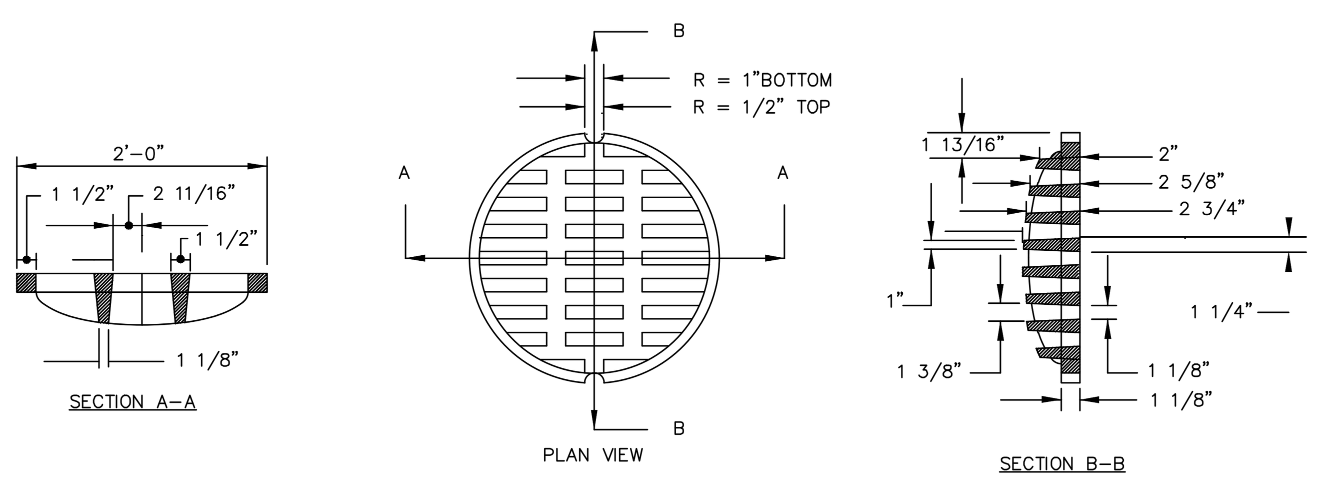
CLEANOUT DETAIL
NOT TO SCALE



NEW DRAINAGE PIPE TO NEW DRAINAGE STRUCTURE CONNECTION DETAIL
NOT TO SCALE

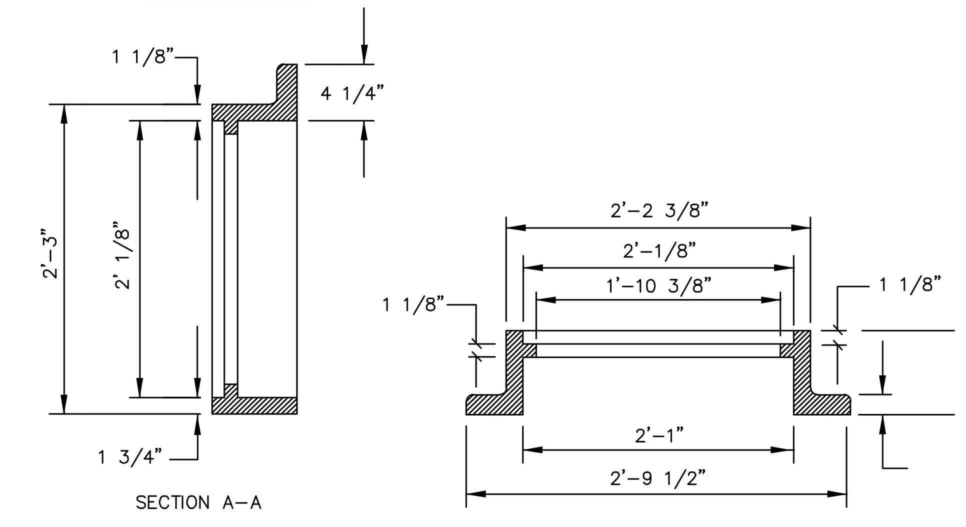
1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLD AND SHALL HAVE ONE ⅞" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C-32-63, GRADE MA AND SA.
7. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
8. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.
9. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
10. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CATCH BASIN HOOD.
11. HYDROCARBON ABSORBENT BOOM IN ALL CATCH BASINS REQUIRED BY CONTRACTOR FOLLOWING PAVING. OWNER TO MAINTAIN/REPLACE FOR 1-YEAR FOLLOWING FINAL PAVEMENT.

GENERAL NOTES FOR STORM MANHOLES AND CATCH BASINS



GRATE DETAIL

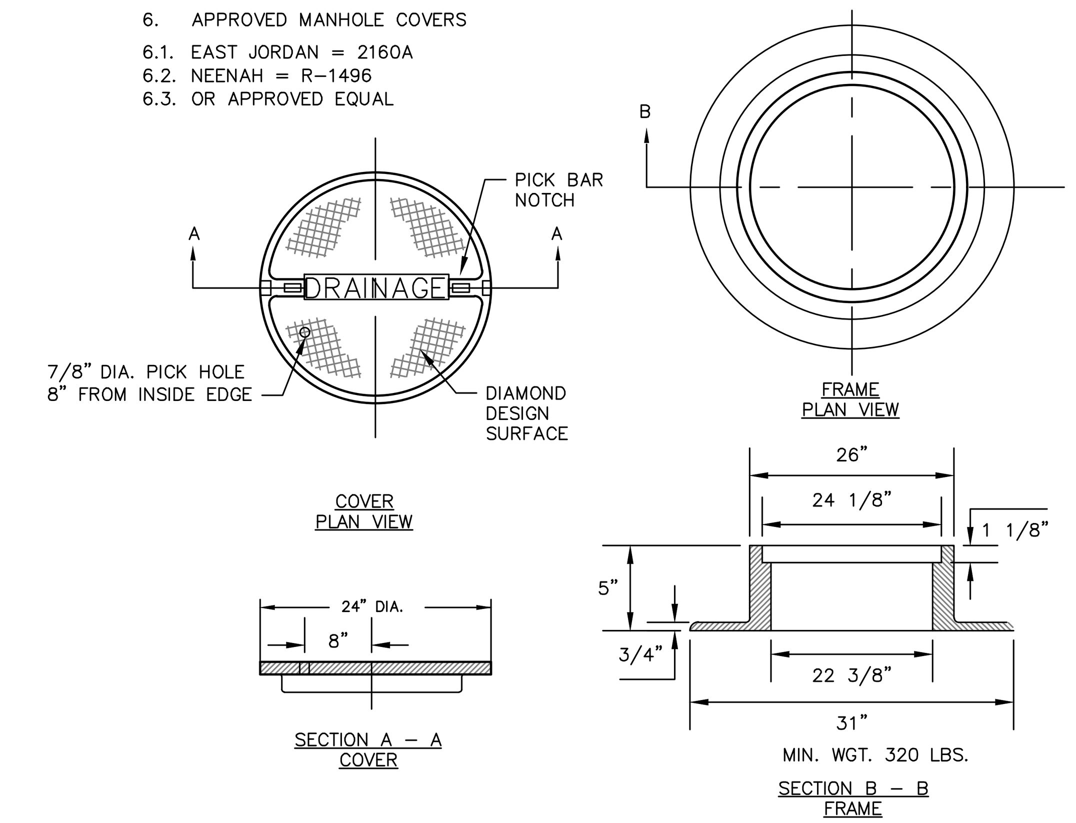
NOTES:
1. APPROVED CATCH BASIN FRAMES:
   1.1. EAST JORDAN = 7375Z
   1.2. NEENAH = R-3248
   1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
   2.1. EAST JORDAN = 2440M
   2.2. NEENAH = R-3248
   2.3. OR APPROVED EQUAL



FRAME DETAIL

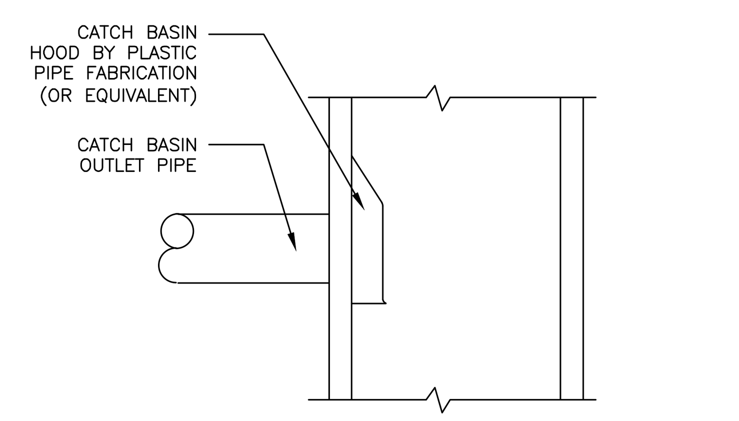
CATCH BASIN FRAME & GRATE
NOT TO SCALE

NOTES:
1. ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER
2. ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".
3. ALL SANITARY MANHOLE COVERS AND SHALL HAVE "SEWER" CAST INTO THE COVER.
4. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
5. APPROVED MANHOLE FRAMES:
5.1. EAST JORDAN = 1690Z
5.2. NEENAH = R-1496
5.3. OR APPROVED EQUAL
6. APPROVED MANHOLE COVERS
6.1. EAST JORDAN = 2160A
6.2. NEENAH = R-1496
6.3. OR APPROVED EQUAL

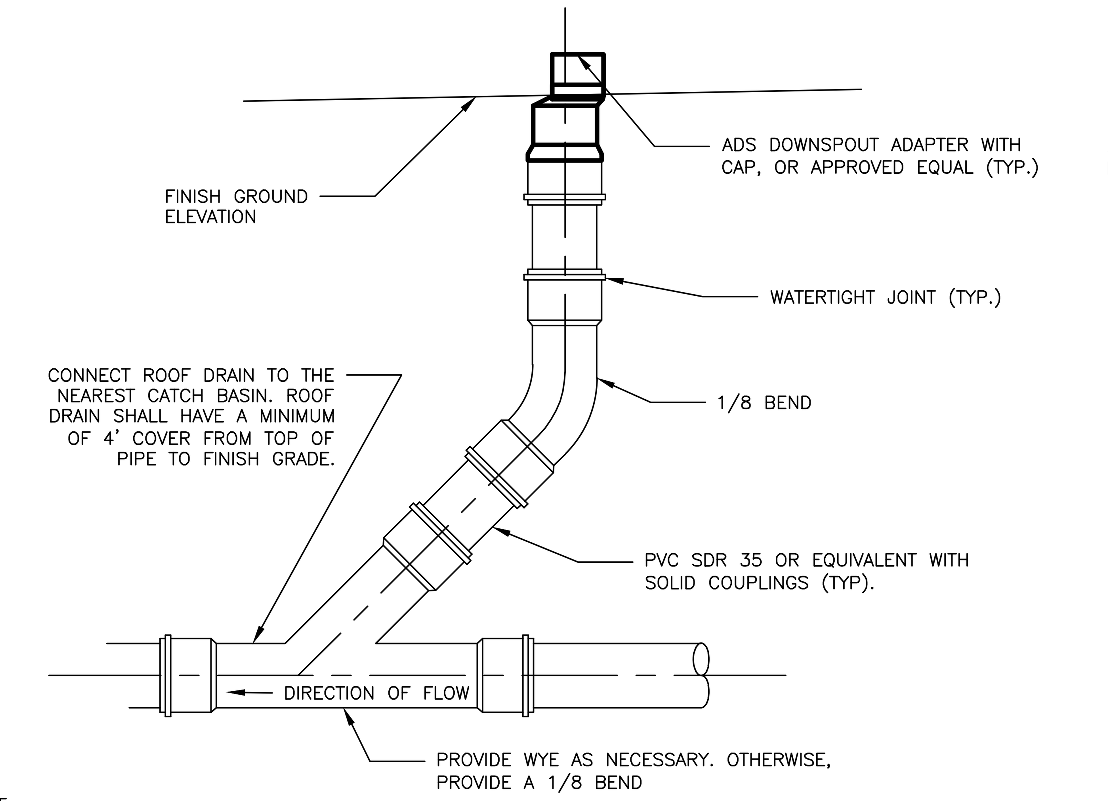


CAST IRON MANHOLE COVER AND FRAME
NOT TO SCALE

NOTES:
1. INSTALL HOOD ON ALL OUTLETS 24" OR LESS.
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS.

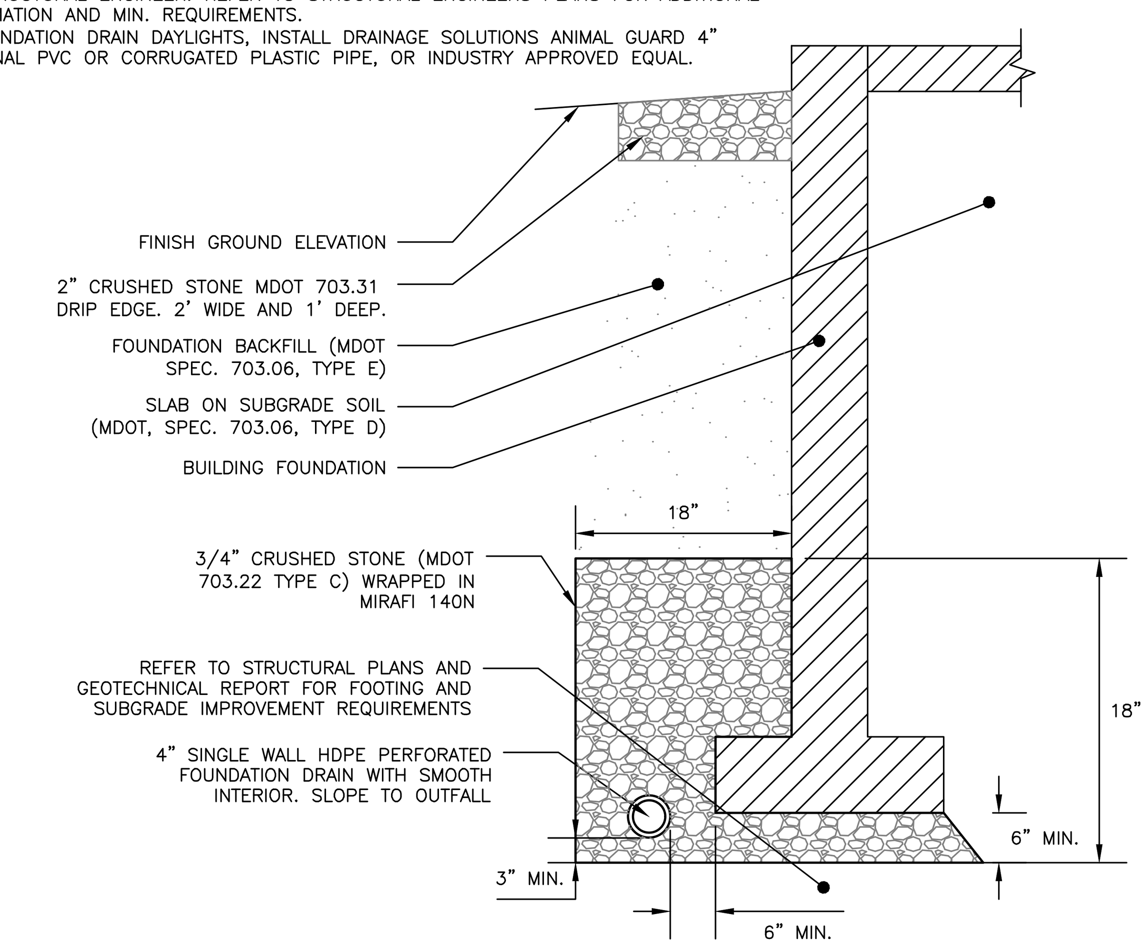


CATCH BASIN HOOD DETAIL
NOT TO SCALE

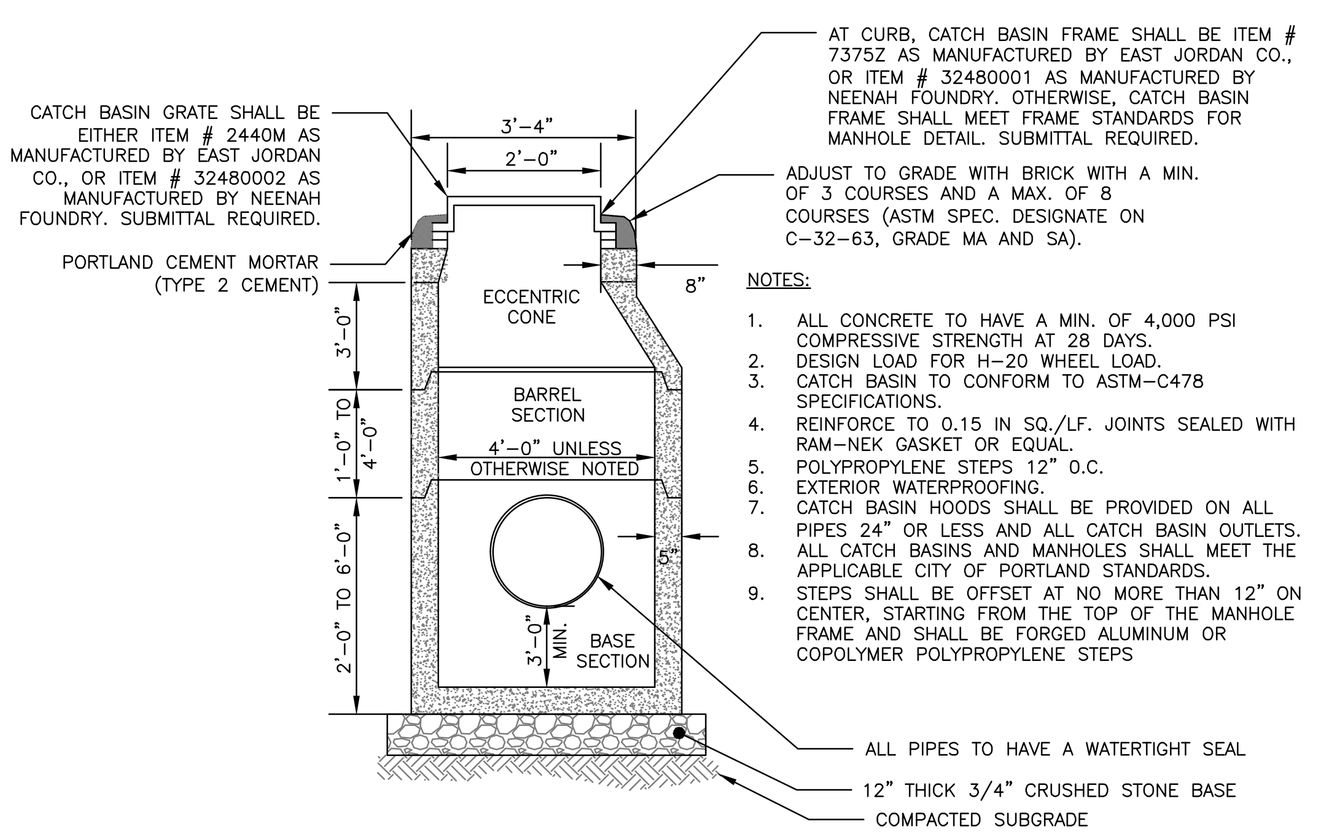


ROOF DRAIN DETAIL
NOT TO SCALE

NOTES:
1. REFER TO THE BUILDING ARCHITECTS AND STRUCTURAL ENGINEERING PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. INSTALL STONE DRIP EDGE IN A LOCATIONS SUBJECT TO ROOF RUNOFF. WIDTH SHALL BE A MIN. 12" BEYOND THE PROJECTION OF THE ROOF EVE.
4. FOUNDATION WALL FOOTINGS SHALL BE CONSTRUCTED TO A MIN. DEPTH OF 4 FT BELOW ADJACENT FINISH GRADE UNLESS OTHERWISE SPECIFIED BY THE GEOTECHNICAL ENGINEER OR STRUCTURAL ENGINEER. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.
5. IF FOUNDATION DRAIN DAYLIGHTS, INSTALL DRAINAGE SOLUTIONS ANIMAL GUARD 4" EXTERNAL PVC OR CORRUGATED PLASTIC PIPE, OR INDUSTRY APPROVED EQUAL.

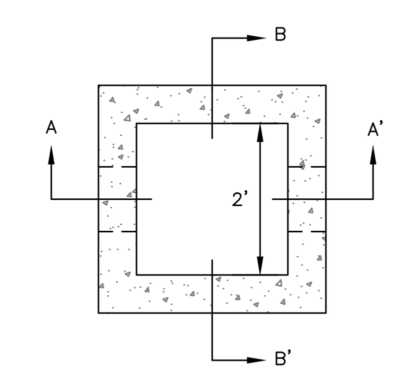


FOUNDATION DRAIN DETAIL
NOT TO SCALE

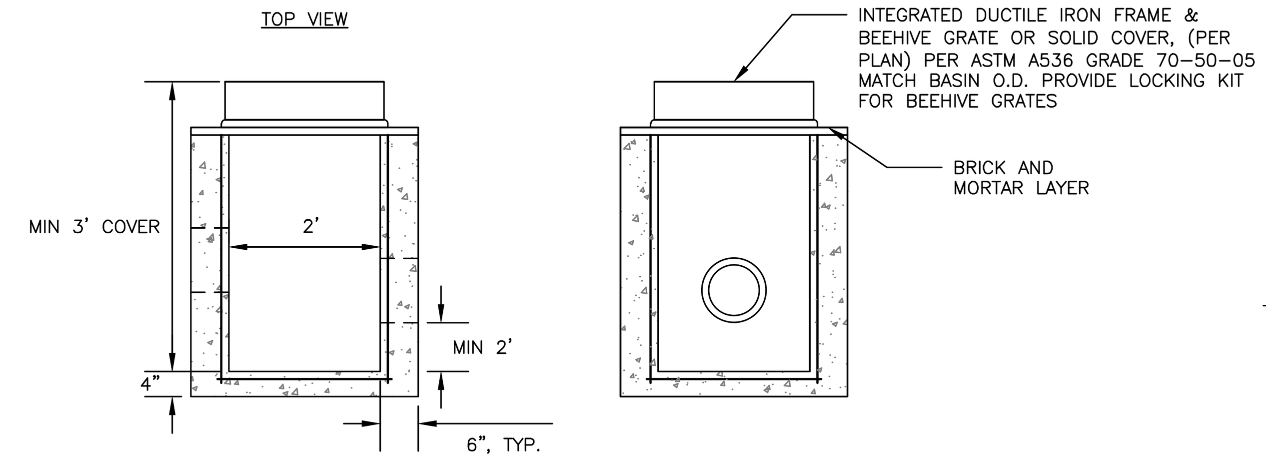


NOTES:
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM-NEK GASKET OR EQUAL.
5. POLYPROPYLENE STEPS 12" O.C.
6. EXTERIOR WATERPROOFING.
7. CATCH BASIN HOODS SHALL BE PROVIDED ON ALL PIPES 24" OR LESS AND ALL CATCH BASIN OUTLETS.
8. ALL CATCH BASINS AND MANHOLES SHALL MEET THE APPLICABLE CITY OF PORTLAND STANDARDS.
9. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS

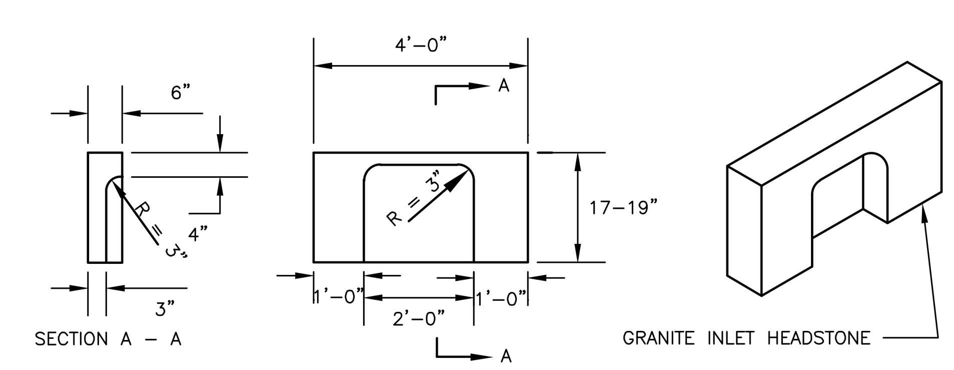
PRECAST CATCH BASIN/ DRAINAGE MANHOLE
NOT TO SCALE



NOTES:
1. CATCH BASIN TO BE PRECAST AS A SINGLE PORTLAND CEMENT CONCRETE UNIT, AS MANUFACTURED BY AMERICAN CONCRETE INDUSTRIES OR AN APPROVED EQUAL.
2. FRAME AND GRATE TO BE NEEHAN FOUNDRY ENTERPRISES R-4826 OR AN APPROVED EQUAL.
3. REBAR FRAMING TO BE #4, MIN 8" O.C. OR AN APPROVED EQUAL.
4. DIAMETER OF DRAINAGE HOLE TO BE 3" LARGER THAN THE INSIDE DIAMETER OF A FLEXIBLE PIPE OR THE OUTSIDE DIAMETER OF RIGID PIPE.



'TYPE F' PRECAST CATCH BASIN
NOT TO SCALE



4' GRANITE HEADSTONE FOR CATCH BASIN INLET
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24

DRAWING NAME: **DRAINAGE DETAILS**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

A C O R N ENGINEERING, INC.

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ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
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FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED
PROFESSIONAL ENGINEER
2/7/24

DRAWING NO.

C-45

MANUFACTURER'S NOTES FOR THE BIDDING AND INSTALLATION OF THE SC–740 SYSTEM

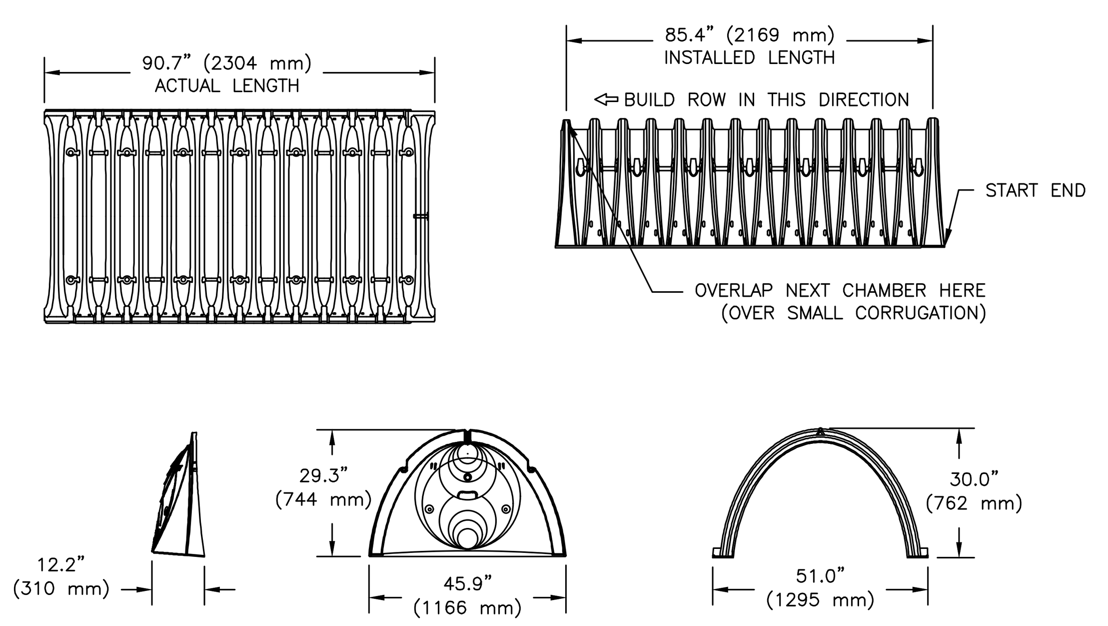
1. STORMTECH SC–740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE–CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC–740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC–310/SC–740/DC–780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM – 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4–2" (20–50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

MANUFACTURER'S NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC–740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC–310/SC–740/DC–780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC–740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC–310/SC–740/DC–780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC–310/SC–740/DC–780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1–888–892–2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1–888–892–2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.



NOMINAL CHAMBER SPECIFICATIONS

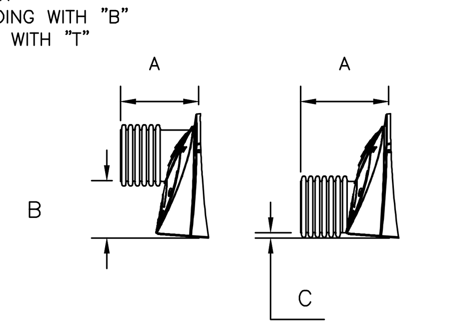
SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE–FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE–FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE–FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE–CORED END CAPS END WITH "PC"

ALL STUBS SHALL BE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1–888–892–2694.

NOTE: ALL DIMENSIONS ARE NOMINAL



STORMTECH SC–740 TECHNICAL SPECIFICATIONS
NOT TO SCALE

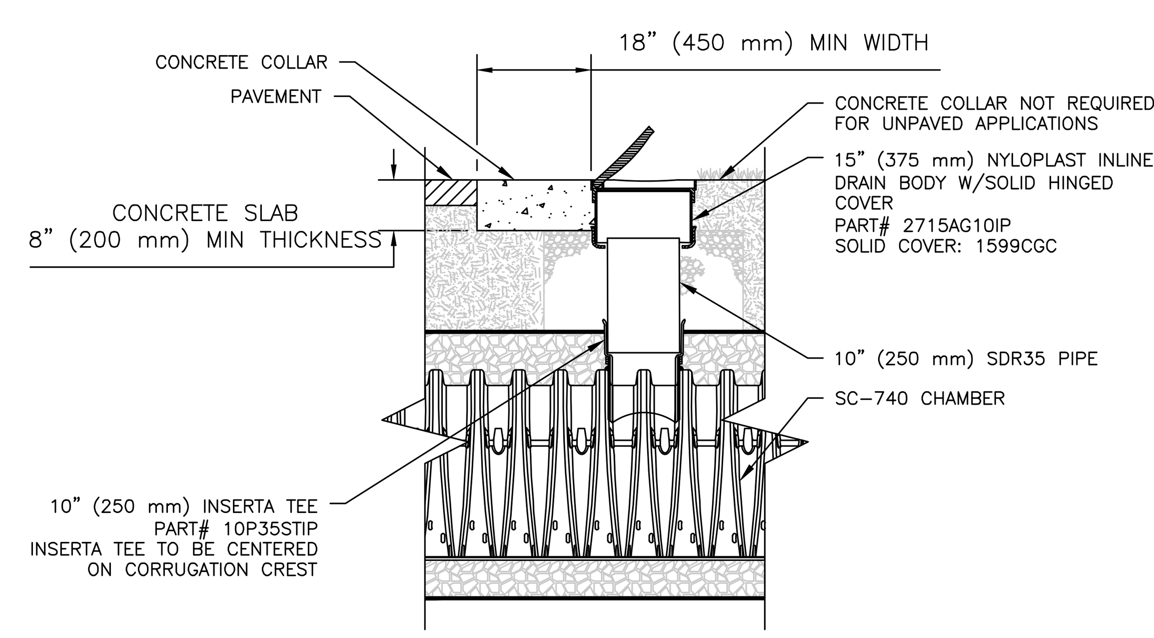
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)
SC740EPE24BR*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

MANUFACTURER'S NOTES: SC–740 STORMTECH CHAMBER SPECIFICATIONS

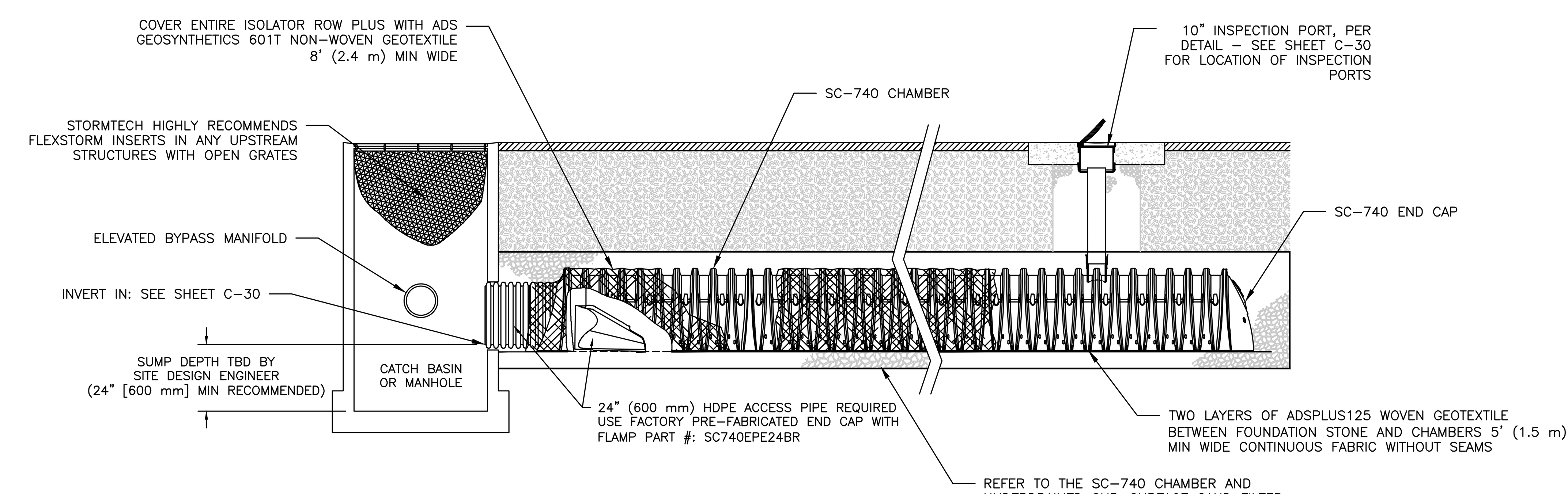
1. CHAMBERS SHALL BE STORMTECH SC–740.
2. CHAMBERS SHALL BE ARCH–SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT–MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG–DURATION DEAD LOADS AND 2) SHORT–DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75–YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1–WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75–YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

ENGINEER'S NOTES:

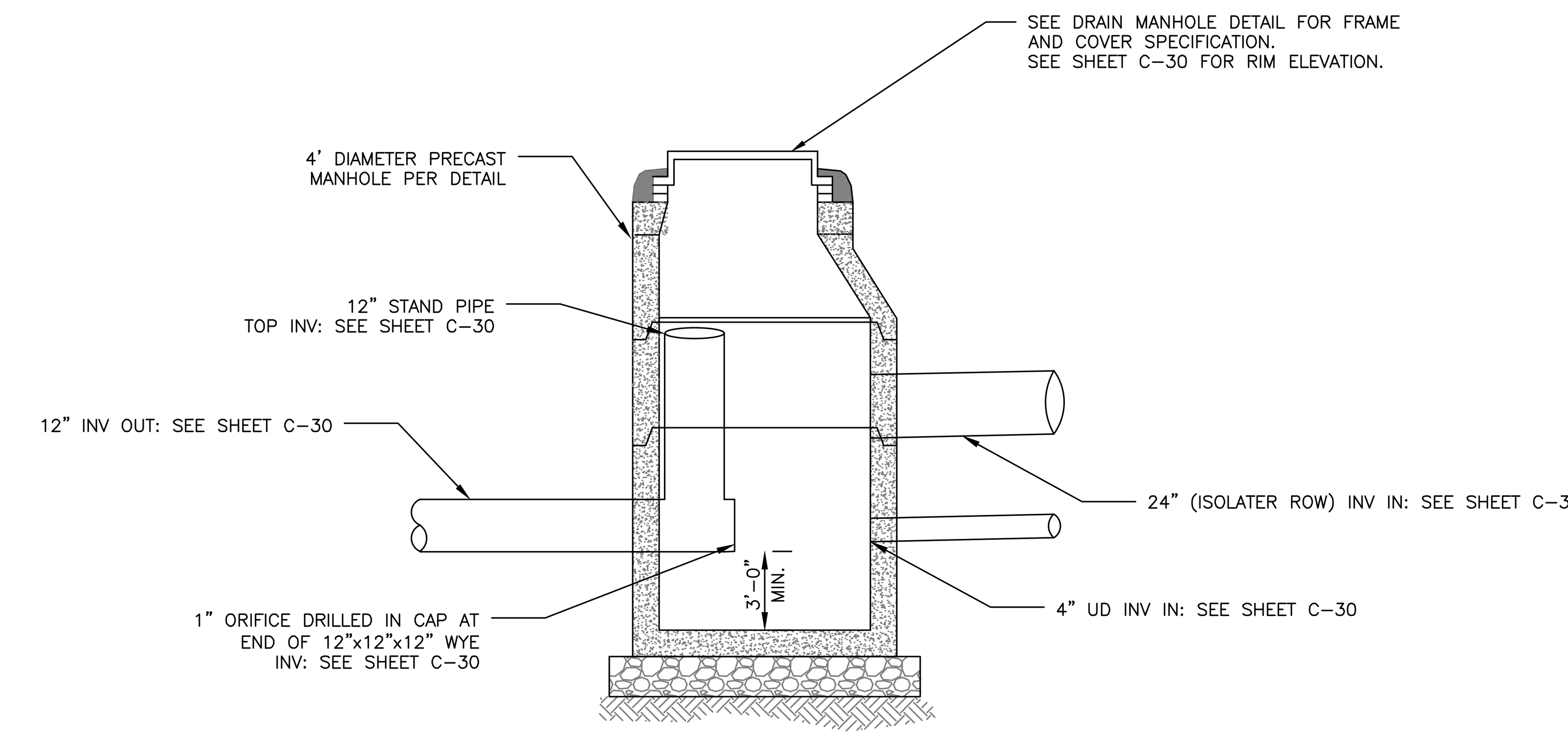
1. THE LAYOUT AND DIMENSION OF THE SUBSURFACE DETENTION MAY BE MODIFIED WITH AN ENGINEER APPROVED EQUIVALENT WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT.
2. THE SUBSURFACE DETENTION SHALL BE INSPECTED BY THE DESIGN ENGINEER AT THE FOLLOWING INTERVALS:
   - AFTER PRELIMINARY CONSTRUCTION OF THE SUBSURFACE DETENTION GRADES
   - ONE SITE VISIT DURING THE INSTALLATION OF THE IMPERVIOUS LINER
   - ONE SITE VISIT AFTER THE UNDERDRAINS ARE INSTALLED BUT BEFORE THEY ARE BACKFILLED
   - DURING THE CONSTRUCTION OF THE SAND FILTER LAYER
   - DURING THE INSTALLATION OF THE STORMTECH ISOLATOR ROW
   - BEFORE BACKFILLING THE STORMTECH UNITS
3. THE FIRST YEAR OF MAINTENANCE SHALL BE PERFORMED BY THE MANUFACTURER TO ENSURE THAT THE SYSTEM IS OPERATING ACCORDING TO THE ESTABLISHED SPECIFICATIONS.
4. REFERENCE THE MANUFACTURER'S GUIDE FOR THE OPERATION AND MAINTENANCE PLAN.



STORMTECH SC–740 10" (250 mm) INSPECTION PORT DETAIL
NOT TO SCALE



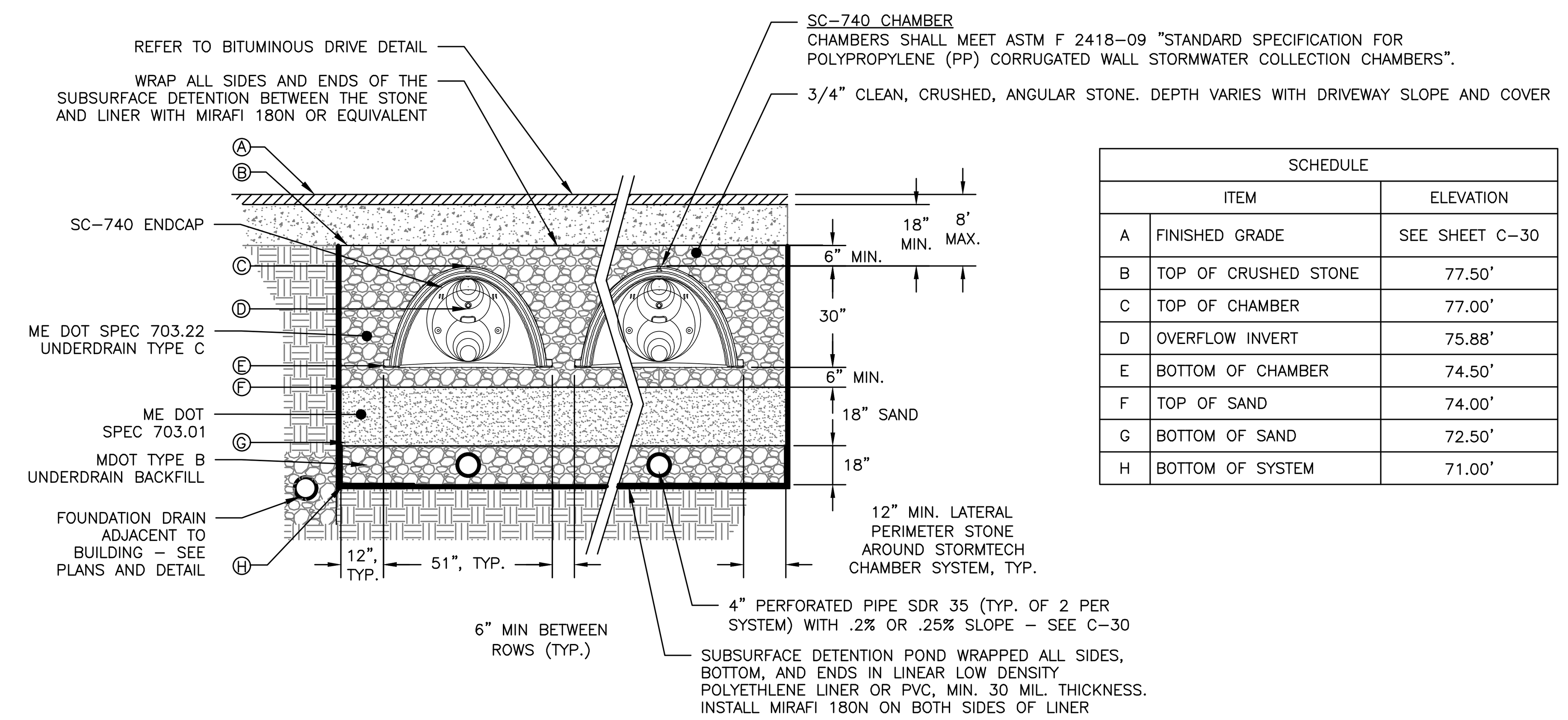
ISOLATOR ROW – PROFILE VIEW
NOT TO SCALE



OUTLET CONTROL STRUCTURE
NOT TO SCALE

NOTES:

1. REFER TO THE MAINE DEP TECHNICAL DESIGN MANUAL SECTION 7.3 FOR ADDITIONAL DESIGN DETAILS.
2. COMPACT SAND LAYER IN 6" LIFTS TO 92% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D–1557



SCHEDULE

	ITEM	ELEVATION
A	FINISHED GRADE	SEE SHEET C–30
B	TOP OF CRUSHED STONE	77.50'
C	TOP OF CHAMBER	77.00'
D	OVERFLOW INVERT	75.88'
E	BOTTOM OF CHAMBER	74.50'
F	TOP OF SAND	74.00'
G	BOTTOM OF SAND	72.50'
H	BOTTOM OF SYSTEM	71.00'

UNDERDRAINED SUB–SURFACE SAND FILTER TYPICAL CROSS SECTION
NOT TO SCALE

ISOLATOR ROW PLUS INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

ISOLATOR ROW NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24

DRAWING NAME: STORMWATER BMP DETAILS

PROJECT NAME: WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

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JN:	1200
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DESIGNED BY:	PFH
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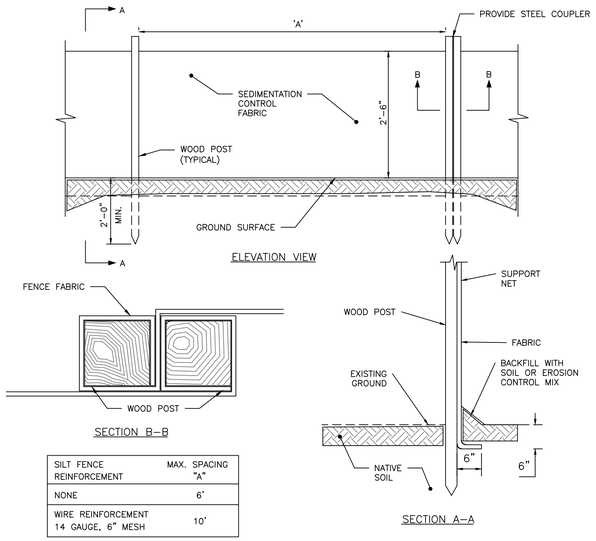
STATE OF MAINE
PETER F. HEIL
15318
LICENSED
PROFESSIONAL ENGINEER
2/7/24

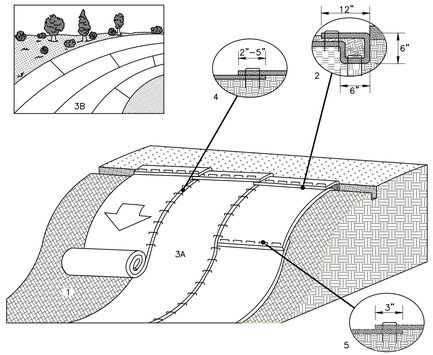
DRAWING NO.
C-46



SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

SILTATION FENCE DETAIL

NOT TO SCALE



SLOPE INSTALLATION DETAIL

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (ECB), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE ECB IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF ECB EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE ECB WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF ECB BACK OVER THE SEED AND COMPACTED SOIL. SECURE ECB OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE ECB.
3. ROLL THE ECB (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. ECB WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL ECB MUST BE STAPLED WITH APPROXIMATELY 2" – 5" OVERLAP DEPENDING ON THE ECB TYPE.
5. CONSECUTIVE ECB SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE ECB WIDTH.

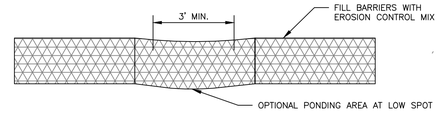
NOTE:
IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE ECB.

EROSION CONTROL BLANKET SLOPE INSTALLATION

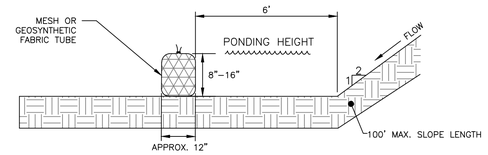
NOT TO SCALE

NOTES:

1. FULL CONTACT WITH THE GROUND IS CRITICAL TO PREVENT SHORT CIRCUITING UNDER THE TUBE – THE GROUND SURFACE SHOULD BE SMOOTH AND LEVEL. IN WOODED AREAS, PROTRUDING ROOTS AND DEBRIS MAY NEED TO BE REMOVED. IN GRASSED AREAS, THE GRASS NEEDS TO BE EITHER MOWED OR COMPRESSED DOWN.
2. STAKING MAY BE NECESSARY ON STEEP SLOPES.
3. UPON FINAL STABILIZATION, THE TUBE CAN BE CUT OPEN AND THE MATERIAL SPREAD OUT ONTO THE GROUND. THE MESH MATERIAL SHOULD BE REMOVE.
4. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE COMPOST FILTER SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE, IMPROVING FILTRATION AND SEDIMENT RETENTION.



FRONT VIEW



SIDE VIEW

FILTER SOCK DETAIL

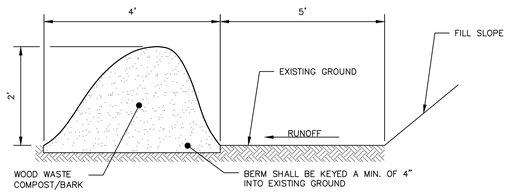
NOT TO SCALE

NOTES:

1. THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DOT CHAPTER 700, SECTION 717.04(D):

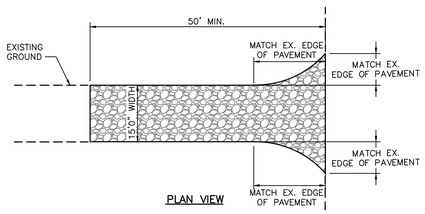
1.1. pH BETWEEN 5.0 – 8.0
1.2. PARTICLE SIZE (BY WEIGHT):
1.2.1. 100% PASSING A 150 MM (6 IN) SCREEN
1.2.2. 75 TO 85% PASSING A 19 MM (0.75 IN) SCREEN
1.3. SOLUBLE SALTS CONTENT < 4.0 MMHOS/CM
1.4. ORGANIC MATTER 20 TO 100% , DRY WEIGHT BASIS

2. THE BERM SHOULD BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR, WHEN NECESSARY THE BERM MAY BE PLACED PERPENDICULAR TO THE SLOPE ALONG THE PROPERTY LINE TO CONTAIN THE SEDIMENT PROVIDED A BERM IS LOCATED AT THE BASE OF THE SLOPE.
3. THE BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
4. WHERE A BERM IS USED AT THE BASE OF A SLOPE GREATER THAN 8%, ANOTHER MEASURE SHALL BE USED IN CONJUNCTION WITH A BERM, SUCH AS A SILT FENCE.
5. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED OFFSITE OR BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.

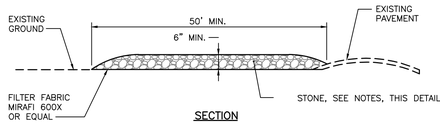


EROSION CONTROL MIX BERM DETAIL

NOT TO SCALE



PLAN VIEW



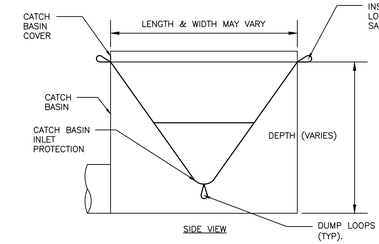
SECTION

NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"–3" COARSE AGGREGATE
3. CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.
4. WHEN NECESSARY, ON-SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.
5. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAY

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



NOTES:

1. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED DOWNGRADIENT OF PROPOSED PROJECT AND ROUTINELY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. CATCH BASIN SIZE VARIES. CONTRACTOR TO ENSURE CATCH BASIN INLET PROTECTION MATCHES CATCH BASIN DIMENSIONS.
3. SILT SACK SHALL BE ACF ENVIRONMENTAL SILT SACK, TYPE A, OR APPROVED EQUAL.

CATCH BASIN INLET PROTECTION

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
CSS	PFH	12/1/23
MAJOR SITE PLAN	PFH	12/21/23

DRAWING NAME: **EROSION & SEDIMENTATION CONTROL** DETAILS

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT:
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
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SCALE:	AS NOTED
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DRAWN BY:	DSH
CHECKED BY:	WHS

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PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER
12/21/23

DRAWING NO.
C-47

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 FILTER SOCKS SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE FILTER SOCKS SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE SOCKS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE SOCKS, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 MUD AND DUST FROM THE SITE TRACKED ONTO WOODFORD STREET AND BEACON STREET SHALL BE REMOVED BY VACUUMING, PRIOR TO A PREDICTED RAIN EVENT, AND AS OTHERWISE DEEMED NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM, LIMED, AND MULCHED. EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.1 OF THIS REPORT.
1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.
1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 90% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED UNSTABILIZED.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS, FILTER SOCKS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 90% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.

- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 90% F THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.

- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

- A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WORKING WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST OF 0.5 INCHES OF RAIN OR SNOWMELT WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED. THE SCOPE OF INSPECTIONS INCLUDE DISTURBED AND IMPERVIOUS AREAS, MATERIAL STORAGE AREAS, VEHICLE ACCESS POINTS & ANY OTHER EROSION CONTROL MEASURES NOT DIRECTLY LISTED. THE CONTRACTOR SHALL PERFORM REPAIRS AS NEEDED TO ENSURE EROSION CONTROL MEASURES PERFORM AS DESIGNED. IF CORRECTIVE ACTION IS REQUIRED, THE REPAIR WORK SHALL BE STARTED BY NO LATER THAN THE END OF THE FOLLOWING WORKDAY AND COMPLETED WITHIN ONE WEEK, OR BEFORE THE NEXT PREDICTED "STORM EVENT." THE CONTRACTOR SHALL PROVIDE ALL NECESSARY REGULATING AGENCIES WITH WRITTEN DOCUMENTATION DESCRIBING INSPECTION DATES AND NECESSARY WORK TO MAINTAIN EROSION CONTROL MEASURES MEETING THE REQUIREMENTS SPECIFIED IN THIS PLAN SET.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 THE APPLICANT BEARS THE RESPONSIBILITY OF MAINTAINING FOR AT LEAST FIVE (5) YEARS, THE INSPECTION FORMS AND DOCUMENTATION OF CORRECTIVE ACTIONS TAKEN DURING CONSTRUCTION.

5.7 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: PETER HEIL, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

Ø MAINE PROFESSIONAL ENGINEERING LICENSE #15318
Ø MAINE DEP – CERTIFIED IN MAINTENANCE & INSPECTION OF STORMWATER BMP'S CERT
Ø MAINE DEP – CERTIFIED THIRD–PARTY INSPECTOR
Ø CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #7071

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. RELOCATE EXISTING UTILITIES.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

SEEDING PLAN

SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P205–K20) OR EQUIVALENT. FERTILIZER SHALL NOT BE APPLIED TO INFILTRATION BASIN ONCE AMENDED.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

PERMANENT SEED APPLICATION RATES

SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

MULCHING

MULCH SHALL BE HARDWOOD AND APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT. REFER TO DETAIL FOR MORE INFORMATION.

CONCLUSION

PLEASE REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION PERTAINING TO TEMPORARY SEEDING AND MULCHING.

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.

   NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1–800–482–0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1–800–452–4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

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.

   SEE APPENDIX D FOR LICENSE BY RULE STANDARDS FOR INFILTRATION OF STORMWATER.

   NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465–C(1).

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.

   NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

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.

   NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST–CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

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 PONDED 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.

   NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

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.

PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23

DRAWING NAME: **EROSION & SEDIMENTATION CONTROL** NOTES

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

A C O R N ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775–2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
LICENSED
PROFESSIONAL ENGINEER
12/21/23

DRAWING NO.
C-48

SPACE AND BULK STANDARDS

ZONE: B2 – COMMUNITY BUSINESS	REQUIRED	EXISTING	LOT 1	PROPOSED LOT 2	PROPOSED LOT 3
MIN. LOT AREA	NONE	83,811 SF	37,289 SF	27,883 SF	18,641 SF
MIN. LOT AREA PER DWELLING UNIT (OFF–PENINSULA)*	1,000 SF / UNIT 400 SF/ UNIT*	N/A	N/A	753*	444*
BUILDING (PRINCIPAL): MAX. FRONT SETBACK	10'**	46.10'	EX. 46.10'	45.61'	3.78'
BUILDING MIN. SIDE SETBACK	NONE	11.56'	11.56'	0'	5.67'
BUILDING MIN. REAR SETBACK	10' 0'*	24.42'	24.42'	16.55'	20.05'
BUILDING MIN. SIDE STEPBACK ABOVE 35'	5'	–	–	N/A	N/A
BUILDING MIN. REAR STEPBACK ABOVE 35'	15'	–	–	N/A	N/A
MIN. STREET FRONTAGE	20'	628.22'	369.13'	152.56'	106.52'
LOT COVERAGE	N/A	24.1%	28.3%	37.0%	44.0%
MAX. BUILDING HEIGHT	45' 70'*	N/A	N/A	41.96'	46.76'*
IMPERVIOUS SURFACE RATIO	RESIDENTIAL: NONE	75.3%	66.0%	75.1%	88.3%

* PER CITY OF PORTLAND LAND USE CODE, TABLE 18–C: BONUSES FOR ELIGIBLE PROJECTS: (75% LOW INCOME UNITS GRANTS A 2.5X BONUS DENSITY FROM THE BASE OF 1,000 SF/UNIT TO 400 SF/UNIT) & (GRANTS 10' SETBACK REDUCTIONS) & (GRANTS AN ADDITIONAL 25' BUILDING HEIGHT).

PARKING SUMMARY

	UNITS	SPACES REQUIRED	EXISTING	PROPOSED	PROPOSED EV
MULTIFAMILY	79	1 SPACE PER DWELLING UNIT = 79 SPACES*	–	–	–
PLACES OF ASSEMBLY	APPROX. 5,200SF FLOOR AREA	1 SPACE PER 150 SF OF FLOOR AREA = 35 SPACES	–	–	–
ADA (8'X18')	–	–	5	2	–
ADA (11'X20')	–	–	–	1	1
STANDARD (9'X18')	–	–	36	10	–
LOW TURNOVER (8.5' X 18')	–	–	0	37	12
COMPACT (8' X 15')	–	–	–	3	–
PARALLEL (8' X 20')	–	–	3	4	–
ANGLED 60° (9' X 18')	–	–	41	0	–
TOTAL SPACES	–	114*	85	57*	13

* PER THE CITY OF PORTLAND LAND USE CODE, TABLE 19–B: CATEGORICAL EXCEPTIONS TO OFF–STREET PARKING MINIMUMS.
1. NO OFF STREET PARKING SHALL BE REQUIRED FOR NON RESIDENTIAL USES IN THE B–2 ZONE.
2. NO OFF–STREET PARKING SHALL BE REQUIRED WITHIN 1/4 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.
3. AFFORDABLE HOUSING: THE PLANNING BOARD MAY ESTABLISH A PARKING REQUIREMENT WITHIN THAT IS LESS THAN 1 SPACE PER AFFORDABLE HOUSING UNIT REGARDLESS OF SIZE OF STRUCTURE
** IN ACCORDANCE WITH SECTION 14.6.1 OF THE CITY OF PORTLAND LAND USE CODE, AND SECTION 1.14 OF THE PORTLAND TECHNICAL MANUAL, NEW PARKING LOTS WITH FIVE OR MORE SPACES SHALL INCLUDE ENERGIZED ELECTRICAL OUTLETS OR INSTALLED CHARGERS CAPABLE OF PROVIDING LEVEL 2 ELECTRIC VEHICLE CHARGING OR HIGHER TO 20% OF PARKING SPACES. REMAINING SPACES MUST BE SERVED BY SUFFICIENT CONDUIT, WIRING, AND ELECTRICAL SERVICE TO ALLOW FOR FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT.

GENERAL NOTES:

1. FOR INFORMATION REGARDING THE PROPOSED SITE, UTILITIES, AND GRADING, REFER TO THE SITE PLAN, C–10, C–20, C–30, MOST RECENT VERSION.
2. AS OF 12/18/2023, THE SITE IS BOUNDED BY THE B2 ZONE.
3. EXISTING PROPERTY LINES OBTAINED FROM THE PLAN TITLED "ALTA / NSPS LAND TITLE SURVEY" PREPARED BY OWEN HASKELL, INC. DATED 3/10/2022 AND LAST REVISED 10/12/2023.
4. LOCUS PARCELS DO NOT FALL IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP COMMUNITY–PANEL NUMBER 2300510013B, INDEX DATED 7/17/1986.
5. THIS SHEET IS THE SUBDIVISION PLAT FOR THE CREATION OF UP TO SEVENTY–NINE (79) DWELLING UNITS ON THE SUBJECT PROPERTIES.
6. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SIDEWALKS, STORMWATER DEVICES, SITE LIGHTING, TRASH REMOVAL, RETAINING WALLS, AND SNOW REMOVAL.
7. FINAL PROPERTY LINES, LOT AREAS, AND EASEMENT METES & BOUNDS COMPLETED BY ACORN ENGINEERING, INC.
8. BEARINGS SHOWN HEREON ARE IN REFERENCE TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802–NAD83.
9. ELEVATIONS DEPICTED HEREON ARE IN REFERENCE TO THE CITY OF PORTLAND VERTICAL DATUM WHICH APPROXIMATES THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

APPROVED: PORTLAND PLANNING AUTHORITY
STAFF: DATE:

EASEMENT 'A' TABLE

LINE	BEARING	DISTANCE
L30	S88°35'05"W	35.06'
L31	S17°32'23"W	17.37'
L32	S1°38'51"E	131.78'
L33	S88°33'23"W	7.90'
L34	S1°26'37"E	26.23'
L35	S89°02'13"W	75.22'
L36	N0°57'47"W	47.01'
L37	S89°02'13"W	24.88'
L38	N1°05'38"W	20.27'
L39	S89°02'15"W	12.70'
L40	N1°23'29"W	3.26'
L41	S88°36'31"W	2.37'
L42	S1°19'26"E	34.12'
L43	N88°26'43"E	4.40'
L44	S1°33'17"E	24.40'
L45	S89°05'32"W	25.60'
L46	S1°11'16"E	17.25'
L47	S70°40'02"W	33.56'
L48	S81°05'45"W	8.44'
L49	S9°10'28"E	7.55'

EASEMENT 'A' TABLE

LINE	BEARING	DISTANCE
L50	S80°44'14"W	7.24'
L51	S9°22'15"E	5.29'
L52	S80°37'45"W	15.98'
L53	S79°44'33"W	26.51'
L54	S13°19'09"E	20.08'
L55	N81°23'14"E	92.74'
L56	S74°15'23"E	11.86'
L57	N89°02'09"E	188.00'
L58	N0°57'51"W	14.21'
L59	N44°02'05"E	6.36'
L60	N89°02'09"E	9.95'
L61	N1°05'13"W	14.00'
L62	S89°02'10"W	18.91'
L63	N46°20'35"W	6.32'
L64	N1°43'19"W	81.30'
L65	N43°16'41"E	2.12'
L66	N88°16'41"E	8.49'
L67	N1°43'26"W	85.00'
L68	S88°16'34"W	13.50'
L69	N46°43'26"W	6.36'

LOT 1

Line #	Length	Direction
L1	63.25'	S88° 35' 05"W
L2	92.73'	S75° 02' 05"W
L3	213.15'	S13° 57' 55"E
L4	92.14'	N81° 13' 33"E
L5	7.21'	S7° 41' 41"E
L6	227.27'	S89° 47' 55"E
L7	27.04'	N1° 06' 05"E
L8	60.93'	S88° 53' 59"W
L9	14.21'	N1° 16' 35"W
L10	113.79'	S88° 43' 25"W
L11	30.56'	N56° 33' 18"W
L12	41.10'	N1° 43' 54"W
L13	15.86'	N59° 05' 21"W
L14	122.68'	N1° 26' 52"W

LOT 2

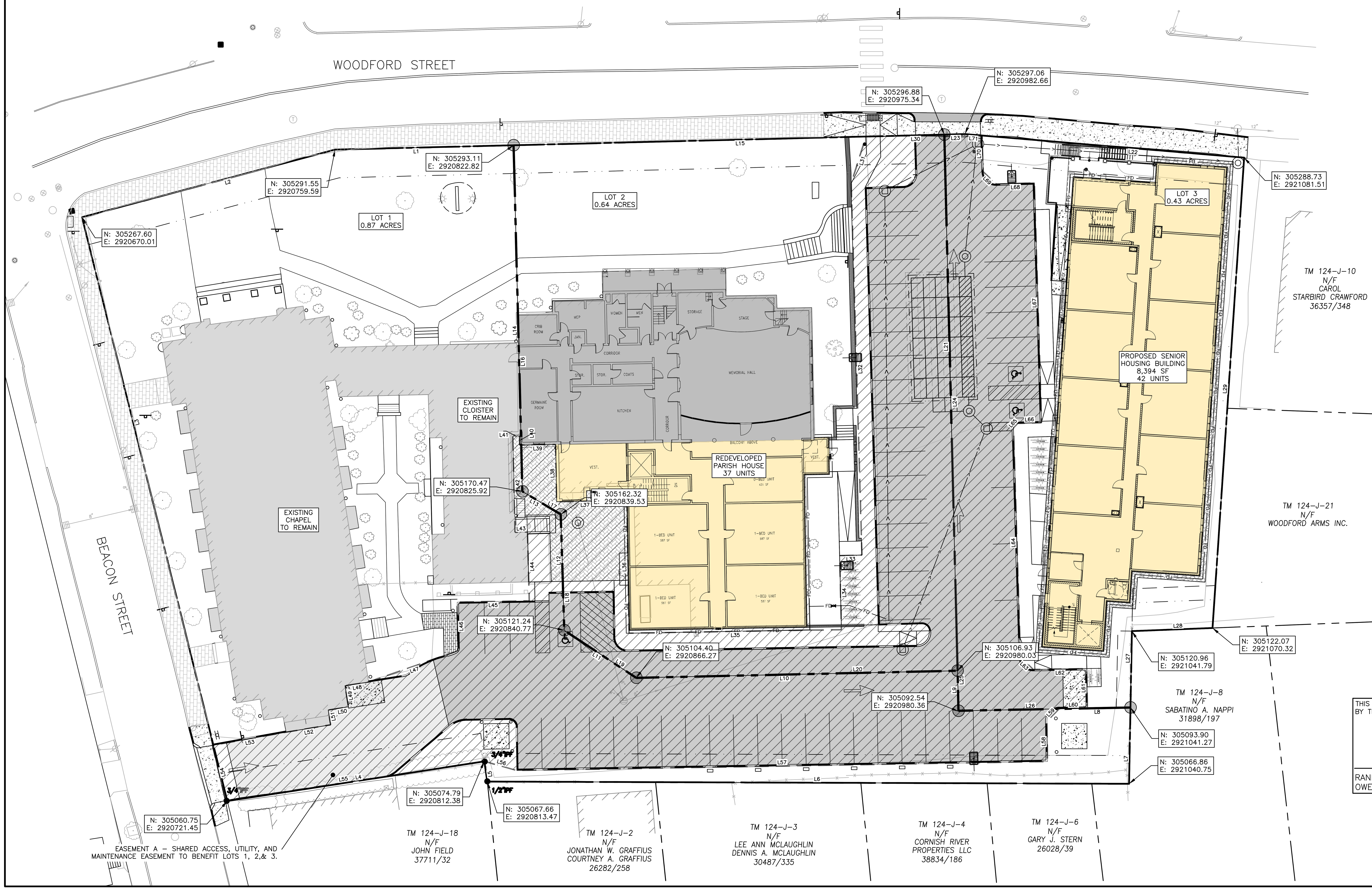
Line #	Length	Direction
L15	152.56'	S88° 35' 05"W
L16	122.68'	S1° 26' 52"E
L17	15.86'	S59° 05' 21"E
L18	41.10'	S1° 43' 54"E
L19	30.56'	S56° 33' 18"E
L20	113.79'	N88° 43' 25"E
L21	190.00'	N1° 24' 55"W

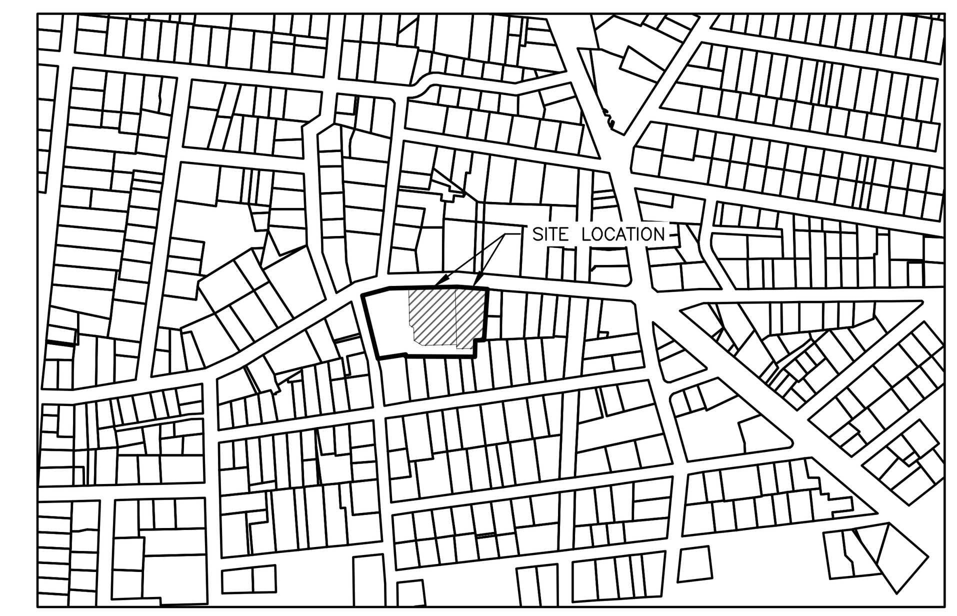
LOT 3

Line #	Length	Direction
L22	99.20'	N85° 10' 55"W
L23	7.32'	S88° 35' 05"W
L24	190.00'	S1° 24' 55"E
L25	14.21'	S1° 16' 35"E
L26	60.93'	N88° 53' 59"E
L27	27.07'	N1° 06' 05"E
L28	28.55'	N87° 47' 20"E
L29	167.04'	N3° 50' 35"E

SURVEY GENERAL NOTES

1. OWNER OF RECORD: WOODFORDS CONGREGATIONAL CHURCH OF THE UNITED CHURCH OF CHRIST
CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 30671 PAGE 65
2. LOCUS IS SHOWN AS LOT 5 BLOCK J ON CITY OF PORTLAND'S ASSESSORS MAP 124.
3. BEARINGS ARE BASED ON CITY CONTROL POINTS SHOWN. BEARINGS ARE BASED ON CITY CONTROL POINTS SHOWN.
4. ELEVATIONS ARE BASED ON CITY DATUM. ELEVATIONS ARE BASED ON CITY DATUM.
5. THERE ARE 80 REGULAR SPACES AND 5 HANDICAP SPACES, FOR A TOTAL OF 85 PARKING SPACES.
6. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, BUILDING ADDITIONS, OR RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED.
7. NO PROPOSED CHANGES IN STREET LINES IS KNOWN BY THIS SURVEYOR.
8. THE SEWER SERVICE LOCATIONS ARE APPROXIMATE BASED ON CITY PLANS.





VICINITY MAP

SCALE: 1" = 500'

LEGEND

- PR. PAVEMENT
- EX. PAVEMENT
- CURB
- BUILDING
- CONCRETE
- PR. PROPERTY LINE
- EX. PROPERTY LINE
- NEW PROPERTY PIN

STATE OF MAINE, CUMBERLAND, ss
REGISTRY OF DEEDS

RECEIVED ____________

AT ____ hr. ____ min. ____ m AND RECORDED

IN PLAN BOOK ________, PAGE

ATTEST: ____________
REGISTER

THIS SURVEY CONFORMS TO THE CURRENT STANDARDS OF PRACTICE SET FORTH BY THE MAINE STATE BOARD OF LICENSURE FOR LAND SURVEYORS.

RANDY R. LOUBIER, MAINE P.L.S. #2407 DATE:
OWEN HASKELL, INC.

20 0 20 40
SCALE: 1"=20'

PERMITTING
NOT ISSUED FOR CONSTRUCTION

DEVELOPER:

COMMUNITY HOUSING OF MAINE
CONTACT: BRIAN KILGALLEN
PORTLAND, MAINE 04101
(207) 879–0347

CIVIL ENGINEER:

ACORN ENGINEERING, INC.
PORTLAND, MAINE
CONTACT: PETER F HEIL, P.E.
(207) 775–2655

SURVEYOR:

OWEN HASKELL, INC.
FALMOUTH, MAINE
CONTACT: RANDY R. LOUBIER, P.L.S.
(207) 774–0424

ISSUED FOR	BY / DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23

DRAWING NAME: **SUBDIVISION PLAT – 186 WOODFORD STREET PORTLAND**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT: COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

A C O R N — ENGINEERING, INC.

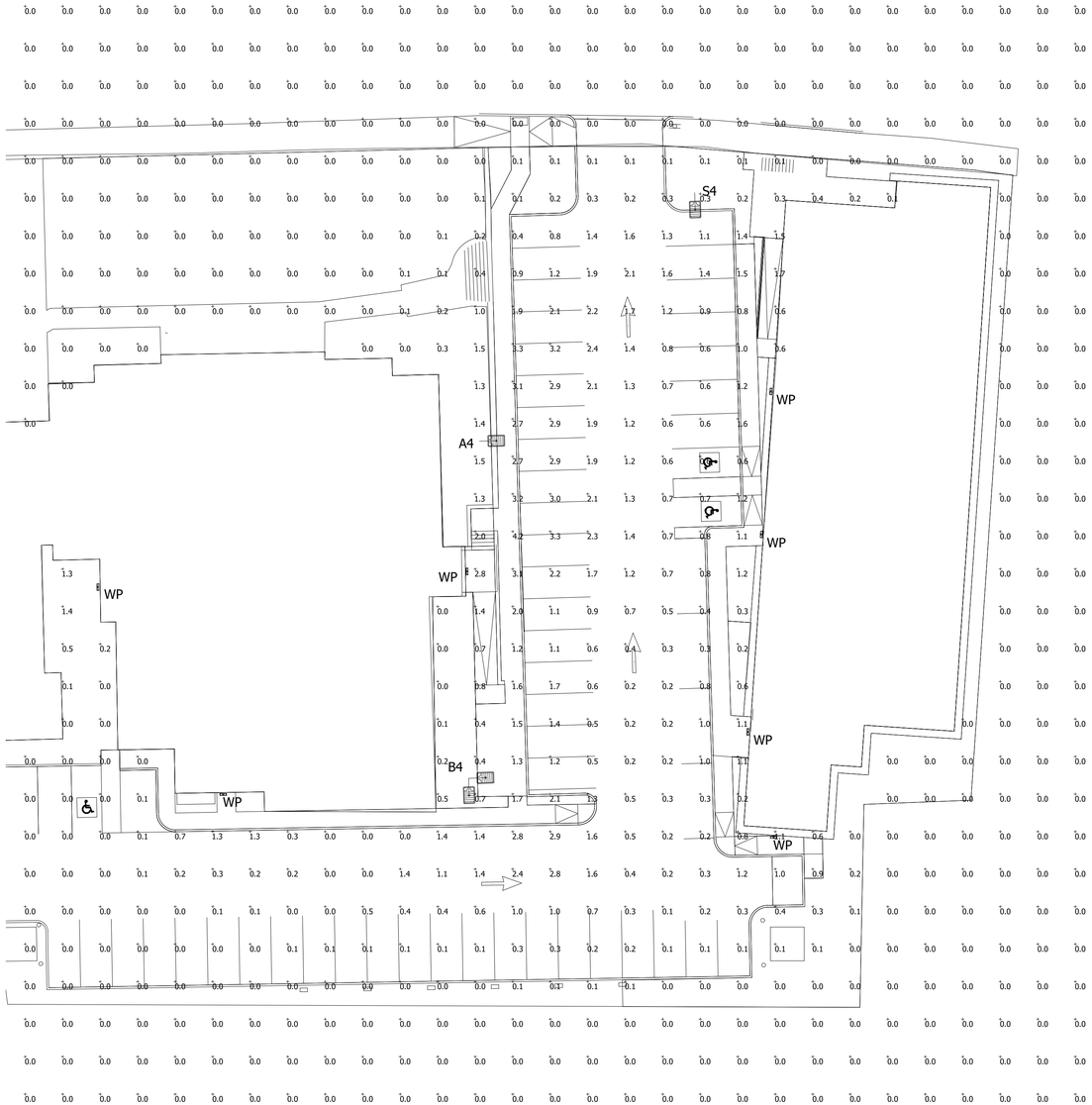
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775–2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

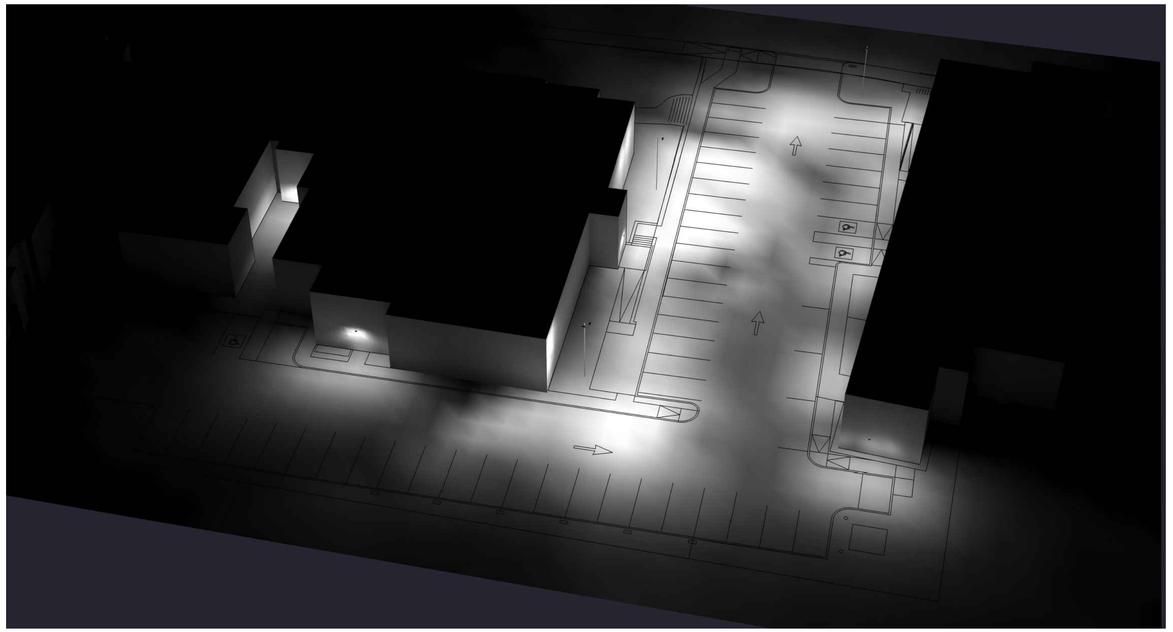
STATE OF MAINE PETER F. HEIL 15318 LICENSED PROFESSIONAL ENGINEER 12/21/23

DRAWING NO.
PLAT



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	1	A4	20' - 0" AFG	0.900	12364	100	VP-1-160L-100-3K7-4W
	1	B4	20' - 0" AFG	0.900	3328	35	VP-1-160L-35-3K7-4W-BC
	1	S4	20' - 0" AFG	0.900	3328	35	VP-1-160L-35-3K7-4W-BC
	7	WP	8' - 0" AFG	0.900	849	13	LNC-5LU-3K-4-X

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.21	4.2	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.01	0.1	0.0	N.A.	N.A.
Shared Parking Lot	Illuminance	Fc	1.09	3.3	0.1	10.90	33.00



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 - FT.

1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO CURRENT. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

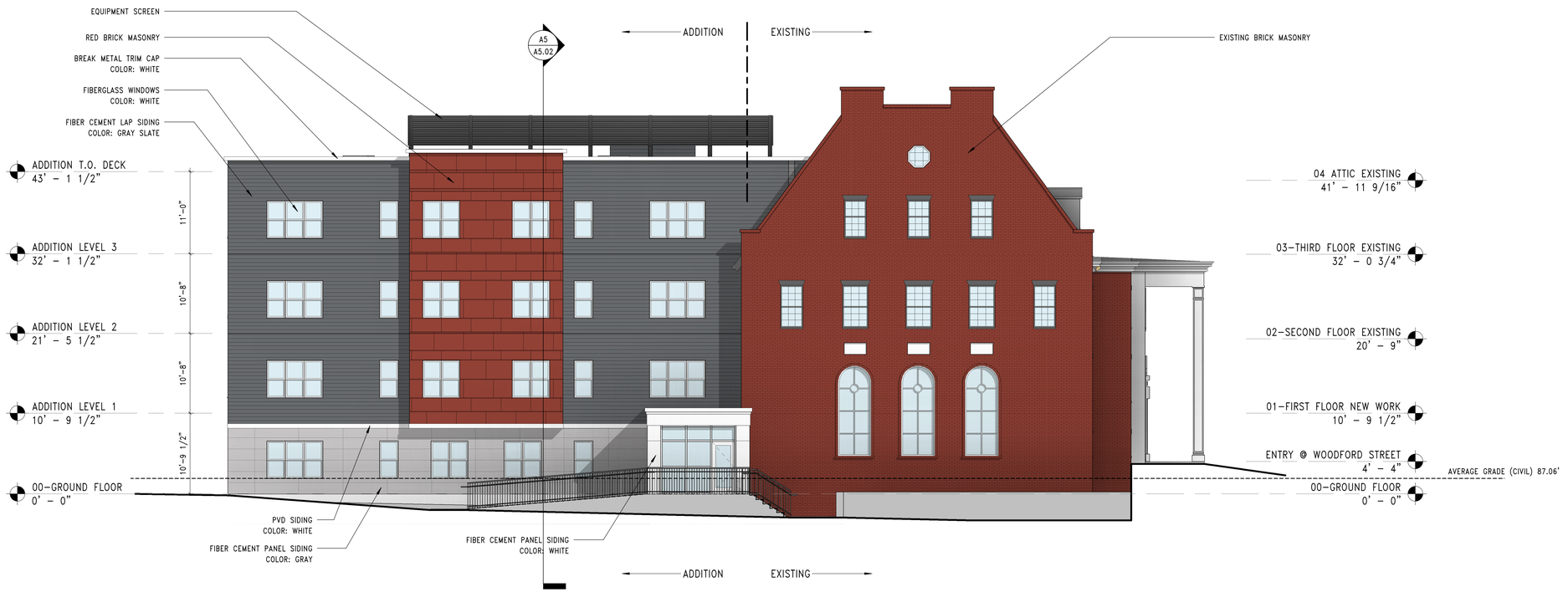
TITLE:

WOODFORD STREET AFFORDABLE HOUSING
PORTLAND, ME
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):	
R1: 12/18/23	
R2: 02/08/24	
R3: 02/16/24	

Current

DN BY: DHK	DATE: 12/12/23	CHK BY: N/A
REV. BY: DHK	DATE: 02/16/24	SCALE: AS NOTED
QUOTE: N/A	DRAWING / DESIGN NO.: A232358R3	



A3 EAST ELEVATION - SIDE PARKING LOT

REFERENCED FROM: LS1.10 SCALE: 1/8" = 1'-0"

A5 NORTH ELEVATION - WOODFORD STREET

REFERENCED FROM: LS1.10 SCALE: 1/8" = 1'-0"

C:\Users\KellyCarmichael\Documents\20058_WoodfordsParishHouse-CHOM_R23_CENTRAL_KCarmichaelSPEY2.rvt

CWS ARCHITECTURE + INTERIOR DESIGN

PLANNING + DESIGN CONSTRUCTION SERVICES

DESIGNER

CWS ARCHITECTURE + INTERIOR DESIGN
264 US ROUTE ONE, SUITE 100-2A
SCARBOROUGH, ME 04074
207 774 4441
CWSARCH.COM

OWNER

COMMUNITY HOUSING OF MAINE
1 City Ctr Ste 4, Portland, ME 04101

PROJECT

WOODFORDS PARISH HOUSE SENIOR APARTMENTS
202 Woodford Street, Portland, ME 04103

DRAWING

EXTERIOR ELEVATIONS
CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A3.00

SCALE: 1/8" = 1'-0"
DATE: 03/06/24

CM RFP

3/6/2024 2:26:01 PM

A3 WEST ELEVATION - CHURCH SIDE

REFERENCED FROM: LS1.00 SCALE: 1/8" = 1'-0"

A5 SOUTH ELEVATION - BACK PARKING LOT

REFERENCED FROM: LS1.10 SCALE: 1/8" = 1'-0"

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202 Woodford Street, Portland, ME 04103

DRAWING

EXTERIOR ELEVATIONS
CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A3.01

SCALE: 1/8" = 1'-0"
DATE: 03/06/24

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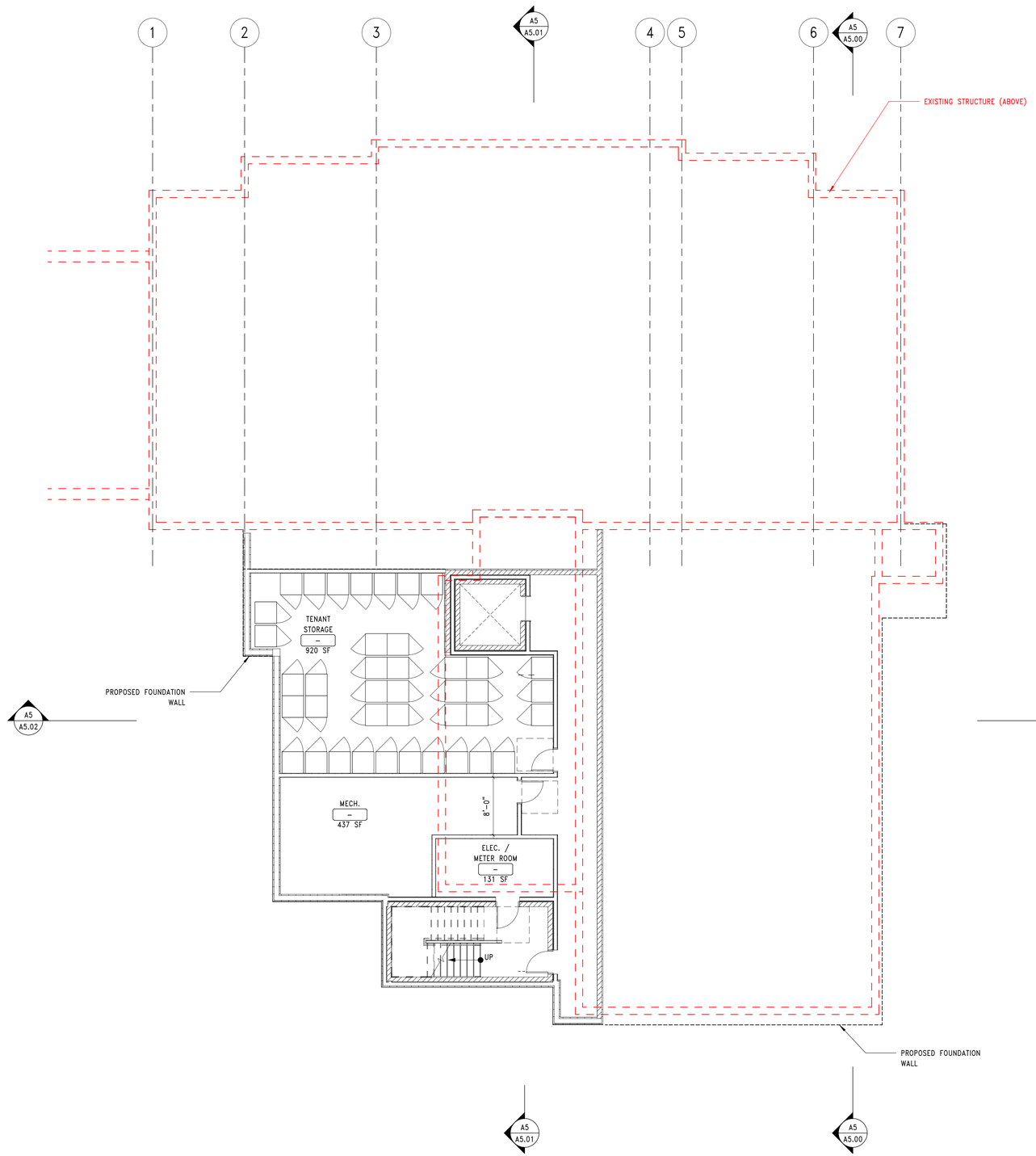

A5 ADDITION BASEMENT PLAN

REFERENCED FROM A3.00 SCALE 1/8" = 1'-0"

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PROJECT

WOODFORDS PARISH HOUSE SENIOR APARTMENTS
202 Woodford Street, Portland, ME 04103

DRAWING

PROPOSED BASEMENT PLAN
CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A1.B0

SCALE: 1/8" = 1'-0"
DATE: 03/06/24

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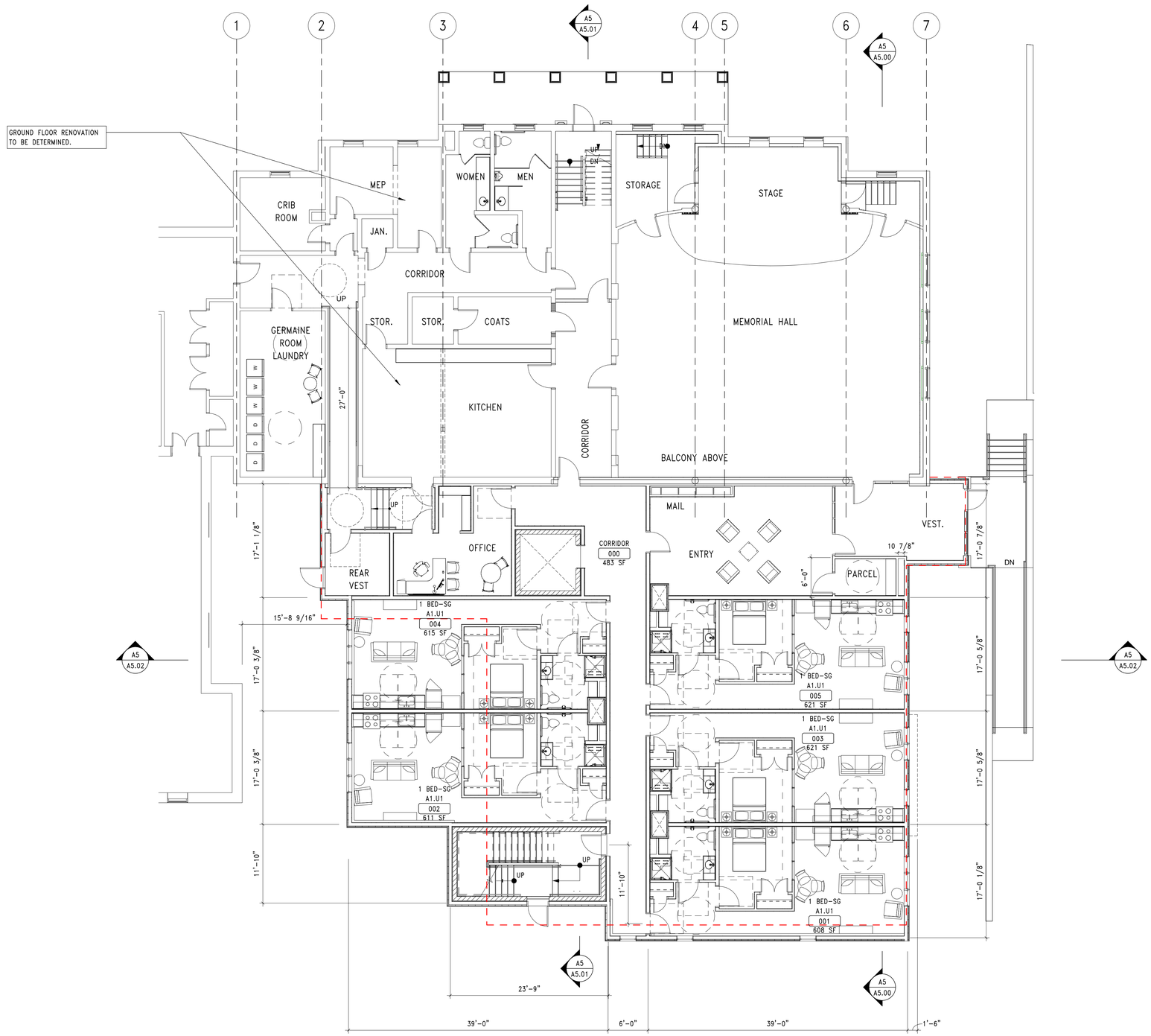

D5 GROUND FLOOR NEW WORK PLAN

REFERENCED FROM: A3.00 SCALE: 1/8" = 1'-0"

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PROJECT

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202 Woodford Street, Portland, ME 04103

DRAWING

GROUND FLOOR NEW WORK PLAN
CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A1.00

SCALE: 1/8" = 1'-0"
DATE: 03/06/24

CM RFP

3/6/2024 2:25:33 PM

A5 FIRST FLOOR NEW WORK PLAN

REFERENCED A3.00 SCAL 1/8" = 1'-0"

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PROJECT

WOODFORDS PARISH HOUSE SENIOR APARTMENTS

202 Woodford Street, Portland, ME 04103

DRAWING

FIRST FLOOR NEW WORK PLAN

CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING

A1.10

SCALE: 1/8" = 1'-0"

DATE: 03/06/24

CM RFP

3/6/2024 3:23:53 PM

A5 SECOND FLOOR NEW WORK PLAN

REFERENCED A3.00 SCAL 1/8" = 1'-0"

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202 Woodford Street, Portland, ME 04103

DRAWING

SECOND FLOOR NEW WORK PLAN
CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A1.20

SCALE: 1/8" = 1'-0"
DATE: 03/06/24

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CM RFP

A5 THIRD FLOOR NEW WORK PLAN

REFERENCED FROM A3.00 SCAL 1/8" = 1'-0"

C:\Users\kcarmichael\Documents\20058_WoodfordsParishHouse-CHOM_R23_CENTRAL_KCarmichaelSPEY2.rvt

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PROJECT

WOODFORDS PARISH HOUSE SENIOR APARTMENTS
202 Woodford Street, Portland, ME 04103

DRAWING

THIRD FLOOR NEW WORK PLAN

CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A1.30

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DATE: 03/06/24

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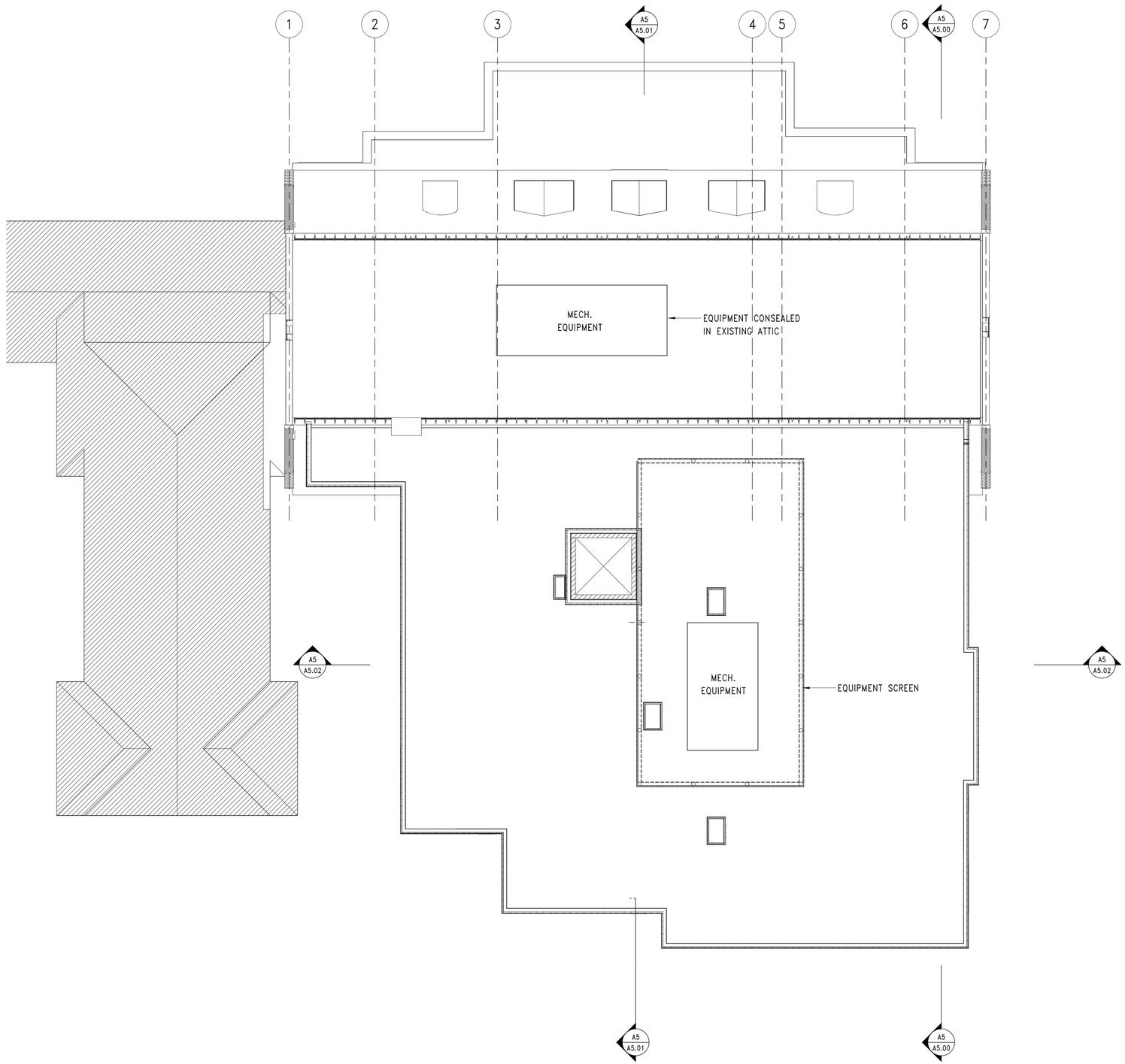

A5 | 04 ATTIC PLAN - NEW WORK

REFERENCED A3.00 SCAL 1/8" = 1'-0"

FROM:

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DESIGNER

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PROJECT

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202 Woodford Street, Portland, ME 04103

DRAWING

ATTIC PLAN NEW WORK

CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING

A1.A0

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DATE: 03/06/24

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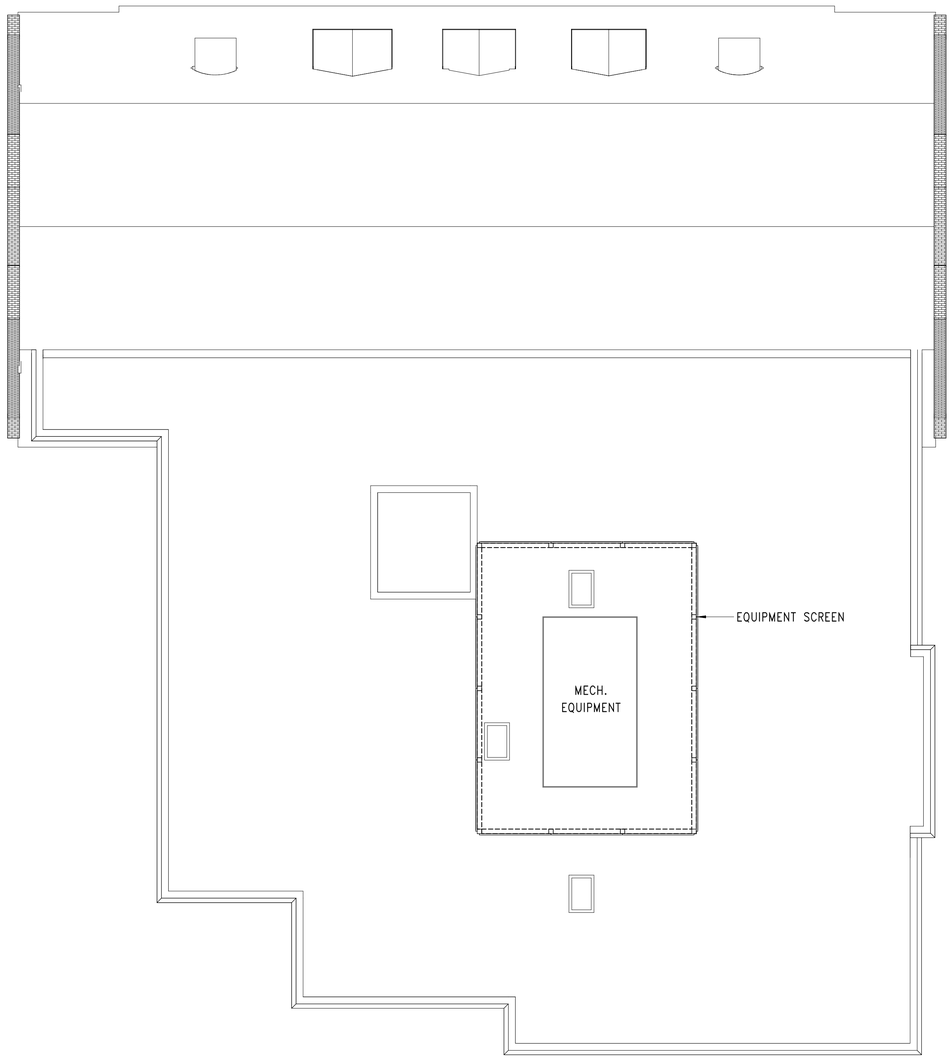

A5 ADDITION T.O. DECK

REFERENCED FROM: A3.00 SCAL 1/8" = 1'-0"

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1 City Ctr Ste 4, Portland, ME 04101

PROJECT

WOODFORDS PARISH HOUSE SENIOR APARTMENTS
202 Woodford Street, Portland, ME 04103

DRAWING

ROOF PLAN NEW WORK

CWS PROJECT NUMBER: 20058

REVISIONS

DRAWING
A1.R0

SCALE: 1/8" = 1'-0"
DATE: 12/22/23

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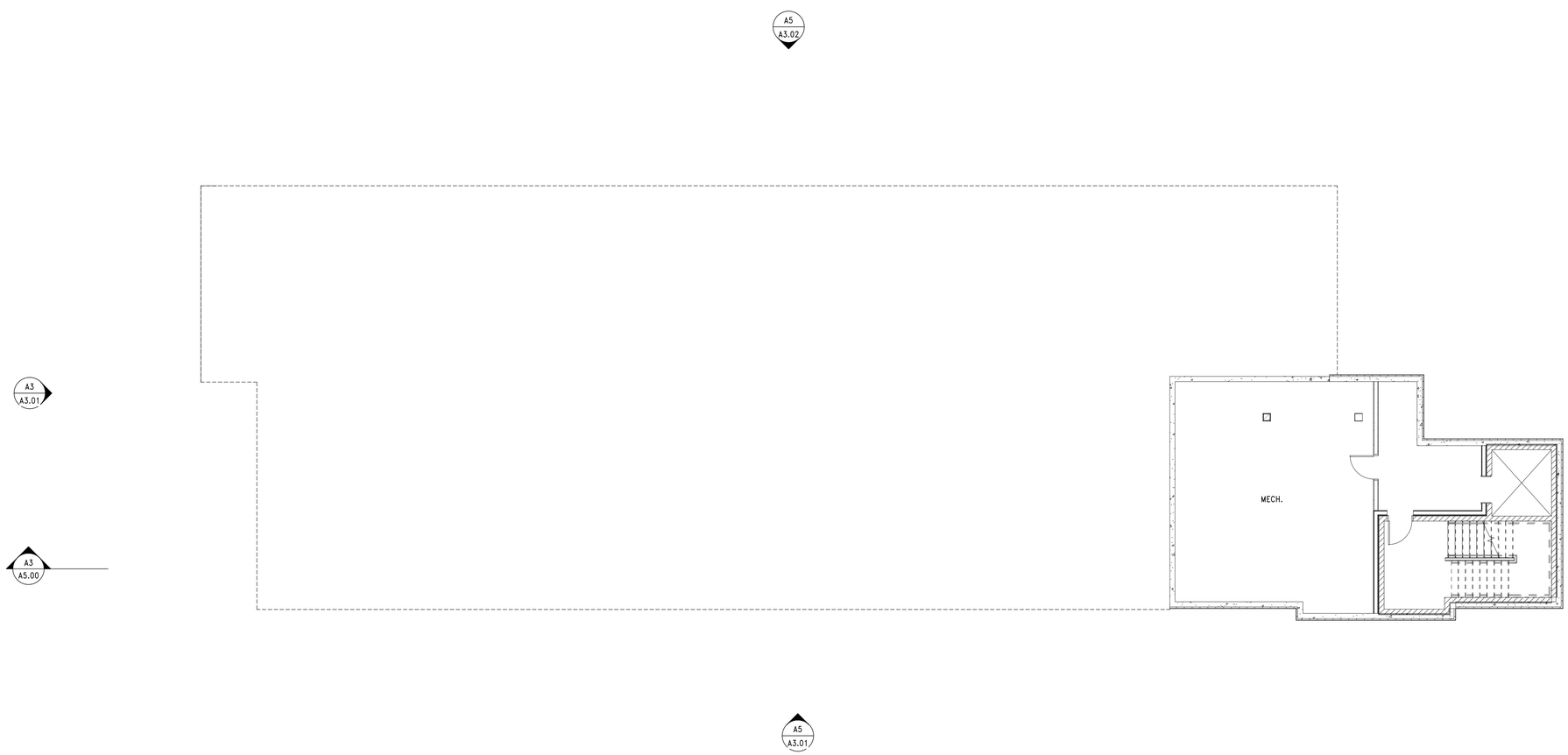
PROJECT STATUS



A5 MECH BASEMENT PLAN

REFERENCED A3.01 SCAL 1/8" = 1'-0"

FROM: E

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207 774 4441
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OWNER

COMMUNITY HOUSING OF MAINE

ONE CITY CENTER, 4TH FLOOR
PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS

202 WOODFORD STREET
PORTLAND, ME

DRAWING

BASEMENT PLAN

CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING

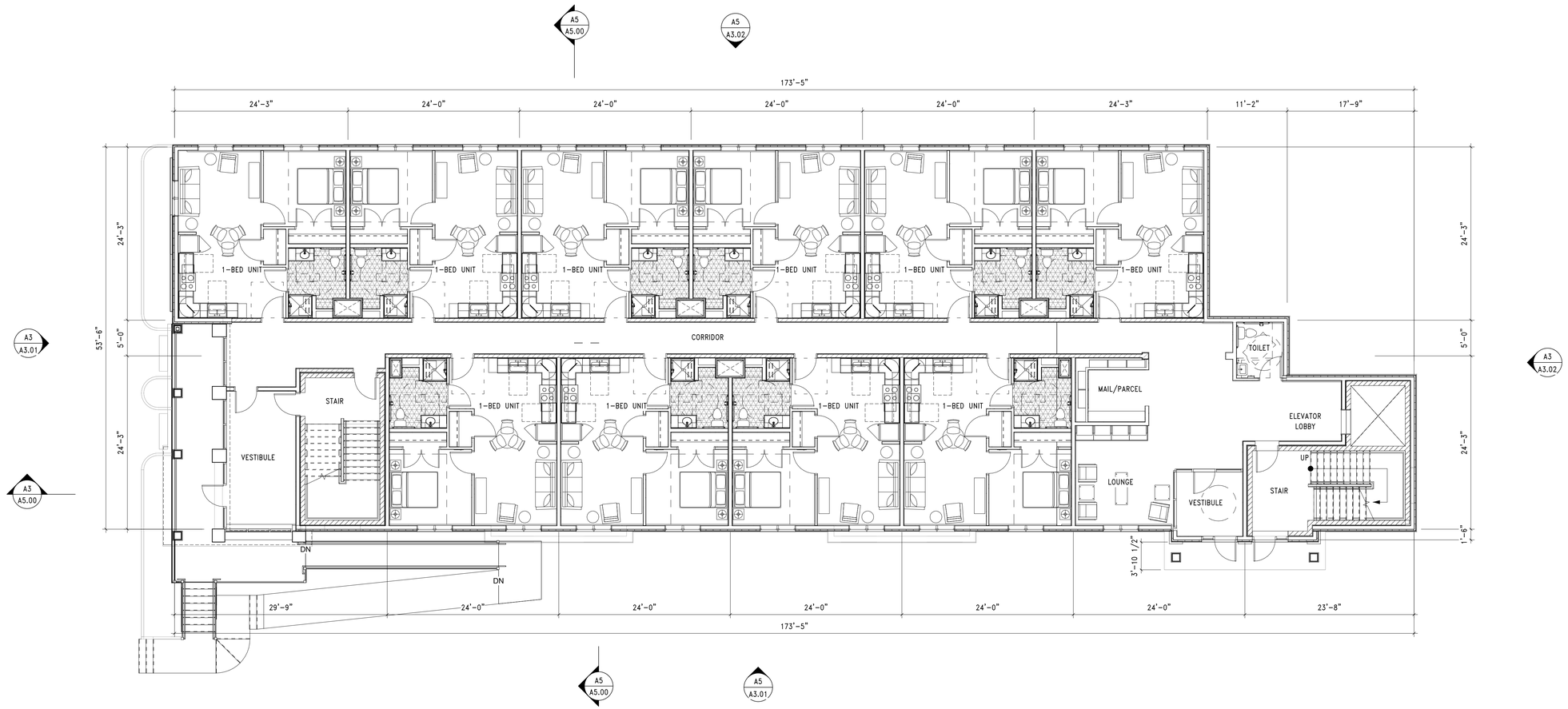
A1.00

SCALE: 1/8" = 1'-0"

DATE: 03/06/2024

3/6/2024 8:41:33 PM

CM RFP



A5 01-FIRST FLOOR

REFERENCED FROM: A3.01 SCAL E: 1/8" = 1'-0"

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207 774 4441
CWSARCH.COM

OWNER

COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR
PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS
202 WOODFORD STREET
PORTLAND, ME

DRAWING

FIRST FLOOR PLAN
CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING
A1.10

SCALE: 1/8" = 1'-0"
DATE: 03/06/2024

3/6/2024 3:45:19 PM

CM RFP

CWS ARCHITECTURE + INTERIOR DESIGN

PLANNING + DESIGN
CONSTRUCTION SERVICES

DESIGNER

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SCARBOROUGH, ME 04074
207 774 4441
CWSARCH.COM

OWNER

COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR
PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS
202 WOODFORD STREET
PORTLAND, ME

DRAWING

SECOND FLOOR PLAN
CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING
A1.20

SCALE: 1/8" = 1'-0"
DATE: 03/06/2024

3/6/2024 3:41:38 PM

A5 02-SECOND FLOOR
REFERENCED A3.01 SCAL 1/8" = 1'-0"

C:\Users\keegan.Carmichael\Documents\23056_WoodfordsNewSeniorApartments-CHOM_R23_CENTRAL_KCarmichaelSPEY2.rvt

CM RFP

A5 03-THIRD FLOOR

REFERENCED A3.01 SCAL 1/8" = 1'-0"

FROM:

C:\Users\KellyCarmichael\Documents\23056_WoodfordsNewSeniorApartments-CHOM_R23_CENTRAL_KCarmichaelSPEY2.rvt

CWS ARCHITECTURE + INTERIOR DESIGN

PLANNING + DESIGN CONSTRUCTION SERVICES

DESIGNER

CWS ARCHITECTURE + INTERIOR DESIGN
264 US ROUTE ONE, SUITE 100-2A
SCARBOROUGH, ME 04074
207 774 4441
CWSARCH.COM

OWNER

COMMUNITY HOUSING OF MAINE

ONE CITY CENTER, 4TH FLOOR
PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS

202 WOODFORD STREET
PORTLAND, ME

DRAWING

THIRD FLOOR PLAN

CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING

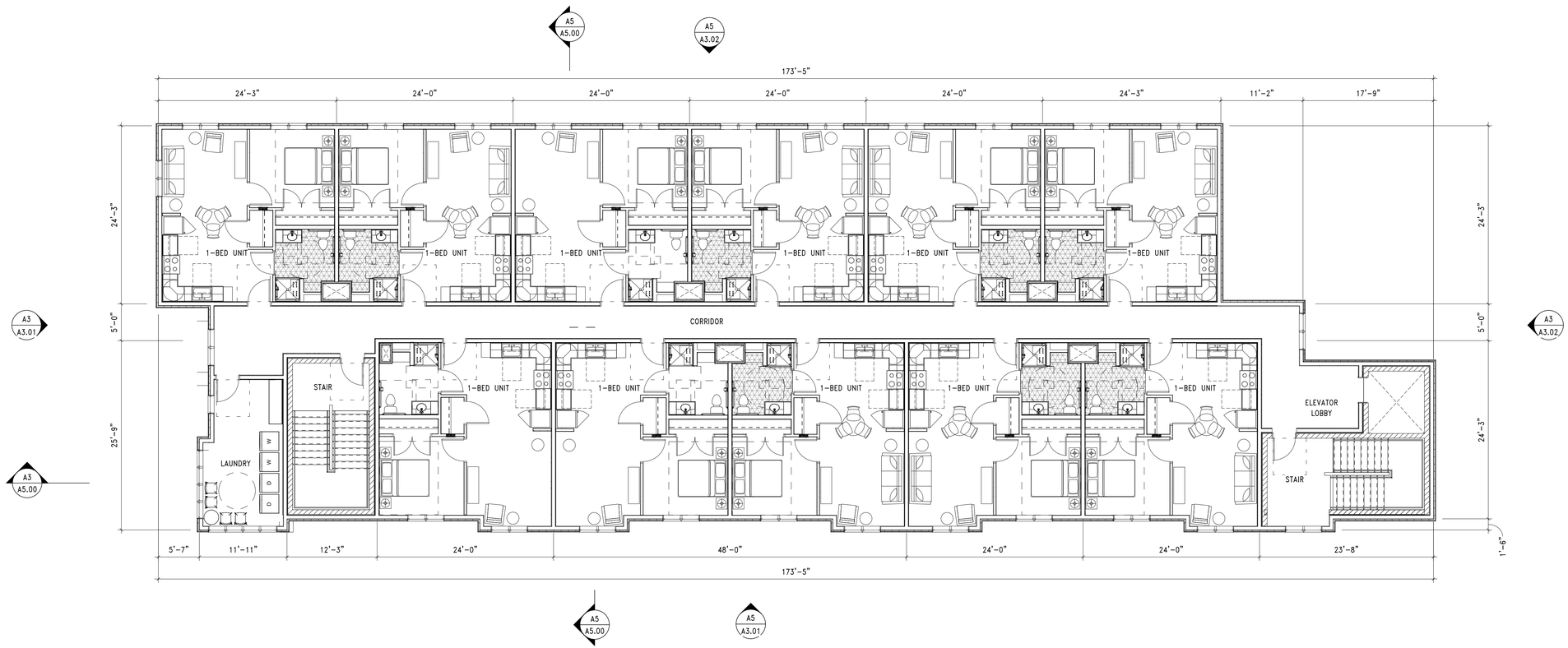
A1.30

SCALE: 1/8" = 1'-0"

DATE: 03/06/2024

3/6/2024 3:41:37 PM

CM RFP



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OWNER
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR
PORTLAND, ME 04101

PROJECT
WOODFORDS NEW SENIOR APARTMENTS
202 WOODFORD STREET
PORTLAND, ME

DRAWING
FOURTH FLOOR PLAN
CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING
A1.40

A5 04-FOURTH FLOOR
REFERENCED A3.01 SCAL 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"
DATE: 03/06/2024

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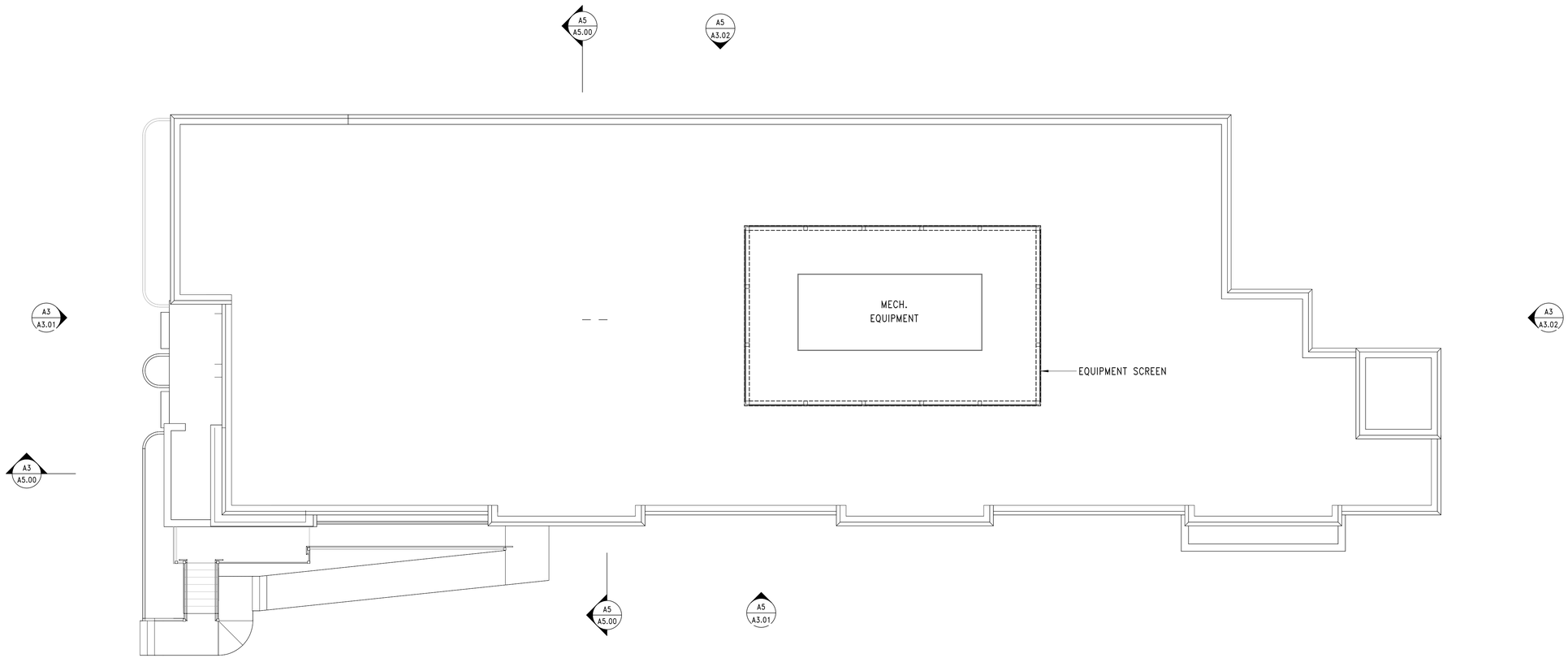

A5 ROOF PLAN

REFERENCED FROM: A3.01 SCAL E 1/8" = 1'-0"

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PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS
202 WOODFORD STREET
PORTLAND, ME

DRAWING

ROOF PLAN
CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING
A1.R0

SCALE: 1/8" = 1'-0"
DATE: 03/06/2024

3/6/2024 3:41:39 PM

CM RFP

A3 SOUTH ELEVATION - WOODFORD STREET

REFERENCED FROM: A1.00 SCALE: 1/8" = 1'-0"

A5 WEST ELEVATION - PARKING LOT

REFERENCED FROM: A1.00 SCALE: 1/8" = 1'-0"

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OWNER

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ONE CITY CENTER, 4TH FLOOR
PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS
202 WOODFORD STREET
PORTLAND, ME

DRAWING

EXTERIOR ELEVATIONS
CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING
A3.01

SCALE: 1/8" = 1'-0"
DATE: 03/06/2024

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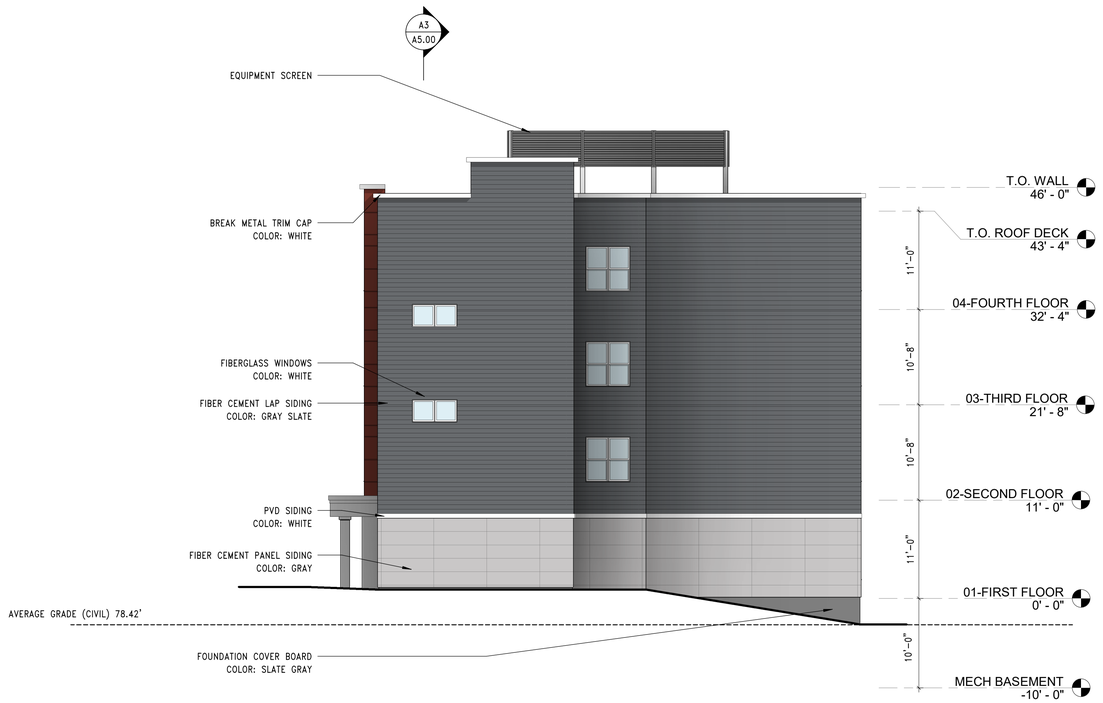

A3 NORTH ELEVATION - BACK PROPERTY LINE

REFERENCED FROM: A1.00 SCALE: 1/8" = 1'-0"

A5 EAST ELEVATION - SIDE PROPERTY LINE

REFERENCED FROM: A1.00 SCALE: 1/8" = 1'-0"

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CWS ARCHITECTURE + INTERIOR DESIGN

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PORTLAND, ME 04101

PROJECT

WOODFORDS NEW SENIOR APARTMENTS
202 WOODFORD STREET
PORTLAND, ME

DRAWING

EXTERIOR ELEVATIONS
CWS PROJECT NUMBER: 23056

REVISIONS

DRAWING
A3.02

SCALE: 1/8" = 1'-0"
DATE: 03/06/2024

CM RFP

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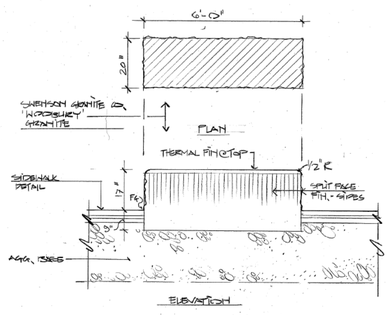
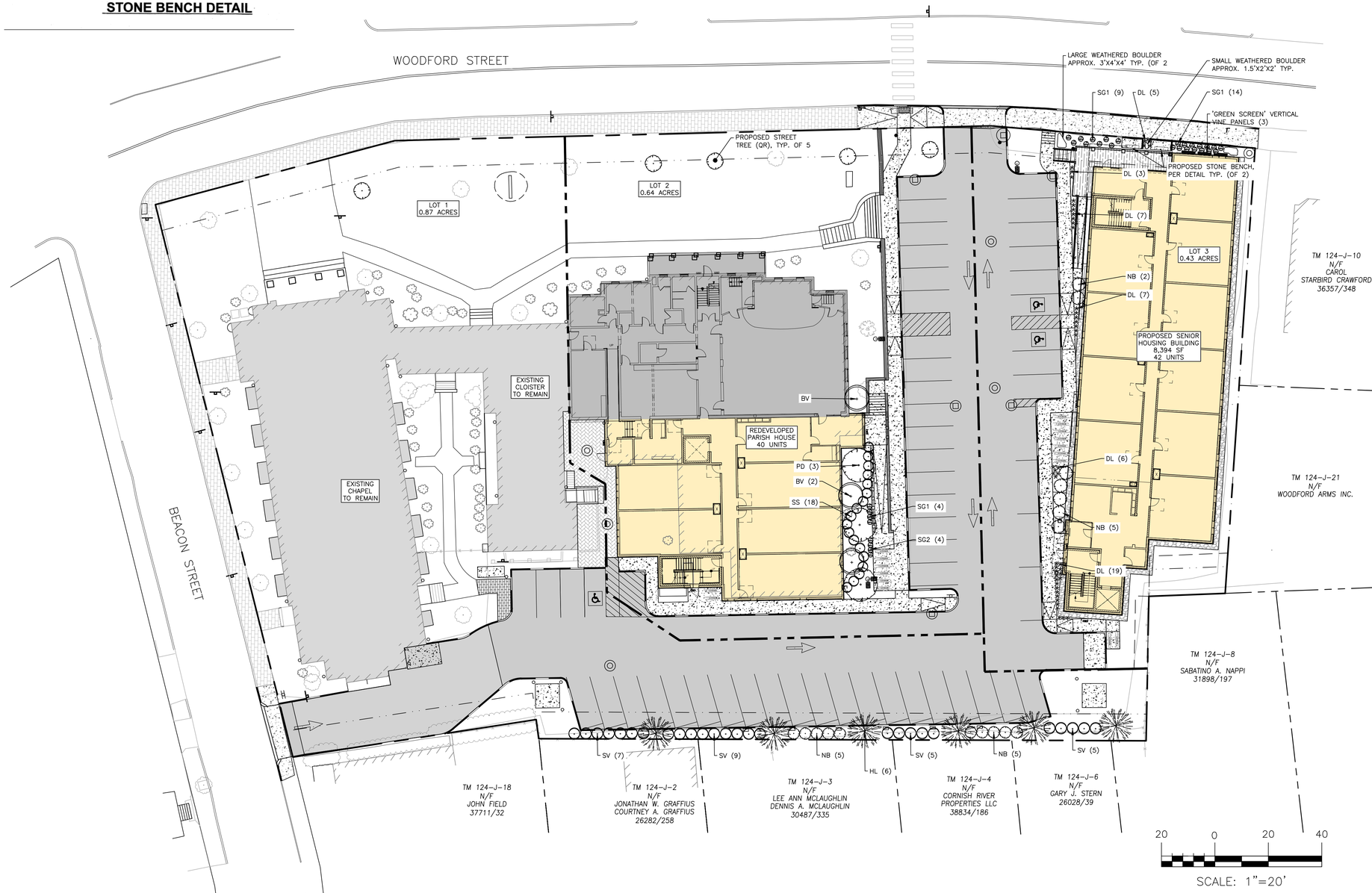


STONE BENCH DETAIL

1. LANDSCAPE NOTES
   1.1. INSTALL DEDICATED MULCH RINGS AROUND EXISTING AND NEWLY PLANTED TREES
   1.2. PROVIDE DECIMATION AND SOIL AMENDMENTS (COMPOST) FOR EXISTING TREES
   1.3. AIR SPADE THE ROOT ZONE OF EXISTING TREES AND APPLYING COMPOST

PLANT SCHEDULE

ID	BOTANICAL NAME	COMMON NAME	QTY	SIZE	ROOT	NOTES
TREES & SHRUBS						
HL	GLEDITSIA TRIACANTHOS V. 'INERMIS'	'STREET KEEPER' HONEYLOCUST	6	2" CAL	B&B	TRIM FOR 7' CLEAR UNDER BRANCHES
SV	V. PLICATUM VAR. TOMENTOSUM 'SHASTA'	SHASTA VIBURNUM	26	3'-4' HT.	B&B	
BV	V. PRUNIFOLIUM	BLACKHAW VIBURNUM	3	4-5" HT.	B&B	MULTI-TRUNK (3)
SS	V. PLICATUM VAR. TOMENTOSUM 'SUMMER SNOWFLAKE'	'SUMMER SNOWFLAKE' VIBURNUM	18	#5	#5	
NB	M. PENSYLVANCA	NORTHERN BAYBERRY	17	3-4' HT.	CONT.	
PERENNIALS						
SG1	PANICUM VIRGATUM 'HEAVY METAL'	SWITCH GRASS	27			@18" O.C.
SG2	PANICUM VIRGATUM 'SHENANDOAH'	SWITCH GRASS	4			@18" O.C.
DL	HEMEROCALLIS	DAYLILY VAR.	47	PTD		
CH	ANOMALA PETIOLARIS	CLIMBING HYDRANGEA	2	CONT.		
VC	PARTHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER ['WOODBINE']	6			



PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
CSS	PFH 12/1/23
MAJOR SITE PLAN	PFH 12/21/23
COMMENT RESPONSE	PFH 2/7/24
COMMENT RESPONSE II	PFH 3/7/24

DRAWING NAME: **LANDSCAPE PLAN**

PROJECT NAME: **WOODFORD STREET AFFORDABLE HOUSING REDEVELOPMENT**
186 WOODFORD STREET, PORTLAND, MAINE

CLIENT:
COMMUNITY HOUSING OF MAINE
ONE CITY CENTER, 4TH FLOOR, PORTLAND, MAINE, 04101

ACORN ENGINEERING, INC.
THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN AUTHORIZATION FROM ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED MODIFICATIONS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC
PO BOX 4593, PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1200_CIVL
JN:	1200
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	DSH
CHECKED BY:	WHS

REGISTERED LANDSCAPE ARCHITECT
ANTHONY J. MCBENCH
No. 7
State of Maine

DRAWING NO.
L-1