

PLANNING BOARD

Tuesday, January 24, 2023 at 4:30 PM
This meeting will be held via Zoom



MEMBERS

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

REMOTE ACCESS INFORMATION:

The Planning Board will conduct this meeting remotely via Zoom pursuant to the Remote Meeting Policy adopted by the Planning Board. Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend live either in person or via Zoom, a recording will be available in the [Agenda Center](#) following the meeting.

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You are invited to a Zoom webinar.

When: Jan 24, 2023 04:30 PM Eastern Time (US and Canada)

Topic: Planning Board Workshop and Public Hearing 1-24-2023

Please click the link below to join the webinar:

<https://portlandmaine-gov.zoom.us/j/87422435676>

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PUBLIC COMMENT INFORMATION:

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).

Please note that the placement of items on this agenda are subject to change – please check the [Agenda Center](#) prior to the meeting for the item start time.

AGENDA:

WORKSHOP - 4:30 PM

- i. Major Site Plan; 180 Read Street; NEPW Logistics, Applicant. (estimated time 4:30 – 5:30 p.m.) The Planning Board will hold a remote workshop to consider a proposal to construct a new 60,630 square foot warehouse building along with associated site circulation improvements. The subject property is a

6.15-acre parcel zoned I-M Moderate Impact Industrial. A project and plan summary are available for viewing on the city's CSS Portal (<https://css.portlandmaine.gov/>) by referencing Plan Number PL-002223-2022.

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 JANUARY 10, 2023

All members were present.

4. REPORTS OF DECISIONS AT THE MEETING HELD ON JANUARY 10, 2023

i. There were no public hearing items on the agenda to report on.

5. NEW BUSINESS

- i. Zoning Map Amendment; 50 Industrial Way; 50 Industrial Way, LLC., Applicant. (estimated time 5:30 - 6:15 p.m.) The Planning Board is considering a rezoning from I-M Moderate Impact Industrial to I-Mb Moderate Impact Industrial to accommodate the future growth of Allagash Brewing Company. The subject property is 4.4 acres in size. Planning staff also recommend inclusion of the following adjacent parcels as part of this map amendment request: 326 B001001, 327A A009001, 327A A008002, 327A A007001, 327A A001001, 326 B007001, 326 B005001, and 326 C005001. A project and plan summary are available for viewing on the city's CSS Portal (<https://css.portlandmaine.gov/>) by referencing Plan Number ZN-002236-2022.
- ii. Major Site Plan; 31 Forest Street; DB9 Ventures, LLC., Applicant. (estimated time 6:15 - 7:00 p.m.) The Planning Board will hold a remote public hearing to consider a proposal to develop a 3-unit multi-family residential building with structured parking. The subject property is a vacant lot totaling 2,625 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-002018-2022.
- iii. Subdivision; 385 Congress Street; Fathom Congress, LLC., Applicant. (estimated time 7:00 p.m.) The Planning board will hold a remote public hearing to consider a subdivision application associated with the Master Development Plan for 385 Congress St., approved by the Planning Board on August 9, 2022, to subdivide the property at 385 Congress Street (027 D001001) into three separate parcels. The subject property is 2.26 acres and zoned B-3 Downtown 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-002332-2023.
- iv. Major Site Plan; 165 Lambert Street; Maine Cooperative Development Partners, Applicant. **THIS ITEM IS BEING TABLED**

o: Chair Stanley & Members of the Planning Board
From: Maya Balassa
Date: January 17th, 2023
Re: 180 Read Street Major Site Plan
Project ID: PL-002223-2022
CBL: 147 B001001
Meeting Date: January 24th, 2023

I. INTRODUCTION

NEPW Logistics has submitted a Major Site Plan application to facilitate the development of a new 60,630 square foot warehouse adjacent to two existing buildings at 180 Read Street, zoned I-M Moderate Impact Industrial.

The Planning and Urban Development Department mailed 110 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the January 13th and 14th, 2023 editions of the *Portland Press Herald*.

Applicant: Rob Cowans
Applicant Andrew Godfrey, Acorn Engineering
Representatives:

II. REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Major Site Plan	Site Plan Ordinance

III. PROJECT DATA

Existing Zoning	I-M Moderate Impact Industrial
Property Size	267,111 Square Feet
Existing Use	Industrial – Warehousing and Distribution
Proposed Use	Industrial - Warehousing and Distribution

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	0	60,630	+60,630
Building Floor Area	77,925	138,555	+60,630
Impervious Surface Area	198,067	199,356	+1,289
Parking Spaces	8	23	+15
Bicycle Parking Spaces	0	0	0
EV Charging Stations	0	0	0

IV. BACKGROUND & EXISTING CONDITIONS

The property at 182/184 Read Street is currently functioning as one of eleven sites for NEPW Logistics, a company specialized in warehousing and distribution. The site currently features two warehouse buildings,

totally 77,925 square feet. Access to the site is provided via an existing driveway at the northwest corner of the site onto Read Street. There is a second curb cut at the northeast corner of the site, also onto Read Street, which is currently inaccessible, and disconnected from the parking area. There are several existing street trees along Read Street, with the rear of the site being vegetated. The surrounding context includes Maine DOT Rail right of way located immediately west of the development site, and other industrial and commercial uses surrounding the property on all sides.



Image 1. 180 Read Parcel



Image 2. Google Earth view of 180 Read Street from the south.



Image 3. Google Earth view of 180 Read from the northwest.



Image 4. Google street view of 180 Read Street looking west.

V. PROPOSED DEVELOPMENT

The proposed development involves construction of an additional 41.5-foot single-story warehouse, totaling 60,630 square feet of new floor area, to the rear of the existing buildings on the site, within an existing paved area. A new 36-foot shared driveway is proposed along the eastern property line. This application seeks to expand the capacity of the warehousing/distribution use currently operating, and does not introduce any new uses to the site.

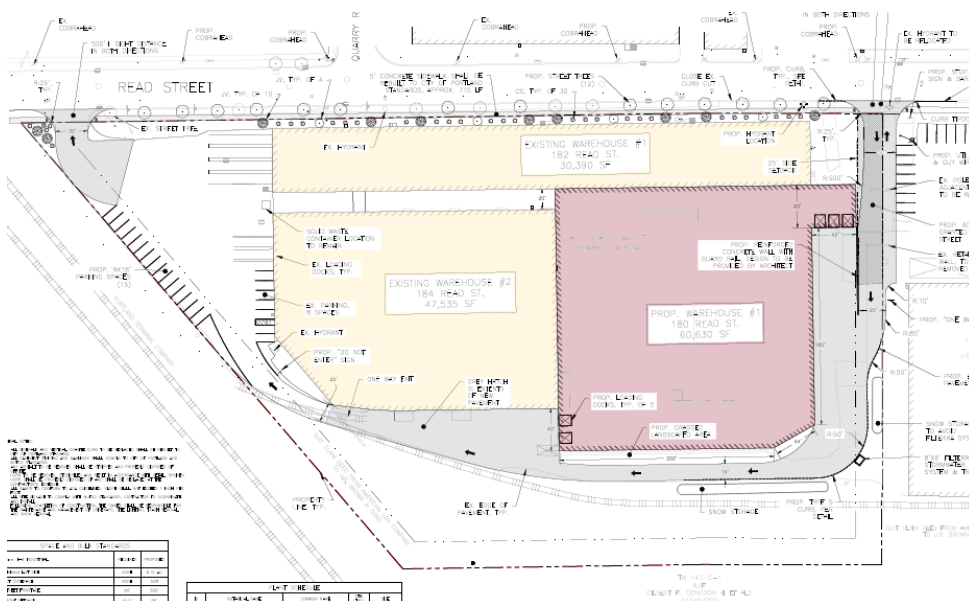


Image 5. Site plan for 180 Read Street.

VI. RIGHT, TITLE, & INTEREST

The applicant has demonstrated right, title, and interest through the property deed (Attachment C).

VII. FINANCIAL & TECHNICAL CAPACITY

Documentation to verify financial capacity from Charles Schwab is included in the submission.

Documentation for technical capacity has also been included. The applicant team includes Acorn Engineering and Ryan Senatore Architecture.

VIII. ZONING ANALYSIS

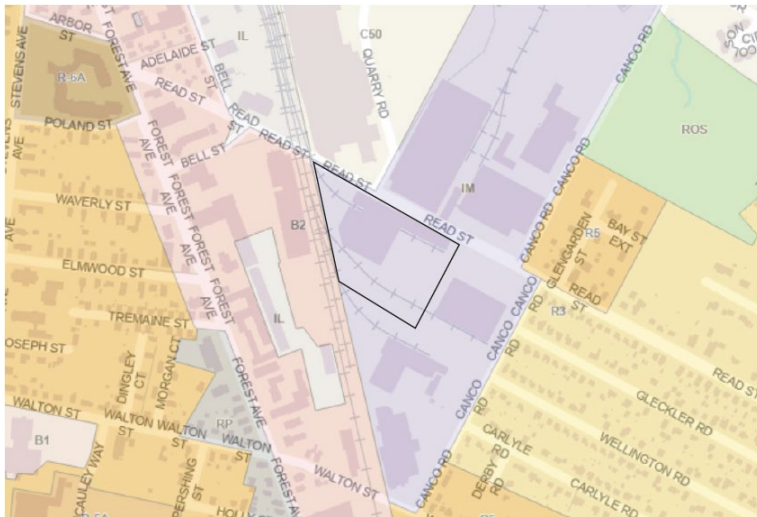


Image 6. Zoning map context for 180 Read Street.

The property is zoned I-M Moderate Impact Industrial, which permits a variety of low- and moderate-impact industries and transportation related uses in locations along arterial or collector streets. The surrounding zoning context includes areas of I-M Industrial along Read Street and Canco Road, R-5 and R-3 Residential to the East, B-2 Business Zone to the West, and several pockets of property zoned I-L Low-Impact Industrial to the West and Northwest. The application includes a zoning analysis which confirms that the proposal meets zoning dimensional standards. Warehousing, storage, and distribution facilities are permitted uses in the I-M Zone.

IX. 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 warehouse will support the expansion of the existing business for warehousing and distribution of goods. The expansion of this use is anticipated to increase truck traffic to and from this site by between approximately eight and twenty trucks per day, depending on the clients. The impact of this anticipated increase is still under review.

The proposal, as originally submitted, did not include improvements to existing sidewalks along Read Street, which have been determined to be in substandard condition, or the existing driveway. Based upon Sec. 14.6.1.B (3) in the City's site plan ordinance pertaining to sidewalks and curbing along property frontages, the City is asking that the applicant bring the existing sidewalk into conformance with the City's technical standards for sidewalks in this location (Section 1 of the Technical Manual). The existing driveway will also need to be improved to be brought into conformance with city standards for driveways serving an industrial use (Section 1 Technical Manual).

B. Access and circulation

The application includes a truck movement template which shows trucks entering the site via a newly proposed driveway at the eastern edge of the site, and exiting via the existing driveway. A truck turning template has been submitted for vehicles entering and exiting 150 Read Street, via the shared drive. The sight distance reported for both driveways is 500 feet.

C. Public transit access

Not applicable. Neither the use nor the size of the proposed project meets the transit shelter requirements. Additionally, the site is not located along an existing public transit route.

D. Parking

An additional 15 parking spaces are being proposed, increasing the parking space count from 8 to 23. The minimum parking required for industrial uses is 1 space for every 1,000 square feet of floor area in excess of 3,000 square feet, which equates to 60 parking spaces. The applicant has been asked to justify the parking discrepancy.

The addition of 15 parking spaces to the site requires conformance with the City's Electric Vehicle (EV) Standards as outlined in the City's Technical Manual Section 1.14. New surface parking lots of five or more spaces shall include energized electrical outlets or installed chargers capable of providing Level 2 EV charging or higher to 20% of parking spaces. 20% of 15 parking spaces = 3. The proposal will also need to comply with bike parking requirements in Table 19-A triggered by additional parking.

E. Transportation demand management (TDM)

Not applicable. A TDM plan is not required based upon the scope of this project.

2. Environmental Quality Standards (Section 14.6.2)

A. Preservation of significant natural features

There are no significant natural features identified on this site.

B. Landscape preservation

A landscaping plan has not yet been submitted as part of the application. A landscaping plan will need to be submitted to include existing and proposed vegetation. The development includes several existing mature street trees along its Read Street frontage. As part of the City's direction to reconstruct the sidewalk along Read Street, staff are also asking that the applicant account for preservation of these street trees in their construction management plan, and that the City Arborist approve any proposed protective measures.

C. Site landscaping and buffers

A landscaping plan has not yet been submitted.

D. Water quality/storm water management/erosion control

The project has proposed to meet the DEP Chapter 500 Stormwater Standards requiring treatment of 50% new impervious or regraded area by adding a Filterra system in the southeast corner of the property to treat 12,000 square feet of impervious area.

General sediment and erosion control measures have not been identified on a site plan.

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

A. Consistency with City Master Plans

A secure and local economy are key components of Portland's Comprehensive Plan, *Portland's Plan 2030*. By investing in and expanding an existing industrial business that provides transportation and warehousing opportunities supporting the surrounding region, the project supports State Goals outlined in the City's Economic Policy Guide (*Portland's Plan 2030*, pg. 41) to promote an economic climate that creates job opportunities and overall economic well-being.

B. Public safety and fire prevention

A proposed fire hydrant is placed to the west of the new shared entrance, abutting 150 Read Street. A truck turning template has been submitted.

C. Availability and capacity of public utilities

Staff is still awaiting documentation of ability to serve letters.

4. Site Design Standards (Section 14.6.4)

A. Massing, ventilation, and wind impact

The bulk, location or height of the proposed building is not anticipated to result in any adverse impacts to surrounding property or areas accessible to the public. The proposed building will rise to a maximum height of approximately 41 feet, which is below the maximum permitted height of 75 feet in the I-M zone.

B. Snow and ice loading

Snow storage has been identified on the site plan. One of the locations proposed for snow storage has been identified in an area adjacent to a relatively steep grade down to the adjacent property to the east. The applicant has been asked to ensure this will not impact the adjacent property and to identify the proposed surface treatment at that location.

C. View corridors

Not applicable. This site is not in a view corridor.

D. Historic resources

Not applicable. This site is not designated as historic.

E. Exterior lighting

The site photometric plan has been provided but the city is waiting for a cut sheet with site lighting details.

F. Noise and vibration

The proposal is not expected to create noise and vibration impacts.

G. Zoning-related design standards

H. The project is not subject to any zoning-related design standards

X. NEIGHBORHOOD MEETING & PUBLIC COMMENT

The applicant held a neighborhood meeting on December 7 and meeting minutes have been submitted. One public comment has been submitted to the city with concerns of increased truck traffic through nearby residential neighborhoods.

XI. NEXT STEPS

The applicant should address any outstanding staff or Planning Board review comments and resubmit plans, materials, and a written response to comments prior to this application being scheduled for a Planning Board Public Hearing.

XII. ATTACHMENTS

1. Applicant Submittal
 - A. Cover Letter
 - B. Major Site Plan Checklist
 - C. Deed
 - D. Zoning Assessment
 - E. Easements
 - F. Waivers
 - G. Financial Capacity
 - H. Technical Capacity
 - I. Conformity with Land Use Ordinance
 - J. Stormwater Report
 - K. Erosion & Sedimentation Control
 - L. Fire Department Letter
 - M. Wastewater Capacity
 - N. Lighting
 - O. Utilities
 - P. Construction Management Plan
 - Q. Solid Waste Disposal
 - R. Stormwater Delegated Review
 - S. Certification Letter
 - T. Sign-In Sheet
 - U. Read St. Neighborhood Meeting Invitation
 - V. Neighborhood Meeting Minutes
 - W. Filterra Sizing Summary
 - X. Post Construction Maintenance Agreement
 - Y. PWD ATS
 - Z. Truck Routing Exhibit
 - AA. Turn Templates
 - BB. Unitil ATS

CC. 1.19.23 Comment Response Letter

2. Plans

1. Cover Sheet & Legend
2. General Notes
3. Construction Management Plan
4. Site Plan
5. Utility Plan
6. Grading Plan
7. Site Details -1
8. Site Details -2
9. Utility Details -1
10. Drainage Details
11. Filterra Details
12. Erosion & Sedimentation Control Notes and Details
13. Lighting Plan
14. Architectural Plans
15. Boundary & Topographic Survey
16. Turn Templates

3. Public Comment

PC 1. Gretchen Stanton 12-15-2022

4. Report Attachments

1. Staff Review Comments

Review Criteria:

- This project is being reviewed with Portland's Site Plan Ordinance.

ZONING

- The maximum impervious surface ratio is 75%. The Zoning Analysis Table states that it will be 74.9%. Since that is so close to the maximum allowed, please submit information on how it was calculated.
- Section 19.2 outlines the criteria for off-street loading. The number of bays required is listed in Table 19-C.. The addition would require 2 new loading bays. The application appear to be adding 5 loading bays. The Zoning Analysis Table states there will be 12. Is that for all the loading bays in all three buildings?
- There is some existing pavement within 10' of the property line. Is the proposal adding any more pavement within 10' of the property line?
- The addition is 60,950 sf. Table 19-A requires 1 parking space per 1,000 sf in excess of 3,000 sf. $57900 \text{ sf} / 1000 = 57.95$ spaces rounded up to 60 spaces. The proposal appear to be adding 7 new spaces to the 8 existing spaces. How is this being justified?

TRANSPORTATION

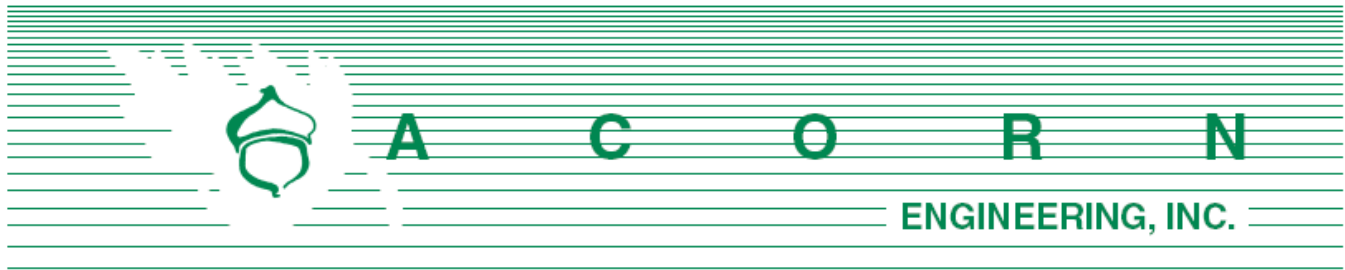
- The existing entrance at the north end of the site does not appear to meet City standards (defined width/angle). Additionally, the driveway configuration makes it difficult to enter and exit the site to and from the south. Truck turning templates shall be provided.
- Truck turning templates shall be provided for vehicles entering and exiting 150 Read Street via the proposed shared driveway.
- The applicant has provided vehicle turning templates for a truck circulating behind the building from the loading docks to the northern driveway. The access roadway is very tight at the corner of the building, and it is unclear if improvements are proposed. While the turning template indicates this movement is feasible, field observations noted constrained conditions.
- Sight distance measurements shall be provided at both proposed and existing driveways.
- The sidewalk along the Read Street frontage shall be reconstructed in Portland Cement Concrete in accordance with the City's Sidewalk and Driveway Apron Material Policy. The sidewalk material shall be continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope.
- The applicant shall provide information as to how the project will comply with the City's street lighting standards in Section 10 of the Technical Manual.
- The applicant shall design both driveways along the property per City of Portland Standards in Section 1 of the Technical Manual.
- The City does not allow catch basin inlets to be located in driveways per technical manual standard 2.9.6. The applicant shall relocate any drainage inlet outside the limits of the proposed driveway.
- Private connections to City catch basins are not permitted per technical manual standard 2.9.7. The application shall tie stormwater flows from the development site directly into the existing drain manhole in Read Street.
- Any floor drains installed within the new warehouse space shall be connected to the sanitary sewer line and shall run through an oil/grit separator per detail II-20 in the recently approved technical manual update.

WATER QUALITY, STORMWATER, & INFRASTRUCTURE

- The application notes that ability to serve confirmation from water and gas utilities are included, but these materials are not present. Please include.
- The plans should show the extent of impact and repaving in Read Street due to the proposed utility work and driveway entrance construction.
- The application is proposing relatively steep grading along the eastern edge of the property, and onto the adjacent property in an area identified for a grading and drainage easement. This area of the site is also identified for snow storage, so there could be a fairly significant amount of flow in the area due to snowmelt. The proposal should ensure that this will not impact the adjacent property, and the building that will be close to this location. The proposed surface treatment should be identified for the area both on and off the property at this location as well.
- Please double check clearances at the crossing between the 15" roof drain to the proposed catch basin 3 and the nearby proposed 6" sewer lateral. Based on the structure inverts provided, these pipes will be close in elevation.
- Considering the size and angles of the proposed drainage pipes at CB #3, a larger structure will likely be required for this location.
- The project is required to meet the stormwater standards outlined in Maine DEP Chapter 500 and the City of Portland's Section 5 of the Technical Manual. We have the following comments:
- General Standards: The Applicant should address the General Standards relative to the City of Portland's Section 5 of the Technical Manual. The project will exceed the threshold of 1,000 square feet of new impervious surface on the site, requiring compliance with the General Standards.
- This flow increase will be into the City's storm drain system, and is relatively insignificant, but the Applicant should confirm that the stormwater system has adequate capacity to serve this increase, and a waiver of the flooding standard will be required.

LANDSCAPING & ENVIRONMENTAL QUALITY

- The applicant shall show how the existing trees will impact the installation of new sidewalk along the Read Street frontage.
- Please show that the proposal conforms to Tech Manual Landscaping and Landscape Preservation Standards, specifically 4.6.3, 4.5.3, 4.5.5.



Planning Division
Attn: James Rather, Development Review Manager
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

October 31, 2022

Subject: Major Site Plan Application
Redevelopment of 182 Read Street

To Whom It May Concern:

On behalf of NEPW Logistics, we are pleased to submit the accompanying package of materials related to the proposed warehouse expansion redevelopment of 182 Read Street (147-B-1) between Forest Avenue and Canco Road. The 6.15-acre parcel is currently the site of NEPW's warehouse and storage operations.

This submission package is intended to meet the City's Submission Requirements as outlined in the Major Site Plan Application procedures. The redevelopment is proposed to include the construction of a new 60,630 SF warehouse building adjacent and attached to two existing structures on the property along with associated site circulation improvements. The site of the proposed building is currently being used as outdoor storage on top of a former building's concrete foundation. The redevelopment site is located within the City's I-M Zoning District and complies with the permitted uses and all applicable standards within the zone.

NEPW Logistics and the design team look forward to discussing this project with you. Included with this letter are site, architectural, and existing conditions plans for your review prior to the meeting. Please do not hesitate to reach out to me with any questions or preliminary comments.

Sincerely,

Travis Letellier, 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 Application & Checklist
- Section C: Right, Title, Interest
- Section D: Zoning Assessment
- 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 Narrative
- Section Q: Construction Management Plan
- Section R: Solid Waste
- Section S: Turning Templates
- Section T: Stormwater Management Law – Delegated Review Application

Drawings:

- Civil Site Plan Set, dated 10/31/22
- 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	X	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	X	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	X	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	X	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

DLN: 1002140138275

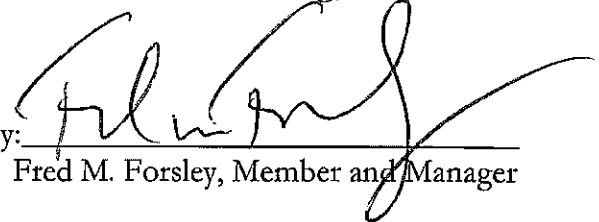
Warranty Deed

MAINE REAL ESTATE TAX-Paid

Read Street Warehousing, LLC, a Maine Limited Liability Company with an address of 8 Western Avenue, County of York, State of Maine, for consideration paid, grants an undivided 69% interest to **Read Warehouse, LLC**, a Delaware Limited Liability Company, and an undivided 31% interest to **NEPW Read Warehouse, LLC**, a Delaware Limited Liability Company, as tenants in common, both with an address of 70 Quarry Road, Portland, Maine 04103, with **Warranty Covenants**, the land and buildings located in Portland, County of Cumberland, State of Maine, described on Exhibit A attached hereto.

In Witness Whereof, **Fred M. Forsley**, in his capacity as Manager and Member of **Read Street Warehousing, LLC**, has hereunto set his hand and seal this 1st day of ~~March~~, 2021.
April

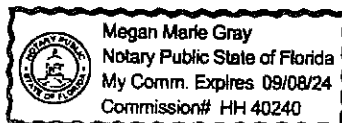
Read Street Warehousing, LLC

By: 
Fred M. Forsley, Member and Manager

State of Florida
County of Pineelles, ss.

March 30th, 2021

Personally appeared the above-named **Fred M. Forsley** in his capacity as Member and Manager of **Read Street Warehousing, LLC** and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of **Read Street Warehousing, LLC**. Before me,




Notary Public/Attorney-at-Law
Print Name: Megan Gray
My Commission Expires: 09/08/24

Exhibit A

A certain lot or parcel of land with the building thereon situated on the southerly side of Read Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Commencing at the northeasterly corner of land now or formerly of Gilbert F. Congdon III, et al recorded in the Cumberland County Registry of Deeds in Book 31249, Page 305 as shown on a plan entitled "ALTA/ACSM Land Title Survey 150-184 Read Street Portland, Cumberland County, Maine made for J. B. Brown & Sons, 36 Danforth Street, Portland, Maine" dated March 2, 2016 by Owen Haskell, Inc. and recorded in the Cumberland County Registry of Deeds in Plan Book 216, Page 82 (the "Plan");

Thence, N 44° 45' 00" W along the northerly line of land of said Congdon 373.46 feet to southeasterly corner of the lot herein described labeled as "Proposed Lot #182 - #184 Read St." and the southwesterly corner of the lot labeled as "Remaining Lot #150 Read St." as shown on said plan, also being the point of beginning;

Thence, from the point of beginning N 44° 45' 00" W continuing along the northerly line of land of Congdon 168.84 feet to an angle point;

Thence, N 45° 42' 00" W continuing along the northerly line of land of Congdon 282.30 feet to the easterly line of land now or formerly of Portland Terminal Company;

Thence, N 04° 29' 00" E along the easterly line of land of said Portland Terminal Company 522.02 feet to the southerly sideline of said Read St.;

Thence, S 44° 45' 00" E along the easterly sideline of Read Street 639.23 feet to an angle point in said sideline;

Thence, S 44° 45' 00" E continuing along the easterly sideline of Read Street 172.42 feet to the northeasterly corner of the lot herein described and the northwesterly corner of land of said "Remaining Lot #150 Read St.;"

Thence, S 45° 15' 00" W along the westerly line of the "Remaining Lot #150 Read St." 424.00 feet to the point of beginning.

Together with the exclusive right to use, occupy and cross said fifty (50) foot wide strip of land with switch railroad tracks located on the Premises hereby conveyed.

Further, the above-described Premises are conveyed together with a certain perpetual non-exclusive right and easement for vehicular and pedestrian access and utilities access to and from Read Street in common with J. B. Brown & Sons, its successors and assigns, appurtenant to the Premises hereby conveyed, over and across the curb cut off Read Street

located on the westerly side of land now or formerly of J. B. Brown & Sons and near the easterly boundary of the said Premises, for purposes of ingress and egress to and from the Premises, and depicted on the Plan as the "Proposed Access Easement for #182 & #184." Neither Grantor nor J. B. Brown & Sons, their successors and assigns shall have any obligation to maintain the foregoing access easement, including, without limitation, snow-plowing, ice removal or sanding; provided, however, Grantee is hereby authorized, at Grantee's sole expense and discretion, to maintain the foregoing access easement with its own snow-plowing, ice removal or sanding. Grantee, its successors and assigns, agrees to indemnify and hold Grantor and J. B. Brown & Sons, their successors and assigns, harmless from and against any and all liability, loss, cost, damage or expense, including court costs or fees related to litigation or alternative dispute resolution and attorneys' fees, incurred by Grantor or J. B. Brown & Sons, and their successors and assigns, as a result of or in connection with the use of the aforesaid access easement on land now or formerly of J. B. Brown & Sons by Grantee or Grantee's employees, agents, or contractors, except to the extent attributable to the misconduct or gross negligence of J. B. Brown & Sons or its employees, agents or contractors. J. B. Brown & Sons, its successors and assigns, shall have the right to relocate said easement from time to time at the sole cost and expense of J. B. Brown & Sons. Said easement shall run with the land and be for the benefit of the Grantee, its successors and assigns, their tenants, agents, and business invitees, in common with J. B. Brown & Sons, its successors and assigns.

Being the same premises conveyed to Read Street Warehousing, LLC by Quitclaim Deed with Covenant given by J.B. Brown & Sons dated April 12, 2016 and recorded in the Cumberland County Registry of Deeds on April 12, 2016 at Book 33033, Page 310.



ZONING ANALYSIS Relevant Zone(s) IM

All Projects:

	Required	Proposed
Lot Size	None	6.15 acres
Area Per Dwelling Unit	None	N/A
Minimum Street Frontage	60'	800'
Front Yard Minimum	N/A	N/A
Front Yard Maximum	41.5'	66'
Rear Yard	25'	110'
Yard Right	25'	25'
Yard Left	N/A	N/A
Side Street Setback	N/A	N/A
Step Back	N/A	N/A
Maximum Lot Coverage	None	52%
Minimum Lot Coverage	N/A	N/A
Maximum Height	75'	41.5'
Open Space	N/A	N/A
Maximum Impervious Area	75%	74.9%
Pavement Setback	10'	10'
Floor Area Ratio	N/A	N/A
Off Street Parking Spaces	N/A	15
Loading Bays	N/A	12
Other 1		
Other 2		
Other 3		

E. Summary of Written Easements

Existing easements:

- See Attachment C, Deed Bk: 38021 Pg: 294 for existing vehicular, pedestrian, and utility access easement for purposes of ingress and egress to and from 182 & 184 Read Street.

Proposed Easements:

- 150 Read Street (J.B. Brown & Sons) grants access easement to 182 & 184 Read Street (NEPW Logistics) for grading and access.
- 182 & 184 Read Street (NEPW Logistics) grants access easement to 150 Read Street (J.B. Brown & Sons) for the proposed shared access driveway.



E. Waivers

No waivers are being requested as part of the proposed project located at 182 - 184 Read Street.





10/05/2022

Account # ****-* 629
Questions: 1-800-435-4000

L LEVY & J BRODIE TTEE
THE SPRINGBOK IRREVOCABLE TRUS
U/A DTD 09/02/1997
HYDE PARK HOLDINGS LLC
570 LEXINGTON AVE FL 44
NEW YORK NY 10022

Here is the requested account balance information.

We're writing in response to a request for balance information on the account noted above.
On 10/05/2022 the total account value was in excess of \$5,000,000.00.

The following is Schwab's terms of withdrawal policy:

Charles Schwab doesn't restrict access to available funds and securities in the above-referenced account(s). An account holder or authorized agent can request withdrawals from an account on demand.

Please note: The balance is based on our records at the time this letter was written, and may include cash and securities. The value of the account is subject to change depending upon market conditions and/or activities in the account.

Please note: This letter is for informational purposes only and is not an official record of the account.

Thank you for choosing Schwab. We appreciate your business and look forward to serving you in the future. If you have any questions, please call us at +1 (800) 435-4000.

H. Technical Capacity

NEPW Logistics is northern New England's leading asset-based warehousing and transportation provider. With nine warehouses in Maine and northern Massachusetts of more than 1.1 million SF of flexible storage space, plus a range of other services: cross-docking, paper converting, reverse logistics, and more.

Acorn Engineering specializes in providing urban redevelopment, civil/site design, environmental services, municipal consulting, and construction administration. Together, Acorn Engineering, Inc. and Ryan Senatore Architecture have successfully designed and permitted more than 20 level II/III projects in Portland during the past 5 years, including four for Redfern Properties: Munjoy Heights, East Bayside Lofts, The Hiawatha, and 70 Anderson.

Ryan Senatore Architecture has designed several important multifamily residential projects in Southern and Central Maine, including the nine-story, 139-unit, concrete and steel framed high-rise apartment building known as the Hiawatha (for Redfern Properties). RSA's residential clients include private developers as well as public housing authorities, and completed projects include both new construction and adaptive reuse of existing historic structures.

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 14.6.1-4

OVERVIEW

The proposed warehouse addition has been designed to conform to City standards, as well as improve upon existing non-conformities. This project conforms with the applicable standards of Portland's Land Use Ordinance Section 14-526 as demonstrated in the following narrative.

14.6.1 Transportation Standards

A. Impact on Surrounding Street Systems:

- a. The project will not create any significant hazard to safety on the surrounding street network. The site is located Read Street in the I-M Industrial Zone. It is classified as a Major Urban Collector Street according to the City of Portland Street Classification map.
- b. A minor traffic increase is expected for this project due to the enlargement of the facility. It is not anticipated that congestion will worsen in the area.

B. Access and Circulation:

1) In general

- a. The development will provide safe access and internal circulation for vehicles and emergency vehicles as seen on the Site Plan.
- b. Not applicable
- c. The warehouse and loading docks will be accessed from Read Street. The driveway through the site will be one way and exit the site on Read Street further along to the west. Points of access have been located to avoid conflicts with turning movements and traffic flows on the site.
- d. The site does not feature drive up services as mentioned in this requirement.

2) Loading and Servicing:

The loading docks provided will be sufficient for the delivery schedule and demands of the warehouse. Tractor trailers will have sufficient space to access the docks or to wait for a dock to become available within the confines of the site.



3) Curbs and Sidewalks:

- a. Curb and sidewalks currently exist along the property frontage.
- b. Where disturbed, curb and sidewalks will be rebuilt along the property frontage in conformance with City standards.
- c. Not applicable
- d. Not applicable

C. Public Transit Access:

- 1) The proposed development will not generate public transit usage.

D. Parking:

1) Vehicular Parking

- a. The proposed project is anticipated to require a slight increase in employee parking. Seven parking spaces will be striped on the north portion of the site.
- b. A parking study will not be required.
- 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. Not applicable

3) Snow Storage:

- a. Snow storage areas are provided throughout the site. 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.

E. Transportation Demand Management (TDM):

- 1) Not applicable



14.6.2 Environmental Quality Standards

A. Preservation of Significant Natural Features:

1. The site is currently more than half impervious area and there are no significant natural features.

B. Landscape Preservation:

- 1) No existing trees or landscape areas will be disturbed.

C. Site Landscaping and Buffers

- 1) Buffers
 - a. Not applicable.
- 2) Parking Landscaping
 - a. Not applicable.
- 3) Street Trees
 - a. Street trees along the property frontage will not be disturbed.

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 redevelopment will be collected and discharged to the separated storm system within Read Street.
- b. Stormwater from the development entering adjacent watersheds will not exceed the pre-development flows.
- c. The stormwater entering the separated storm sewer will be increased, but not anticipated to be a problem for the system to handle.
- ii. 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.
- iii. The development is not anticipated to pose a contamination risk to groundwater during or after construction. The property is and will be serviced by a public



wastewater system.

14.6.3 Public Infrastructure and Community Safety Standards

1. 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.
2. Public Safety and Fire Prevention:
 - a. Not applicable.
 - b. Emergency access has been provided. Fire trucks and ambulance will be able to access the site and buildings.
3. Public Utilities
 - a. Ability to Serve letters have been sent to the respective companies. Responses are forthcoming.
 - b. The electrical service will be wired overhead from a relocated pole on site.
 - c. The stormwater and sewer infrastructure will meet the provisions of the Technical Manual.
 - d. The project will be served by connection to the public sewer system within Read Street. The stormwater management system is designed to meet the standards of Chapter 500.
 - e. Solid waste storage is provided on the existing site.

16.4.4 Site Design Standards

A. Massing, Ventilation and Wind Impact:

- a. Please refer to Section O. Architectural Design Narrative.

B. Shadows:

- a. Not applicable.

C. Snow and Ice Loading:

- a. The structure will not distribute snow and ice onto adjacent properties.

D. View Corridors:

Please refer to Section O. Architectural Design Narrative.



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. There are no known archaeological resources on the site.

F. Exterior Lighting:

- a. Exterior lighting in the form of wall packs will be designed to meet the requirements of Section 12 of the Technical Manual.
- b. Any lighting that may adversely impact the abutting residential properties will feature shielding.
- c. No architectural or specialty lighting is proposed.
- d. No up-lighting is proposed.
- e. No new street lights are proposed.

G. Noise and Vibration:

- a. The HVAC system will meet the applicable state and federal emissions requirements and will also be screened and directed away from abutters.

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.
- b. The project is not located in a historic district or subject to Article IX.
- c. Signage will only be related to vehicular access.
- d. 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 I-M zone. Please refer to the Site Plan for more information on the Space & Bulk Standards.



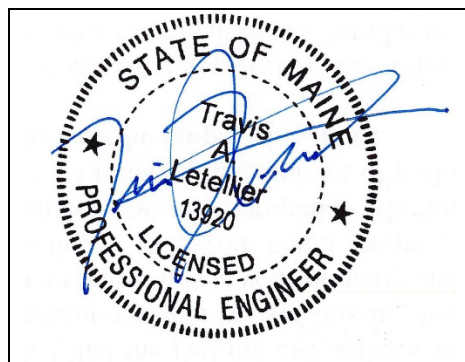
J. STORMWATER MANAGEMENT **REPORT**

Prepared For:

NEPW Logistics
Portland, Maine 04103

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



October 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by NEPW Logistics to provide civil engineering services for the proposed development at 180 Read Road. The property consists of approximately 6.15 acres of land and contains the following parcels (147-B-1).

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.

EXISTING CONDITIONS

The project site is bordered by Read Street and abuts the Springfield Terminal railroad bed to the west. A boundary plan has been prepared by Owen Haskell Inc., dated August 12th, 2022. The site is not in the watershed of an urban impaired stream.

The site is currently the location of NEPW Logistics warehouse operations. The site in its existing condition drains water in roughly two directions, to the north and south. Half of the building closest to Read Street and a portion of the eastern half of the site drain to the separated storm system within Read Street. The rest drains to the south along the existing railroad tracks and behind the building at 150 Read Street. It then flows into the separated stormwater system within Canco Road through a culvert. The flows off the site are combined within the storm drain system and discharge at a location off Ocean Ave that drains to the Bay.

PROPOSED DEVELOPMENT

The redevelopment will include the construction of a new 60,650 SF warehouse building adjacent and attached to two existing structures on the property along with associated site circulation improvements. The proposed building will be in the footprint of a warehouse in existence until 2012. Some areas on site that were previously impervious area are being converted to landscaped area. Overall, the project proposes to increase the impervious area on site by 1,289 SF.

Existing Impervious Area (SF)	Proposed Impervious Area (SF)
198,067	199,356 (+0.6%)



The redeveloped portion of the site has been graded to match with the existing topography of the site while providing for appropriate slopes in the parking and tractor trailer access areas. Catch basins and piping are provided to convey stormwater from the site to the separated storm system within Read Street. Due to the minor increase in impervious area and modeling constraints there is a small increase in peak stormwater flows off the site in the post-development condition (0.2 CFS in 25-year storm event). This increase is insignificant compared to the overall development.

All the paved areas associated with this re-development project are in areas where pavement exists in its current condition and has been used previously for site access, and loading area. This project aims to regrade and repave this area around the proposed building in a way that meets the definition of Maintenance within the Maine Department of Environmental Protection's Chapter 500 rules. The small increase in impervious area on the site is due to the roof area, not from an increase in pavement on the site.

The development will be served by the Portland Water District, CMP, and municipal sewer and storm systems. Utility mains and services have been coordinated with each respective utility company.

BASIC STANDARDS – EROSION & SEDIMENTATION CONTROL

The development shall provide erosion and sedimentation control, inspection and maintenance, and housekeeping standards as specified in the attached Exhibit K: Erosion and Sedimentation Control Report. Grading and construction activity will not impede or otherwise alter drainageways to have an unreasonable adverse impact on adjacent downgradient parcels.

FLOODING STANDARD – WATER QUANTITY

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, Inc. 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 T_c 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 T_c path was capped at 100 feet.

Curve Number (CN)

Within the pre-development model, the vegetated areas were considered grass or woods cover in fair condition as demonstrated by aerial images and site visits or . The post development landscaped areas were given a good rating all within the A hydrologic soil group.

Pre-development Calculations

The site consists of a predominately industrial lot in the predevelopment condition. For the purpose of this analysis the land has been divided into two (2) separate subcatchments.

- SC 1A – Half of Building 1 and eastern portion of site draining towards Read Street. It is assumed that these flows eventually convey to the separated storm system within Read Street.
- SC 2A – Building 2 and the remainder of property draining south to brush and trees

Peak combined flow rates for the pre-development storm events are as follows:

Table 6 – Pre-Development Peak Stormwater Flows			
Drainage Area	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
Whole Site	6.0	11.1	15.3

Post-development Calculations

The post condition features the same two (2) point of interests that exist in the pre-development condition. The delineations are slightly changed to account for the new building and parts of the access road draining to catch basins and the separated storm system within Read Street. The sub catchments are as follows:

- SC 1P – Half of Building 1, the proposed building and eastern portion of site draining to Read Street including half of the access drive, drained by catch basins. This flow eventually conveys to the separated storm system within Read Street.
- SC 2P – Building 2 and the remainder of property draining south to brush and trees

The post-development calculations include changes to the land use and watershed delineations. The following table represents comparison of pre-development and post-development condition peak runoff rates for the proposed development and tributary area. It also includes the rate of flow of run-off that will be conveyed to the separated storm system.

Table 8 – Comparison of Peak Flows						
Drainage Area	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
Whole Site	6.0	6.9	11.1	11.6	15.3	15.5
Increase in Flows to City System	0.9		0.5		0.2	

As shown in Table 7 and 8, the total post development peak flows leaving the site will be slightly higher than pre-development levels, by around 0.2 - 0.9 cubic feet per second, storm dependent. It is anticipated that this drainage pattern will improve the conditions of the watershed by conveying more of the runoff to the separated stormwater system immediately instead of the through neighboring properties, which have documented flooding issues.

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.

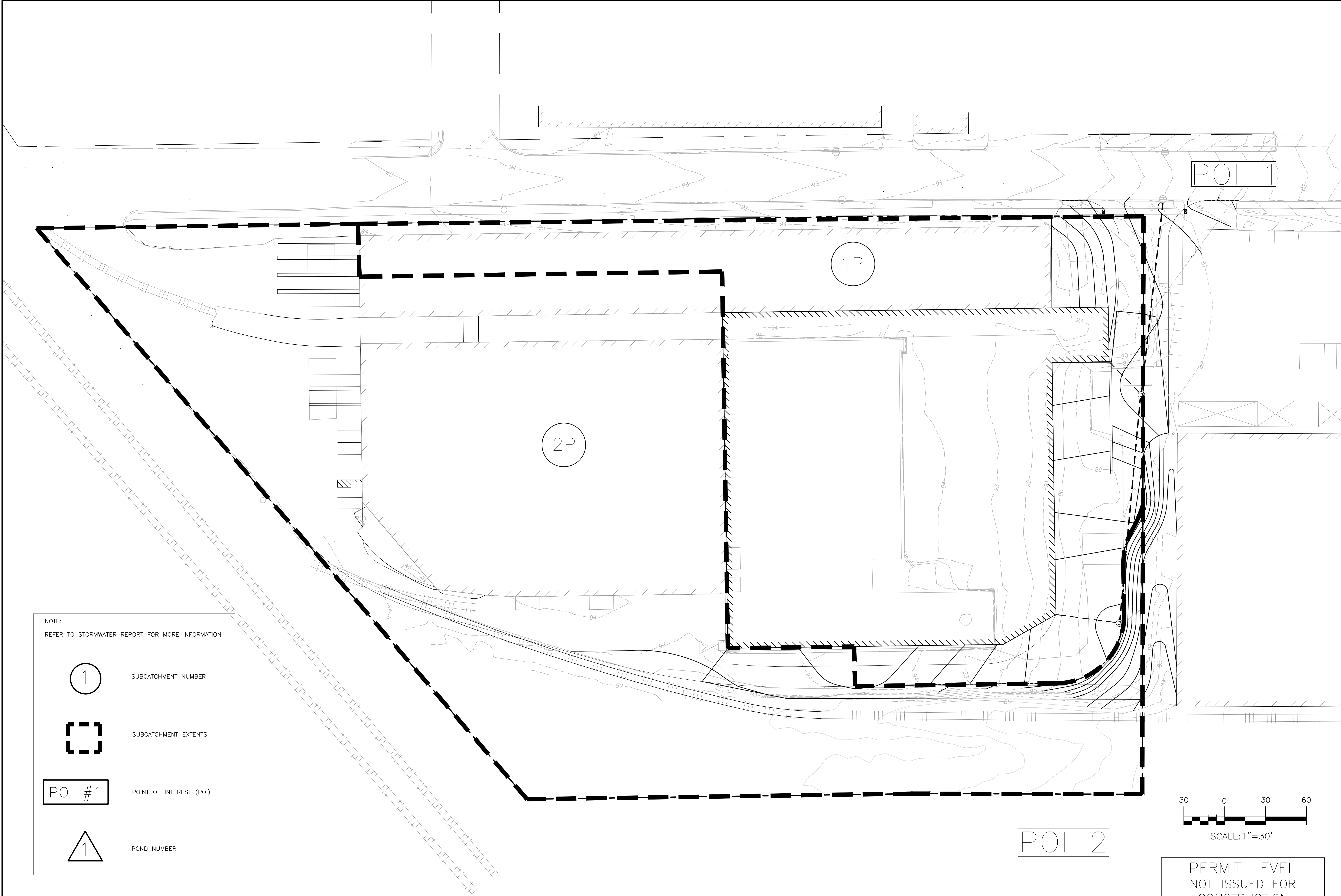
CONCLUSION

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 insignificant increase in peak flow 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 the perspective outlined above.

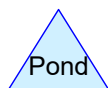
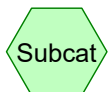
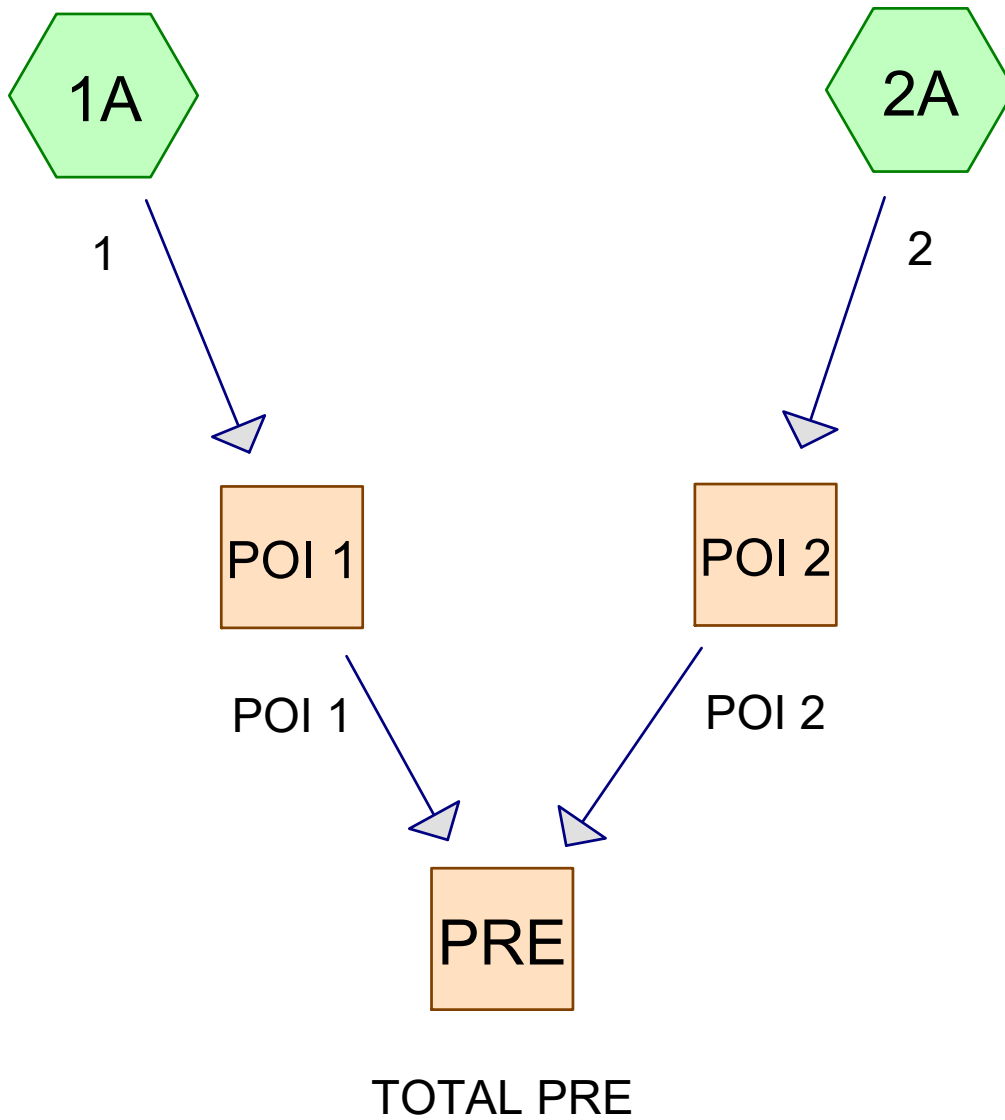
ATTACHMENTS

Attachment A: Pre-Development Watershed Map
Attachment B: Post-Development Watershed Map
Attachment C: HydroCAD Calculations
Attachment D: Soil Survey





ISSUED FOR		BY
MAJOR SITE PLAN		DATE
		10/17/22
POST-DEVELOPMENT WATERSHED MAP		
READ STREET		
PORTLAND, MAINE 04103		
NEPW LOGISTICS, LLC		
118 QUARRY ROAD, PORTLAND, MAINE 04103		
DRAWING NAME		
PROJECT NAME/ADDRESS		
CLIENT/OWNER OF RECORD		
ACORN ENGINEERING, INC.		
PO BOX 3372, PORTLAND MAINE 04101		
(207) 775-2885		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY SUCH MODIFICATION SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.		
FILE: 1176_CIVIL		
JN: 1176		
SCALE: AS NOTED		
DESIGNED BY: TJL		
DRAWN BY: AWG		
CHECKED BY: WHS		
DRAWING NO.		
POST		



Project Notes

Rainfall events imported from "Post Development_4-21-21.hcp"

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.494	49	50-75% Grass cover, Fair, HSG A (1A, 2A)
1.102	36	Woods, Fair, HSG A (2A)
3.420	98	buildings/pave (2A)
1.127	98	pave/roof (1A)
6.143	83	TOTAL AREA

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.596	HSG A	1A, 2A
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
4.547	Other	1A, 2A
6.143		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
0.494	0.000	0.000	0.000	0.000	0.494	50-75% Grass cover, Fair	1A, 2A
1.102	0.000	0.000	0.000	0.000	1.102	Woods, Fair	2A
0.000	0.000	0.000	0.000	3.420	3.420	buildings/pave	2A
0.000	0.000	0.000	0.000	1.127	1.127	pave/roof	1A
1.596	0.000	0.000	0.000	4.547	6.143	TOTAL AREA	

1176_PRE

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Type III 24-hr 2-year Rainfall=3.10"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=1.83"
Flow Length=340' Tc=21.2 min CN=87 Runoff=2.04 cfs 0.221 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=1.46"
Flow Length=898' Tc=32.6 min CN=82 Runoff=4.32 cfs 0.570 af

Reach POI 1: POI 1

Inflow=2.04 cfs 0.221 af
Outflow=2.04 cfs 0.221 af

Reach POI 2: POI 2

Inflow=4.32 cfs 0.570 af
Outflow=4.32 cfs 0.570 af

Reach PRE: TOTAL PRE

Inflow=6.03 cfs 0.791 af
Outflow=6.03 cfs 0.791 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.791 af Average Runoff Depth = 1.55"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 2.04 cfs @ 12.29 hrs, Volume= 0.221 af, Depth= 1.83"

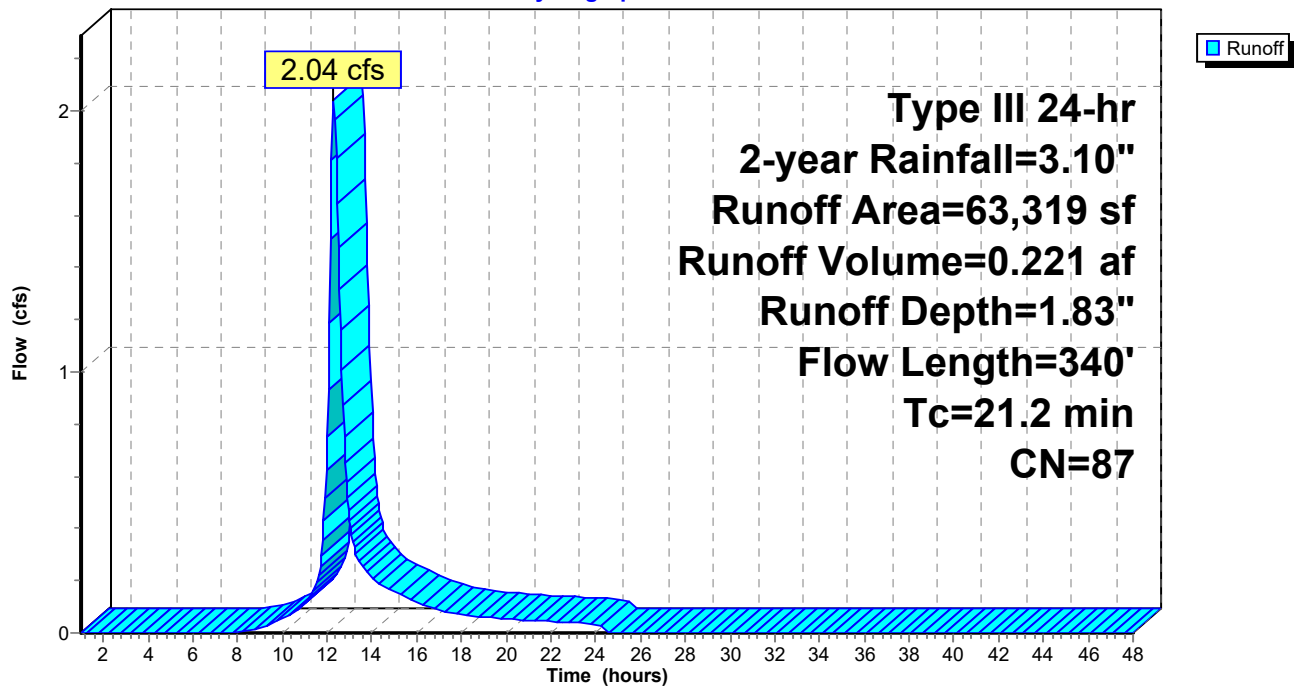
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 4.32 cfs @ 12.47 hrs, Volume= 0.570 af, Depth= 1.46"

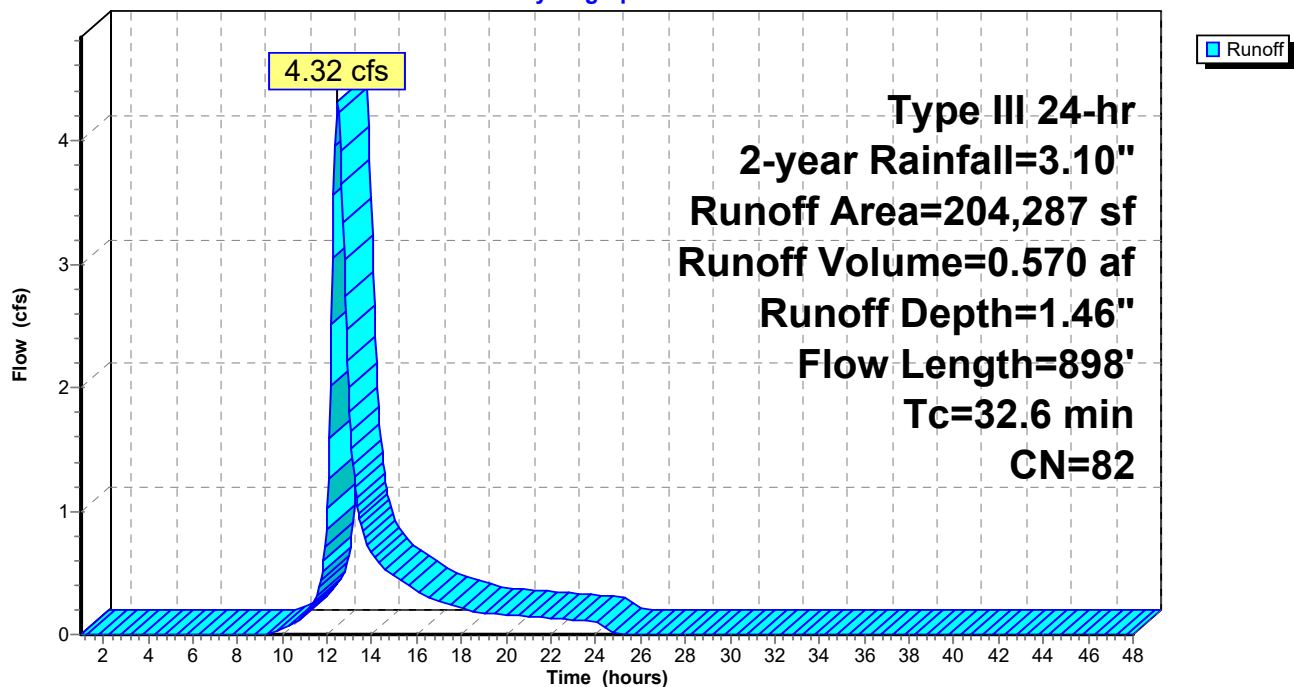
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph

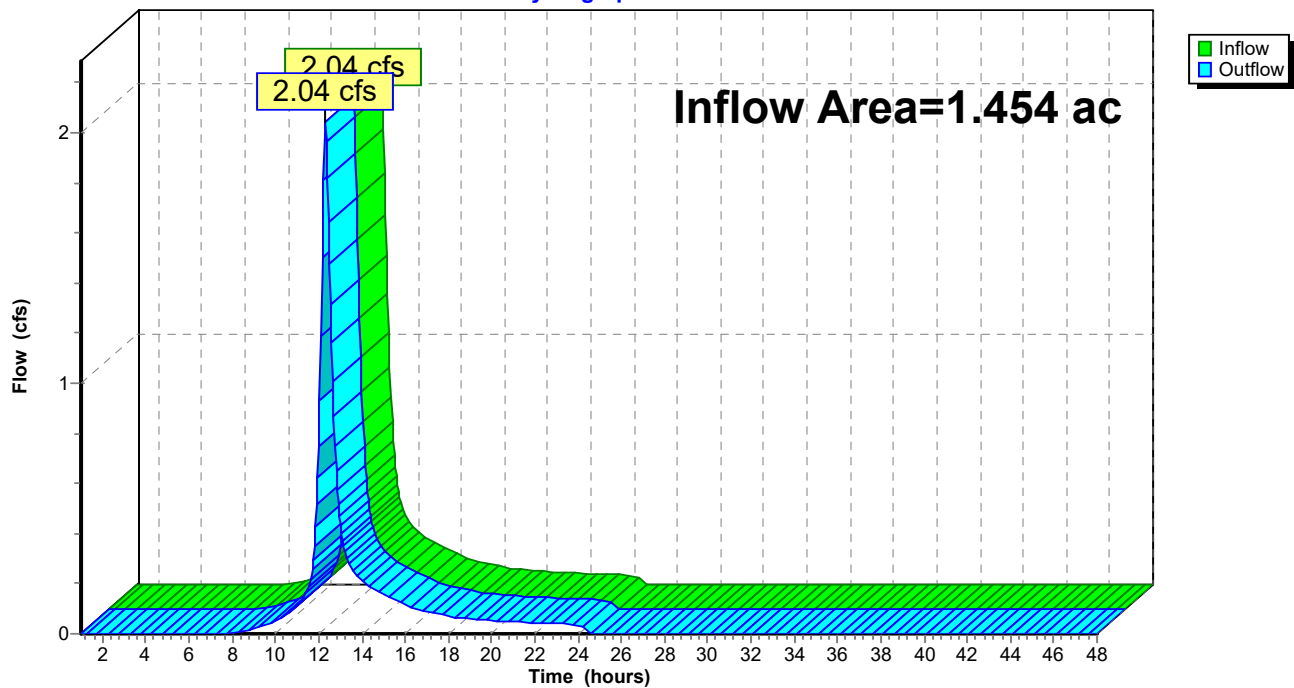


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 1.83" for 2-year event
Inflow = 2.04 cfs @ 12.29 hrs, Volume= 0.221 af
Outflow = 2.04 cfs @ 12.29 hrs, Volume= 0.221 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

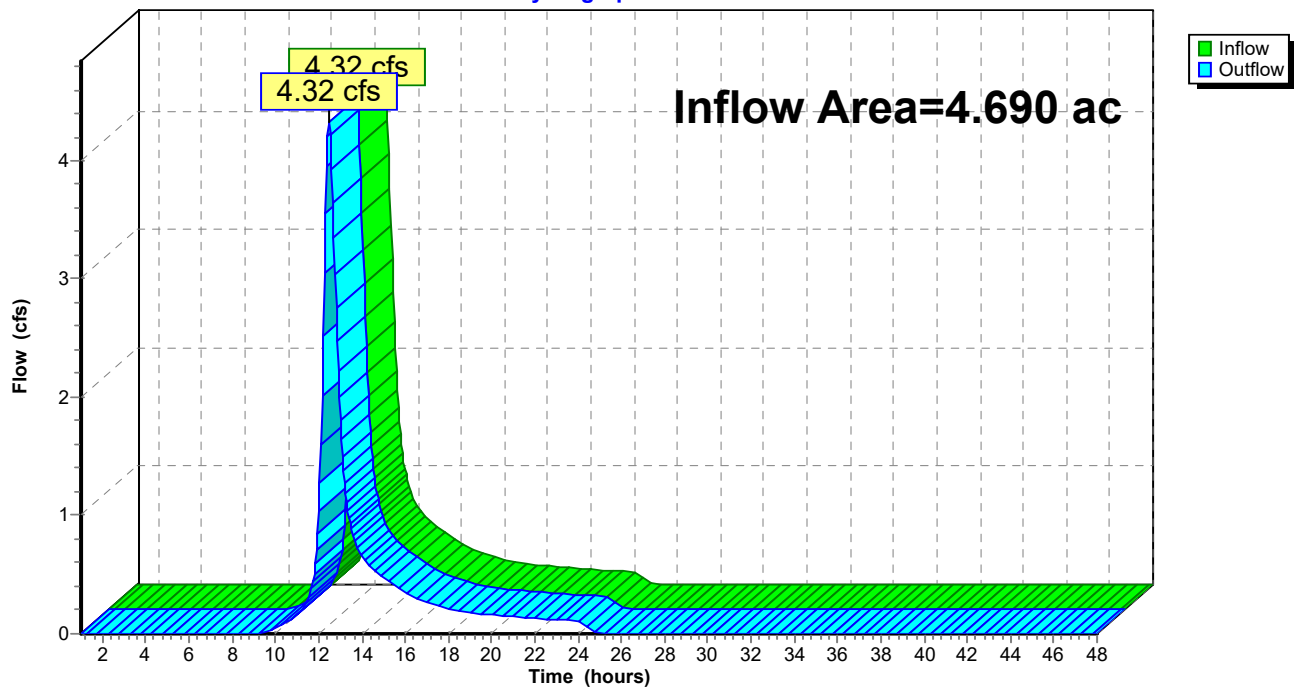
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 1.46" for 2-year event
Inflow = 4.32 cfs @ 12.47 hrs, Volume= 0.570 af
Outflow = 4.32 cfs @ 12.47 hrs, Volume= 0.570 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph



Summary for Reach PRE: TOTAL PRE

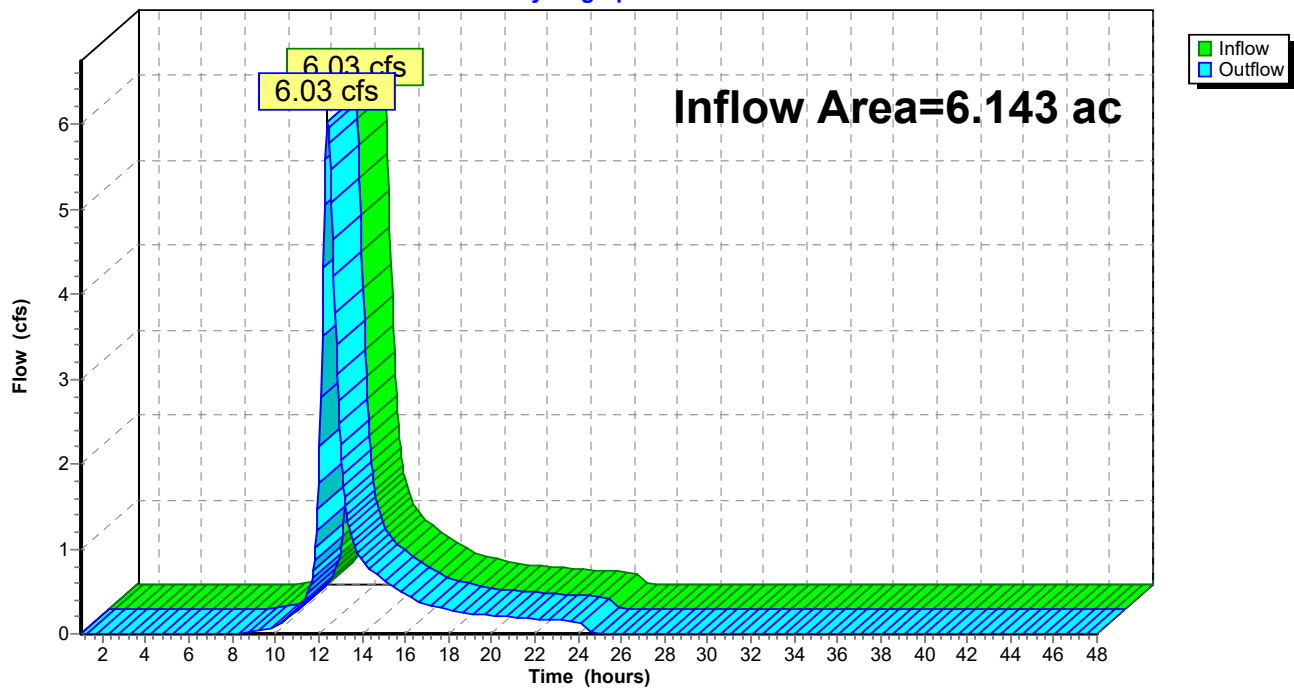
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 1.55" for 2-year event
Inflow = 6.03 cfs @ 12.41 hrs, Volume= 0.791 af
Outflow = 6.03 cfs @ 12.41 hrs, Volume= 0.791 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE*Type III 24-hr 10-year Rainfall=4.60"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=3.19"
Flow Length=340' Tc=21.2 min CN=87 Runoff=3.53 cfs 0.387 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=2.72"
Flow Length=898' Tc=32.6 min CN=82 Runoff=8.13 cfs 1.065 af

Reach POI 1: POI 1

Inflow=3.53 cfs 0.387 af
Outflow=3.53 cfs 0.387 af

Reach POI 2: POI 2

Inflow=8.13 cfs 1.065 af
Outflow=8.13 cfs 1.065 af

Reach PRE: TOTAL PRE

Inflow=11.10 cfs 1.451 af
Outflow=11.10 cfs 1.451 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.451 af Average Runoff Depth = 2.83"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 3.53 cfs @ 12.29 hrs, Volume= 0.387 af, Depth= 3.19"

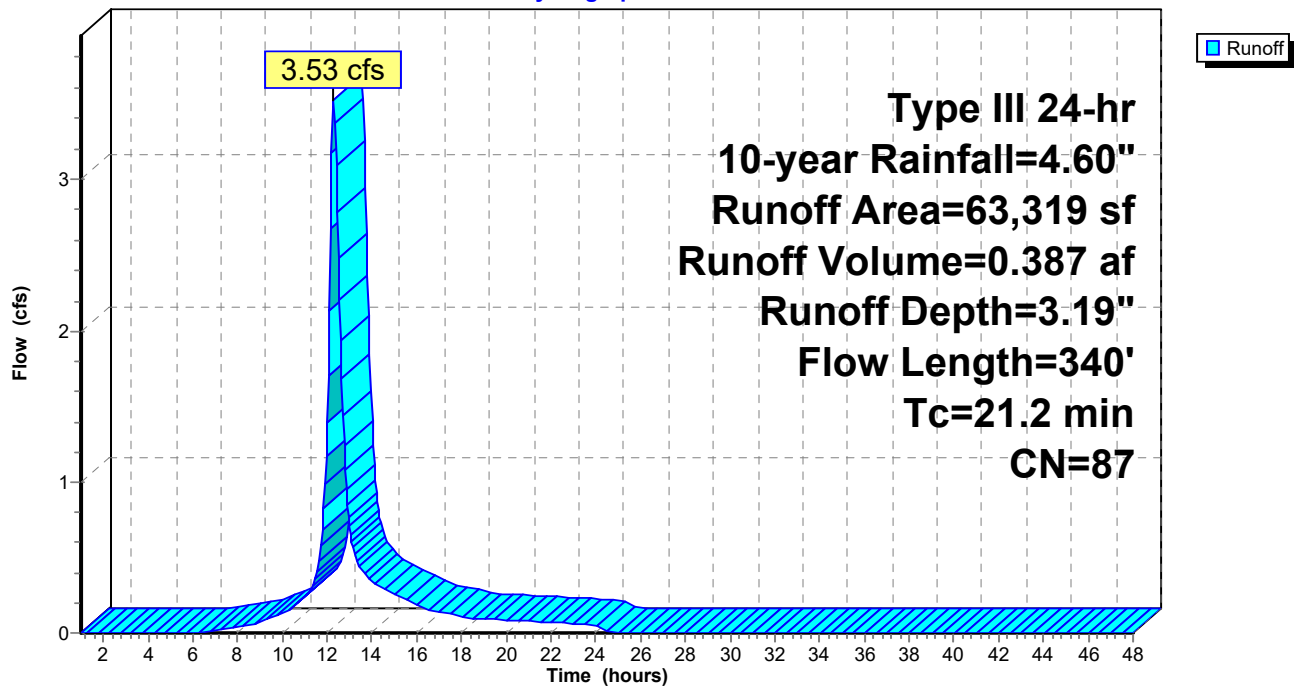
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 8.13 cfs @ 12.45 hrs, Volume= 1.065 af, Depth= 2.72"

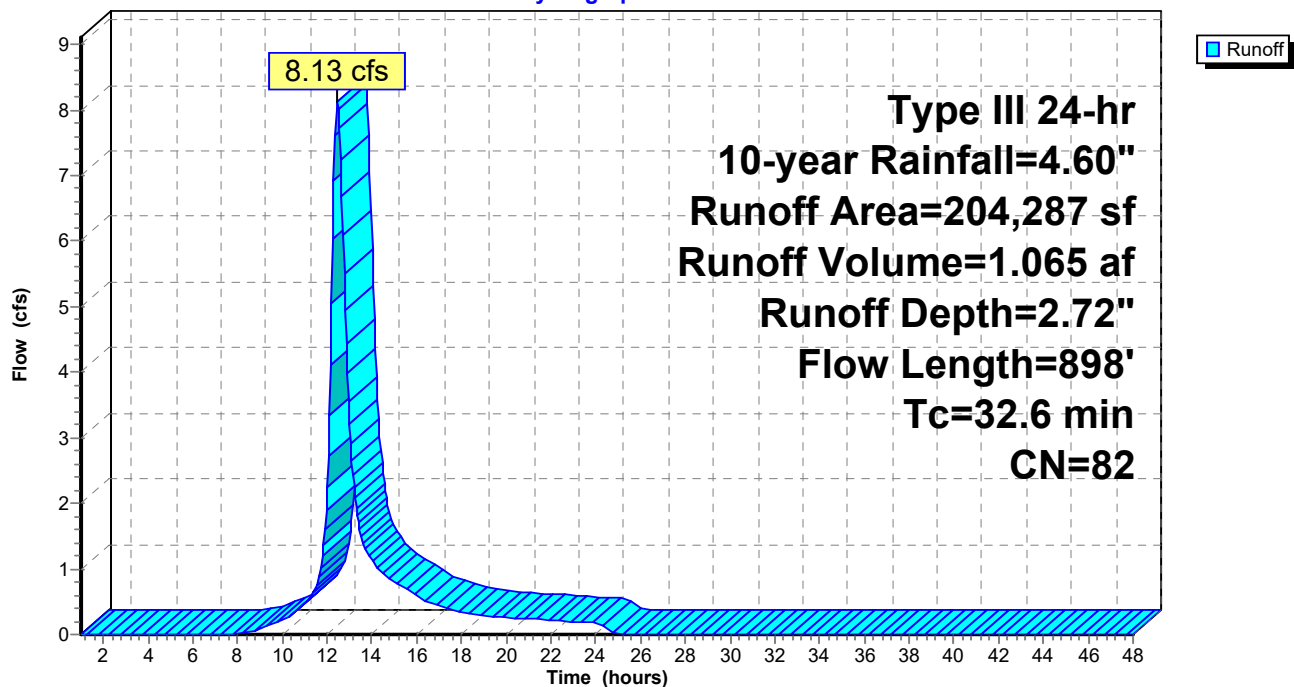
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

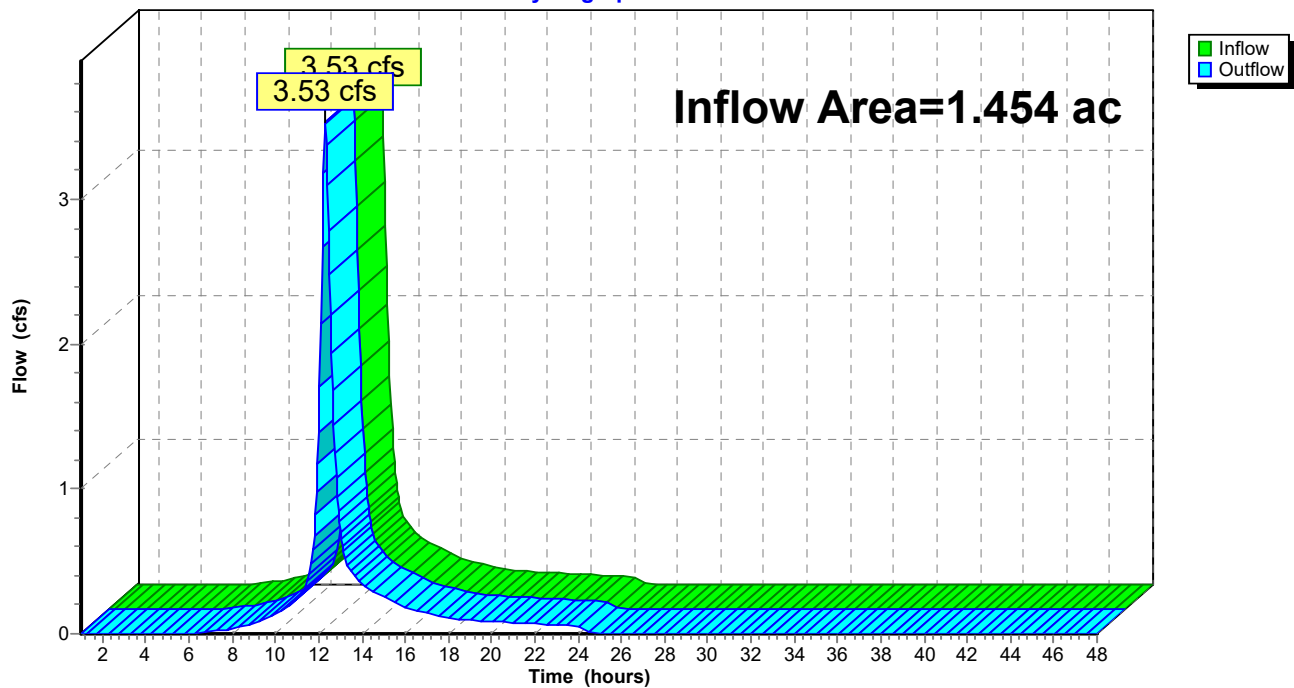
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 3.19" for 10-year event
Inflow = 3.53 cfs @ 12.29 hrs, Volume= 0.387 af
Outflow = 3.53 cfs @ 12.29 hrs, Volume= 0.387 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph

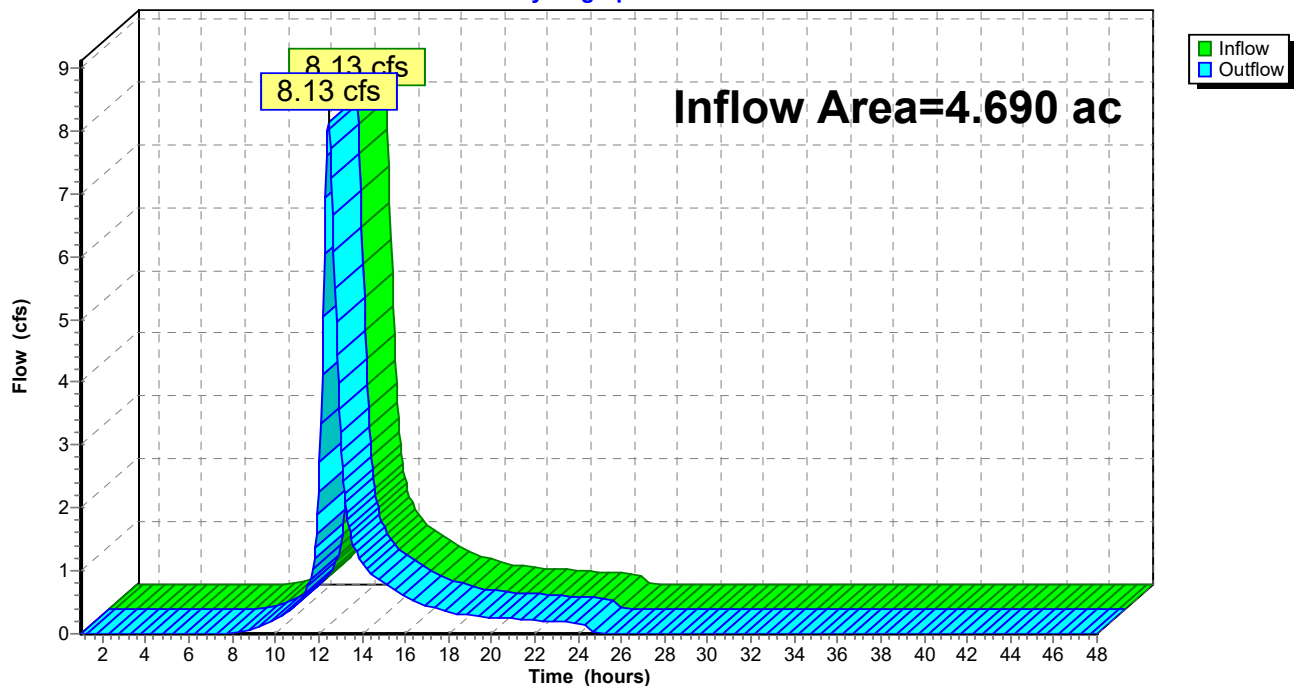


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 2.72" for 10-year event
Inflow = 8.13 cfs @ 12.45 hrs, Volume= 1.065 af
Outflow = 8.13 cfs @ 12.45 hrs, Volume= 1.065 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

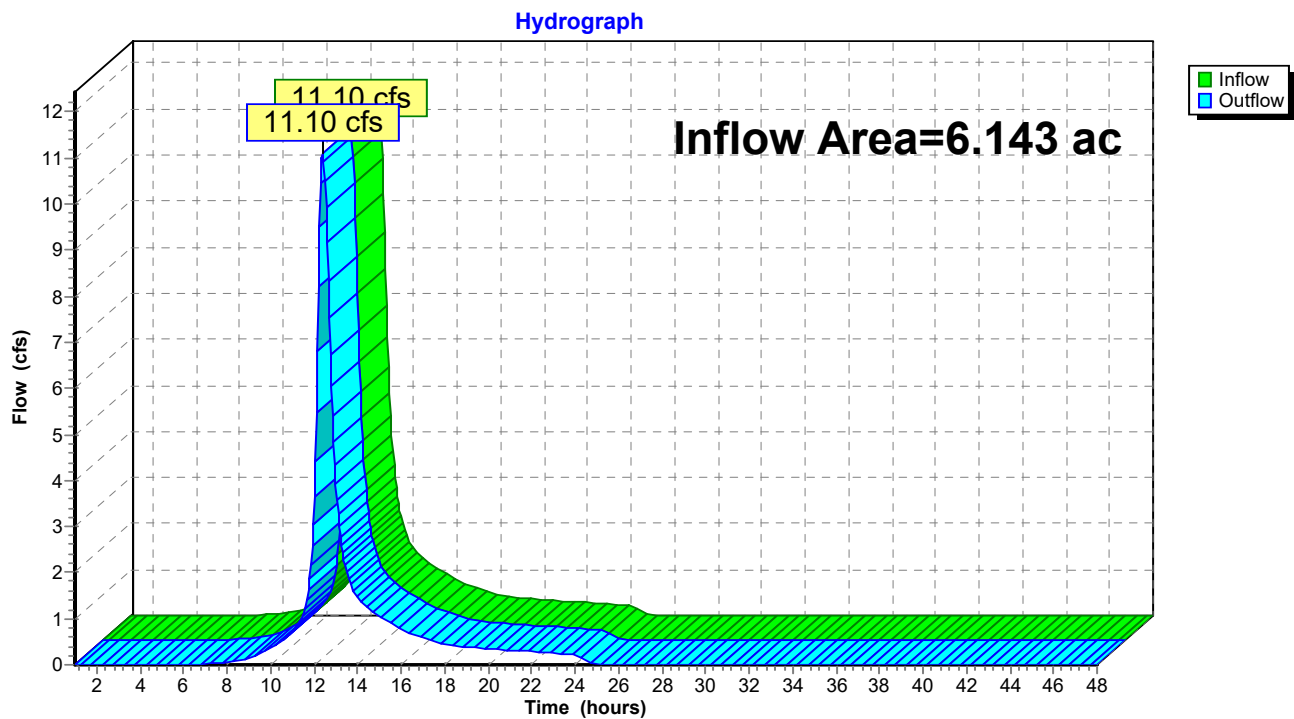
Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 2.83" for 10-year event
Inflow = 11.10 cfs @ 12.39 hrs, Volume= 1.451 af
Outflow = 11.10 cfs @ 12.39 hrs, Volume= 1.451 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

1176_PRE*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=4.33"
Flow Length=340' Tc=21.2 min CN=87 Runoff=4.73 cfs 0.524 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=3.80"
Flow Length=898' Tc=32.6 min CN=82 Runoff=11.31 cfs 1.486 af

Reach POI 1: POI 1

Inflow=4.73 cfs 0.524 af
Outflow=4.73 cfs 0.524 af

Reach POI 2: POI 2

Inflow=11.31 cfs 1.486 af
Outflow=11.31 cfs 1.486 af

Reach PRE: TOTAL PRE

Inflow=15.30 cfs 2.011 af
Outflow=15.30 cfs 2.011 af

Total Runoff Area = 6.143 ac Runoff Volume = 2.011 af Average Runoff Depth = 3.93"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 4.73 cfs @ 12.28 hrs, Volume= 0.524 af, Depth= 4.33"

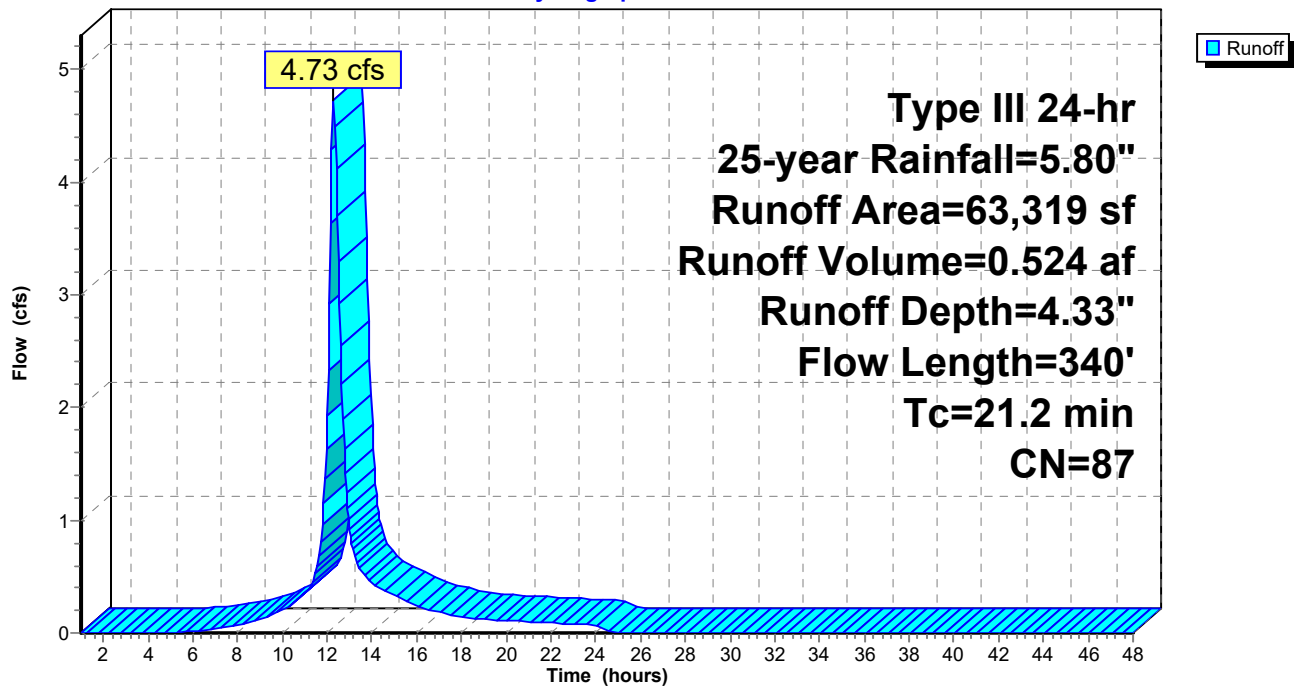
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 11.31 cfs @ 12.45 hrs, Volume= 1.486 af, Depth= 3.80"

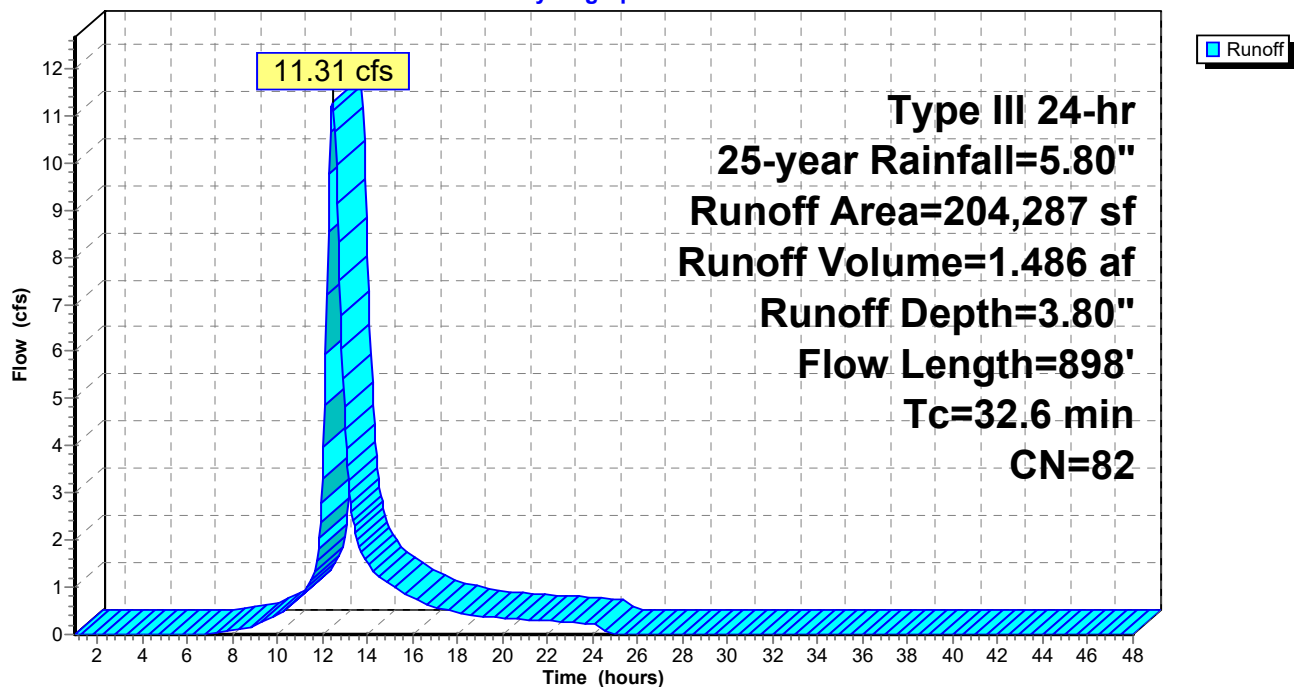
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph

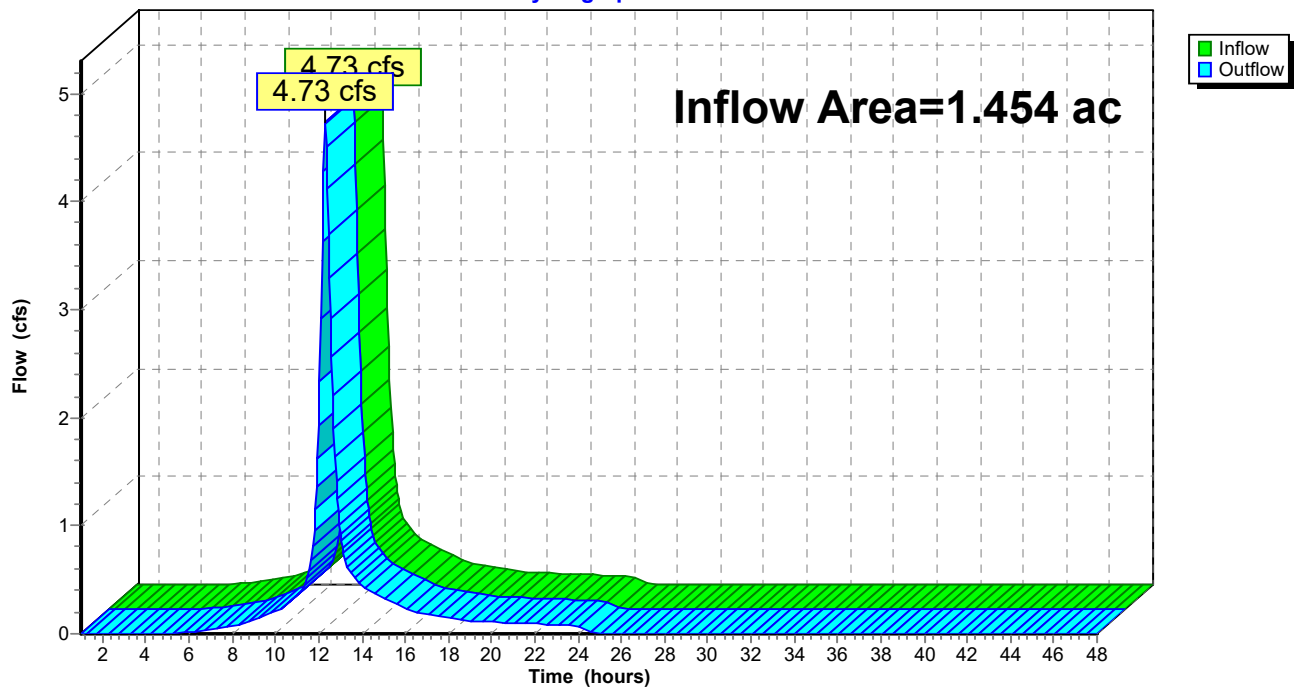


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 4.33" for 25-year event
Inflow = 4.73 cfs @ 12.28 hrs, Volume= 0.524 af
Outflow = 4.73 cfs @ 12.28 hrs, Volume= 0.524 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

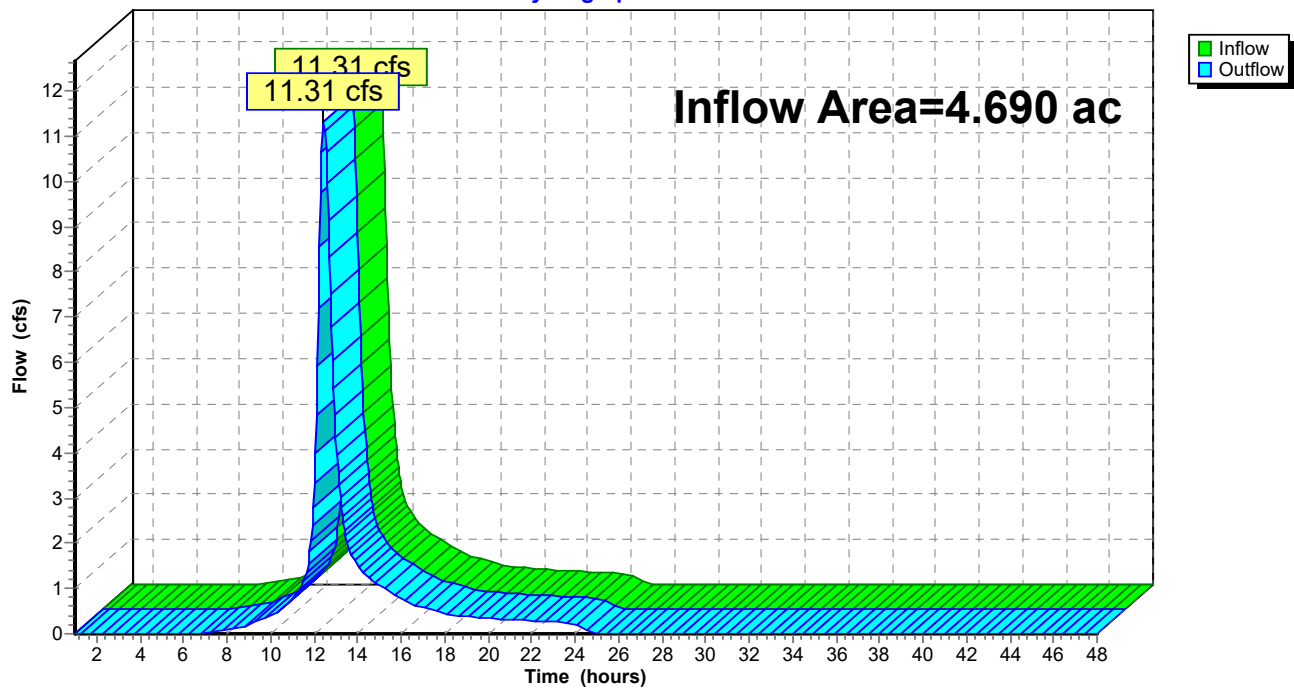
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 3.80" for 25-year event
Inflow = 11.31 cfs @ 12.45 hrs, Volume= 1.486 af
Outflow = 11.31 cfs @ 12.45 hrs, Volume= 1.486 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph



Summary for Reach PRE: TOTAL PRE

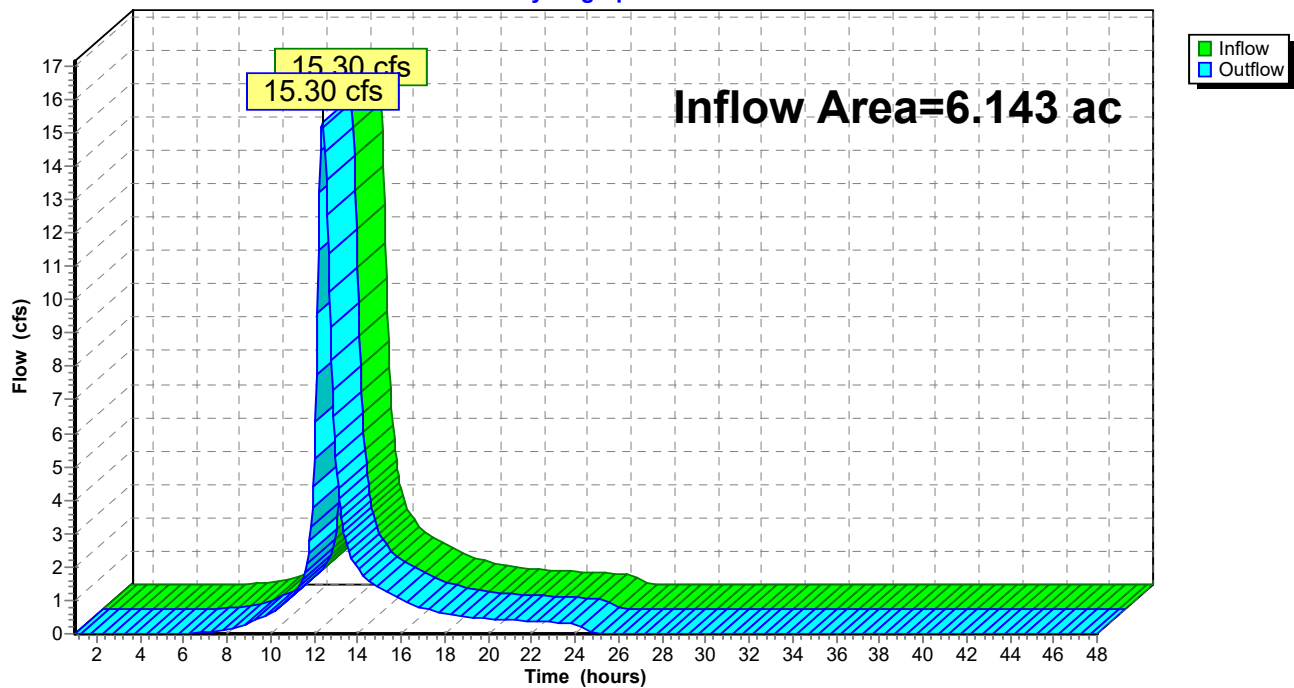
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 3.93" for 25-year event
Inflow = 15.30 cfs @ 12.39 hrs, Volume= 2.011 af
Outflow = 15.30 cfs @ 12.39 hrs, Volume= 2.011 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE*Type III 24-hr Custom Rainfall=3.40"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=2.09"
Flow Length=340' Tc=21.2 min CN=87 Runoff=2.34 cfs 0.254 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=1.70"
Flow Length=898' Tc=32.6 min CN=82 Runoff=5.06 cfs 0.665 af

Reach POI 1: POI 1

Inflow=2.34 cfs 0.254 af
Outflow=2.34 cfs 0.254 af

Reach POI 2: POI 2

Inflow=5.06 cfs 0.665 af
Outflow=5.06 cfs 0.665 af

Reach PRE: TOTAL PRE

Inflow=7.01 cfs 0.918 af
Outflow=7.01 cfs 0.918 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.918 af Average Runoff Depth = 1.79"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 2.34 cfs @ 12.29 hrs, Volume= 0.254 af, Depth= 2.09"

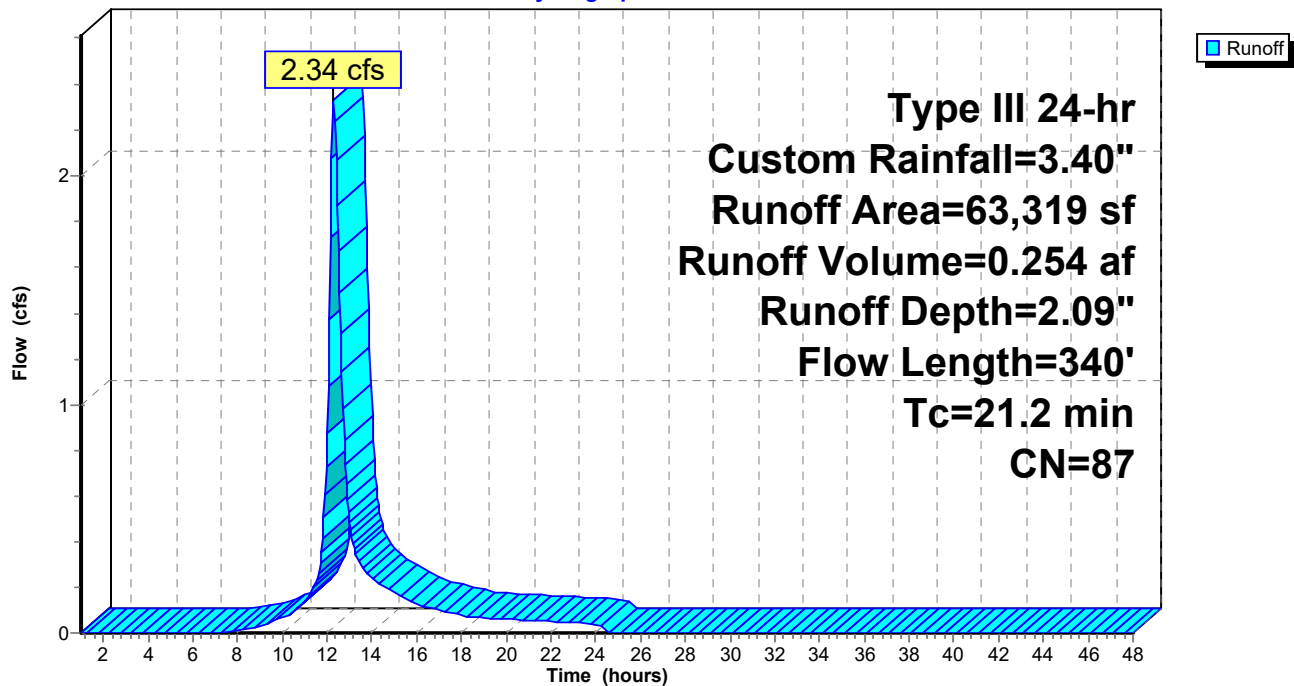
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 5.06 cfs @ 12.46 hrs, Volume= 0.665 af, Depth= 1.70"

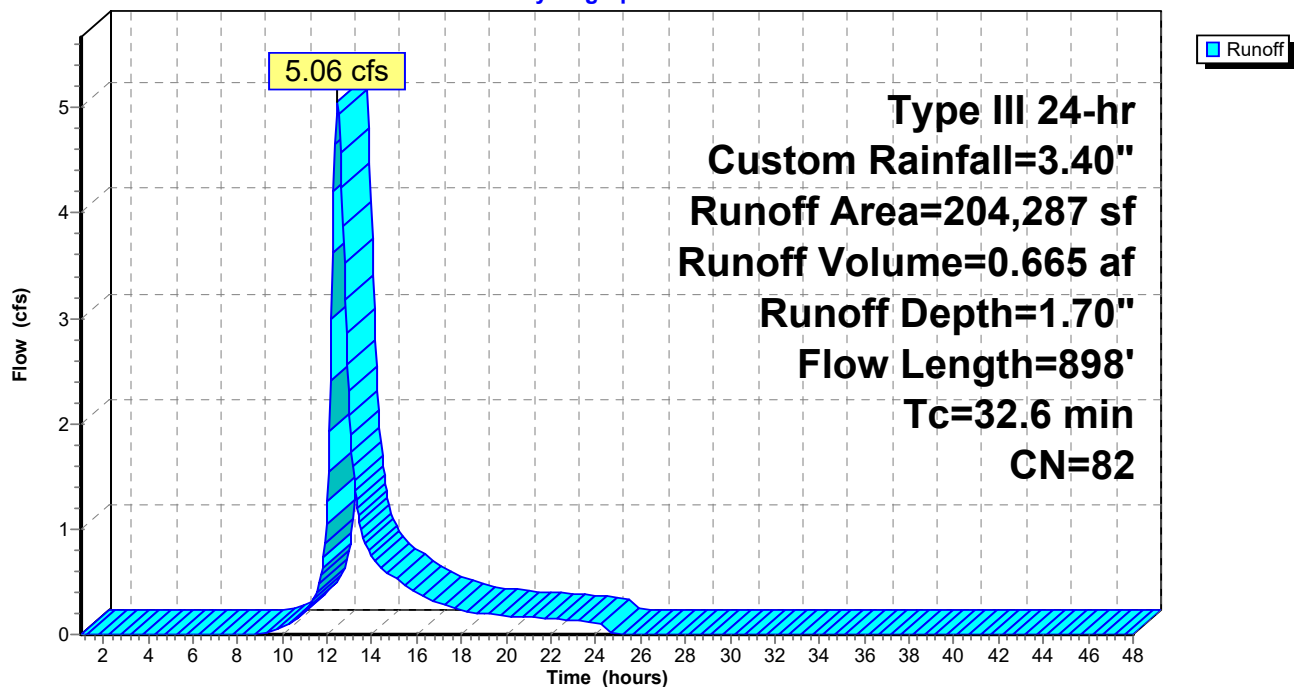
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

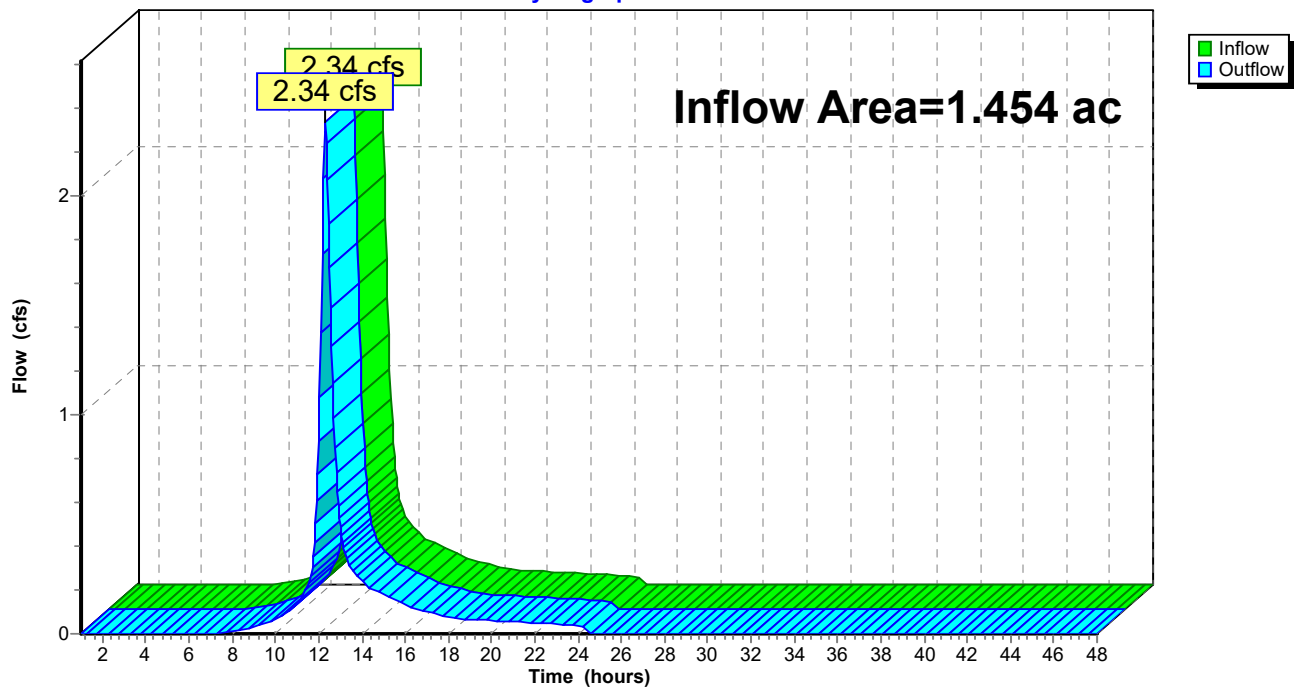
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 2.09" for Custom event
Inflow = 2.34 cfs @ 12.29 hrs, Volume= 0.254 af
Outflow = 2.34 cfs @ 12.29 hrs, Volume= 0.254 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph

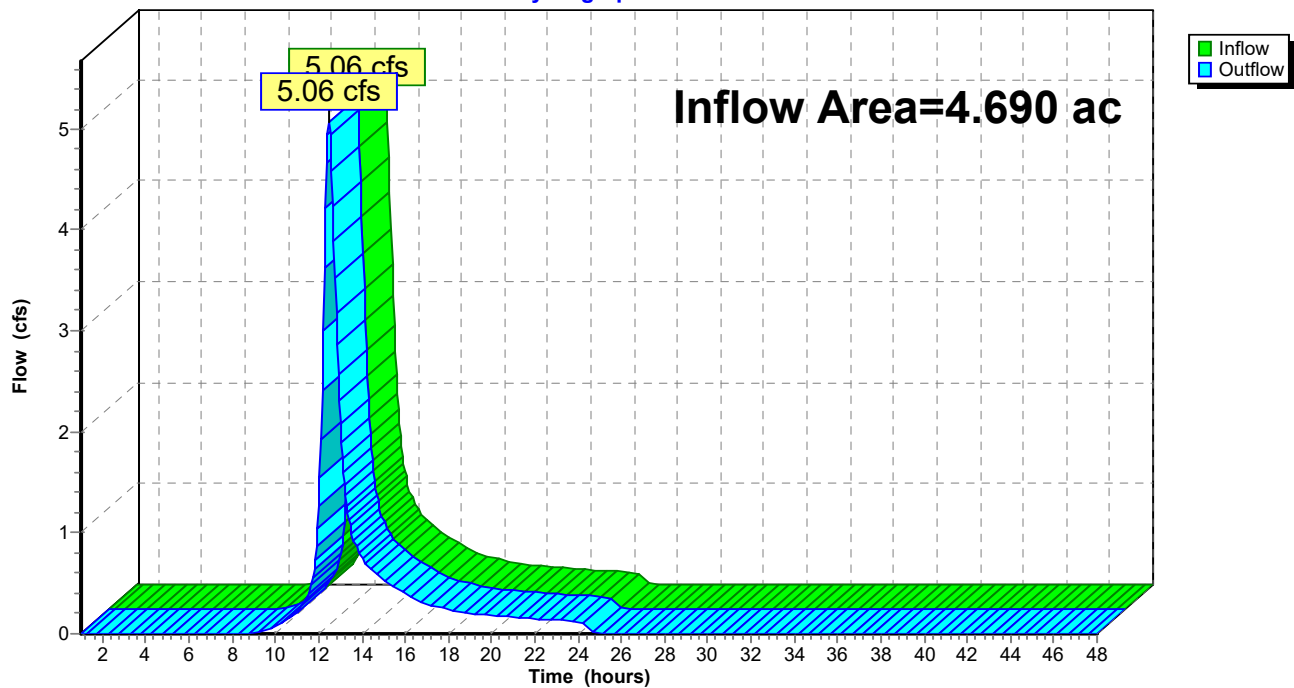


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 1.70" for Custom event
Inflow = 5.06 cfs @ 12.46 hrs, Volume= 0.665 af
Outflow = 5.06 cfs @ 12.46 hrs, Volume= 0.665 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

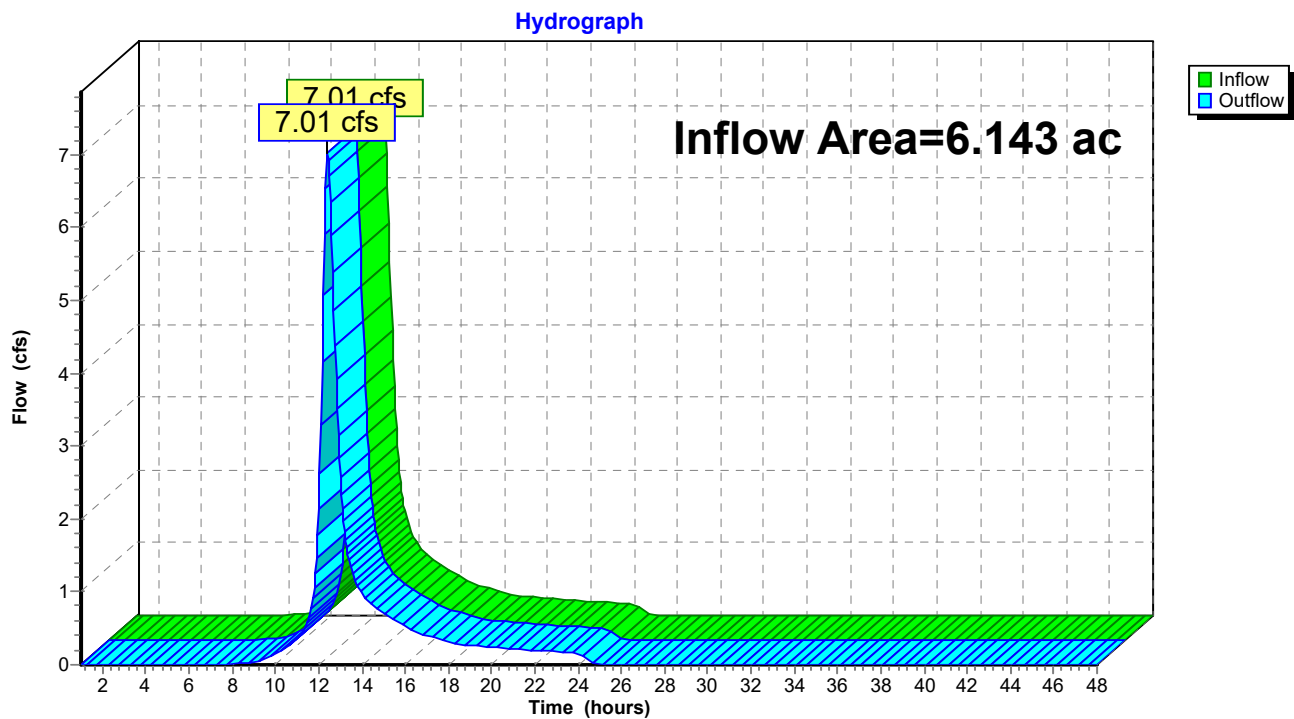
Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 1.79" for Custom event
Inflow = 7.01 cfs @ 12.40 hrs, Volume= 0.918 af
Outflow = 7.01 cfs @ 12.40 hrs, Volume= 0.918 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

1176_PRE

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Type III 24-hr WQ Rainfall=1.00"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=0.22"
Flow Length=340' Tc=21.2 min CN=87 Runoff=0.21 cfs 0.027 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=0.11"
Flow Length=898' Tc=32.6 min CN=82 Runoff=0.21 cfs 0.045 af

Reach POI 1: POI 1

Inflow=0.21 cfs 0.027 af
Outflow=0.21 cfs 0.027 af

Reach POI 2: POI 2

Inflow=0.21 cfs 0.045 af
Outflow=0.21 cfs 0.045 af

Reach PRE: TOTAL PRE

Inflow=0.37 cfs 0.072 af
Outflow=0.37 cfs 0.072 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.072 af Average Runoff Depth = 0.14"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 0.21 cfs @ 12.35 hrs, Volume= 0.027 af, Depth= 0.22"

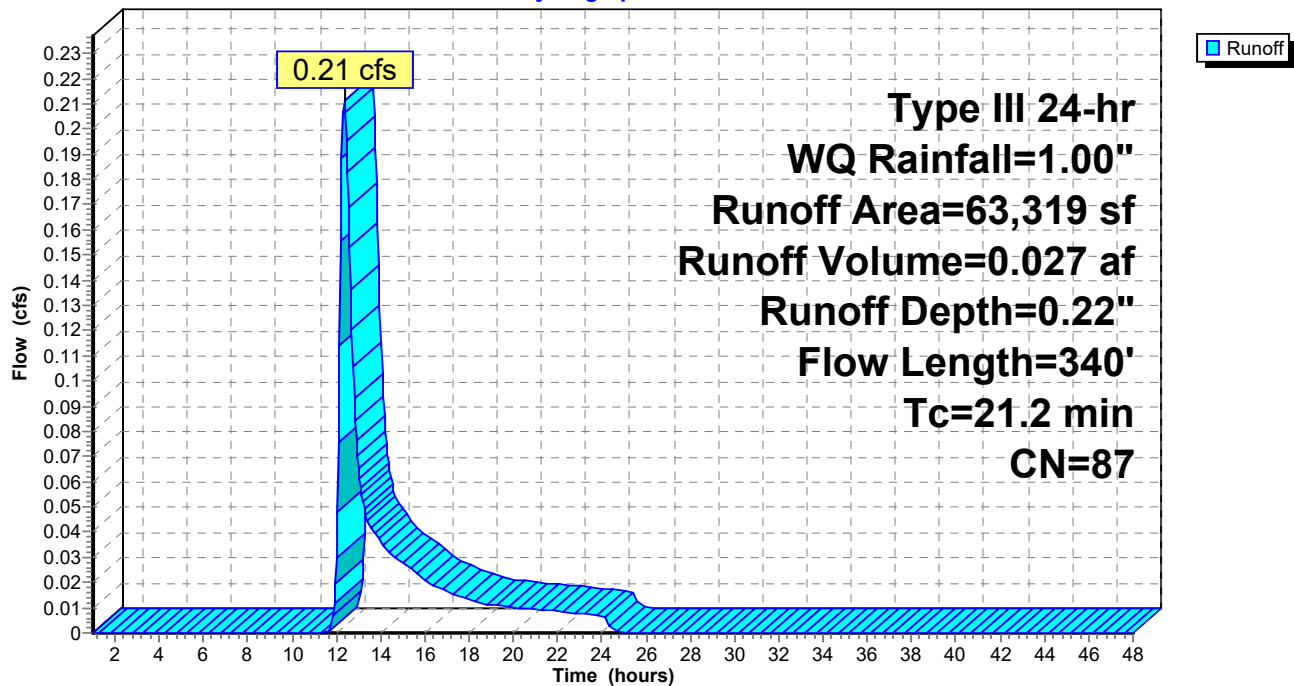
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 0.21 cfs @ 12.64 hrs, Volume= 0.045 af, Depth= 0.11"

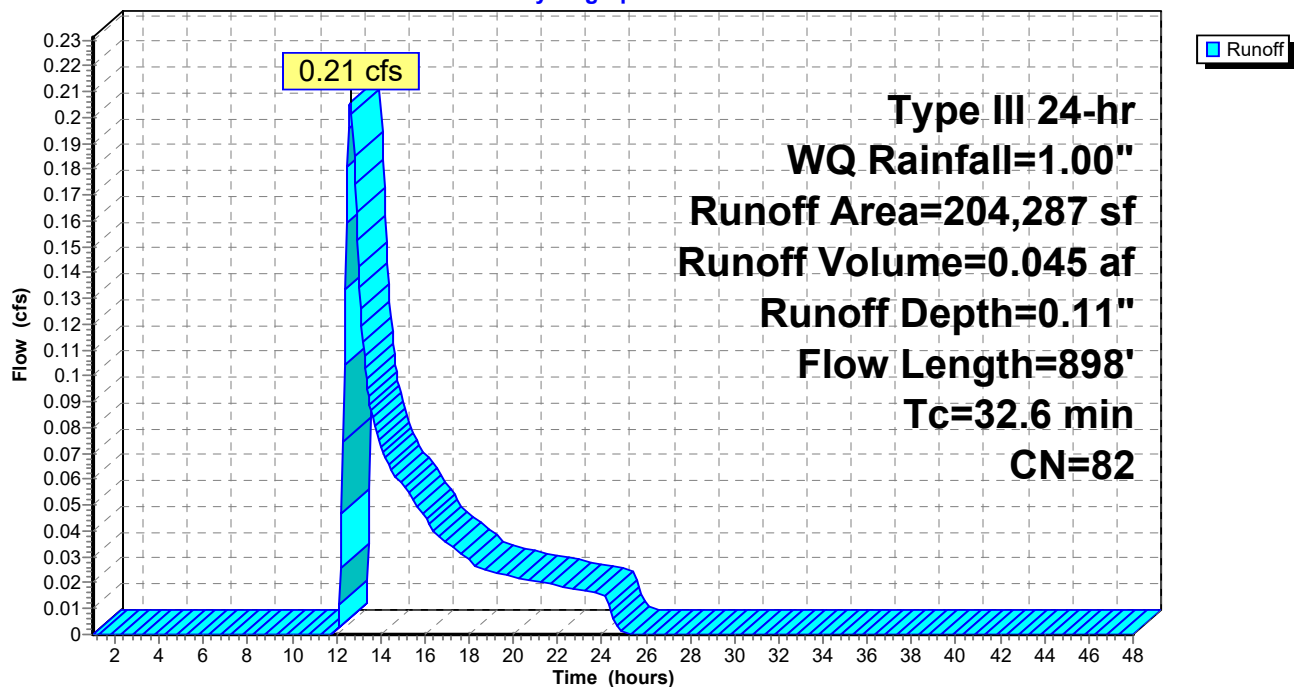
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph

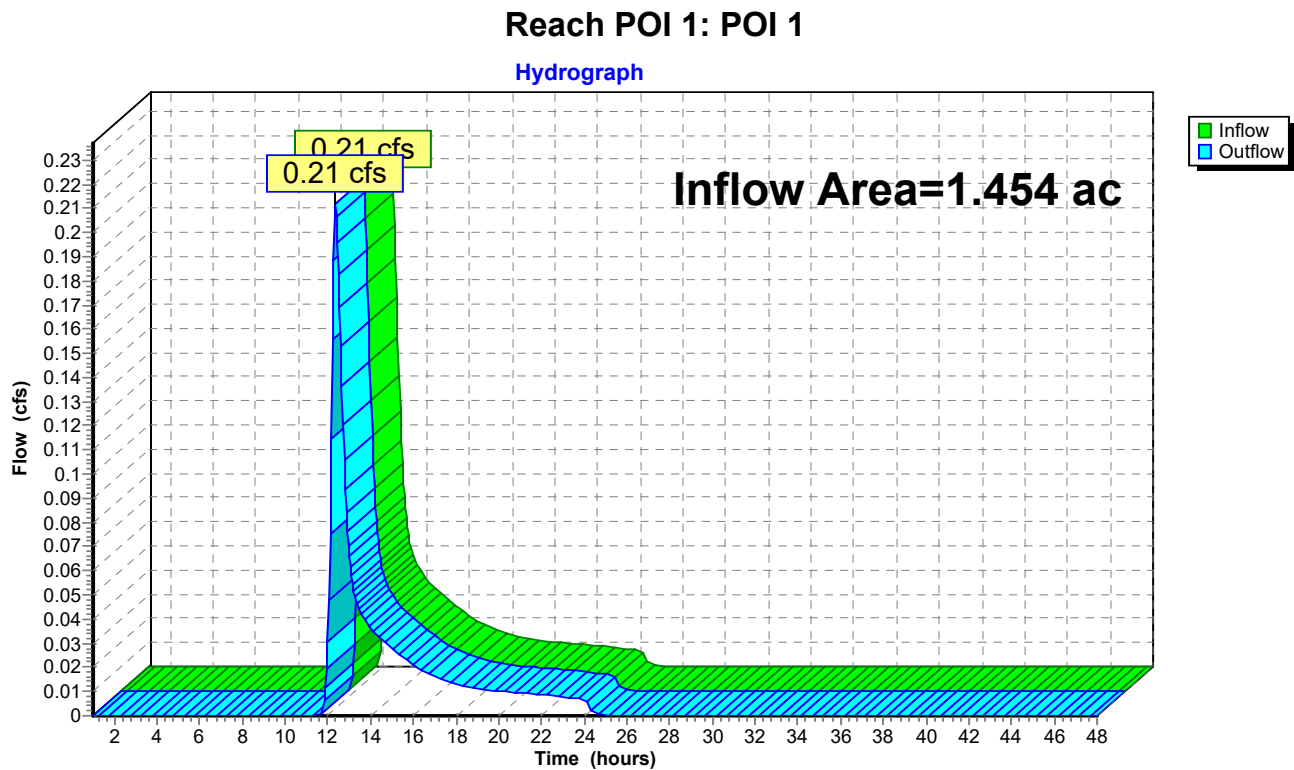


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 0.22" for WQ event
Inflow = 0.21 cfs @ 12.35 hrs, Volume= 0.027 af
Outflow = 0.21 cfs @ 12.35 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

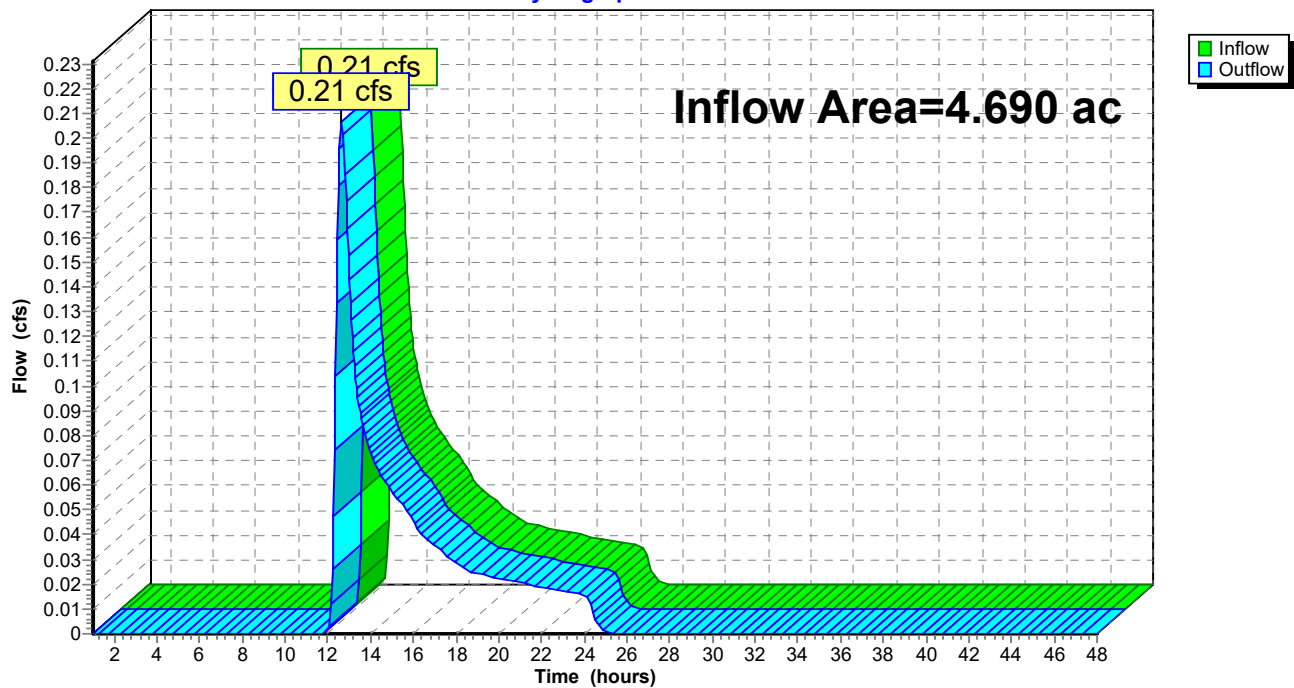


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 0.11" for WQ event
Inflow = 0.21 cfs @ 12.64 hrs, Volume= 0.045 af
Outflow = 0.21 cfs @ 12.64 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

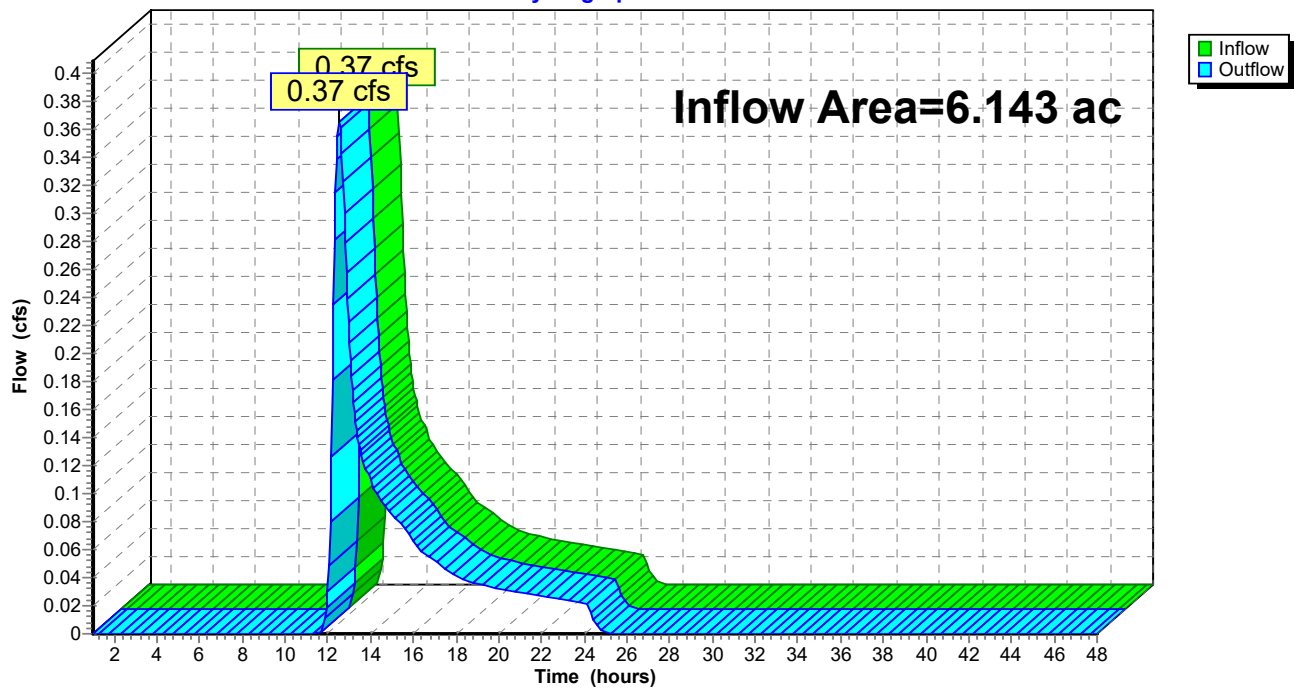
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 0.14" for WQ event
Inflow = 0.37 cfs @ 12.53 hrs, Volume= 0.072 af
Outflow = 0.37 cfs @ 12.53 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE*Type III 24-hr WQV USSF Rainfall=4.26"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=2.88"
Flow Length=340' Tc=21.2 min CN=87 Runoff=3.19 cfs 0.348 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=2.43"
Flow Length=898' Tc=32.6 min CN=82 Runoff=7.25 cfs 0.948 af

Reach POI 1: POI 1

Inflow=3.19 cfs 0.348 af
Outflow=3.19 cfs 0.348 af

Reach POI 2: POI 2

Inflow=7.25 cfs 0.948 af
Outflow=7.25 cfs 0.948 af

Reach PRE: TOTAL PRE

Inflow=9.93 cfs 1.297 af
Outflow=9.93 cfs 1.297 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.297 af Average Runoff Depth = 2.53"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Depth= 2.88"

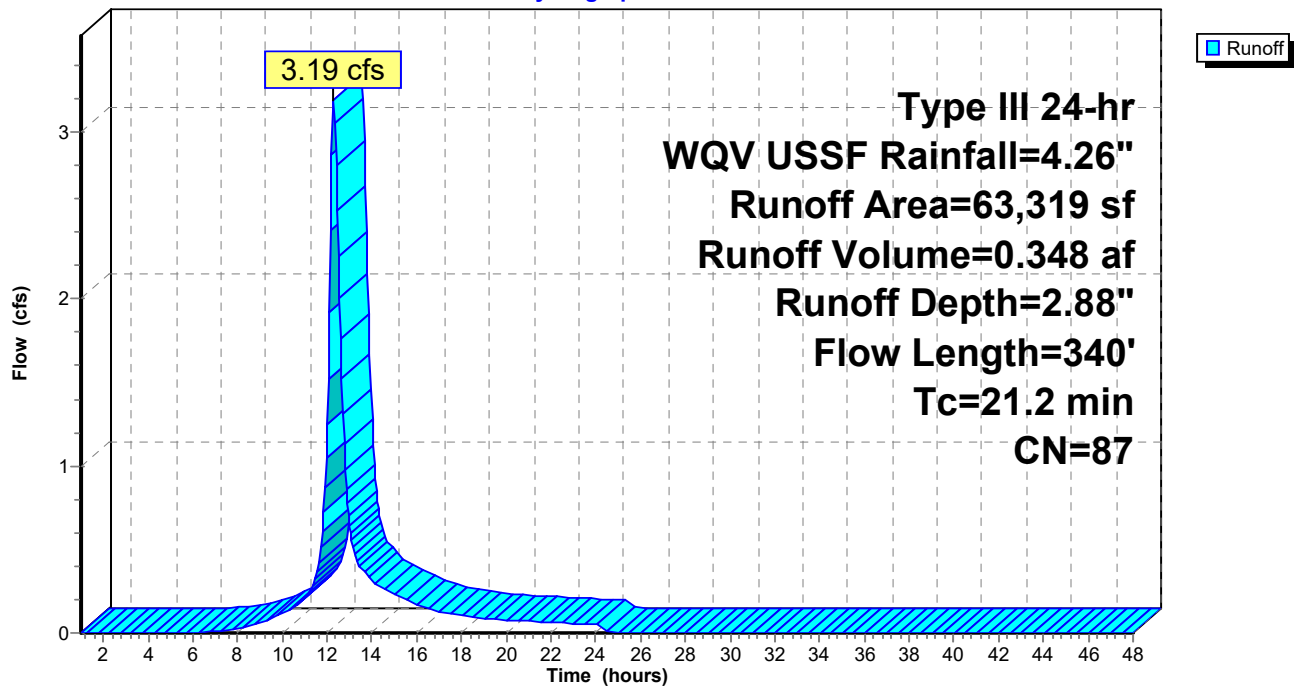
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Depth= 2.43"

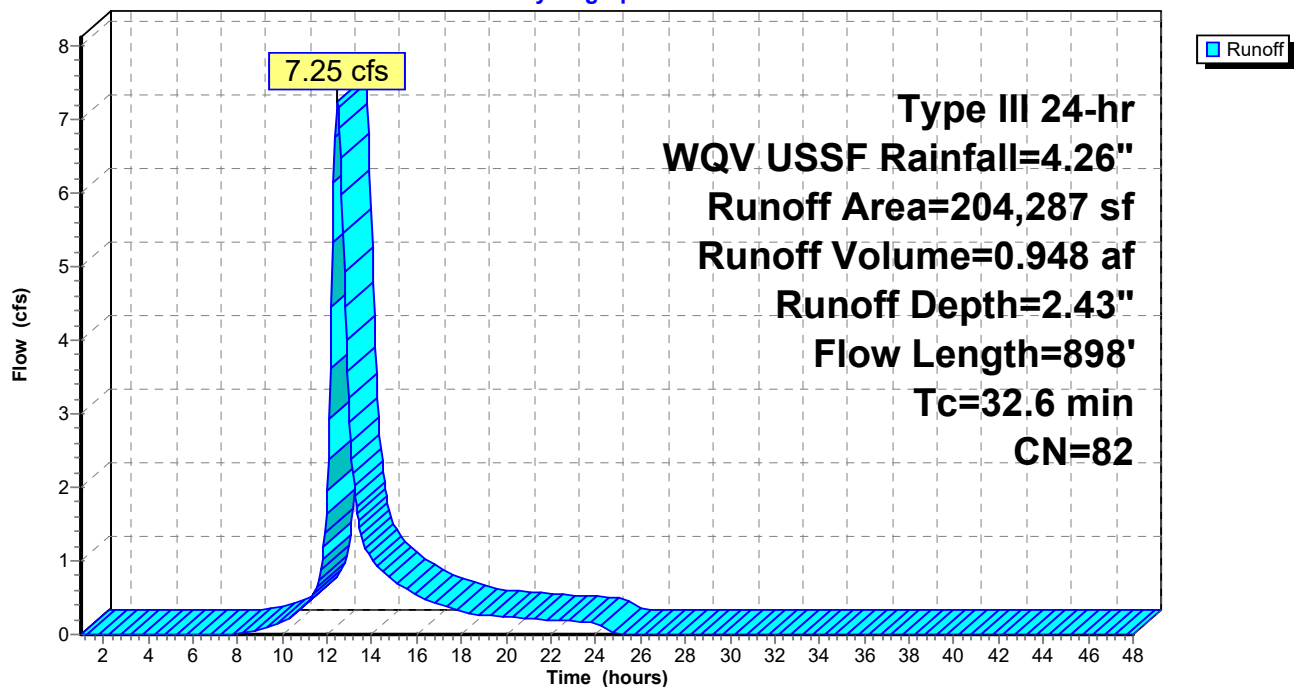
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

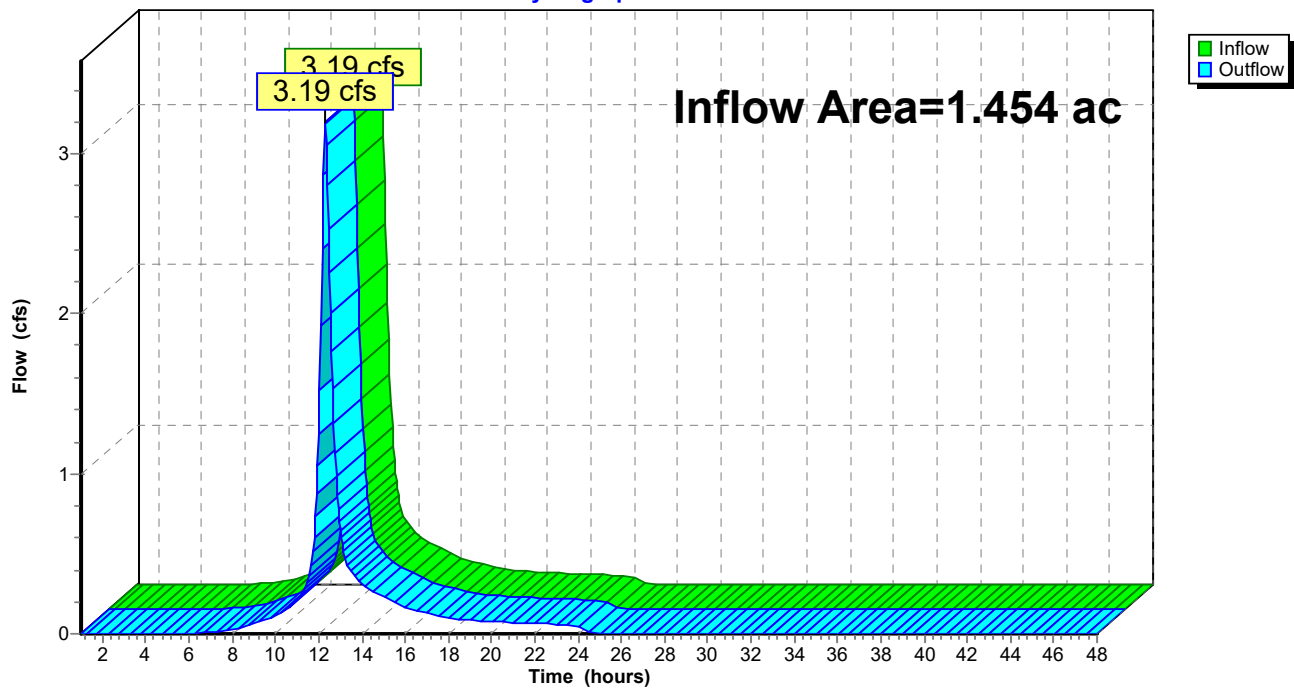
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 2.88" for WQV USSF event
Inflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af
Outflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

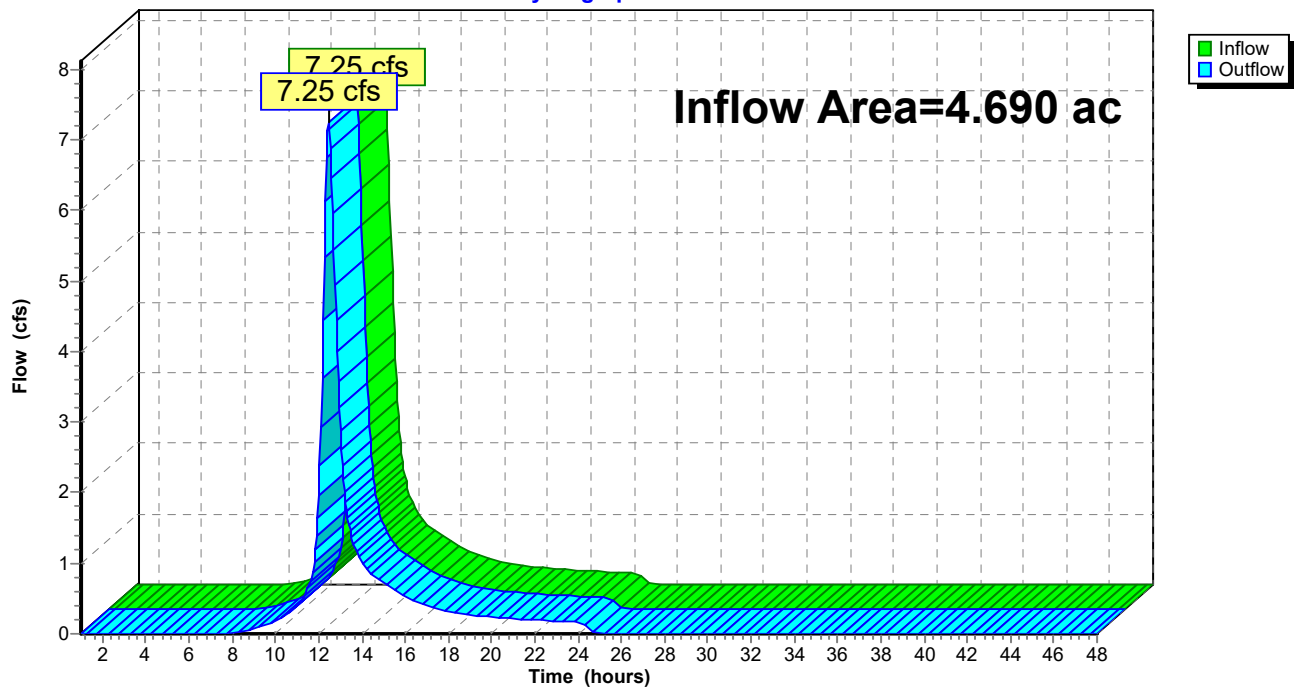
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 2.43" for WQV USSF event
Inflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af
Outflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph



Summary for Reach PRE: TOTAL PRE

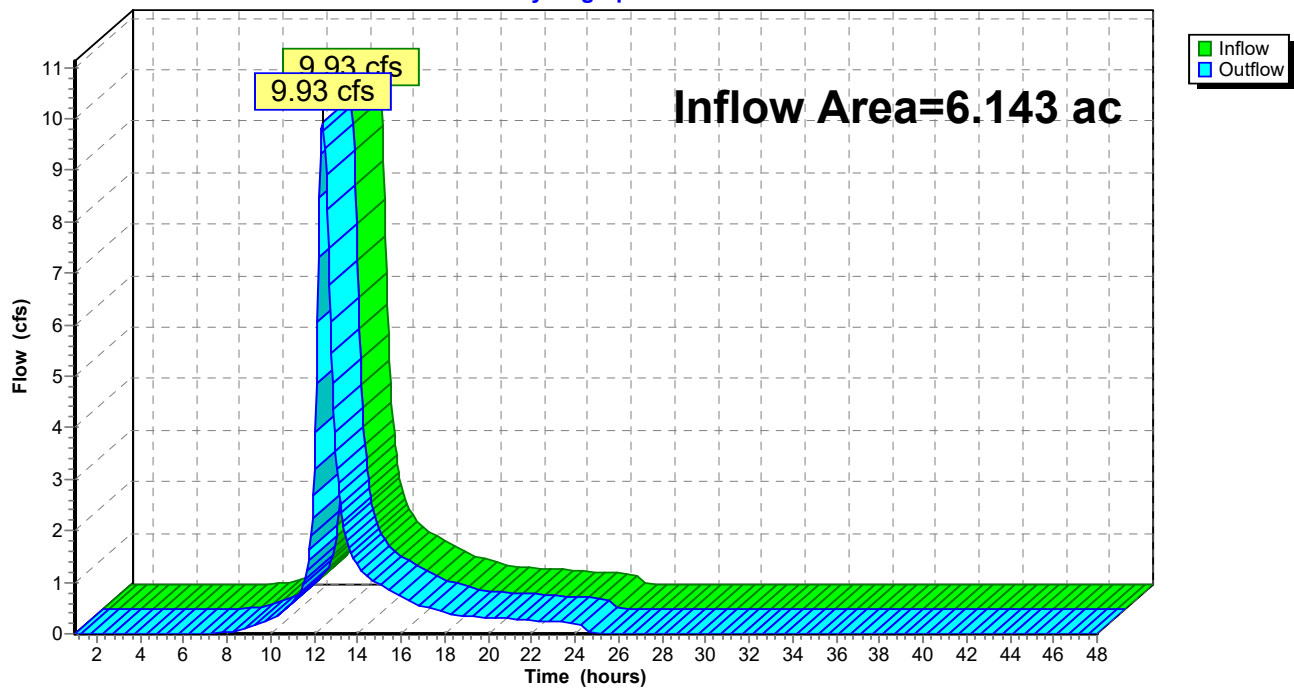
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 2.53" for WQV USSF event
Inflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af
Outflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE*Type III 24-hr WQV USSF 1 Rainfall=4.26"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=2.88"
Flow Length=340' Tc=21.2 min CN=87 Runoff=3.19 cfs 0.348 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=2.43"
Flow Length=898' Tc=32.6 min CN=82 Runoff=7.25 cfs 0.948 af

Reach POI 1: POI 1

Inflow=3.19 cfs 0.348 af
Outflow=3.19 cfs 0.348 af

Reach POI 2: POI 2

Inflow=7.25 cfs 0.948 af
Outflow=7.25 cfs 0.948 af

Reach PRE: TOTAL PRE

Inflow=9.93 cfs 1.297 af
Outflow=9.93 cfs 1.297 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.297 af Average Runoff Depth = 2.53"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Depth= 2.88"

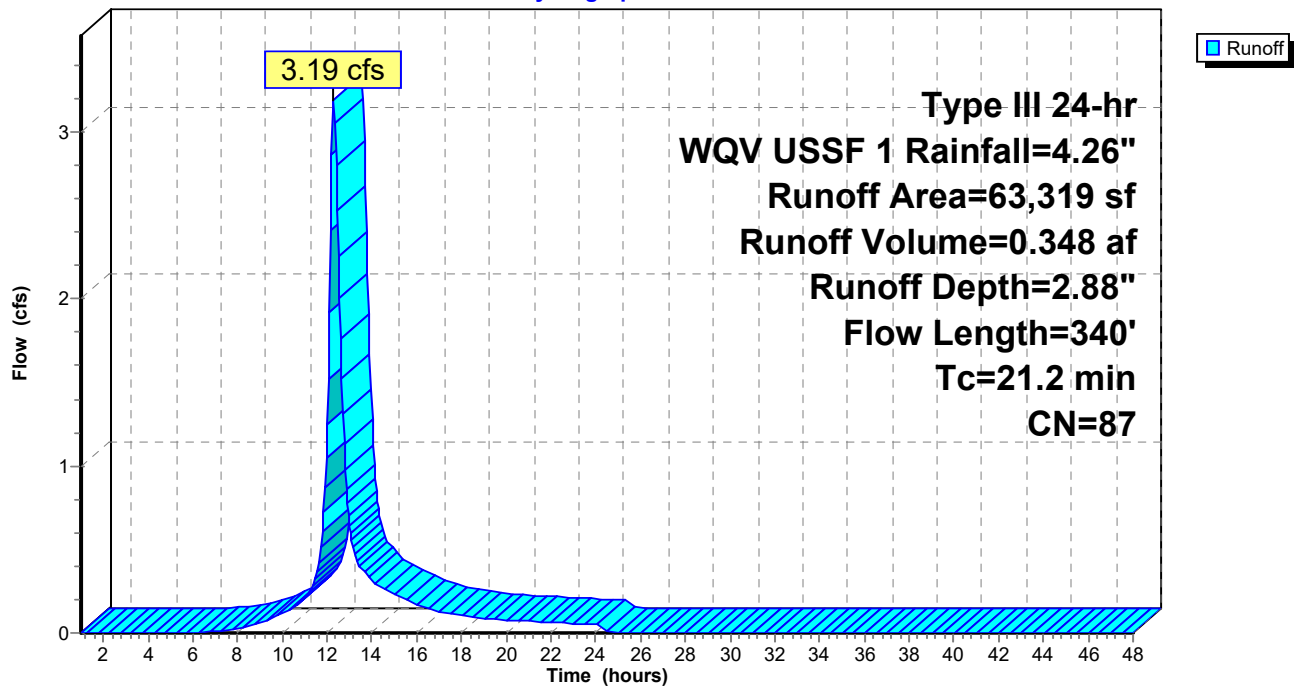
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Depth= 2.43"

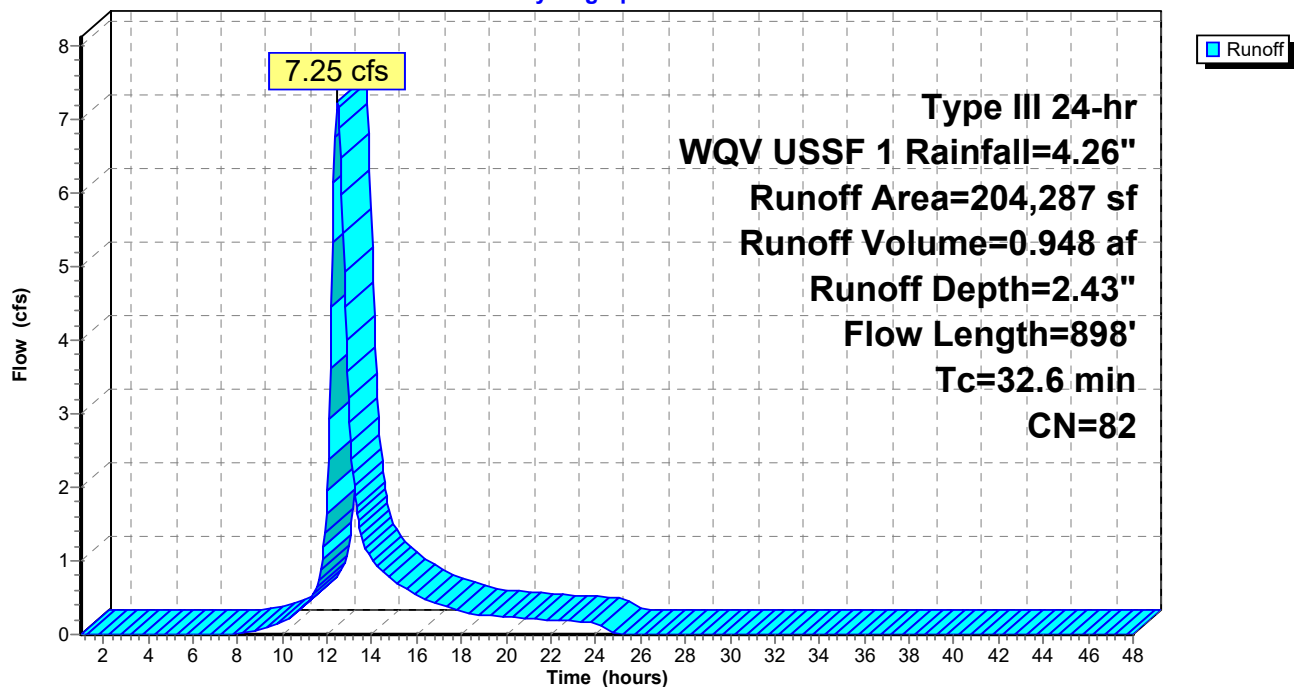
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

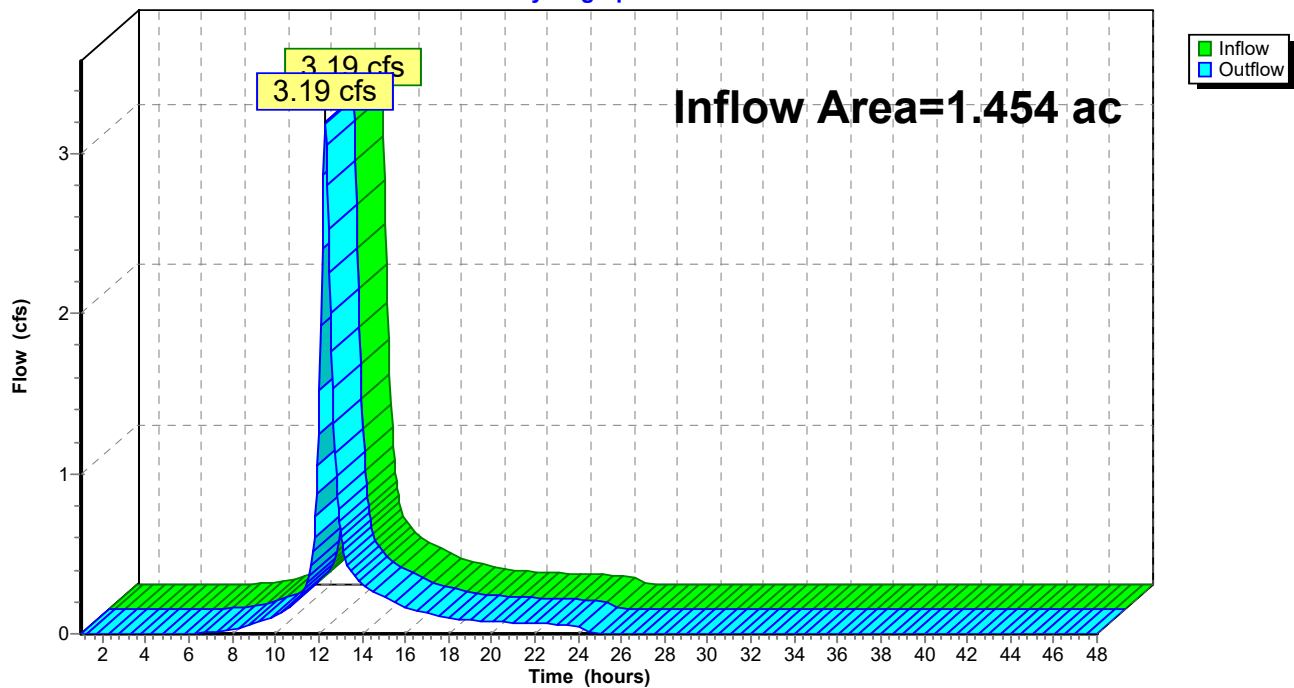
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 2.88" for WQV USSF 1 event
Inflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af
Outflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph

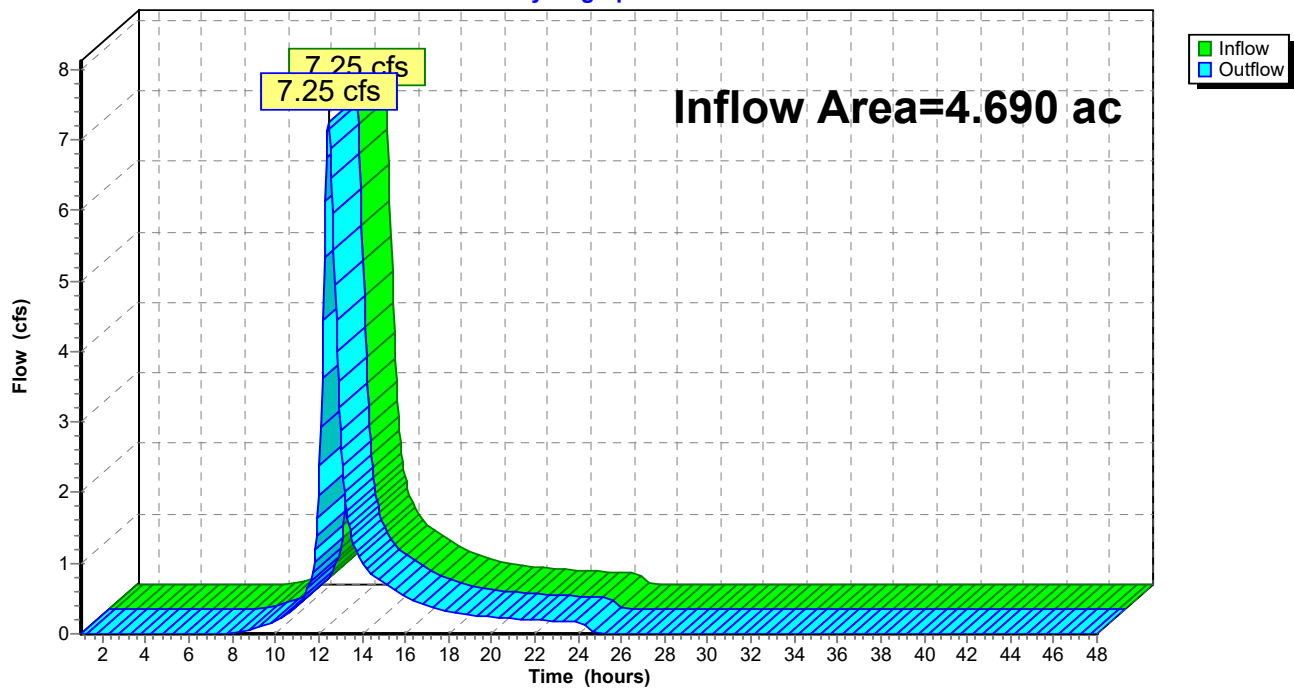


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 2.43" for WQV USSF 1 event
Inflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af
Outflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

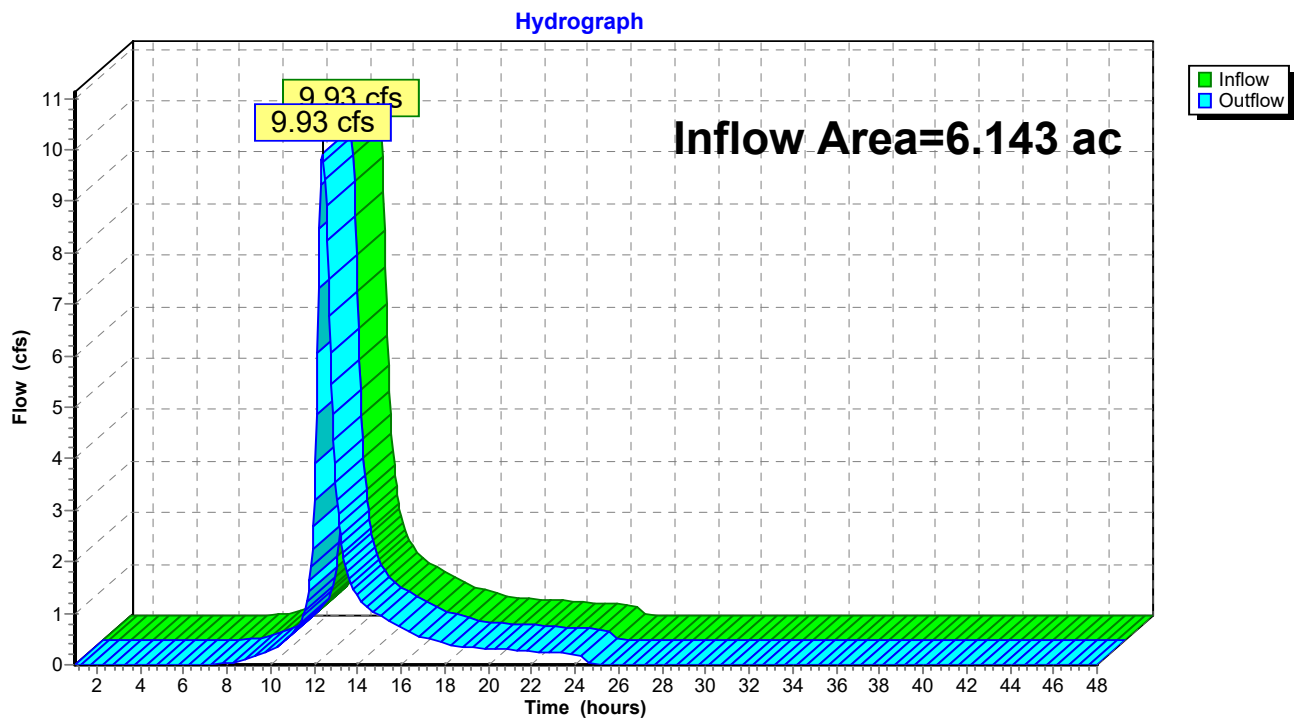
Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 2.53" for WQV USSF 1 event
Inflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af
Outflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

1176_PRE*Type III 24-hr WQV USSF 2 Rainfall=3.24"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=1.95"
Flow Length=340' Tc=21.2 min CN=87 Runoff=2.18 cfs 0.236 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=1.57"
Flow Length=898' Tc=32.6 min CN=82 Runoff=4.67 cfs 0.614 af

Reach POI 1: POI 1

Inflow=2.18 cfs 0.236 af
Outflow=2.18 cfs 0.236 af

Reach POI 2: POI 2

Inflow=4.67 cfs 0.614 af
Outflow=4.67 cfs 0.614 af

Reach PRE: TOTAL PRE

Inflow=6.49 cfs 0.850 af
Outflow=6.49 cfs 0.850 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.850 af Average Runoff Depth = 1.66"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 2.18 cfs @ 12.29 hrs, Volume= 0.236 af, Depth= 1.95"

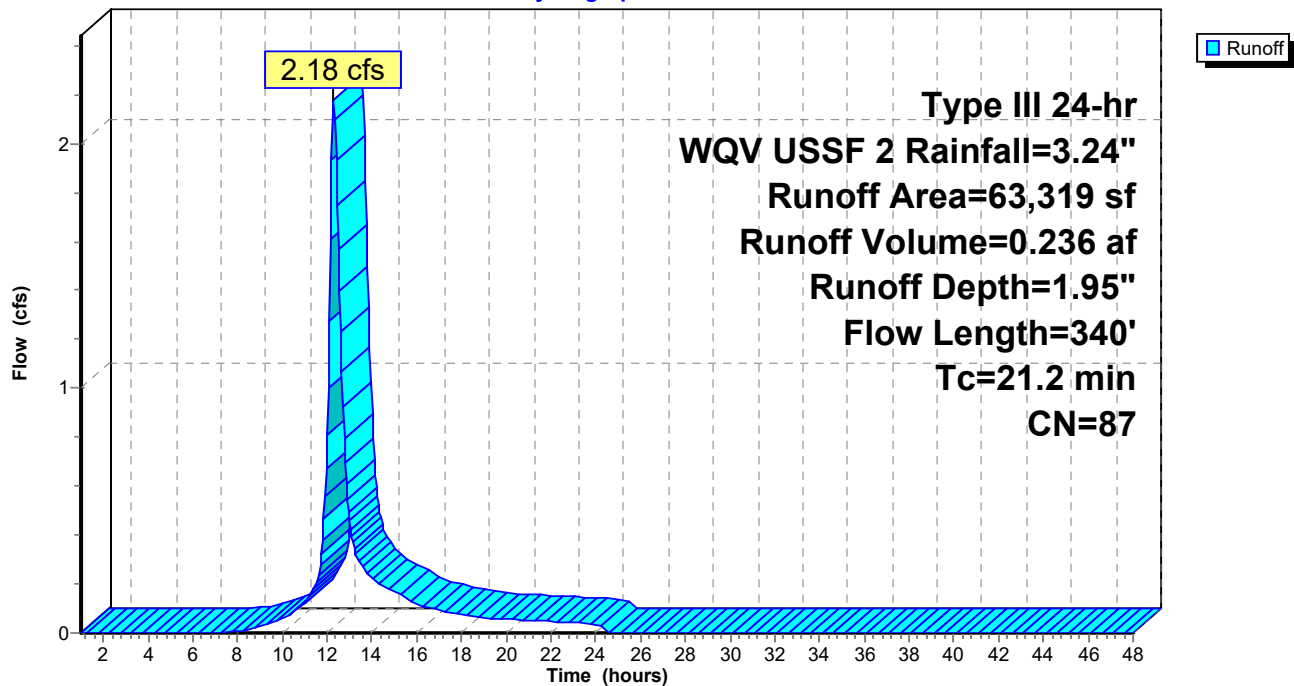
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 4.67 cfs @ 12.46 hrs, Volume= 0.614 af, Depth= 1.57"

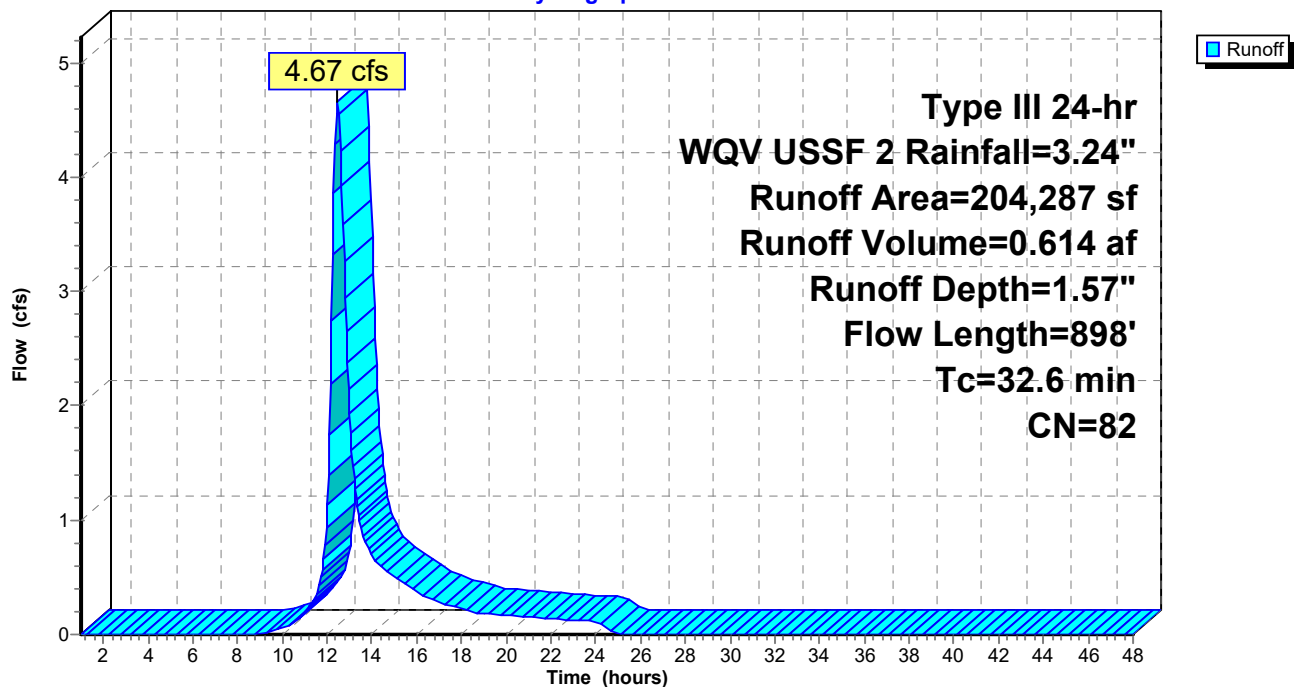
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph

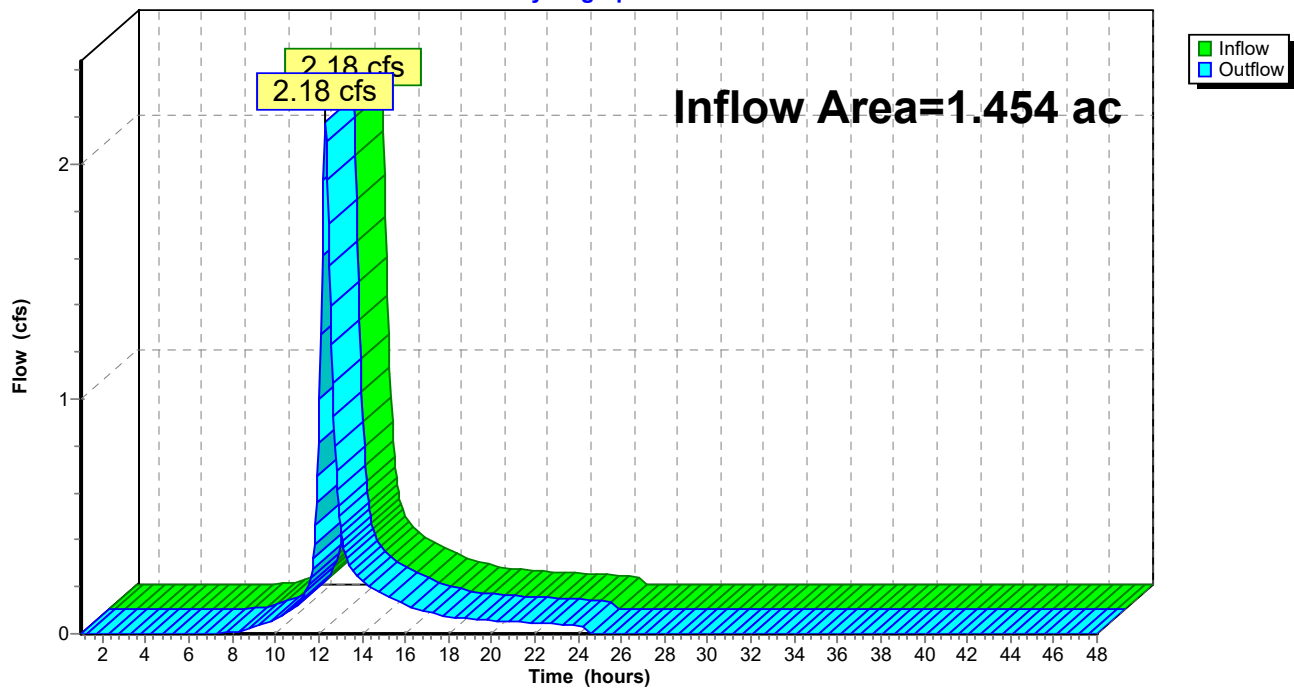


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 1.95" for WQV USSF 2 event
Inflow = 2.18 cfs @ 12.29 hrs, Volume= 0.236 af
Outflow = 2.18 cfs @ 12.29 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

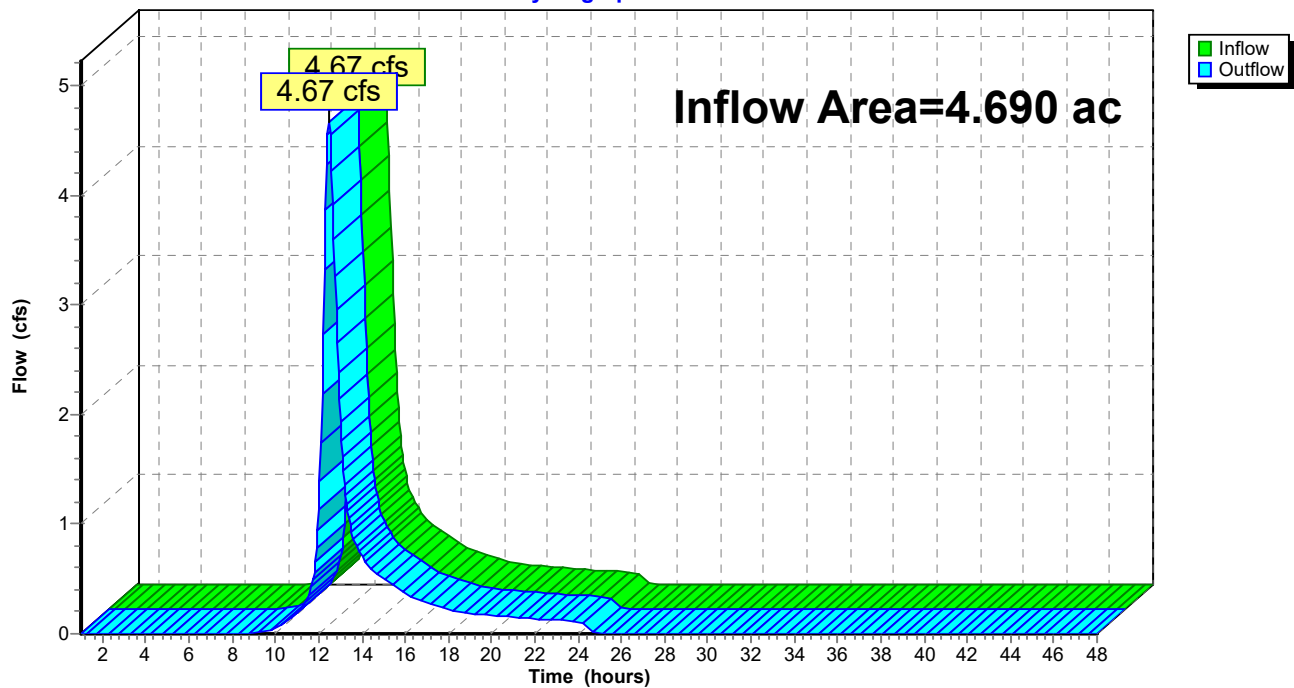
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 1.57" for WQV USSF 2 event
Inflow = 4.67 cfs @ 12.46 hrs, Volume= 0.614 af
Outflow = 4.67 cfs @ 12.46 hrs, Volume= 0.614 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

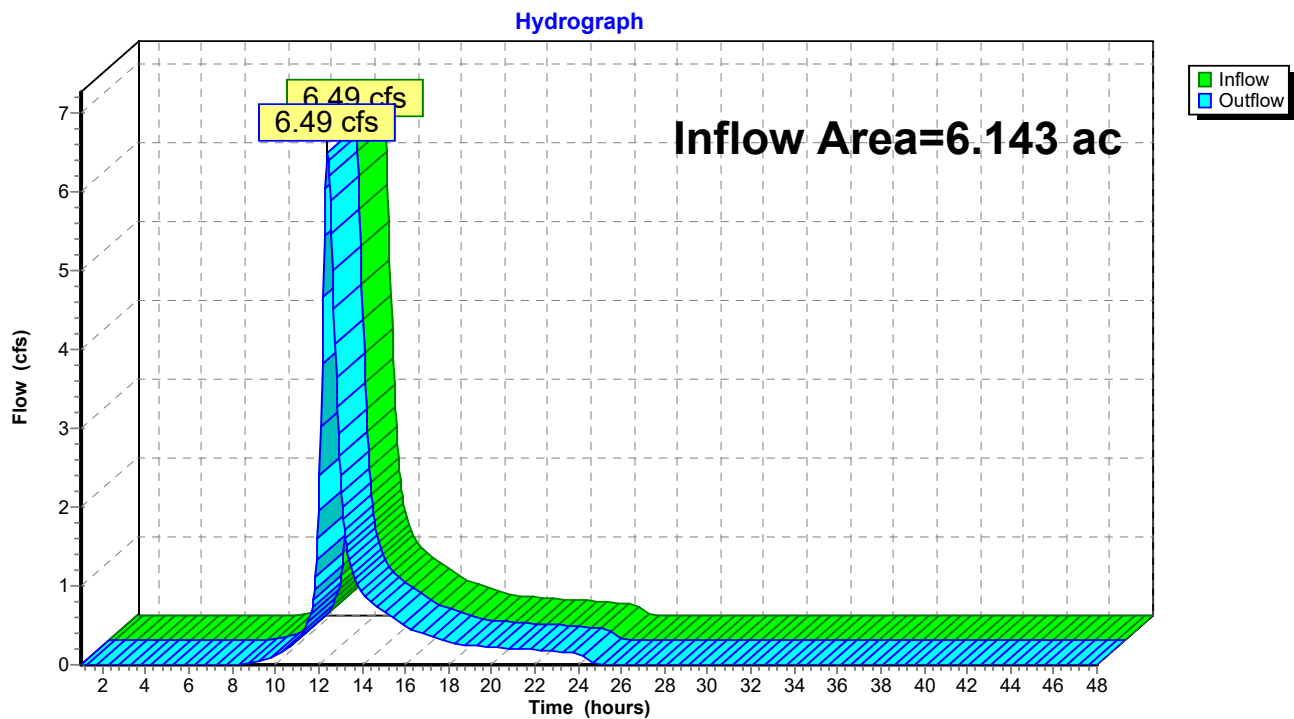


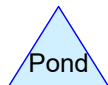
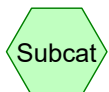
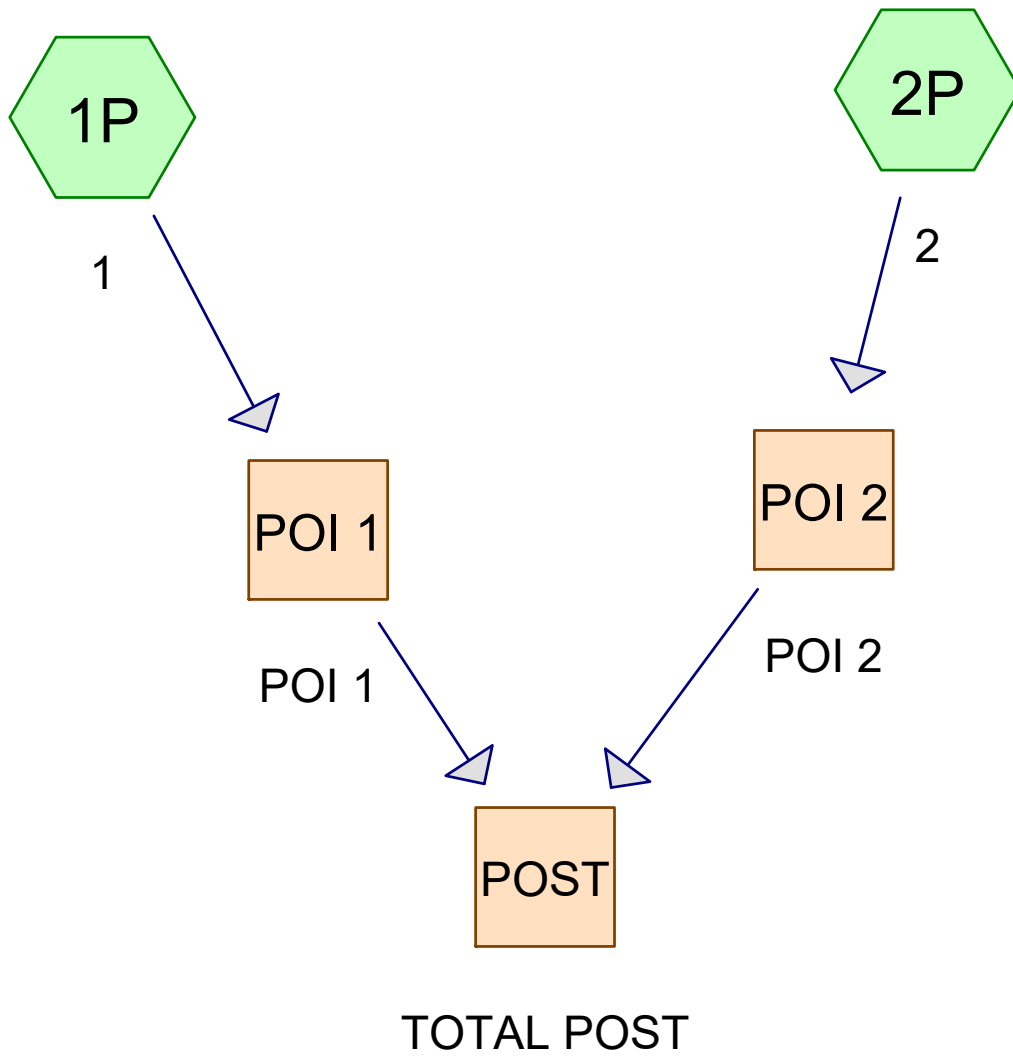
Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 1.66" for WQV USSF 2 event
Inflow = 6.49 cfs @ 12.40 hrs, Volume= 0.850 af
Outflow = 6.49 cfs @ 12.40 hrs, Volume= 0.850 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE



Project Notes

Rainfall events imported from "Post Development_4-21-21.hcp"

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.227	49	50-75% Grass cover, Fair, HSG A (1P)
0.221	39	>75% Grass cover, Good, HSG A (2P)
1.119	36	Woods, Fair, HSG A (2P)
2.259	98	buildings/pave (2P)
2.318	98	pave/roof (1P)
6.143	83	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.566	HSG A	1P, 2P
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
4.577	Other	1P, 2P
6.143		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.227	0.000	0.000	0.000	0.000	0.227	50-75% Grass cover, Fair	1P
0.221	0.000	0.000	0.000	0.000	0.221	>75% Grass cover, Good	2P
1.119	0.000	0.000	0.000	0.000	1.119	Woods, Fair	2P
0.000	0.000	0.000	0.000	2.259	2.259	buildings/pave	2P
0.000	0.000	0.000	0.000	2.318	2.318	pave/roof	1P
1.566	0.000	0.000	0.000	4.577	6.143	TOTAL AREA	

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Type III 24-hr 2-year Rainfall=3.10"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: 1

Runoff Area=110,838 sf 91.09% Impervious Runoff Depth=2.45"
Tc=10.0 min CN=94 Runoff=6.06 cfs 0.519 af

Subcatchment2P: 2

Runoff Area=156,749 sf 62.77% Impervious Runoff Depth=1.03"
Flow Length=918' Tc=32.7 min CN=75 Runoff=2.23 cfs 0.308 af

Reach POI 1: POI 1

Inflow=6.06 cfs 0.519 af
Outflow=6.06 cfs 0.519 af

Reach POI 2: POI 2

Inflow=2.23 cfs 0.308 af
Outflow=2.23 cfs 0.308 af

Reach POST: TOTAL POST

Inflow=6.89 cfs 0.827 af
Outflow=6.89 cfs 0.827 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.827 af Average Runoff Depth = 1.62"
25.50% Pervious = 1.566 ac 74.50% Impervious = 4.577 ac

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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 1P: 1

Runoff = 6.06 cfs @ 12.14 hrs, Volume= 0.519 af, Depth= 2.45"

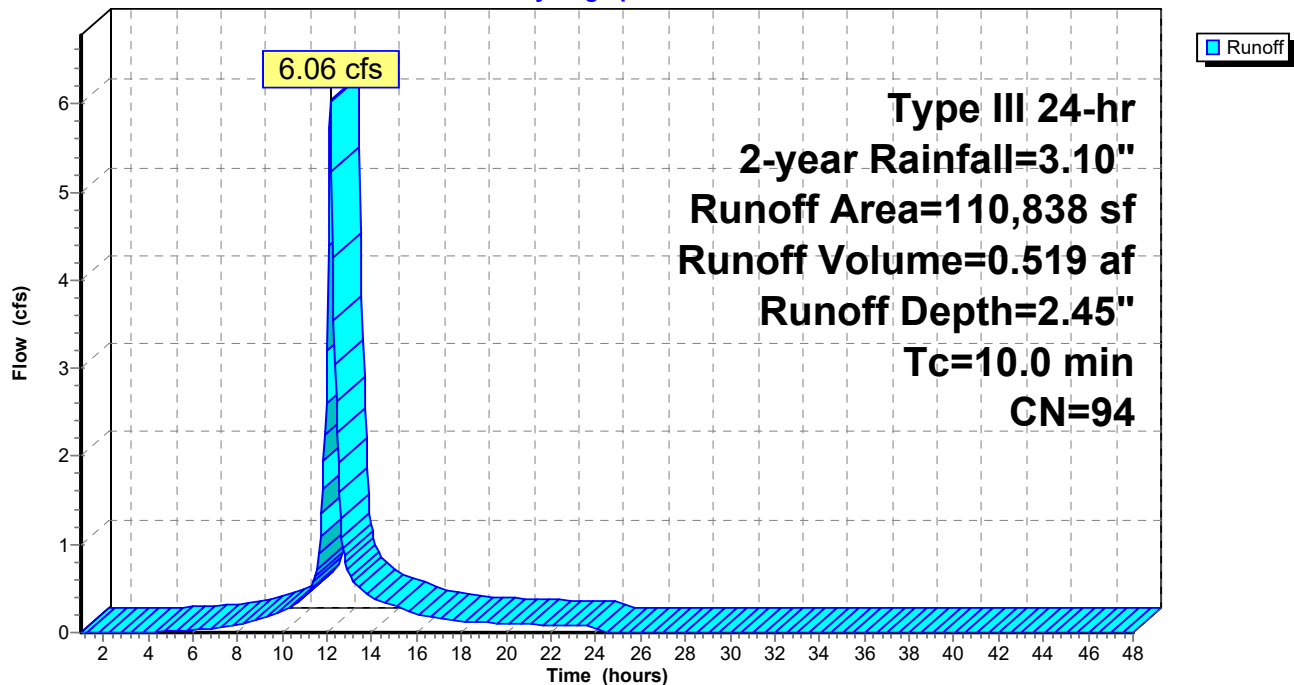
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
9,879	49	50-75% Grass cover, Fair, HSG A
* 100,959	98	pave/roof
110,838	94	Weighted Average
9,879		8.91% Pervious Area
100,959		91.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1P: 1

Hydrograph



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Type III 24-hr 2-year Rainfall=3.10"

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Summary for Subcatchment 2P: 2

Runoff = 2.23 cfs @ 12.49 hrs, Volume= 0.308 af, Depth= 1.03"

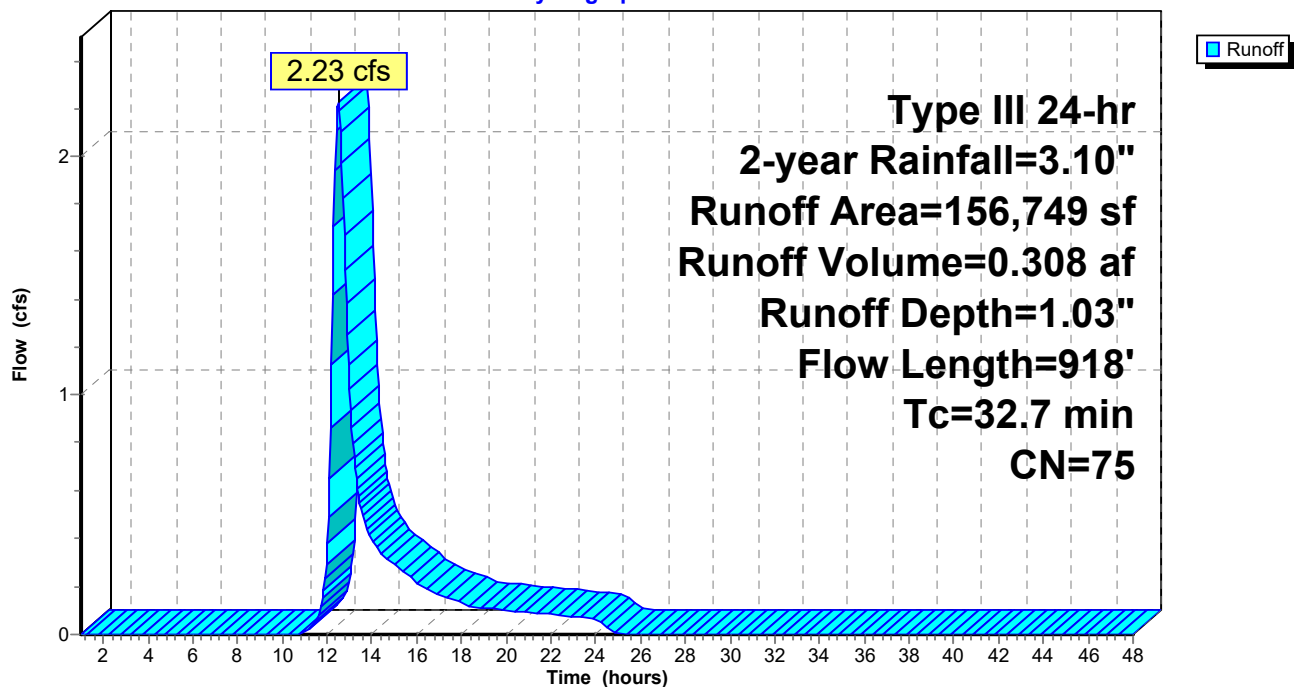
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	98,397	98	buildings/pave
	48,746	36	Woods, Fair, HSG A
	9,606	39	>75% Grass cover, Good, HSG A
	156,749	75	Weighted Average
	58,352		37.23% Pervious Area
	98,397		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.5	257	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.7	918	Total			

Subcatchment 2P: 2

Hydrograph



Summary for Reach POI 1: POI 1

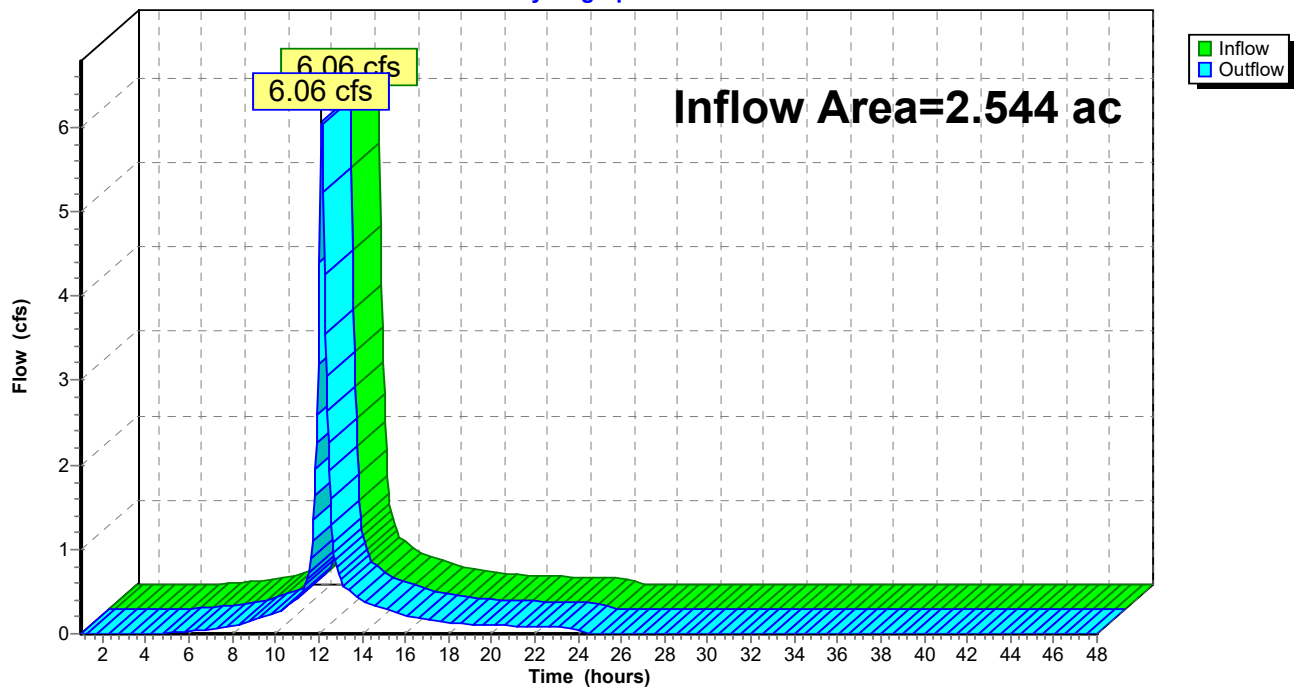
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.544 ac, 91.09% Impervious, Inflow Depth = 2.45" for 2-year event
Inflow = 6.06 cfs @ 12.14 hrs, Volume= 0.519 af
Outflow = 6.06 cfs @ 12.14 hrs, Volume= 0.519 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

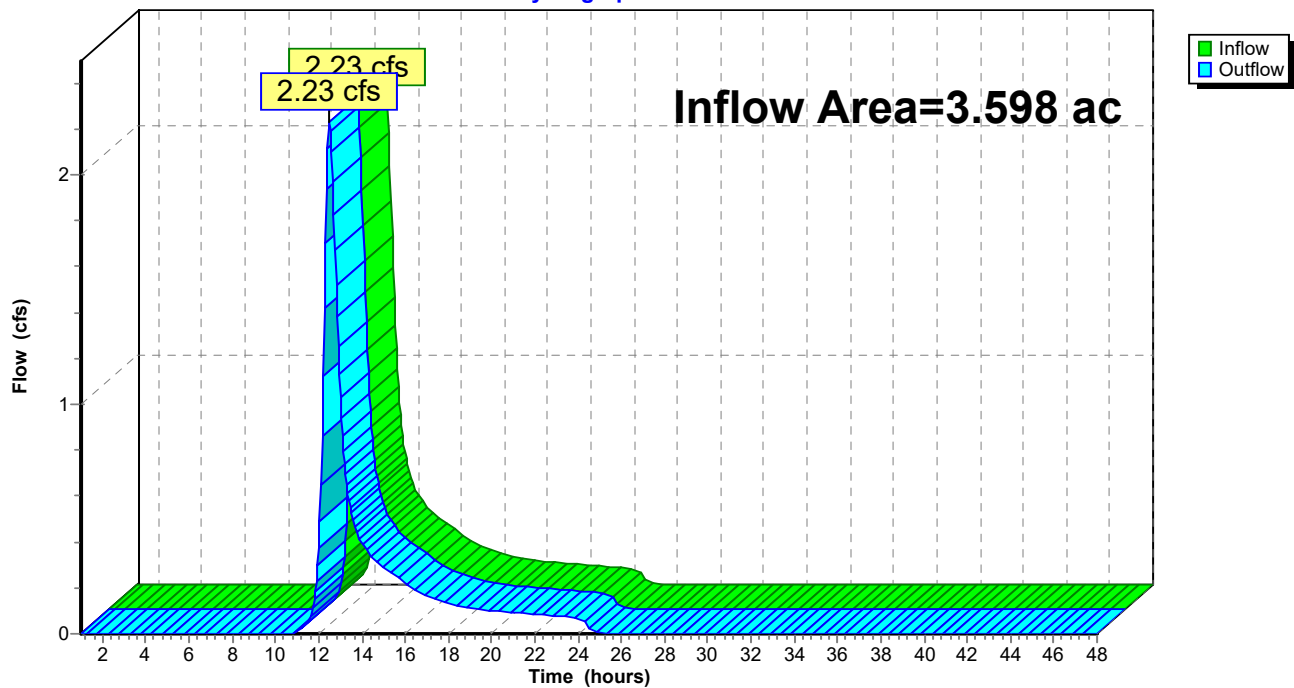
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.598 ac, 62.77% Impervious, Inflow Depth = 1.03" for 2-year event
Inflow = 2.23 cfs @ 12.49 hrs, Volume= 0.308 af
Outflow = 2.23 cfs @ 12.49 hrs, Volume= 0.308 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

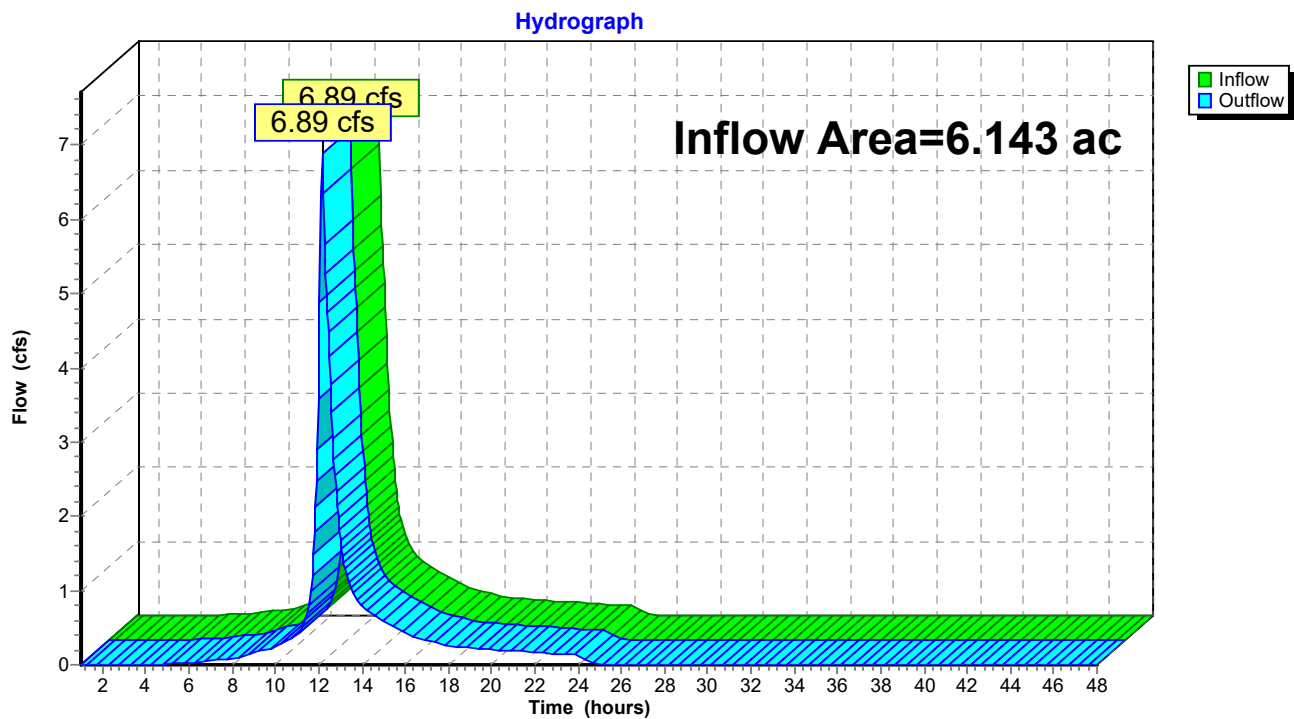


Summary for Reach POST: TOTAL POST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.50% Impervious, Inflow Depth = 1.62" for 2-year event
Inflow = 6.89 cfs @ 12.15 hrs, Volume= 0.827 af
Outflow = 6.89 cfs @ 12.15 hrs, Volume= 0.827 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POST: TOTAL POST

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Type III 24-hr 10-year Rainfall=4.60"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: 1

Runoff Area=110,838 sf 91.09% Impervious Runoff Depth=3.91"
Tc=10.0 min CN=94 Runoff=9.44 cfs 0.830 af

Subcatchment2P: 2

Runoff Area=156,749 sf 62.77% Impervious Runoff Depth=2.13"
Flow Length=918' Tc=32.7 min CN=75 Runoff=4.84 cfs 0.638 af

Reach POI 1: POI 1

Inflow=9.44 cfs 0.830 af
Outflow=9.44 cfs 0.830 af

Reach POI 2: POI 2

Inflow=4.84 cfs 0.638 af
Outflow=4.84 cfs 0.638 af

Reach POST: TOTAL POST

Inflow=11.61 cfs 1.468 af
Outflow=11.61 cfs 1.468 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.468 af Average Runoff Depth = 2.87"
25.50% Pervious = 1.566 ac 74.50% Impervious = 4.577 ac

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1P: 1

Runoff = 9.44 cfs @ 12.14 hrs, Volume= 0.830 af, Depth= 3.91"

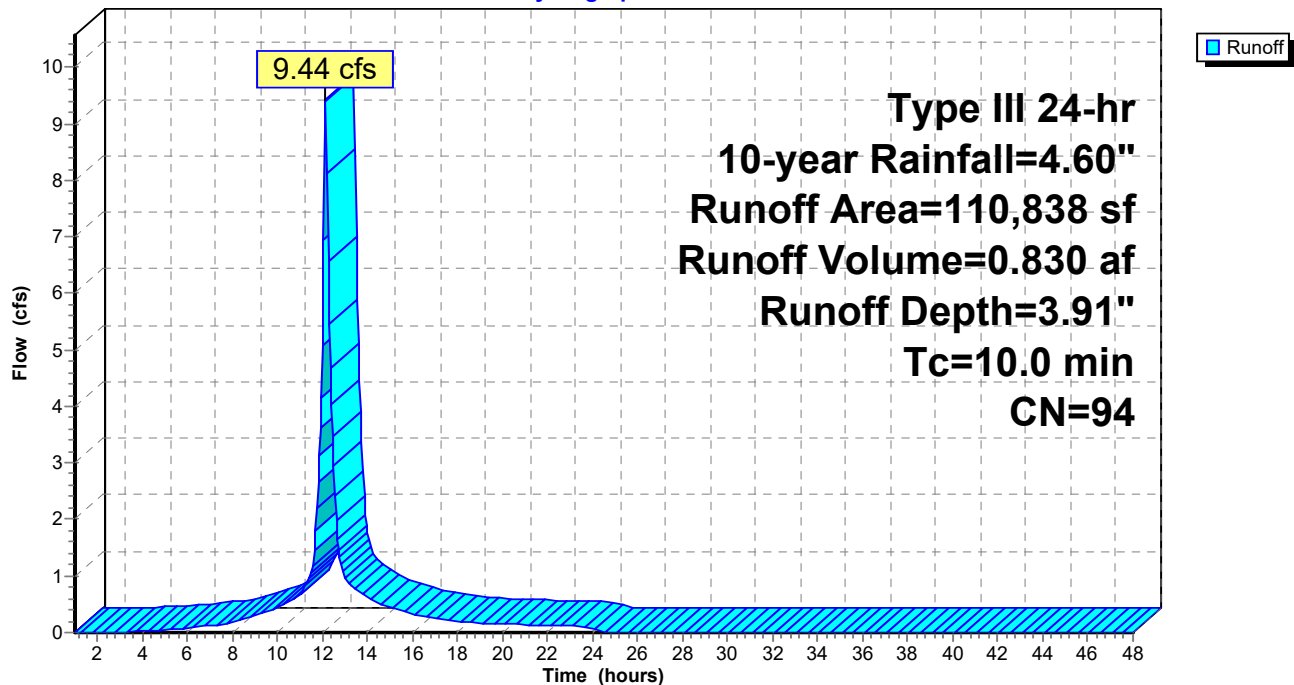
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
9,879	49	50-75% Grass cover, Fair, HSG A
* 100,959	98	pave/roof
110,838	94	Weighted Average
9,879		8.91% Pervious Area
100,959		91.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1P: 1

Hydrograph



Summary for Subcatchment 2P: 2

Runoff = 4.84 cfs @ 12.47 hrs, Volume= 0.638 af, Depth= 2.13"

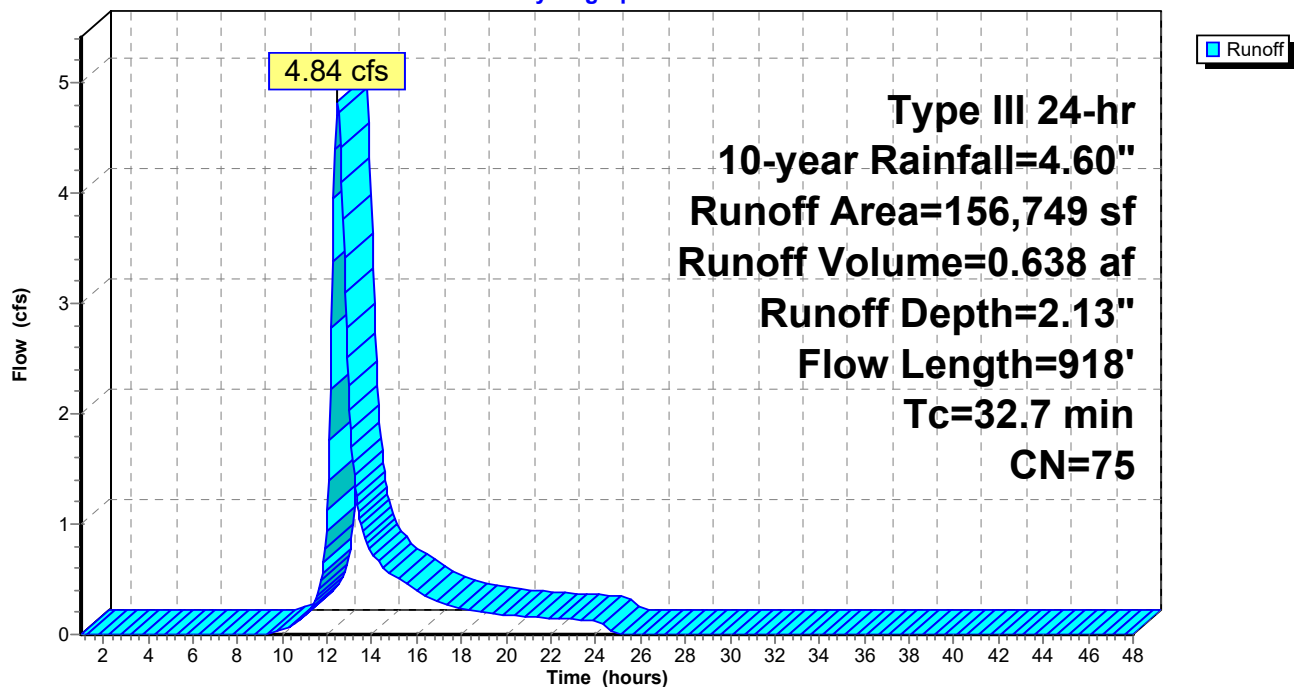
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	98,397	98	buildings/pave
	48,746	36	Woods, Fair, HSG A
	9,606	39	>75% Grass cover, Good, HSG A
	156,749	75	Weighted Average
	58,352		37.23% Pervious Area
	98,397		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.5	257	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.7	918	Total			

Subcatchment 2P: 2

Hydrograph

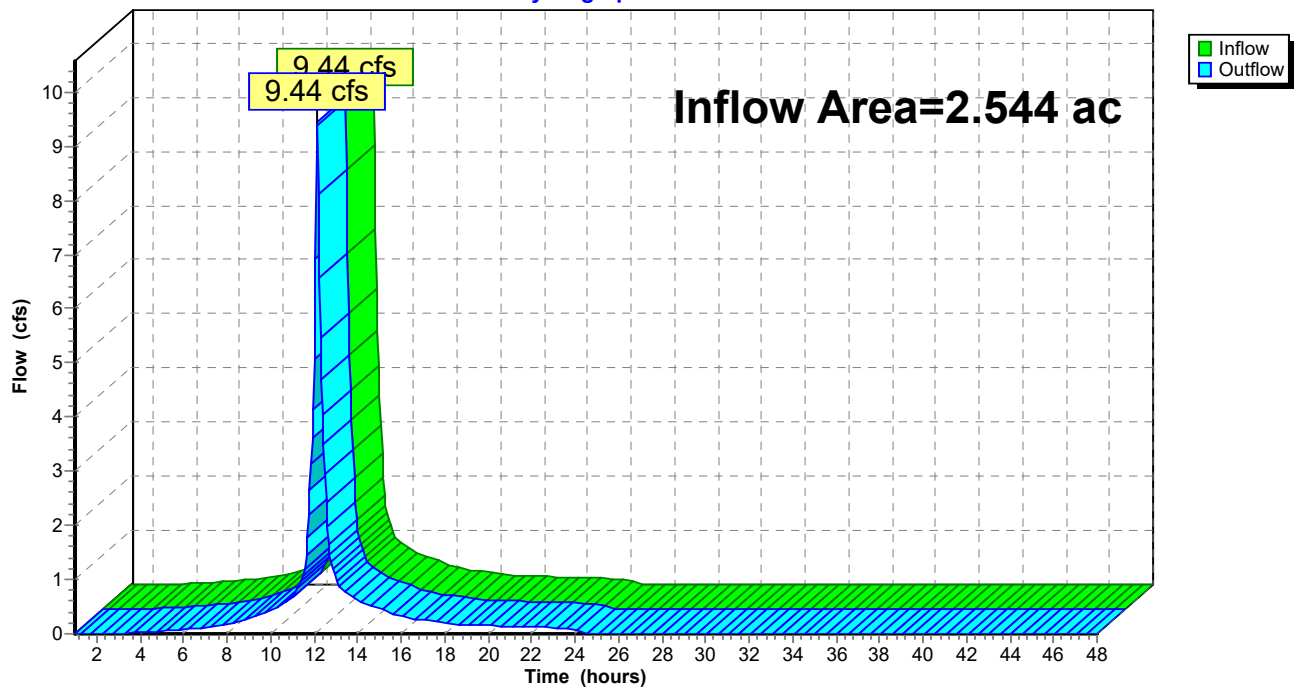


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.544 ac, 91.09% Impervious, Inflow Depth = 3.91" for 10-year event
Inflow = 9.44 cfs @ 12.14 hrs, Volume= 0.830 af
Outflow = 9.44 cfs @ 12.14 hrs, Volume= 0.830 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

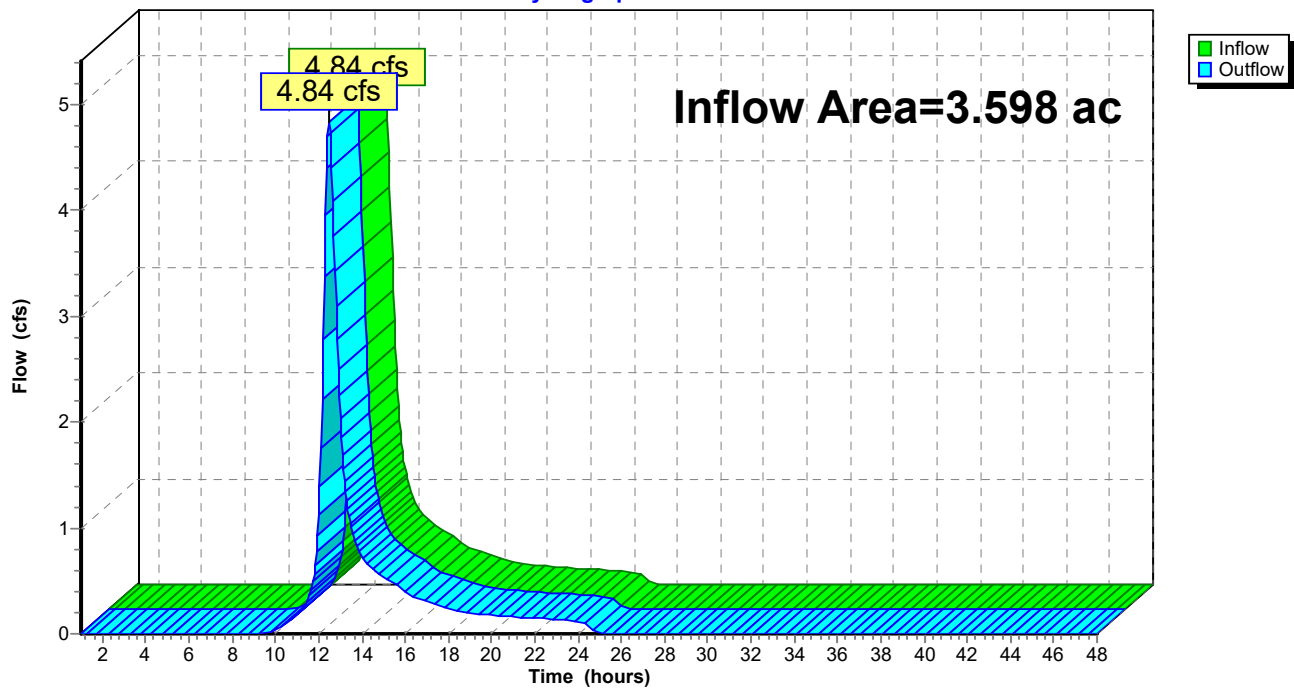
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.598 ac, 62.77% Impervious, Inflow Depth = 2.13" for 10-year event
Inflow = 4.84 cfs @ 12.47 hrs, Volume= 0.638 af
Outflow = 4.84 cfs @ 12.47 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

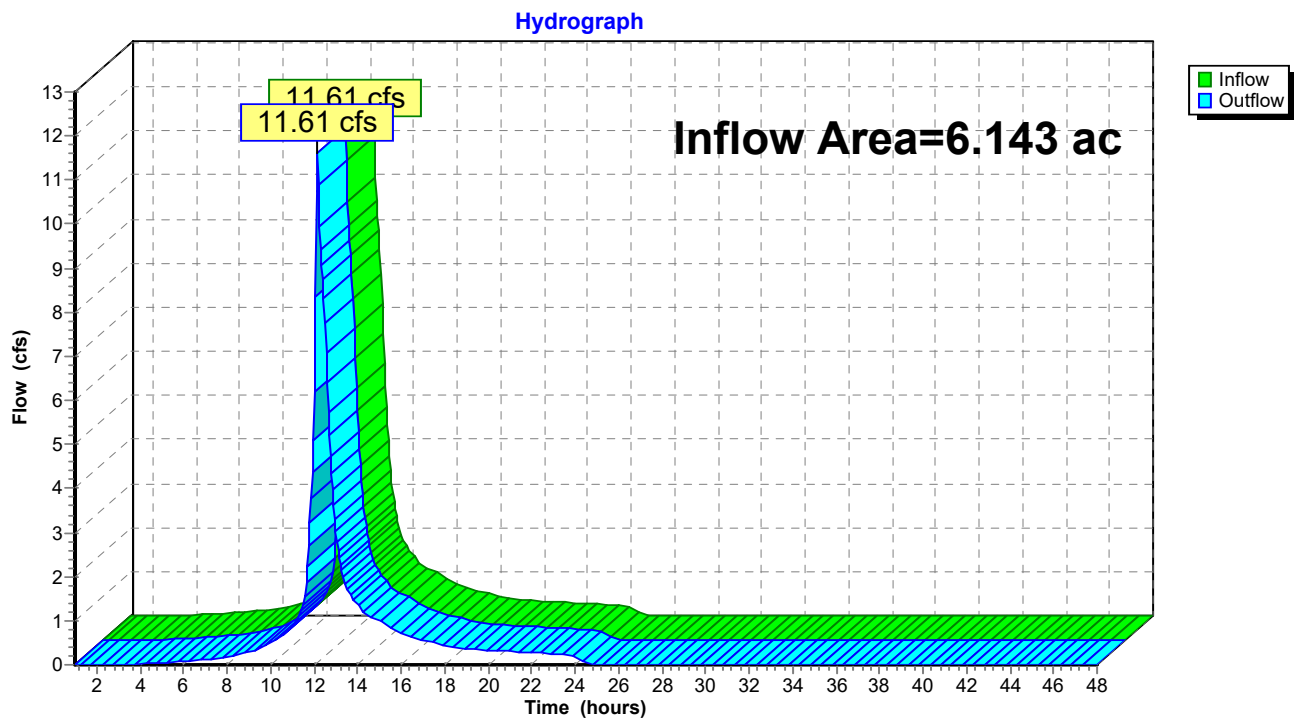


Summary for Reach POST: TOTAL POST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.50% Impervious, Inflow Depth = 2.87" for 10-year event
Inflow = 11.61 cfs @ 12.15 hrs, Volume= 1.468 af
Outflow = 11.61 cfs @ 12.15 hrs, Volume= 1.468 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POST: TOTAL POST

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Type III 24-hr 25-year Rainfall=5.80"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: 1

Runoff Area=110,838 sf 91.09% Impervious Runoff Depth=5.10"
Tc=10.0 min CN=94 Runoff=12.12 cfs 1.081 af

Subcatchment2P: 2

Runoff Area=156,749 sf 62.77% Impervious Runoff Depth=3.11"
Flow Length=918' Tc=32.7 min CN=75 Runoff=7.12 cfs 0.933 af

Reach POI 1: POI 1

Inflow=12.12 cfs 1.081 af
Outflow=12.12 cfs 1.081 af

Reach POI 2: POI 2

Inflow=7.12 cfs 0.933 af
Outflow=7.12 cfs 0.933 af

Reach POST: TOTAL POST

Inflow=15.52 cfs 2.014 af
Outflow=15.52 cfs 2.014 af

Total Runoff Area = 6.143 ac Runoff Volume = 2.014 af Average Runoff Depth = 3.94"
25.50% Pervious = 1.566 ac 74.50% Impervious = 4.577 ac

Summary for Subcatchment 1P: 1

Runoff = 12.12 cfs @ 12.14 hrs, Volume= 1.081 af, Depth= 5.10"

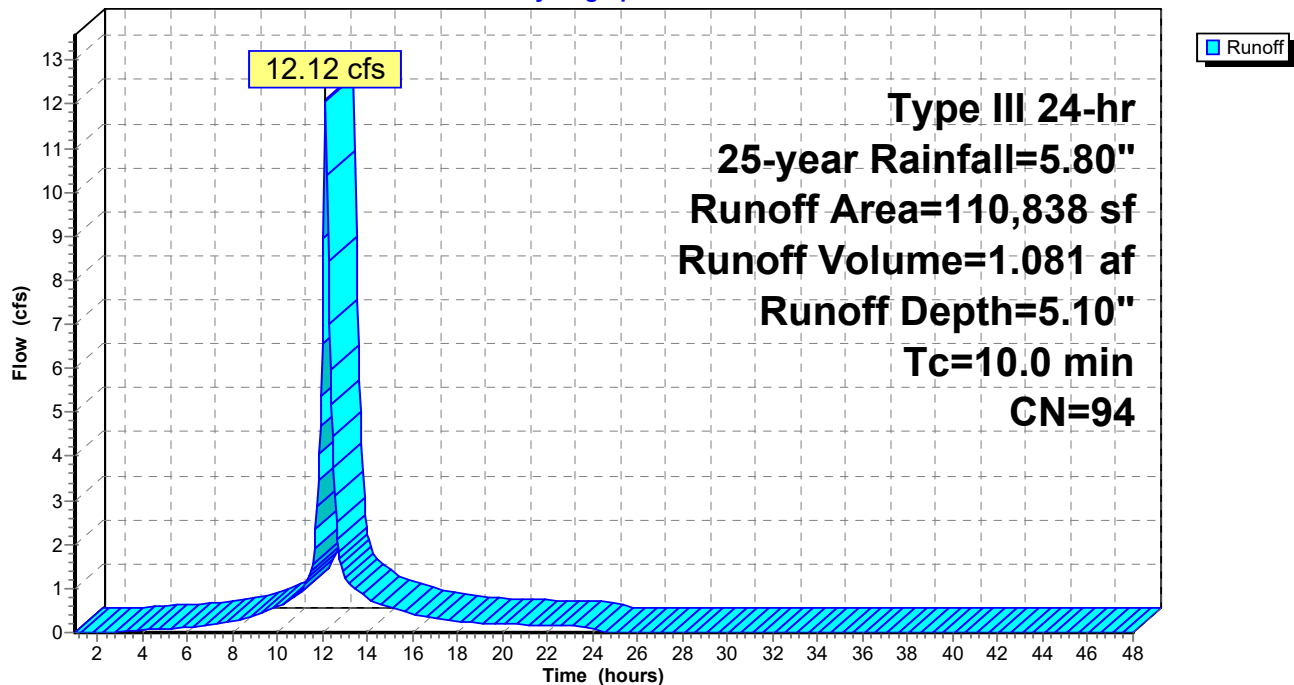
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
9,879	49	50-75% Grass cover, Fair, HSG A
* 100,959	98	pave/roof
110,838	94	Weighted Average
9,879		8.91% Pervious Area
100,959		91.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1P: 1

Hydrograph



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Type III 24-hr 25-year Rainfall=5.80"

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Summary for Subcatchment 2P: 2

Runoff = 7.12 cfs @ 12.46 hrs, Volume= 0.933 af, Depth= 3.11"

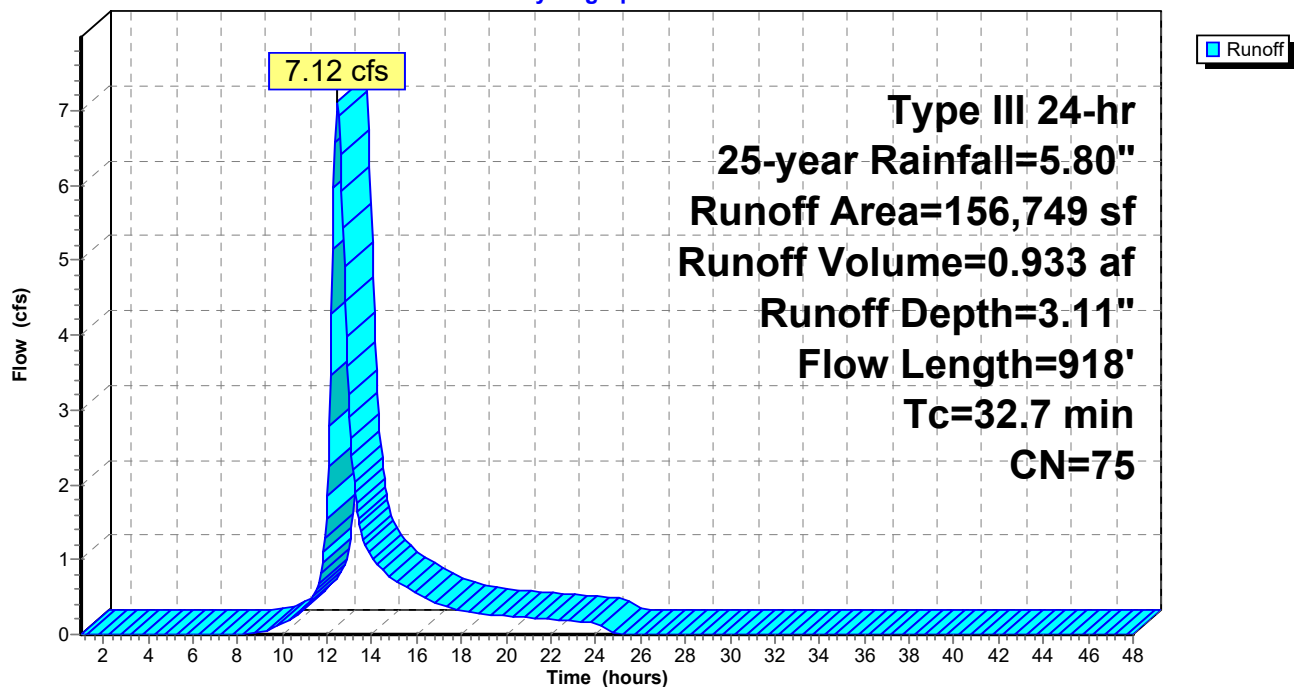
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	98,397	98	buildings/pave
	48,746	36	Woods, Fair, HSG A
	9,606	39	>75% Grass cover, Good, HSG A
	156,749	75	Weighted Average
	58,352		37.23% Pervious Area
	98,397		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.5	257	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.7	918	Total			

Subcatchment 2P: 2

Hydrograph

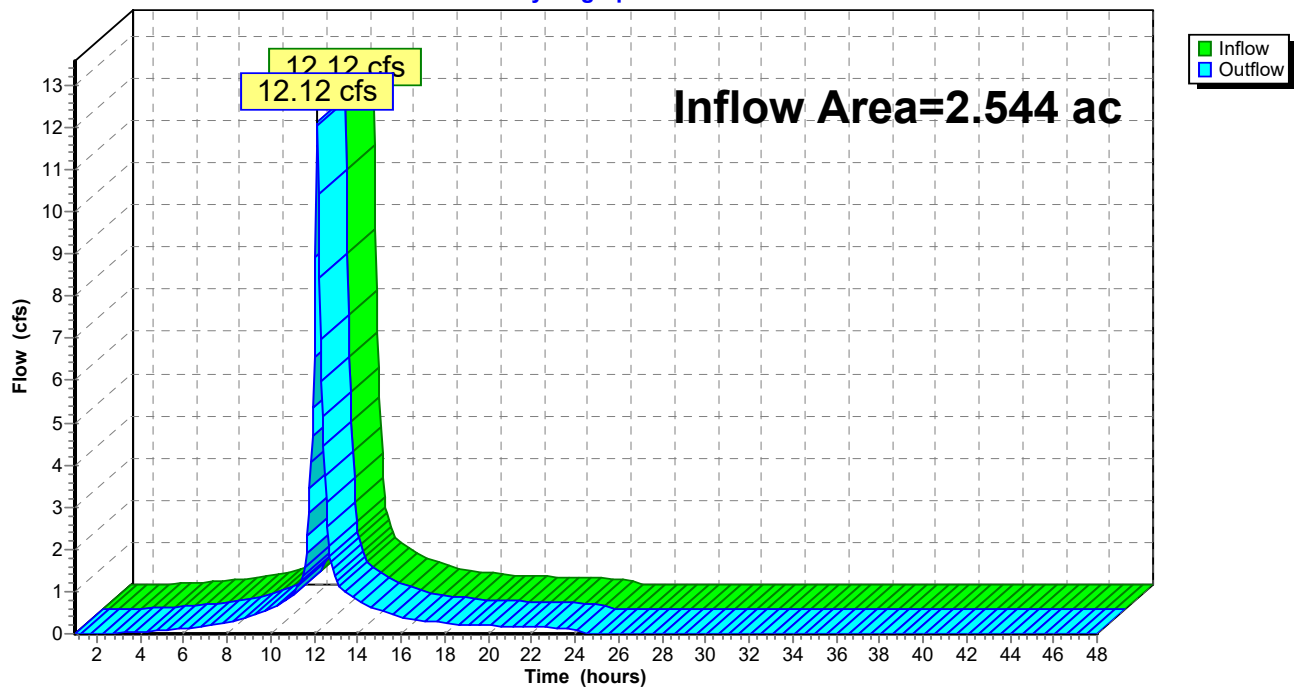


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.544 ac, 91.09% Impervious, Inflow Depth = 5.10" for 25-year event
Inflow = 12.12 cfs @ 12.14 hrs, Volume= 1.081 af
Outflow = 12.12 cfs @ 12.14 hrs, Volume= 1.081 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

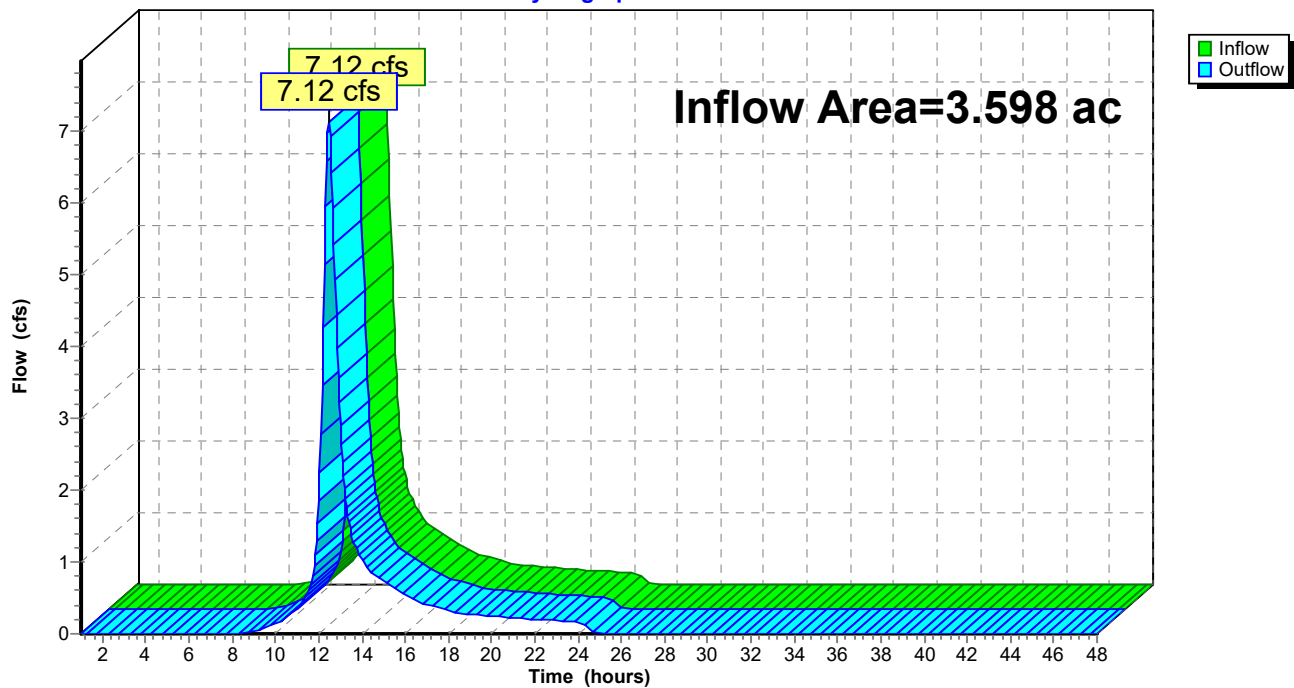
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.598 ac, 62.77% Impervious, Inflow Depth = 3.11" for 25-year event
Inflow = 7.12 cfs @ 12.46 hrs, Volume= 0.933 af
Outflow = 7.12 cfs @ 12.46 hrs, Volume= 0.933 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

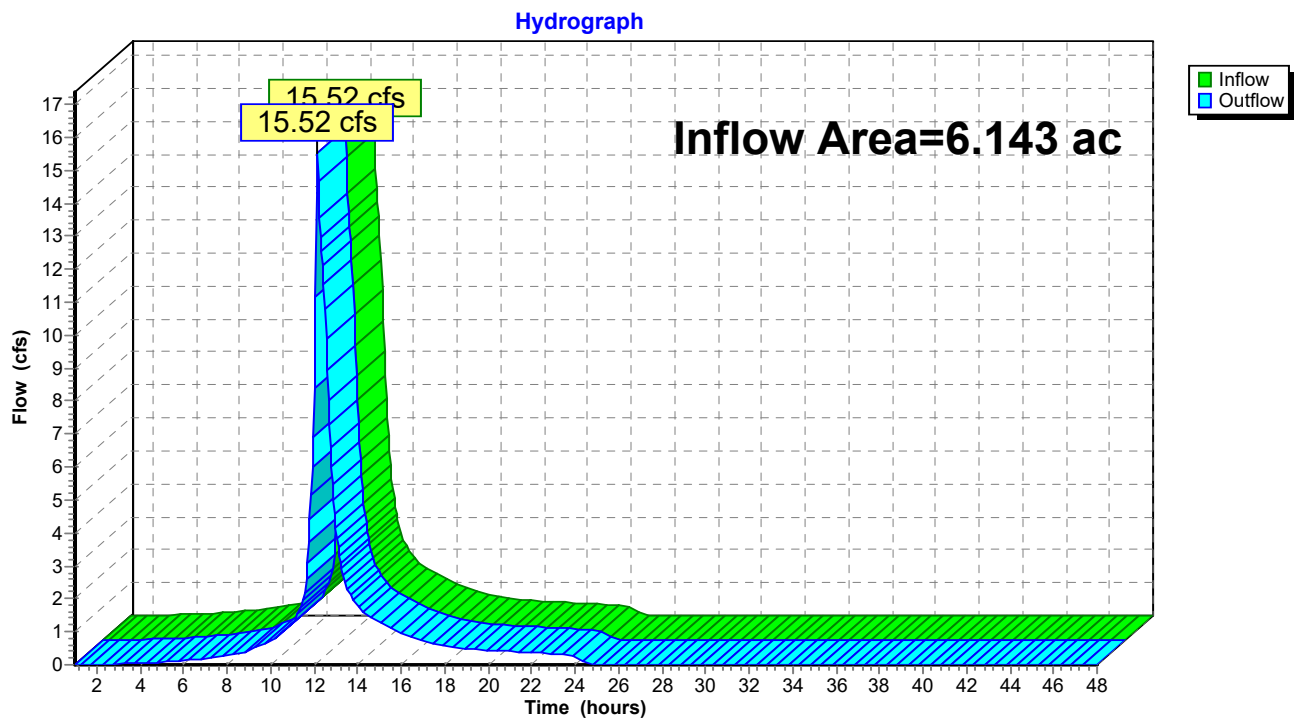


Summary for Reach POST: TOTAL POST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.50% Impervious, Inflow Depth = 3.94" for 25-year event
Inflow = 15.52 cfs @ 12.15 hrs, Volume= 2.014 af
Outflow = 15.52 cfs @ 12.15 hrs, Volume= 2.014 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POST: TOTAL POST



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
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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



June 15, 2022

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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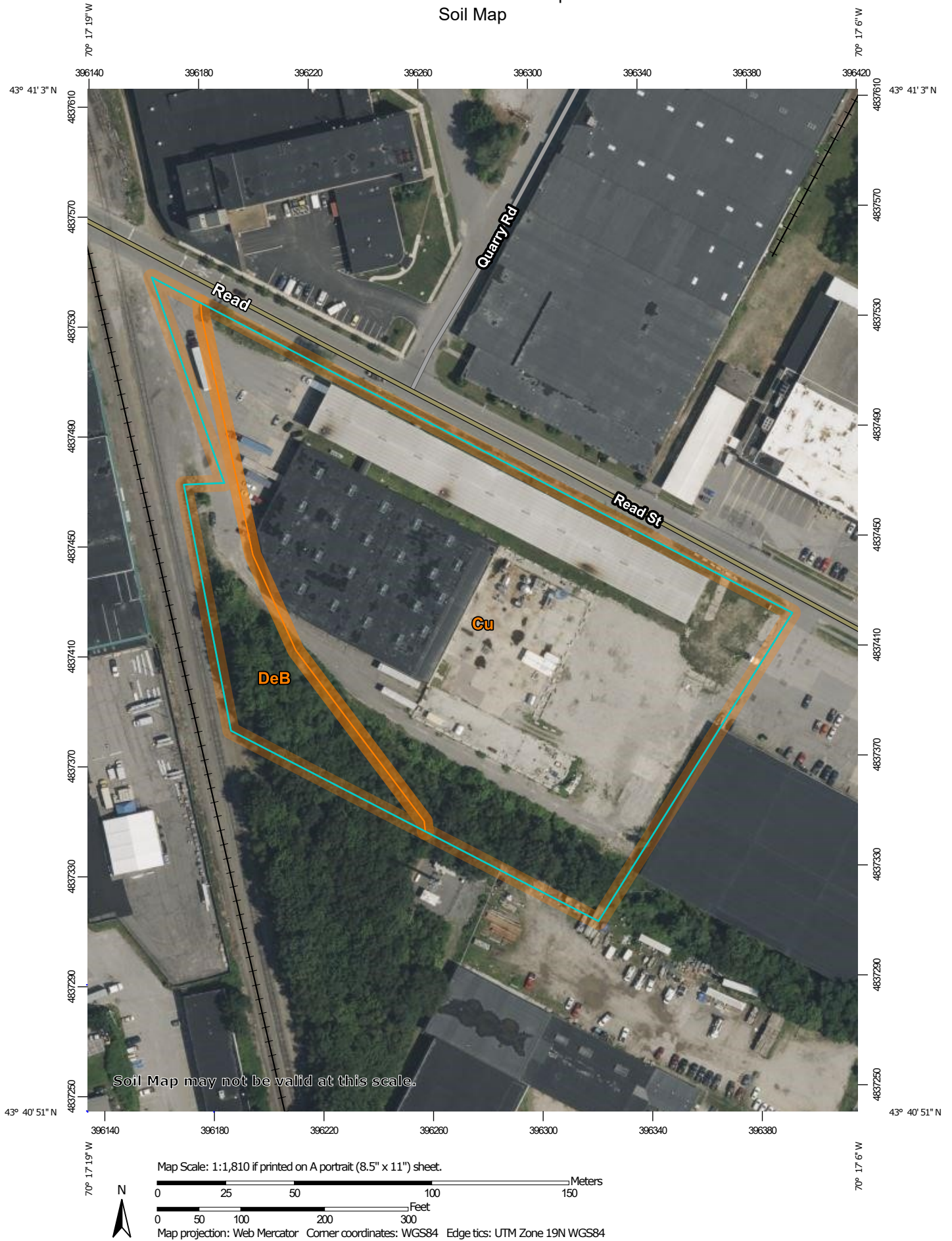
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Soil Map

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.

Custom Soil Resource Report Soil Map



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 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 22, 2021—Oct 7, 2021

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
Cu	Cut and fill land	5.7	85.1%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	1.0	14.9%
Totals for Area of Interest		6.7	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

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)

Depth to water table: About 24 to 42 inches

Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

DeB—Deerfield loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg9

Elevation: 0 to 1,190 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 145 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas

Landform position (three-dimensional): Tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand

Bw - 9 to 25 inches: loamy fine sand

BC - 25 to 33 inches: fine sand

Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Drainage class: Moderately well drained

Runoff class: Very 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: About 15 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Sodium adsorption ratio, maximum: 11.0

Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A

Ecological site: F144AY027MA - Moist Sandy Outwash

Hydric soil rating: No

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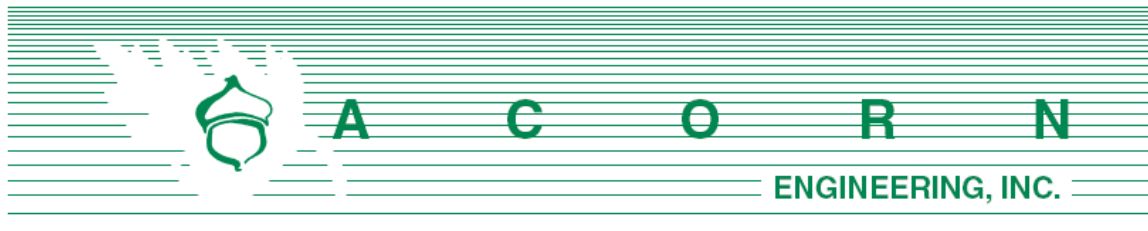
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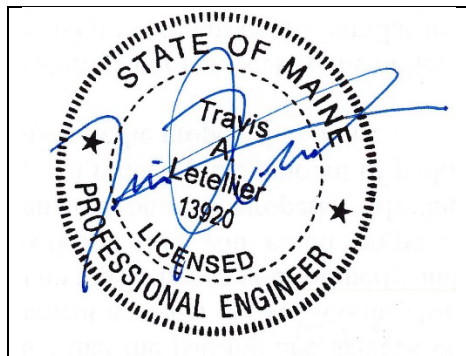
K. EROSION & SEDIMENTATION **CONTROL REPORT**

Prepared For:

**NEPW Logistics
182 Read Street
Portland, Maine 04103**

Prepared By:

**Acorn Engineering, Inc.
500 Washington Avenue
Portland, Maine 04103**



October 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by NEPW Logistics to provide civil engineering services for the proposed redevelopment of the 6.15-acre parcel (147-B-1) at 182 Read Street located within the I-M Zoning District in Portland, Maine.

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 site is located off Read Street and abuts a railroad bed to the west. A Boundary & Topographic Survey has been prepared by Owen Haskell, Inc., dated August 12, 2022.

The property is in the I-M Residential Zone. Abutting Uses include:

- North Read Street
- West/South Springfield Terminal Railroad Tracks
- East Industrial Use

The property is currently the site of NEPW Logistics warehouse operations. The project intends to construct a 60,630 square foot warehouse building adjacent to the existing buildings. The building will be in the footprint of a warehouse in existence until 2012. The site in its existing condition drains water in roughly two directions, to the north and south. Please see the Stormwater Report for more detailed information on the existing and proposed subcatchments.

1.1 Existing 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
Cut and Fill Land	.15	.15
Deerfield Loamy Fine Sand	.20	.20

The soil "K" value for the soil, listed above, shows a lower susceptibility to erosion, as derived from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil "K" value shows a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be important to limit erosion during large storm events.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

There are no critical areas that require special attention during construction.

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. Historical imagery shows the existence of a warehouse in the proposed footprint until around 2012.

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 road ways.

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 Read 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 $\frac{1}{2}$ 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 DETAILS AND SPECIFICATIONS

3.1 Erosion & Sedimentation 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, 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:

4.1 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.

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 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.



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 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.

5.0 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.

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.

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: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

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. Prioritize the downhill side to contain runoff within the site while providing an engineered outlet to the municipal storm drain system within Read Street.
6. Commence earthwork operations, associated with the parking lot construction.
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 and 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.



8.0 ATTACHMENTS

- Temporary 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

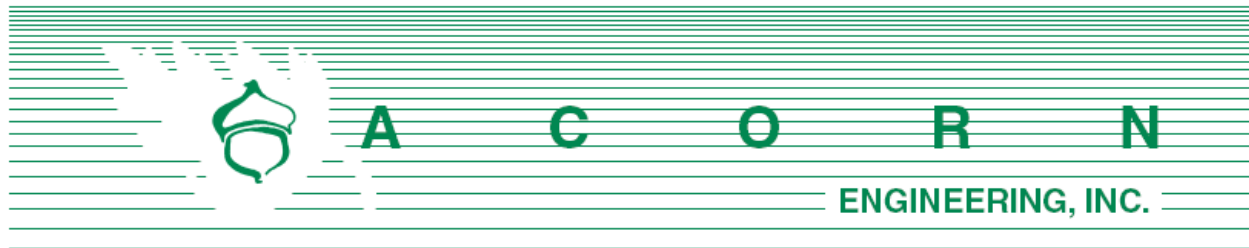
Mulching

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.





Chief Keith Gautreau
City of Portland Fire Department
380 Congress St.
Portland, ME 04101

October 17, 2022

Subject: 182-184 Read St Redevelopment – Fire Department Checklist
Section L of Application

On behalf of NEPW Logistics, the design team is pleased to respond to the Portland Fire Department Site Review Checklist.

1. Name, address, telephone number of applicant

NEPW Logistics
70 Quarry Road
Portland, Maine 04103
(207) 805-3578

2. Name, address, telephone number of architect

Ryan Senatore Architecture
500 Congress Street #2
Portland, Maine 04101
(207) 650-6414

3. Proposed uses of any structures [NFPA and IBC classification]

NFPA: Storage IBC: Storage (S-2)

4. Square footage of all structures, including decks [total and per story]

Existing Buildings		
Ground	78,023	sf
Total	78,023	sf

Proposed Building		
Ground	60,630	sf
Total	60,630	sf

The proposed building heights are consistent with the R5 Zoning maximum allowance of 55': 41.5'

5. Proposed fire protection of all structures

The proposed building will be serviced by a 6" sprinkler system. Fire flows and requirements for system storage or booster pumping are subject to the fire professional design which will be performed prior the request for a building permit.

6. Hydrant locations

An existing hydrant is located along Read Street that is proposed to be relocated to make way for the new entrance to the site access road. Hydrant flow data from the Portland Water District once received may be made available to the Fire Department upon request.

7. Water main size and location

The redevelopment will be serviced by the existing 12" Ductile Iron water main within Read Street.

8. Access to all structures [min. 2 sides]

Access to the structures is provided through an access driveway and corridor with ample room for maneuvering through the site.

9. Code summaries will be provided by the Architects upon request.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is located in a densely developed area with open areas on three other sides, and is accessed by a driveway. The following pavement street width is currently available:

- Read Street: 60 feet
- Access Driveway: 24 feet

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: Not applicable

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: As depicted on the site plan, the proposed building layout provides a minimum of two access points to all of the structures.

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 a one-way circuitous route through the site 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.

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: Not applicable



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: Assigned street numbers on the buildings will be provided.

Thank you for your review. Please let me know if you have any additional questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Travis Letellier', with a stylized, cursive script.

Travis Letellier, P.E.
Project Manager
Acorn Engineering, Inc.



M. Calculation of Wastewater Flowrate for 182-184 Read Street Warehouse Development

The proposed project is a 60,630 square foot warehouse building in the footprint of a previous warehouse. It is not currently known what the usage of the building will be, but most likely used as storage. Two bathrooms will be part of the development. Based upon Section 4 of the Maine Subsurface Wastewater Disposal Rules, the project anticipates the following design flows:

Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Warehouse	N/A	2	100 GPD per unit	200 GPD
Total Gallons per Day (Existing)				200 GPD

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Proposed Flow				
Warehouse	N/A	3	100 GPD per unit	300 GPD
Total Gallons per Day (Proposed)				300 GPD
Net Change				+100 GPD
*Values based on conversion factors for employment from www.mwcog.org .				

The proposed project is anticipated to increase the net flow by approximately 100 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.



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: 10/21/22

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 182-184 Read Street

Chart Block Lot Number: 147--B-1

Proposed Use: Industrial
Previous Use: Industrial
Existing Sanitary Flows: 200 GPD
Existing Process Flows: 300 GPD
Description and location of City sewer that is to
receive the proposed building sewer lateral.

Read Street

Site Category
Commercial (see part 4 below)
Industrial (complete part 5 below)
Governmental
Residential
Other (specify)

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: NEPW Logistics, LLC

Owner/Developer Address: 70 Quarry Road Portland, ME 04103

Phone: (207) 772-4653

Fax: _____ E-mail: rob@nepw.com

Engineering Consultant Name: Acorn Engineering

Engineering Consultant Address: 500 Washington Avenue Portland, Maine 04103

Phone: 207-775-2655

Fax: _____ E-mail: tletellier@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: +100 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)

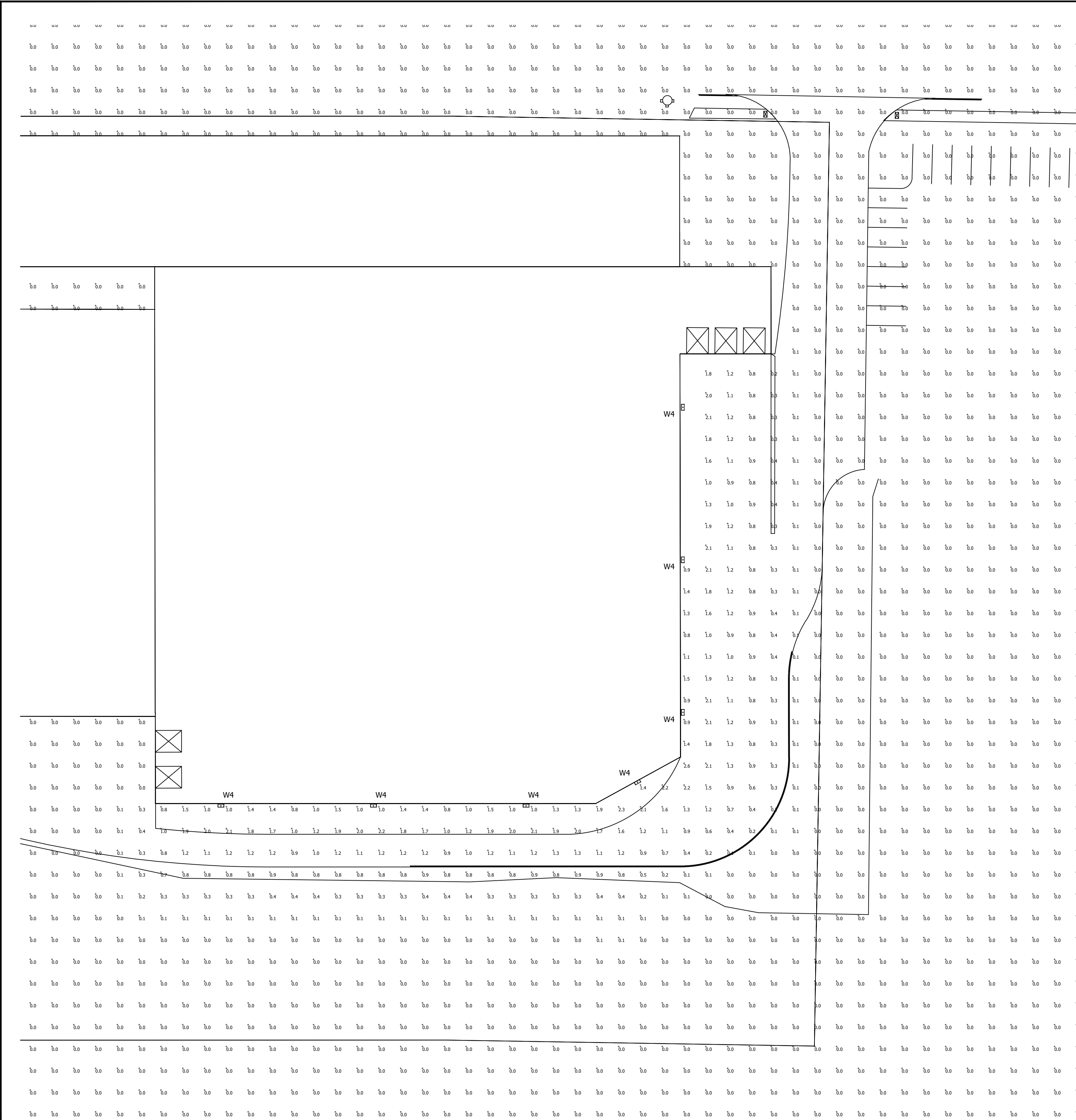
Handbook of Subsurface Wastewater Disposal in Maine

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.

Total Drainage Fixture Unit (DFU) Values:	N/A
Size of External Grease Interceptor:	
Retention Time:	
Peaking Factor/ Peak Times:	

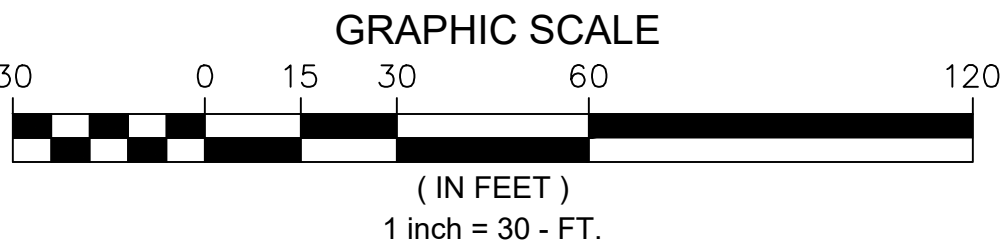
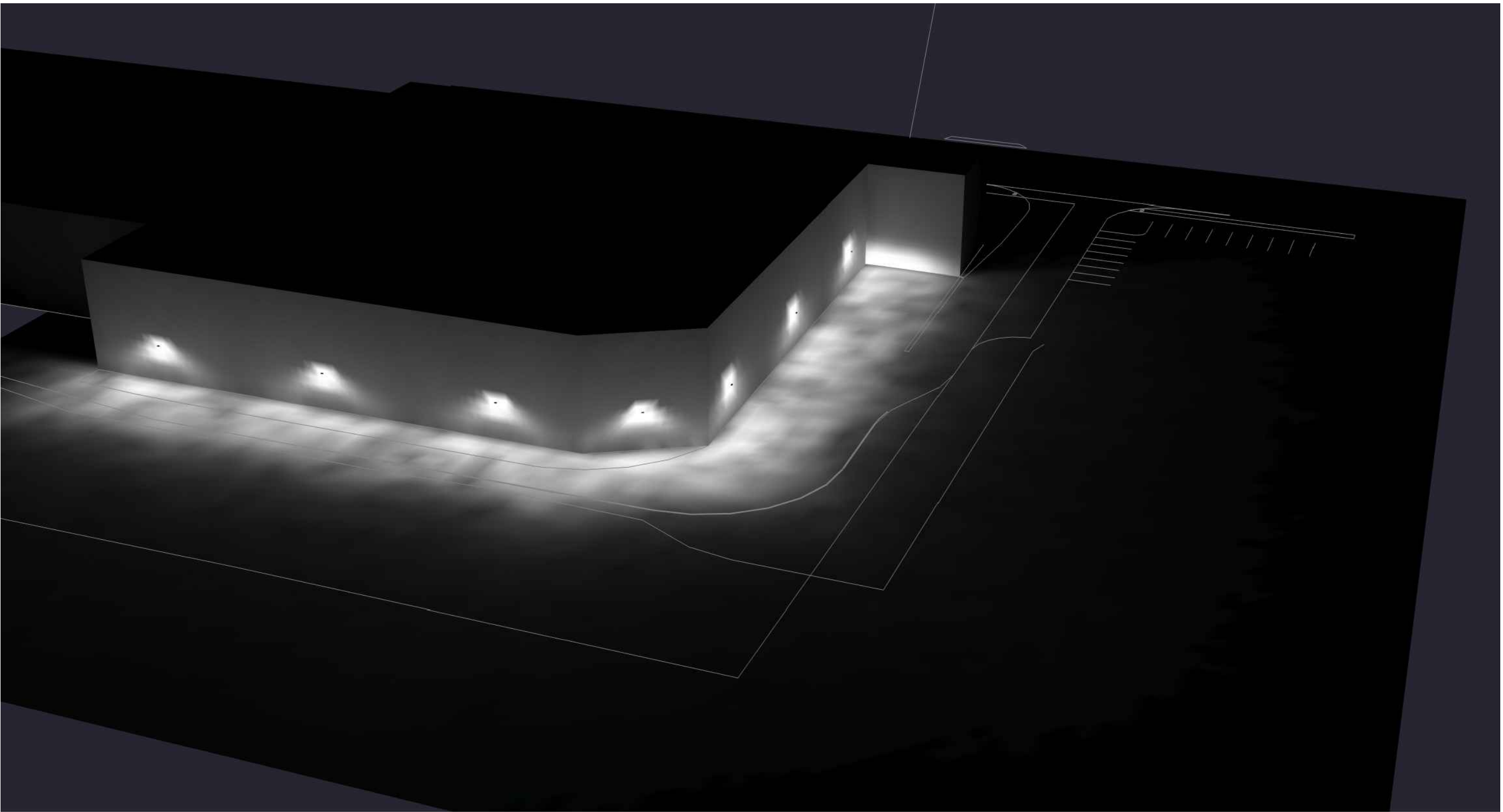
N. Lighting

Lighting on site will be provided by wall packs. Cut sheets and photometric plans for the proposed site lighting will be forthcoming.



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
☐	7	W4	15' - 0" AFG	0.900	4483	37	RWL1-48L-35-3K7-4W-U

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.05	2.6	0.0	N.A.	N.A.
Paved Area	Illuminance	Fc	0.98	2.6	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.



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		REVISED FROM DRAWING NUMBER(S)		Current©	
182 - 184 READ STREET PORTLAND, ME SITE PHOTOMETRIC PLAN					
		ON BY: DHK	DATE: 10/19/22	CHK BY: N/A	
		REV. BY:	DATE:	SCALE: AS NOTED	
		QUOTE: N/A	DRAWING / DESIGN NO.: A221197		



Date: Oct 20, 2022

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100
Fax: (207) 885-9606

Job Name
184 READ STREET
SLA22-53559
PORTLAND ME

Bid Date
Oct 20, 2022

Submittal Date
Oct 20, 2022

Designer & Consultants:
Swaney Application Design
applications



Transmittal

Swaney Lighting
PO Box 1597
Scarborough ME 04070
Phone: (207) 883-7100

From: Therese "TC" Freeman X-103

Project 184 READ STREET
Quote# SLA22-53559
Location PORTLAND ME
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- | | | |
|-----------------------------------|--|--------|
| ☐ Drawings | ☐ Specifications | Other: |
| ☐ Prints | ☐ Information | |
| ☐ Plans | ☒ Submittals | |

THESE ARE TRANSMITTED FOR:

- | | | |
|--|---|---------------------------------|
| ☐ Prior Approval | ☐ Resubmittal for Approval | ☐ Record |
| ☒ Approval | ☐ Corrections | Bids due on: |
| ☐ Approval as Submitted | ☐ Your Use | Other: |
| ☐ Approval as Noted | ☐ Review and Comment | |

Type

W4

MFG

BEACON PRODUCTS

Part

[RWL1-48L-35-3K7-4W-UNV-***](#)

Item Note: SPECIFY FINISH



RATIO Wall

RWL1/RWL2 LED WALLPACK

FEATURES

- Low profile LED wall luminaire with a variety of IES distributions for lighting applications such as retail, commercial and industrial building mount
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™, Wiscap and 7-Pin with networked controls
- Battery Backup options available for emergency code compliance
- Quick-mount adapter allows easy installation/maintenance
- 347V and 480V versions for industrial applications and Canada
- Stock versions available in 3500lm and 5500lm configurations at 4000K



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish
- Powder paint finish provides durability in outdoor environments. Tested to meet 1000 hour salt spray rating.

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 48 or 160 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI/80 CRI) CCT
- Zero uplight distributions
- LED optics provide IES type II, III and IV distributions. Type II only available in RWL2 configurations.

INSTALLATION

- Quick-mount adapter provides easy installation to wall or to recessed junction boxes (4" square junction box)
- Designed for direct j-box mount.
- Integral back box contains 1/2" conduit hubs
- Integral back box standard with Dual Driver, Dual Power Feed, NX, Wiscap and battery versions (battery versions for RWL1 only)

ELECTRICAL

- 120V-277V universal voltage 50/60Hz 0-10V dimming drivers
- 347V and 480V dimmable driver option for all wattages above 35W.

ELECTRICAL (CONTINUED)

- Ambient operating temperature -40°C to 40°C
- Drivers have greater than .90 power factor and less than 20% Total Harmonic Distortion
- Driver RoHS and IP66
- 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
- Dimming drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than 6" standard.

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- Button photocontrol is suitable for 120-277V operation
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor
- wiSCAPE® available with in fixture wireless control module, features dimming and occupancy sensor
- Integral Battery Backup provides emergency lighting for the required 90 minute path of egress
- Battery Backup suitable for operating temperatures -25°C to 40°C. RWL1 battery is 12.5W RWL2 battery is 18W

CONTROLS (CONTINUED)

- Dual Driver and Dual Power Feed options creates product configuration with 2 internal drivers for code compliance
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application.

CERTIFICATIONS

- Listed to UL1598 and CSAC22.2#250.0-24 for wet locations
- IP65 rated housing
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions
- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org

WARRANTY

- 5 year limited warranty

KEY DATA	
Lumen Range	1,300–18,800
Wattage Range	10–155
Efficacy Range (LPW)	119–148
Weights lbs. (kg)	6.5/16.5 (2.9/7.5)

Submitted by Swaney Lighting	Job Name: 184 READ STREET Designer & Consultants: Swaney Application Design	Catalog Number: RWL1-48L-35-3K7-4W-UNV-*** Notes: SPECIFY FINISH	Type: W4 SLA22-53559
------------------------------	--	--	--



DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: RWL1-48L-10-3K7-2-UNV-BLS-E

CATALOG #	
-----------	--

ORDERING INFORMATION

Series		# LEDs - Wattage	CCT/CRI	Distribution	Voltage	Specify Std. finish
RWL1 Ratio Wall 1	48L-10	1,000 Lumens ⁴	3K7 3000K, 70 CRI	2 IES TYPE II ¹	UNV 120-277V	BLT Black Matte Textured
	48L-15	2,000 Lumens ⁴	4K7 4000K, 70 CRI	3 IES TYPE III	120 120V	BLS Black Gloss Smooth
	48L-20	2,500 Lumens ⁴	5K7 5000K, 70 CRI	4F IES TYPE IV Forward	208 208V	DBT Dark Bronze Matte Textured
	48L-25	3,500 Lumens		4W IES TYPE IV	240 240V	DBS Dark Bronze Gloss Smooth
	48L-35	4,500 Lumens			277 277V	GTT Graphite Matte Textured
	48L-45	5,500 Lumens ⁴			347 347V	LGS Light Grey Gloss Smooth
RWL2 Ratio Wall 2	160L-45	6,500 Lumens			480 480V	LGT Light Grey Matte Textured
	160L-50	7,500 Lumens				PSS Platinum Silver Smooth
	160L-65	9,500 Lumens				WHT White Matte Textured
	160L-80	11,000 Lumens				WHS White Gloss Smooth
	160L-95	13,000 Lumens				VGT Verde Green Textured
	160L-115	15,000 Lumens				Color Option
	160L-135	17,500 Lumens				CC Custom Color
	160L-155	19,500 Lumens				

Control Options Network	
NXWE	NX Wireless Enabled (module + radio) ^{1,7}
NXSPW_F	NX Wireless, PIR Occ. Sensor, Daylight Harvesting ^{4,5,7}
NXSP_F	NX, PIR Occ. Sensor, Daylight Harvesting ^{4,5,7}
WIR	Wireless Controls, wISCAPE™ 2.6
Stand Alone Sensors	
SCP-8F	Remote control programmable line voltage sensor ^{3,4}
SCP-20F	Remote control programmable line voltage sensor ^{3,4}
BTS-14F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor ¹⁰
BTS-40F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor ¹⁰
BTSO-12F	Bluetooth® Programmable, PIR Occupancy/Daylight Sensor, up to 12' mounting height ¹⁰
Control Options	
7PR_	7-Pin Receptacle ⁶

Options*	
F	Fusing ³
E	Emergency Battery Backup ^{7,9}
EH	Emergency Battery w/ Heater Option ^{7,8}
2DR	Dual Driver ^{4,6,11}
2PF	Dual Power Feed ^{4,6,11}
PC	Button Photocontrol ⁸

- Notes:
- Only available with RWL2
 - wISCAPE Gateway required for system programming
 - Specific voltage selection is required
 - Not available with 347/480V
 - Replace " " with "14" for up to 14' mounting height, "40" for up to 40' mounting height.
 - This item is located in the integral backbox which will be automatically added onto the fixture if chosen.
 - This item is located in the integral backbox for RWL1 configurations only.
 - Option only available at 120 or 277V
 - 2DR and 2PF can't be combined with E and EH due to space limitations
 - Not available in RWL1 or 2 PF
 - Available only in UNV in 25, 35 and 45 Watt in RWL1; Not available in RWL1 10, 15 and 20 Watt.
 - Based on space limitations, some options may not be able to be combined

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Finish
RWL1-48L-25-4K-3	3500lm	25	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL1-48L-25-4K-4W	3500lm	25	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured
RWL1-48L-45-4K-3	5500lm	45	48L	4000K/70CRI	120-277V	Type III	Dark Bronze Textured
RWL1-48L-45-4K-4W	5500lm	45	48L	4000K/70CRI	120-277V	Type IV Wide	Dark Bronze Textured

CONTROLS

Control Options	
Standalone	
SCPREMOTE	Order at least one per project location to program and control

ACCESSORIES AND REPLACEMENT PARTS - MADE TO ORDER

Catalog Number	Description
☐ WP-BB-XXX	Accessory for conduit entry ¹

Notes:
1 replace "xxx" with color option



currentlighting.com/beacon

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Rev 06/28/22
Ratio_Wall_Spec_Sheet

Submitted by Swaney Lighting		Catalog Number: RWL1-48L-35-3K7-4W-UNV-***	Type: W4
	Job Name: 184 READ STREET Designer & Consultants: Swaney Application Design	Notes: SPECIFY FINISH	
		SLA22-53559	



RATIO WALL

RWL1/RWL2 LED WALLPACK

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PERFORMANCE DATA

Description	Nominal Wattage	System Watts	Dist. Type	5K (5000K NOMINAL 70 CRI)					4K (4000K NOMINAL 70 CRI)					3K (3000K NOMINAL 70 CRI)				
				Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
RWL1	10	10.1	3	1362	135	0	0	1	1355	134	0	0	1	1303	129	0	0	1
			4W	1343	133	0	0	1	1336	132	0	0	1	1285	127	0	0	1
	15	14.5	3	1972	136	1	0	1	1962	135	1	0	1	1887	130	1	0	1
			4W	1945	134	0	0	1	1935	133	0	0	1	1861	128	0	0	1
	20	19.9	3	2722	137	1	0	1	2709	136	1	0	1	2605	131	1	0	1
			4W	2685	135	1	0	1	2672	134	1	0	1	2569	129	1	0	1
	25	28.0	3	3749	134	1	0	1	3732	133	1	0	1	3588	128	1	0	1
			4W	3698	132	1	0	1	3680	131	1	0	1	3538	126	1	0	1
	35	36.9	3	4751	129	1	0	2	4728	128	1	0	2	4546	123	1	0	1
			4W	4685	127	1	0	2	4663	126	1	0	2	4483	121	1	0	2
	45	46.5	3	5812	125	1	0	2	5784	124	1	0	2	5562	120	1	0	2
			4W	5731	123	1	0	2	5704	123	1	0	2	5485	118	1	0	2
RWL2	45	46.1	2	6701	145	1	0	2	6668	145	1	0	2	6412	139	1	0	2
			3	6812	148	1	0	2	6780	147	1	0	2	6519	141	1	0	2
			4W	6678	145	1	0	2	6646	144	1	0	2	6390	139	1	0	2
	50	54.0	2	7747	143	1	0	2	7710	143	1	0	2	7413	137	1	0	2
			3	7876	146	1	0	2	7838	145	1	0	2	7537	140	1	0	2
			4W	7720	143	1	0	2	7683	142	1	0	2	7388	137	1	0	2
	65	67.2	2	9539	142	1	0	2	9494	141	1	0	2	9129	136	1	0	2
			3	9699	144	2	0	2	9652	144	2	0	2	9281	138	2	0	2
			4W	9507	141	2	0	2	9461	141	2	0	2	9097	135	2	0	2
	80	80.8	2	11228	139	2	0	2	11174	138	2	0	2	10745	133	2	0	2
			3	11416	141	2	0	2	11361	141	2	0	2	10924	135	2	0	2
			4W	11190	138	2	0	2	11136	138	2	0	2	10708	133	2	0	2
	95	93.2	2	13148	141	2	0	2	13085	140	2	0	2	12582	135	2	0	2
			3	13368	143	2	0	2	13304	143	2	0	2	12792	137	2	0	2
			4W	13103	141	2	0	2	13040	140	2	0	2	12539	135	2	0	2
	115	109.8	2	15102	138	2	0	3	15030	137	2	0	3	14452	132	2	0	3
			3	15354	140	2	0	3	15281	139	2	0	3	14693	134	2	0	3
			4W	15050	137	2	0	3	14978	136	2	0	3	14402	131	2	0	3
	135	137.1	2	17533	128	2	0	3	17449	127	2	0	3	16778	122	2	0	3
			3	17826	130	2	0	3	17740	129	2	0	3	17058	124	2	0	3
			4W	17473	127	2	0	3	17389	127	2	0	3	16720	122	2	0	3
	155	156.8	2	19495	124	2	0	3	19402	124	2	0	3	18656	119	2	0	3
			3	19821	126	2	0	3	19726	126	2	0	3	18967	121	2	0	3
			4W	19542	125	2	0	3	19448	124	2	0	3	18700	119	2	0	3

Submitted by Swaney Lighting		Catalog Number: RWL1-48L-35-3K7-4W-UNV-***	Type: W4
 Job Name: 184 READ STREET Designer & Consultants: Swaney Application Design		Notes: SPECIFY FINISH SLA22-53559	



DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98
50°C	122°F	0.97

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	TM-21-11 L90 36,000	50,000	100,000	L70 (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

ELECTRICAL DATA

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL1	10	120	0.08	10.1
		208	0.05	
		240	0.04	
		277	0.04	
		347	0.03	
		480	0.02	
	15	120	0.12	14.5
		208	0.07	
		240	0.06	
		277	0.05	
		347	0.04	
		480	0.03	
	20	120	0.17	19.9
		208	0.10	
		240	0.08	
		277	0.07	
		347	0.06	
		480	0.04	
	25	120	0.23	28.0
		208	0.13	
		240	0.12	
		277	0.10	
		347	0.08	
		480	0.06	
	35	120	0.31	36.9
		208	0.18	
		240	0.15	
		277	0.13	
		347	0.11	
		480	0.08	
	45	120	0.39	46.5
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	

# OF LEDS	Nominal Wattage	Input Voltage	Oper. Current (Amps)	System Power (Watts)
RWL2	45	120	0.38	46.1
		208	0.22	
		240	0.19	
		277	0.17	
		347	0.13	
		480	0.10	
	50	120	0.45	54.0
		208	0.26	
		240	0.23	
		277	0.19	
		347	0.16	
		480	0.11	
	65	120	0.56	67.2
		208	0.32	
		240	0.28	
		277	0.24	
		347	0.19	
		480	0.14	
	80	120	0.67	80.8
		208	0.39	
		240	0.34	
		277	0.29	
		347	0.23	
		480	0.17	
	95	120	0.78	93.2
		208	0.45	
		240	0.39	
		277	0.34	
		347	0.27	
		480	0.19	
	115	120	0.92	109.8
		208	0.53	
		240	0.46	
		277	0.40	
		347	0.32	
		480	0.23	
	135	120	1.14	137.1
		208	0.66	
		240	0.57	
		277	0.49	
		347	0.40	
		480	0.29	
	155	120	1.31	156.8
		208	0.75	
		240	0.65	
		277	0.57	
		347	0.45	
		480	0.33	

**Job Name:**184 READ STREET
Designer & Consultants: Swaney Application
Design**Catalog Number:**

RWL1-48L-35-3K7-4W-UNV-***

Type:**W4**

Notes: SPECIFY FINISH

SLA22-53559

**RATIO WALL**

RWL1/RWL2 LED WALLPACK

DATE: _____ LOCATION: _____

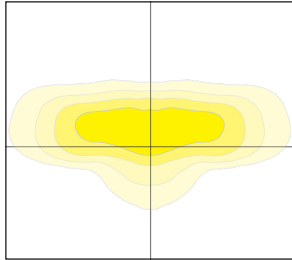
TYPE: _____ PROJECT: _____

CATALOG #: _____

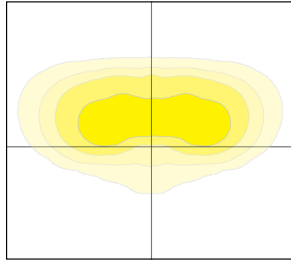
PHOTOMETRY

Mounting Height: 30ft

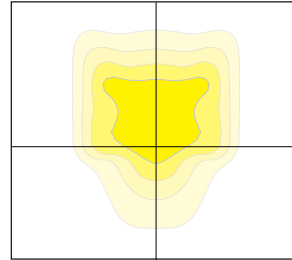
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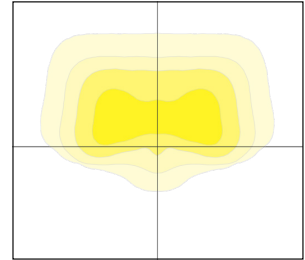
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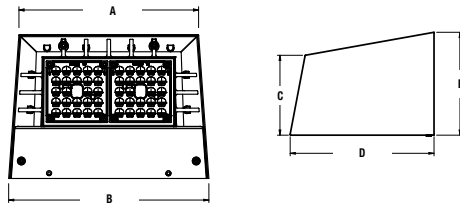
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Type 4W

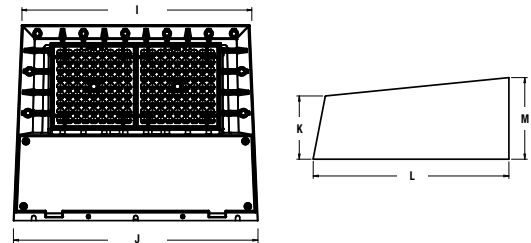
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RWL1

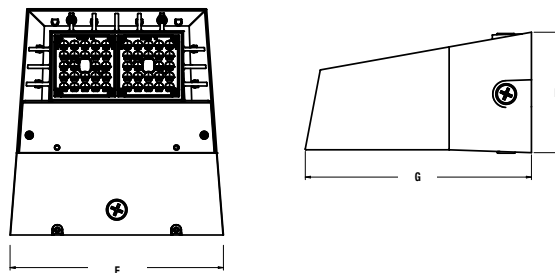


A	B	C	D	E	Weight
8.7"	9.7"	3.9"	7.0"	5.0"	6.5 lbs (2.95 kgs)
221mm	246mm	99mm	178mm	127mm	

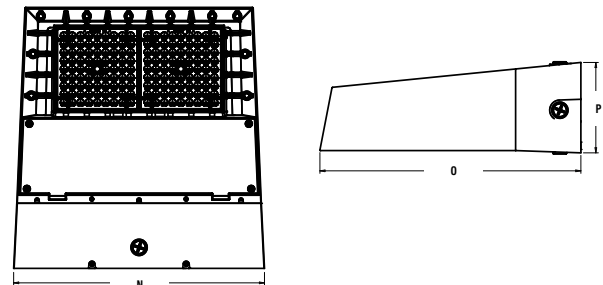
RWL2



I	J	K	L	M	Weight
14.0"	15.0"	3.9"	12.0"	5.0"	16.5 lbs (7.48 kgs)
356mm	381mm	99mm	305mm	127mm	

RWL1 with
Integral Back Box

F	G	H
10.4"	11.0"	5.9"
264mm	279mm	150mm

RWL2 with
Integral Back Box

N	O	P
15.4"	16.0"	5.5"
391mm	406mm	140mm

**Job Name:**184 READ STREET
Designer & Consultants: Swaney Application
Design**Catalog Number:**

RWL1-48L-35-3K7-4W-UNV-***

Type:**W4**

Notes: SPECIFY FINISH

SLA22-53559

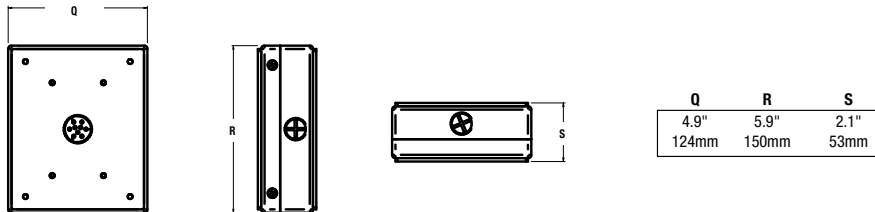
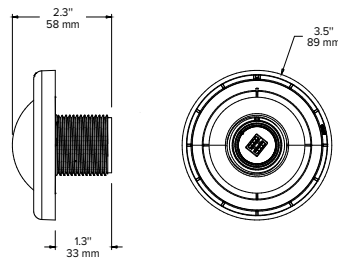
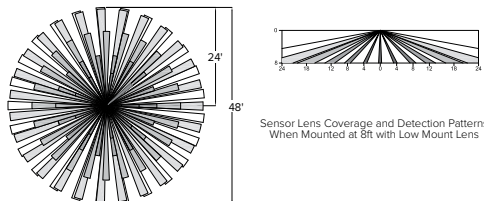
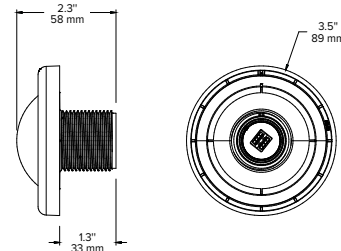
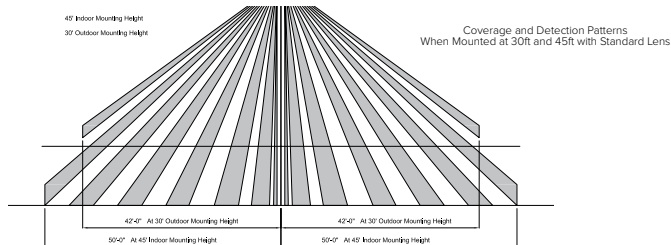
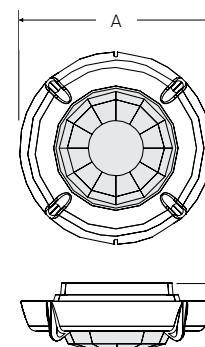
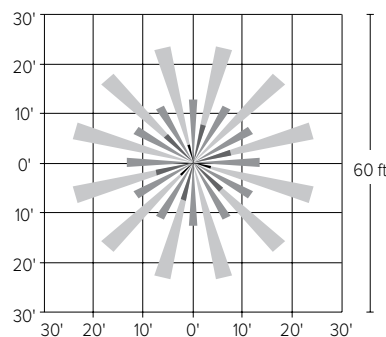
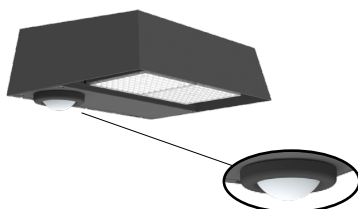
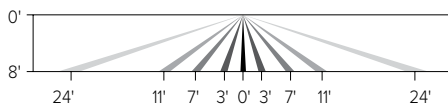
**RATIO WALL**

RWL1/RWL2 LED WALLPACK

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

DIMENSIONS (CONTINUED)**Back Box Accessory****ADDITIONAL INFORMATION****NXSP-14F****NXSP-40F****SCP-8F**

A	B
2.3" (59mm)	.8" (20mm)

**Job Name:**184 READ STREET
Designer & Consultants: Swaney Application
Design**Catalog Number:**

RWL1-48L-35-3K7-4W-UNV-***

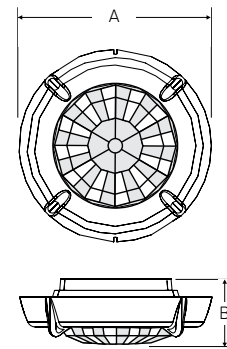
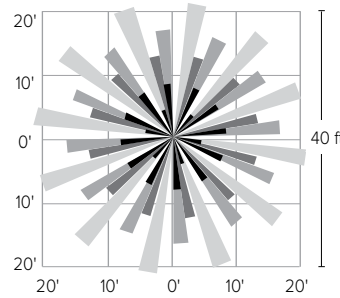
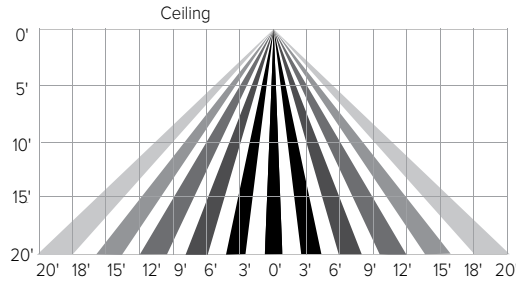
Type:**W4**

Notes: SPECIFY FINISH

SLA22-53559

**RATIO WALL**

RWL1/RWL2 LED WALLPACK

SCP-20F

A	B
2.3" (59mm)	.8" (20mm)

Submitted by Swaney Lighting		Catalog Number:	Type:
	Job Name: 184 READ STREET Designer & Consultants: Swaney Application Design	RWL1-48L-35-3K7-4W-UNV-*** Notes: SPECIFY FINISH	W4 SLA22-53559

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P. Utilities

The project will include installation of utility services to the proposed building.

Water:

Domestic water service will be provided internally from the existing connections of the existing two buildings. A new 6" fire service sprinkler line will be tapped within the 12" DI main within Read Street to serve the new building. In addition, the fire hydrant adjacent to the property will be relocated to make way for the proposed access driveway.

Sewer:

A new 4" PVC lateral will be installed from an existing manhole on the eastern part of the site. It is likely this manhole served the warehouse in existence until 2012, and the new line may be connected in the same location as the line to be retired.

Stormwater:

Runoff from the roof of the proposed building will be directed to new internal drains and two catch basins that will collect the majority of runoff from repaved and regraded sections and will convey it to the separated storm drain within Read Street. Please refer to the Grading & Drainage plans as well as the Stormwater Management Report for more information.

Electric:

It is proposed to remove and replace an existing pole on site to make way for the new entrance driveway. The relocated pole will provide over-head electricity to the new building and the abutting property at 150 Read Street. See the Sheet C-20, Utility Plan, for more information.

Gas:

Gas service to 184 Read Street currently runs under the footprint of the proposed building. This service will be relocated next to the service on the outside of 182 Read Street. Gas meters will be provided at this location. The new building will then be served with gas internally from this new connection. See Sheet C-20, Utility Plan, for more information.

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, Section 14-527(g)(7). Responses have been obtained for water and gas services and provided within the submission. The electric ability to serve confirmation is forthcoming.



Q. Construction Management Plan

Project Address: 182-184 Read Street

Project Description:

The redevelopment is proposed to include the construction of a new 60,630 SF warehouse building adjacent and attached to two existing structures on the property along with associated site circulation improvements.

Project Team Summary:

Owner:	NEPW Logistics, LLC.
Owner's Representative:	TBD
General Contractor:	TBD
Civil & Environmental Engineer:	Acorn Engineering, Inc.
Architect:	Ryan Senatore Architecture
Geotechnical Engineer:	Summit Geoengineering Services

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. Refer to the Civil/Site Plan Set, for visual representation of the measures 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 and Subcontractor contact information shall be posted somewhere along the project's street frontage. Additional signage necessary for communication shall be provided but will be temporary and removed upon completion of the project.

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. 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. Deliveries will be scheduled between 7 am and 5 pm.



The estimated timeframe of the proposed project is outlined below:

<u>Project Start Date:</u>	Summer 2023
<u>Project End Date:</u>	Summer 2024

A more detailed work schedule shall be provided by the GC at or before the pre-construction meeting with the City.

F. Security

1. 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.

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 Read 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 Read 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 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.

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 & Sedimentation Control

1. The Contractor shall install all erosion and sedimentation controls as depicted on the approved Construction Management Plan, C-03, 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 – 3,200 CY. Earthwork subcontractor(s) pit to project site.
 - Hot Mix Asphalt – 500 Tons. Paving subcontractor 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

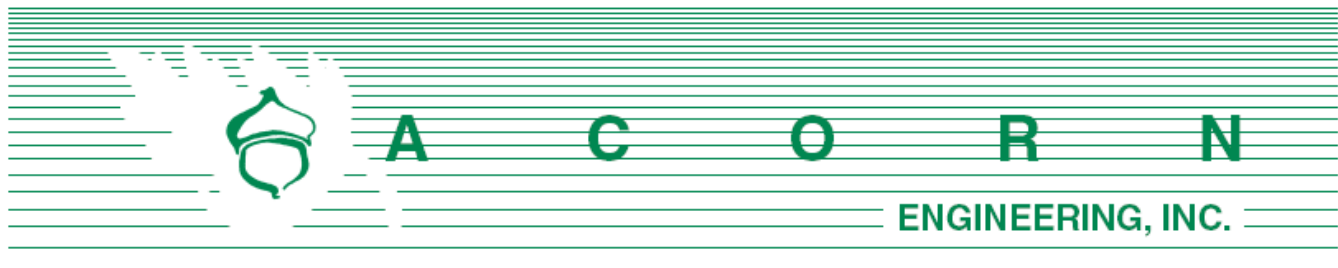
No special measures are necessary for the proposed reconstruction.



R. Solid Waste Disposal

The solid waste and recyclable material storage is located on the portion of the property opposite of where development is proposed and will remain in that location.





Maine Department of Environmental Protection
City of Portland, Maine

October 31, 2022

Subject: Delegated Review: Stormwater Management Permit
182 Read Street Redevelopment – Portland, Maine

To Whom It May Concern:

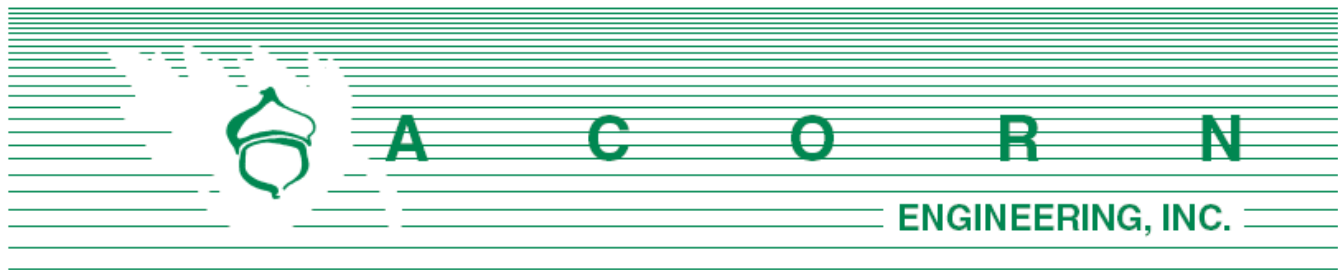
Acorn Engineering, Inc. has been retained by NEPW Logistics to provide civil engineering services for the proposed redevelopment of 182 Read Street located within the R-6 Zoning District in Portland, Maine. The 6.15-acre parcel is currently the site of NEPW's warehouse and storage operations. The redevelopment will include the construction of a new 60,950 SF warehouse building adjacent and attached to two existing structures on the property along with associated site circulation improvements. On behalf of our client, we are pleased to submit a Stormwater Management Permit application for this redevelopment subject to Delegated Review by the City of Portland. Concurrently, the project is anticipated to undergo a Major Site Plan review subject to approval from the Portland Planning Board.

The existing property is covered by approximately 74% or 4.55 acres of impervious surfaces, whereupon a similar sized warehouse and its associated infrastructure was formerly located. The proposed redevelopment includes increasing the overall impervious by approximately 1,289 square feet (+0.6%). There will be the routing of all storm water from the site to the separated storm drain system within Read Street.

We look forward to your review of this project. If you have any questions regarding these materials or the completeness of the application materials, please do not hesitate to contact us.

Sincerely,

Travis Letellier, P.E.
Project Manager
Acorn Engineering, Inc.



The following documents are included as part of this application.

Documents:

1. Stormwater Management Law Permit Application
2. Fee Worksheet
3. Notice of Intent to File
4. Certificate of Good Standing
5. Title, Right, or Interest
6. Photos of the Project Site
7. Erosion & Sedimentation Control Report
8. Stormwater Management Report

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RESOURCES**

Stormwater Application Form

FOR DEP USE

L- _____

ATS# _____

FEES PAID _____

DATE RECEIVED _____

PLEASE TYPE OR PRINT IN INK

This application is for (Check the one that applies):		☒ New application		☐ Amendment	
1. Name of Applicant:	NEPW Logistics		5. Name of Agent:	Travis Letellier	
2. Applicant's Mailing Address:	70 Quarry Road Portland, ME 04103		6. Agent's Mailing Address:	PO Box 3372 Portland, ME 04101	
3. Applicant's Phone #:	(207) 772-4653		7. Agent's Phone #:	207-775-2655	
4. Email address (REQUIRED-license will be sent via email:	rob@nepw.com		8. E-mail address (REQUIRED-license will be sent via email	tletellier@acorn-engineering.com	
9. Location of Project: (Road, Street, Rt.#)	182-184 Read Street, Portland, ME 04103		10. Town:	Portland	
			11. County:	Cumberland	
12. Type of Direct Watershed: (Check all that apply)	☐ Lake not most at risk ☐ Lake most at risk ☐ Lake most at risk, severely blooming ☐ River, stream or brook ☐ Urban impaired stream ☐ Freshwater wetland ☐ Coastal wetland ☐ Wellhead of public water supply		13. Amount of Disturbed Area:	Total Amt.= <u>2.11</u> acres	
			14. Amount of Developed Area:	☒ 1 or more acres, but less than 5 acres ☐ 5 acres or more Total Amt.= <u>2.11</u> acres	
			15. Amount of Impervious Area:	☐ less than 20,000 sq. ft. ☐ 20,000 sq. ft. to 1 acre ☒ 1 to 3 acres EX: 4.55 AC ☐ 3 or more acres PR: 4.58 AC Total Amount of Impervious Acres =	
16. Applicable Standards: (Check all that apply)	☐ Stormwater PBR ☒ Basic standards ☐ General standards: BMP ☐ General standards: phosphorus ☐ Flooding standard ☐ Urban impaired stream standards ☐ Other: _____		17. Type of Stormwater Control:	☐ Vegetative (e.g. buffers) ☐ Structural (e.g. underdrained filters, ponds, infiltration structures)	
18. Exceptions &/or Waivers Requested:	BMP Standards ▼ ☐ Pretreatment measures ☐ Discharge to ocean/major river segment ☐ Linear portion of project ☐ Utility corridor ☐ Redevelopment		Urban impaired stream standard ▼ ☐ Developed area not landscaped or impervious ☐ Redevelopment		Flooding Standard ▼ ☐ Discharge to ocean/major river segment ☐ Insignificant increase in peak flow
19. Proposed Start Date and Brief Project Description:	The proposed project includes the redevelopment of a 60,630 square foot warehouse on the footprint of a former warehouse and foundation, and associated infrastructure.				
20. Size of Lot or Parcel:	☐ _____ sq. ft., or ☒ <u>6.14</u> acres	UTM Easting:	396303	UTM Northing:	4837449
21. Title, Right or Interest:	☒ own ☐ lease ☐ purchase option ☐ written agreement				
22. Deed Reference Numbers:	Book#: 38021	Page: 294	24. Map and Lot Numbers:		Map #: 147 Lot #: B-1
23. DEP Staff Previously Contacted:		25. Project started prior to application?	☐ Yes ☒ No	Completed?	☐ Yes ☐ No

SIGNATURES / CERTIFICATIONS ON PAGE 2

26. Resubmission of Application?	☐ Yes → ☒ No	If yes, previous application #		Previous project manager:	
27. Written Notice of Violation?	☐ Yes → ☒ No	If yes, name of DEP enforcement staff involved:			
28. Detailed Directions to the Project Site:		Route 302 south, take a left on Read Street, 182-184 Read Street is 0.4 miles on the right containing two existing warehouses			
29. Stormwater Permit by Rule Submissions ▼		30. Stormwater Application Submissions ▼			
☐ This form (including signature page) ☐ Fee ☐ Topographic Map ☐ Plan or Drawing ☐ Photos of Area		☒ This form (including signature page) ☒ Fee ☒ Proof of title, right or interest ☒ Certificate of good standing (if applicable) ☒ Photos of Area ☐ Copy of Public Notice		☐ Professional & Notice Certification ☒ Basic standards submissions ☐ General standards submissions ☐ Flooding standard submissions ☐ Other standard submissions ☐ Compensation Fee (if required)	
31. FEES, Amount Enclosed:		DELEGATED REVIEW - FEE THROUGH CSS PORTAL			
Does the agent have an interest in the project? If yes, what is the interest?: ☐ Yes → ☒ No					

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following:

CERTIFICATIONS/ SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.	
Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by E-mailing the decision to the electronic address located on the front page of this application (see #4 for the applicant and #9 for the agent."	
Signed: 	Title <u>Project Manager</u> Date: <u>10.17.2022</u>
Notice of Intent to Comply with Maine Construction General Permit	With this Stormwater Law application form and my signature below, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards. Signed  Date: <u>10.17.2022</u>

NOTE: If a Notice of Intent is required, you must file a Notice of Termination (attached as Form G) within 20 days of completing permanent stabilization of the project site.

ADDITIONAL SIGNATURES/CERTIFICATIONS

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for stormwater approval is complete and accurate to the best of his/her knowledge.

Signature:  _____

Name (print): Travis Letellier, PE _____

Date: 10.17.2022 _____

Re/Cert/Lic No: _____

Engineer ☒ _____

Geologist _____

Soil Scientist _____

Land Surveyor _____

Site Evaluator _____

Active Member of the Maine Bar _____

Professional Landscape Architect _____

Fee Worksheet

Use this form to help determine the permit fee. The fee is based upon the amount of disturbed area associated with the project. **THE EXAMPLE BELOW IS NOT BASED ON CURRENT FEES.** To determine current stormwater licensing fees, please visit the Department's website at: <http://www.maine.gov/dep/permits/>

NOTE: Ditches, swales, ditch turn-outs, level spreaders, and similar Best Management Practices (BMPs) used solely to convey or discharge water to a vegetated buffer are not considered, by themselves, to constitute structural BMPs, provided that the applicant assumes that all water quality treatment takes place in the buffer. If any treatment is assumed within the BMPs used to convey water to the buffer, they are treated as structural BMPs for the purposes of determining the applicable fee (and review period). "Disturbed area" and "impervious area" are defined in Chapter 500, Section 2(F) and (L).

Example (a): If solely vegetative control measures are used (e.g. buffers), using an example fee of \$250.00* for up to one acre of disturbed area, plus \$125.00† for each additional whole acre of disturbed area, the total fee is calculated as shown below.

Project will create 2.34 acres of disturbed area.

$$\text{Fee} = \$250.00 + [\$125.00 \times (1)] = \$375.00$$

Your fee:

Current fee from fee schedule plus [1/2 current fee times # additional whole acres] equals application fee
 $\$ \underline{250} + [\$ \underline{125} \times (\underline{1})] = \$ \underline{375}$

Example (b): If any structural control measures are used (e.g. underdrained filters, ponds, infiltration systems), using an example fee of \$500.00 for up to one acre of disturbed area, plus \$250.00 for each additional whole acre of disturbed area, the total fee is calculated as shown below.

Project will create 2.34 acres of disturbed area.

$$\text{Fee} = \$500.00 + [\$250.00 \times (1)]. \text{ Fee} = \$750.00.$$

Your fee:

Current fee from fee schedule plus [1/2 current fee times # additional whole acres] equals application fee
 $\$ \underline{500} + [\$ \underline{250} \times (\underline{1})] = \$ \underline{750}$

* The total fee for the first acre of disturbed area is obtained by combining the processing and licensing fees contained in the current fee schedule.

† The fee for each additional whole acre of disturbed area is one-half the combined processing and licensing fee.

Public Notice: Notice of Intent to File

Please take notice that

NEPW Logistics, LLC

70 Quarry Road, Portland ME, 04103

(Name, Address and Phone # of Applicant)

phone: (207) 805-3578

is intending to file a Stormwater Law permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. § 420-D on or about
October 15, 2022

(anticipated filing date)

This application is for

The proposed development of a 60,630 SF warehouse and associated infrastructure.

(description of the project)

182 Read Street, Portland, ME 04103

(project location)

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Environmental Protection's office in Portland,
Augusta or Bangor) (circle one) during normal working hours. A copy of the application may also be seen at the municipal

offices in Portland, Maine.
(town)

Written public comments may be sent to the regional office in Portland, Augusta, or Bangor where the application is filed for public inspection.

MDEP, Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333

MDEP, Southern Maine Regional Office, 312 Canco Road, Portland, Maine 04103

MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401



MAINE

Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

[Subscriber activity report](#)

This record contains information from the CEC database and is accurate as of: Thu Jun 30 2022 08:05:18. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
NEPW LOGISTICS, INC.	20022386 D	BUSINESS CORPORATION	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
06/13/2002	N/A	MAINE

Other Names (A=Assumed ; F=Former)

FORE RIVER DISTRIBUTION	A
NEPW TRANSPORT	A
NEW ENGLAND PUBLIC WAREHOUSE	A
CROSSROADS LOGISTICS CORPORATION	F

Clerk/Registered Agent

EZEKIEL L. CALLANAN
75 YORK STREET

PORTLAND, ME 04101

[Back to previous screen](#)

[New Search](#)

Click on a link to obtain additional information.

List of Filings

[View list of filings](#)

Obtain additional information:

Additional Addresses

[Plain Copy](#)

[Certified copy](#)

Certificate of Existence [\(more info\)](#)

[Short Form without
amendments
\(\\$30.00\)](#)

[Long Form with
amendments
\(\\$30.00\)](#)

DLN: 1002140138275

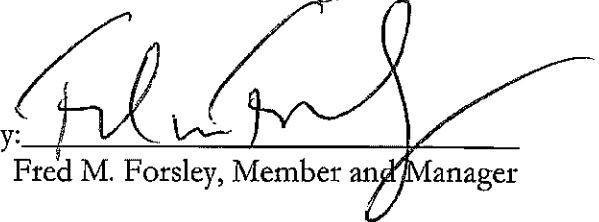
Warranty Deed

MAINE REAL ESTATE TAX-Paid

Read Street Warehousing, LLC, a Maine Limited Liability Company with an address of 8 Western Avenue, County of York, State of Maine, for consideration paid, grants an undivided 69% interest to **Read Warehouse, LLC**, a Delaware Limited Liability Company, and an undivided 31% interest to **NEPW Read Warehouse, LLC**, a Delaware Limited Liability Company, as tenants in common, both with an address of 70 Quarry Road, Portland, Maine 04103, with **Warranty Covenants**, the land and buildings located in Portland, County of Cumberland, State of Maine, described on Exhibit A attached hereto.

In Witness Whereof, **Fred M. Forsley**, in his capacity as Manager and Member of **Read Street Warehousing, LLC**, has hereunto set his hand and seal this 1st day of ~~March~~, 2021.
April

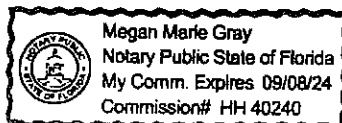
Read Street Warehousing, LLC

By: 
Fred M. Forsley, Member and Manager

State of Florida
County of Pinellas, ss.

March 30th, 2021

Personally appeared the above-named **Fred M. Forsley** in his capacity as Member and Manager of **Read Street Warehousing, LLC** and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of **Read Street Warehousing, LLC**. Before me,




Notary Public/Attorney-at-Law
Print Name: Megan Gray
My Commission Expires: 09/08/24

Exhibit A

A certain lot or parcel of land with the building thereon situated on the southerly side of Read Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Commencing at the northeasterly corner of land now or formerly of Gilbert F. Congdon III, et al recorded in the Cumberland County Registry of Deeds in Book 31249, Page 305 as shown on a plan entitled "ALTA/ACSM Land Title Survey 150-184 Read Street Portland, Cumberland County, Maine made for J. B. Brown & Sons, 36 Danforth Street, Portland, Maine" dated March 2, 2016 by Owen Haskell, Inc. and recorded in the Cumberland County Registry of Deeds in Plan Book 216, Page 82 (the "Plan");

Thence, N 44° 45' 00" W along the northerly line of land of said Congdon 373.46 feet to southeasterly corner of the lot herein described labeled as "Proposed Lot #182 - #184 Read St." and the southwesterly corner of the lot labeled as "Remaining Lot #150 Read St." as shown on said plan, also being the point of beginning;

Thence, from the point of beginning N 44° 45' 00" W continuing along the northerly line of land of Congdon 168.84 feet to an angle point;

Thence, N 45° 42' 00" W continuing along the northerly line of land of Congdon 282.30 feet to the easterly line of land now or formerly of Portland Terminal Company;

Thence, N 04° 29' 00" E along the easterly line of land of said Portland Terminal Company 522.02 feet to the southerly sideline of said Read St.;

Thence, S 44° 45' 00" E along the easterly sideline of Read Street 639.23 feet to an angle point in said sideline;

Thence, S 44° 45' 00" E continuing along the easterly sideline of Read Street 172.42 feet to the northeasterly corner of the lot herein described and the northwesterly corner of land of said "Remaining Lot #150 Read St.;"

Thence, S 45° 15' 00" W along the westerly line of the "Remaining Lot #150 Read St." 424.00 feet to the point of beginning.

Together with the exclusive right to use, occupy and cross said fifty (50) foot wide strip of land with switch railroad tracks located on the Premises hereby conveyed.

Further, the above-described Premises are conveyed together with a certain perpetual non-exclusive right and easement for vehicular and pedestrian access and utilities access to and from Read Street in common with J. B. Brown & Sons, its successors and assigns, appurtenant to the Premises hereby conveyed, over and across the curb cut off Read Street

located on the westerly side of land now or formerly of J. B. Brown & Sons and near the easterly boundary of the said Premises, for purposes of ingress and egress to and from the Premises, and depicted on the Plan as the "Proposed Access Easement for #182 & #184." Neither Grantor nor J. B. Brown & Sons, their successors and assigns shall have any obligation to maintain the foregoing access easement, including, without limitation, snow-plowing, ice removal or sanding; provided, however, Grantee is hereby authorized, at Grantee's sole expense and discretion, to maintain the foregoing access easement with its own snow-plowing, ice removal or sanding. Grantee, its successors and assigns, agrees to indemnify and hold Grantor and J. B. Brown & Sons, their successors and assigns, harmless from and against any and all liability, loss, cost, damage or expense, including court costs or fees related to litigation or alternative dispute resolution and attorneys' fees, incurred by Grantor or J. B. Brown & Sons, and their successors and assigns, as a result of or in connection with the use of the aforesaid access easement on land now or formerly of J. B. Brown & Sons by Grantee or Grantee's employees, agents, or contractors, except to the extent attributable to the misconduct or gross negligence of J. B. Brown & Sons or its employees, agents or contractors. J. B. Brown & Sons, its successors and assigns, shall have the right to relocate said easement from time to time at the sole cost and expense of J. B. Brown & Sons. Said easement shall run with the land and be for the benefit of the Grantee, its successors and assigns, their tenants, agents, and business invitees, in common with J. B. Brown & Sons, its successors and assigns.

Being the same premises conveyed to Read Street Warehousing, LLC by Quitclaim Deed with Covenant given by J.B. Brown & Sons dated April 12, 2016 and recorded in the Cumberland County Registry of Deeds on April 12, 2016 at Book 33033, Page 310.

6. Photos of the Existing Site – 182/184 Read Street



Figure 1. Existing 182 Read Street and site of new warehouse, facing north



Figure 2. Site of proposed warehouse, 150 Read Street in view, facing south





Figure 3. Facing west, looking at old foundation and site of new warehouse.



Figure 4. Existing paved drive, not in use, facing northwest.



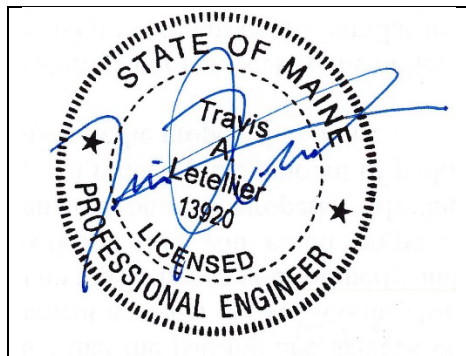
7. EROSION & SEDIMENTATION **CONTROL REPORT**

Prepared For:

**NEPW Logistics
182 Read Street
Portland, Maine 04103**

Prepared By:

**Acorn Engineering, Inc.
500 Washington Avenue
Portland, Maine 04103**



October 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by NEPW Logistics to provide civil engineering services for the proposed redevelopment of the 6.15-acre parcel (147-B-1) at 182 Read Street located within the I-M Zoning District in Portland, Maine.

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 site is located off Read Street and abuts a railroad bed to the west. A Boundary & Topographic Survey has been prepared by Owen Haskell, Inc., dated August 12, 2022.

The property is in the I-M Residential Zone. Abutting Uses include:

- North Read Street
- West/South Springfield Terminal Railroad Tracks
- East Industrial Use

The property is currently the site of NEPW Logistics warehouse operations. The project intends to construct a 60,630 square foot warehouse building adjacent to the existing buildings. The building will be in the footprint of a warehouse in existence until 2012. The site in its existing condition drains water in roughly two directions, to the north and south. Please see the Stormwater Report for more detailed information on the existing and proposed subcatchments.

1.1 Existing 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
Cut and Fill Land	.15	.15
Deerfield Loamy Fine Sand	.20	.20

The soil "K" value for the soil, listed above, shows a lower susceptibility to erosion, as derived from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil "K" value shows a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be important to limit erosion during large storm events.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

There are no critical areas that require special attention during construction.

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. Historical imagery shows the existence of a warehouse in the proposed footprint until around 2012.

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 road ways.

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 Read 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 $\frac{1}{2}$ 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 DETAILS AND SPECIFICATIONS

3.1 Erosion & Sedimentation 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, 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:

4.1 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.

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 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.



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 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.

5.0 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.

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.

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: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

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. Prioritize the downhill side to contain runoff within the site while providing an engineered outlet to the municipal storm drain system within Read Street.
6. Commence earthwork operations, associated with the parking lot construction.
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 and 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.



8.0 ATTACHMENTS

- Temporary 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.



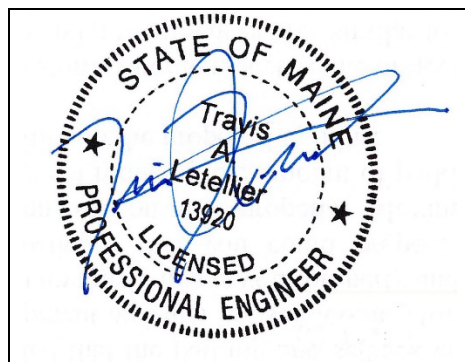
J. STORMWATER MANAGEMENT **REPORT**

Prepared For:

NEPW Logistics
Portland, Maine 04103

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



October 2022

INTRODUCTION

Acorn Engineering, Inc. has been retained by NEPW Logistics to provide civil engineering services for the proposed development at 180 Read Road. The property consists of approximately 6.15 acres of land and contains the following parcels (147-B-1).

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.

EXISTING CONDITIONS

The project site is bordered by Read Street and abuts the Springfield Terminal railroad bed to the west. A boundary plan has been prepared by Owen Haskell Inc., dated August 12th, 2022. The site is not in the watershed of an urban impaired stream.

The site is currently the location of NEPW Logistics warehouse operations. The site in its existing condition drains water in roughly two directions, to the north and south. Half of the building closest to Read Street and a portion of the eastern half of the site drain to the separated storm system within Read Street. The rest drains to the south along the existing railroad tracks and behind the building at 150 Read Street. It then flows into the separated stormwater system within Canco Road through a culvert. The flows off the site are combined within the storm drain system and discharge at a location off Ocean Ave that drains to the Bay.

PROPOSED DEVELOPMENT

The redevelopment will include the construction of a new 60,650 SF warehouse building adjacent and attached to two existing structures on the property along with associated site circulation improvements. The proposed building will be in the footprint of a warehouse in existence until 2012. Some areas on site that were previously impervious area are being converted to landscaped area. Overall, the project proposes to increase the impervious area on site by 1,289 SF.

Existing Impervious Area (SF)	Proposed Impervious Area (SF)
198,067	199,356 (+0.6%)



The redeveloped portion of the site has been graded to match with the existing topography of the site while providing for appropriate slopes in the parking and tractor trailer access areas. Catch basins and piping are provided to convey stormwater from the site to the separated storm system within Read Street. Due to the minor increase in impervious area and modeling constraints there is a small increase in peak stormwater flows off the site in the post-development condition (0.2 CFS in 25-year storm event). This increase is insignificant compared to the overall development.

All the paved areas associated with this re-development project are in areas where pavement exists in its current condition and has been used previously for site access, and loading area. This project aims to regrade and repave this area around the proposed building in a way that meets the definition of Maintenance within the Maine Department of Environmental Protection's Chapter 500 rules. The small increase in impervious area on the site is due to the roof area, not from an increase in pavement on the site.

The development will be served by the Portland Water District, CMP, and municipal sewer and storm systems. Utility mains and services have been coordinated with each respective utility company.

BASIC STANDARDS – EROSION & SEDIMENTATION CONTROL

The development shall provide erosion and sedimentation control, inspection and maintenance, and housekeeping standards as specified in the attached Exhibit K: Erosion and Sedimentation Control Report. Grading and construction activity will not impede or otherwise alter drainageways to have an unreasonable adverse impact on adjacent downgradient parcels.

FLOODING STANDARD – WATER QUANTITY

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, Inc. 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 T_c 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 T_c path was capped at 100 feet.

Curve Number (CN)

Within the pre-development model, the vegetated areas were considered grass or woods cover in fair condition as demonstrated by aerial images and site visits or . The post development landscaped areas were given a good rating all within the A hydrologic soil group.

Pre-development Calculations

The site consists of a predominately industrial lot in the predevelopment condition. For the purpose of this analysis the land has been divided into two (2) separate subcatchments.

- SC 1A – Half of Building 1 and eastern portion of site draining towards Read Street. It is assumed that these flows eventually convey to the separated storm system within Read Street.
- SC 2A – Building 2 and the remainder of property draining south to brush and trees

Peak combined flow rates for the pre-development storm events are as follows:

Table 6 – Pre-Development Peak Stormwater Flows			
Drainage Area	2-Year Storm Event (cfs)	10-Year Storm Event (cfs)	25-Year Storm Event (cfs)
Whole Site	6.0	11.1	15.3

Post-development Calculations

The post condition features the same two (2) point of interests that exist in the pre-development condition. The delineations are slightly changed to account for the new building and parts of the access road draining to catch basins and the separated storm system within Read Street. The sub catchments are as follows:

- SC 1P – Half of Building 1, the proposed building and eastern portion of site draining to Read Street including half of the access drive, drained by catch basins. This flow eventually conveys to the separated storm system within Read Street.
- SC 2P – Building 2 and the remainder of property draining south to brush and trees

The post-development calculations include changes to the land use and watershed delineations. The following table represents comparison of pre-development and post-development condition peak runoff rates for the proposed development and tributary area. It also includes the rate of flow of run-off that will be conveyed to the separated storm system.



Table 8 – Comparison of Peak Flows						
Drainage Area	2-Year Storm Event (cfs)		10-Year Storm Event (cfs)		25-Year Storm Event (cfs)	
	Pre	Post	Pre	Post	Pre	Post
Whole Site	6.0	6.9	11.1	11.6	15.3	15.5
Increase in Flows to City System	0.9		0.5		0.2	

As shown in Table 7 and 8, the total post development peak flows leaving the site will be slightly higher than pre-development levels, by around 0.2 - 0.9 cubic feet per second, storm dependent. It is anticipated that this drainage pattern will improve the conditions of the watershed by conveying more of the runoff to the separated stormwater system immediately instead of the through neighboring properties, which have documented flooding issues.

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.

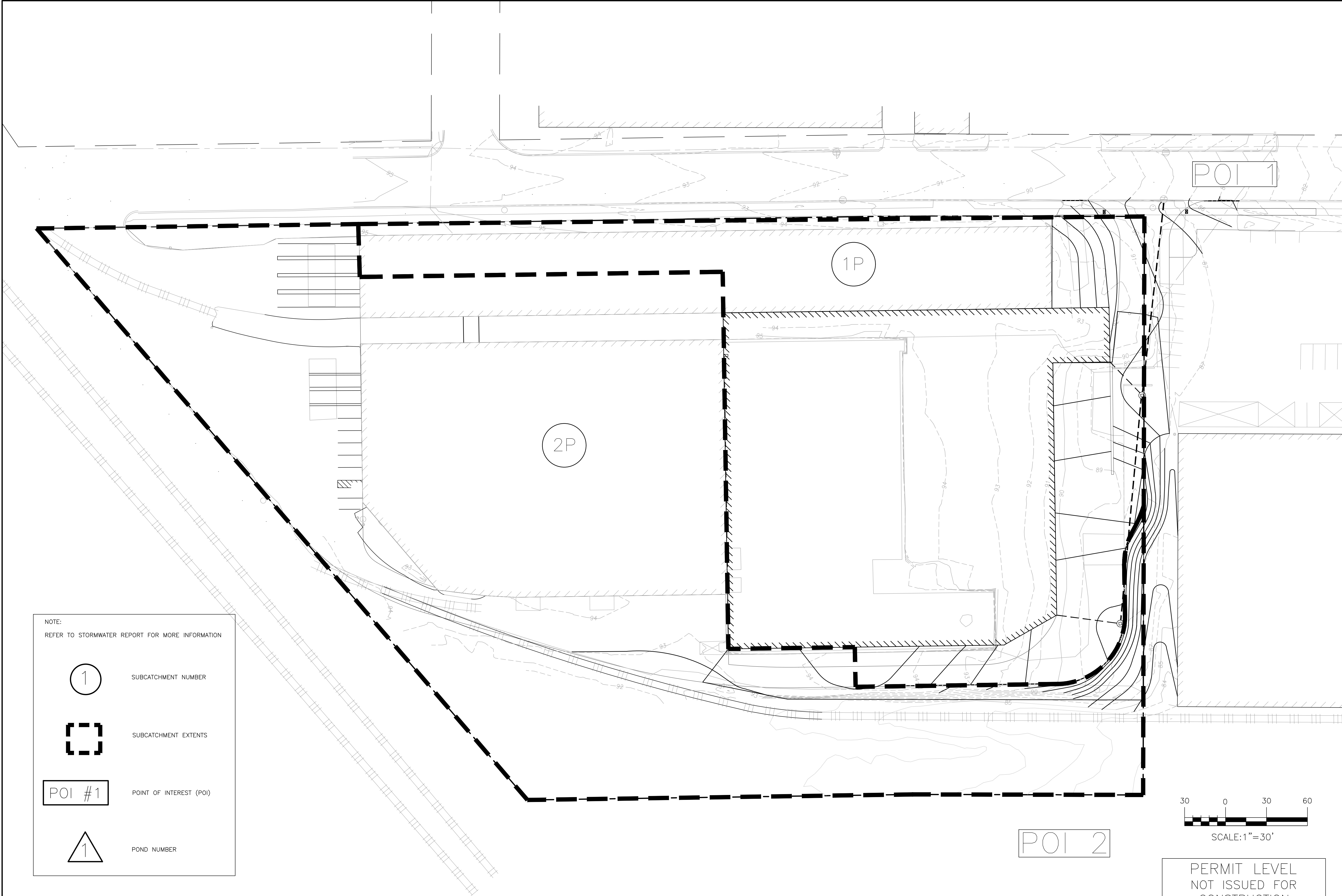
CONCLUSION

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 insignificant increase in peak flow 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 the perspective outlined above.

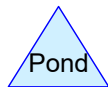
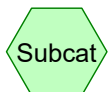
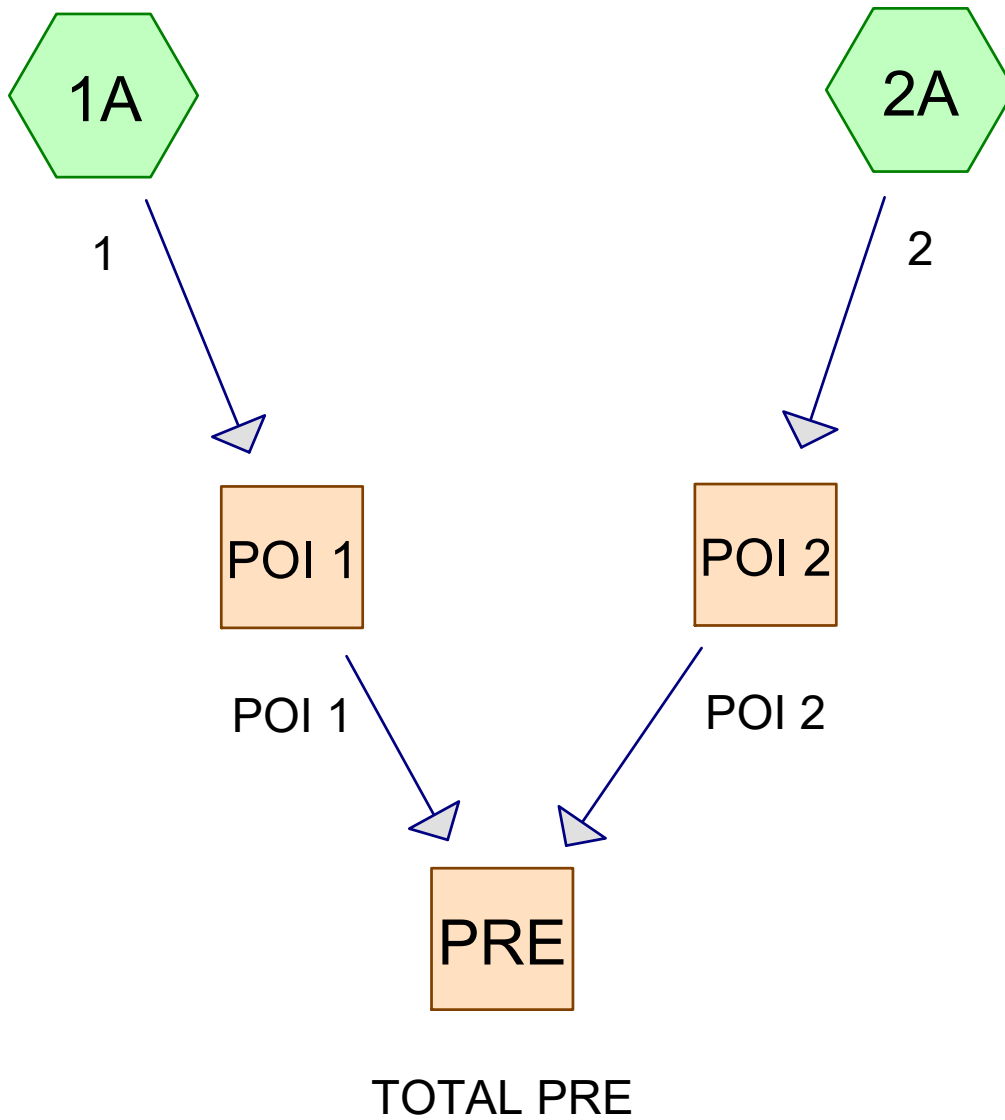
ATTACHMENTS

Attachment A: Pre-Development Watershed Map
Attachment B: Post-Development Watershed Map
Attachment C: HydroCAD Calculations
Attachment D: Soil Survey





ISSUED FOR		BY
MAJOR SITE PLAN		DATE
		10/17/22
POST-DEVELOPMENT WATERSHED MAP		
READ STREET		
PORTLAND, MAINE 04103		
NEPW LOGISTICS, LLC		
118 QUARRY ROAD, PORTLAND, MAINE 04103		
DRAWING NAME		
PROJECT NAME/ADDRESS		
CLIENT/OWNER OF RECORD		
ACORN ENGINEERING, INC.		
PO BOX 3372, PORTLAND MAINE 04101		
(207) 775-2885		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY SUCH MODIFICATION SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.		
FILE: 1176_CIVIL		
JN: 1176		
SCALE: AS NOTED		
DESIGNED BY: TJL		
DRAWN BY: AWG		
CHECKED BY: WHS		
DRAWING NO.		
POST		



Routing Diagram for 1176_PRE
 Prepared by HP, Printed 10/17/2022
 HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Project Notes

Rainfall events imported from "Post Development_4-21-21.hcp"

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.494	49	50-75% Grass cover, Fair, HSG A (1A, 2A)
1.102	36	Woods, Fair, HSG A (2A)
3.420	98	buildings/pave (2A)
1.127	98	pave/roof (1A)
6.143	83	TOTAL AREA

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.596	HSG A	1A, 2A
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
4.547	Other	1A, 2A
6.143		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
0.494	0.000	0.000	0.000	0.000	0.494	50-75% Grass cover, Fair	1A, 2A
1.102	0.000	0.000	0.000	0.000	1.102	Woods, Fair	2A
0.000	0.000	0.000	0.000	3.420	3.420	buildings/pave	2A
0.000	0.000	0.000	0.000	1.127	1.127	pave/roof	1A
1.596	0.000	0.000	0.000	4.547	6.143	TOTAL AREA	

1176_PRE

Prepared by HP

HydroCAD® 10.00-26 s/n 00620 © 2020 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.10"

Printed 10/17/2022

Page 6

Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=1.83"
Flow Length=340' Tc=21.2 min CN=87 Runoff=2.04 cfs 0.221 af**Subcatchment2A: 2**Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=1.46"
Flow Length=898' Tc=32.6 min CN=82 Runoff=4.32 cfs 0.570 af**Reach POI 1: POI 1**Inflow=2.04 cfs 0.221 af
Outflow=2.04 cfs 0.221 af**Reach POI 2: POI 2**Inflow=4.32 cfs 0.570 af
Outflow=4.32 cfs 0.570 af**Reach PRE: TOTAL PRE**Inflow=6.03 cfs 0.791 af
Outflow=6.03 cfs 0.791 af**Total Runoff Area = 6.143 ac Runoff Volume = 0.791 af Average Runoff Depth = 1.55"**
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 2.04 cfs @ 12.29 hrs, Volume= 0.221 af, Depth= 1.83"

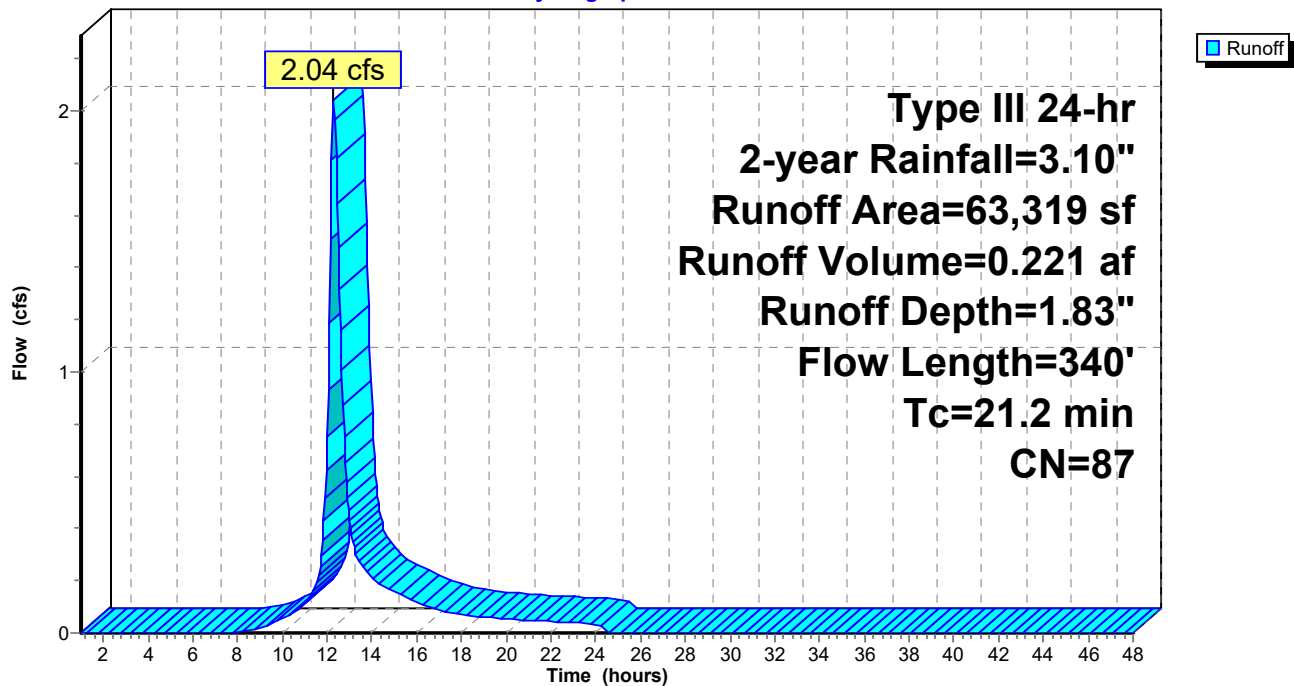
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 4.32 cfs @ 12.47 hrs, Volume= 0.570 af, Depth= 1.46"

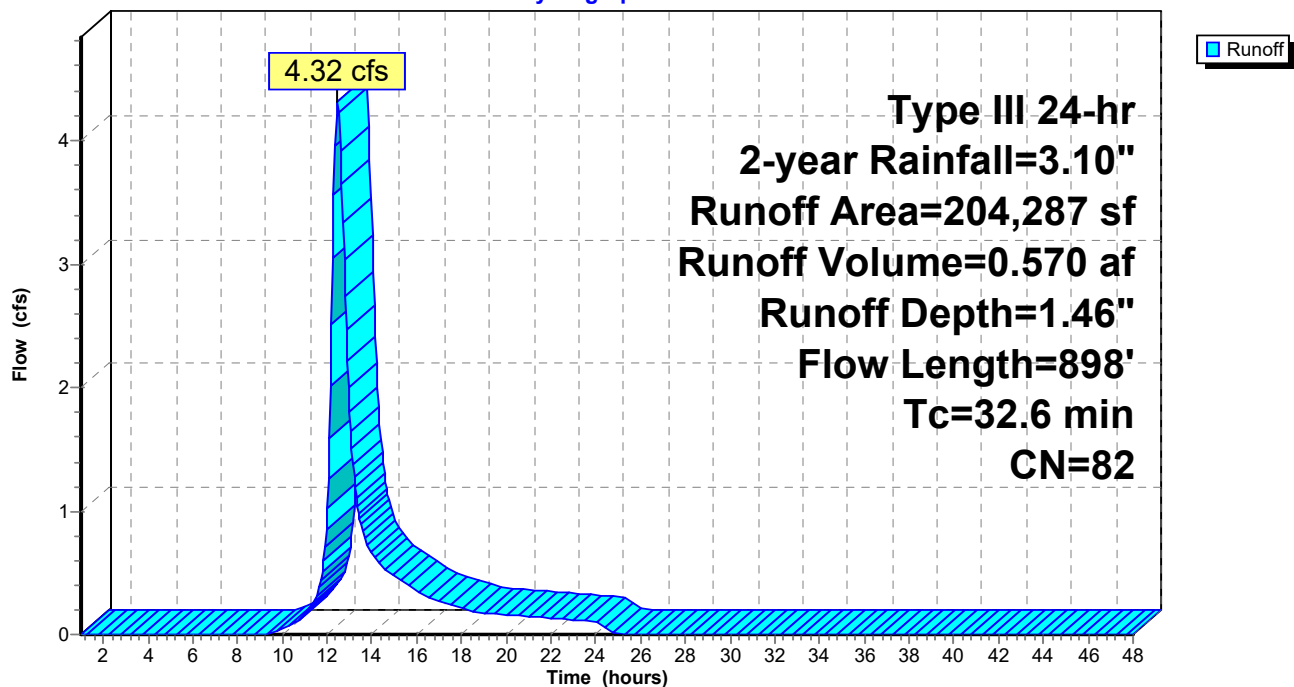
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph

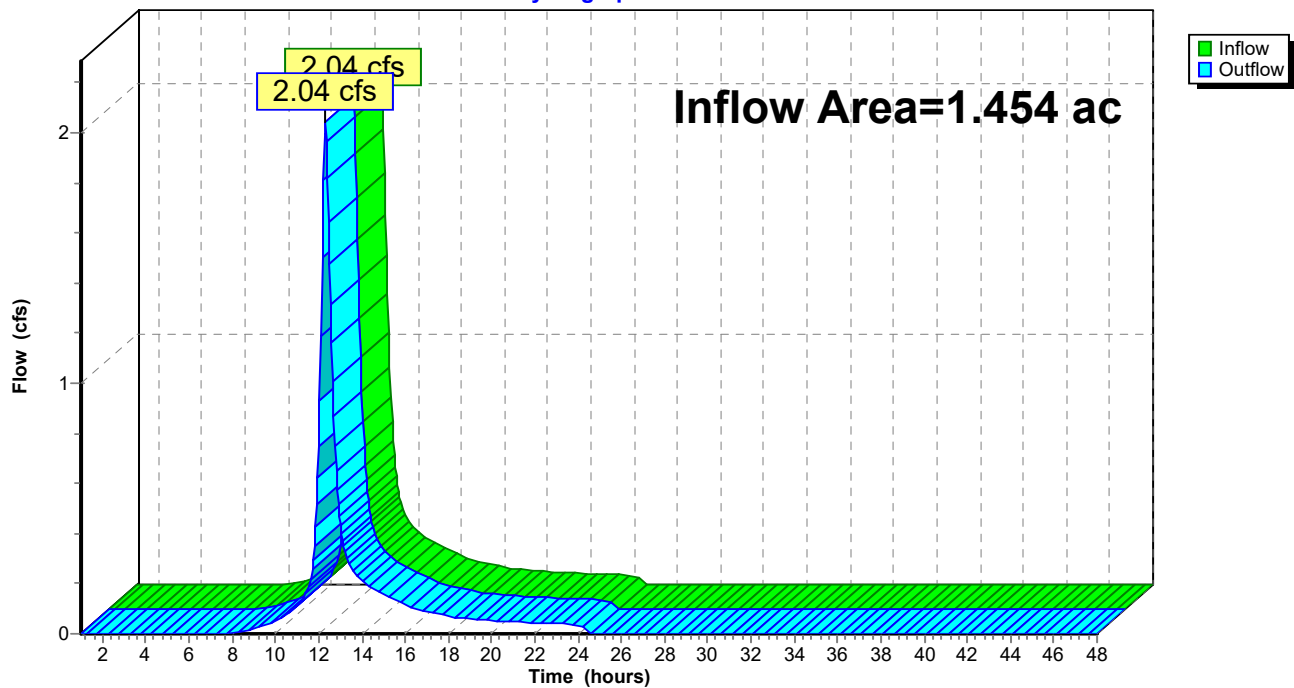


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 1.83" for 2-year event
Inflow = 2.04 cfs @ 12.29 hrs, Volume= 0.221 af
Outflow = 2.04 cfs @ 12.29 hrs, Volume= 0.221 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

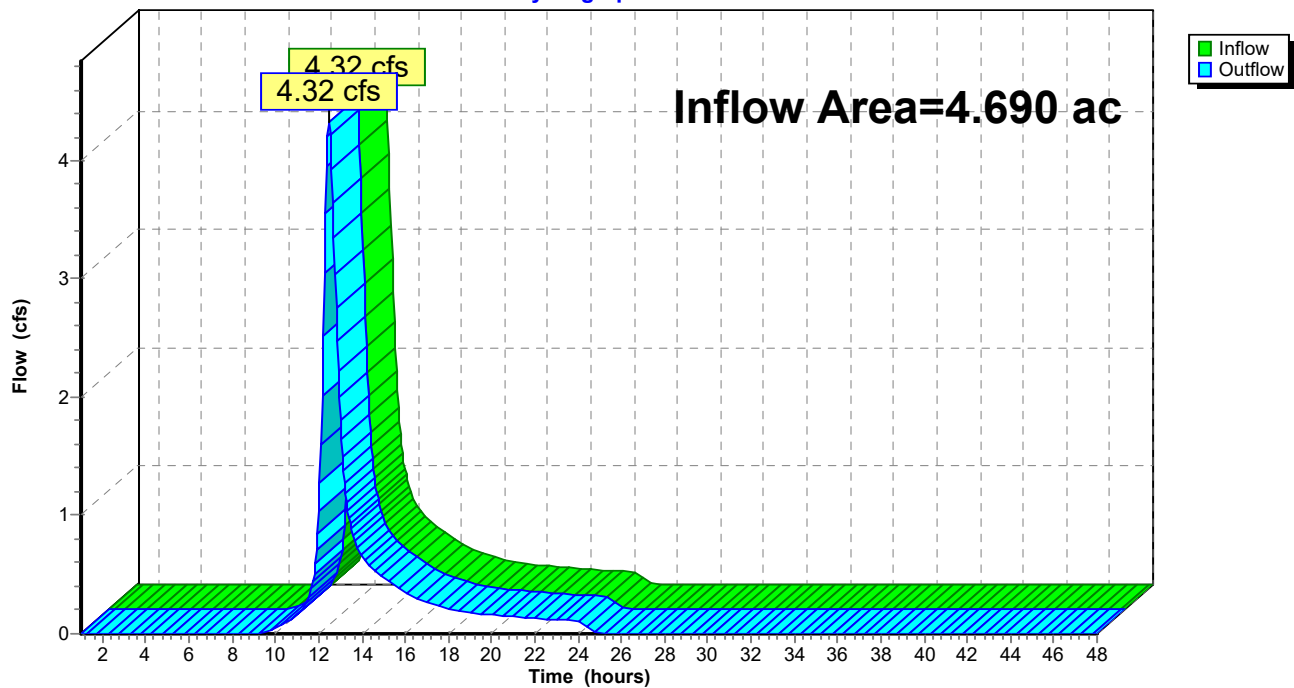
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 1.46" for 2-year event
Inflow = 4.32 cfs @ 12.47 hrs, Volume= 0.570 af
Outflow = 4.32 cfs @ 12.47 hrs, Volume= 0.570 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph



Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 1.55" for 2-year event

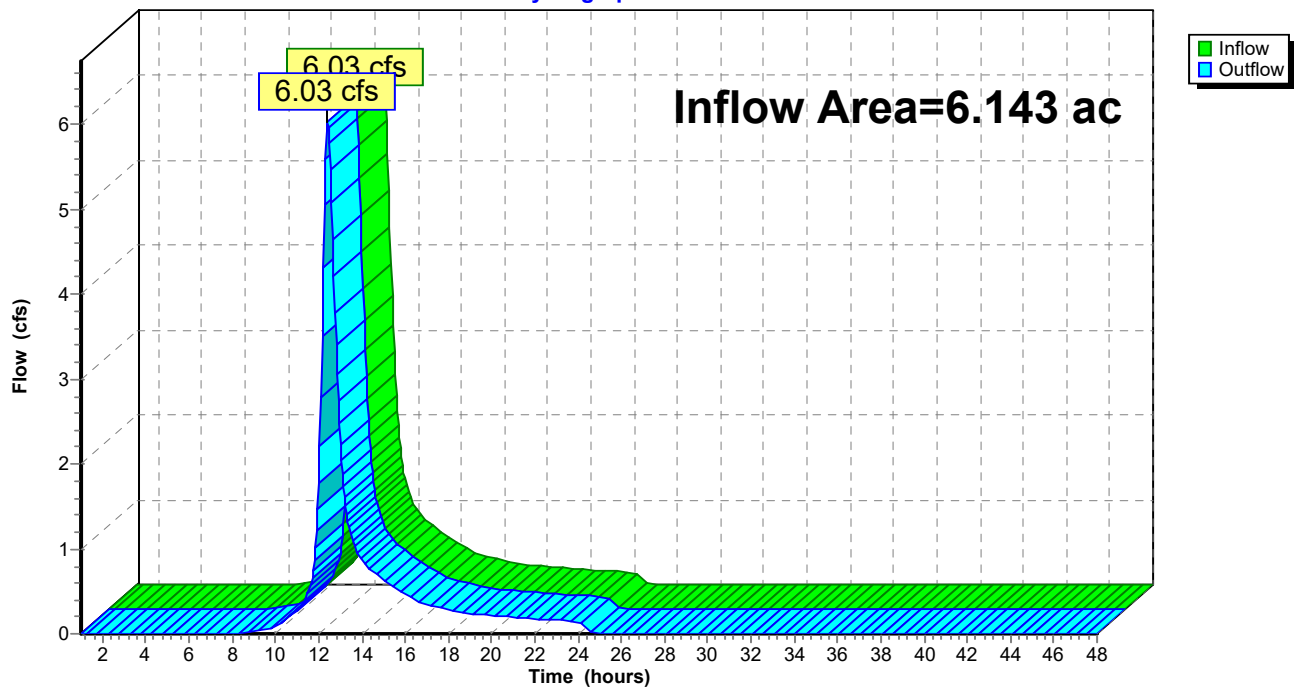
Inflow = 6.03 cfs @ 12.41 hrs, Volume= 0.791 af

Outflow = 6.03 cfs @ 12.41 hrs, Volume= 0.791 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE

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Type III 24-hr 10-year Rainfall=4.60"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=3.19"
Flow Length=340' Tc=21.2 min CN=87 Runoff=3.53 cfs 0.387 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=2.72"
Flow Length=898' Tc=32.6 min CN=82 Runoff=8.13 cfs 1.065 af

Reach POI 1: POI 1

Inflow=3.53 cfs 0.387 af
Outflow=3.53 cfs 0.387 af

Reach POI 2: POI 2

Inflow=8.13 cfs 1.065 af
Outflow=8.13 cfs 1.065 af

Reach PRE: TOTAL PRE

Inflow=11.10 cfs 1.451 af
Outflow=11.10 cfs 1.451 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.451 af Average Runoff Depth = 2.83"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 3.53 cfs @ 12.29 hrs, Volume= 0.387 af, Depth= 3.19"

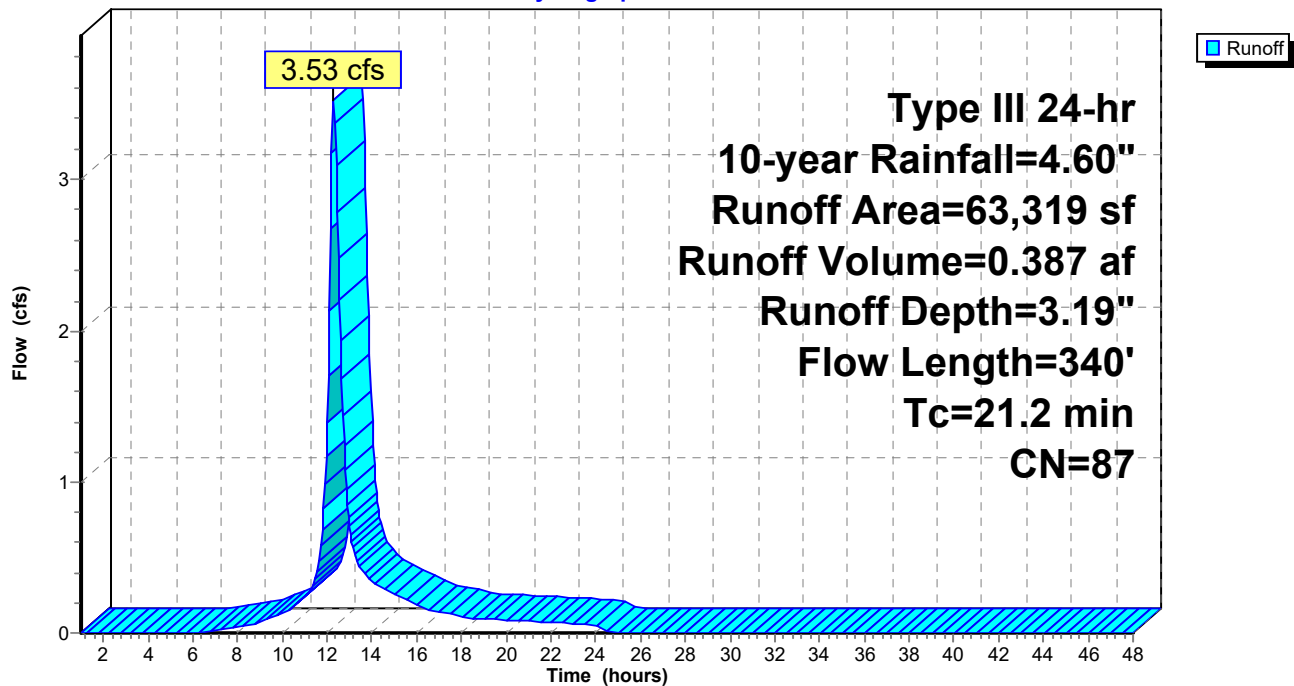
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 8.13 cfs @ 12.45 hrs, Volume= 1.065 af, Depth= 2.72"

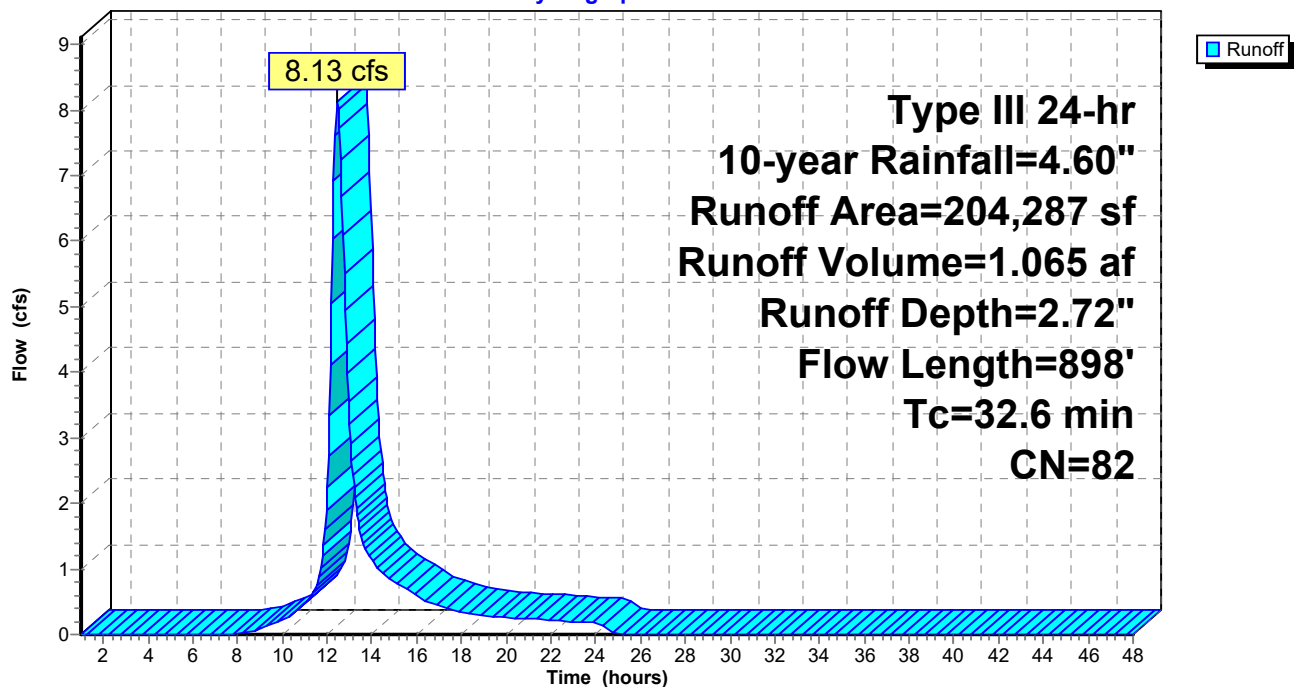
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

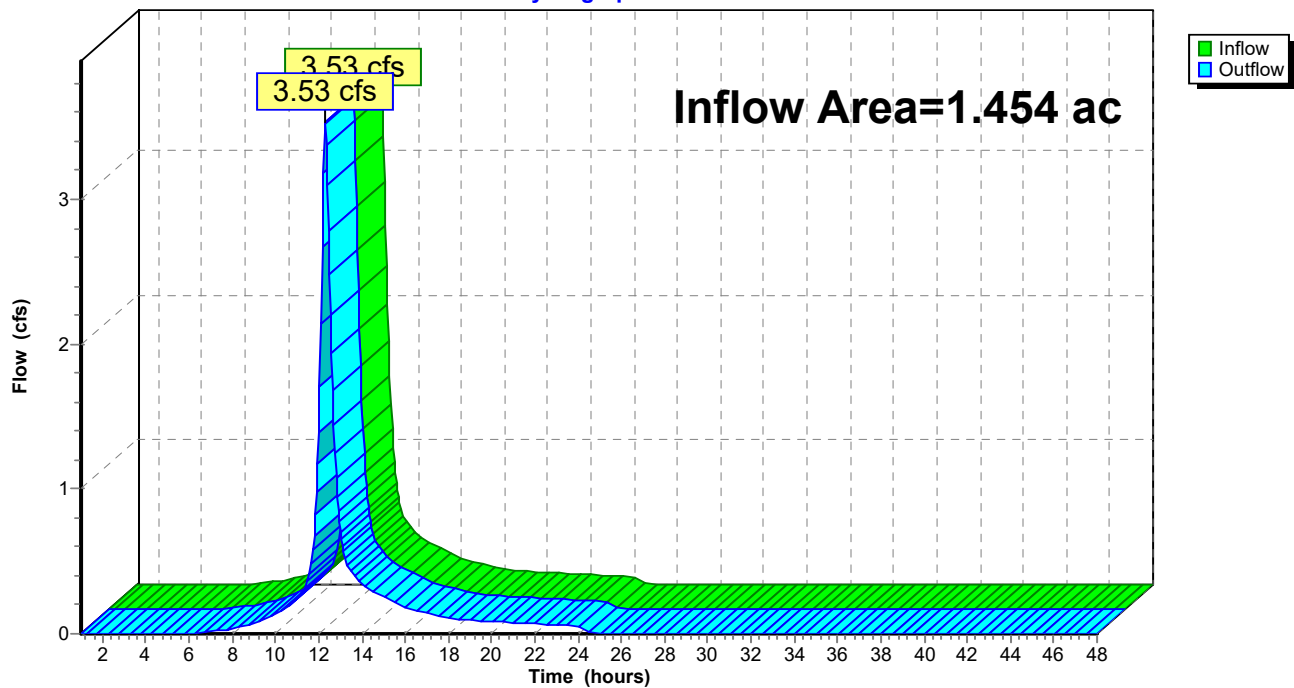
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 3.19" for 10-year event
Inflow = 3.53 cfs @ 12.29 hrs, Volume= 0.387 af
Outflow = 3.53 cfs @ 12.29 hrs, Volume= 0.387 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph

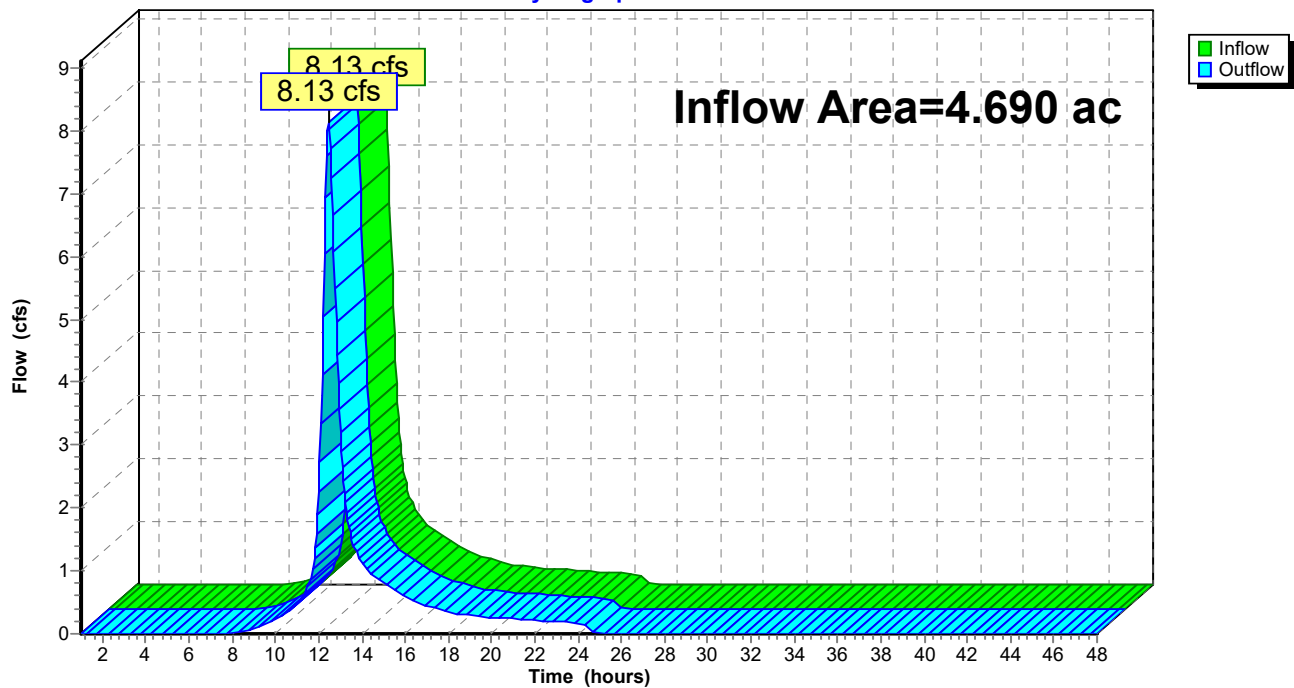


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 2.72" for 10-year event
Inflow = 8.13 cfs @ 12.45 hrs, Volume= 1.065 af
Outflow = 8.13 cfs @ 12.45 hrs, Volume= 1.065 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

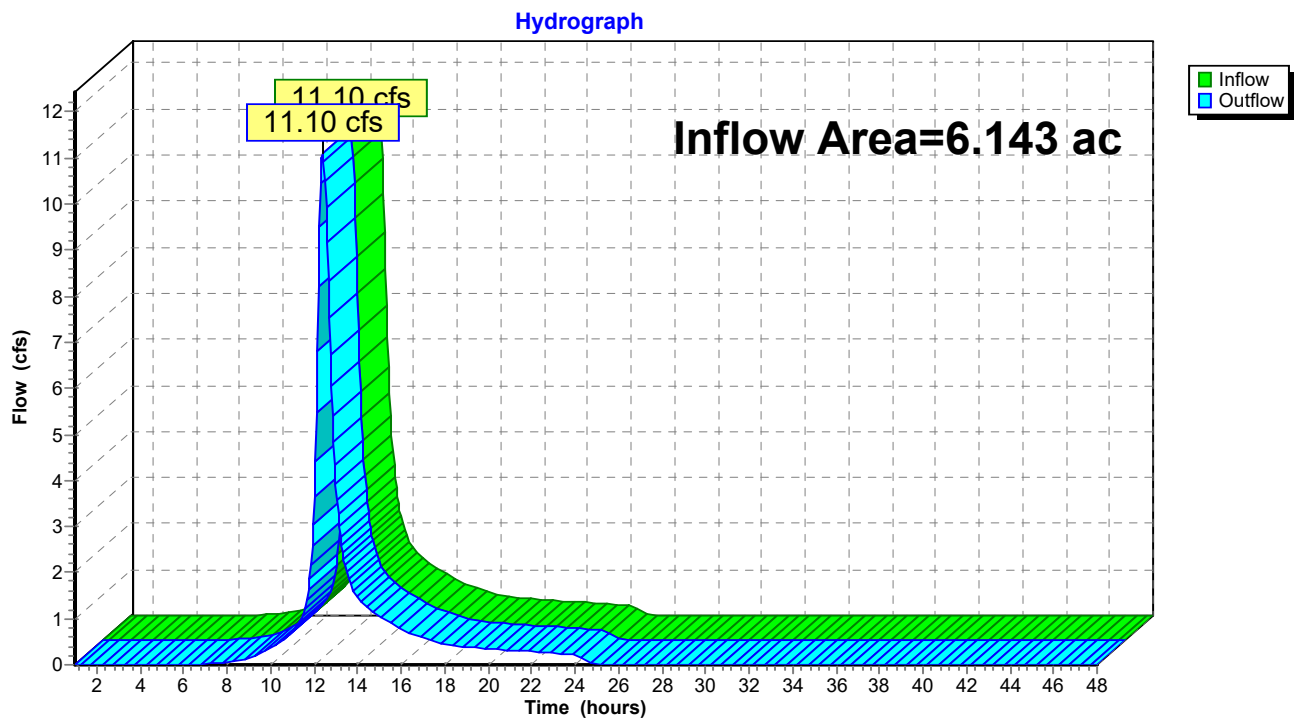
Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 2.83" for 10-year event
Inflow = 11.10 cfs @ 12.39 hrs, Volume= 1.451 af
Outflow = 11.10 cfs @ 12.39 hrs, Volume= 1.451 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

1176_PRE*Type III 24-hr 25-year Rainfall=5.80"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=4.33"
Flow Length=340' Tc=21.2 min CN=87 Runoff=4.73 cfs 0.524 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=3.80"
Flow Length=898' Tc=32.6 min CN=82 Runoff=11.31 cfs 1.486 af

Reach POI 1: POI 1

Inflow=4.73 cfs 0.524 af
Outflow=4.73 cfs 0.524 af

Reach POI 2: POI 2

Inflow=11.31 cfs 1.486 af
Outflow=11.31 cfs 1.486 af

Reach PRE: TOTAL PRE

Inflow=15.30 cfs 2.011 af
Outflow=15.30 cfs 2.011 af

Total Runoff Area = 6.143 ac Runoff Volume = 2.011 af Average Runoff Depth = 3.93"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 4.73 cfs @ 12.28 hrs, Volume= 0.524 af, Depth= 4.33"

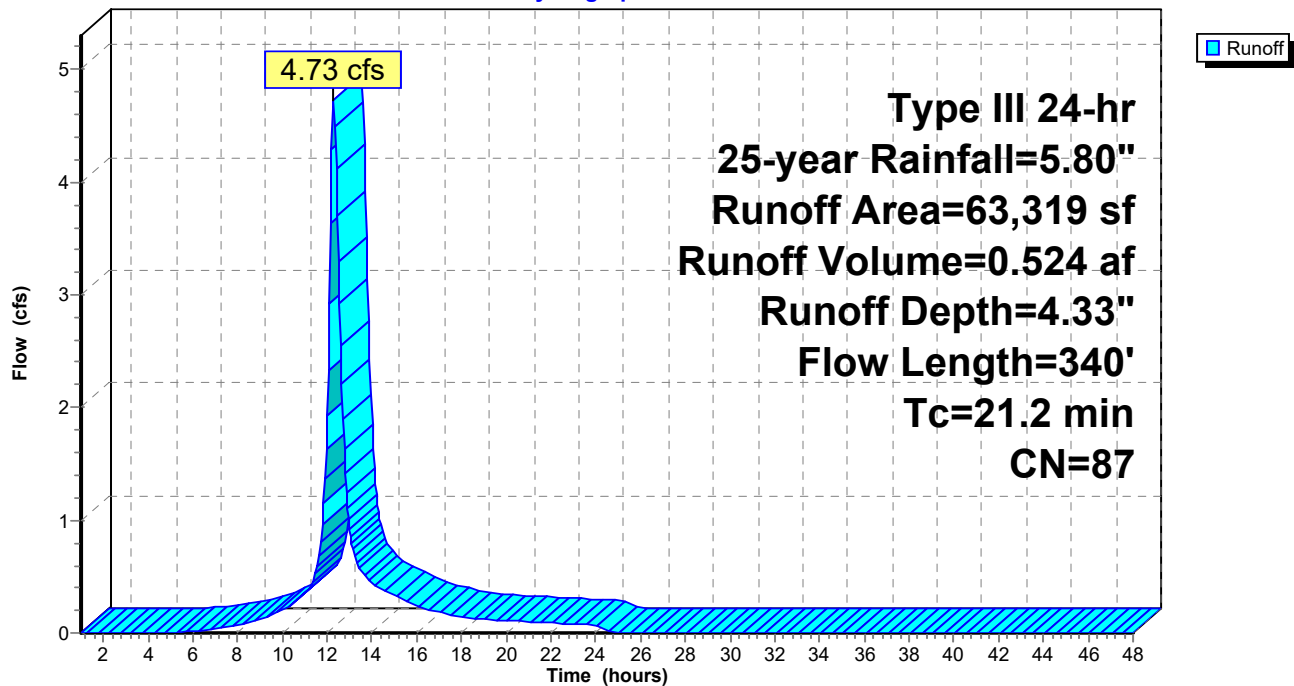
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 11.31 cfs @ 12.45 hrs, Volume= 1.486 af, Depth= 3.80"

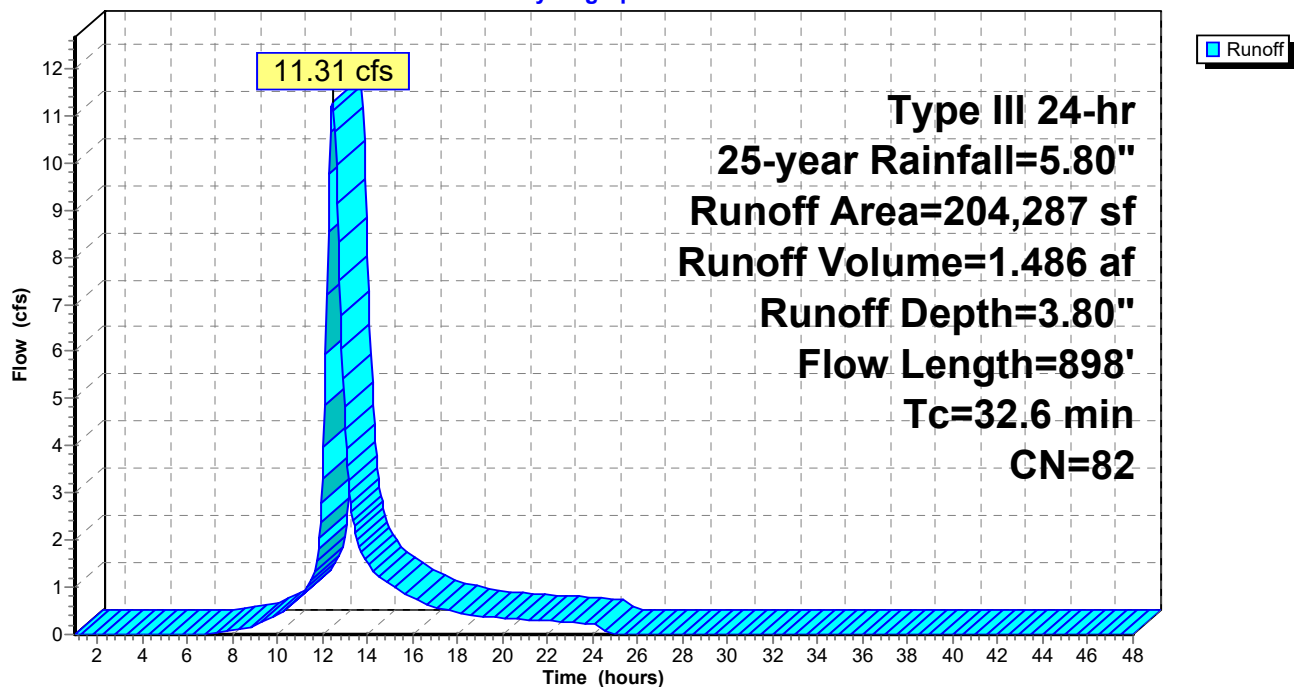
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

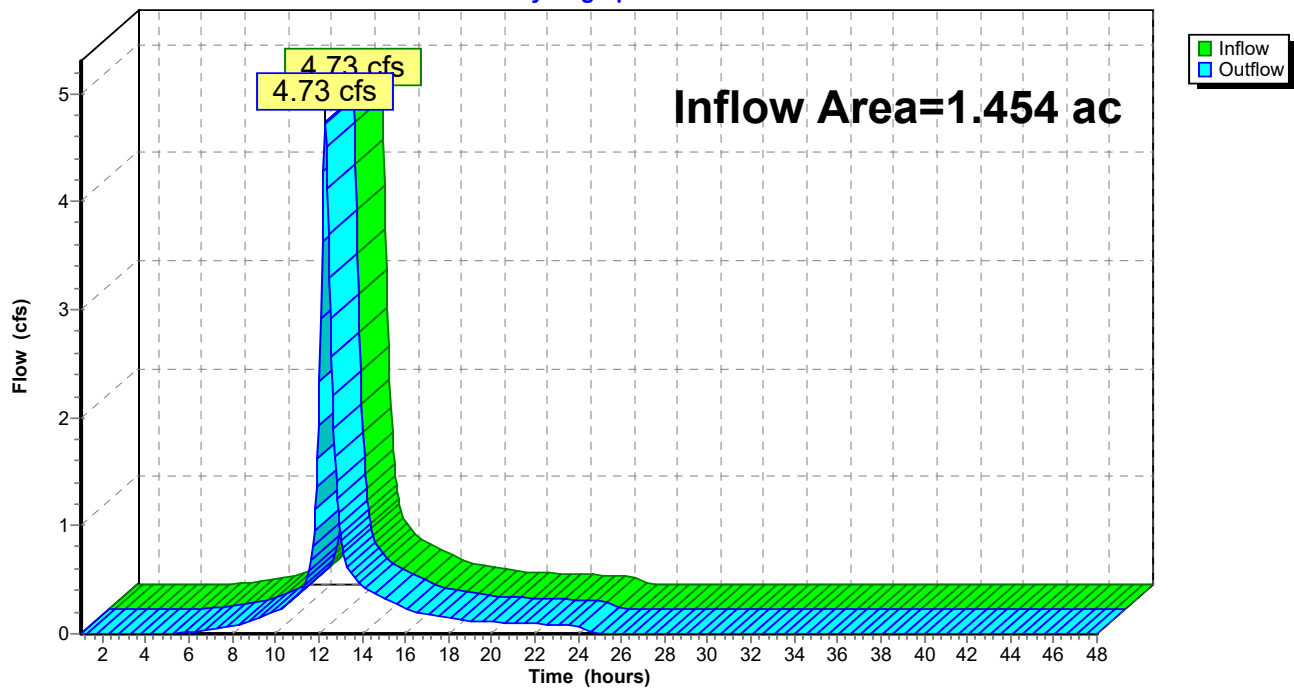
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 4.33" for 25-year event
Inflow = 4.73 cfs @ 12.28 hrs, Volume= 0.524 af
Outflow = 4.73 cfs @ 12.28 hrs, Volume= 0.524 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

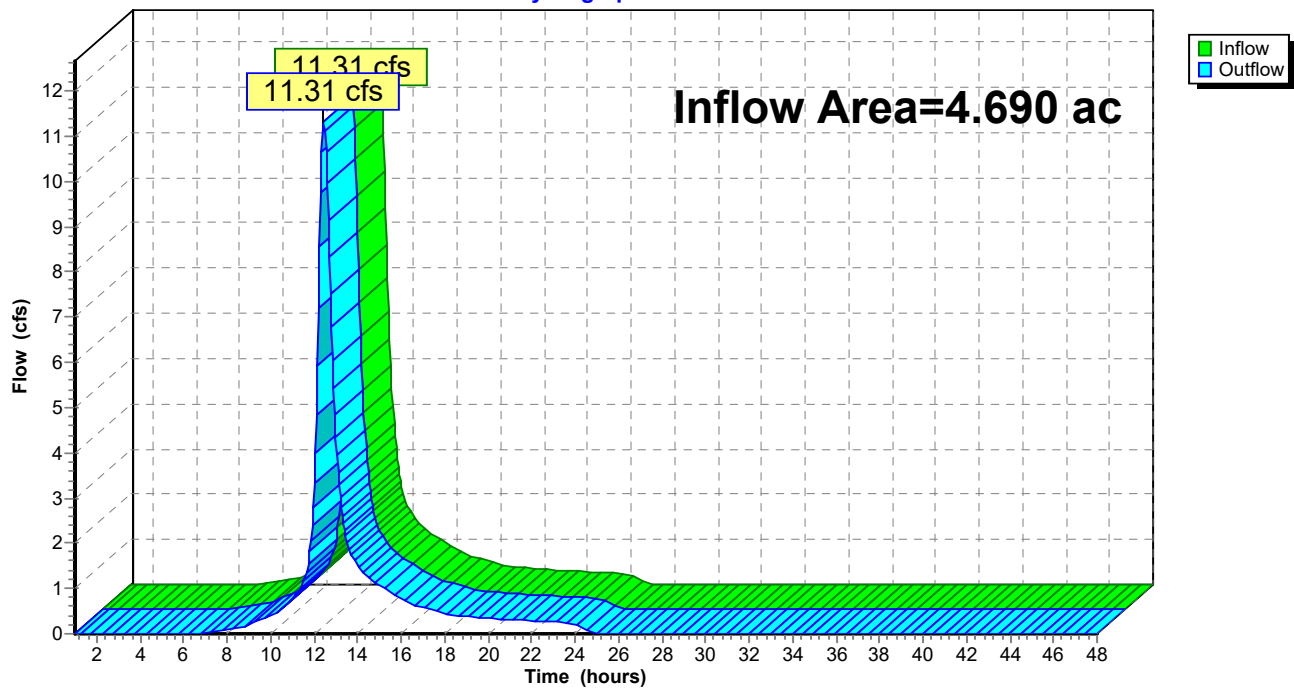
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 3.80" for 25-year event
Inflow = 11.31 cfs @ 12.45 hrs, Volume= 1.486 af
Outflow = 11.31 cfs @ 12.45 hrs, Volume= 1.486 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph



Summary for Reach PRE: TOTAL PRE

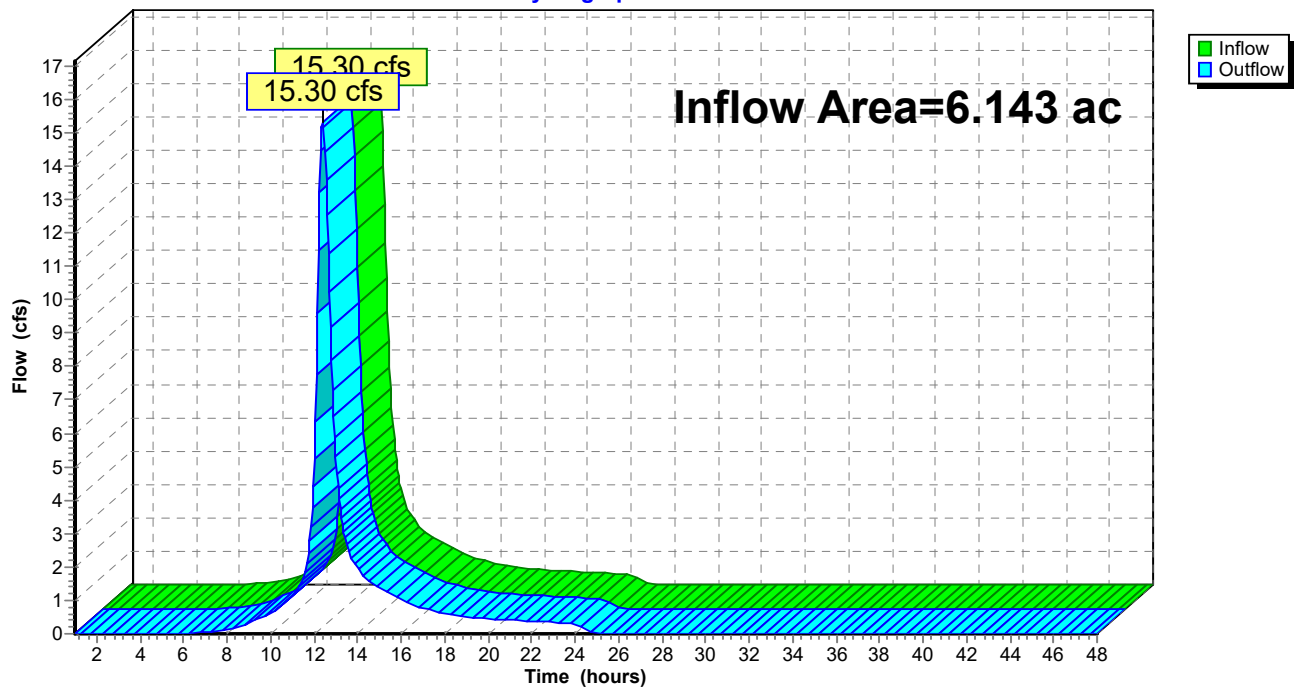
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 3.93" for 25-year event
Inflow = 15.30 cfs @ 12.39 hrs, Volume= 2.011 af
Outflow = 15.30 cfs @ 12.39 hrs, Volume= 2.011 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE*Type III 24-hr Custom Rainfall=3.40"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=2.09"
Flow Length=340' Tc=21.2 min CN=87 Runoff=2.34 cfs 0.254 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=1.70"
Flow Length=898' Tc=32.6 min CN=82 Runoff=5.06 cfs 0.665 af

Reach POI 1: POI 1

Inflow=2.34 cfs 0.254 af
Outflow=2.34 cfs 0.254 af

Reach POI 2: POI 2

Inflow=5.06 cfs 0.665 af
Outflow=5.06 cfs 0.665 af

Reach PRE: TOTAL PRE

Inflow=7.01 cfs 0.918 af
Outflow=7.01 cfs 0.918 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.918 af Average Runoff Depth = 1.79"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 2.34 cfs @ 12.29 hrs, Volume= 0.254 af, Depth= 2.09"

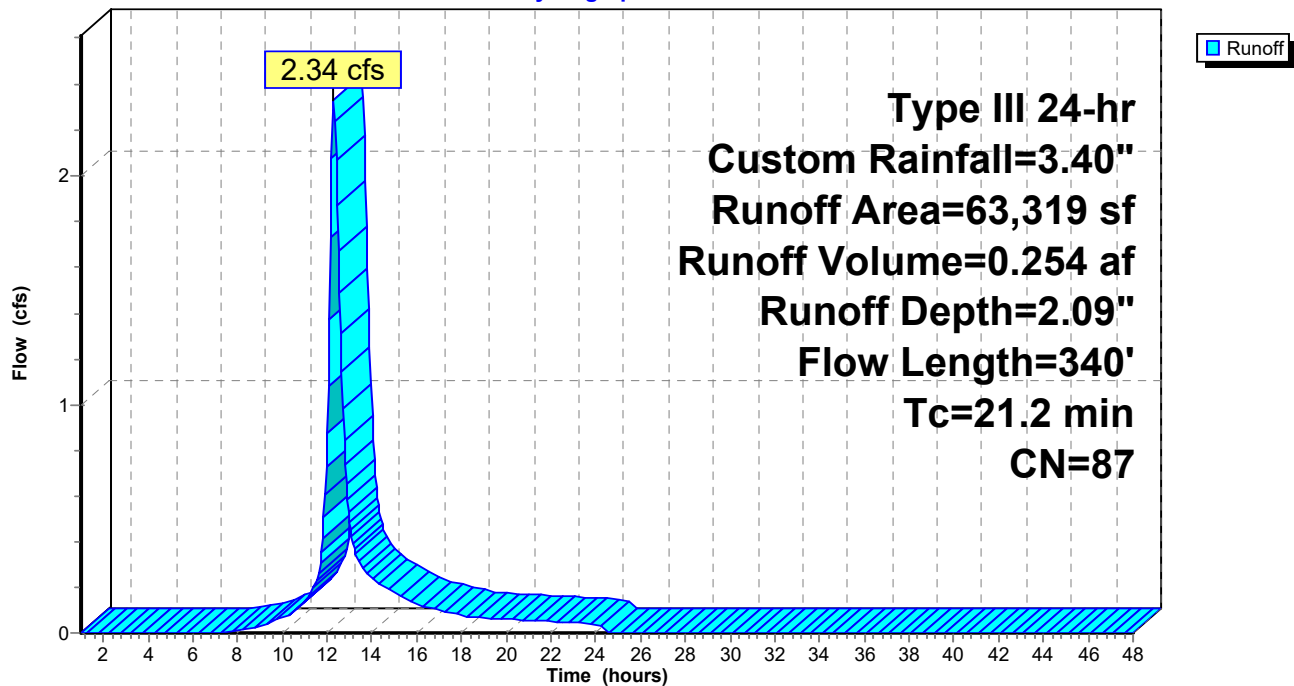
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 5.06 cfs @ 12.46 hrs, Volume= 0.665 af, Depth= 1.70"

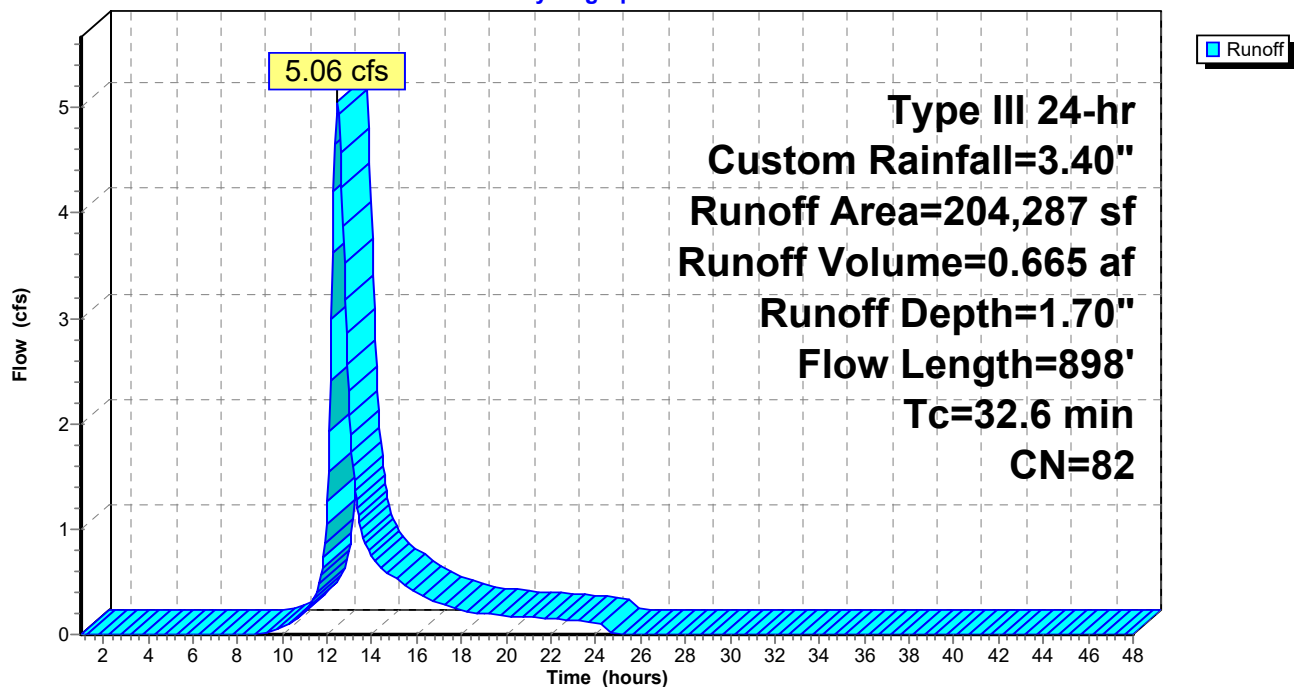
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr Custom Rainfall=3.40"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

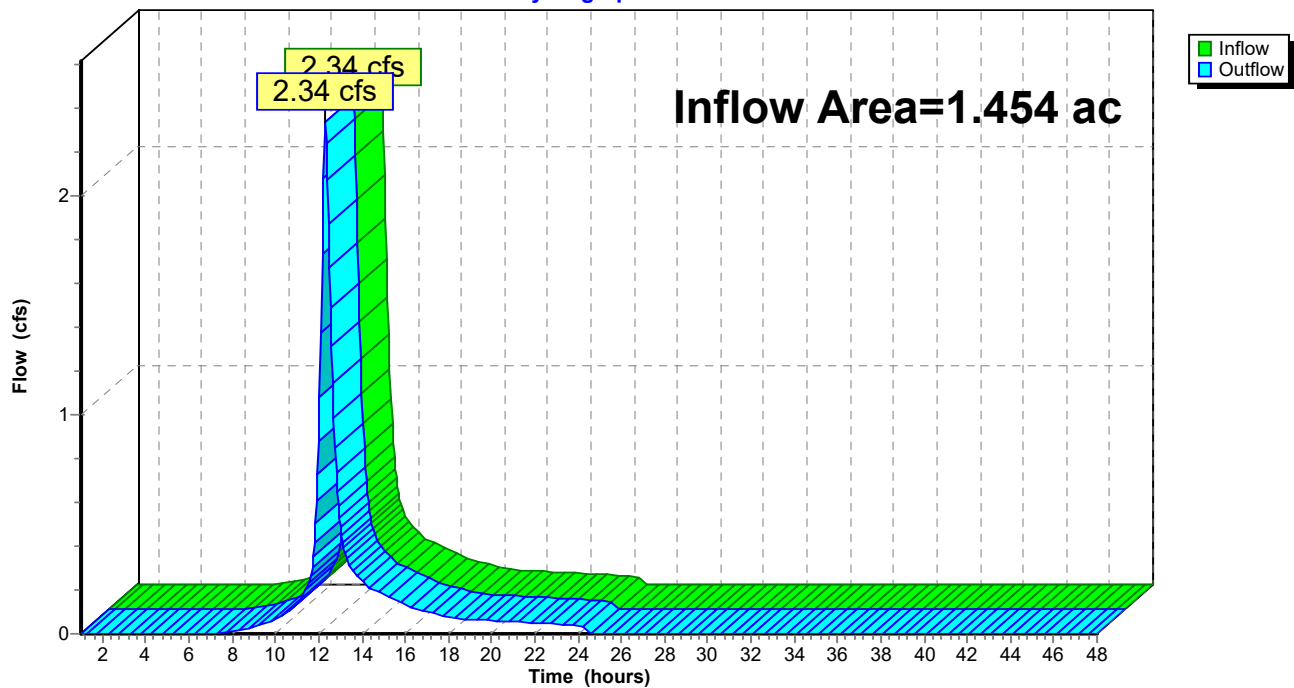
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 2.09" for Custom event
Inflow = 2.34 cfs @ 12.29 hrs, Volume= 0.254 af
Outflow = 2.34 cfs @ 12.29 hrs, Volume= 0.254 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph

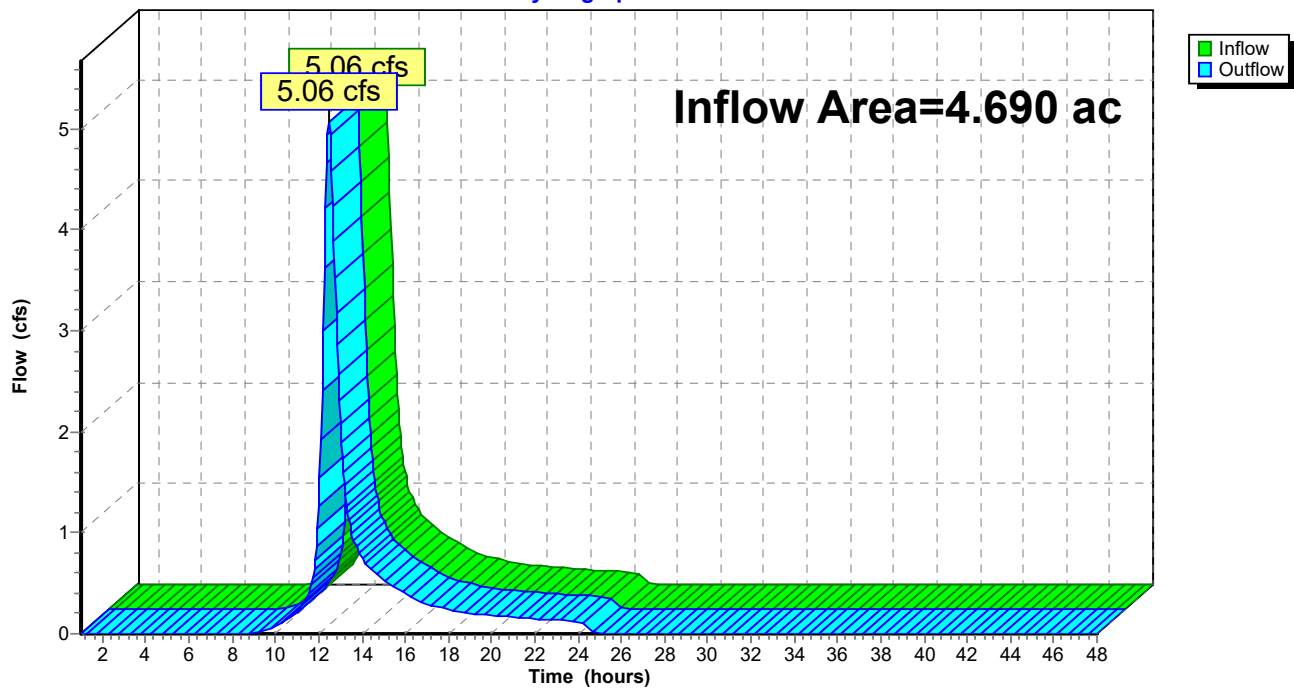


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 1.70" for Custom event
Inflow = 5.06 cfs @ 12.46 hrs, Volume= 0.665 af
Outflow = 5.06 cfs @ 12.46 hrs, Volume= 0.665 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

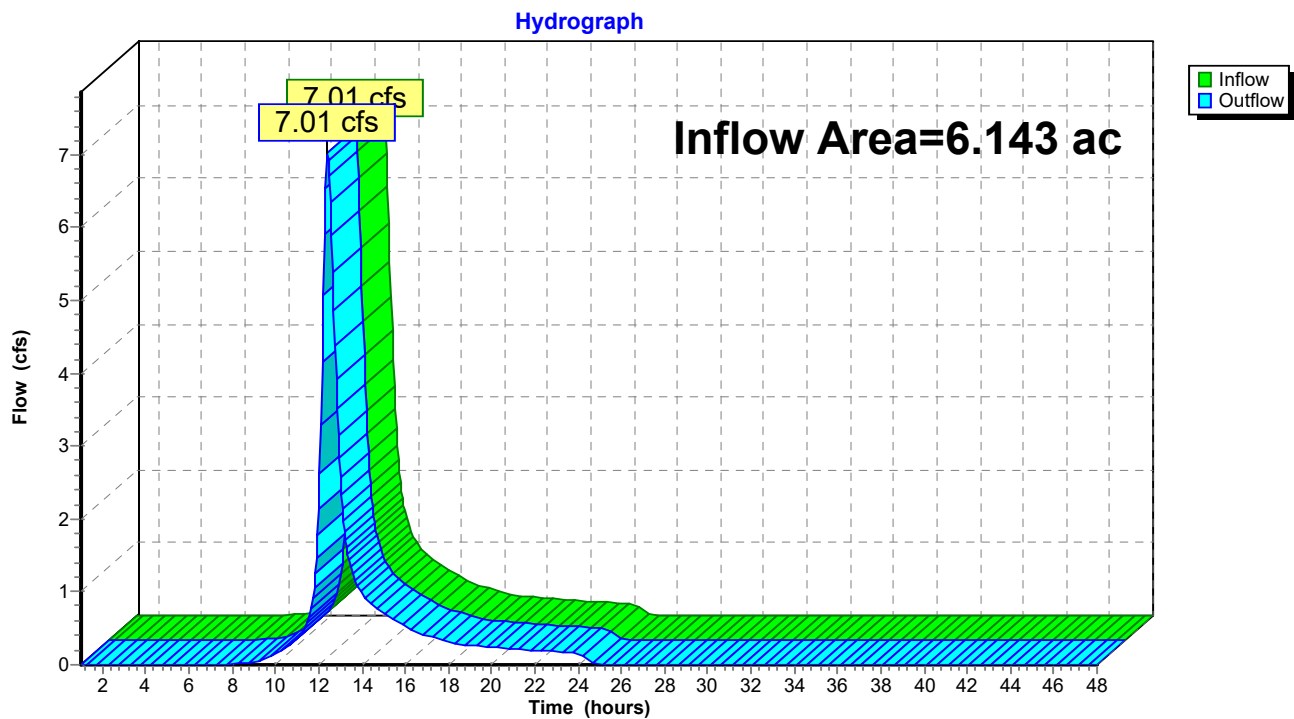
Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 1.79" for Custom event
Inflow = 7.01 cfs @ 12.40 hrs, Volume= 0.918 af
Outflow = 7.01 cfs @ 12.40 hrs, Volume= 0.918 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

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Type III 24-hr WQ Rainfall=1.00"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=0.22"
Flow Length=340' Tc=21.2 min CN=87 Runoff=0.21 cfs 0.027 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=0.11"
Flow Length=898' Tc=32.6 min CN=82 Runoff=0.21 cfs 0.045 af

Reach POI 1: POI 1

Inflow=0.21 cfs 0.027 af
Outflow=0.21 cfs 0.027 af

Reach POI 2: POI 2

Inflow=0.21 cfs 0.045 af
Outflow=0.21 cfs 0.045 af

Reach PRE: TOTAL PRE

Inflow=0.37 cfs 0.072 af
Outflow=0.37 cfs 0.072 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.072 af Average Runoff Depth = 0.14"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 0.21 cfs @ 12.35 hrs, Volume= 0.027 af, Depth= 0.22"

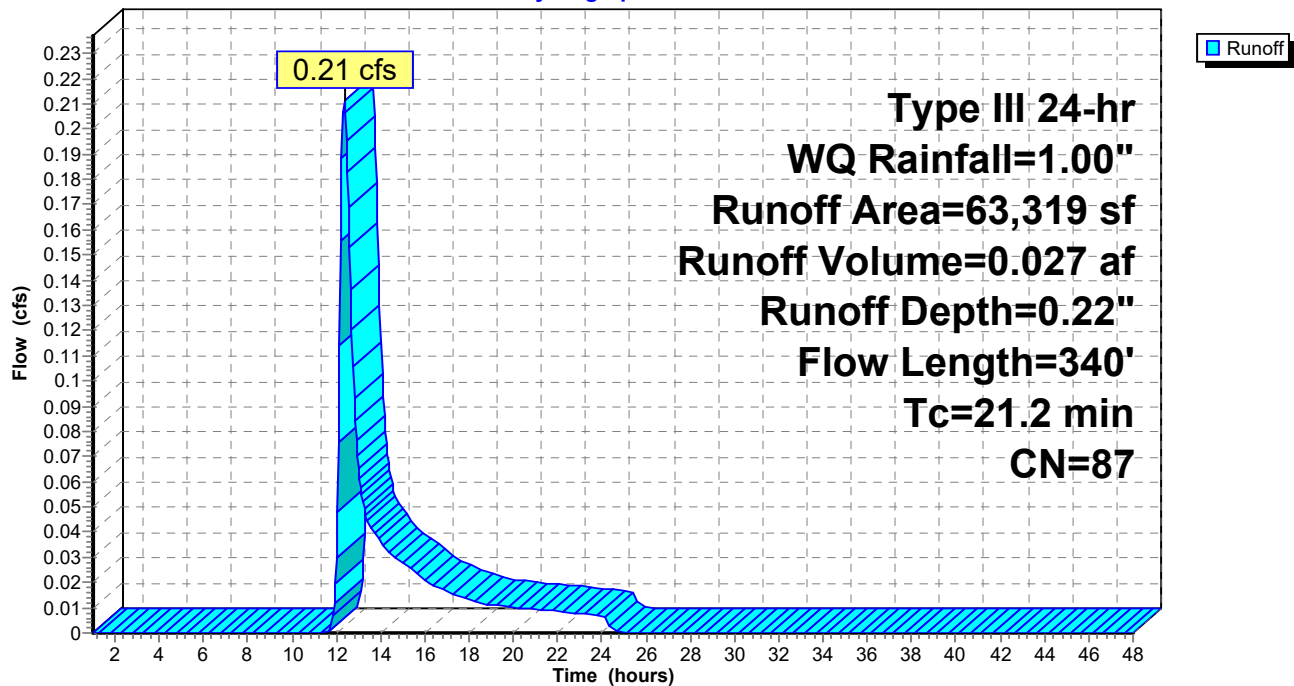
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 0.21 cfs @ 12.64 hrs, Volume= 0.045 af, Depth= 0.11"

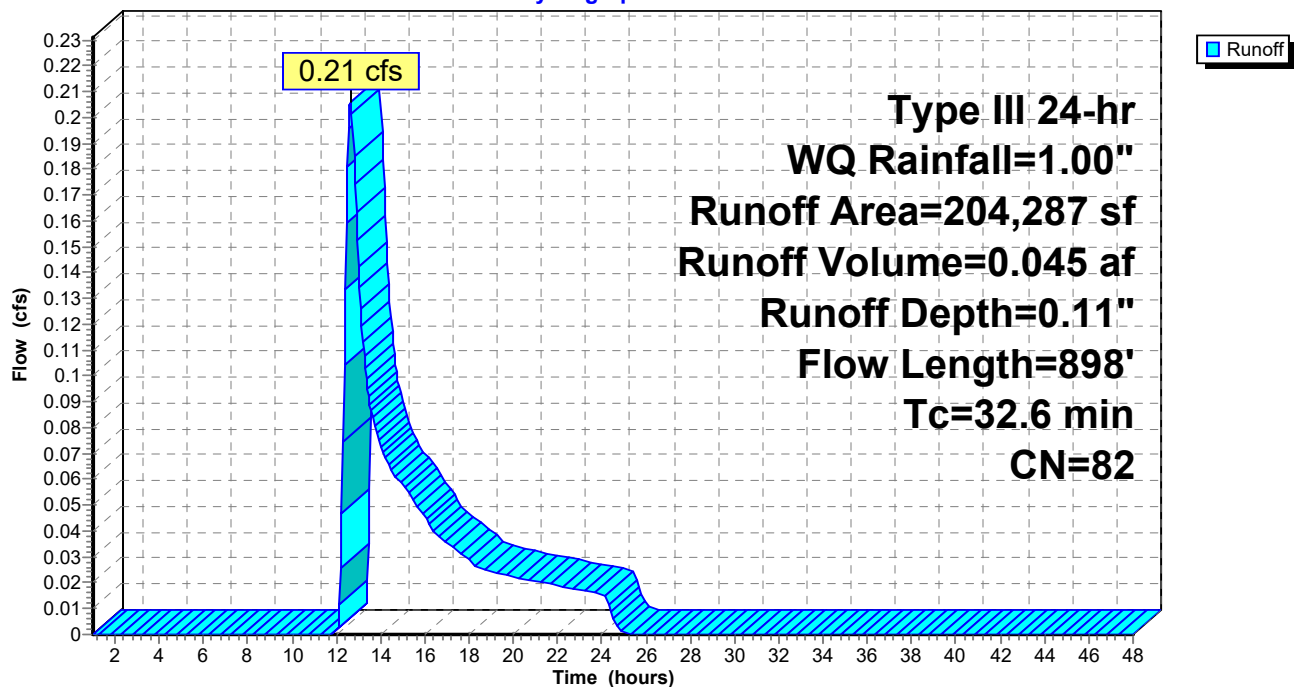
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph

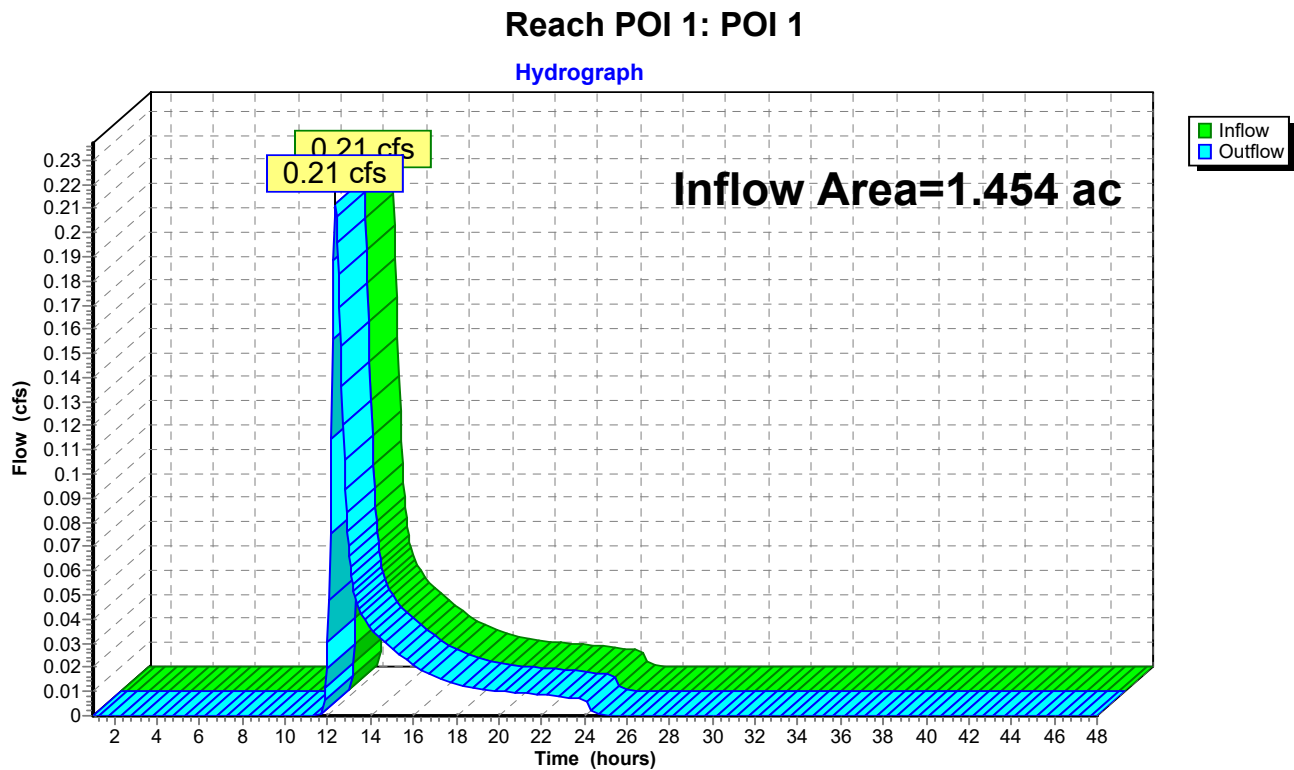


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 0.22" for WQ event
Inflow = 0.21 cfs @ 12.35 hrs, Volume= 0.027 af
Outflow = 0.21 cfs @ 12.35 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

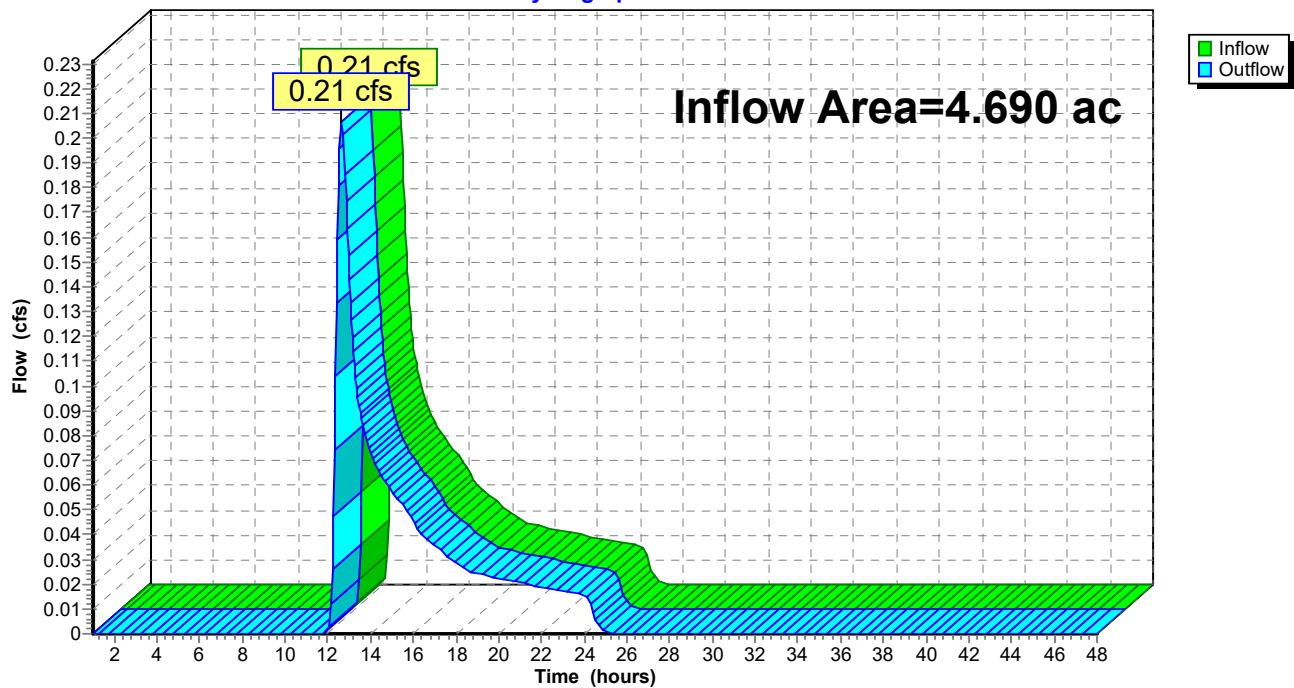


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 0.11" for WQ event
Inflow = 0.21 cfs @ 12.64 hrs, Volume= 0.045 af
Outflow = 0.21 cfs @ 12.64 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2**Hydrograph**

Summary for Reach PRE: TOTAL PRE

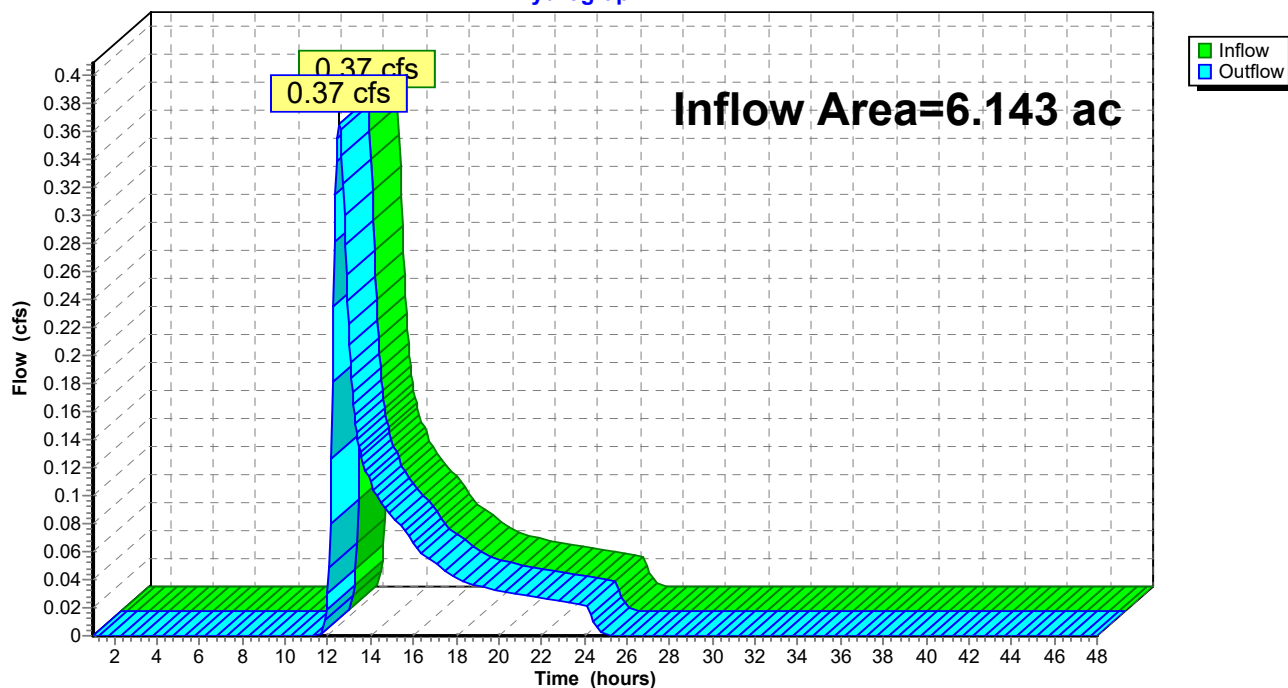
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 0.14" for WQ event
Inflow = 0.37 cfs @ 12.53 hrs, Volume= 0.072 af
Outflow = 0.37 cfs @ 12.53 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph



1176_PRE*Type III 24-hr WQV USSF Rainfall=4.26"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=2.88"
Flow Length=340' Tc=21.2 min CN=87 Runoff=3.19 cfs 0.348 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=2.43"
Flow Length=898' Tc=32.6 min CN=82 Runoff=7.25 cfs 0.948 af

Reach POI 1: POI 1

Inflow=3.19 cfs 0.348 af
Outflow=3.19 cfs 0.348 af

Reach POI 2: POI 2

Inflow=7.25 cfs 0.948 af
Outflow=7.25 cfs 0.948 af

Reach PRE: TOTAL PRE

Inflow=9.93 cfs 1.297 af
Outflow=9.93 cfs 1.297 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.297 af Average Runoff Depth = 2.53"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Depth= 2.88"

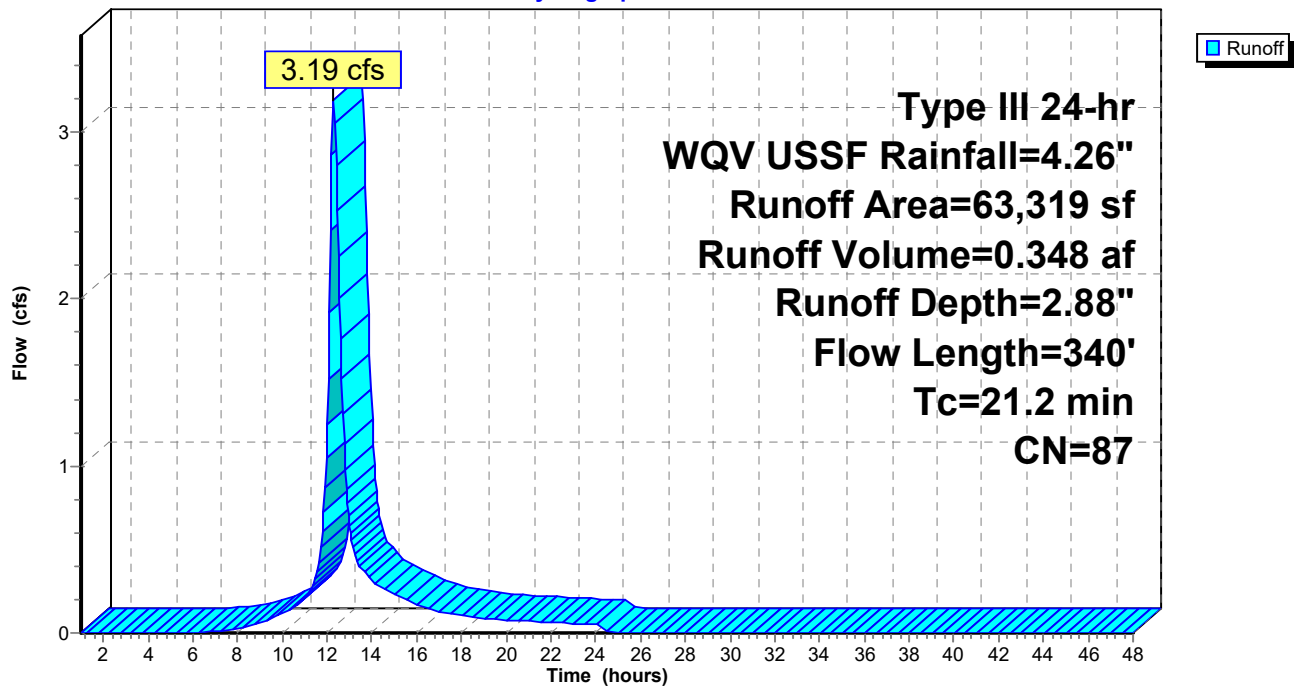
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Depth= 2.43"

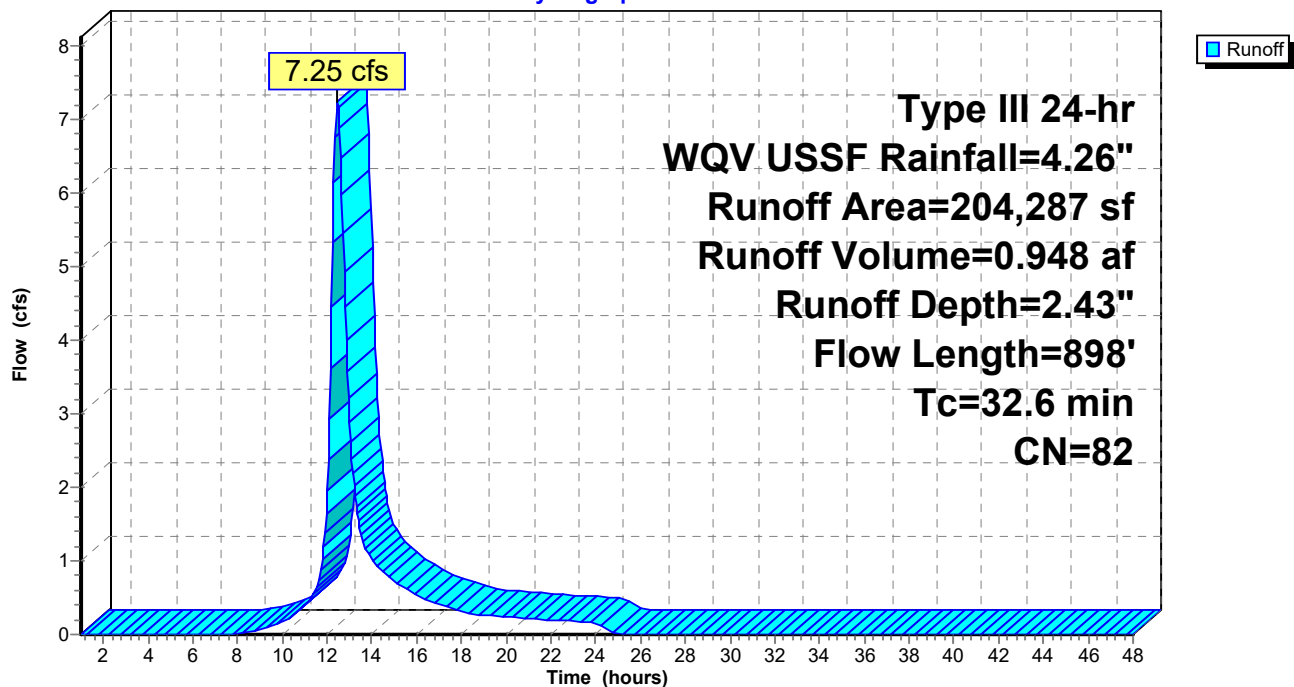
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF Rainfall=4.26"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

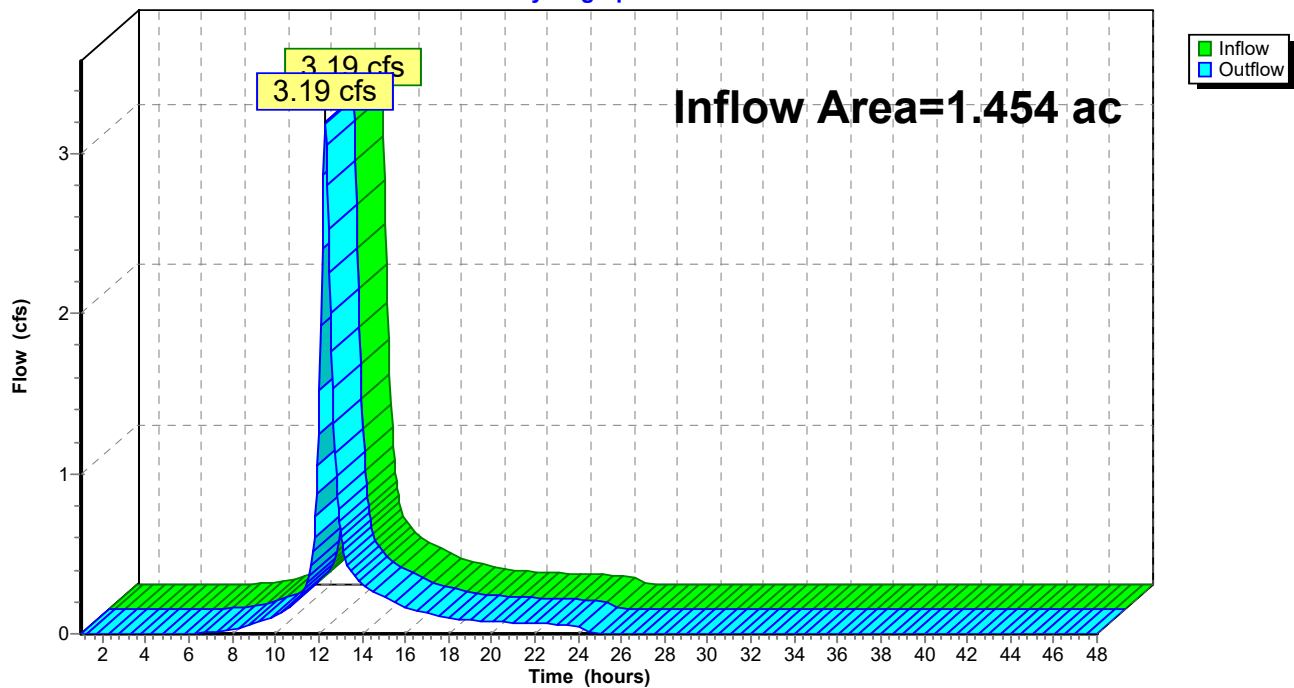
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 2.88" for WQV USSF event
Inflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af
Outflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

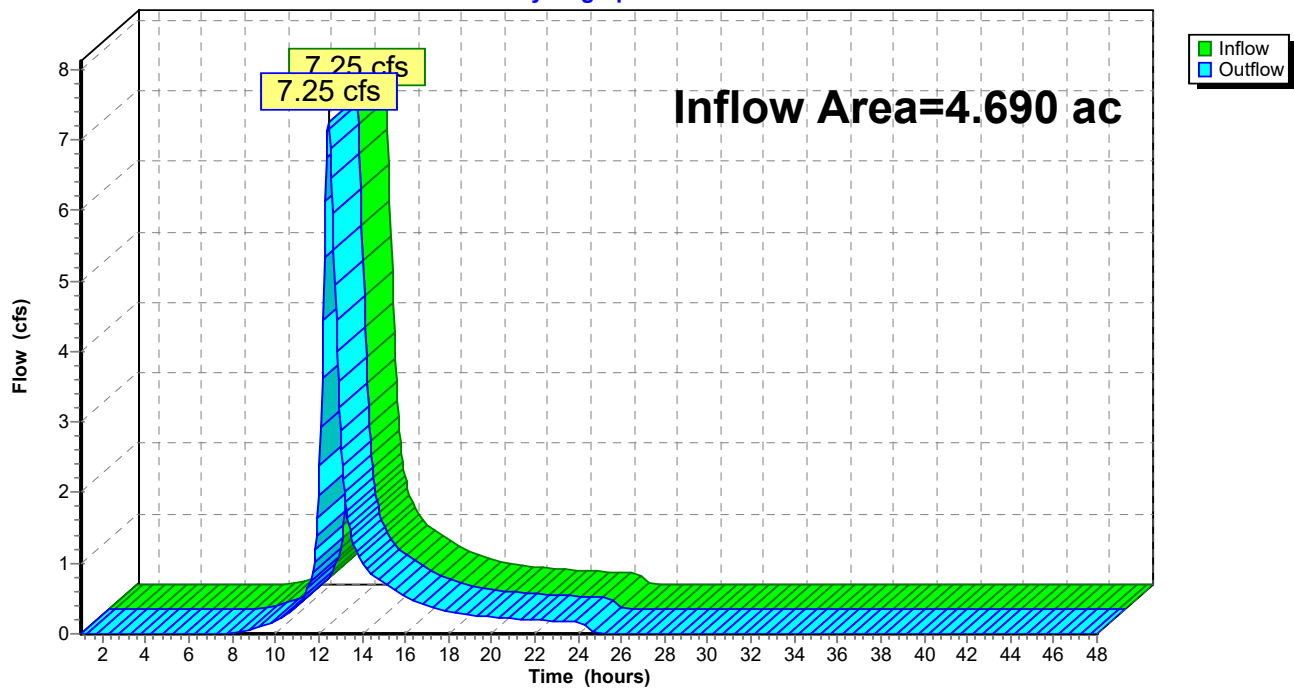
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 2.43" for WQV USSF event
Inflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af
Outflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

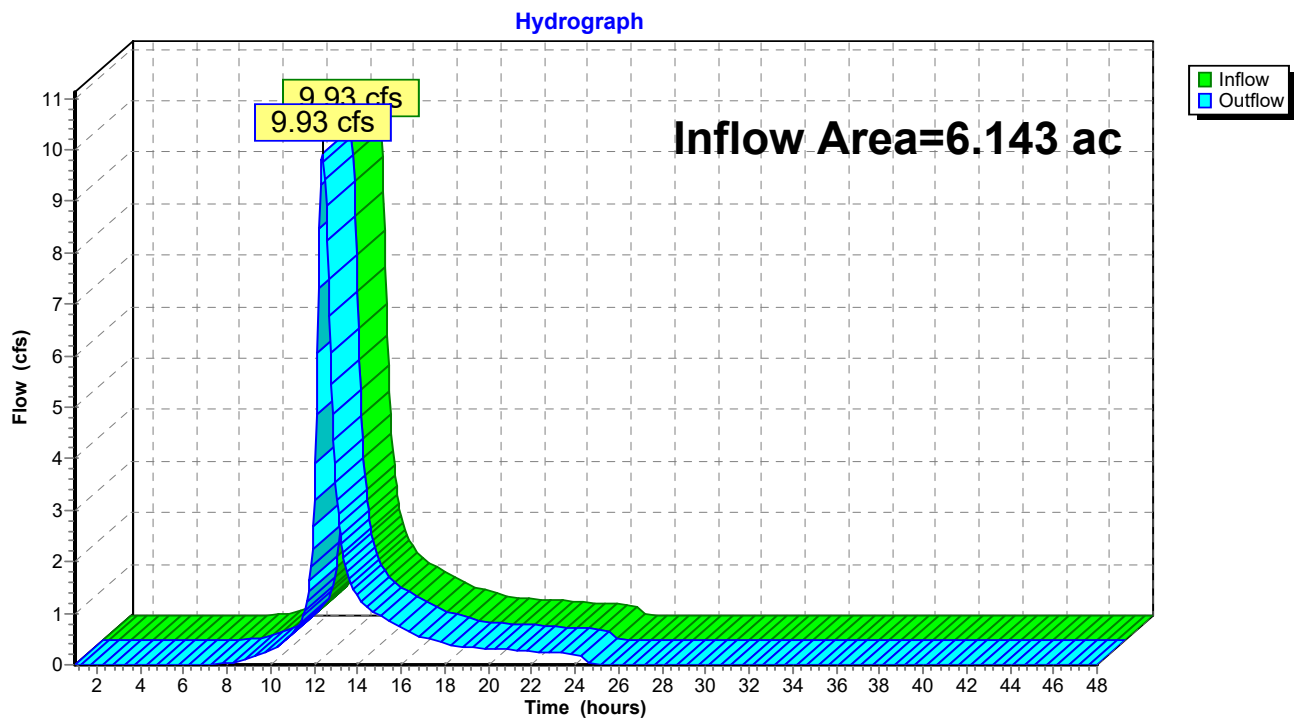


Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 2.53" for WQV USSF event
Inflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af
Outflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

1176_PRE*Type III 24-hr WQV USSF 1 Rainfall=4.26"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=2.88"
Flow Length=340' Tc=21.2 min CN=87 Runoff=3.19 cfs 0.348 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=2.43"
Flow Length=898' Tc=32.6 min CN=82 Runoff=7.25 cfs 0.948 af

Reach POI 1: POI 1

Inflow=3.19 cfs 0.348 af
Outflow=3.19 cfs 0.348 af

Reach POI 2: POI 2

Inflow=7.25 cfs 0.948 af
Outflow=7.25 cfs 0.948 af

Reach PRE: TOTAL PRE

Inflow=9.93 cfs 1.297 af
Outflow=9.93 cfs 1.297 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.297 af Average Runoff Depth = 2.53"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Depth= 2.88"

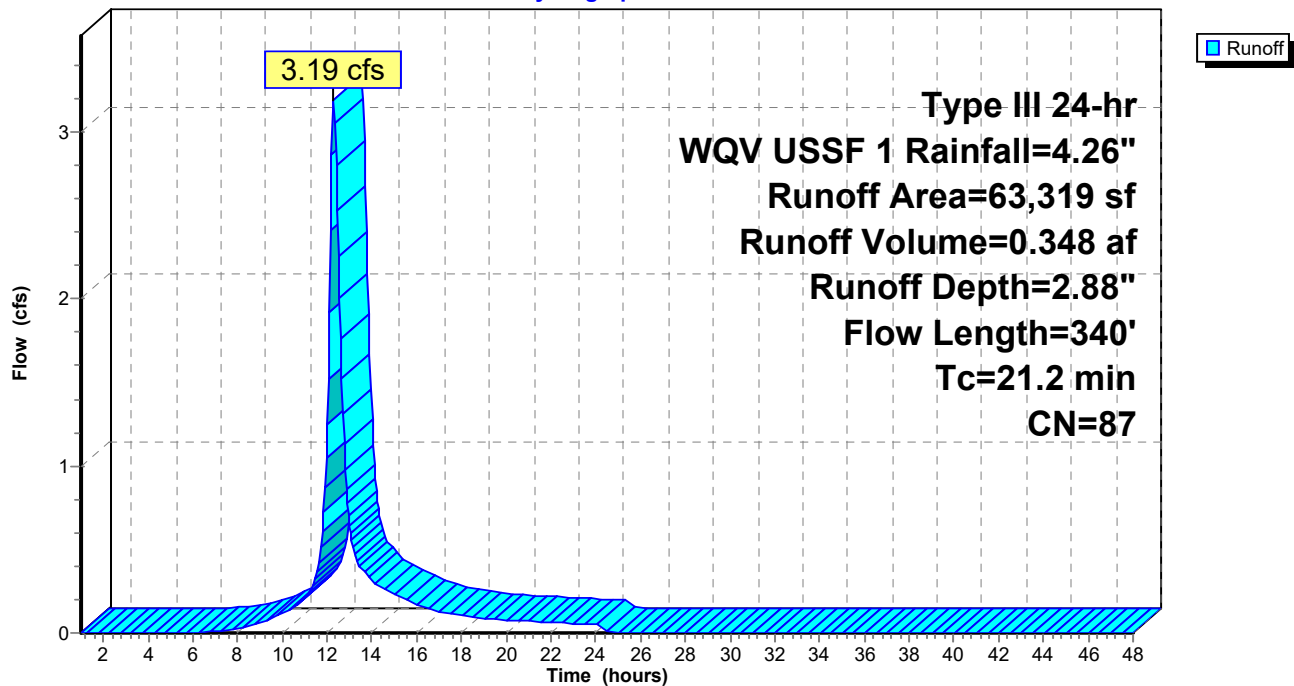
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Depth= 2.43"

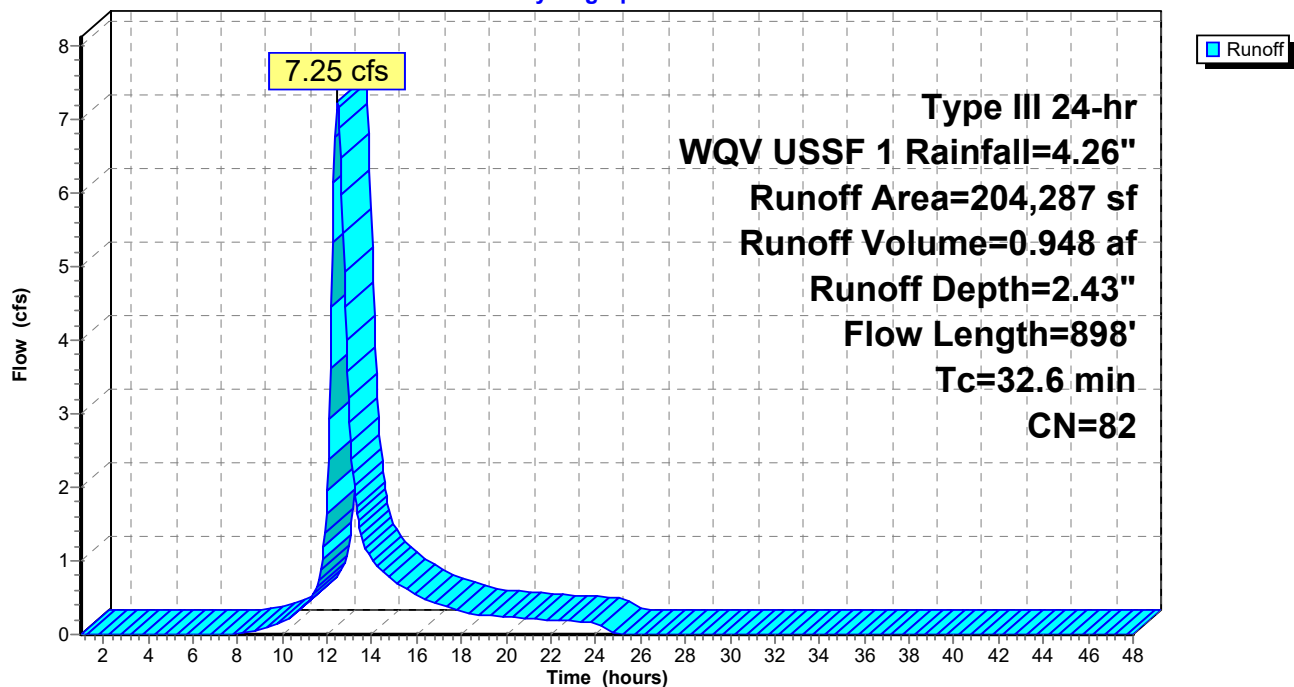
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 1 Rainfall=4.26"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

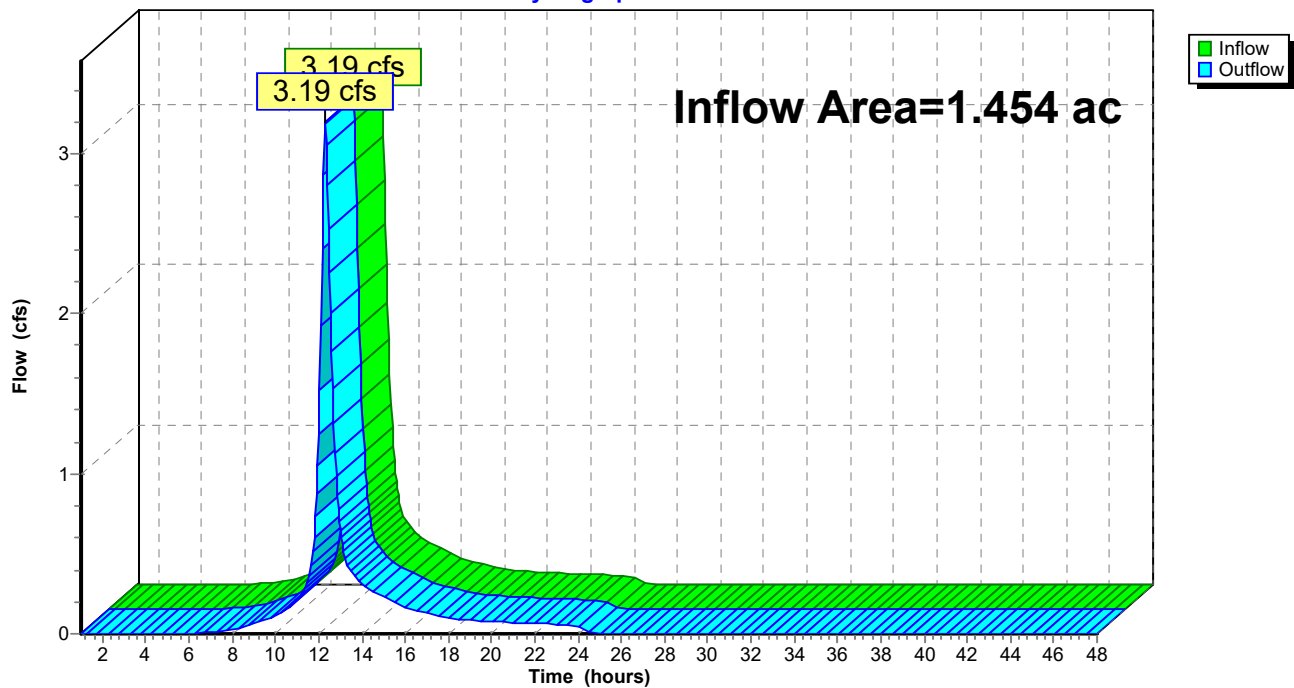
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 2.88" for WQV USSF 1 event
Inflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af
Outflow = 3.19 cfs @ 12.29 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

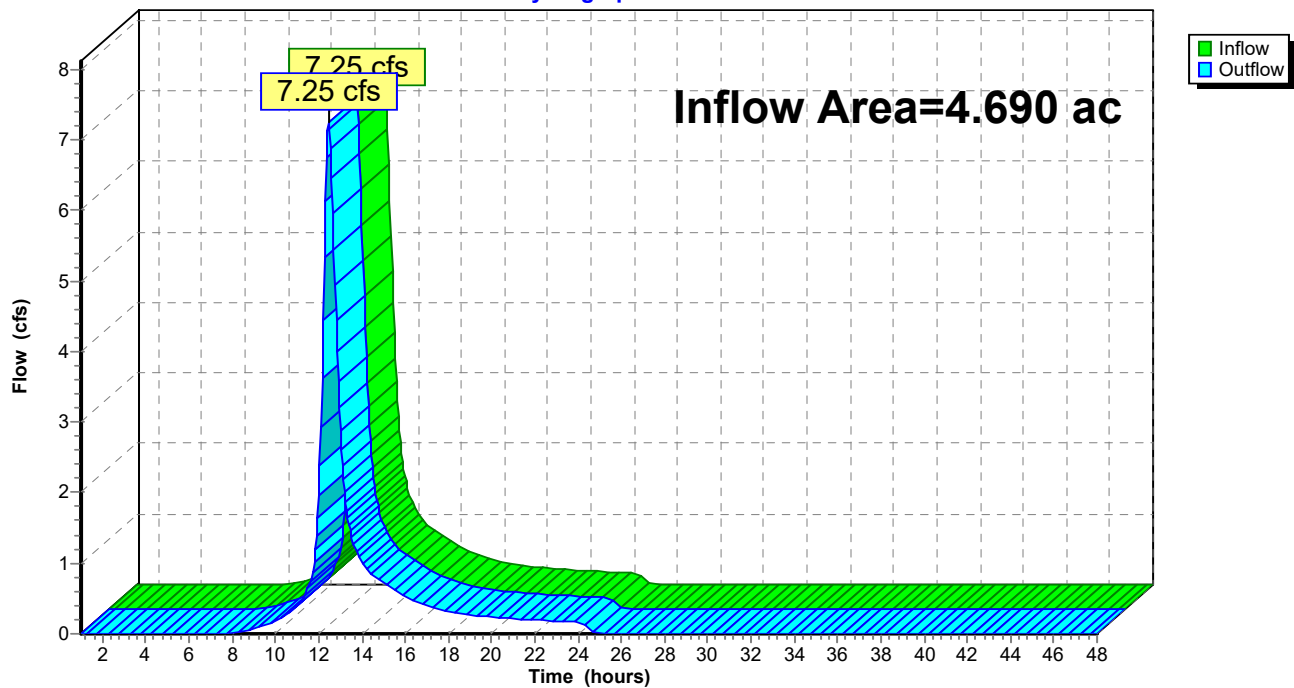
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 2.43" for WQV USSF 1 event
Inflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af
Outflow = 7.25 cfs @ 12.45 hrs, Volume= 0.948 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

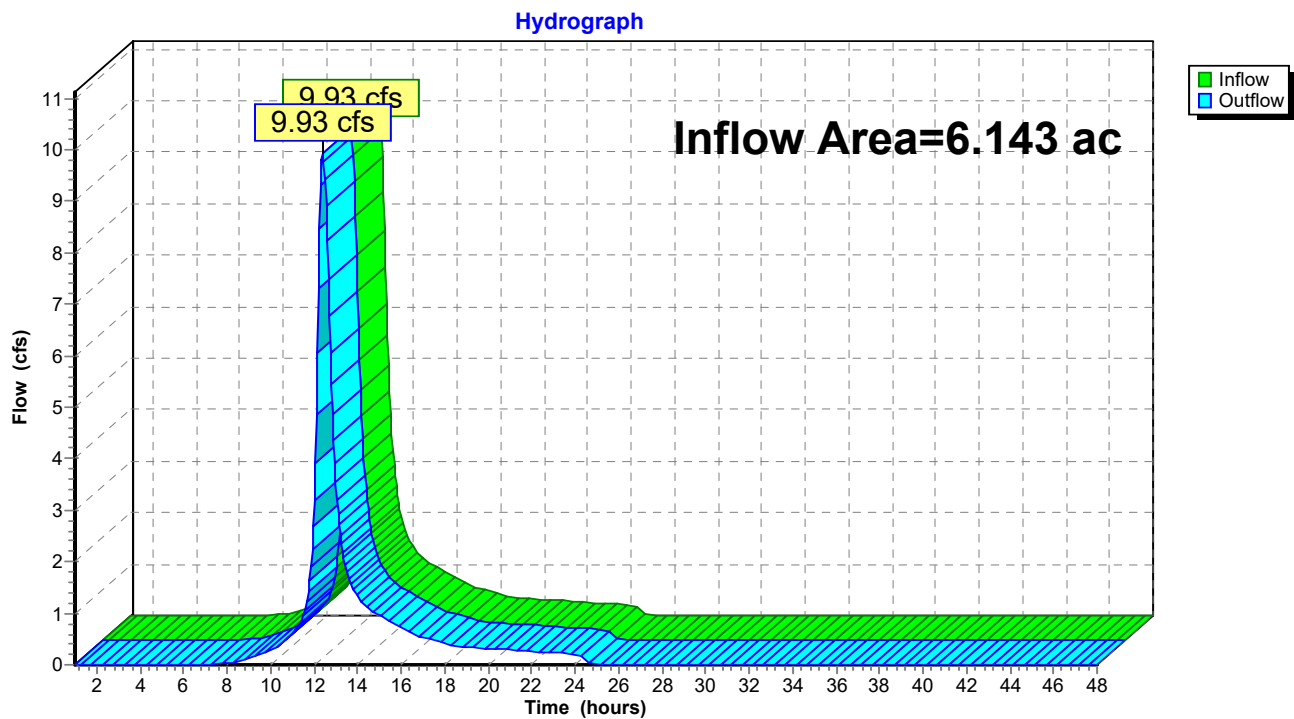


Summary for Reach PRE: TOTAL PRE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 2.53" for WQV USSF 1 event
Inflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af
Outflow = 9.93 cfs @ 12.40 hrs, Volume= 1.297 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

1176_PRE*Type III 24-hr WQV USSF 2 Rainfall=3.24"*

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1A: 1

Runoff Area=63,319 sf 77.56% Impervious Runoff Depth=1.95"
Flow Length=340' Tc=21.2 min CN=87 Runoff=2.18 cfs 0.236 af

Subcatchment2A: 2

Runoff Area=204,287 sf 72.92% Impervious Runoff Depth=1.57"
Flow Length=898' Tc=32.6 min CN=82 Runoff=4.67 cfs 0.614 af

Reach POI 1: POI 1

Inflow=2.18 cfs 0.236 af
Outflow=2.18 cfs 0.236 af

Reach POI 2: POI 2

Inflow=4.67 cfs 0.614 af
Outflow=4.67 cfs 0.614 af

Reach PRE: TOTAL PRE

Inflow=6.49 cfs 0.850 af
Outflow=6.49 cfs 0.850 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.850 af Average Runoff Depth = 1.66"
25.99% Pervious = 1.596 ac 74.01% Impervious = 4.547 ac

Summary for Subcatchment 1A: 1

Runoff = 2.18 cfs @ 12.29 hrs, Volume= 0.236 af, Depth= 1.95"

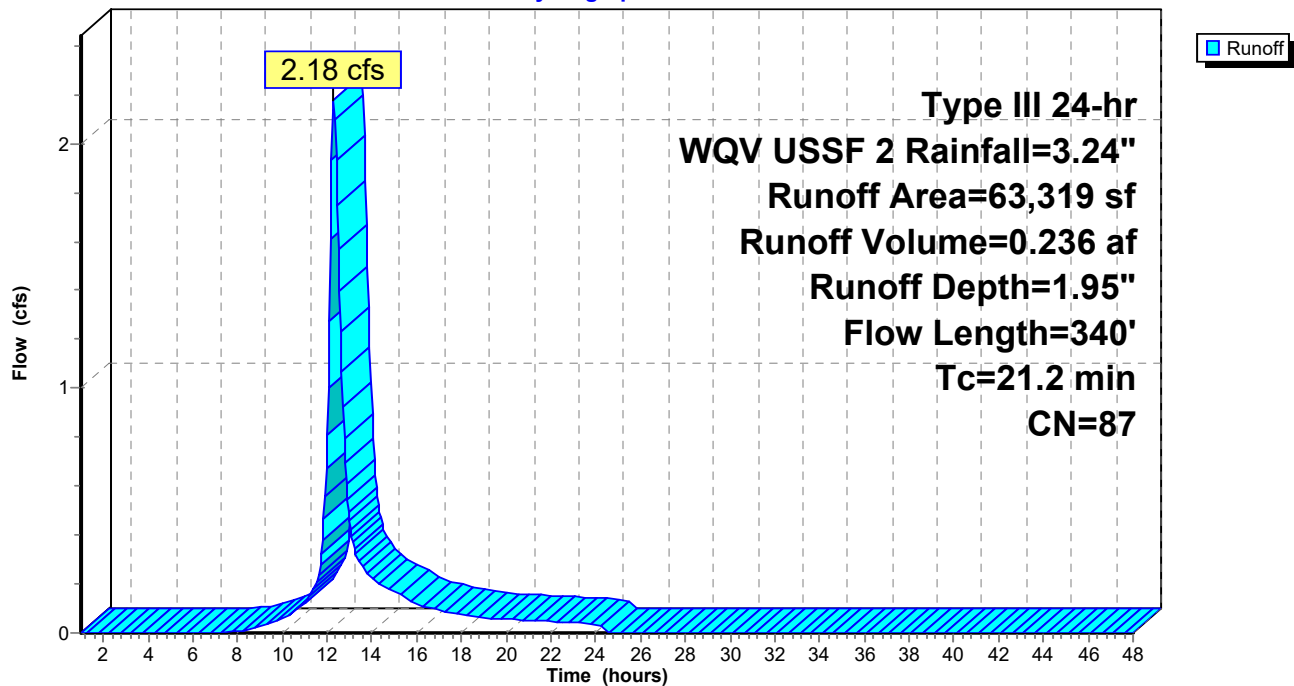
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

Area (sf)	CN	Description
14,209	49	50-75% Grass cover, Fair, HSG A
* 49,110	98	pave/roof
63,319	87	Weighted Average
14,209		22.44% Pervious Area
49,110		77.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0050	0.10		Sheet Flow, A TO B Grass: Short n= 0.150 P2= 3.27"
3.6	154	0.0050	0.71		Shallow Concentrated Flow, C TO D Nearly Bare & Untilled Kv= 10.0 fps
0.7	86	0.0380	1.95		Shallow Concentrated Flow, D TO E Nearly Bare & Untilled Kv= 10.0 fps
21.2	340	Total			

Subcatchment 1A: 1

Hydrograph



Summary for Subcatchment 2A: 2

Runoff = 4.67 cfs @ 12.46 hrs, Volume= 0.614 af, Depth= 1.57"

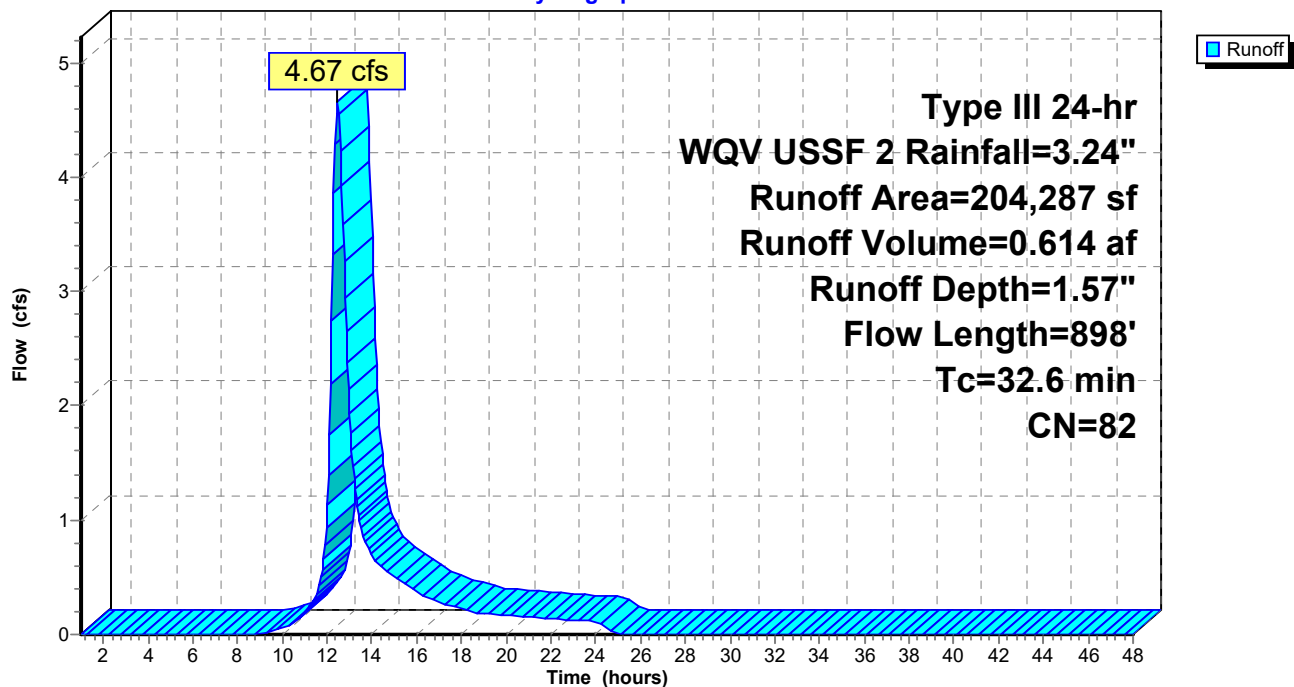
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr WQV USSF 2 Rainfall=3.24"

	Area (sf)	CN	Description
*	148,957	98	buildings/pave
	48,019	36	Woods, Fair, HSG A
	7,311	49	50-75% Grass cover, Fair, HSG A
	204,287	82	Weighted Average
	55,330		27.08% Pervious Area
	148,957		72.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B
					Smooth surfaces n= 0.011 P2= 3.27"
1.4	237	0.0200	2.87		Shallow Concentrated Flow, B TO C
					Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D
					Forest w/Heavy Litter Kv= 2.5 fps
32.6	898	Total			

Subcatchment 2A: 2

Hydrograph



Summary for Reach POI 1: POI 1

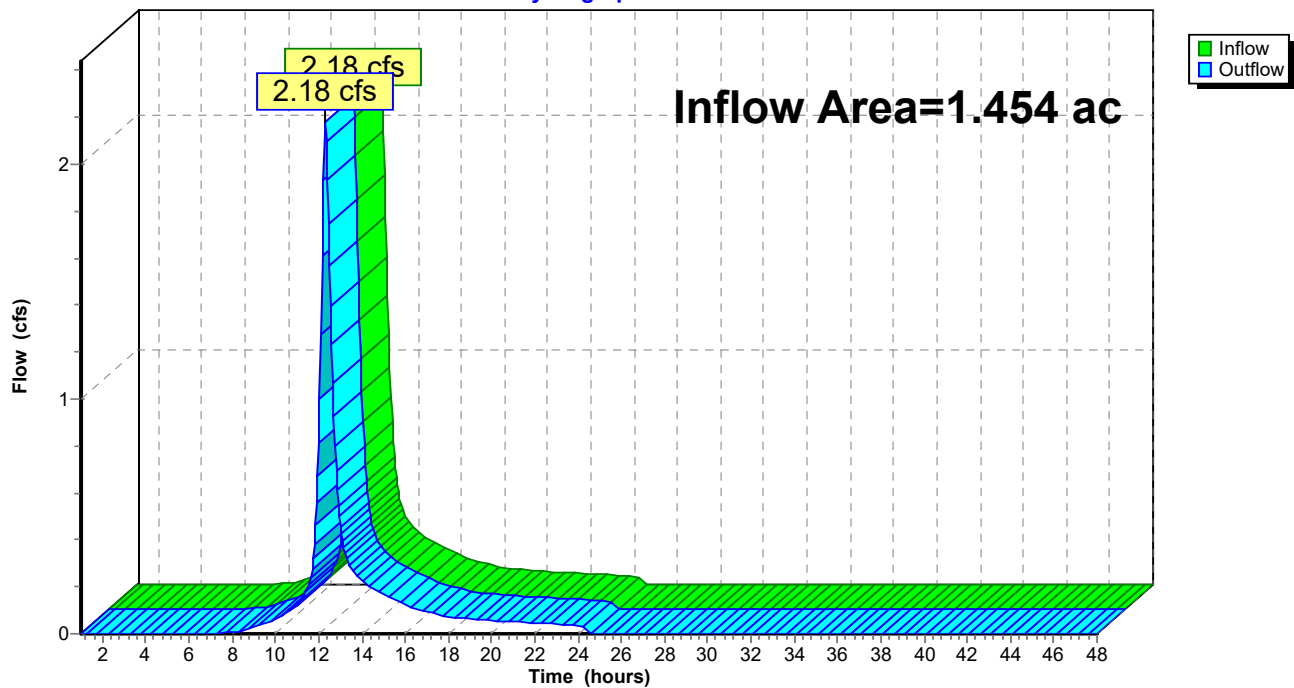
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.454 ac, 77.56% Impervious, Inflow Depth = 1.95" for WQV USSF 2 event
Inflow = 2.18 cfs @ 12.29 hrs, Volume= 0.236 af
Outflow = 2.18 cfs @ 12.29 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

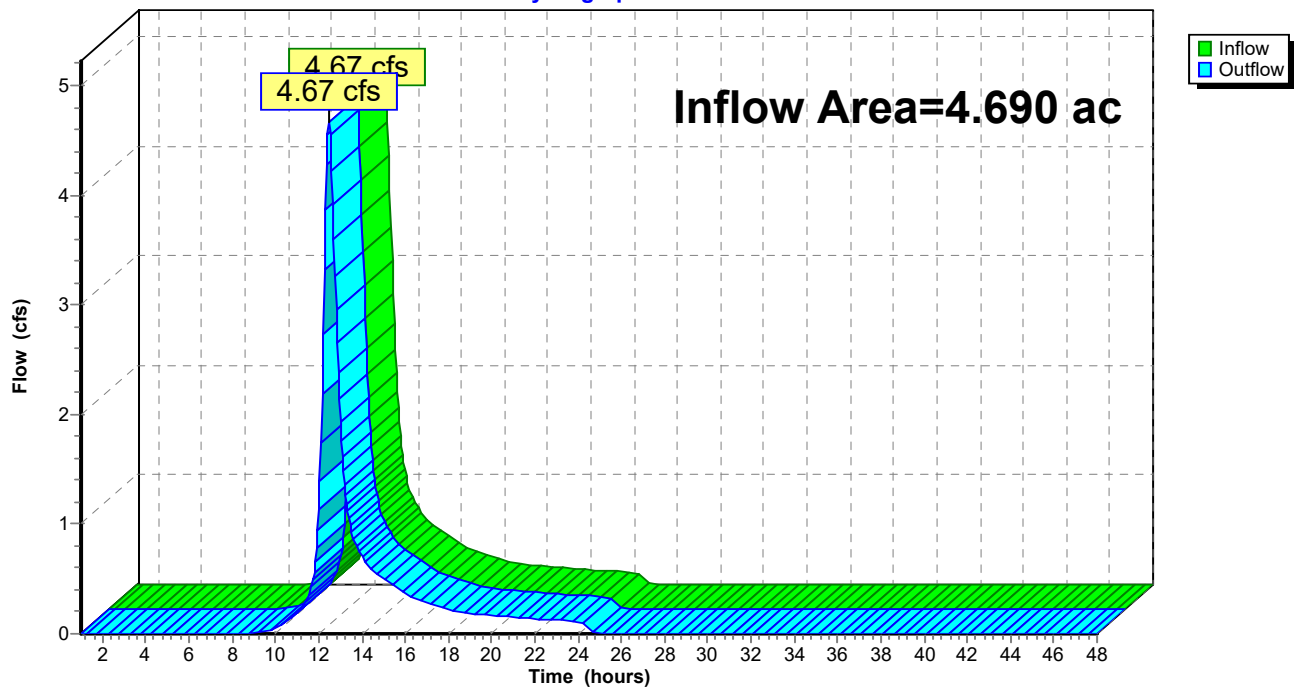
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.690 ac, 72.92% Impervious, Inflow Depth = 1.57" for WQV USSF 2 event
Inflow = 4.67 cfs @ 12.46 hrs, Volume= 0.614 af
Outflow = 4.67 cfs @ 12.46 hrs, Volume= 0.614 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph



Summary for Reach PRE: TOTAL PRE

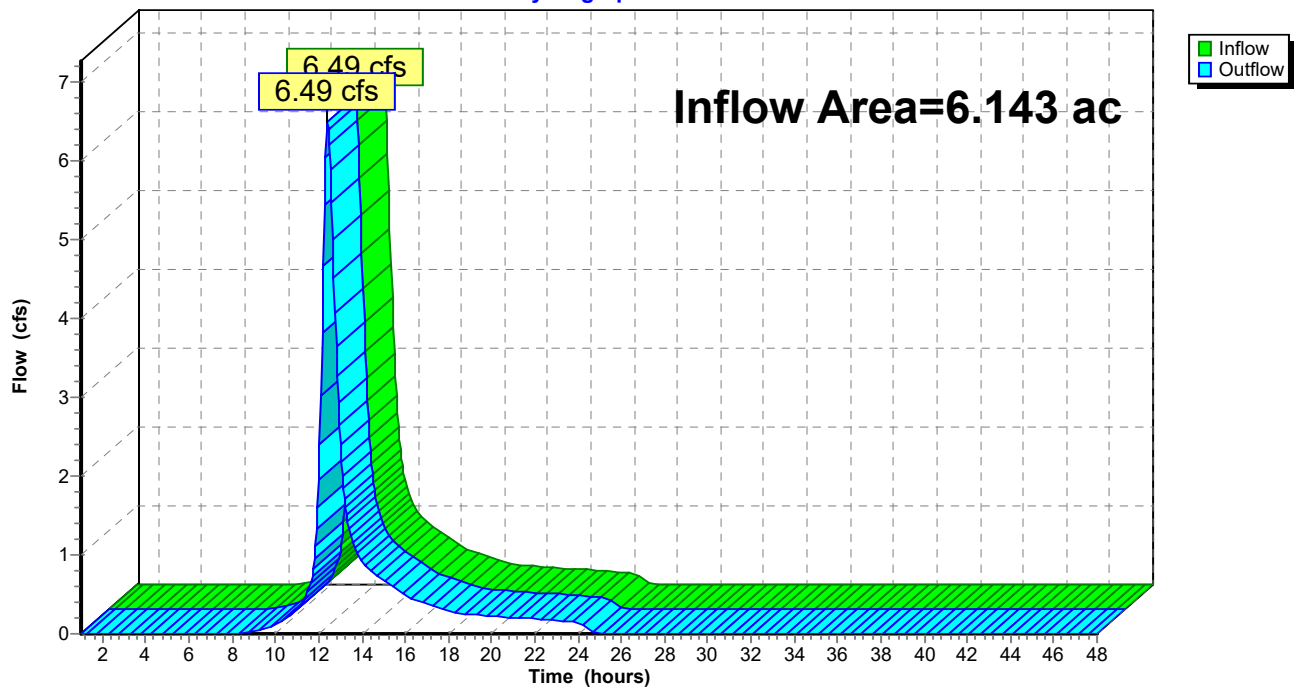
[40] Hint: Not Described (Outflow=Inflow)

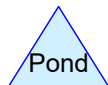
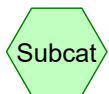
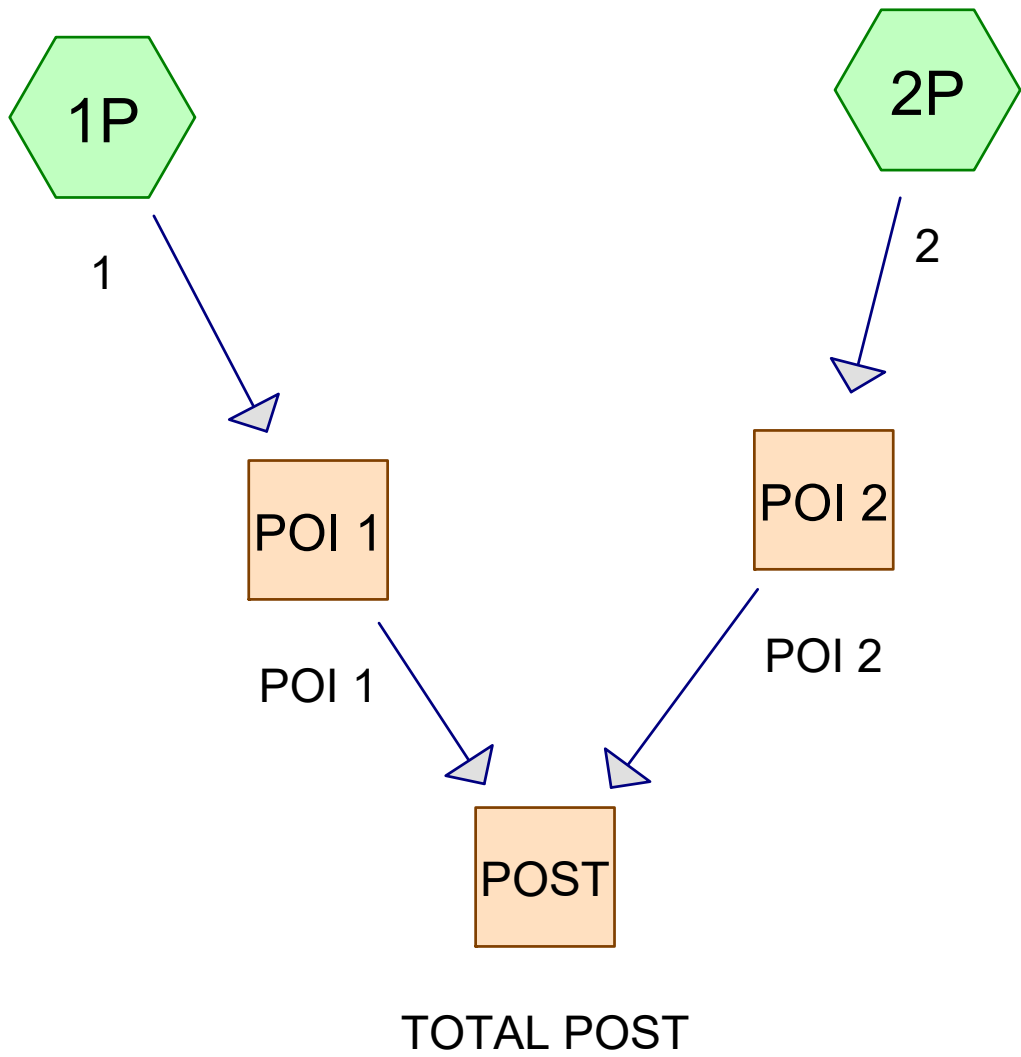
Inflow Area = 6.143 ac, 74.01% Impervious, Inflow Depth = 1.66" for WQV USSF 2 event
Inflow = 6.49 cfs @ 12.40 hrs, Volume= 0.850 af
Outflow = 6.49 cfs @ 12.40 hrs, Volume= 0.850 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach PRE: TOTAL PRE

Hydrograph





Project Notes

Rainfall events imported from "Post Development_4-21-21.hcp"

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.227	49	50-75% Grass cover, Fair, HSG A (1P)
0.221	39	>75% Grass cover, Good, HSG A (2P)
1.119	36	Woods, Fair, HSG A (2P)
2.259	98	buildings/pave (2P)
2.318	98	pave/roof (1P)
6.143	83	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
1.566	HSG A	1P, 2P
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
4.577	Other	1P, 2P
6.143		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.227	0.000	0.000	0.000	0.000	0.227	50-75% Grass cover, Fair	1P
0.221	0.000	0.000	0.000	0.000	0.221	>75% Grass cover, Good	2P
1.119	0.000	0.000	0.000	0.000	1.119	Woods, Fair	2P
0.000	0.000	0.000	0.000	2.259	2.259	buildings/pave	2P
0.000	0.000	0.000	0.000	2.318	2.318	pave/roof	1P
1.566	0.000	0.000	0.000	4.577	6.143	TOTAL AREA	

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Type III 24-hr 2-year Rainfall=3.10"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: 1

Runoff Area=110,838 sf 91.09% Impervious Runoff Depth=2.45"
Tc=10.0 min CN=94 Runoff=6.06 cfs 0.519 af

Subcatchment2P: 2

Runoff Area=156,749 sf 62.77% Impervious Runoff Depth=1.03"
Flow Length=918' Tc=32.7 min CN=75 Runoff=2.23 cfs 0.308 af

Reach POI 1: POI 1

Inflow=6.06 cfs 0.519 af
Outflow=6.06 cfs 0.519 af

Reach POI 2: POI 2

Inflow=2.23 cfs 0.308 af
Outflow=2.23 cfs 0.308 af

Reach POST: TOTAL POST

Inflow=6.89 cfs 0.827 af
Outflow=6.89 cfs 0.827 af

Total Runoff Area = 6.143 ac Runoff Volume = 0.827 af Average Runoff Depth = 1.62"
25.50% Pervious = 1.566 ac 74.50% Impervious = 4.577 ac

Summary for Subcatchment 1P: 1

Runoff = 6.06 cfs @ 12.14 hrs, Volume= 0.519 af, Depth= 2.45"

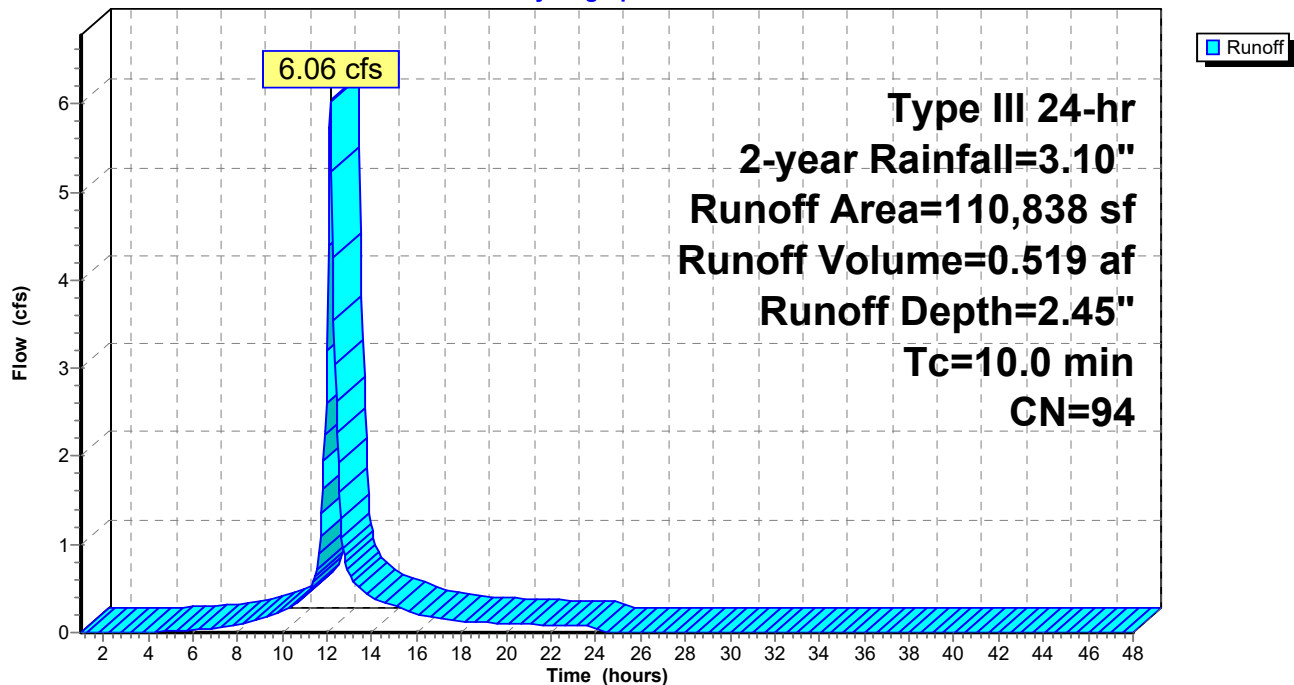
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

Area (sf)	CN	Description
9,879	49	50-75% Grass cover, Fair, HSG A
* 100,959	98	pave/roof
110,838	94	Weighted Average
9,879		8.91% Pervious Area
100,959		91.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1P: 1

Hydrograph



Summary for Subcatchment 2P: 2

Runoff = 2.23 cfs @ 12.49 hrs, Volume= 0.308 af, Depth= 1.03"

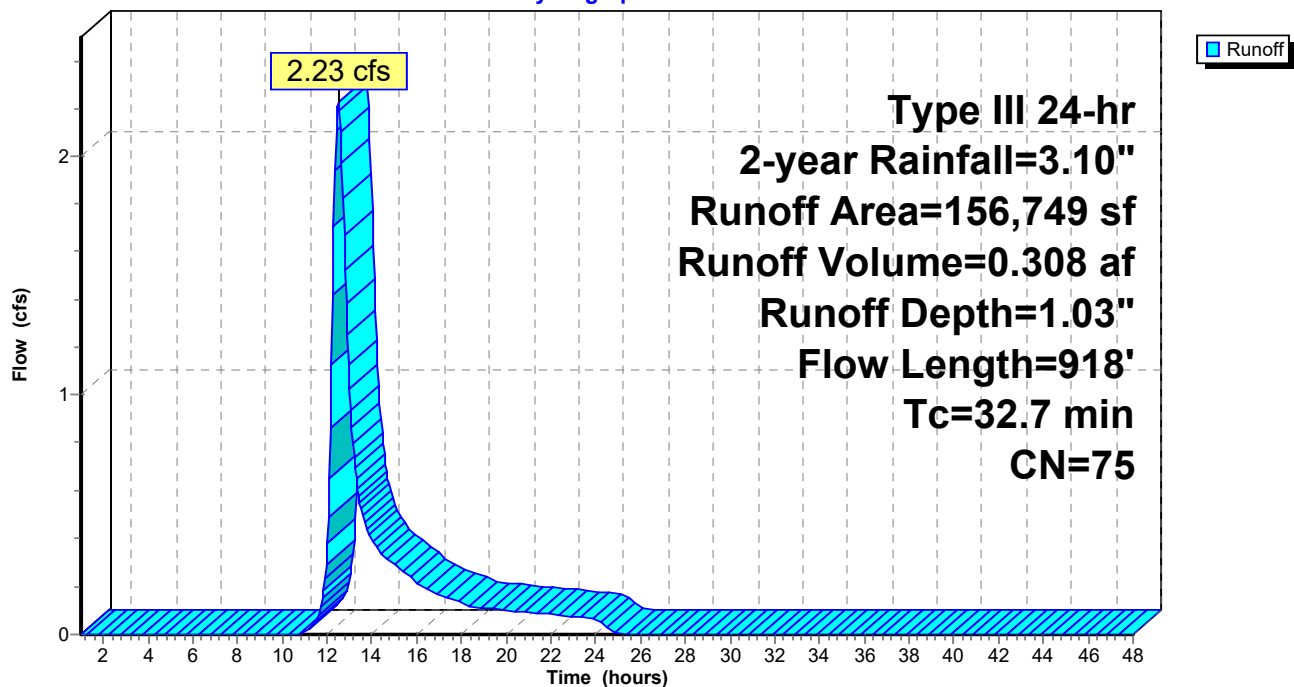
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.10"

	Area (sf)	CN	Description
*	98,397	98	buildings/pave
	48,746	36	Woods, Fair, HSG A
	9,606	39	>75% Grass cover, Good, HSG A
	156,749	75	Weighted Average
	58,352		37.23% Pervious Area
	98,397		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.5	257	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.7	918	Total			

Subcatchment 2P: 2

Hydrograph



Summary for Reach POI 1: POI 1

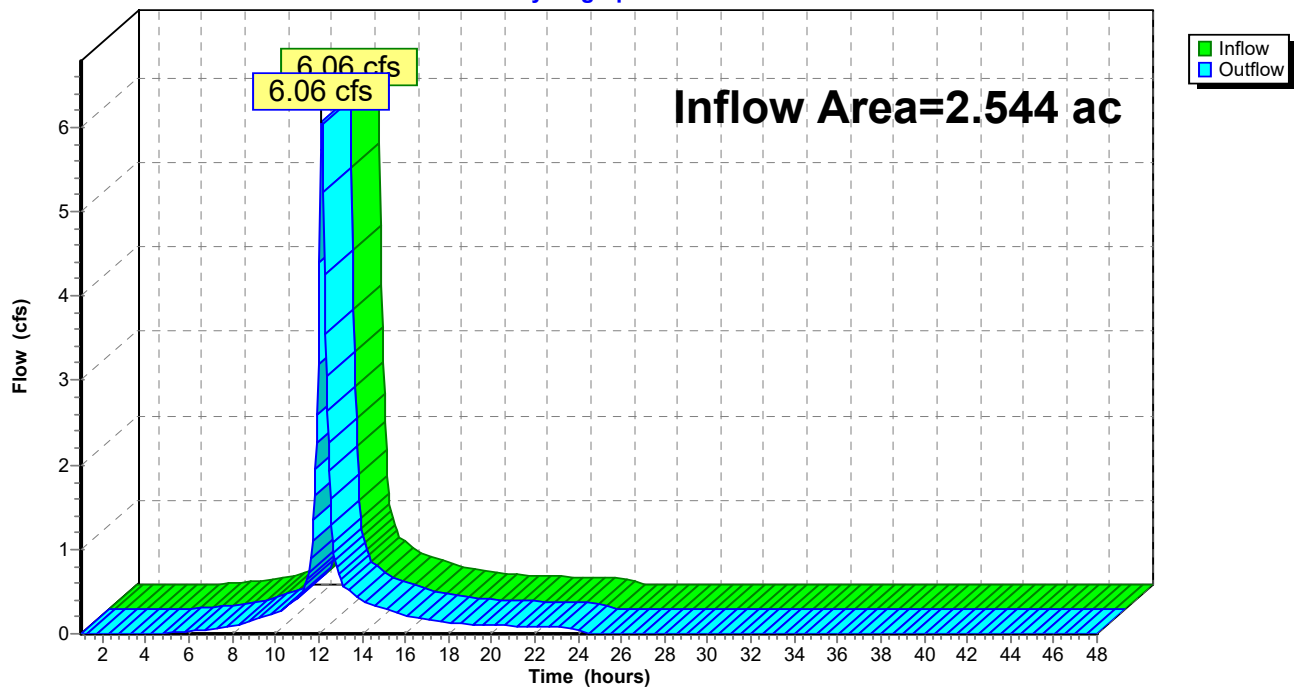
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.544 ac, 91.09% Impervious, Inflow Depth = 2.45" for 2-year event
Inflow = 6.06 cfs @ 12.14 hrs, Volume= 0.519 af
Outflow = 6.06 cfs @ 12.14 hrs, Volume= 0.519 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph



Summary for Reach POI 2: POI 2

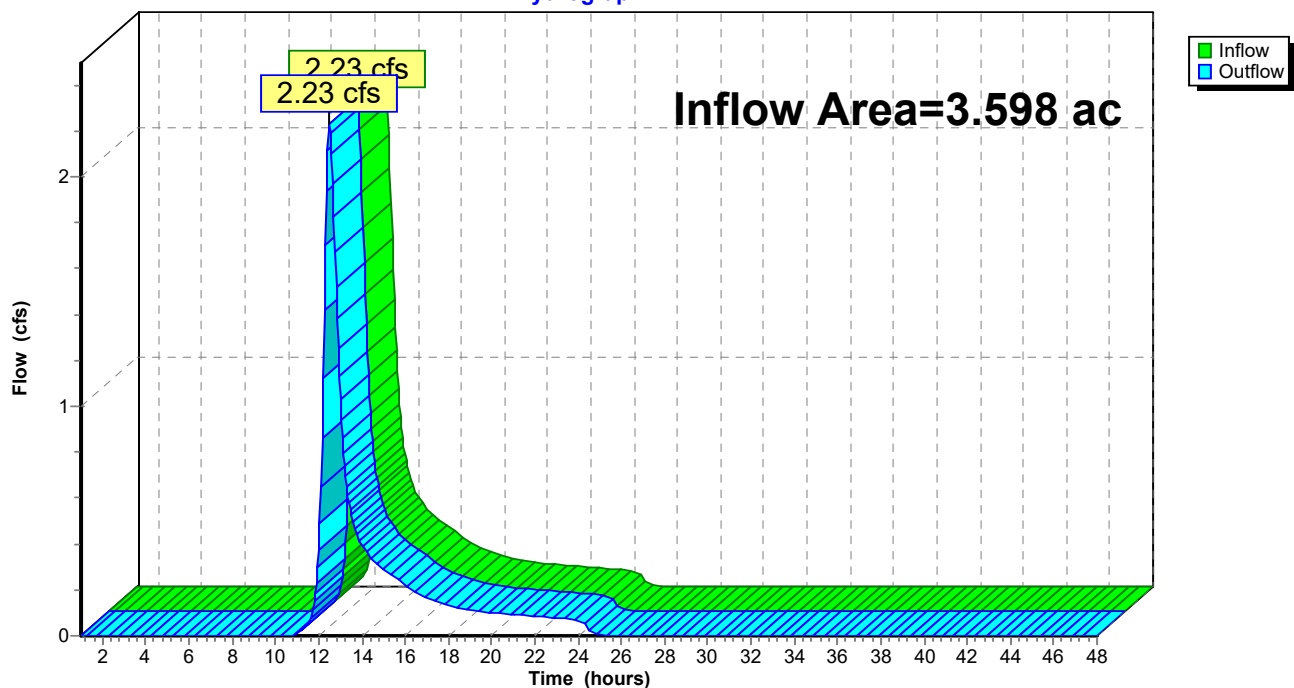
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.598 ac, 62.77% Impervious, Inflow Depth = 1.03" for 2-year event
Inflow = 2.23 cfs @ 12.49 hrs, Volume= 0.308 af
Outflow = 2.23 cfs @ 12.49 hrs, Volume= 0.308 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

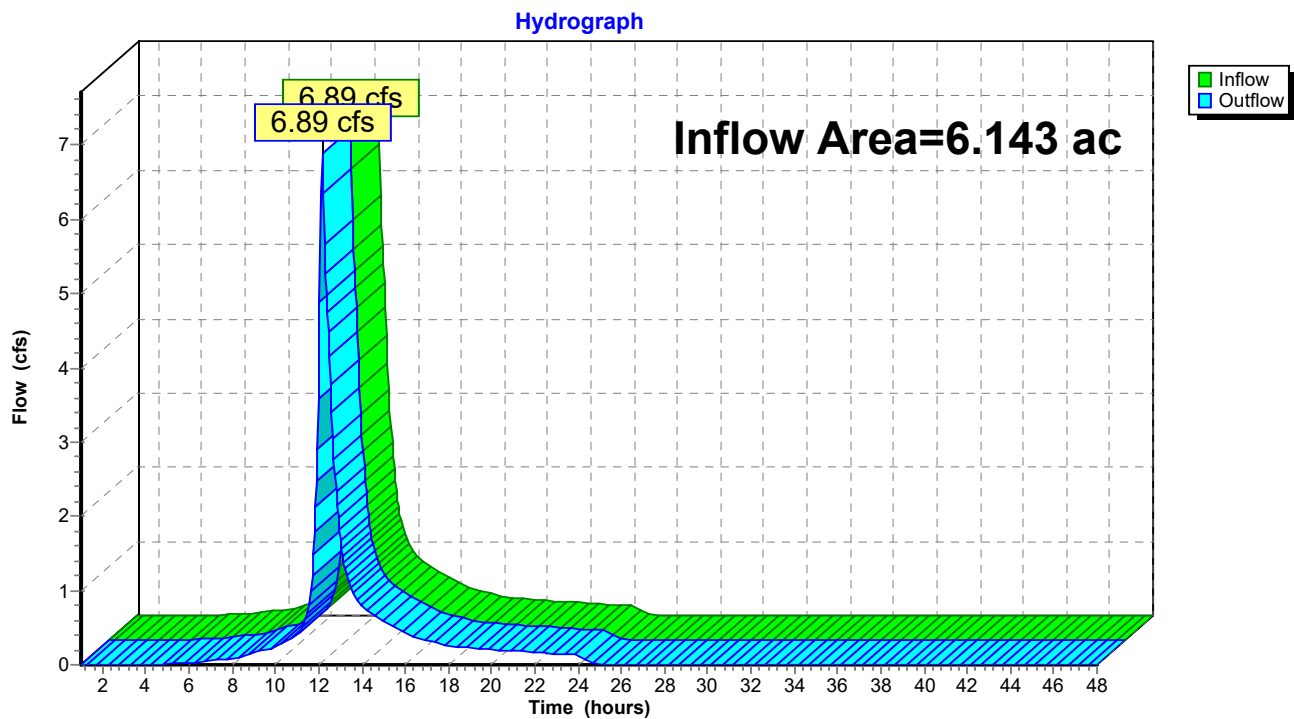


Summary for Reach POST: TOTAL POST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.50% Impervious, Inflow Depth = 1.62" for 2-year event
Inflow = 6.89 cfs @ 12.15 hrs, Volume= 0.827 af
Outflow = 6.89 cfs @ 12.15 hrs, Volume= 0.827 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POST: TOTAL POST

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Type III 24-hr 10-year Rainfall=4.60"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: 1

Runoff Area=110,838 sf 91.09% Impervious Runoff Depth=3.91"
Tc=10.0 min CN=94 Runoff=9.44 cfs 0.830 af

Subcatchment2P: 2

Runoff Area=156,749 sf 62.77% Impervious Runoff Depth=2.13"
Flow Length=918' Tc=32.7 min CN=75 Runoff=4.84 cfs 0.638 af

Reach POI 1: POI 1

Inflow=9.44 cfs 0.830 af
Outflow=9.44 cfs 0.830 af

Reach POI 2: POI 2

Inflow=4.84 cfs 0.638 af
Outflow=4.84 cfs 0.638 af

Reach POST: TOTAL POST

Inflow=11.61 cfs 1.468 af
Outflow=11.61 cfs 1.468 af

Total Runoff Area = 6.143 ac Runoff Volume = 1.468 af Average Runoff Depth = 2.87"
25.50% Pervious = 1.566 ac 74.50% Impervious = 4.577 ac

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Type III 24-hr 10-year Rainfall=4.60"

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Summary for Subcatchment 1P: 1

Runoff = 9.44 cfs @ 12.14 hrs, Volume= 0.830 af, Depth= 3.91"

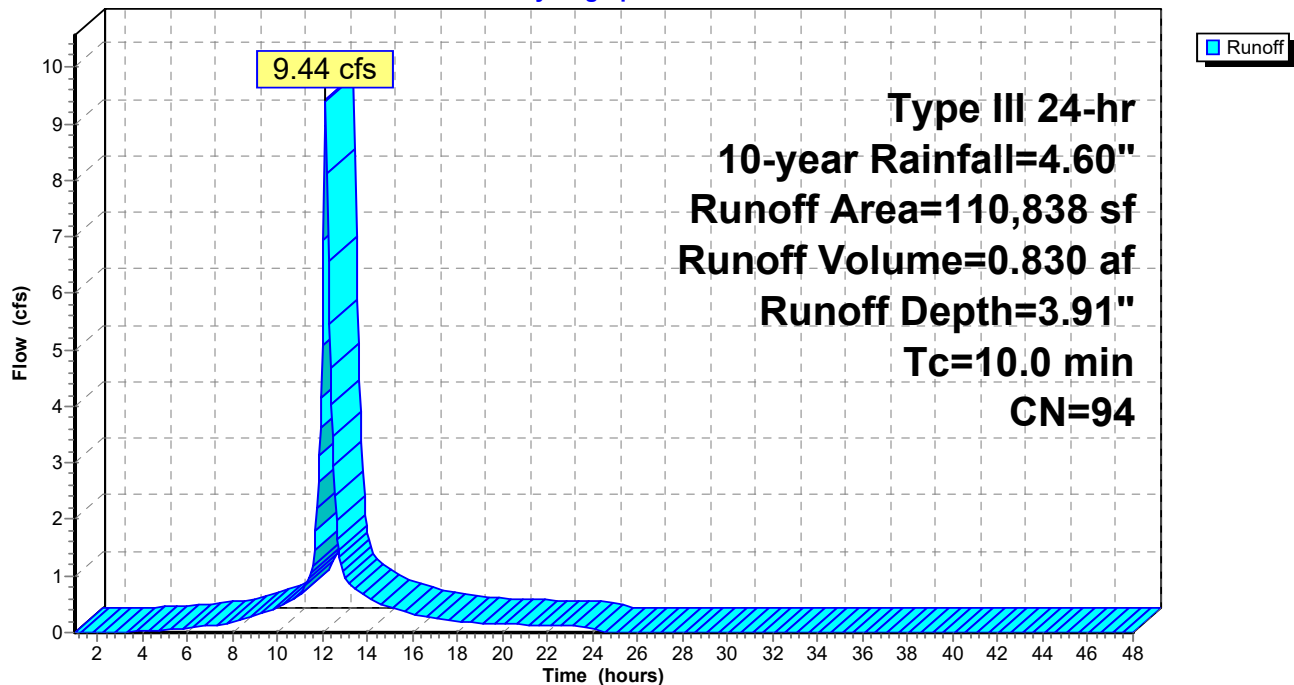
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

Area (sf)	CN	Description
9,879	49	50-75% Grass cover, Fair, HSG A
* 100,959	98	pave/roof
110,838	94	Weighted Average
9,879		8.91% Pervious Area
100,959		91.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1P: 1

Hydrograph



Summary for Subcatchment 2P: 2

Runoff = 4.84 cfs @ 12.47 hrs, Volume= 0.638 af, Depth= 2.13"

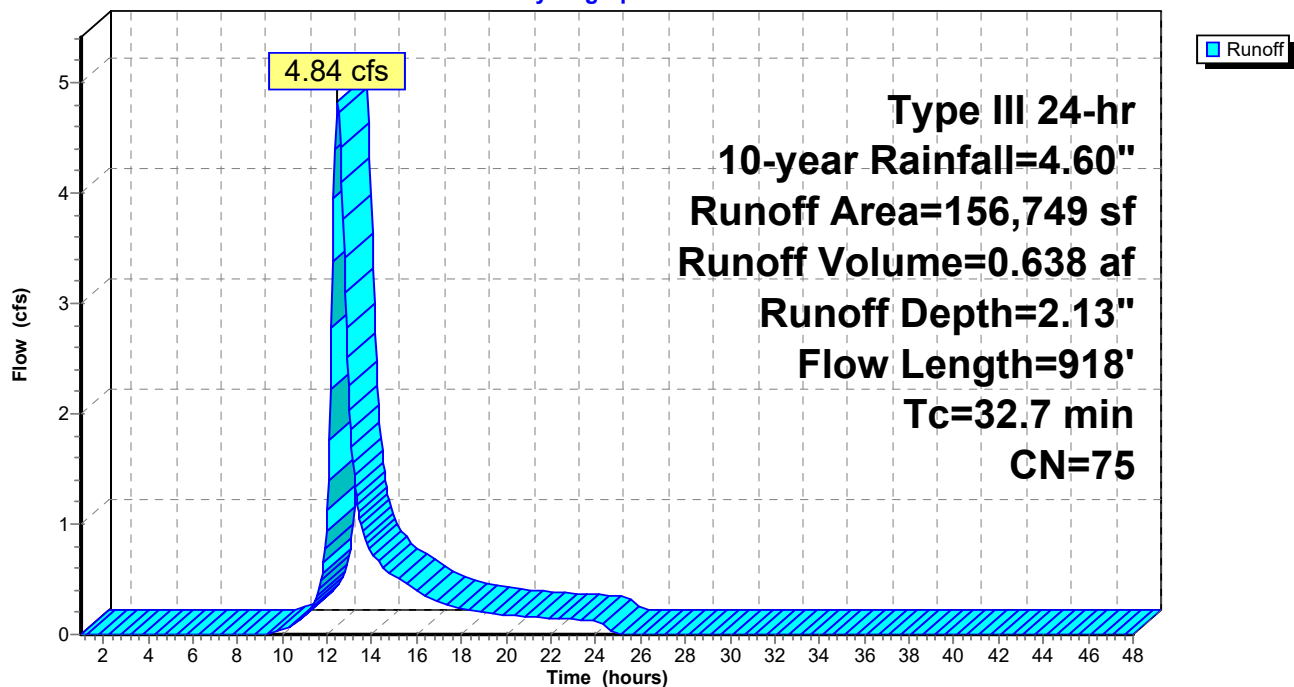
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.60"

	Area (sf)	CN	Description
*	98,397	98	buildings/pave
	48,746	36	Woods, Fair, HSG A
	9,606	39	>75% Grass cover, Good, HSG A
	156,749	75	Weighted Average
	58,352		37.23% Pervious Area
	98,397		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.5	257	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.7	918	Total			

Subcatchment 2P: 2

Hydrograph

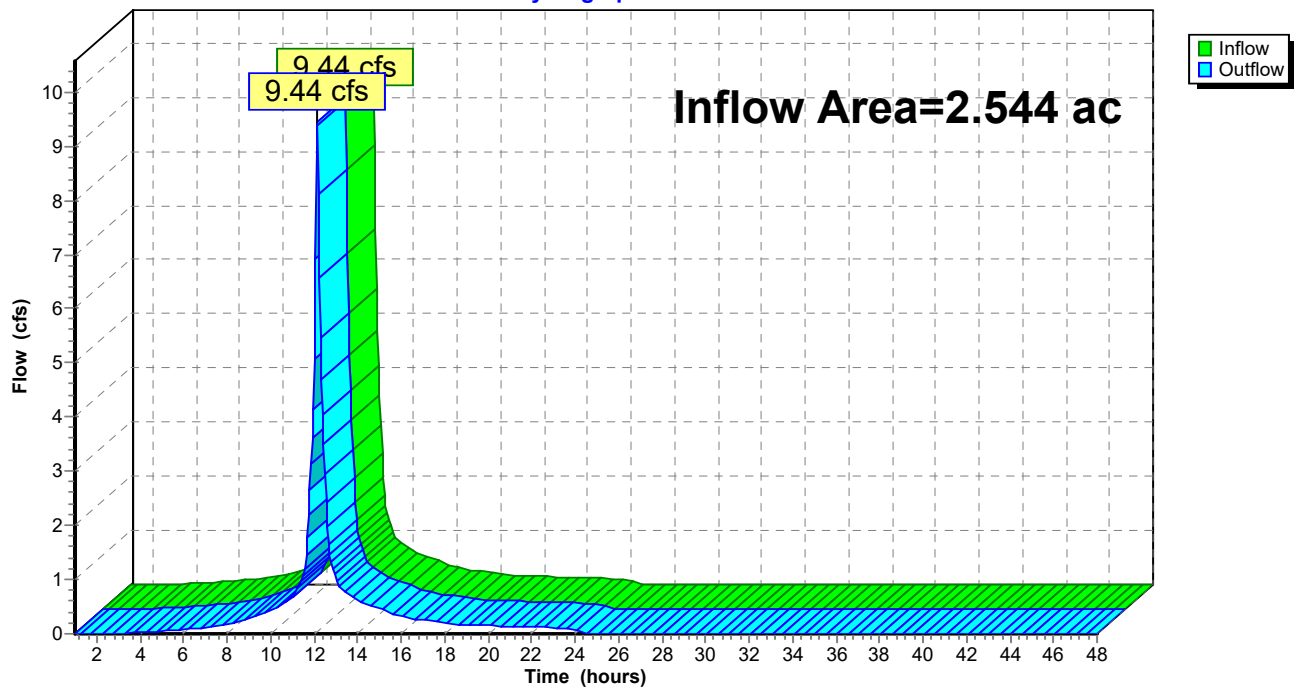


Summary for Reach POI 1: POI 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.544 ac, 91.09% Impervious, Inflow Depth = 3.91" for 10-year event
Inflow = 9.44 cfs @ 12.14 hrs, Volume= 0.830 af
Outflow = 9.44 cfs @ 12.14 hrs, Volume= 0.830 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1**Hydrograph**

Summary for Reach POI 2: POI 2

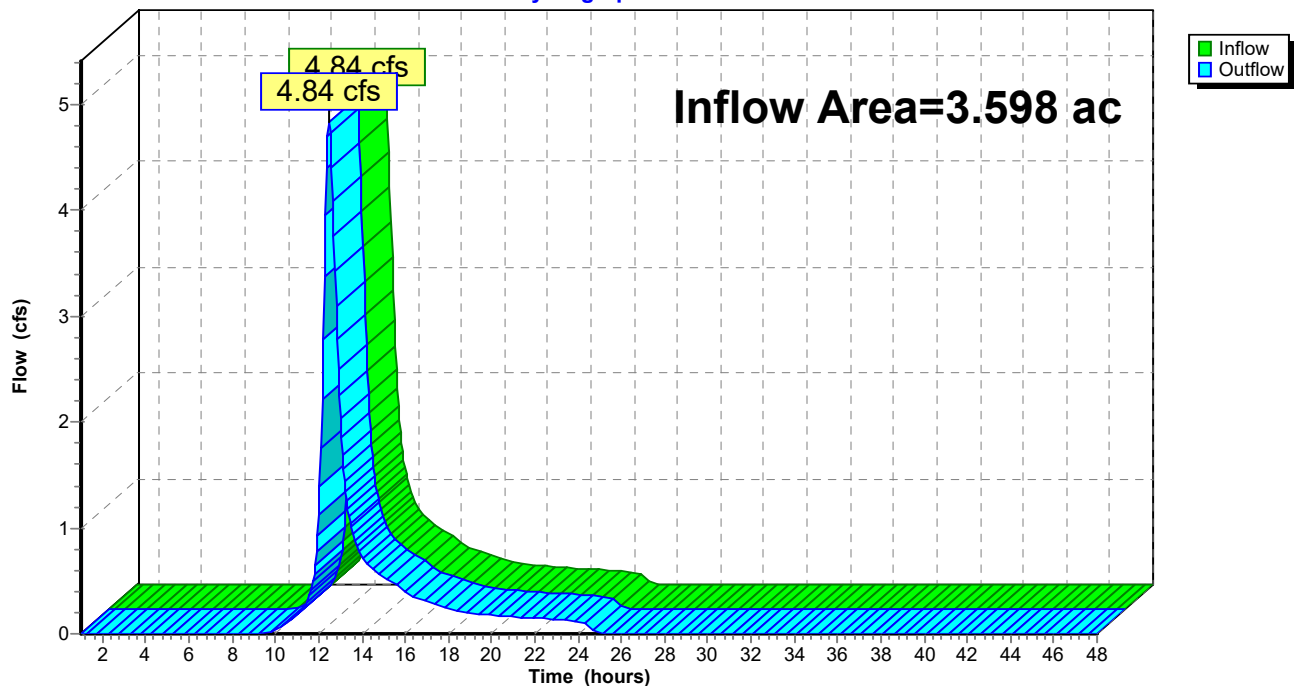
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.598 ac, 62.77% Impervious, Inflow Depth = 2.13" for 10-year event
Inflow = 4.84 cfs @ 12.47 hrs, Volume= 0.638 af
Outflow = 4.84 cfs @ 12.47 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 2: POI 2

Hydrograph

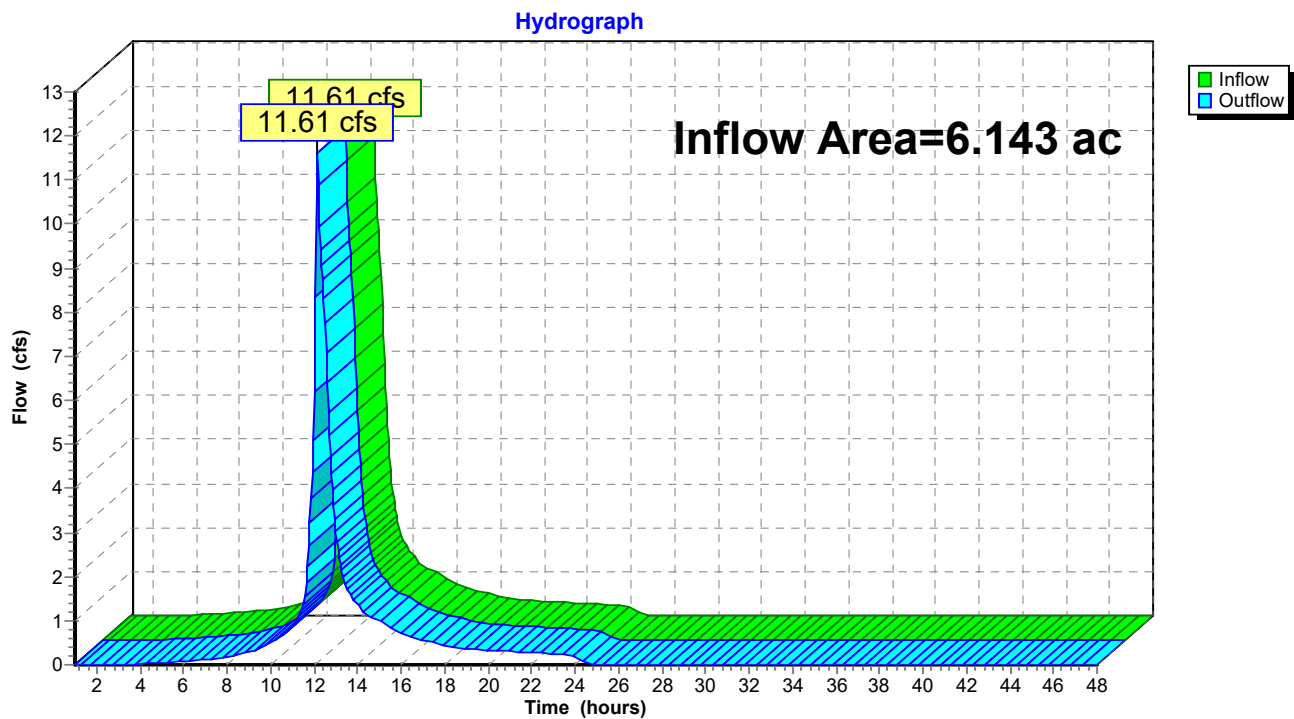


Summary for Reach POST: TOTAL POST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.50% Impervious, Inflow Depth = 2.87" for 10-year event
Inflow = 11.61 cfs @ 12.15 hrs, Volume= 1.468 af
Outflow = 11.61 cfs @ 12.15 hrs, Volume= 1.468 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POST: TOTAL POST

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Type III 24-hr 25-year Rainfall=5.80"

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Time span=1.00-48.00 hrs, dt=0.05 hrs, 941 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: 1

Runoff Area=110,838 sf 91.09% Impervious Runoff Depth=5.10"
Tc=10.0 min CN=94 Runoff=12.12 cfs 1.081 af

Subcatchment2P: 2

Runoff Area=156,749 sf 62.77% Impervious Runoff Depth=3.11"
Flow Length=918' Tc=32.7 min CN=75 Runoff=7.12 cfs 0.933 af

Reach POI 1: POI 1

Inflow=12.12 cfs 1.081 af
Outflow=12.12 cfs 1.081 af

Reach POI 2: POI 2

Inflow=7.12 cfs 0.933 af
Outflow=7.12 cfs 0.933 af

Reach POST: TOTAL POST

Inflow=15.52 cfs 2.014 af
Outflow=15.52 cfs 2.014 af

Total Runoff Area = 6.143 ac Runoff Volume = 2.014 af Average Runoff Depth = 3.94"
25.50% Pervious = 1.566 ac 74.50% Impervious = 4.577 ac

Summary for Subcatchment 1P: 1

Runoff = 12.12 cfs @ 12.14 hrs, Volume= 1.081 af, Depth= 5.10"

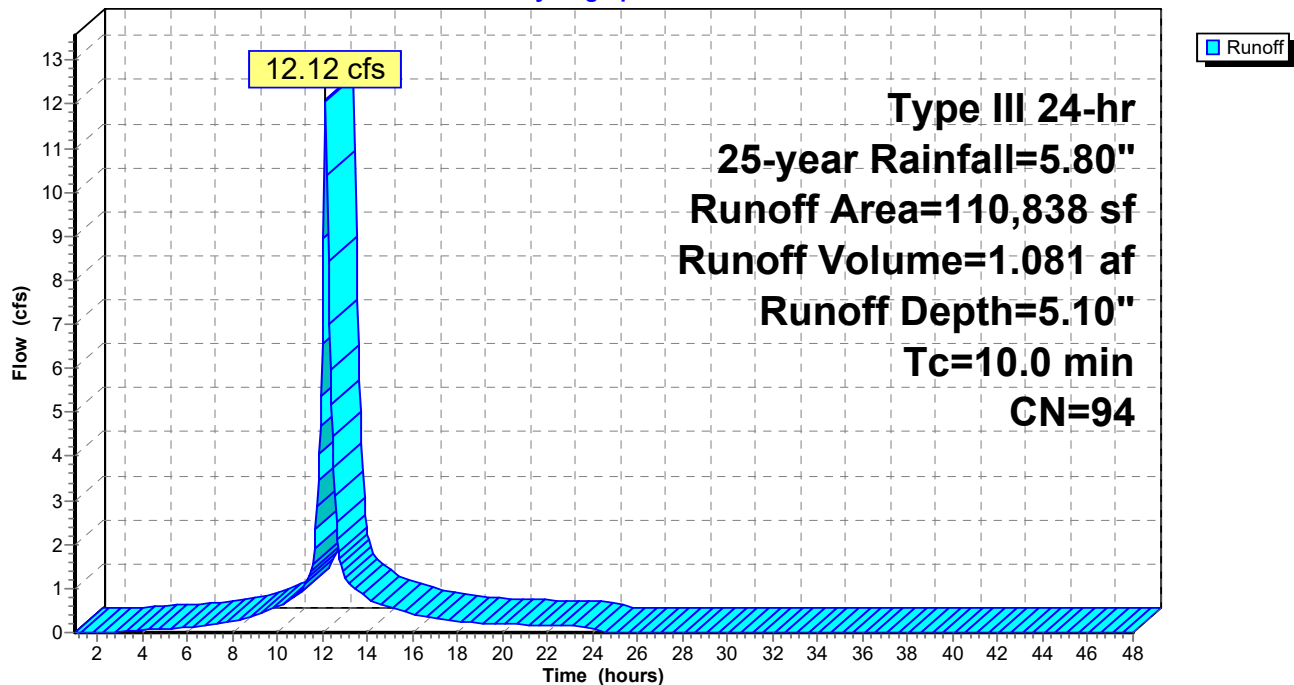
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

Area (sf)	CN	Description
9,879	49	50-75% Grass cover, Fair, HSG A
* 100,959	98	pave/roof
110,838	94	Weighted Average
9,879		8.91% Pervious Area
100,959		91.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 1P: 1

Hydrograph



Summary for Subcatchment 2P: 2

Runoff = 7.12 cfs @ 12.46 hrs, Volume= 0.933 af, Depth= 3.11"

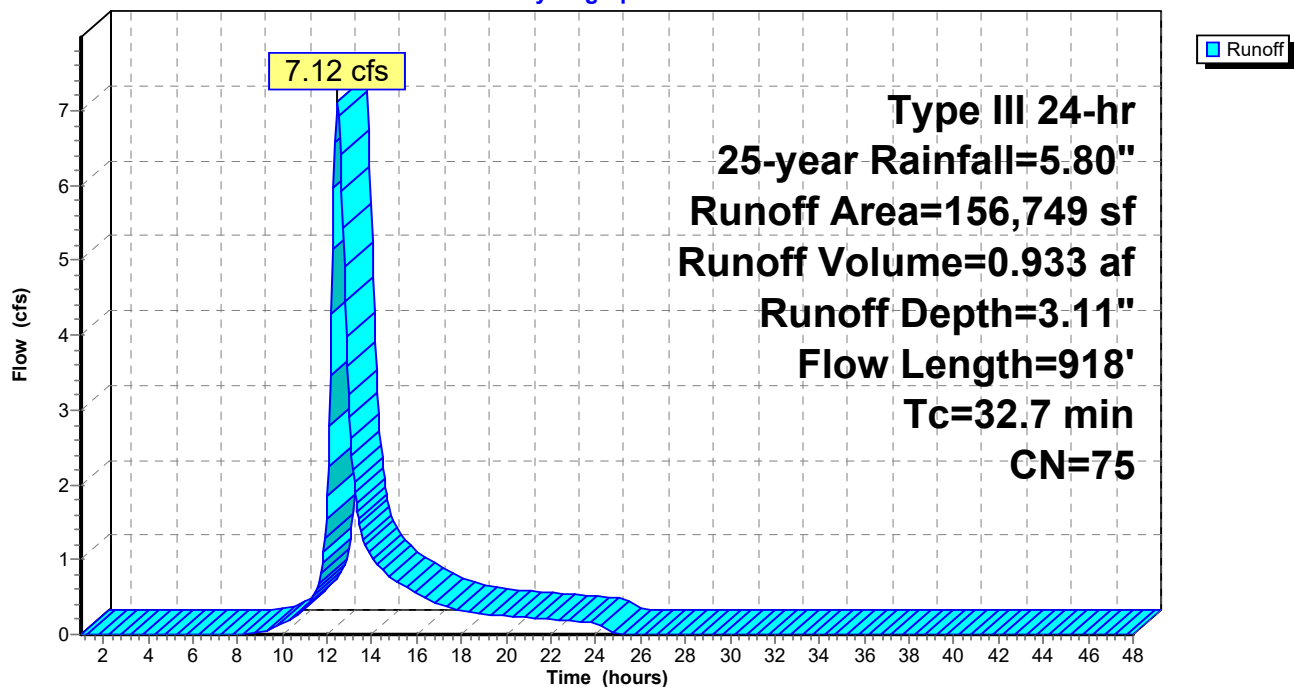
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=5.80"

	Area (sf)	CN	Description
*	98,397	98	buildings/pave
	48,746	36	Woods, Fair, HSG A
	9,606	39	>75% Grass cover, Good, HSG A
	156,749	75	Weighted Average
	58,352		37.23% Pervious Area
	98,397		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.05		Sheet Flow, A TO B Smooth surfaces n= 0.011 P2= 3.27"
1.5	257	0.0200	2.87		Shallow Concentrated Flow, B TO C Paved Kv= 20.3 fps
29.6	561	0.0160	0.32		Shallow Concentrated Flow, C TO D Forest w/Heavy Litter Kv= 2.5 fps
32.7	918	Total			

Subcatchment 2P: 2

Hydrograph



Summary for Reach POI 1: POI 1

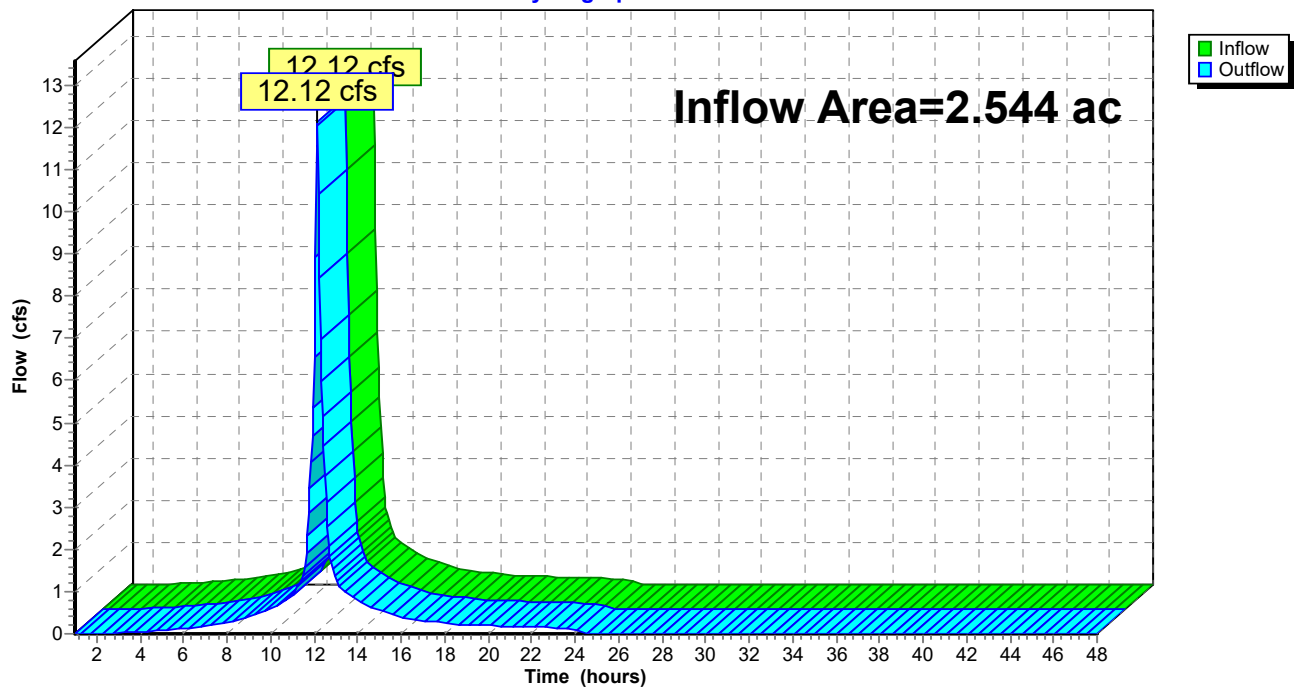
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.544 ac, 91.09% Impervious, Inflow Depth = 5.10" for 25-year event
Inflow = 12.12 cfs @ 12.14 hrs, Volume= 1.081 af
Outflow = 12.12 cfs @ 12.14 hrs, Volume= 1.081 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POI 1: POI 1

Hydrograph

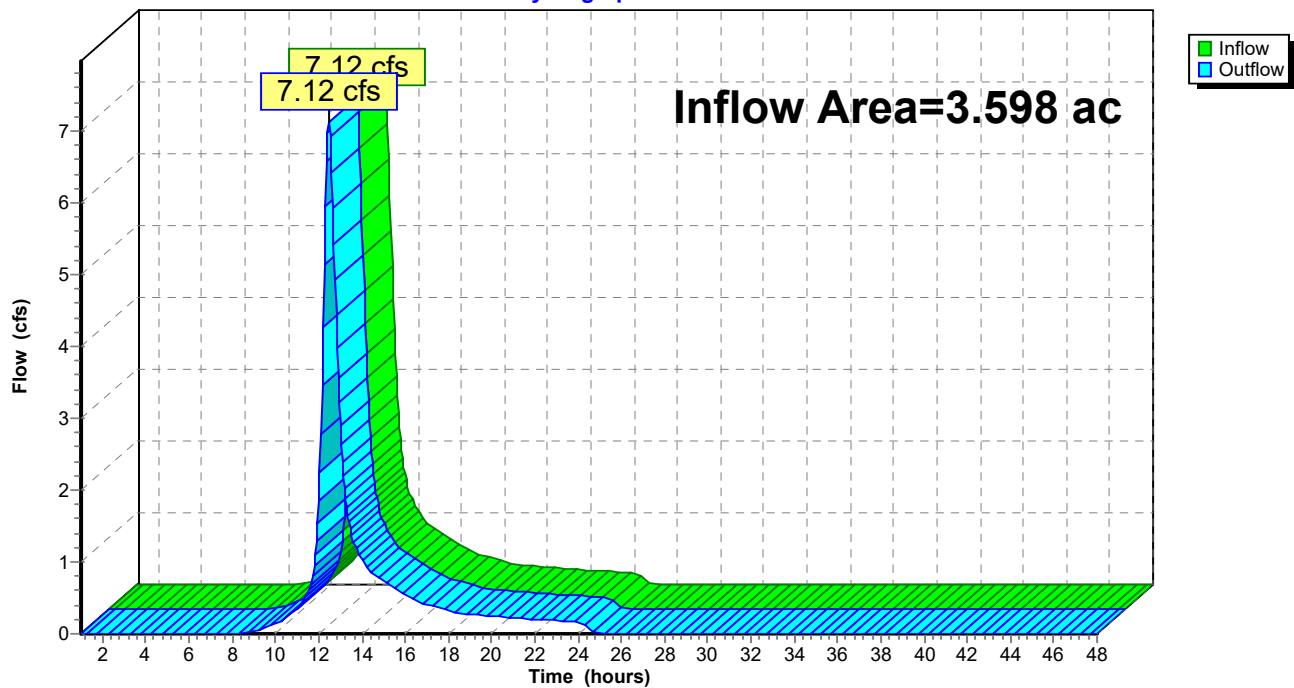


Summary for Reach POI 2: POI 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.598 ac, 62.77% Impervious, Inflow Depth = 3.11" for 25-year event
Inflow = 7.12 cfs @ 12.46 hrs, Volume= 0.933 af
Outflow = 7.12 cfs @ 12.46 hrs, Volume= 0.933 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

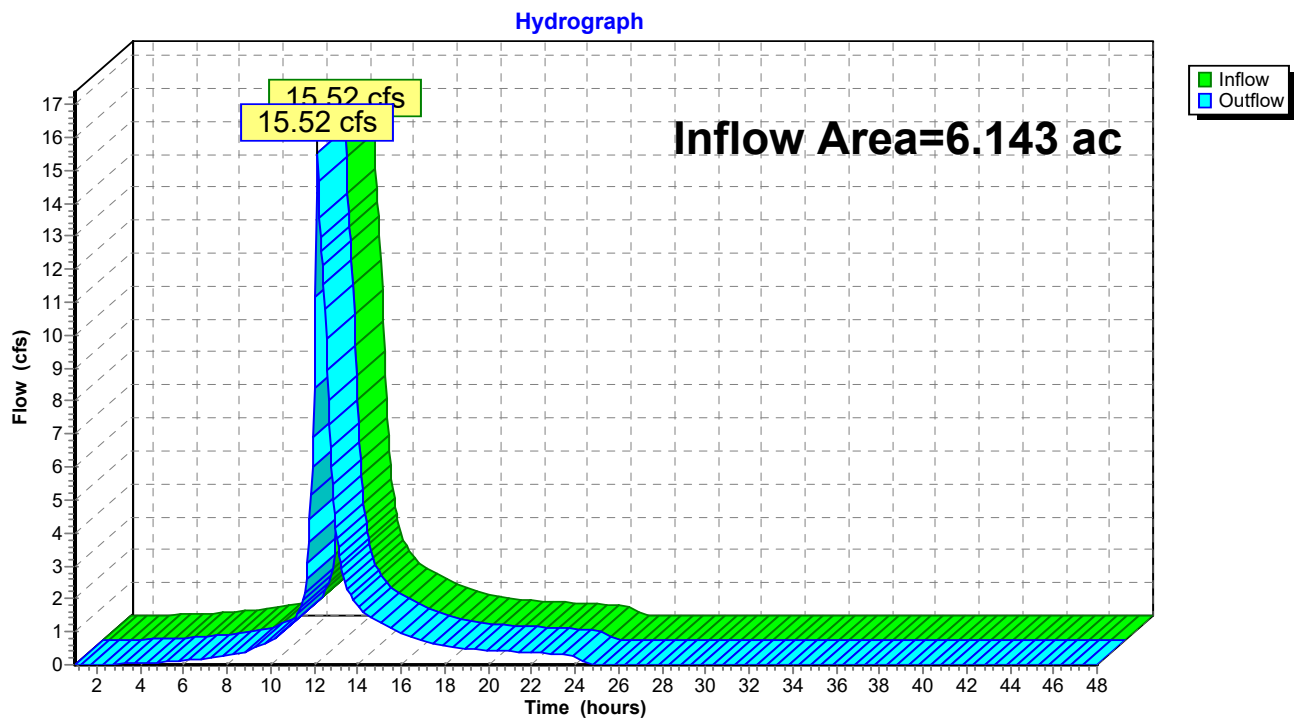
Reach POI 2: POI 2**Hydrograph**

Summary for Reach POST: TOTAL POST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 6.143 ac, 74.50% Impervious, Inflow Depth = 3.94" for 25-year event
Inflow = 15.52 cfs @ 12.15 hrs, Volume= 2.014 af
Outflow = 15.52 cfs @ 12.15 hrs, Volume= 2.014 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

Reach POST: TOTAL POST



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



June 15, 2022

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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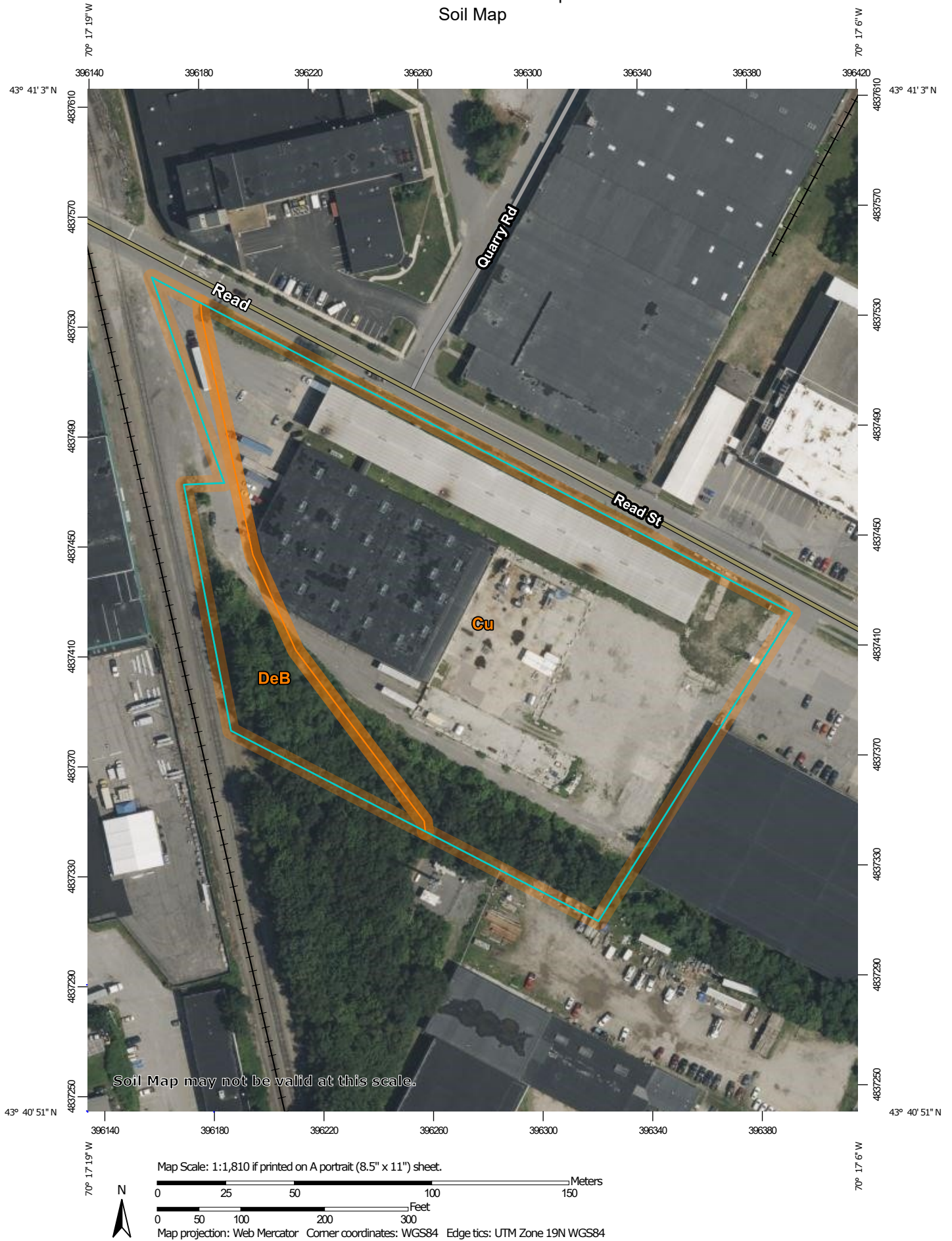
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Soil Map

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.

Custom Soil Resource Report Soil Map



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 18, Aug 31, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 22, 2021—Oct 7, 2021

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
Cu	Cut and fill land	5.7	85.1%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	1.0	14.9%
Totals for Area of Interest		6.7	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

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)

Depth to water table: About 24 to 42 inches

Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

DeB—Deerfield loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg9

Elevation: 0 to 1,190 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 145 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas

Landform position (three-dimensional): Tread

Down-slope shape: Concave, convex, linear

Across-slope shape: Convex, linear, concave

Parent material: Sandy outwash derived from granite, gneiss, and/or quartzite

Typical profile

Ap - 0 to 9 inches: loamy fine sand

Bw - 9 to 25 inches: loamy fine sand

BC - 25 to 33 inches: fine sand

Cg - 33 to 60 inches: sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Drainage class: Moderately well drained

Runoff class: Very 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: About 15 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Sodium adsorption ratio, maximum: 11.0

Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A

Ecological site: F144AY027MA - Moist Sandy Outwash

Hydric soil rating: No

References

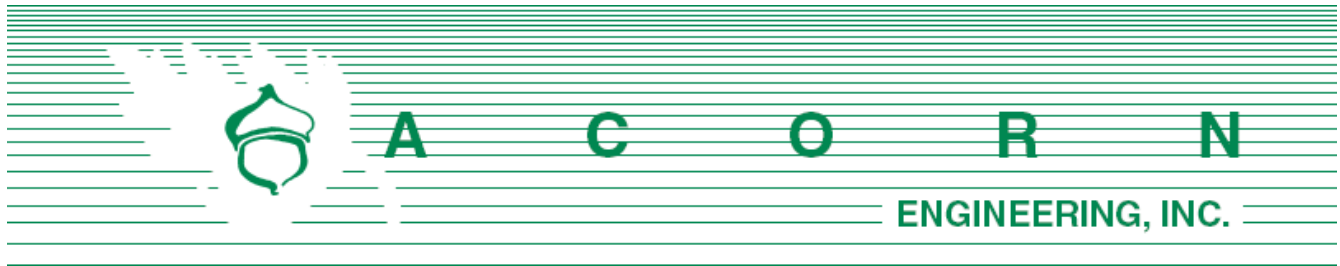
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Custom Soil Resource Report

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Planning Division
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

December 12, 2022

Subject: 180 Read Street Neighborhood Meeting

I, **Travis Letellier**, hereby certify that a neighborhood meeting was held on **December 7, 2022** at **182 Read Street at 5:30 pm.**

I also certify that on **November 22, 2022**, 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,

Travis Letellier, P.E.
Project Manager Acorn
Engineering, Inc.

Date: 12/8/2022

Included with this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

Sign In Sheet

12/7/2022

NEPW Logistics - 182 / 184 Read St.

Warehouse Addition

Members of the Public in Attendance:

NAME

1. Jacki Cohen
2. Jonathon Sullivan
3. Deborah Johnson
4. Gilbert Congdon
5. JIM PIEZCE
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.
- 21.
- 22.
- 23.
- 24.
- 25.

E-MAIL

Jackicohen316@gmail.com
jon.sullivan94@yahoo.com
Debjs13@aol.com
fgc141@gmail.com
REALST.SELFSTORAGE
INFO@REALSTSELFSTORAGE.COM

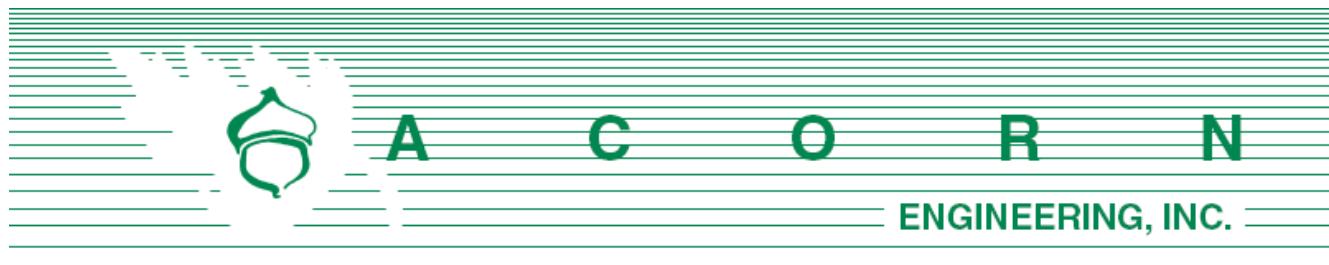
Developer and Consultant Team in Attendance:

NAME

1. Rob Cowans
2. Travis Letellier
3. Andrew Godfrey
- 4.

E-MAIL

Rob@NEPW.COM
tletellier@acorn-engineering.com
agodfrey@acorn-engineering.com



Dear Neighbor:

November 22, 2022

On behalf of NEPW Logistics, LLC, we are pleased to invite you to a neighborhood meeting to discuss our plans for a proposed project behind the existing buildings at 182-184 Read Street within the I-M zoning district. The project includes the construction of a 60,630 square foot warehouse in the footprint of a former building that existed on-site until 2014. An entrance to the property is proposed to be shared with 50 Read Street.

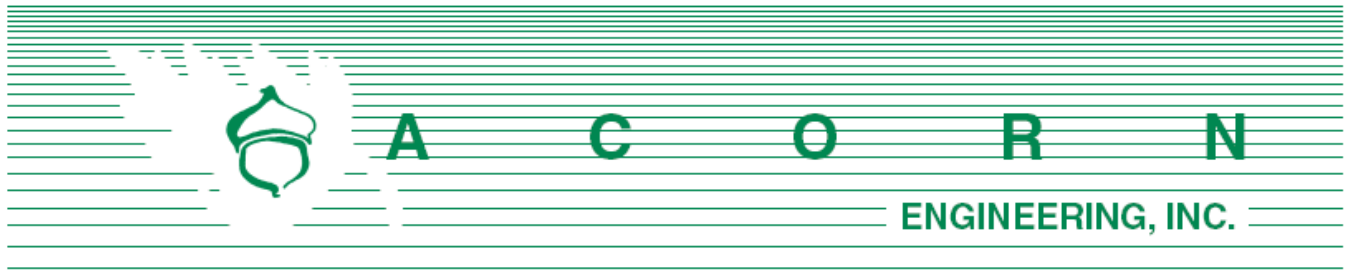
Meeting Location: 184 Read Street, Portland, ME 04101
Meeting Date: Wednesday, December 7, 2022
Meeting Time: 5:30 p.m.

The City code requires that property owners within 1,000 feet of the proposed development be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated, and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.

If you have any questions regarding the neighborhood meeting, please don't hesitate to call me at 775-2655. We look forward to seeing you at the meeting.

Sincerely,

Travis Letellier, P.E.
Project Manager
Acorn Engineering



180 Read St. Redevelopment Major Site Plan Application

Neighborhood Meeting Minutes
Wednesday, December 7th, 2022 / 5:30 pm
184 Read Street

Project Team Attendees:

Travis Letellier (TL): Civil Engineer/Presenter (Acorn Engineering)

Andrew Godfrey(AG): Design Engineer (Acorn Engineering)

Rob Cowans (RC): Developer / Applicant (NEPW Logistics)

Meeting started at approximately 5:35 pm.

Presentation:

Travis Letellier:

- Introduced project team
- Neighborhood Meeting is a City requirement for a Major Site Plan Application.
- Held a pre-app meeting with the City on August 17, 2022
- Sign In sheet is available for everyone which will become public record along with the meeting minutes.
- Gave a presentation on the project proposal.

Rob Cowans:

- Developer and Applicant, CEO of NEPW Logistics
- Based out of Portland. Have had a successful 10+ year business in the Back Cove neighborhood, looking to expand operations.

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. Q or C denotes Question or Comment from the Public.

Q: Where exactly is building located? How tall will it be?

TL: (Holding site plan) The new warehouse will be connected to the building we are in, 184 Read Street, and will be on the foundation of the warehouse previously in existence until the mid-2010's. The height of the new building will be 41', taller than the two buildings currently on-site.

Q: What will the access be for the new building? How many new trucks are anticipated?

TL: There will be a new shared access driveway with 150 Read Street, and the circulation of trucks through the site will be one-way around the back of the buildings.

RC: Based on the current operations, if similar clients lease the new building, there will be 8-10 new trucks per day. A maximum of 18-20 new trucks if it ends up being a high volume client.

Q: Will there be any improvements to the signage in the surrounding neighborhoods directly truck traffic? There are quite a few trucks that end up going down residential streets in the area.

TL: No plans for new signage, but it could be a discussion point with the city.

RC: Acknowledges that truck traffic signage could be improved in the surrounding neighborhood.

Q: When is the warehouse anticipated to be built?

RC: There are no solid plans, looking to get permit approval and then would likely be a year or two away from construction.

Q: (Directly abutting neighbor) Over the years stormwater runoff has been a problem in the back of my property. Are there any plans for stormwater for the new development?

TL: The roof of the new building and almost all of the new access driveway will be directed to the city stormwater system after construction is complete, so the condition of stormwater runoff to surrounding properties should be greatly improved.

Q: The area north of the site at the railroad tracks is currently a hazard to pedestrians, as the sidewalk is discontinued for the crossing of the tracks, and pedestrians must walk out into the street. Are there any plans to improve this condition?

TL: There are no plans for improvements there, but could be a discussion point with the city.

Q: Will there be an increase in the amount of trucks parking and backing out onto Read Street? This is currently an issue in the area.

TL: This will not be an issue with this proposal, since the traffic circulation within the sit is one-way and there is adequate room on the site for trucks to park and wait if they are waiting for a bay to open.

Q: Is the turning radius adequate for the largest trucks within the site?

TL: Yes, the site has been designed with large enough turning radiuses for the largest trucks.



Q: What is the non-colored in portion shown on the plans behind the new building?

TL: A landscaped area of grass, this was a necessary feature to get under the maximum lot impervious area of 75%.

Q: Are there plans to re-pave the area on the north side of the property?

RC: There are no plans to do this.

Q: What will the new building be used for? Possibly a marijuana growing operation? Hazardous materials?

RC: Definitely not a marijuana growing operation or hazardous materials. We will be looking to have a similar client to the ones that use the current buildings on site, which mostly consists of the temporary storage of dry food goods. A client has not been found yet though.

Meeting concluded at approximately 5:55 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,

Andrew Godfrey

Andrew Godfrey, E.I.

Design Engineer

Acorn Engineering, Inc.

agodfrey@acorn-engineering.com



1/10/2023

Filterra Sizing Summary

180 Read Street, Portland, ME

Design Parameters:

- MEDEP WQ Design Storm = 0.95" of Rainfall
- Filterra Media Flow Rate = 140 in/hr
- Allowable Ponding in Filterra = 9 inches

Design Summary:

Utilizing HydroCAD software, a hydrograph can be derived to represent the MEDEP's WQ design storm by modelling a 0.95" Type III – 24 hour rain event (Figure 1 for each system). This storm can then be routed through an appropriately sized Filterra unit. Because the Filterra system can provide up to 9 inches of ponding, some flow attenuation is possible, and the Filterra system is able to accommodate a portion of the water quality volume in the head space above the media and release it at the system's design flow rate. The hydrograph in Figure 2 for each system illustrates this concept.

Unit	Area Impervious (sf)	CN	Area Pervious (sf)	CN	MEDEP Treatment Flow (cfs)	Filterra Media Bed (ft x ft)	Vault Size (ft x ft)	Filterra Model	Ponding Depth (inches)
F-1	12,000	98	0	74	0.23	6x8	6x8	FT0806	6.12

The following are the hydrographs for the unit:

Unit F-1:

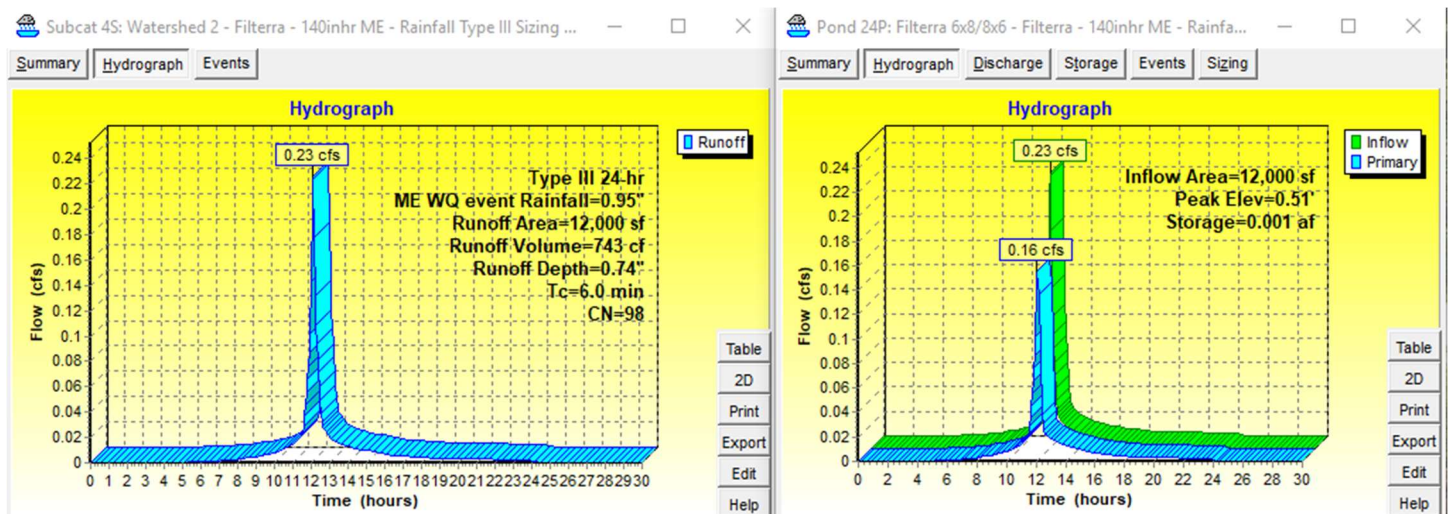


Figure 1. Inflow rate during the WQ Event.

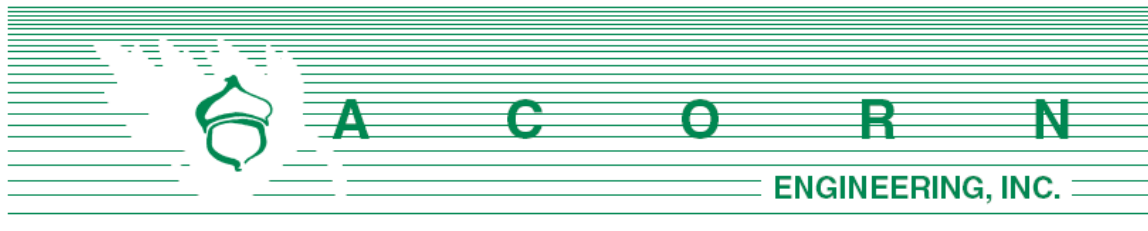
Figure 2. Inflow rate during WQ storm event compared with the Filterra outflow rate, accounting for 9" maximum ponding depth within the unit.

Thank you for the opportunity to present this to you and your client. This letter provides confirmation that each Filterra system is appropriately sized to comply with the Filterra approval letter issued by Maine Department of Environmental Protection. Please do not hesitate to contact me should you have any additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Joshua Stackhouse". The signature is fluid and cursive, with a long horizontal stroke extending from the end.

Joshua Stackhouse
Contech Engineered Solutions, LLC.
(207) 219-9110
jstackhouse@conteches.com



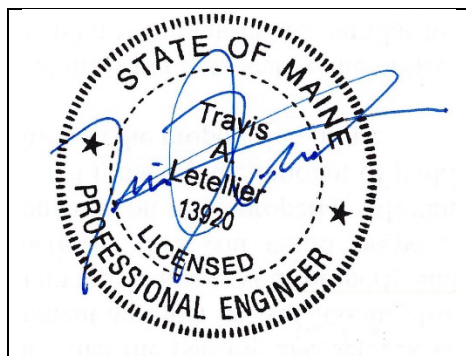
POST CONSTRUCTION - STORMWATER INSPECTION & MAINTENANCE PLAN

Prepared For:

**NEPW Logistics
Portland, Maine 04103**

Prepared By:

**Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104**



January 2023

RESPONSIBLE PARTY

The owner, NEPW Logistics, LLC, 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 Department of Public Works prior to June 30th.

The following is an example of a qualified stormwater professional that the association may contract through.

Organization: Will Savage, PE
Acorn Engineering, Inc
Portland, Maine

Phone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert. #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert. #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The inspection and maintenance criteria is 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.

OPERATION AND MAINTENANCE ACTIVITY

Sweeping:

Annual sweeping of the driveways and parking areas following the snow melt for accumulated winter sand, if necessary. Appropriately dispose of all collected material.

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 Landscape Plan by Aceto Landscape Architects.

Catch Basins:

Catch basins 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.

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.

Filtrerra:

The maintenance for the Filterra shall be in accordance with the attached “Filtrerra Maintenance Steps”. Additionally, the downstream catch basins and drainage manholes shall be inspected to confirm the structures are operation 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.



INSPECTION AND MAINTENANCE TABLE

Inspection and Maintenance Frequency	Spring or Yearly	Summer	Fall	As Necessary
Sweeping/Sand Removal	X			
Catch Basins	X		X	X
Filterras	X			X
Storm Drains		X		X
Vegetated Areas & Embankments	X	X		



STORMWATER MAINTENANCE AND INSPECTION AGREEMENT: INSPECTION LOG

Filterra Systems:							
Location: 180 Read Street, Portland, ME 04103				Latitude: 43.658294°N			
				Longitude: -70.32915° W			
Description of Located Point: Recorded Construction Documents - Filterra				Inspector:			
				Date of Inspection:			
				Weather Conditions:			
Days since last precipitation:				MEDEP Permit # N/A			
Quantity of last precipitation (in):				Design Drawings: YES			
Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Inlets, Outlets, Culverts & Storm Drains							
Inspection and cleaning of Filterra and surrounding area	☒	☐	☐	☐ Yes ☐ No ☐ N/A			
Removal of debris and trash	☒	☐	☐	☐ Yes ☐ No ☐ N/A			
Replace mulch	☒	☐	☐	☐ Yes ☐ No ☐ N/A			
General							
Access to facility is adequate	☒	☐	☐	☐ Yes ☐ No ☐ N/A			
Photographs of most recent site inspection are included	☒	☐	☐	☐ Yes ☐ No ☐ N/A			Photographs are attached.
Additional Comments:							

Filterra® Maintenance Steps



1. Inspection of Filterra and surrounding area



2. Removal of tree grate and erosion control stones



3. Removal of debris, trash and mulch



4. Mulch replacement



5. Clean area around Filterra



6. Complete paperwork and record plant height and width

Contech has created a network of Certified Maintenance Providers (CCMP's) to provide maintenance on Filterra systems. To find a CCMP in your area please visit www.conteches.com/maintenance



October 6, 2022

Travis Letellier, P.E.
Acorn Engineering, Inc

Re: 184 Read Street, PO
Ability to Serve with PWD Water

Dear Mr. Letellier:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on September 21, 2022. Based on the information provided per plans dated October 6, 2022, we can confirm that the District will be able to serve the proposed project as further described in this letter. **Please note that this letter constitutes approval of the water system as currently designed and is valid for eighteen (18) months after the date of issue. Any changes affecting the approved water system will require further review and approval by PWD.**

Conditions of Service

The following conditions of service apply:

- A new 8-inch service may be installed from the water main in Read Street. The service should enter through the property's frontage on Read Street at least 10-feet from any side property lines.
- An approved backflow prevention device (testable double check valve assembly) must be installed on the service line before the sprinkler riser prior to service activation. Please refer to the PWD website for more information on cross-connection control policies.
- The existing public hydrant (POD-HYD11873) will be replaced with a new hydrant in a new location as part of the scope of work of this project.
- Our records indicate that 184 Read Street is currently served with a 4-inch ductile iron water service. The service can continue to be used for the existing building and the new building expansion. Should the customer experience any loss in pressure or volume they may elect to install a new domestic water service or increase the size of the existing service at their expense.
- The Portland Water District does not manage sewer collection in this area.

Prior to construction, the owner or contractor will need to complete a Service Application and pay all necessary fees for each proposed service. When the project is ready for construction, an Application for each service can be requested by contacting the MEANS Group at MEANS@pwd.org or 207-774-5961 ext. 3199. Once a completed Application has been submitted with payment, please allow seven (7) days for processing.

Existing Site Service

According to District records, the project site does currently have existing water service. A 4-inch diameter ductile iron domestic service line provides water service to the site. Please refer to the “Conditions of Service” section of this letter for requirements related to the use of this service.

Water System Characteristics

According to District records, there is an 12-inch diameter ductile iron water main in Read Street and a public fire hydrant located adjacent to the site. The estimated static pressure in the area is 78 psi.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. It is your responsibility to contact the City of Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact MEANS to request a hydrant flow test and we will work with you to get more complete data.

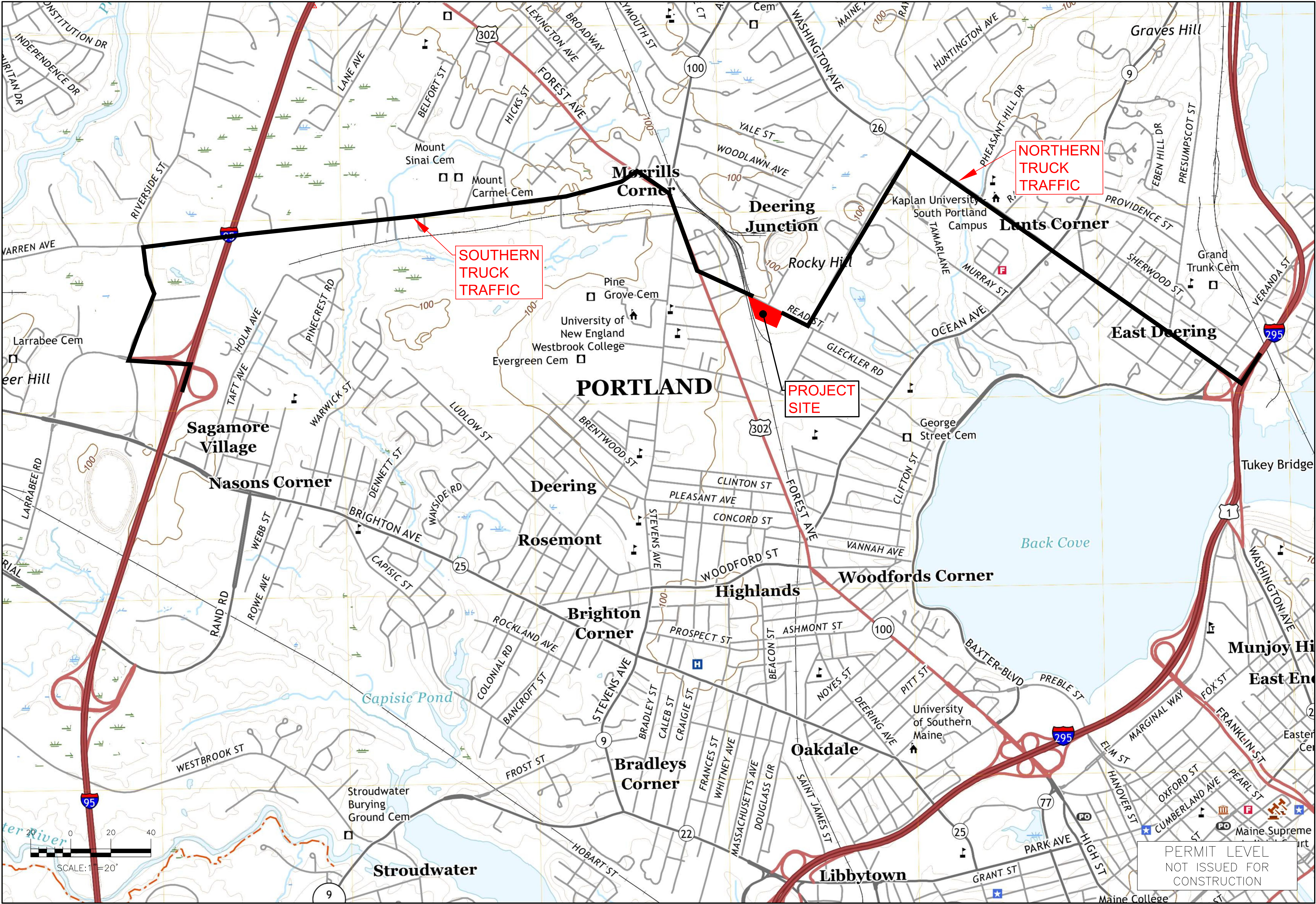
Should you disagree with this determination, you may request a review by the District’s Internal Review Team. Your request for review must be in writing and state the reason for your disagreement with the determination. The request must be sent to MEANS@PWD.org or mailed to 225 Douglass Street, Portland Maine, 04104 c/o MEANS. The Internal Review Team will undertake review as requested within 2 weeks of receipt of a request for review.

If the District can be of further assistance in this matter, please let us know.

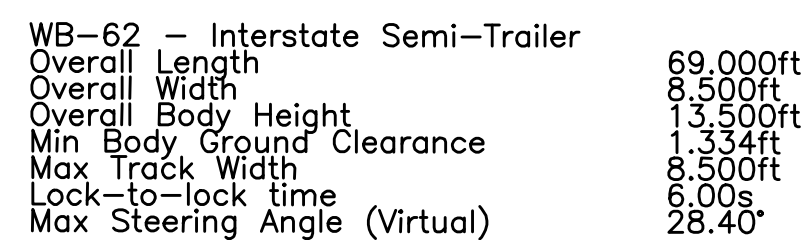
Sincerely,
Portland Water District



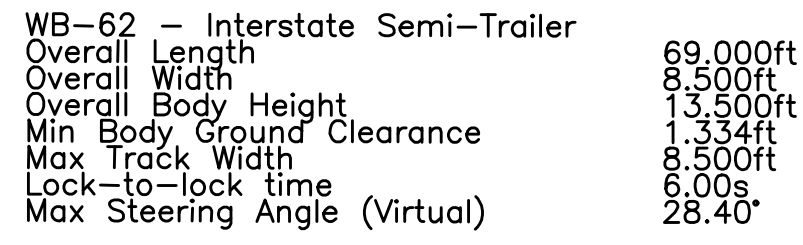
Robert A. Bartels, P.E.
Senior Project Engineer



ISSUED FOR		BY
MAJOR SITE PLAN		DATE
		TAL
		10/31/22
TRUCK ROUTING		
180 READ STREET		
PORTLAND, MAINE 04103		
CLIENT/OWNER OF RECORD:		
NEPW LOGISTICS, LLC		
118 QUARRY ROAD, PORTLAND, MAINE 04103		
DRAWING NAME:		
PROJECT NAME/ADDRESS:		
CLIENT/OWNER OF RECORD:		
118 QUARRY ROAD, PORTLAND, MAINE 04103		
ACORN ENGINEERING, INC.		
PO BOX 3372, PORTLAND MAINE 04101		
(207) 775-2855		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. OR ITS AGENTS. ANY CHANGES OR OTHERS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.		
FILE: 1176_CIVIL		
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SCALE: AS NOTED		
DESIGNED BY: TJL		
DRAWN BY: AWG		
CHECKED BY: WHS		
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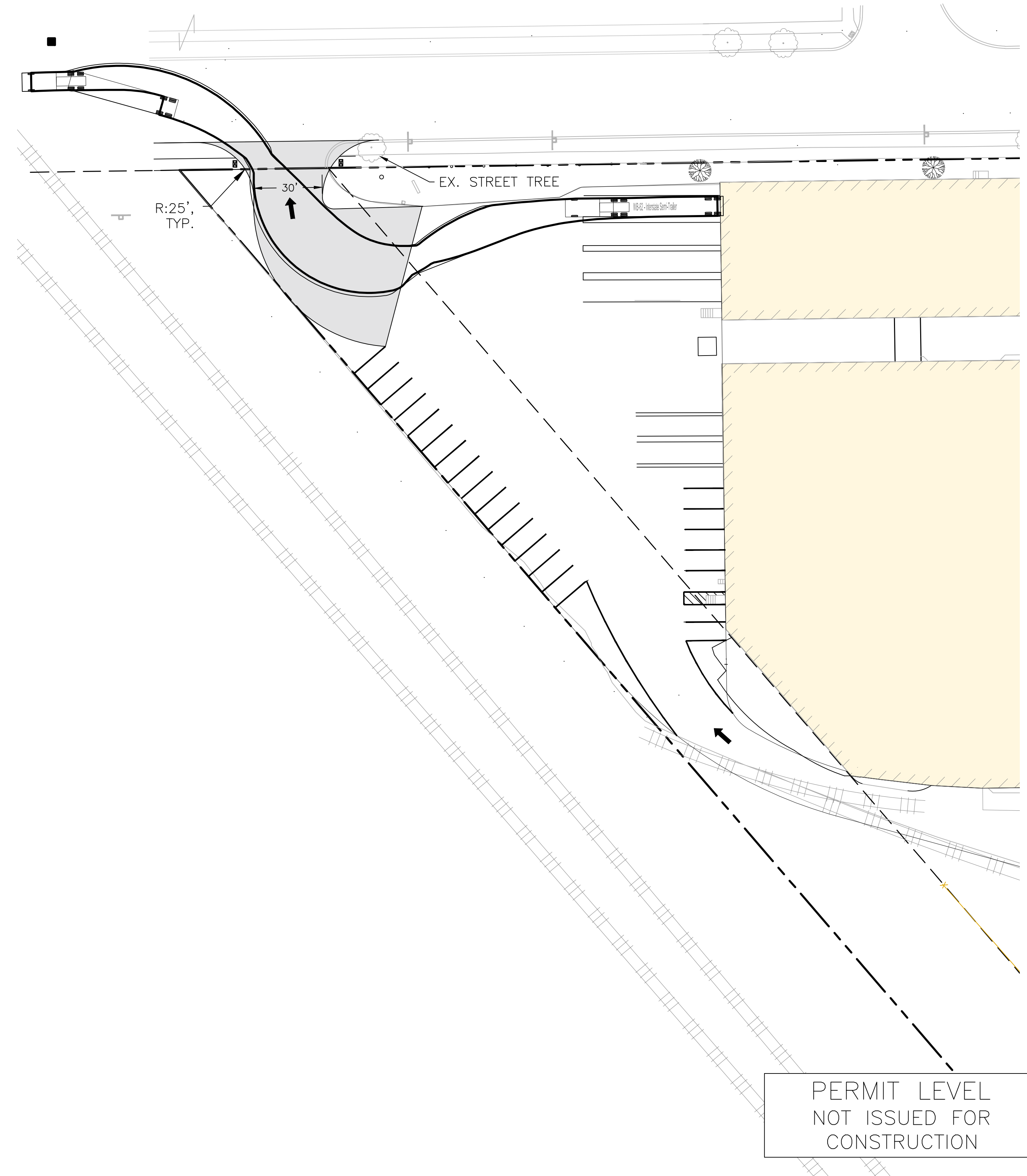
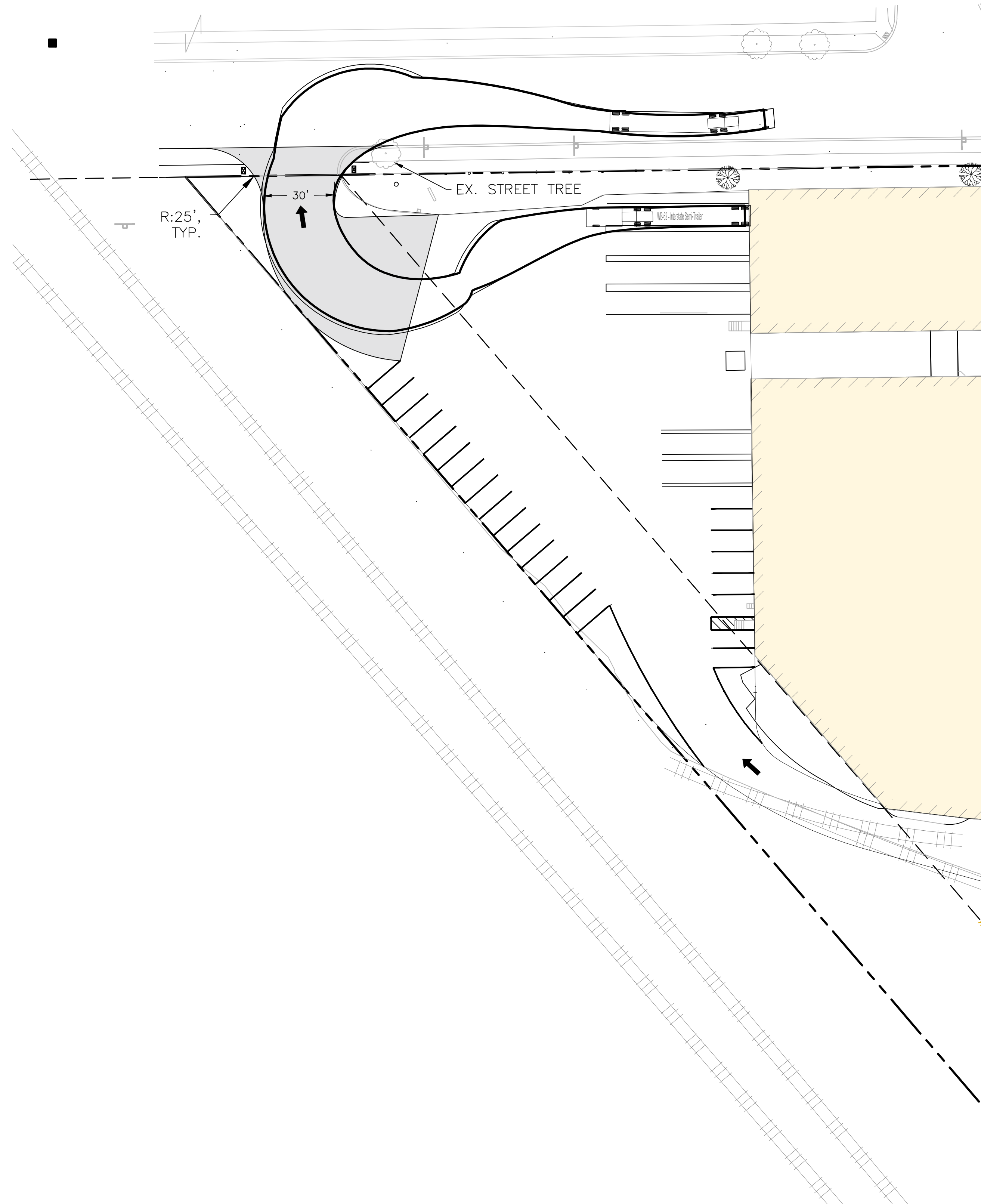


PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION



RIGHT TURN

LEFT TURN



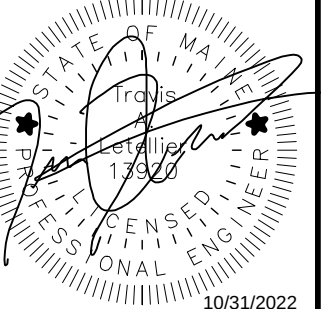
PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

[illegible]

PROJECT NAME/ADDRESS:	180 READ STREET PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD:	NEPW LOGISTICS, LLC 118 QUARRY ROAD, PORTLAND, MAINE 04103


A C O R N **ENGINEERING, INC.**
 ACORN ENGINEERING, INC.
 P.O. BOX 3372, PORTLAND, MAINE 04101
 (207) 775-2855

E:	1176_CIVIL
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SCALE:	AS NOTED
SIGNED BY:	TJL
DRAWN BY:	AWG
CHECKED BY:	WHS



DRAWING NO.

TURN

TEMPLATE

September 29, 2022

Acorn Engineering
Attn: Andrew Godfrey
P.O. Box 3372
Portland, Maine 04104

Subject: 182 & 184 Read St., Portland
Re: Ability to Serve

Dear Andrew,

Thank you for your interest in using natural gas for the above referenced project.

This is to confirm that Unitil has natural gas on Read St. and is able to service the proposed redevelopment. Once we know the gas load information and how you wish to run the gas in order to keep gas flowing to 184 Read St. building during construction, we can have it engineered and cost estimated. With that information we can determine if the customer will need to contribute financially in order to have gas installed and rerouted to accommodate the redevelopment or not. Please see below rough sketch of the existing gas infrastructure as requested.



If you have any further questions or require additional information, please contact me at 207-541-2543 or email at carpenters@unitil.com.

Sincerely,

Scott Carpenter

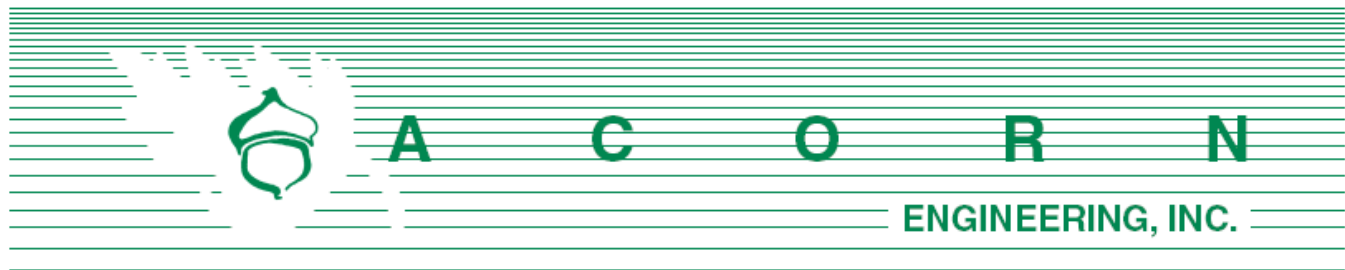
Scott Carpenter

Senior Business Development Representative

Unitil Corporation



(O) 207-541-2543



Department of Planning & Development
Attn: Maya Balassa
City of Portland, Maine
389 Congress Street, 4th Floor
Portland, ME 04101

January 19, 2023

Subject: Comment Response Letter
180 Read Street Warehouse Development – PL-002223-2022

On behalf of NEPW Logistics, LLC. the following are our responses to the comment response letter received December 19th, 2022. To facilitate the review, comments are provided below in italics followed by our response.

Zoning:

Comment – *The maximum impervious surface ratio is 75%. The Zoning Analysis Table states that it will be 74.9%. Since that is so close to the maximum allowed, please submit information on how it was calculated.*

Response – The size of the lot is 6.15 acres (267,771 S.F.) The existing buildings on site are 77,925 square feet and the new building will be 60,630 S.F. This is a correction from original submission of 60,950 S.F. that was made in order to meet the side setback. The total footprint of buildings total 138,555 S.F. Proposed pavement is 60,812 S.F. for a total of 199,367 S.F. of impervious area. 199,367 S.F. divided by the 267,771 S.F. equals a 74.5% ratio.

Comment – *Section 19.2 outlines the criteria for off-street loading. The number of bays required is listed in Table 19-C.. The addition would require 2 new loading bays. The application appear to be adding 5 loading bays. The Zoning Analysis Table states there will be 12. Is that for all the loading bays in all three buildings?*

Response – Yes, the 12 loading bays are for all 3 buildings with 5 new bays proposed.

Comment – *There is some existing pavement within 10' of the property line. Is the proposal adding any more pavement within 10' of the property line?*

Response – There will be pavement overlapping the property line within the proposed grading and drainage easement at 150 Read Street.

Comment – *The addition is 60,950 sf. Table 19-A requires 1 parking space per 1,000 sf in excess of 3,000 sf. $57900\text{ sf} / 1000 = 57.95$ spaces rounded up to 60 spaces. The proposal appear to be adding 7 new spaces to the 8 existing spaces. How is this being justified?*

Response – The existing warehouse is used predominately for dry goods storage, with employees only needed to periodically operate forklifts to load trucks. The proposed warehouse is planned to be of a similar usage. The 8 existing spaces are currently enough to support the business activities on the site and the additional 15 spaces will be sufficient for the additional employees necessary to run the proposed warehouse.

Transportation:

Comment – *The existing entrance at the north end of the site does not appear to meet City standards (defined width/angle). Additionally, the driveway configuration makes it difficult to enter and exit the site to and from the south. Truck turning templates shall be provided.*

Response – The north/west entrance has been modified to meet City standards. The driveway configuration now accommodates a semi-truck exiting in both directions at this entrance, turning templates have been provided in this submission.

Comment – *Truck turning templates shall be provided for vehicles entering and exiting 150 Read Street via the proposed shared driveway.*

Response – Please see the attached semi-truck turning templates for entry and exit to 150 Read Street via the proposed shared driveway.

Comment – *The applicant has provided vehicle turning templates for a truck circulating behind the building from the loading docks to the northern driveway. The access roadway is very tight at the corner of the building, and it is unclear if improvements are proposed. While the turning template indicates this movement is feasible, field observations noted constrained conditions.*

Response – At this corner, the pavement is currently 12 feet wide. Proposed improvements and re-paving will begin at this corner, please see the updated hatching on Site Plan C-10. The access driveway at the corner will be widened to a 20 foot one-way lane.

Comment – *Sight distance measurements shall be provided at both proposed and existing driveways.*

Response – The standards established by the Maine DOT in Chapter 299, Highway Driveway and Entrances Rules stipulate a required 200 foot sight distance for 25 MPH streets. Sight distance measurements are over 500 feet at both driveway entrances. A note has been added to the Site Plan C-10.

Comment – *The sidewalk along the Read Street frontage shall be reconstructed in Portland Cement Concrete in accordance with the City's Sidewalk and Driveway Apron Material Policy. The sidewalk material shall be continued through the driveway aprons at grade with the proposed sidewalk and not in excess of 2% cross-slope.*

Response –

Comment – *The applicant shall provide information as to how the project will comply with the City's street lighting standards in Section 10 of the Technical Manual.*



Response – Since the current lighting along Read Street frontage does not comply with the maximum light pole spacing per Section 10.2.1 Lighting Design, the plan now calls the addition of cobrahead lighting on existing poles along the frontage. The existing poles are within the required 130 feet, four (4) new cobraheads will be required.

Comment – *The applicant shall design both driveways along the property per City of Portland Standards in Section 1 of the Technical Manual.*

Response – Both driveways have been redesigned to a width of 30 feet and otherwise conforming to the standards in Section 1 of the Technical Manual. Please see the Site Plan, Sheet C-10.

Comment – *The City does not allow catch basin inlets to be located in driveways per technical manual standard 2.9.6. The applicant shall relocate any drainage inlet outside the limits of the proposed driveway.*

Response – The existing City catch basin inlet within Read Street that now falls within the limits of the proposed driveway will be removed and replaced offset to the east and outside of the limits of the driveway.

Comment – *Private connections to City catch basins are not permitted per technical manual standard 2.9.7. The application shall tie stormwater flows from the development site directly into the existing drain manhole in Read Street.*

Response – The stormwater flows from the development will be tied directly to the existing drain manhole within Read Street instead of through the catch basin. Please see Sheet C-30.

Comment – *Any floor drains installed within the new warehouse space shall be connected to the sanitary sewer line and shall run through an oil/grit separator per detail II-20 in the recently approved technical manual update.*

Response – Floor drains will be connected to the sanitary sewer line and run through an oil/grit separator. Please see updates on Sheet C-20 Utility Plan and Sheet C-42 Utility Details.

Water Quality, Stormwater, & Infrastructure

Comment – *The application notes that ability to serve confirmation from water and gas utilities are included, but these materials are not present. Please include.*

Response – The ability to serve letter confirmations from water and gas utilities are included in this submission.

Comment – *The plans should show the extent of impact and repaving in Read Street due to the proposed utility work and driveway entrance construction.*

Response – Please see the Construction Management Plan C-03, Utility Plan C-20, and Grading Plan C-30 for delineations of the sawcut lines for utility work within Read Street.



Comment – *The application is proposing relatively steep grading along the eastern edge of the property, and onto the adjacent property in an area identified for a grading and drainage easement. This area of the site is also identified for snow storage, so there could be a fairly significant amount of flow in the area due to snowmelt. The proposal should ensure that this will not impact the adjacent property, and the building that will be close to this location. The proposed surface treatment should be identified for the area both on and off the property at this location as well.*

Response – This area will be grassed and snowmelt flow is not anticipated to cause any downstream detrimental effects. Flow from this area will travel along the existing railroad tracks, and will not be directed to any developed areas

Comment – *Please double check clearances at the crossing between the 15” roof drain to the proposed catch basin 3 and the nearby proposed 6” sewer lateral. Based on the structure inverts provided, these pipes will be close in elevation.*

Response – This crossing of pipes was in error, thank you. The invert of the roof drain at the building has been raised to give clearance over the top of the sewer lateral. The sewer manhole and lateral have also been added to Sheet C-30 for clarity.

Comment – *Considering the size and angles of the proposed drainage pipes at CB #3, a larger structure will likely be required for this location.*

Response – Thank you for pointing this out. Using calculations from the National Precast Concrete Association’s “Manhole Sizing Recommendations” it has been determined that a 5 foot diameter catch basin will be necessary to accommodate the pipes entering it.

Comment – *General Standards: The Applicant should address the General Standards relative to the City of Portland’s Section 5 of the Technical Manual. The project will exceed the threshold of 1,000 square feet of new impervious surface on the site, requiring compliance with the General Standards.*

Response – Please see the updated Stormwater Report for a narrative addressing compliance with the General Standards. Since the project is creating more than 5,000 SF (19,130 SF) of redeveloped non-roof impervious area, it will comply with the 50% treatment standard. A proprietary precast Filterra system will gather and treat 12,000 SF of impervious area from the back of the site.

Comment – *This flow increase will be into the City’s storm drain system, and is relatively insignificant, but the Applicant should confirm that the stormwater system has adequate capacity to serve this increase, and a waiver of the flooding standard will be required.*

Response – Please see Document F. Waivers for the waiver request of the flooding standard per Section 5.II.F of Chapter 500. The storm main within Read Street is 30 inch diameter, the increase in flows from the site pose little potential for capacity overload or detrimental effect.



Landscaping & Environmental Quality

Comment – *The applicant shall show how the existing trees will impact the installation of new sidewalk along the Read Street frontage.*

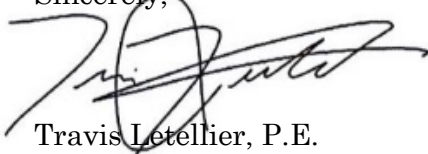
Response –

Comment – *Please show that the proposal conforms to Tech Manual Landscaping and Landscape Preservation Standards, specifically 4.6.3, 4.5.3, 4.5.5.*

Response – The applicant will add 12 street trees along the frontage at intervals of 35 feet and appropriately spaced from the existing 4 trees along the frontage. Landscaped shrubs and ornamental trees have been provided along the frontage of the building, see Site Plan C-10.

We appreciate the review of this project by the city staff and look forward to presenting this project at the next available Planning Board hearing.

Sincerely,



Travis Letellier, P.E.
Project Manager
Acorn Engineering, Inc.



BCNA <info@backcoveportland.org>

8:26 AM (1 hour ago)

to Ms Grimando, planning@portlandmaine.gov

Dear Ms Grimando,

I am writing as a representative of the Back Cove Neighborhood Association (BCNA) with regard to the proposed expansion of the warehouse at 182-184 Read Street.

Two of the BCNA Board of Directors attended the 12-07-22 meeting for neighborhood members, to discuss and review this project proposal. We were pleased to learn that, if approved, the City of Portland would require the developer to repave the Read Street crossing over the railroad tracks and to create pedestrian crossing over the tracks.

The primary concern from the BCNA perspective is the potential for increased truck traffic down Read Street, through a residential neighborhood, to Ocean Avenue. At the neighborhood meeting, it was stated that the proposed project could result in an estimated 18 to 20 additional trucks per day accessing the warehouse. There is currently signage at Read Street and Canco Road, directing trucks to turn left onto Canco Road instead of continuing down Read Street. However, BCNA members who live on Read Street report that many trucks disregard this sign and continue down Read Street to Ocean Avenue. We do not want to see this dangerous situation made worse.

The BCNA respectfully requests that this concern about increased truck traffic through the residential section of Read Street be addressed when considering the approval of this project. Perhaps better signage – e.g., a No Trucks sign with flashing lights – coupled with increased enforcement could be required. The General Manager of the warehouse should also be made aware of this concern and of the need to inform all drivers of trucks entering the premises that they cannot proceed on Read Street beyond Canco Road.

We would be happy to interact with members of your staff to discuss possible ways to address these concerns as the consideration of this project progresses.

Sincerely,

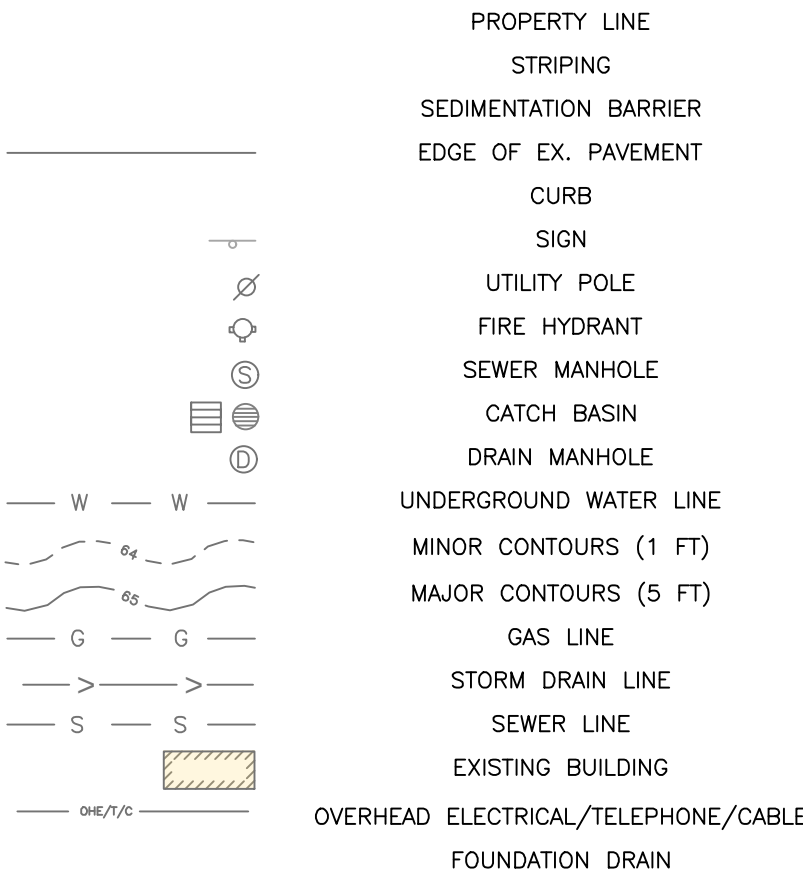
Gretchen H. Stanton

READ STREET WAREHOUSE EXPANSION

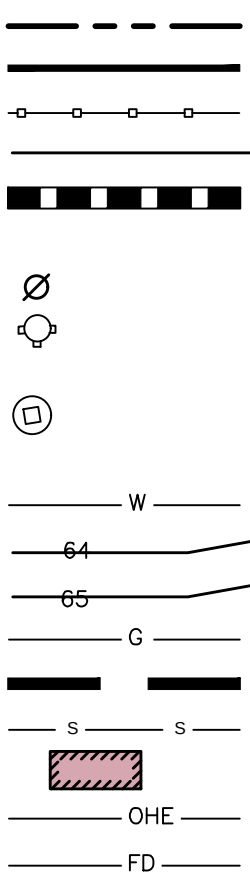
NEPW LOGISTICS, INC.
PORTLAND, MAINE

LEGEND

EXISTING



PROPOSED



INDEX

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- C-02 GENERAL NOTES
- EX EXISTING CONDITIONS PLAN – BY OWEN HASKELL, DATED 8/12/22
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- C-10 SITE PLAN
- C-20 UTILITY PLAN
- C-30 GRADING & DRAINAGE PLAN
- C-40 SITE DETAILS – 1
- C-41 SITE DETAILS – 2
- C-42 UTILITY DETAILS – 1
- C-43 DRAINAGE DETAILS – 1
- C-44 FILTERRA DETAILS
- C-45 EROSION CONTROL DETAILS & NOTES

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: MIKE TREMBLAY, P.E.
(207) 874-8834



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: PAUL DUPEPPE
(207) 828-2882



NATURAL GAS

UNITIL SERVICE CORP
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: SCOTT CARPENTER
(207) 541-2543



PROJECT TEAM

DEVELOPER

NEPW LOGISTICS, INC.
CONTACT: ROB COWANS
(207)772-4653



CIVIL ENGINEER:

ACORN ENGINEERING, INC.
PORTLAND, MAINE
CONTACT: WILLIAM SAVAGE, P.E.
(207) 775-2655



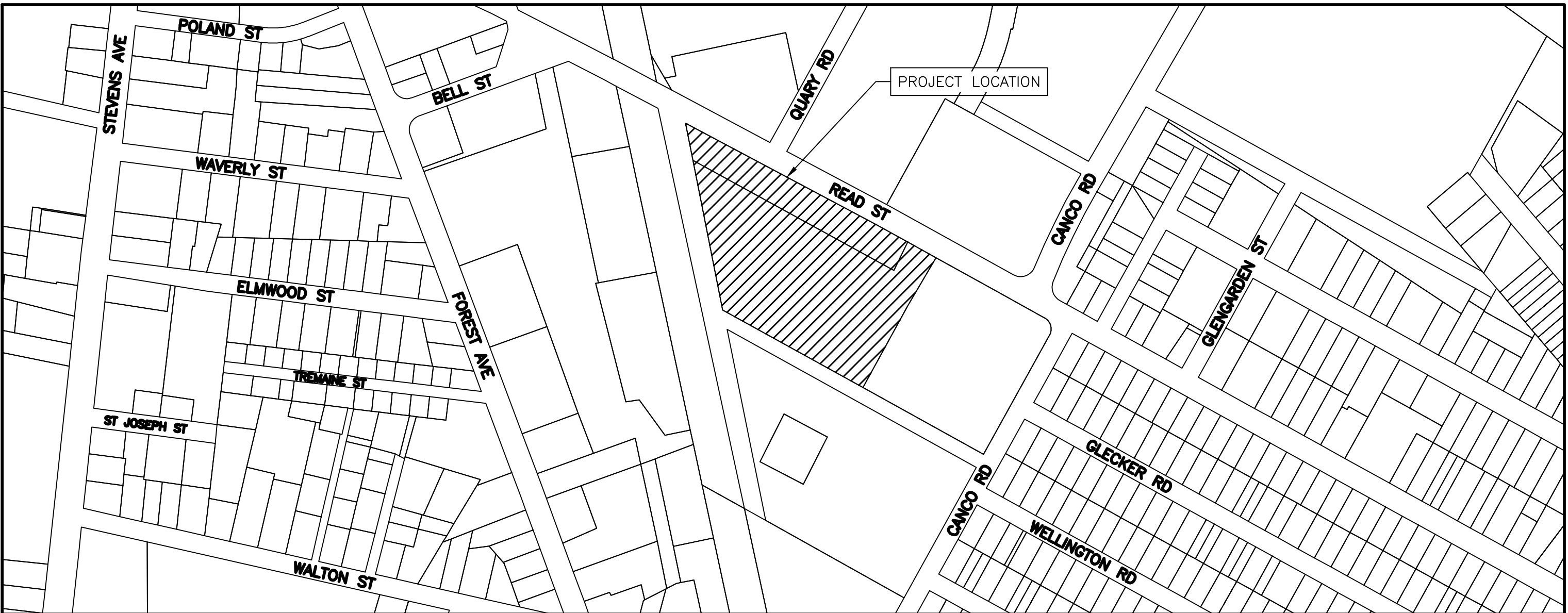
SURVEYOR

OWEN HASKELL, INC
FALMOUTH, MAINE
CONTACT: RANDY LOUBIER P.L.S.
(207) 774-0424



ARCHITECT

RYAN SENATORE ARCHITECTURE
PORTLAND, MAINE
CONTACT: RYAN SENATORE
(207) 650-6414



VICINITY MAP

SCALE: 1:80

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
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

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR
MAJOR SITE PLAN
COMMENT RESPONSE

BY
DATE
TAL
10/27/22
TAL
11/19/23

COVER SHEET & LEGEND

PROJECT NAME
182 READ STREET WAREHOUSE EXPANSION
PORTLAND, MAINE 04103

CLIENT
NEPW LOGISTICS
70 QUARRY ROAD PORTLAND, MAINE 04103

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR UNAUTHORIZED, 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: 1176_DETAILS

JN: 1176

SCALE: AS NOTED

DESIGNED BY: TAL

DRAWN BY: AWG

CHECKED BY: WHS

10/31/2022

DRAWING NO.
C-01

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.

- 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 PAYER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

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 ENGINEERING.
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.

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.

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF MAJOR SITE PLAN APPROVAL FROM 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.

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 ACORN 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 0.5% 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.

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.

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.

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.
3. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT "WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURE", MOST RECENT REVISION.
4. 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.
5. 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.
6. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
8. SEWER, GAS, ELECTRICITY, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.
9. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.
10. 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.
11. 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.
12. 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.
13. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.
14. 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.
15. 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.
16. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.
17. 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.
18. EXCAVATION TO SUBRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.
19. 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.

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.

	ISSUED FOR	BY DATE
	MAJOR SITE PLAN	TAL 10/31/22
DRAWING NAME:		
PROJECT NAME:	GENERAL NOTES	
CLIENT:	182 READ STREET WAREHOUSE EXPANSION PORTLAND, MAINE 04103	
	NEPW LOGISTICS	
	70 QUARRY ROAD PORTLAND, MAINE 04103	

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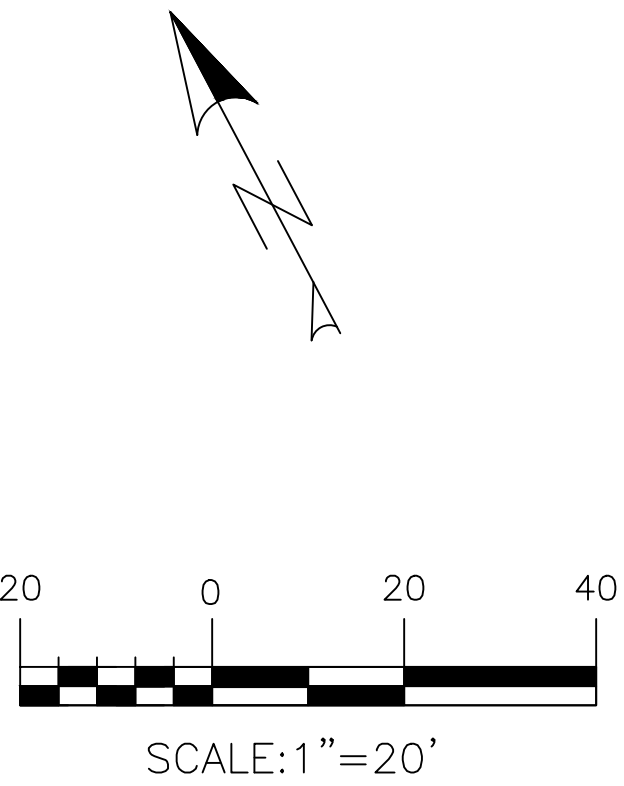
ACORN ENGINEERS, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

FILE:	1176_DETAILS
JN:	1176
SCALE:	AS NOTED
DESIGNED BY:	TAL
DRAWN BY:	AWG
CHECKED BY:	WHS

10/31/2022

DRAWING NO.

C-02



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

- 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 EXISTING UTILITIES AND LOCATIONS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCY. AN 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 WORK. CONTRACTOR TO MAINTAIN THE EXISTING RECORD DOCUMENTATION. CONTRACTOR 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 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. FOUR NEW 1.5-INCH METERS, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARDS. ALL TENANTS OF THE BUILDING MUST BE ABLE TO ACCESS THE WATER METER. CONTRACTOR TO PROVIDE METERING EQUIPMENT FOR THE PORTLAND WATER DISTRICT AND CITY OF PORTLAND.
 7. 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. SUBJECT TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC DESIGN SHALL BE SUBJECT TO THE CITY OF PORTLAND STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.

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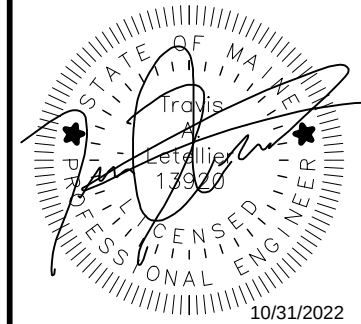
DRAWING NAME:	UTILITY PLAN
PROJECT NAME/ADDRESS:	180 READ STREET PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD:	NEPW LOGISTICS, LLC 118 QUARRY ROAD, PORTLAND, MAINE 04103


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ACORN ENGINEERING, INC.
 PO BOX 3372, FORTLAND, MAINE 04101
 (207) 775-2655

FILE:	1176_CIVIL
JN:	1176
SCALE:	AS NOTED
DESIGNED BY:	TJL
DRAWN BY:	AWG
CHECKED BY:	WHS



DRAWING NO.

C-20

- EXISTING BUILDING #1
182 READ ST.
FFE: 97.70'

EXISTING BUILDING #2
184 READ ST.
FFE: 97.70'

PROP. BUILDING #1
FFE: 97.70'

EXISTING BUILDING #1
182 READ ST.
FFE: 97.70'

EXISTING BUILDING #2
184 READ ST.
FFE: 97.70'

PROP. BUILDING #1
FFE: 97.70'

[illegible]

PROJECT NAME/ADDRESS:	180 READ STREET PORTLAND, MAINE 04103
CLIENT/OWNER OF RECORD:	NEPW LOGISTICS, LLC 118 QUARRY ROAD, PORTLAND, MAINE 04103


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ENGINEERING, INC.

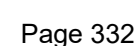
ACORN ENGINEERING, INC.
 PO BOX 3372, PORTLAND, MAINE 04101
 (207) 775-2685

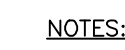
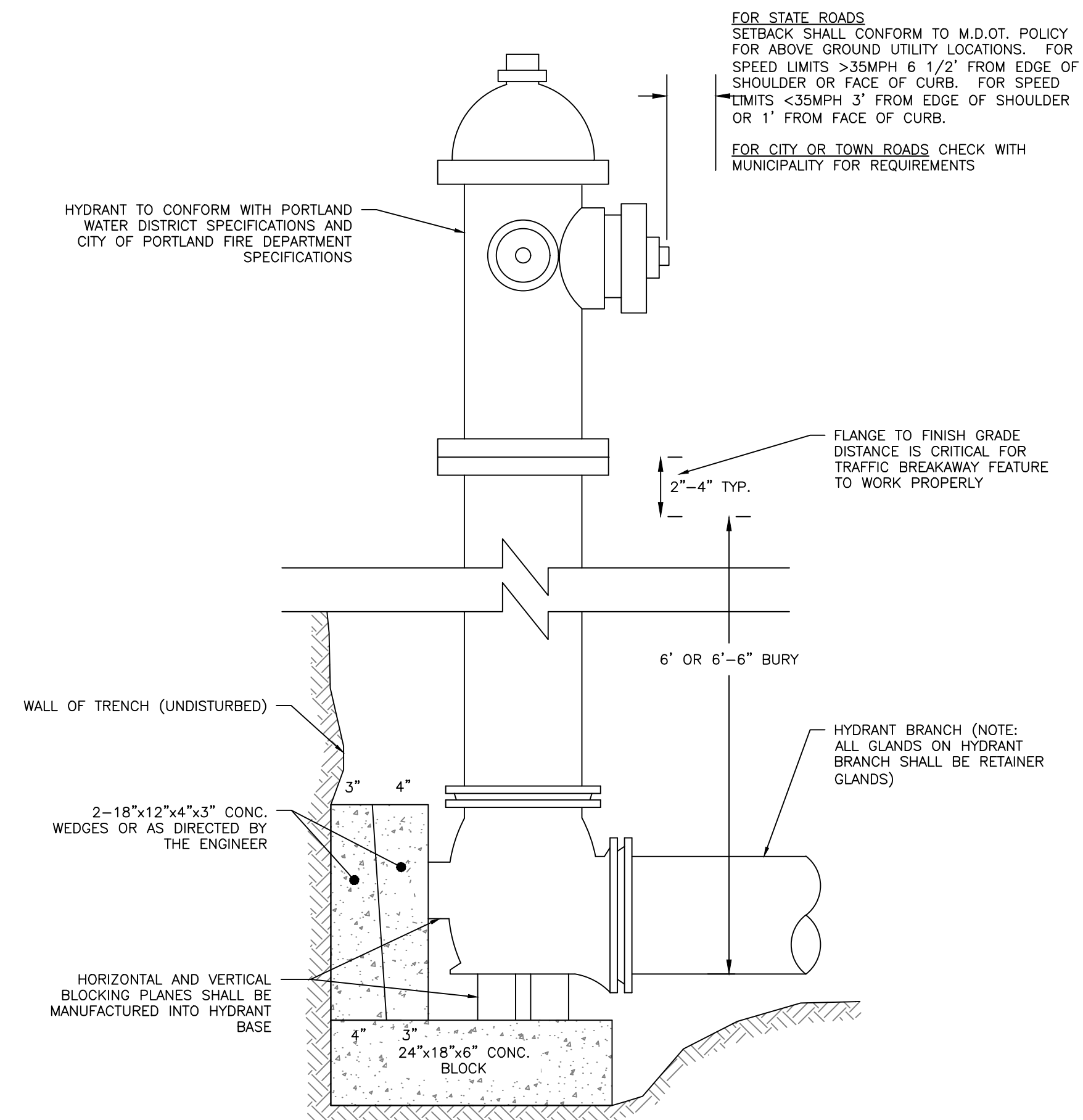
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DATE:	1176_CIVIL
TIME:	1176
SCALE:	AS NOTED
DESIGNED BY:	TJL
DRAWN BY:	AWG
CHECKED BY:	WHS

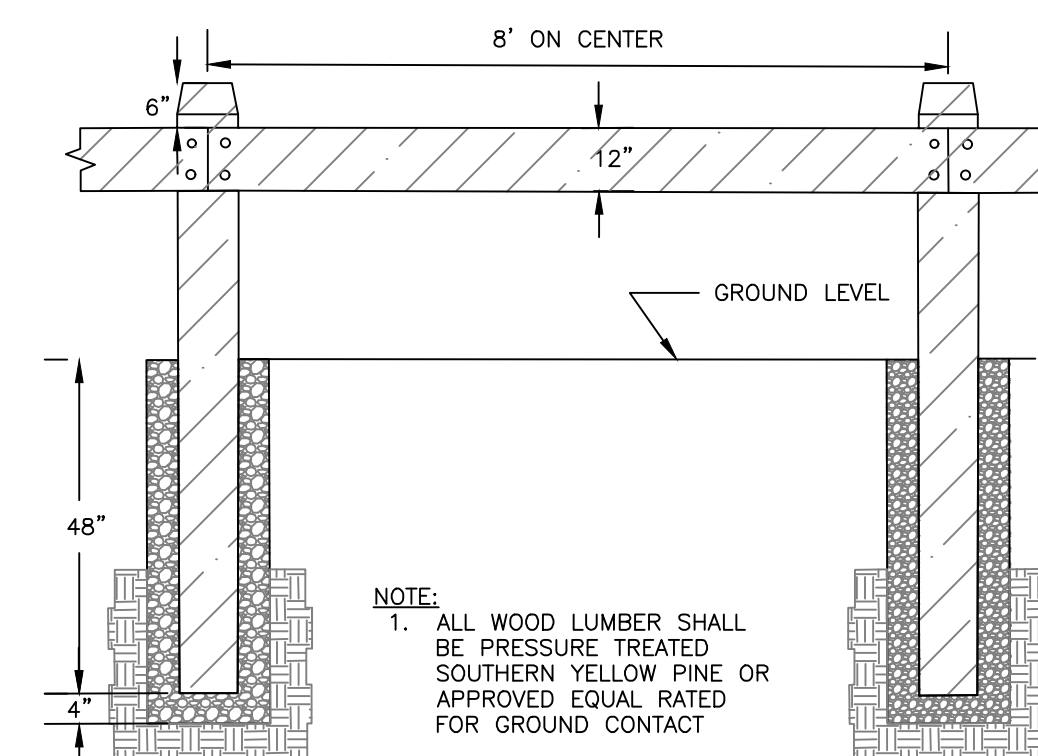
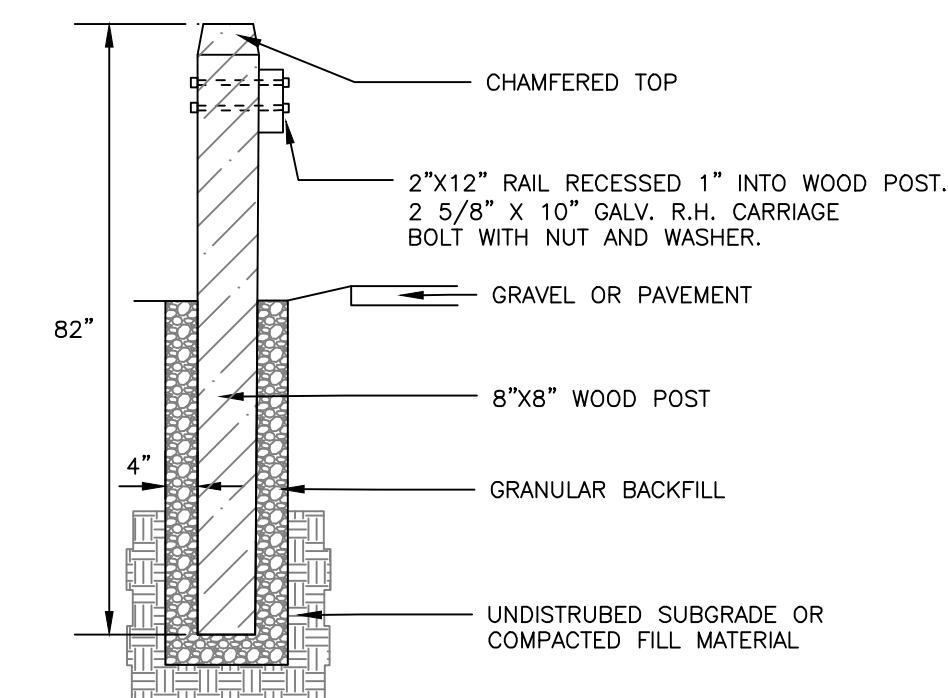
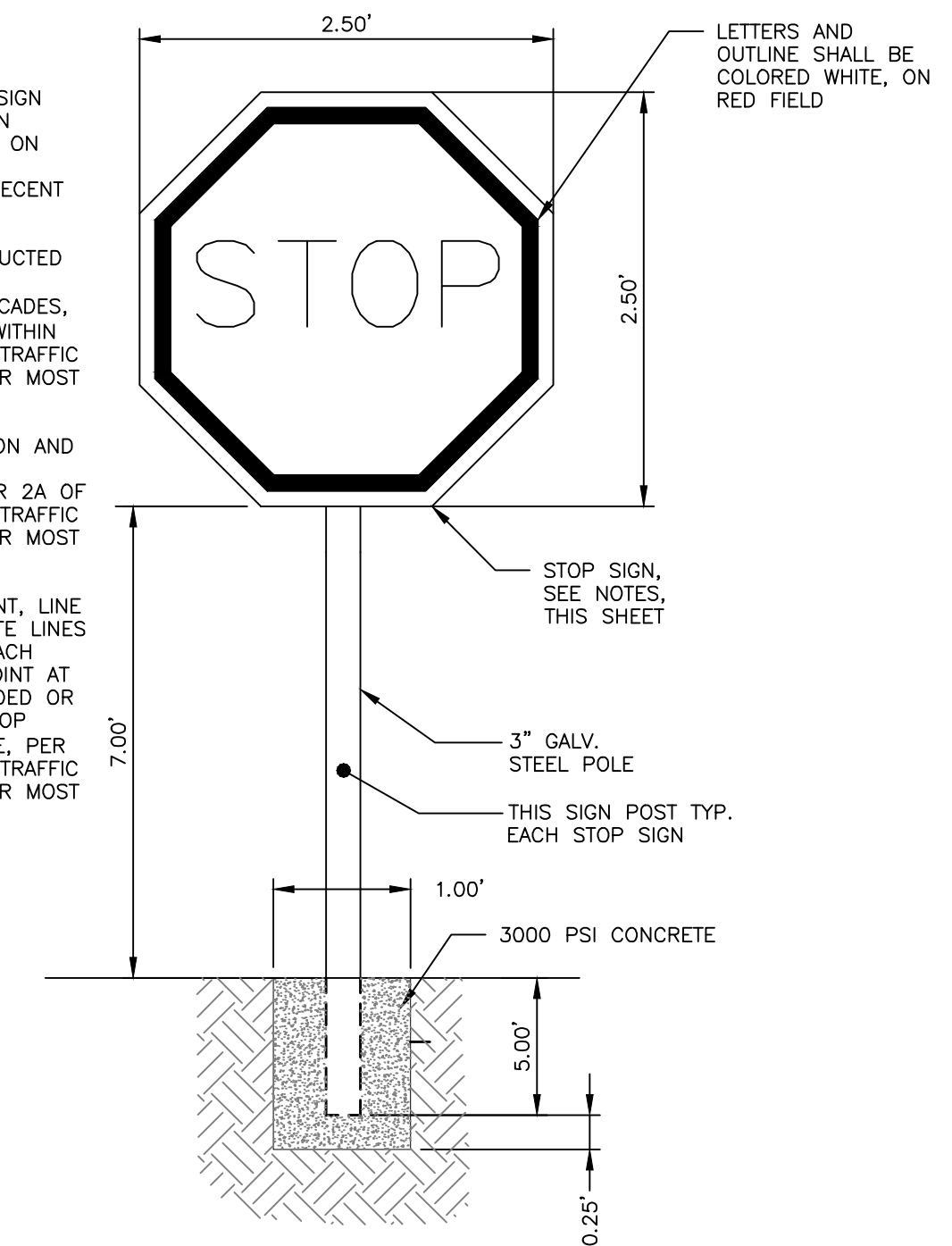
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C-30





1. ALL ASPECTS OF STOP 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 "R" UNDER THE "REGULATORY" CATEGORY, "TRAFFIC SIGNS", AND "GATES" (1) 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.
4. IF STOP LINE IS PRESENT, LINE TO BE CONSIST OF SOLID WHITE LINES CROSSING APPROACH LANES TO INDICATE THE POINT AT WHICH THE STOP IS INTENDED OR THE END OF THE STOP LINE TO BE 12"-24" WIDE, PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.



NOTE:
1. ALL WOOD LUMBER SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE OR APPROVED EQUAL RATED FOR GROUND CONTACT

WOODEN GUARDRAIL DETAIL
NOT TO SCALE

PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

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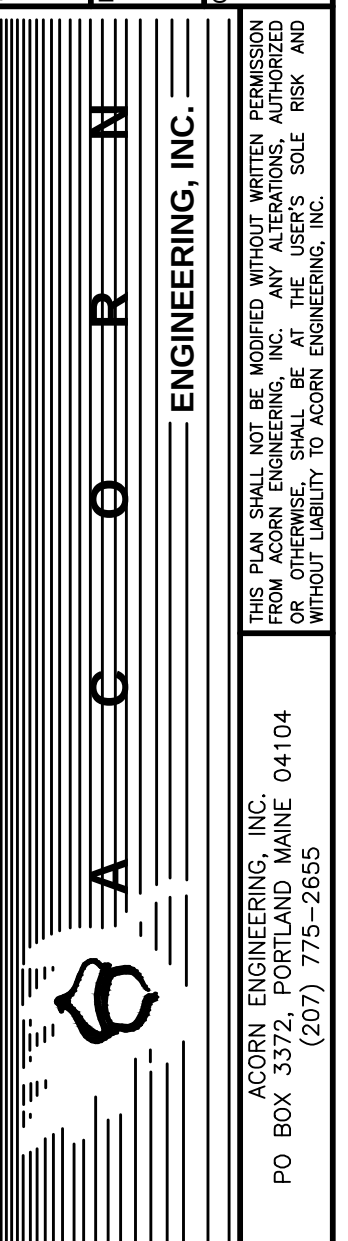
SITE DETAILS - 2

NEPW LOGISTICS
70 QUARRY ROAD PORTLAND, MAINE 04103

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PROJECT NAME: 81

CLIENT:



FILE: 1176_DETAILS

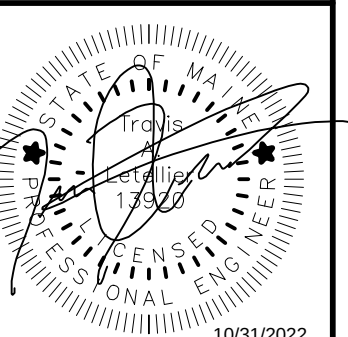
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DESIGNED BY: TAL

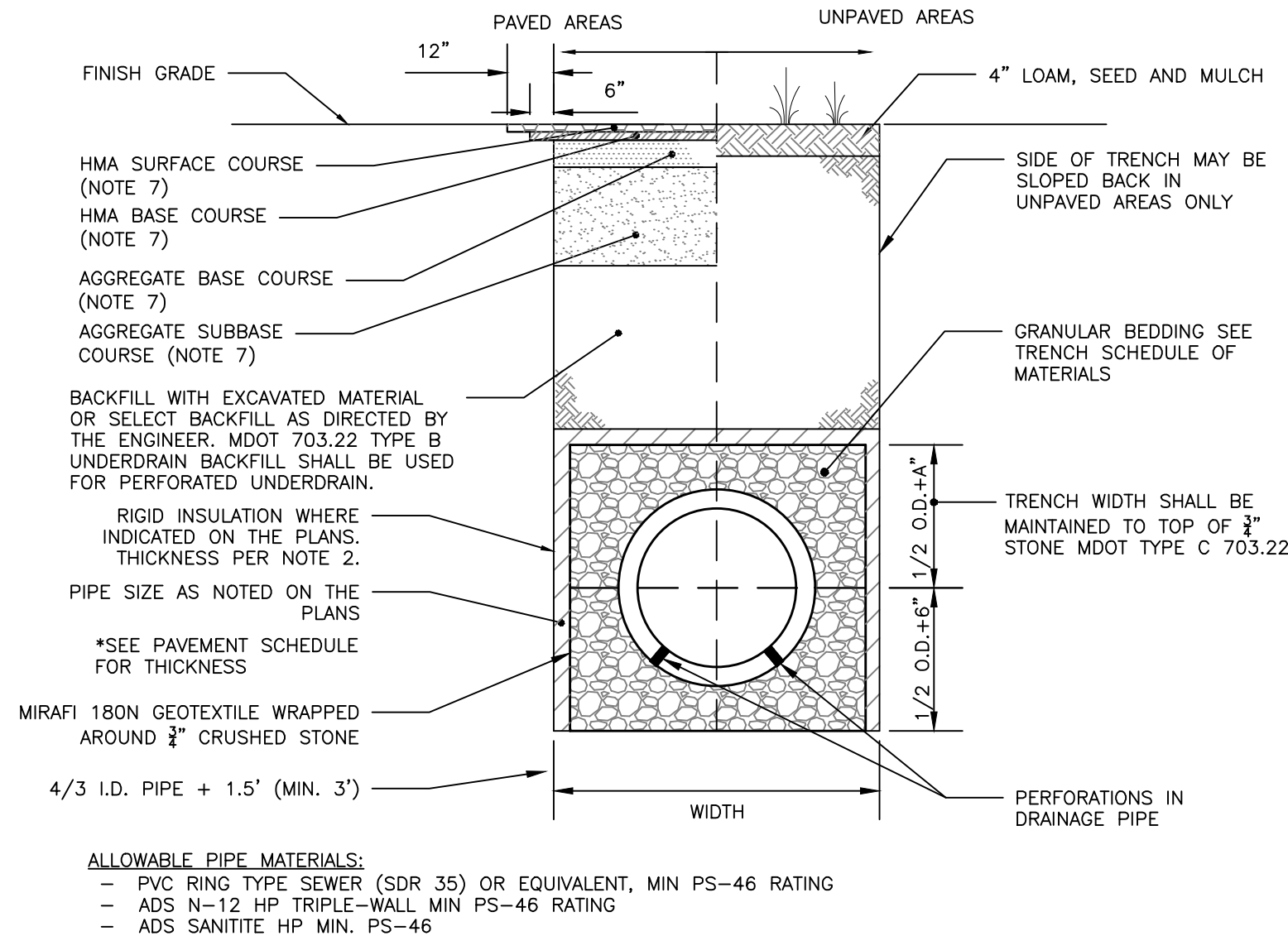
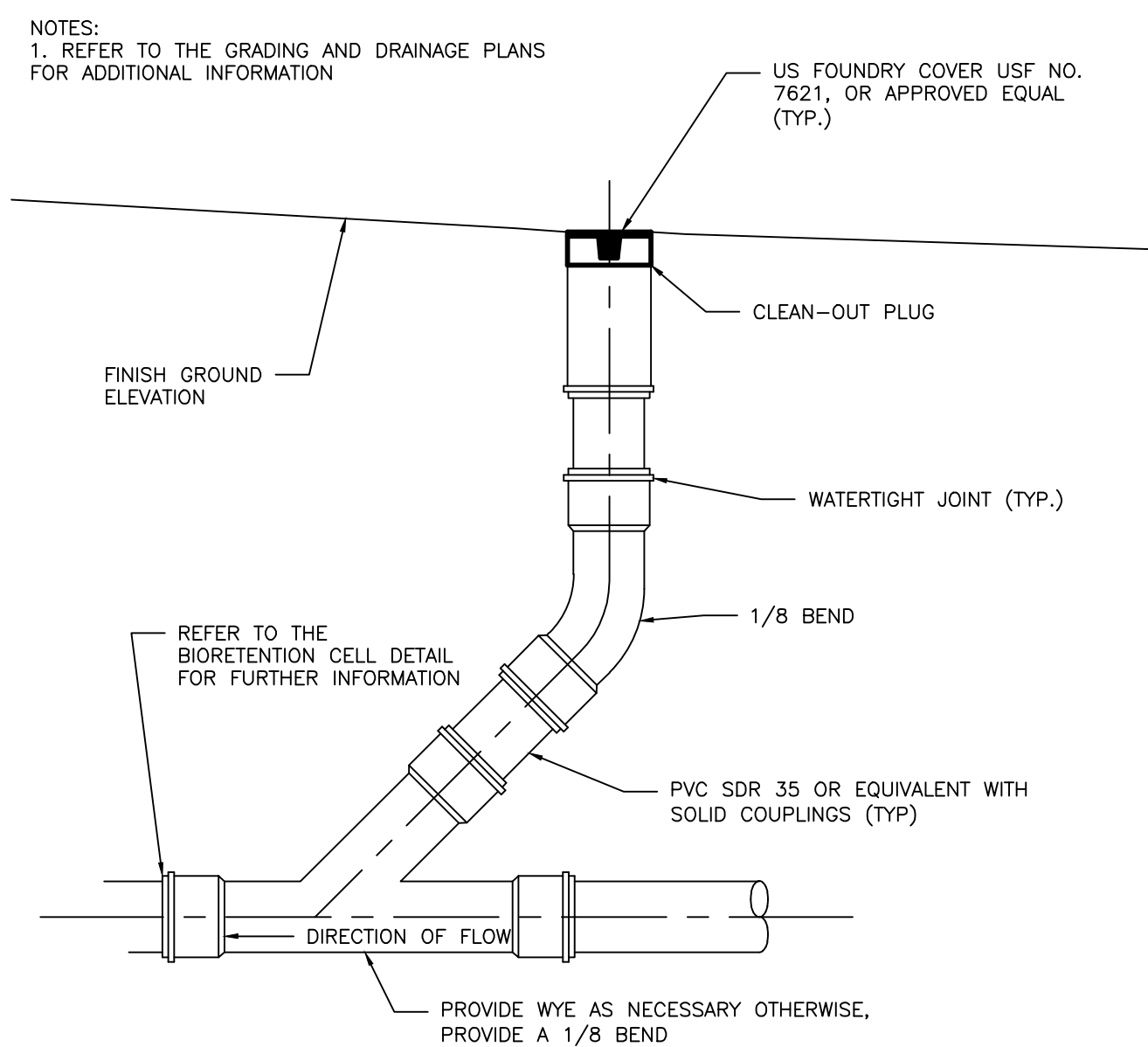
RAWN BY: AWG

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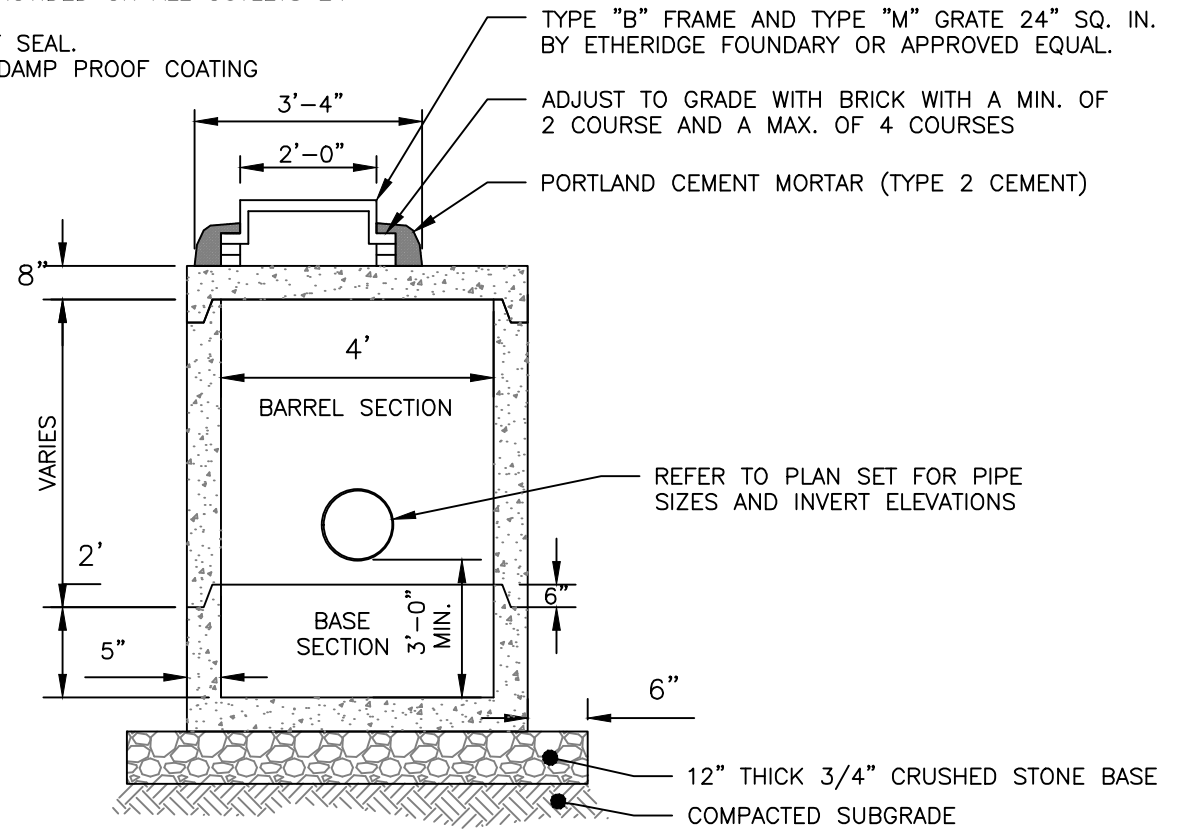
C-41



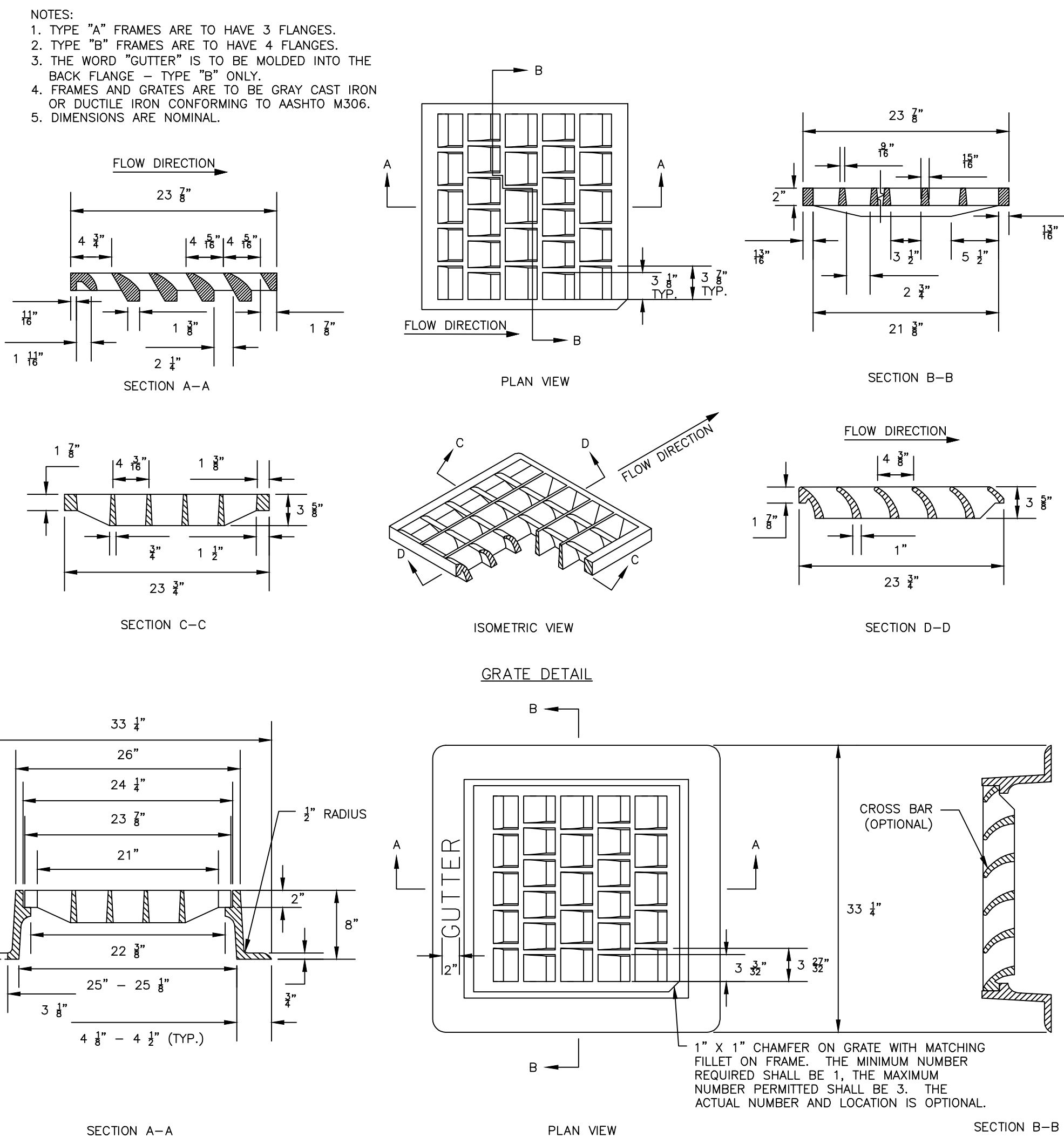
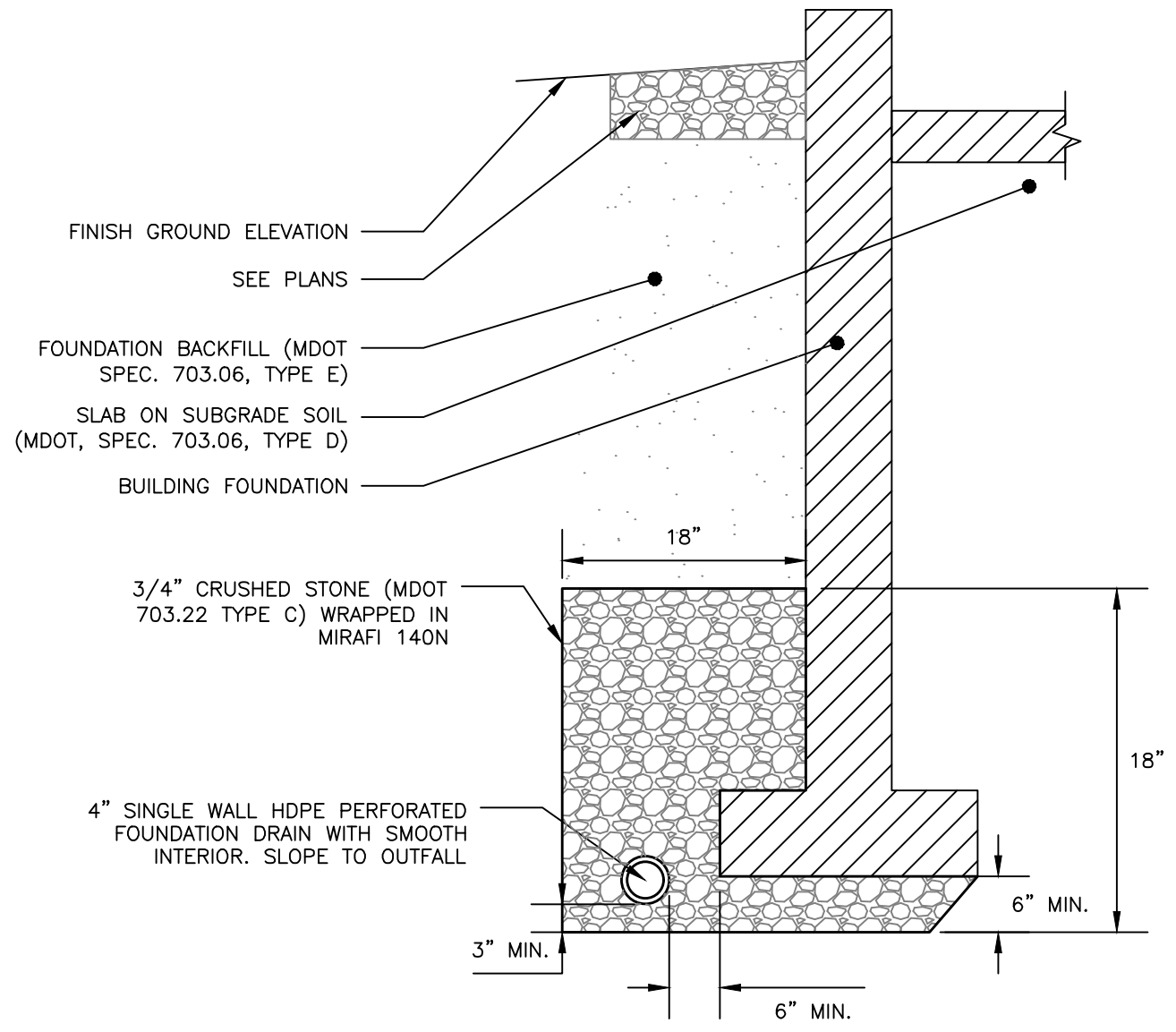
SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL

- NOTES:
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
 2. PIPE COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" THICK OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2" THICK RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT OF COVER LESS THAN THE MINIMUM DEPTH. WIDTH OF INSULATION SHALL BE FOUR TIMES THE DIAMETER OF THE PIPE WITH A MINIMUM WIDTH OF 30".
 3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
 4. MINIMUM COVER:
 - 4.1. 2'-0" - STORM DRAIN
 - 4.2. 5'-0" - SEWER
 5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
 6. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE TOWN OF SCARBOROUGH ROW.
 7. THICKNESS AS NOTED BY SURFACE DETAILS

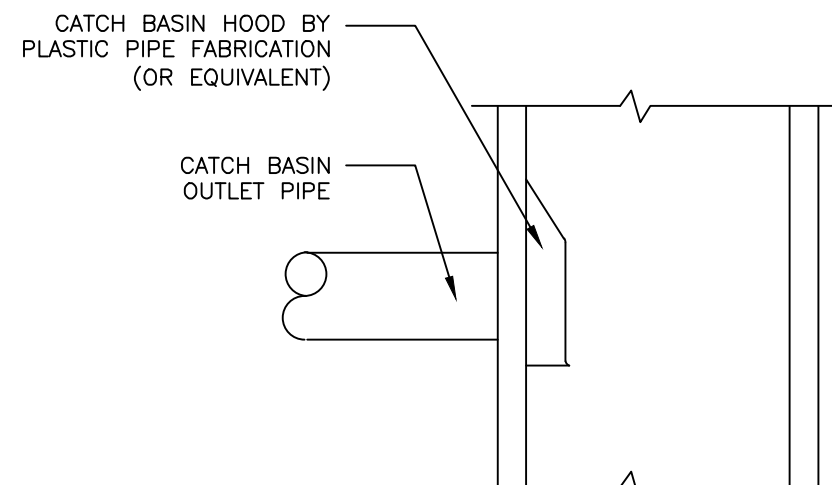
- NOTES:
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
 2. DESIGN LOAD FOR H-20 WHEEL LOAD.
 3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
 4. REINFORCE TO 0.12 IN. SQ./LF.
 5. JOINTS SEALED WITH BUTYL RUBBER.
 6. POLYPROPYLENE STEPS 12" O.C.
 7. CATCH BASIN HOODS SHALL BE PROVIDED ON ALL OUTLETS 24" OR LESS.
 8. ALL PIPES TO HAVE A WATERTIGHT SEAL.
 9. STRUCTURE TO BE APPLIED WITH DAMP PROOF COATING



- NOTES:
1. REFER TO THE BUILDING ARCHITECTS 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. 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.



- NOTES:
1. INSTALL CATCH BASIN HOODS IN ALL CATCH BASINS
 2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
 3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS



ISSUED FOR
MAJOR SITE PLAN

BY
DATE
TAL
10/31/2022

PROJECT NAME
182 READ STREET WAREHOUSE EXPANSION
PORTLAND, MAINE 04103

DRAWING NO.
C-43

DRAINAGE DETAILS

NEW LOGISTICS
70 QUARRY ROAD PORTLAND, MAINE 04103

FILE: 1176_DETAILS

JN: 1176

SCALE: AS NOTED

DESIGNED BY: TAL

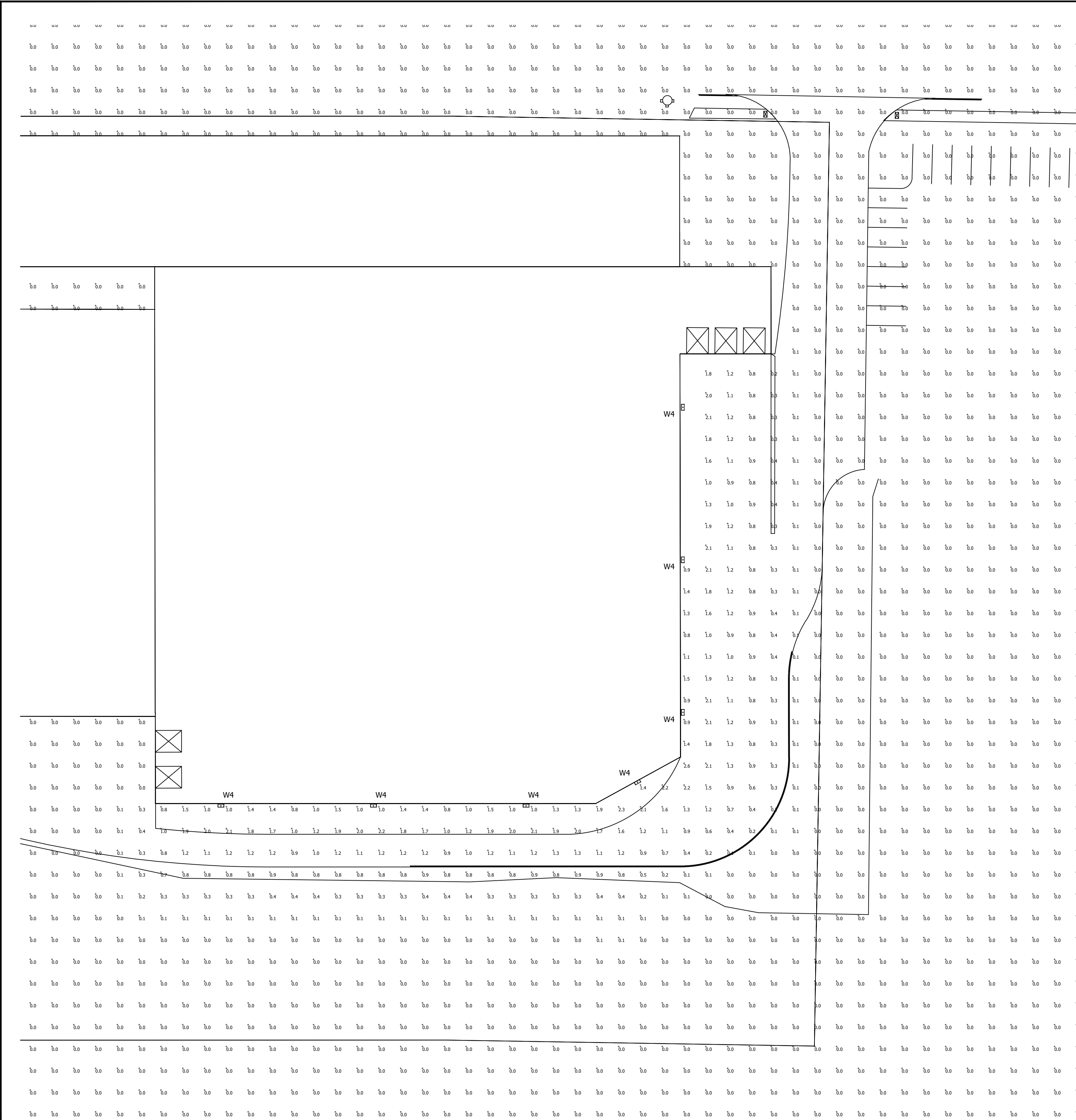
DRAWN BY: AWG

CHECKED BY: WHS

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04104
(207) 775-2655

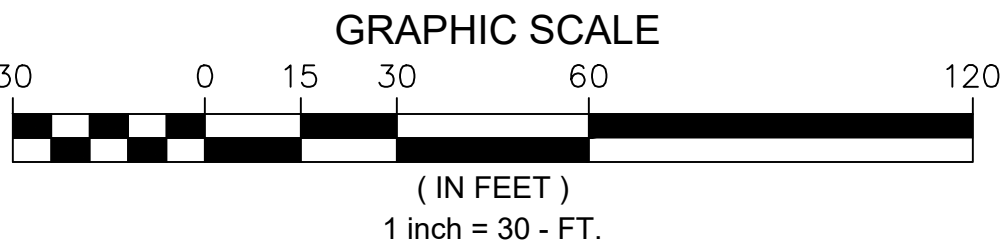
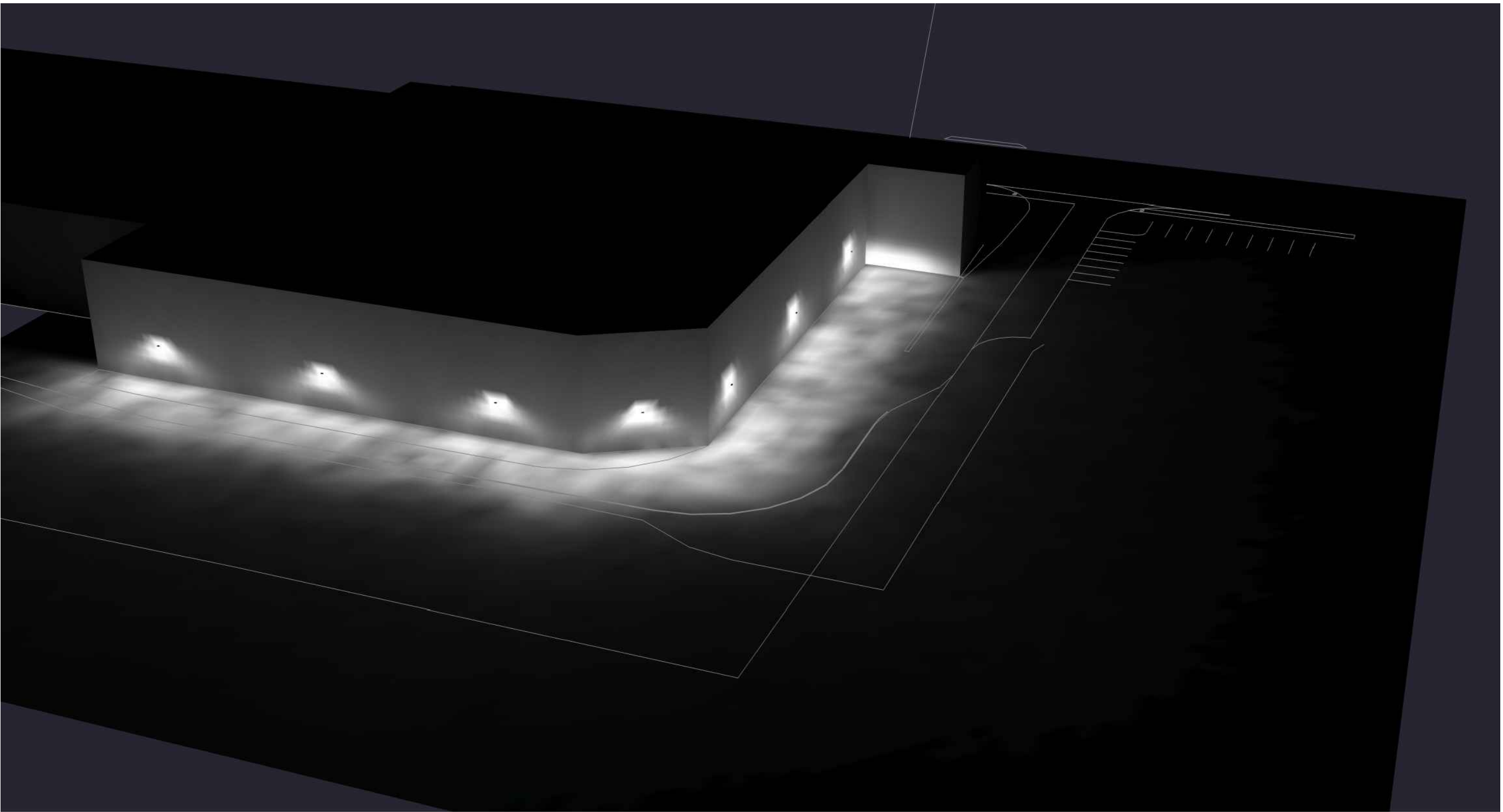
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR UNAUTHORIZED, SHALL BE THE RESPONSIBILITY OF THE USER AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

10/31/2022

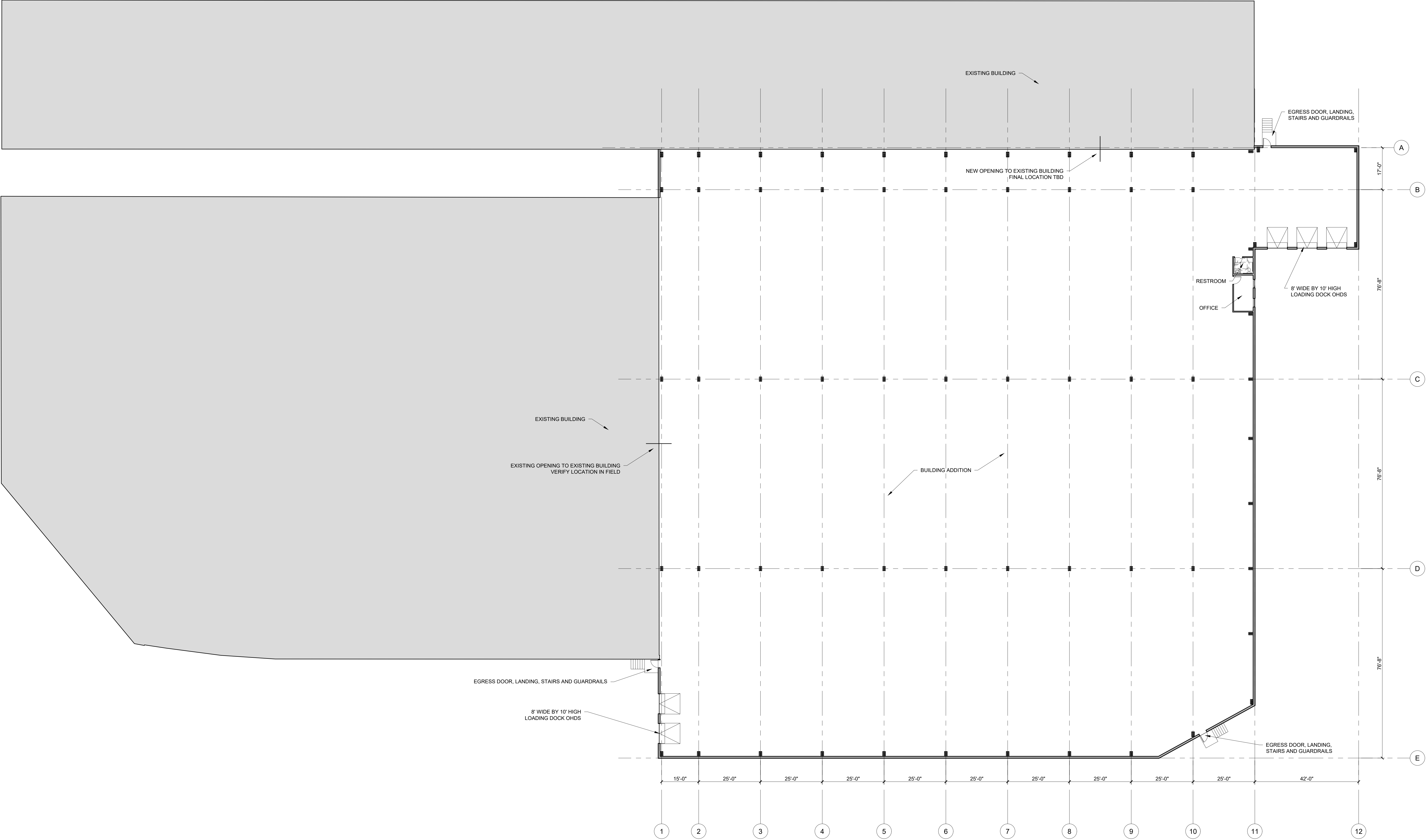


Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
☐	7	W4	15' - 0" AFG	0.900	4483	37	RWL1-48L-35-3K7-4W-U

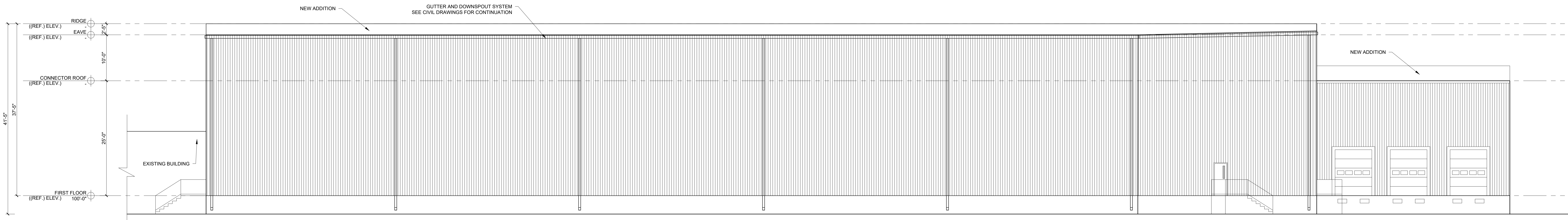
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.05	2.6	0.0	N.A.	N.A.
Paved Area	Illuminance	Fc	0.98	2.6	0.0	N.A.	N.A.
Property Line	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.



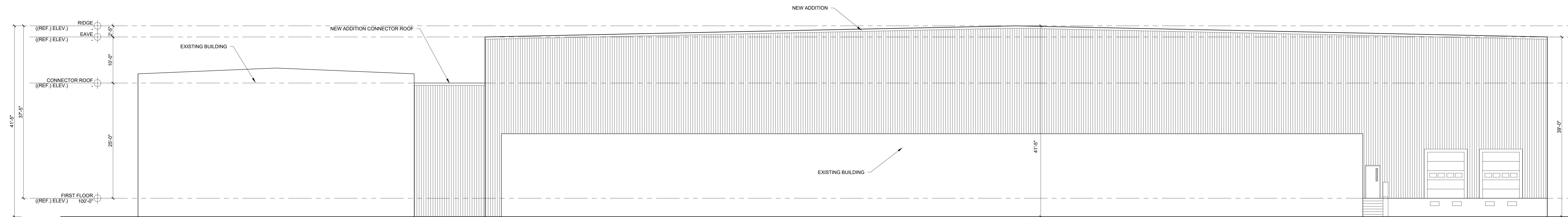
1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO CURRENT. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, 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			REVISED FROM DRAWING NUMBER(S)		Current
182 - 184 READ STREET PORTLAND, ME SITE PHOTOMETRIC PLAN					
			ON BY: DHK	DATE: 10/19/22	CHK BY: N/A
			REV. BY:	DATE:	SCALE: AS NOTED
			QUOTE: N/A	DRAWING / DESIGN NO.: A221197	



1 FIRST FLOOR PLAN
1/4" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"



1 WEST ELEVATION
1/8" = 1'-0"

© 2022 RYAN SENATORE
ARCHITECTURE

ADDITION TO
180 READ STREET
PORTLAND, MAINE

RSA

RYAN SENATORE
ARCHITECTURE
500 CONGRESS STREET, SUITE 2
PORTLAND, MAINE 04101
P: 207-247-2169
C: 207-659-5414
senatorearchitect.com

CONSULTANTS:

REVISIONS:

PROGRESS PRINT ONLY
Not for Construction
10-05-22

DATE:

PROJECT No: 2252

DRAWN BY: RRT, ES

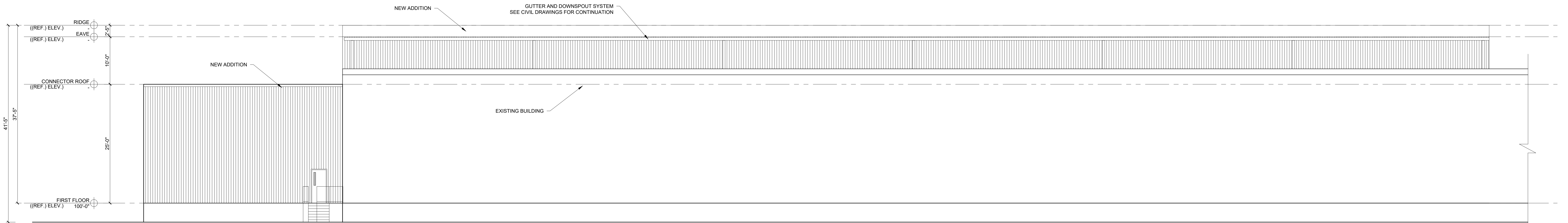
CHECKED BY: RJS

SCALE: AS NOTED

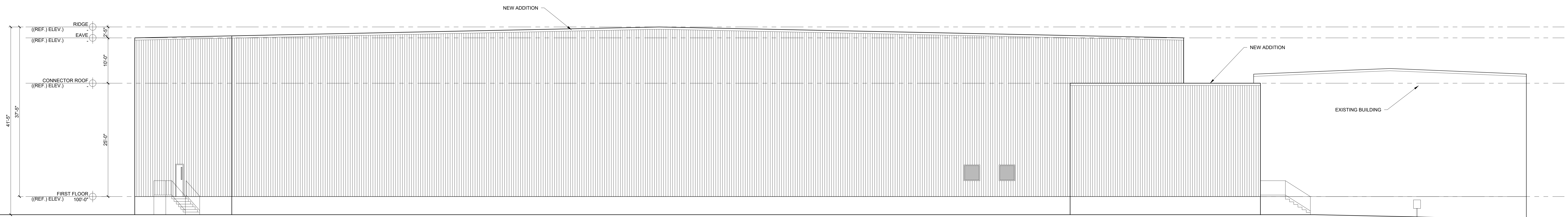
SHEET TITLE:

ELEVATIONS

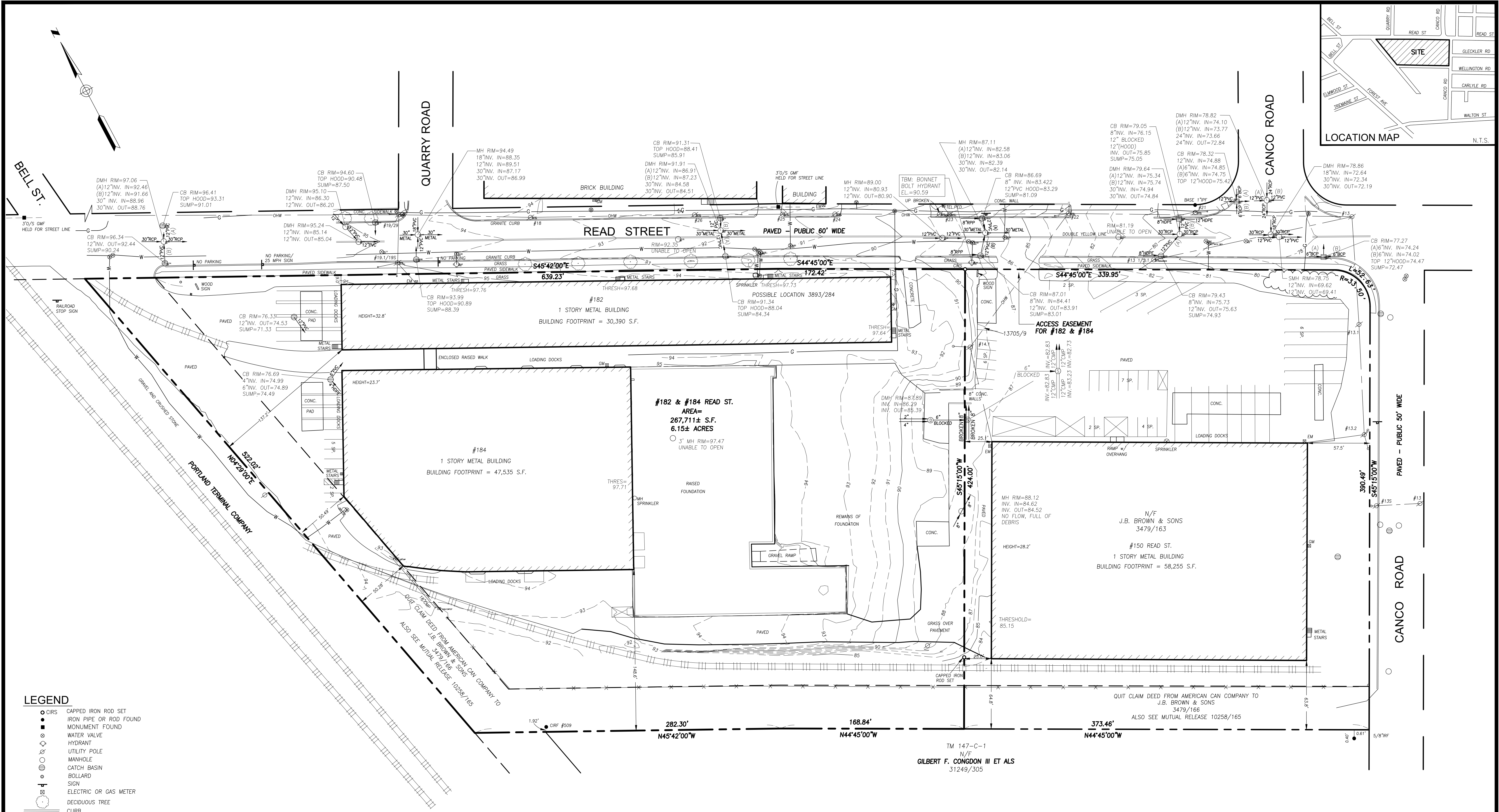
A2-0



2 NORTH ELEVATION
1/8" = 1'-0"



1 EAST ELEVATION
1/8" = 1'-0"



LEGEND

- CIRS
- CAPPED IRON ROD SET
- IRON PIPE OR ROD FOUND
- MONUMENT FOUND
- WATER VALVE
- HYDRANT
- UTILITY POLE
- MANHOLE
- CATCH BASIN
- BOLLARD
- SIGN
- ELECTRIC OR GAS METER
- DECIDUOUS TREE
- CURB
- OHW
- OVERHEAD WIRES
- FENCE
- WATER LINE
- GAS LINE
- STORM DRAIN
- SANITARY SEWER
- 1" CONTOUR
- INTERIOR DEED LINE
- PROPERTY LINE
- N/F
- NOW OR FORMERLY
- 000/000
- DEED BOOK/PAGE
- CIRS
- CAPPED IRON ROD FOUND
- IRON PIPE OR ROD FOUND
- SPACES

SCALE: 1" = 40'

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

PLAN REFERENCES

- "PLAN OF LAND OF EDWARD L. BROWN, PORTLAND, MAINE" SEPT. 1945 BY H.J. JORDAN CIVIL ENGINEER.
- "PLAN OF LAND OF AMERICAN CAN CO., PORTLAND, MAINE" SEPT. 27, 1918 BY E.C. JORDAN CO., CIVIL ENGINEERS.
- CITY BLUE SHEETS FOR READ STREET, PROVIDED BY THE CITY OF PORTLAND.
- "ALTA/ACSM LAND TITLE SURVEY, 150-184 REED STREET, PORTLAND, CUMBERLAND COUNTY, MAINE MADE FOR RECORD OWNER J.B. BROWN & SONS, 36 DANFORTH STREET, PORTLAND, MAINE" MARCH 2, 2016 BY OWEN HASKELL, INC. RECORDED IN PLAN BOOK 216, PAGE 82.

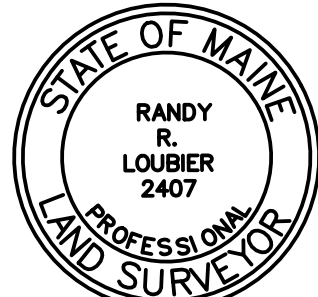
GENERAL NOTES

- OWNER OF RECORD: READ WAREHOUSE LLC & NEWP READ WAREHOUSE LLC 70 QUARRY ROAD, PORTLAND, ME 04103 C.C.R.D. BOOK 38021, PAGE 294
- ELEVATIONS BASED ON CITY DATUM (NGVD 29) 3' O/S MONUMENT AT THE SOUTH WEST CORNER WALTON STREET AND OCEAN AVE. ELEVATION = 49.70'.
- BEARINGS ARE BASED ON PLAN REFERENCE #1, MAGNETIC 1945. COORDINATES ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM WEST ZONE NAD 83.

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.

RANDY R. LOUBIER, PLS #2407



Boundary & Topographic Survey
At

182 & 184 Read Street, Portland, Maine

Made for

Acorn Engineering

500 Washington Ave., Suite 202, Portland, ME

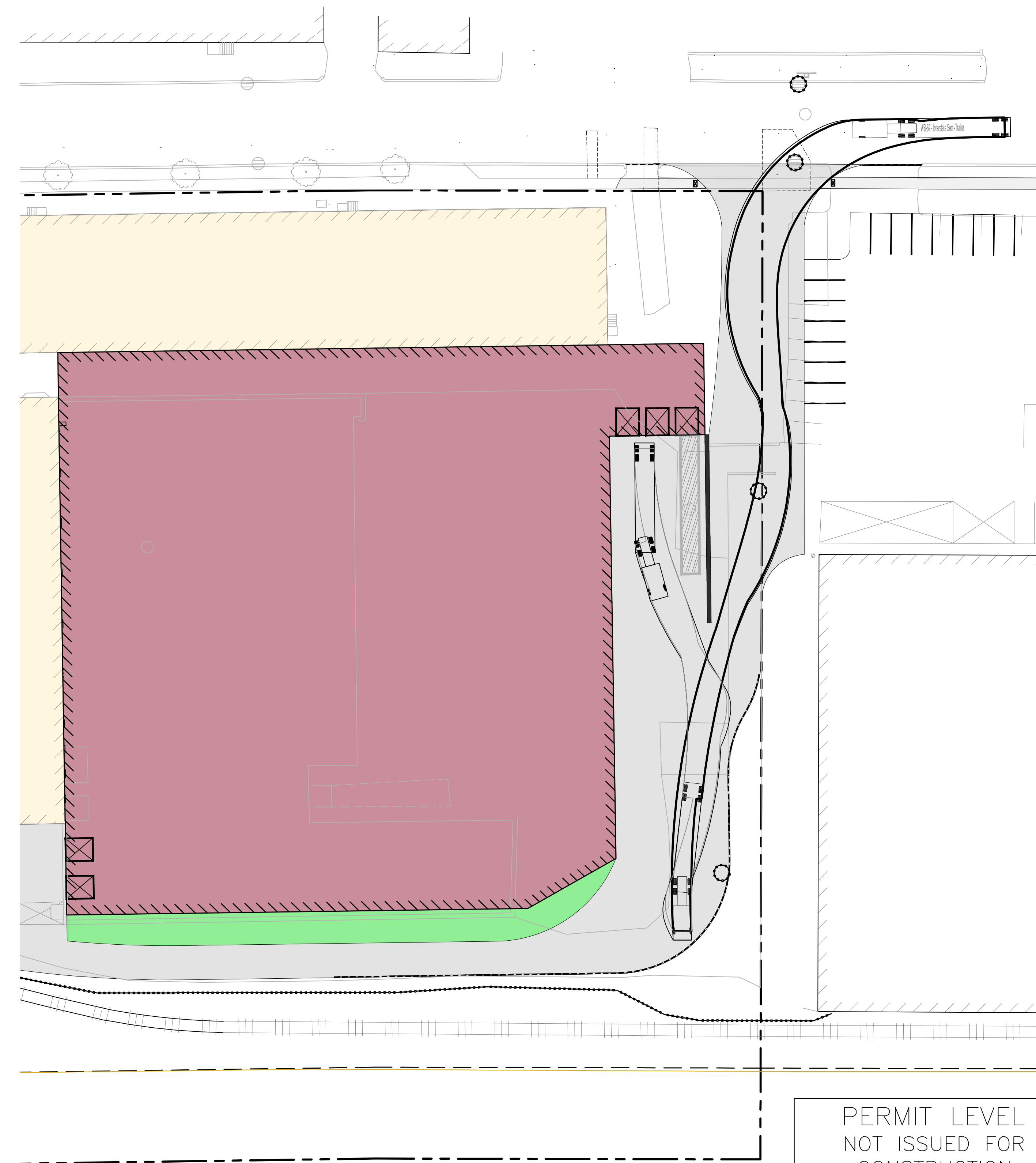
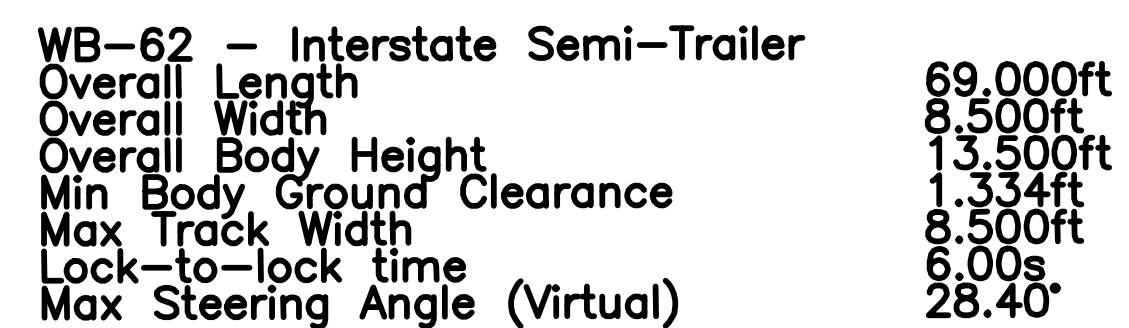
OWEN HASKELL, INC.

PROFESSIONAL LAND SURVEYORS

390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: RS/JLW DATE: AUGUST 12, 2022 JOB NO. 2022-159 P

CHECKED BY: RRL SCALE: 1" = 40' DRWG. NO. 1



PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

[illegible]

50 Industrial Way Rezoning from IM to I-Mb
50 Industrial Way
Zoning Map Amendment
ZN-002236-2022
50 Industrial Way, LLC.; Allagash Brewery, Applicant

Submitted to:	Portland Planning Board	Prepared By:	Austen Torres Davis
Public Hearing Date:	January 24, 2023	Date:	January 20, 2023



Figure 1: Aerial Image of 50 Industrial Way Showing Property Line.

I. INTRODUCTION

50 Industrial Way, LLC. is seeking a zoning map amendment on behalf of Allagash Brewery to change an existing I-M Industrial-Moderate impact zone to an I-Mb Industrial-Moderate Impact zone onto an approximately 4.4 acre site located at 50 Industrial Way (CBL: 326 0008001) in the Riverton neighborhood. This action is being sought as Allagash Brewery is approaching the maximum allowable impervious surface ratio for the I-M zone as prescribed in Land Use Code Article 7 Table 7-G. The maximum allowable impervious ratio in the I-M zone is 75%, while the maximum in the I-Mb is 100%. Therefore, in order to expand operations and accommodate future growth on-site this change is being sought.

The Planning and Urban Development Department mailed 44 notices advertising this meeting to interested parties and property owners within 1,000 feet of the site. The legal advertisement ran in the January 13 and 14, 2023 editions of the *Portland Press Herald*.

Planning Board Workshop December 13, 2022

The Planning Board held a workshop on the proposed zoning map amendment on December 13, 2022. The Planning Board, in its deliberations, expressed broad support for the proposed zoning map amendment from I-M to I-Mb for the subject parcel as well as the proposed expanded boundary that included adjacent parcels. In reviewing the proposed expanded boundary, the Planning Board questioned why more parcels

were not included and requested that Planning staff consider expanding the I-Mb zone boundary to encompass additional properties within the Turnpike Industrial Park. At the recommendation of the Planning Board, Planning staff analyzed the existing land use and business activity of the nearby parcels including lot size, current development pattern, and impervious area coverage and subsequently added one adjacent parcel, 81 Industrial Way, which is also operated by the applicant. The included parcels have smaller lot sizes, less than 90,000 square feet, with the exception of 81 Industrial Way (141,134 square feet), and have more intense development, and greater rates of impervious surface than adjacent excluded parcels. Without providing additional development capacity through the proposed zone change, expansions or enlargements of existing businesses on these smaller lots can be physically difficult due to dimensional standard constraints. Nearby parcels including 125 Industrial Way (480,918 square feet), 126 Industrial Way (241,321 square feet), 867 Riverside Street (234,222 square feet), 921 Riverside Street (282,704 square feet), and 969 Riverside Street (230,868 square feet) have larger lots with lower levels of lot coverage and can be expanded under the existing I-M zoning. Therefore, for parcels outside of the proposed zone boundary it is recommended to maintain the existing I-M zone at this time.

The included parcels are similar in impervious surface ratio, averaging 55.15%, as compared to 44.38% within the Turnpike Industrial Park. The parcels included in the staff's map amendment recommendation include:

Included Parcels	Impervious Surface Ratio
326 B001001	73%
326 B005001	3%
326 B007001	71%
326 B008001	61%
327A A001001	65%
327A A007001	67%
327A A008001	55%
327A A009001	37%
326 C005001	63%

Additionally, a member of the public requested clarification on how the concept of a pavement setback works. In response, Planning staff explained that a pavement setback is a space on a lot which is required to be maintained open, and unoccupied from impervious surfaces such as asphalt, for parking, or interior site circulation purposes. Pavement setback requirements do not apply to entrance drives or buildings.

Applicant: 50 Industrial Way, LLC.; Allagash Brewery
Applicant Representative: Kylie Mason, Stefanie Nichols; Sebago Technics

II. PROJECT DATA

Existing Zoning	I-M Industrial – Moderate Impact
Proposed Zoning	I-Mb Industrial – Moderate Impact
Existing Use	Manufacturing – Brewery
Proposed Use	Manufacturing – Brewery

III. BACKGROUND & EXISTING CONDITIONS

The site now known as 50 Industrial Way was created as Lots 17, 18, and 19 as part of the Turnpike Industrial Park in 1986. The property was purchased in 2011 by 50 Industrial Way, LLC, and subsequently operated by Allagash Brewery. Most recently, an addition to the brewery was approved on December 12, 2018 (PL-000063-2018).

The subject property is comprised of three parcels at 50 Industrial Way, improved with a brewery, tasting room, and parking. The site is within and bordered on all sides by the I-M zone. There are a variety of businesses nearby including four breweries, a distillery, warehouses, and a bowling alley. The site has frontage on Industrial Way, which intersects with Riverside Street about 300 feet from the western edge of the property. Riverton Trolley Park, Riverside Recycling Center, and Riverside Golf Course are nearby across Riverside Street to the west. The Turnpike Industrial Park is adjacent to Interstate I-95 to the east. The overall character of the surrounding area is industrial, though commercial uses are clustered to the south around the intersection of Riverside Street and Forest Avenue and include a Hannaford's grocery store and gas station with associated convenient store. The site is accessible to public transportation along Forest Avenue including GP Metro routes 2 and 3, as well as the Lakes Region Bus.



Figure 2: 50 Industrial Way in Neighborhood Context



Figure 3: 50 Industrial Way Conceptual Site Plan

IV. CONCEPTUAL DEVELOPMENT PROPOSAL

The proposed rezoning from I-M to I-Mb would facilitate the expansion of the Allagash Brewery building and operations. The intent of this rezoning is to allow Allagash to remain at their current location and expand to keep up with anticipated growth over the coming decade, rather than requiring relocation of their operations elsewhere. This action is being sought as Allagash Brewery is approaching the maximum allowable impervious surface ratio for the I-M zone as prescribed in Land Use Code Article 7 Table 7-G. The maximum allowable impervious ratio in the I-M zone is 75%, while the maximum in the I-Mb is 100%. Therefore, in order to expand operations on-site this change is being sought.

The development contemplated in this application is conceptual at this stage – no site plan application has yet been submitted - though the current 50 Industrial Way map amendment application package submitted by the applicant includes a conceptual plan showing the potential expansion that this map amendment would facilitate. (See attached Plan 3). Should the proposed rezoning be approved by the City Council, a site plan application would be submitted by the applicant addressing applicable land use standards.

V. PROPOSED ZONING MAP AMENDMENT

Allagash Brewing Company has submitted an application requesting a zoning map amendment to change their 50 Industrial Way property from an I-M Industrial-Moderate Impact zone to an I-Mb Industrial-Moderate Impact zone (Compare Figures 4 and 5).

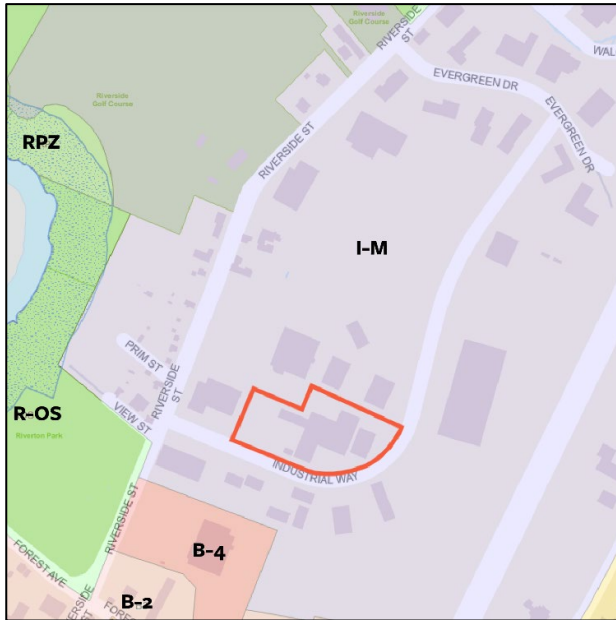


Figure 5: 50 Industrial Way Existing Zoning Context

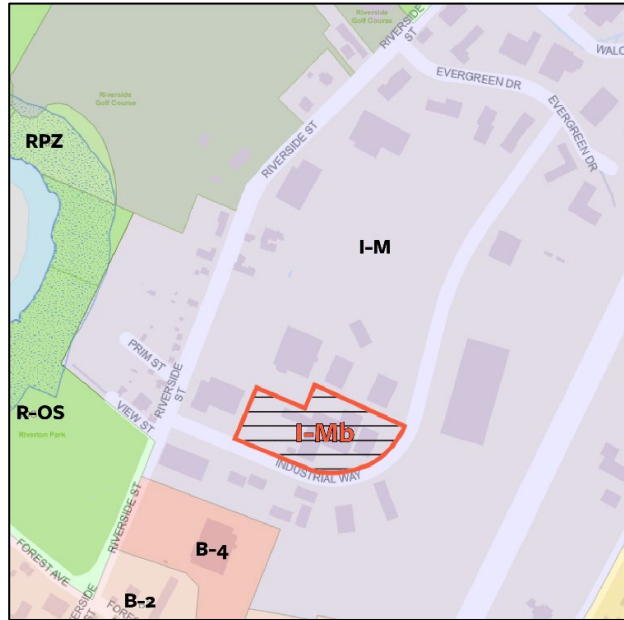


Figure 4: 50 Industrial Way Proposed Map Amendment

At the Planning Board's December 13th workshop, Planning staff recommended that the Board consider expanding the zoning map amendment to include the following adjacent parcels: 326 B001001, 327A A009001, 327A A008002, 327A A007001, 327A A001001, 326 B007001, 326 B005001, and 326 C005001 (See Figure 6). Subsequently, the applicant requested an additional parcel, 326 C005001, be included in the map amendment (Figure 7). Therefore, the proposed zoning map amendment before the Board is shown in

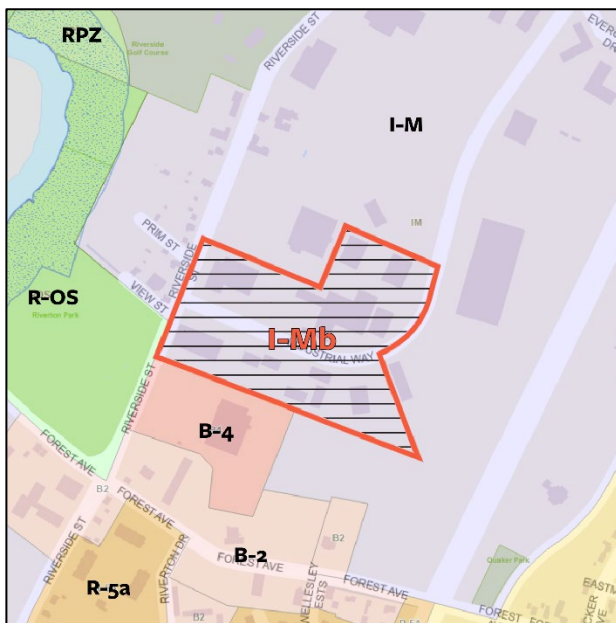


Figure 6: Recommendation as of December 13 Workshop

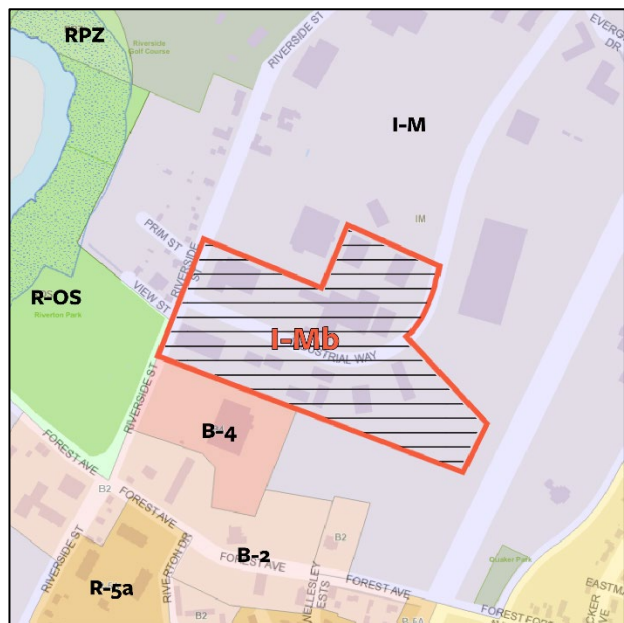


Figure 7: Recommendation as of January 24 Hearing

Figure 7 and includes both the staff recommendation at the December 13th workshop and the addition of parcel, 326 Co05001.

VI. ZONING ANALYSIS

Existing Versus Proposed Zoning: I-M Industrial-Moderate Impact, and I-Mb Industrial-Moderate Impact

The I-M Industrial-Moderate Impact zone is a moderate-density mixed-use zone mapped in locations throughout the city, primarily off-peninsula close to arterials and highway connections, particularly along the I-95 corridor. Throughout Portland, the I-M zone totals about 1,308 acres. The I-Mb zone is significantly less widespread throughout the city, existing only within the Valley Street neighborhood in the southwestern portion of the Portland Peninsula. The I-Mb zone is also significantly smaller than the I-M zone, totaling about 20.77 acres. In 1996, a series of changes to all the city's industrial zones led to the establishment of the I-Mb zone to accommodate sites that were more intensely developed and built out. At that time the I-Mb zone was mapped along the St. John Street corridor.

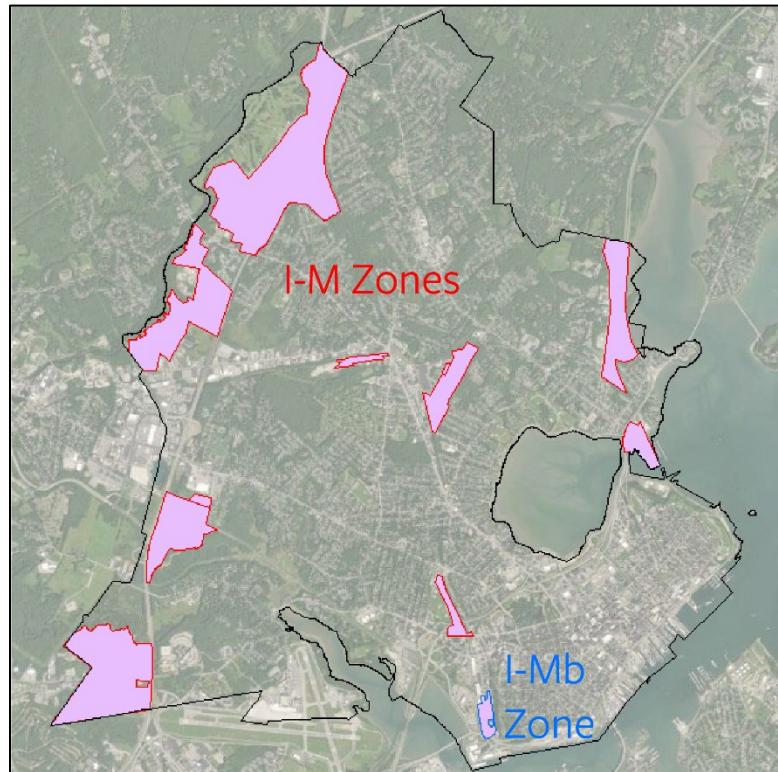


Figure 6: Distribution and Size of I-M & I-Mb Zones

The I-M and I-Mb zones allow a variety of industrial, commercial/services, and institutional uses, including low-impact industrial (bakeries and breweries), as well as warehousing and distribution, and laboratory and research facilities. However, they vary in terms of building form that is promoted through the dimensional requirements.

The City's zoning code describes the purpose of the I-M and I-Mb Industrial-Moderate Impact zones as:

"To provide zones in areas of the city in which low- and moderate-impact industries and transportation-related uses will coexist. I-M and I-Ma zones are located on arterials or collectors. The I-Mb zone is similarly located on the peninsula. These locations provide for direct access onto arterials, thereby protecting residential neighborhoods from drive-through traffic. The purpose of the I-M, I-Ma and I-Mb industrial zones is also to provide for larger industrial buildings and for the limited or controlled use of areas outside of structures for storage of materials and machinery. These facilities often require large volumes of imported materials and products which result in large volumes of shipping and receiving. Often uses may be highway-oriented and transportation-related, thus relying on citywide and regional transportation infrastructure. Industrial uses in these moderate-impact industrial zones may require separation from higher-impact uses."

The purpose statement of the I-M and I-Mb promotes moderate-impact industries and transportation-related uses that can coexist and are in locations that provide for direct access onto arterials. While the purpose statement references that the I-Mb zone is mapped on the peninsula, the intention does not preclude the zone from being expanded in appropriate areas. Staff have conducted an analysis comparing the proposed I-Mb zone requirements with the existing I-M zone and have highlighted the differences in the tables below.

Use Summary:

The existing I-M zoning district permits a range of institutional, commercial, and industrial uses. These include low-impact industrial uses, which do not include the processing of raw materials or salvaging operations. Instead, low-impact industrial uses involve manufacturing, packaging, assembly, and distribution of previously processed materials. Businesses that fit in this category range in operations from bakeries and breweries to machine shops and tree nurseries. In addition to these industrial operations that are generally compatible with adjacent residential and commercial zones, the I-M zone allows miscellaneous uses such as solar and wind generation, general office, laboratory and research facilities, and lumber yards. The I-Mb zone permits the same uses as the I-M zone except for correctional pre-release facilities, which are not permitted in the I-Mb zone.

Table 1 provides a comparison of the permitted uses between existing and proposed zone. Uses marked with a 'P' are permitted uses in the zone. A 'C' indicates a conditional use, otherwise uses are not permitted. Highlighted in yellow shows any changes between zones

TABLE 1: PERMITTED AND CONDITIONAL USES IN I-L Industrial & B-2 Business Community Zones		I-M	I-Mb
Institutional	Airports		
	Preschool facilities	P	P
	Emergency shelters	C	C
	Intermediate care facilities	P	P
	Places of assembly (<10,000 SF)		
Commercial	Bars		
	General offices (<5,000 SF)	P	P
	General offices (>5,000 SF)	P	P
	General services (<5,000 SF)		
	General services (>5,000 SF)		
	Hotels		
	Recreation and amusement centers	P	P
	Repair services	P	P
	Restaurants		
Industrial	Animal-related services		
	Construction & engineering services	P	P
	Dairies	P	P
	Fish waste processing		
	Food & seafood processing, packing, and distribution	P	P
	High-impact industrial uses		

	Intermodal transportation facilities	P	P
	Laboratory and research facilities	P	P
	<i>Low-impact industrial</i>	P	P
	Lumber yards	P	P
	Marijuana cultivation facility (<2,000 SF plant canopy)	P	P
	Marijuana cultivation facility (2,000-7,000 SF plant canopy)	P	P
	Marijuana cultivation facility (>7,000 SF plant canopy)	P	P
	Marijuana manufacturing facility	P	P
	Marijuana testing facility	P	P
	Printing and publishing	P	P
	Recycling and solid waste disposal facilities	P	P
	Studios for artists and craftspeople	P	P
	Telecommunication towers (ground-mounted)	P	P
	Tow lots	P	P
	Warehousing, storage, and distribution facilities	P	P
Other	Correctional pre-release facilities	P	
	Marinas	P	P
	Solar energy system (minor)	P	P
	Solar energy system (major)	P	P
	Utility substations	P	P
	Wind energy system (minor)	P	P
	Wind energy system (major)	P	P

Dimensional Requirement Summary:

The bulk of the difference between the I-M and I-Mb moderate-impact industrial zones are related to dimensional standards. Generally the I-Mb zone allows for greater lot coverage in the form of less restrictive setback and impervious surface ratio requirements.

Buildings in the I-M zone have a minimum front setback of one foot distance for every one foot of building height, while there are no front setback requirements in the I-Mb zone. Similarly, rear and side setbacks in the I-M zone are one foot in distance per one foot of building height, with 35 foot minimums if abutting residential zones. Structures in the I-Mb zone differ in that there are no rear or side setbacks unless abutting residential zones, in which case a setback of 25 feet is required. Both zones have a maximum building height of 75 feet.

The most pertinent difference between zones as related to the applicant's conceptual development proposal is that the I-M requires a maximum impervious surface ratio of 75%, whereas 100% is allowable in the I-Mb zone.

Table 2 provides a comparison of the dimensional requirements between existing and proposed zone. Highlighted in yellow shows any changes between zones

TABLE 2: Zoning Requirements by Use	I-M	I-Mb
Lot area (min.)	None	None
Street frontage (min.)	60 ft.	60 ft.
Lot width (min.)	None	None
Front setback (min.)	(1 ft. for each ft. of building height)	None
Rear setback (min.)	(1 ft. for each ft. of building height up to 25 ft., except 35 ft. when abutting residential zones)	None, except 25 ft. when abutting residential zones
Side setback (min.)	(1 ft. for each ft. of building height up to 25 ft., except 35 ft. when abutting residential zones)	None, except 25 ft. when abutting residential zones
Structure height (max.)	75 ft.	75 ft.
Lot coverage (max.)	None	None
Impervious surface ratio (max.)	75%	100%
Pavement setback (min.)	10 ft.	10 ft.

VII. COMPREHENSIVE PLAN ANALYSIS

Portland's Plan 2030

Comprehensive Plan goals and policies (state and local) relevant to the proposed zoning map amendment are included below as well as provided in the analysis submitted by the applicant (Attachment D). In the provided analysis the applicant lays out various portions of Portland's Plan 2030 that their proposal adheres to.

Several aspects of the proposed map amendment to I-Mb Industrial-Moderate Impact are consistent with the Comprehensive Plan. The Comprehensive Plan highlights the importance of creating prosperity by growing the tax and employment base, as well as valuing and nurturing Portland-based businesses and supporting industries with high-growth/high-value potential. The Comprehensive Plan also acknowledges that physically integrated transportation systems, utilities, and open spaces provide for the city's growth, and a well-connected system is more efficient and resilient. Riverside Street and along the I-95 corridor has been an area where industrial businesses have been able to grow and thrive while having access to multiple transportation networks. Relevant Comprehensive Plan goals have been excerpted below:



Figure 7: Visions of Portland's Plan 2030

Economic:

- State Goal: Promote an economic climate that increases job opportunities and overall economic well-being.
- Promote an economic climate that increases job opportunities and overall economic well-being.
- Value and nurture Portland-based businesses.
- Value innovation and creativity as cornerstones of the local economy and as central to Portland's uniqueness and diversity.
- Invest in, attract, and retain human capital to support a growing economy.
- Create economic prosperity by growing Portland's tax and employment base.
- Respect that our unique quality of place is key to our current and future economic success

Transportation:

- Support the economic vitality by ensuring the efficient movement of goods, services, and people.

VIII. NEIGHBORHOOD MEETING & PUBLIC COMMENT

As of the writing of this report no public comments have been received. A neighborhood meeting was held on December 12, 2022, with no members of the public in attendance.

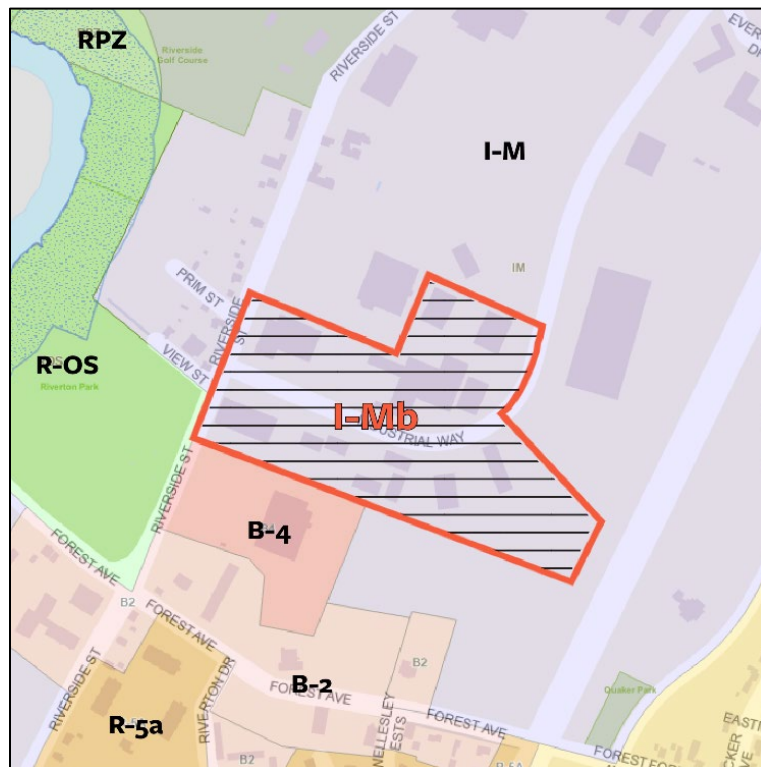
IX. REQUISITE COUNCIL ACTION

Any proposed rezoning, regardless of whether it is recommended by the Planning Board, must be approved by City Council vote in order to take effect.

X. PROPOSED MOTIONS

- On the basis of materials submitted by the applicant, the City of Portland Land Use Code, Portland's Comprehensive Plan, public comment, and the information provided in the public hearing on January 24, 2023 for the application ZN-002236-2022 (50 Industrial Way), and/or other findings, the Planning Board finds that the proposed zoning map amendment **[is/is not]** consistent with the Comprehensive Plan for the city of Portland; and therefore, the Planning Board **[recommends/does not recommend]** to the City Council adoption of the Zoning Map Amendment for the area of land that includes 50 Industrial Way and the following parcels as listed and shown below:

Parcels to be included are 326 B001001, 326 B005001, 326 B007001, 326 B008001, 327A A001001, 327A A007001, 327A A008001, 327A A009001, and 326 C005001.



Area zoning map to be amended outlined in red.

XI. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

- Review Comments & Email Correspondence

APPLICANT'S SUBMITTAL

- Project Cover Letter
- Map Amendment Application Checklist
- Right, Title, and Interest
- Consistency with Comprehensive Plan Analysis

PLANS

Plan 1. 50 Industrial Way Vicinity Maps
Plan 2. Proposed Map Amendment
Plan 3. Conceptual Master Plan

PUBLIC COMMENT

Pc1. George Rheault



Austen Davis <austentd@portlandmaine.gov>

Preliminary Comments/Questions for 50 Industrial Way (ZN-002236-2022)

10 messages

Austen Davis <austentd@portlandmaine.gov>
 To: snichols@sebagotechnics.com
 Cc: sdiffley@allagash.com

Mon, Dec 5, 2022 at 7:00 AM

Good morning Stefanie,

I wanted to reach out as I am the Planner currently reviewing this Map-Amendment application. We have the project on for an afternoon Planning Board Workshop, set to take place on December 13 at 4:30pm. I wanted to check if that works for your team?

I also was hoping you could send over the conceptual development program? When attempting to access the submitted plans in our system they appear not to load entirely.

I will follow up ASAP of we have any other questions or concerns.

Best wishes,

--

Austen Torres Davis
 Planner
 Planning & Urban Development Department

389 Congress Street
 Portland, Maine 04101
austentd@portlandmaine.gov | (207) 874-8632



Stefanie Nichols <snichols@sebagotechnics.com>

Mon, Dec 5, 2022 at 7:09 AM

To: Austen Davis <austentd@portlandmaine.gov>
 Cc: "sdiffley@allagash.com" <sdiffley@allagash.com>, Kylie Mason <kmason@sebagotechnics.com>, "Mycokk, Liz" <lmcock@allagash.com>

Good morning Austen,

Please find the requested submittal package attached for your use. I will verify the Workshop timing this morning.

Best,

Stefanie

From: Austen Davis <austentd@portlandmaine.gov>
Sent: Monday, December 5, 2022 7:00 AM
To: Stefanie Nichols <snichols@sebagotechnics.com>
Cc: sdiffley@allagash.com
Subject: Preliminary Comments/Questions for 50 Industrial Way (ZN-002236-2022)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

[Quoted text hidden]

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

7 attachments

- 01-Project Description.pdf**
1224K
- 02-Consistency with Comp Plan.pdf**
1269K
- 03-Checklist.pdf**
90K
- 04-Right, Title, or Interest.pdf**
341K
- A-Vicinity Maps.pdf**
906K
- B-Proposed Map Amendment.pdf**
2551K
- C-Master Plan.pdf**
140K

Austen Davis <austentd@portlandmaine.gov>
 To: Stefanie Nichols <snichols@sebagotechnics.com>

Mon, Dec 5, 2022 at 8:41 AM

Thanks Stefanie,

I'm still having trouble with attachments B and C, I only see the top left corner of each.

Regarding the workshop, this meeting would be for the Planning Board to hear about the project and weigh in on specifics and potentially propose alternatives. As no votes take place it's relatively low stakes. I mention this because our next potentially-available date is January 10th and I did not want our tight schedule here to delay your team's project.

Best wishes,
Austen
[Quoted text hidden]

Stefanie Nichols <snichols@sebagotechnics.com>
To: Austen Davis <austentd@portlandmaine.gov>
Cc: "sdiffley@allagash.com" <sdiffley@allagash.com>

Mon, Dec 5, 2022 at 9:39 AM

Hi everyone,

I apologize for the strange PDF glitch – I can see the drawings! Please let me know if the replacements are opening correctly. If yes, I will add them to EPlan as versioned copies.

[Quoted text hidden]

2 attachments

 **B-Proposed Map Amendment.pdf**
1455K

 **C-Master Plan.pdf**
586K

Austen Davis <austentd@portlandmaine.gov>
To: Stefanie Nichols <snichols@sebagotechnics.com>
Cc: "sdiffley@allagash.com" <sdiffley@allagash.com>

Mon, Dec 5, 2022 at 9:47 AM

Hey Stefanie,

Thank you very much, these are working for me now.
This is very helpful!

Best,
Austen
[Quoted text hidden]

Stefanie Nichols <snichols@sebagotechnics.com>
To: Austen Davis <austentd@portlandmaine.gov>

Mon, Dec 5, 2022 at 9:55 AM

Hi again,

I am glad that the plans are opening for you! I have been having issues with text scrambling when converted from Word to PDF.

Do you mind circulating a meeting invite for the virtual workshop on December 13th at 4:30 pm? We want to add this meeting to Kylie's calendar ASAP.

kmason@sebagotechnics.com
seandiffley@allagash.com
lmymcock@allagash.com
snichols@sebagotechnics.com

[Quoted text hidden]

Stefanie Nichols <snichols@sebagotechnics.com>
To: Austen Davis <austentd@portlandmaine.gov>

Tue, Dec 6, 2022 at 9:56 AM

Austen – As discussed, the revised workshop list is below:

kmason@sebagotechnics.com Kylie Mason, Project Manager, RLA, COO Seago Technics
seandiffley@allagash.com Sean Diffley
lmymcock@allagash.com Liz Mycock
snichols@sebagotechnics.com Stefanie Nichols
postrowski@sebagotechnics.com Paul Ostrowski, P.E.
eleanorroberts@sebagotechnics.com Eleanor Roberts

[Quoted text hidden]

Austen Davis <austentd@portlandmaine.gov>
To: Stefanie Nichols <snichols@sebagotechnics.com>

Tue, Dec 6, 2022 at 5:10 PM

Good evening Stefanie,

I wanted to let you know I forwarded all of the panelist email/info to our admin staff, they will send everyone links to the zoom meeting.
I also wanted to follow up by asking if Allagash was hoping to include the lot they own at 108 Industrial Way (outlined in the image below) in the map-amendment request?
We typically assess adjacent properties/areas when considering map-amendments so I thought I should reach out to be sure.



Best wishes,
Austen
[Quoted text hidden]

Stefanie Nichols <snichols@sebagotechnics.com>
To: Austen Davis <austentd@portlandmaine.gov>

Wed, Dec 7, 2022 at 8:41 AM

Austen,

Yes, please include the [108 Industrial Way](#) acreage. I like that you assess the area.

Best, Stefanie

From: Austen Davis <austentd@portlandmaine.gov>
Sent: Tuesday, December 6, 2022 5:11 PM
To: Stefanie Nichols <snichols@sebagotechnics.com>
Subject: Re: Preliminary Comments/Questions for 50 Industrial Way (ZN-002236-2022)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good evening Stefanie,

I wanted to let you know I forwarded all of the panelist email/info to our admin staff, they will send everyone links to the zoom meeting.

I also wanted to follow up by asking if Allagash was hoping to include the lot they own at [108 Industrial Way](#) (outlined in the image below) in the map-amendment request?

We typically assess adjacent properties/areas when considering map-amendments so I thought I should reach out to be sure.



Best wishes,
Austen
[Quoted text hidden]

Stefanie Nichols <snichols@sebagotechnics.com>
To: Austen Davis <austentd@portlandmaine.gov>

Thu, Dec 8, 2022 at 4:14 PM

Austen,

Please find the revised graphics showing the inclusion of the [108 Industrial Way](#) lot, as outlined below, for your use. I did not notice that GIS had not included the entire property on the previous graphics. I will upload them to EPlan before I leave the office today.

Best, Stefanie

[Quoted text hidden]

2 attachments

 **A-Vicinity Maps.pdf**
1186K

 **B-Proposed Map Amendment.pdf**
1453K

October 3, 2022
02249-04

Att. A

Mr. Kevin Kraft, AICP
Deputy Director Planning & Urban Development Department
City of Portland
389 Congress Street
Portland, Maine 04101

RE: Proposed Zoning Map Amendment
50 Industrial Way, Portland
Tax Map 326/Lots: B008,B009,B010, B001001
Applicant: 50 Industrial Way, LLC

Dear Mr. Kraft and Planning Board members:

50 Industrial Way, LLC seeks a map amendment to rezone their 50 Industrial Way property from I-M to I-Mb Industrial Zones. The proposed zoning map amendment will allow for continued growth and development in situ by the tenant, Allagash Brewing Company. The applicant intends to maximize the density on the site to accommodate approximately ten years of anticipated growth for the operational needs at the existing Allagash facility. No change to the site use is proposed for this map change request. Per the Zoning Ordinance, I-M and I-Mb zones share allowed uses without deviation. Reference is made to the enclosed table showing allowed and conditional uses at the site.

The subject property consists of 4.4-acres± within the Turnpike Industrial Park located off Riverside Street in the Riverton section of the City. The City approved the subdivision in 1987, and it is now home to several craft breweries in addition to Allagash, including Foundation Brewing, Austin Street Brewery, and Definitive Brewing Company, co-mingled with an electrical supply store, Maine Bay Canvas, an office supply facility, and Eimskip cargo handling and management company within close proximity to the Allagash site. The property has 1,085 LF of street frontage on the northern side of Industrial Way

The applicant provides a conceptual Master Plan showing possible future expansion on the site that the rezoning to I-Mb would facilitate. The applicant's objective is to remain at 50 Industrial Way for a decade, with the proposed density change allowing for continued operational expansion. The proposal for map amendment for rezoning the property is consistent with the Comprehensive Plan and existing and permitted uses in the original zone. The applicant understands that future projects will require separate applications for specific projects should the map amendment/zoning be approved.

We do not anticipate traffic or transportation impact will be of concern as the current zoning and allowed uses are the same in I-M and I-Mb zones. Future site improvements will not include drastic changes to peak hour trips requiring an impact study or an MDOT Traffic Movement Permit.

Stormwater will be addressed as expansion and site improvements are proposed. Stormwater management design will be reviewed carefully to ensure that neighboring properties and the watershed are not adversely impacted and meet local and state requirements.

The applicant respectfully requests that the Planning Board find the proposed rezoning from I-M to I-Mb for the 50 Industrial Way property, as shown on the proposed zoning map exhibit, is consistent with the Comprehensive Plan for the City, and recommends the City Council adoption of the zoning map amendment as presented (Exhibit 06).

We understand that the next steps will include scheduling a neighborhood meeting and forwarding a meeting certification, sign-in sheet, and meeting minutes when available. We look forward to working with the City.

Sincerely
Sebago Technics, Inc.



Kylie S. Mason, RLA, LEED-AP
Chief Operations Officer
Maine Licensed Landscape Architect

enc.

cc: 50 Industrial Way, LLC

50 Industrial Way, LLC-Allagash Campus

Dimensional Comparison I-Mb vs I-M Zone			
	I-Mb (Proposed)	I-M (Current)	Comments
Lot area (min)	None	None	
Street frontage (min)	60'	60'	
Lot width (min)	None	None	
Front setback	None	1 ft./1 ft. bldg. ht. up to 25', 35' abutting res	
Rear Setback	None, Except 25' abutting residential	1 ft./1 ft. bldg. ht. up to 25', 35' abutting res	Not Adjacent to Residential
Side Setback	None, Except 25' abutting residential	1 ft./1 ft. bldg. ht. up to 25', 35' abutting res	Not adjacent to Residential
Structure Height	75'	75'	
Impervious surface ratio (max)	100%	75%	
Pavement setback (min.)	10'	10'	
Overview: The Zoning Map change reduces all setbacks to 0 and increases lot coverage from 75% to 100%.			

Permitted and Conditional Uses – I-M and I-Mb zones

		I-M/I-Mb
Institutional	Airports	-
	Preschool Facilities	X
	Emergency Shelters	C
	Intermediate Care Facilities	X ⁴
	Places of Assembly, (<10,000 SF)	-
Commercial/Services	Bars	-
	General Offices, (<5,000 SF)	X
	General Offices, (>5,000 SF)	X
	General Services, (<5,000 SF)	-
	General Service, (>5,000 SF)	-
	Hotels	-
	Recreation and Amusement Centers	X
	Restaurants	-
Industrial	Animal-related Services	-
	Construction & Engineering Services	X
	Dairies	X
	Fish Waste Processing	-
	Food & Seafood Processing, Packing and Distribution	X
	Highiimpact Industrial Uses	-
	Intermodel Transportation Facilities	X
	Laboratory & Research Facilities	X
	Low-Impact Industrial	X
	Lumber Yards	X
	Marijuana Cultivation Facility (<2,000 SF Plant Canopy	X
	Marijuana Cultivation Facility (2,000-7,000 SF plant Canopy)	X
	Marijuana Cultivation Facility (>7,000 SF plant Canopy)	-
	Marijuana Manufacturing Facility	X
	Marijuana Testing Facility	X
	Printing and Publishing	X
	Recycling and solid waste disposal facilities	X ⁵
	Studios for Artists and Craftspeople	X
	Telecommunication Towers (ground-mounted)	X
	Tow Lots	X
	Warehousing, Storage and Distribution facilities	X
	Correctional pre-release facilities	X ⁶
	Marinas	-
Other	Off-street Parking	-
	Solar Energy System (Minor)	X
	Solar Energy System (Major)	X
	Utility Substations	X
	Wind Energy System (Minor)	X
	Wind Energy System (Major)	X

4	Permitted in existing structures not designed for industrial, amusement, warehouse or manufacturing uses as of 9/15/14 or later, Such structures may be reused ir expanded to establish a facility if no more than 30 persons plus staff.
5	Permitted within an enclosed structure only.
6	Not permitted in the I-M and I-Mb or I-Hb zones.
C	Conditional

CITY OF PORTLAND
Planning & Urban Development Department

MAP AMENDMENT SUBMISSION CHECKLIST	
* Please submit each document <u>and</u> drawing as a separate PDF file * Please submit all drawings in a <u>24 x 36</u> sheet size * Please confirm each item by electronically checking the boxes to the left for each document/drawing	
GENERAL APPLICATION DOCUMENTS	
☒	Project Description Cover Letter with detailed project description 01
☒	Consistency with Comprehensive Plan Analysis of the consistency of the zone change request with the goals, policies and land use plan of Portland's Comprehensive Plan. 02
☒	Completed Checklist – Map Amendment Application (this document) 03
☒	Right, Title and Interest Deeds, leases, or purchase and sales agreements 04
PLANS	
☒	Vicinity Map A
☒	Proposed Map Amendment (please use the Portland zoning map as a reference) B
☒	Site Plan (if applicable) Master Plan Provide a site plan of the property showing existing and proposed improvements, including such features as buildings, parking, driveways, walkways, landscape and property boundaries. C

Exhibit 04: Right, Title, or Interest

The recorded owner of the parcel is 50 Industrial Way, LLC, by deed and recorded at the Cumberland County Registry of Deeds in the following Book/Page: 28660/237, April 26, 2011. A copy of the deed is enclosed in this section.

QUITCLAIM DEED WITH COVENANT

NORTHEASTERN GRAPHIC SUPPLY, INC., a Maine corporation, for consideration paid, grants to 50 INDUSTRIAL WAY LLC, a Maine limited liability company with an address of 100 Industrial Way, Portland, Maine 04103, with Quitclaim Covenant, the following described real property:

A certain lot or parcel of land, with any buildings and improvements thereon, situated on the northerly side of Industrial Way, so-called, in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Lot 19 as shown on a Plan entitled Turnpike Industrial Park-Riverside Street, Portland, Maine, Recording Plat, made for Portland Venture Partners, 100 Silver Street, Portland, Maine, by Land Use Consultants, dated March 25, 1986, revised through September 9, 1986 and recorded in the Cumberland County Registry of Deeds, in Plan Book 157, Page 61 ("the Subdivision Plan"), to which Subdivision Plan reference is hereby made for a more particular description.

Meaning and intending to convey and hereby conveying a portion of the premises as conveyed to Northeastern Graphic Supply, Inc. by deed of Turnstone Properties, dated March 29, 1988 and recorded in the Cumberland County Registry of Deeds in Book 8226, Page 37.

IN WITNESS WHEREOF, Northeastern Graphic Supply, Inc. has caused this instrument to be executed by Brian Kroot, its Treasurer, as of the 26th day of April, 2011.

WITNESS

NORTHEASTERN GRAPHIC
SUPPLY, INC.



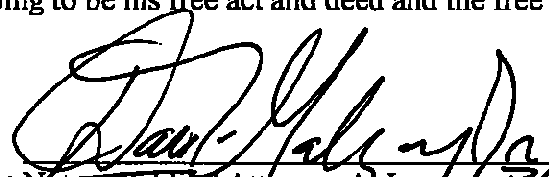
By: 
Brian Kroot
Its Treasurer

State of Maine
County of Cumberland, ss.

April 26, 2011

Personally appeared before me the above named Brian Kroot, Treasurer of Northeastern Graphic Supply, Inc. and acknowledged the foregoing to be his free act and deed and the free act and deed of Northeastern Graphic Supply, Inc.

Received
Recorded Register of Deeds
Apr 26, 2011 12:41:53P
Cumberland County
Pamela E. Lovley


Notary Public / Attorney At Law
Print Name: David L. GALLOWAY JR
My Commission Expires: _____

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT

NORTHEASTERN GRAPHIC SUPPLY, INC., a Maine corporation, for consideration paid, grants to 50 INDUSTRIAL WAY LLC, a Maine limited liability company with an address of 100 Industrial Way, Portland, Maine, 04103, with Quitclaim Covenant, the following described real property:

A certain lot or parcel of land, with any buildings and improvements thereon, situated in on the northerly side of Industrial Way, so-called, in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Lot 18 as shown on a Plan entitled Turnpike Industrial Park-Riverside Street, Portland Maine, Recording Plat, made for Portland Venture Partners, 100 Silver Street, Portland, Maine, by Land Use Consultants, dated March 25, 1986, revised through September 9, 1986 and recorded in the Cumberland County Registry of Deeds, in Plan Book 157, Page 61 ("the Subdivision Plan"), to which Subdivision Plan reference is hereby made for a more particular description.

Meaning and intending to convey and hereby conveying the same premises as conveyed to Northeastern Graphic Supply by deed of Alfred H. Milliken, Jr., et als, dated June 2, 1988 and recorded in the Cumberland County Registry of Deeds in Book 8317, Page 51.

Together with an easement to benefit the above described Lot 18, over the parcel of land described hereinafter (the "Easement Area") for ingress and egress by foot and by vehicle, together with the right to construct, improve, maintain, repair, grade, excavate, fill and pave a driveway within the Easement Area for access to Lot 18, and together with the right to install within the Easement Area, both above and below ground, utility services to include, without limitation, facilities necessary or convenient for the transmission of electricity, gas, telephone communications, cable television, computer communications, sewerage and water.

The Easement Area is a fifty (50) foot wide parcel of land, being a portion of Lot 19 as shown on the Subdivision Plan, bound and described as follows:

Beginning on the northerly side of Industrial Park Way, also known as Industrial Way, at the southwesterly corner of Lot 18 as shown on the Subdivision Plan, said point also being the most southerly corner of Lot 19 as shown on the Subdivision Plan;

Thence N 29° 52' 15" E along the westerly sideline of Lot 18 and the easterly sideline of Lot 19 a distance of 90.00 feet;

MAINE REAL ESTATE TAX PAID

Received
Recorded Register of Deeds
Nov 15, 2002 10:01:56A
Cumberland County
Maine

Thence N 60° 03' 55" W through land of Northeastern Graphic Supply, Inc., being Lot 19 as aforesaid, a distance of 50.00 feet;

Thence S 29° 52' 15" W through land of Northeastern Graphic Supply, Inc., being Lot 19 as aforesaid, a distance of 90.00 feet to the northerly sideline of Industrial Way;

Thence S 60° 03' 55" E along the northerly sideline of Industrial Way a distance of 50.00 feet to the point of beginning.

The Easement Area consists of approximately 4,500 square feet.

The Grantor herein reserves for itself, its successors and assigns, the right to use the Easement Area in common with the Grantee for all purposes, including but not limited to, ingress and egress by foot and vehicle and the right to install and/or connect to all utilities located within the Easement Area, all of which reserved rights shall benefit the Grantor's adjoining property.

IN WITNESS WHEREOF, Northeastern Graphic Supply, Inc. has caused this instrument to be executed by Brian Kroot, its president this 14th day of November, 2002.

WITNESS

NORTHEASTERN GRAPHIC
SUPPLY, INC.

Catherine E. Decker

By: [Signature]

Brian Kroot

Its: President

State of Maine

County of Cumberland

November 14, 2002

Personally appeared before me the above named Brian Kroot, president of Northeastern Graphic Supply, Inc. and acknowledged the foregoing instrument to be his/her free act and deed in said capacity and the free act and deed of Northeastern Graphic Supply, Inc.

Catherine E. Decker
~~Notary Public~~/Attorney at Law

Print Name CATHERINE E. DECKER

My Commission Expires N/A

QUITCLAIM DEED WITH COVENANT

NORTHEASTERN GRAPHIC SUPPLY, INC., a Maine corporation, for consideration paid, grants to 50 INDUSTRIAL WAY LLC, a Maine limited liability company with an address of 100 Industrial Way, Portland, Maine 04103, with Quitclaim Covenant, the following described real property:

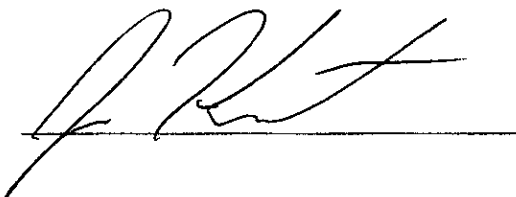
A certain lot or parcel of land, with any buildings and improvements thereon, situated on the northerly side of Industrial Way, so-called, in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Lot 19 as shown on a Plan entitled Turnpike Industrial Park-Riverside Street, Portland, Maine, Recording Plat, made for Portland Venture Partners, 100 Silver Street, Portland, Maine, by Land Use Consultants, dated March 25, 1986, revised through September 9, 1986 and recorded in the Cumberland County Registry of Deeds, in Plan Book 157, Page 61 ("the Subdivision Plan"), to which Subdivision Plan reference is hereby made for a more particular description.

Meaning and intending to convey and hereby conveying a portion of the premises as conveyed to Northeastern Graphic Supply, Inc. by deed of Turnstone Properties, dated March 29, 1988 and recorded in the Cumberland County Registry of Deeds in Book 8226, Page 37.

IN WITNESS WHEREOF, Northeastern Graphic Supply, Inc. has caused this instrument to be executed by Brian Kroot, its Treasurer, as of the 26th day of April, 2011.

WITNESS



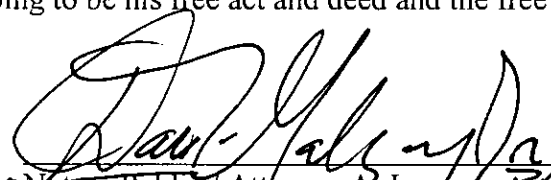
NORTHEASTERN GRAPHIC
SUPPLY, INC.

By: 
Brian Kroot
Its Treasurer

State of Maine
County of Cumberland, ss.

April 26, 2011

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Notary Public / Attorney At Law
Print Name: David L. GALBRAITH JR
My Commission Expires: _____

Received
Recorded Register of Deeds
Apr 26, 2011 12:41:53P
Cumberland County
Pamela E. Lovley

QUITCLAIM DEED
With Covenant

MAINE REAL ESTATE TAX PAID

THAT, 100 INDUSTRIAL WAY, LLC, a Maine Limited Liability Company with an office in Portland, County of Cumberland, State of Maine (Grantor) in consideration of one dollar and other valuable consideration paid by 50 INDUSTRIAL WAY LLC, a Maine Limited Liability Company with an office in Portland, County of Cumberland, State of Maine whose mailing address is 50 Industrial Way, Portland, Maine 04103 (Grantee), the receipt whereof Grantor does hereby acknowledge, does hereby remise, release, bargain, sell and convey and forever quitclaim unto the said 50 Industrial Way LLC, its successors and assigns forever, the following described real estate:

A certain lot or parcel of land, together with the buildings and improvements thereon, situated on the northerly side of Industrial Way, so-called, in the City of Portland, County of Cumberland and State of Maine, and described as follows:

Lot 17 as shown on a Plan of Turnpike Industrial Park made for Portland Venture Partners by Land Use Consultants (Jeffrey H. McAllister, Registered Land Surveyor No. 1263), dated March 25, 1986 and recorded September 17, 1986 in the Cumberland County Registry of Deeds in Plan Book 157, page 61, to which Plan reference is hereby made for a more particular description.

Being the same premises conveyed to the Grantor herein by deed from Bruce E. Milliken dated August 29, 2006 and recorded in the Cumberland County Registry of Deeds in Book 24314, Page 237.

TO HAVE AND TO HOLD the same, together with all the privileges and appurtenances thereunto belonging to the said 50 Industrial Way LLC, its successors and assigns forever.

AND Grantor does covenant with the said Grantee, its successors and assigns, that Grantor shall and will warrant and defend the premises to the said Grantee, its successors and assigns forever, against the lawful claims and demands of all persons claiming by, through or under Grantor.

IN WITNESS WHEREOF, Peter Colesworthy, Manager of 100 Industrial Way, LLC have hereunto set my hand and seal in my said capacity this 30th day of November, 2011.


Witness

100 INDUSTRIAL WAY, LLC

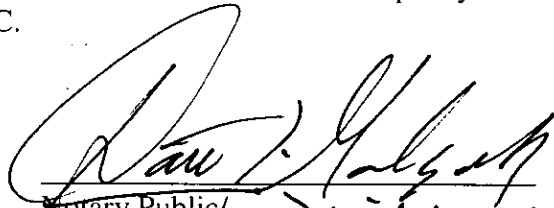
By: 
Peter Colesworthy, Its Manager

State of Maine
Cumberland, ss.

November 30, 2011

Personally appeared Peter Colesworthy, Manager of 100 Industrial Way, LLC and
acknowledged the foregoing instrument to be his free act and deed in his said capacity and the
free act and deed of said 100 Industrial Way, LLC.

Before me,


Notary Public/
Attorney at Law **David L. Galtgay Jr.**
Bar # 003643

Received
Recorded Register of Deeds
Dec 01, 2011 11:31:38A
Cumberland County
Pamela E. Lovley

WHEN RECORDED RETURN TO:

VERRILL
One Portland Square
Portland, ME 04101-4054
Attention: David L. Galgay, Jr.

QUITCLAIM DEED
(Release Deed)

PIE 91, LLC, a Maine limited liability company ("Grantor"), for consideration paid, hereby **RELEASES** to **50 INDUSTRIAL WAY LLC**, a Maine limited liability company, having a mailing address of 50 Industrial Way, Portland, Maine 04103 ("Grantee") certain real property, together with any improvements thereon, located in the City of Portland, Cumberland County, Maine and more particularly described as follows:

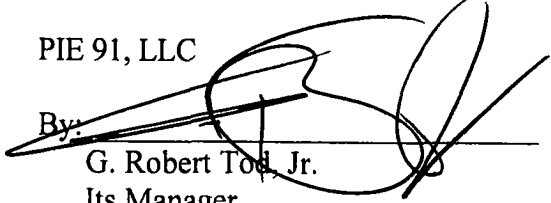
SEE "EXHIBIT A" ATTACHED HERETO

The real property and the improvements situated thereon are hereby conveyed subject to: (i) a certain Mortgage, Security Agreement, Assignment of Rights and Financing Statement from Grantor to Bath Savings Institution, and (ii) a certain Collateral Assignment of Leases and Rents from Grantor to Bath Savings Institution, each dated as of October 3, 2017 and recorded in the Cumberland County Registry of Deeds in Book 34370, Page 70, and Book 34370, Page 85, respectively (collectively, the "Security Documents"), securing a certain \$1,800,000 promissory note dated October 3, 2017 from the Grantor to Bath Savings Institution (the "Note"), which Grantee assumes and agrees to pay.

IN WITNESS WHEREOF, Pie 91, LLC has caused this instrument to be executed by G. Robert Tod, Jr., its Managing Member thereunto duly authorized, this 19 day of December, 2019.

WITNESS:

PIE 91, LLC

By: 

G. Robert Tod, Jr.
Its Manager

State of Maine
County of Cumberland, ss.

December 19, 2019

PERSONALLY APPEARED the above-named, G. Robert Tod, Jr., Managing Member of Pie 91, LLC as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Pie 91 LLC.

Before me,


Notary Public / Attorney at Law

Name: _____

Commission Expiration: _____

SEAL
JUDE A. CLUFF
NOTARY PUBLIC, MAINE
MY COMMISSION EXPIRES OCTOBER 27, 2020

JOINDER OF GRANTEE

50 INDUSTRIAL WAY LLC, a Maine limited liability company, as the Grantee of the premises hereby conveyed, joins in executing this deed for purposes of assuming and agreeing to pay the Note secured by the Security Documents (hereinafter all of the liabilities and indebtedness of the Grantor arising from the Note and Security Documents shall be referred to as the "Assumed Debt"), and agrees that Grantee shall hereafter be liable for repayment of the Note and associated indebtedness to Bath Savings Institution with all interest and other charges associated therewith, and shall well and truly pay the Assumed Debt as it shall become due and payable in accordance with all of the terms and provisions of the Note and the Security Documents.

50 INDUSTRIAL WAY LLC

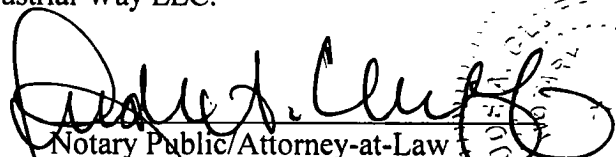
By: _____

G. Robert Tod, Jr.
Its Manager

State of Maine
County of Cumberland, ss.

December 19, 2019

Then personally appeared before me the above-named G. Robert Tod, Jr., the Manager of 50 Industrial Way LLC, and acknowledged the foregoing instrument to be his free act and deed in said capacity, and the free act and deed of 50 Industrial Way LLC.


Notary Public/Attorney-at-Law

Print Name: _____

My Commission Expires: _____

SEAL
JUDE A. CLUFF
NOTARY PUBLIC, MAINE
MY COMMISSION EXPIRES OCTOBER 27, 2020

EXHIBIT A

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

Being Lot 16 as depicted on a certain site plan of "Turnpike Industrial Park" dated March 25, 1986 and recorded at the Cumberland County Registry of Deeds at Plan Book 157, Page 61; such premises being subject to an easement as granted to Raymond Pecor, Jr. of Shelburne, County of Chittenden and State of Vermont and Jan Rozendaal of South Burlington, County of Chittenden and State of Vermont as Trustees of The J. Richard Corley and Linda J. Corley Trust Fund #1 by deed recorded in said Registry in Book 9428, Page 284; and further subject to such Restrictions, Covenants and Conditions set forth in an instrument dated September 17, 1986 and recorded in said Registry in Book 7394, Page 347; and further subject to Site Location Order dated August 18, 1986 and recorded in said Registry in Book 7361, Page 82.

Being the same premises conveyed to Pie 91 LLC by warranty deed dated September 29, 2017 and recorded in Book 34370, Page 68 of the Cumberland County Registry of Deeds.

Received
Recorded Register of Deeds
Dec 24, 2019 11:28:30A
Cumberland County
Nancy A. Lane

Exhibit 02: Consistency with Comprehensive Plan

The 2017 Comprehensive Plan has a threefold master plan for Portland's economy: growing the economy, enriching the creative economy, and supporting business. The proposed map change will allow Allagash Brewing Company to continue growing operations in situ for the next decade. Allagash has a high-growth/high-value potential that will create quality, desirable jobs while providing a continued focus on community-dedicated high-level recycling and environmental stewardship for years to come.

This section contains a narrative with specific reference and an explanation of consistency with the Comprehensive Plan, *Portland's Plan 2030*, 2017.

Consistency with Comprehensive Plan

Upon consideration of operational expansion at the Allagash Brewing Company facility, based on a newly created Master plan, the applicant respectfully requests a map change for the 50 Industrial Way property located in the Turnpike Industrial Park Subdivision approved in 1986. A map change allows the applicant to thoroughly utilize the property by providing the area required for the operational needs now and up to ten years into the future. The applicant strongly desires to promote continued operations at the current campus. The existing technical, logistical, and operating infrastructure can be expanded and enhanced under a map change from I-M to I-Mb zoning, refining the site density to provide a more modernized, more extensive, and continued use of the existing brewery property without relocation.

The City's Comprehensive Plan (CP) – *Portland's Plan 2030* was released in 2017 and is found to be consistent with Maine's Growth Management Act by the State of Maine Department of Agriculture, Conservation & Forestry and is the policy guide for the entire city. The request for map change is consistent with *Portland's Plan 2030* as follows:

Policy Guide: Environment, A Healthy City

City Strategy:

- Support and recognize Portland's role as a thriving food economy in City codes and policies
- Reduce City-wide non-renewable energy consumption through policies that support public and private investments in alternative energy sources
- Strive to be a state-wide leader in creating high-performance buildings in order to decrease carbon emissions in the building sector.
- Encourage landowners and developers to incorporate sustainable design, materials, and practices in...and in new construction
- Increase efforts to promote waste reduction in City operations and in the community

Consistency: Allagash invested in alternative energy sources and is dedicated to the reduction of carbon emissions. The sustainability focus, now and in the future, follows a model consistent with the Healthy City/Environmental strategies. Allagash recycles or sidestreams 98.8% of waste and formed a recycling co-op in 2021 with other companies to get hard-to-recycle materials out of the waste stream. A map change at 50 Industrial Way expands the goodwill and sustainability at a larger facility and aligns completely with the waste reduction goals desired by the city.

Comprehensive Plan references: Pages 301

Policy Guide: Economy, A Vibrant City

State Goals: Promote an economic climate that increases job opportunities and overall economic well-being.

Applicable City Goals:

- Create economic prosperity by growing Portland's tax and employment base
- Value and nurture Portland-based businesses

Consistency: The map change is consistent with the goals of both the state and city. Allowing a change in density on the Allagash site grows the tax and employment base and is part of acknowledging the value of long-established businesses.

Comprehensive Plan references: Pages 45, 49, 188

Policy Guide: Future Land Use

State Goal: To encourage orderly growth and development in appropriate areas of each community while protecting the state's rural character, making efficient use of public services, and preventing development sprawl, supporting the concentration of jobs.

Consistency: Allagash Brewing Company is consistent with the plan as a map change allows continued use as a brewery at its current location, limits sprawl by expanding operations in situ, and keeps existing and future jobs concentrated in one recognized location. Reference is made to the recently completed Allagash Brewing Company Master Plan included in this submittal package.

Comprehensive Plan references: Pages 84, 281

Regional Coordination

From the summary of *Regional Coordination Goals and Strategies – Environment*

- Collaborate with local non-profits, research organizations, property owners, and surrounding communities to achieve cleaner water

Consistency: Allagash currently has a program in place that includes ongoing monetary donations (10 cents per barrel) to non-profits that preserve the watershed, including Sebago Clean Waters. This program is consistent with the goals and strategies to raise awareness and achieve cleaner water.

Comprehensive Plan references: Page 93, 94

George Rheault <george.rheault@gmail.com>

12:00 PM (now)

to Planning Board, Austen Torres Davis, Abigail Reed, jmy

Fresh off playing a crucial role in blocking potential housing opportunity at almost an acre of land adjacent to Riverton Trolley Park [see footnote 1 below] and breaking the hearts of all Portlanders with their announcement that Allagash Brewery will soon be flag-shipped from Scarborough Downs rather than Riverton [see footnote 2 below], Allagash Brewery should receive real scrutiny from the Planning Board regarding its spot zoning request.

Basic questions to be explored AND ANSWERED:

- 1.) When were the I-M and I-Mb zones first introduced into our zoning code? Was there any language or justification at that time for the varying treatment of impervious ratios among the different industrial zone classifications? Was there any acknowledgement at the time of creation that I-Mb zones were given greater impervious ratio flexibility because they effectively were already beyond the 75% ratio due to previous development that was effectively grandfathered in?
- 2.) How exactly does the concept of a "pavement setback" work in theory and practice for the existing parcels being proposed for I-Mb inclusion and how will it be deployed going forward if the rezoning request (including the expanded zone) is approved? Does this provide any meaningful protection for limiting impervious areas?
- 3.) How much total acreage is being proposed to be added in the expanded I-Mb zone?
- 4.) What is the justification for leaving 81 Industrial Way out of the rezoning area? Or its immediately adjacent neighbor? Or any other parcel along the length of Industrial Way? All of this seems entirely arbitrary, meant only to disguise the spot zoning or avoid a contract zone.

Footnote 1 (see attachment)

[Portland adds new parcel to expand Riverton Trolley Park - Portland Press Herald](#)

Footnote 2 (see attachment)

[Allagash Brewing to move tasting room to Scarborough in 2024 - Portland Press Herald](#)

Allagash Brewing to move tasting room to Scarborough in 2024

pressherald.com/2022/09/08/allagash-brewing-to-move-tasting-room-to-scarborough-in-2024/

By Ray Routhier Staff Writer



Allagash's outdoor setup at its brewery on Industrial Way in Portland. *Photo courtesy of Allagash Brewing Co.*

Allagash Brewing Co. plans to build a tasting room in Scarborough that will replace the one at its Portland brewery, which it says it's outgrown.

The brewery's current tasting area on Industrial Way, which has been outdoor-only since the start of the pandemic, will remain open until the new one is built at The Downs, a mixed-use commercial and residential development on the site of the former Scarborough Downs race track. Allagash announced Thursday that it plans to open the new tasting room, which will have both indoor and outdoor spaces, in 2024.

Allagash founder Rob Tod said the company's current tasting area draws more than 150,000 visitors a year, a number that's always growing. When Tod started Allagash in 1995, brewery tasting rooms didn't exist in any significant numbers, so there wasn't much thought to making room for one. The Portland space currently has a capacity of about 240 people.

Though details have not been finalized, Tod said the new Scarborough tasting room will have much more space for parking and for both indoor and outdoor tasting areas. The tasting room will sell Allagash beer and merchandise and some brewing will be done there as well, Tod said. The primary Allagash brewery, which now produces about 120,000 barrels a year, will continue to operate at its current Industrial Way location in Portland.

"We never had the opportunity to start with a blank canvas in creating a tasting room; now we will," said Tod.

Tod said Allagash reached an agreement with developers of The Downs within the last month or so to purchase a more than 7-acre parcel about a half mile from Interstate 95. Tod said finding a place that was easy to get to was important, and it had to be within 15 minutes of the brewery.

Advertisement

Even though Allagash sells its beer in 20 states, Tod said, having a tasting room that is welcoming and accessible is "very important" to the business overall, especially in Maine, where droves of tourists are constantly looking for new experiences.

"Millions of people visit Maine every year, now almost year round, so (a tasting room) is a unique opportunity to directly engage with those customers," said Tod.



Rob Tod, the founder of Allagash Brewing Co., announced Thursday its plans for a tasting room at the former Scarborough Downs racetrack site. *Photo courtesy of Allagash Brewing Co.*

After the Scarborough location opens, Allagash will still have a small indoor tasting area at the brewery, called Allagash Cellars, Tod said. Though it's on the outskirts of Portland near the Westbrook line, the Industrial Way area is home to several other Maine breweries and the confluence of tasting rooms has made it a beer-drinking destination.

Since the former Scarborough Downs race track property was purchased in 2018 by Rocco Risbara, Peter Michaud and their brothers, they have developed more than 475 housing units at The Downs, including single-family homes, duplexes, condominiums, apartments, affordable senior apartments and a memory care facility. They're also developing a business innovation district, a downtown district, and parks and trails.

Michaud said Thursday that at least three other breweries have expressed interest in locating at The Downs, though nothing has been finalized. Several restaurants and coffee shops have expressed interest as well. But Michaud, who is managing partner, said the developers do not want to "overbuild" any one type of business or amenity on the site.

Founded in 1995, Allagash is one of Maine's oldest craft brewers, known for its Belgian-style beers, namely its flagship, Allagash White. Tod won a 2019 James Beard Award for Outstanding Wine, Beer or Spirits professional. Allagash was named Brewer of the Year in its size category at the 2021 Great American Beer Festival in Denver.

Portland adds new parcel to expand Riverton Trolley Park

[pressherald.com/2022/08/01/portland-adds-new-parcel-to-expand-riverton-trolley-park/](https://www.pressherald.com/2022/08/01/portland-adds-new-parcel-to-expand-riverton-trolley-park/)

By Rachel Ohm

August 2, 2022



The city of Portland recently purchased a parcel of land in the Riverton neighborhood that will add just under an acre to the Riverton Trolley Park, helping to preserve the land and views in the historic park.

“The Trolley Park is a gem within our park system and we are thrilled to be able to afford additional park space and protection for this public location in the growing Riverton neighborhood,” Danielle West, Portland’s interim city manager, said in a statement announcing the purchase on Monday.

The new park space will provide “significant wildlife habitat with mature white pines, water quality protection for the Presumpscot River, and protects the viewshed,” the statement said.

Riverton Trolley Park is a 19-acre park located off Riverside Street and Forest Avenue. The park opened to the public more than 120 years ago and the city has applied for a \$250,000 Land and Water Conservation Fund grant for a rehabilitation project that would include a

mountain bike flow trail, a renovated entrance and parking lot, new signage, repairs to the Little League field and other upgrades.

The Land Bank Commission approved the purchase of the new 0.9-acre parcel at 834 Riverside St. in February and recommended to the City Council that the land be added to the park. The council voted 8-1 in March to approve the purchase, with \$23,000 of the cost coming from a donation from Allagash Brewing and the remaining \$27,000 from the Land Bank Fund.



A dog walker enjoys the Riverton Trolley Park in 2021. *Brianna Soukup/Staff Photographer*

Jon Kachmar, a commissioner on the Land Bank Commission, said Monday that while the new parcel is small, it will help preserve the view, water quality and quietness in that corner of the park.

The parcel is adjacent to areas that were historically home to a croquet field, theater and a trout pond and natural spring. Kachmar said residents and visitors to the park in the late 1800s and early 1900s would go to there to seek solitude and to get away from busier parts of the city.

“If (this new parcel) were developed it could be a very different view, setting and experience for park users,” he said.

Related

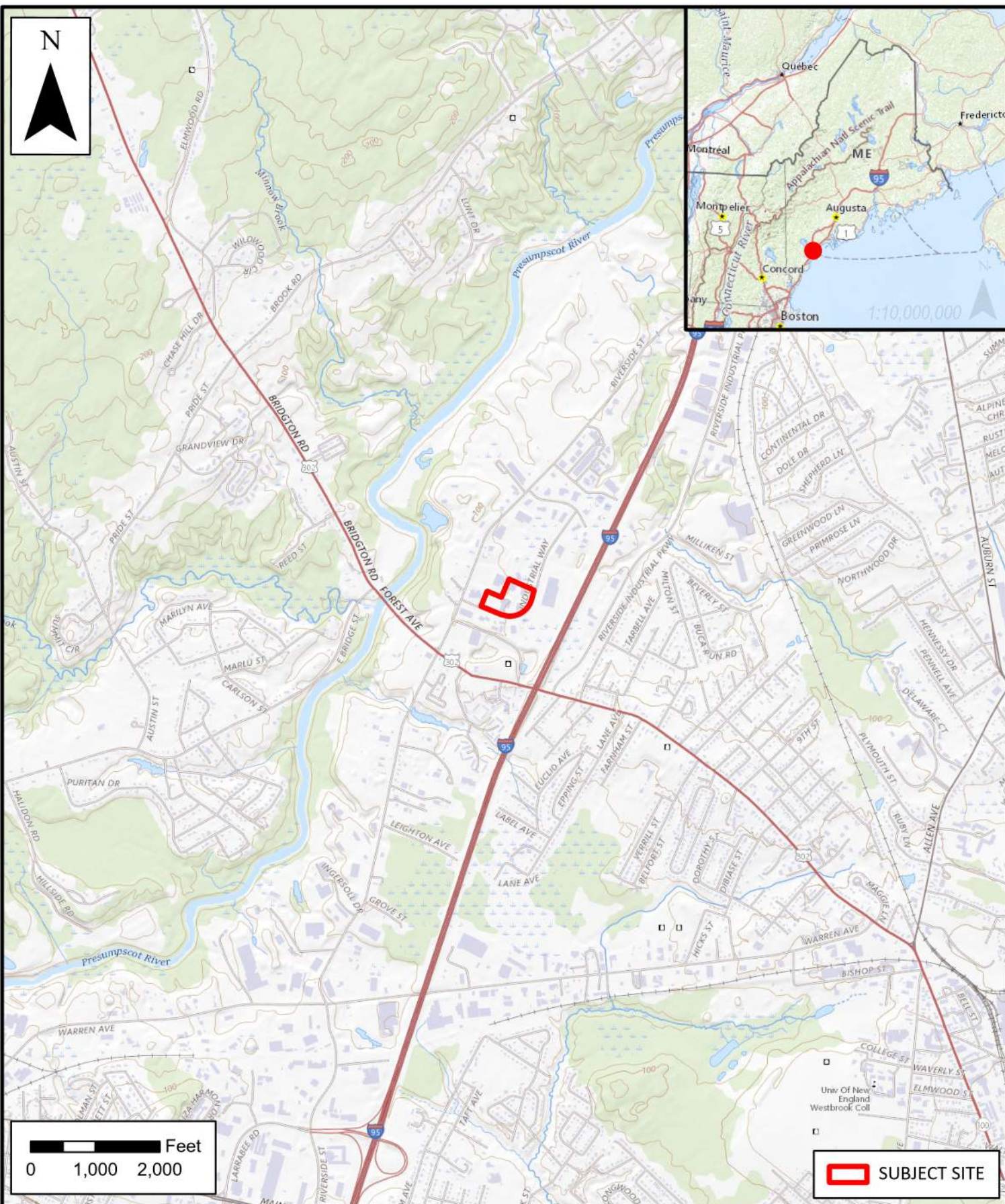
After years of neglect, Riverton Trolley Park may rise again

Although the council approved the sale in March, Kachmar said it was only recently finalized.

Allagash has been brewing in the Riverton neighborhood not far from the park since 1995, the city’s announcement said.

“We’ve been here since we opened,” Rob Tod, founder and brewer, said in the release. “And a lot of our employees live right here. Helping out with the Trolley Park was an important opportunity to help make our community a better place for everyone.”

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75 John Roberts Rd. - Suite 4A
South Portland, ME 04106
Tel: 207-290-2100

LOCATION MAP ALLAGASH BREWING COMPANY

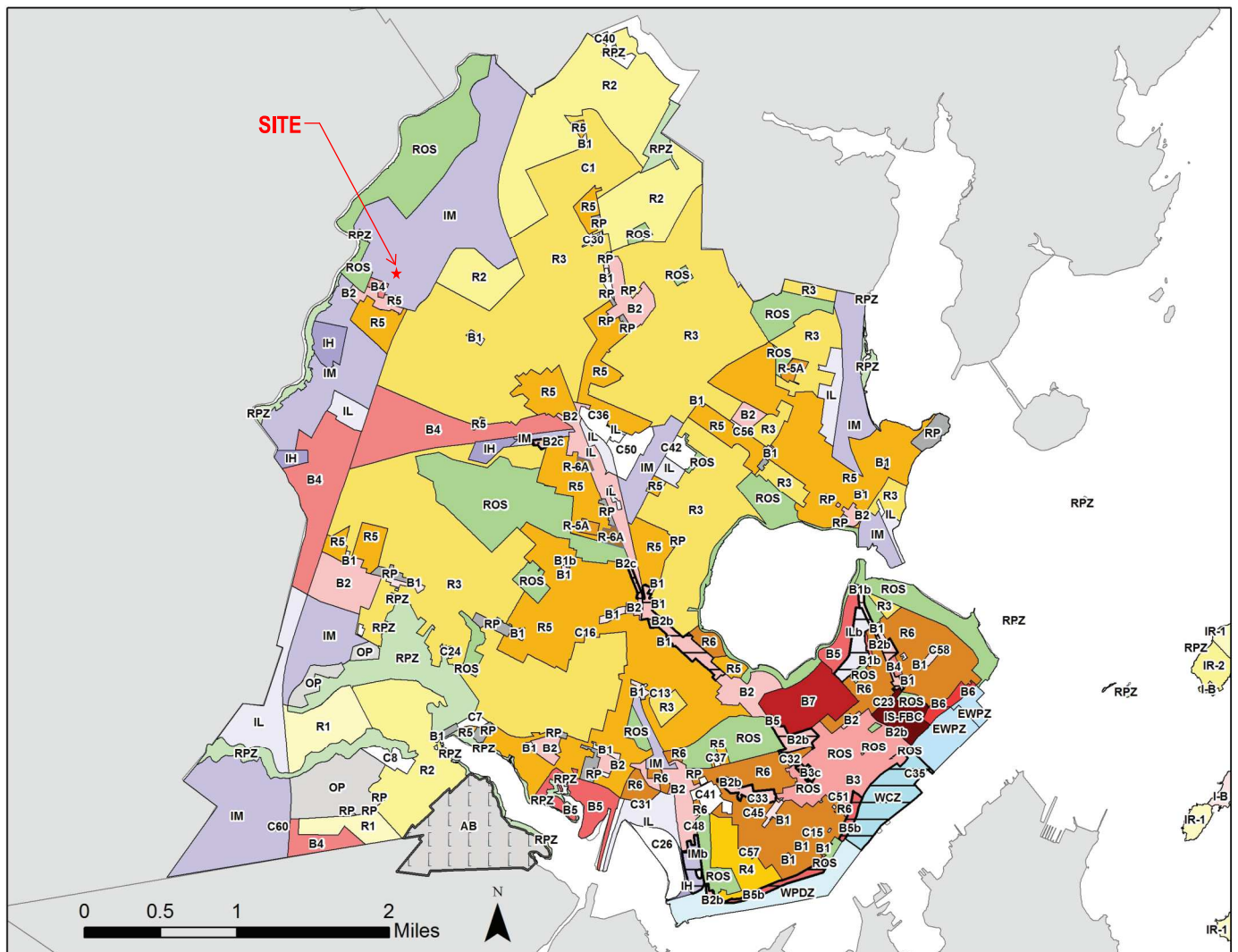
LOCATION:
50 INDUSTRIAL WAY
PORTLAND, ME

INFORMATION:
MAINE GEOLIBRARY
USGS QUADRANGLE

SCALE: 1:24,000

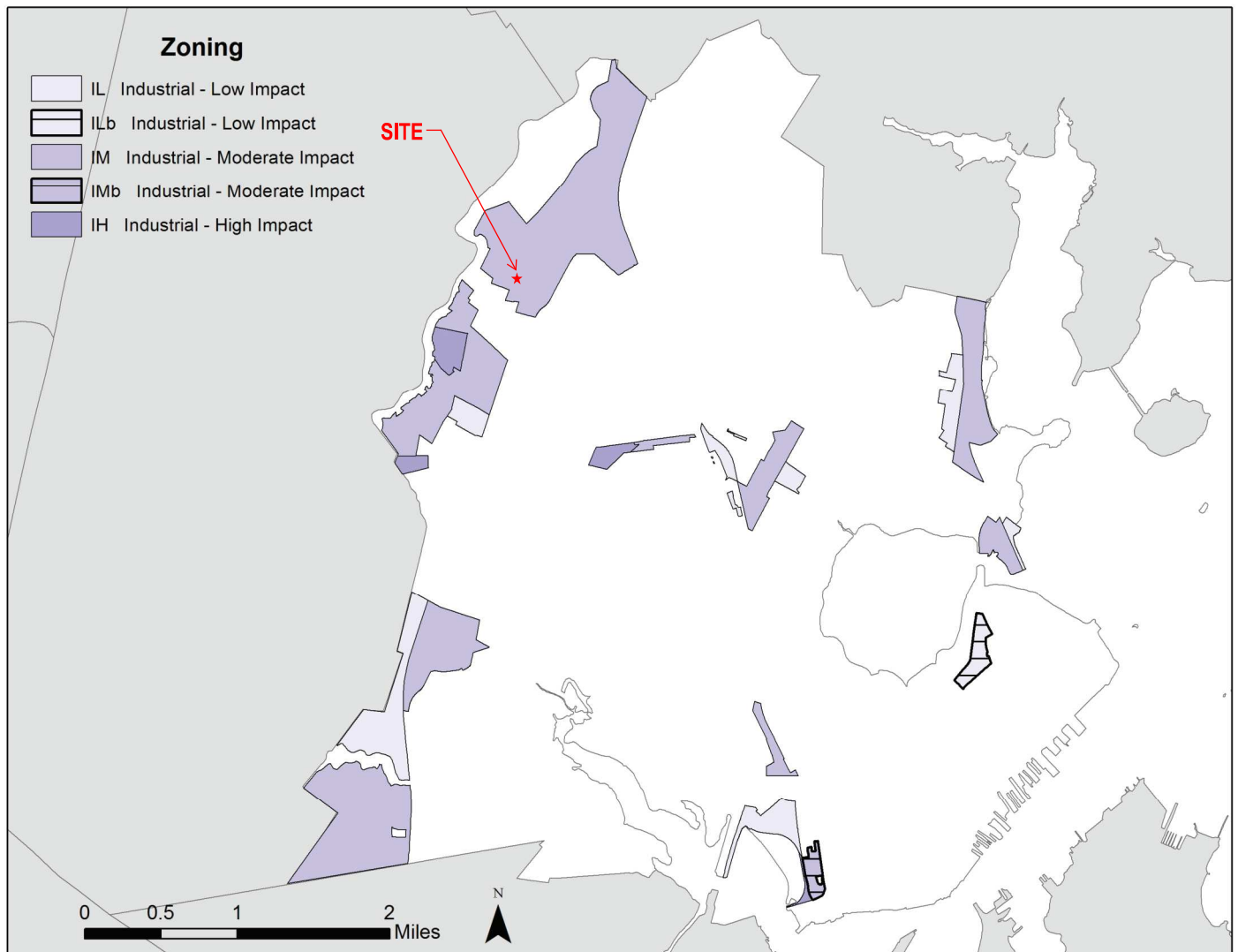
DATE: 12/8/2022

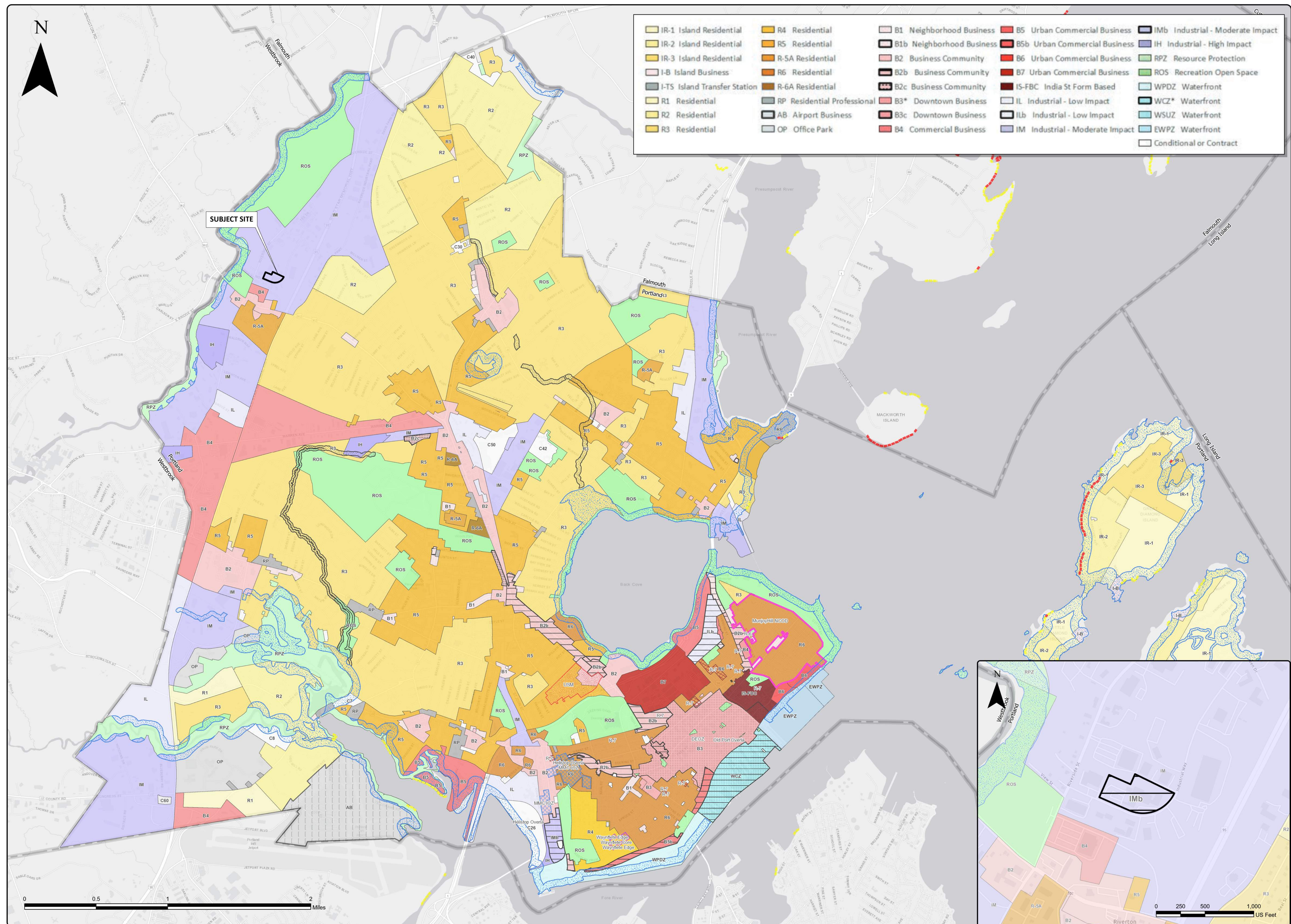
Portland's Existing Zoning (2015)

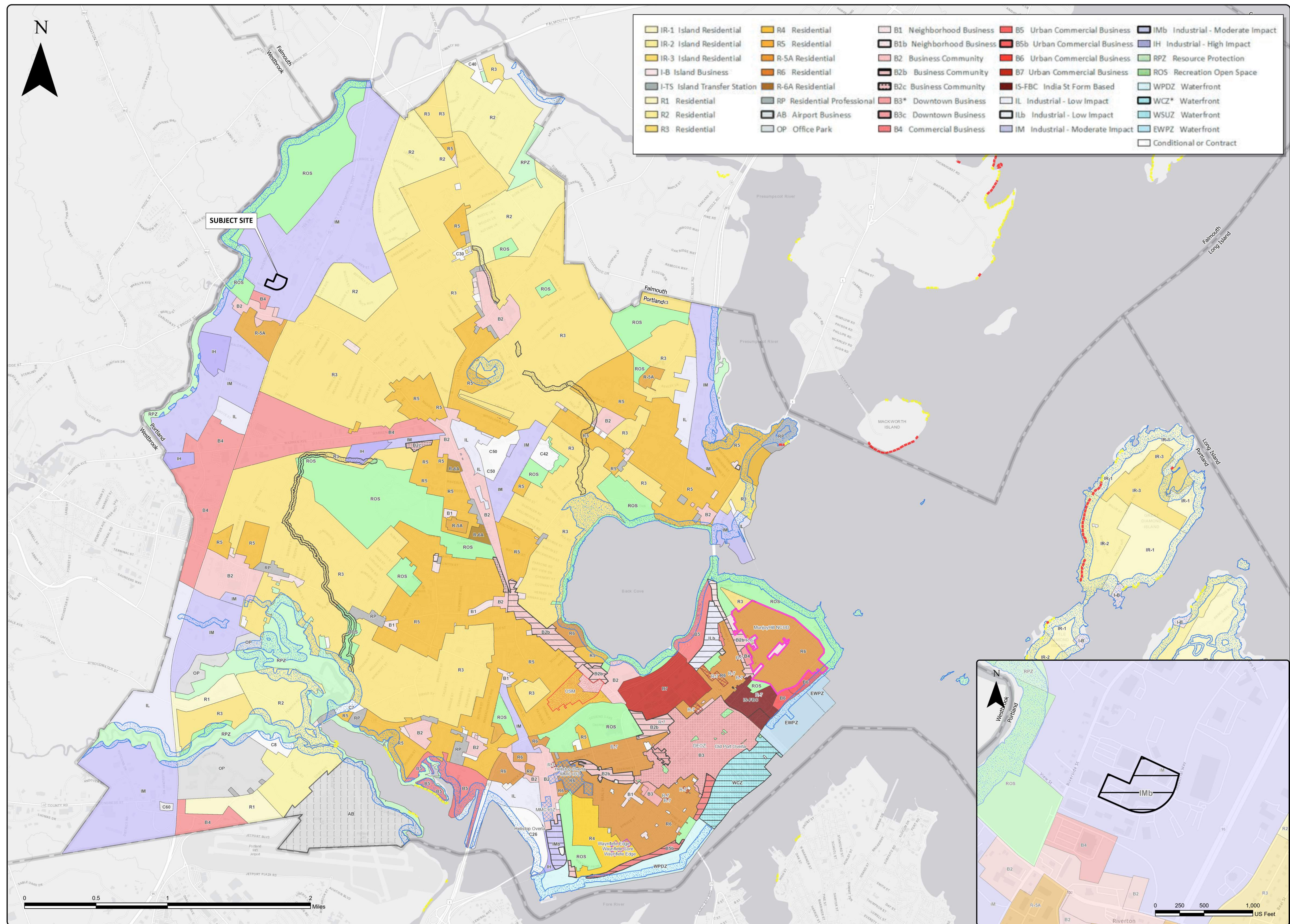


IR-1 Island Residential	R4 Residential	B1 Neighborhood Business	B5 Urban Commercial Business	IMb Industrial - Moderate Impact
IR-2 Island Residential	R5 Residential	B1b Neighborhood Business	B5b Urban Commercial Business	IH Industrial - High Impact
IR-3 Island Residential	R-5A Residential	B2 Business Community	B6 Urban Commercial Business	RPZ Resource Protection
I-B Island Business	R6 Residential	B2b Business Community	B7 Urban Commercial Business	ROS Recreation Open Space
I-TS Island Transfer Station	R-6A Residential	B2c Business Community	IS-FBC India St Form Based	WPDZ Waterfront
R1 Residential	RP Residential Professional	B3* Downtown Business	IL Industrial - Low Impact	WCZ* Waterfront
R2 Residential	AB Airport Business	B3c Downtown Business	ILb Industrial - Low Impact	WSUZ Waterfront
R3 Residential	OP Office Park	B4 Commercial Business	IM Industrial - Moderate Impact	EWPZ Waterfront
				Conditional or Contract

Industrial Zones in Portland (2015)









02249-04 S. 0mg TAB 2x36

MASTER PLAN
OF:
ALLAGASH BREWING COMPANY EXPANSION
50 INDUSTRIAL WAY
PORTLAND, ME

FOR:
ALLAGASH BREWING COMPANY
50 INDUSTRIAL WAY
PORTLAND, ME

DESIGNED	KSM
DRAWN	MRS
CHECKED	KSM
DATE	01/11/2022
SCALE	1" = 30'
PROJECT	02249-04

SHEET 1 OF XX

SEBAGO
TECHNICS
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel: 207-200-2100
WWW.SEBAGOTECHNICS.COM

REV	BY	DATE	STATUS	ISSUED FOR CLIENT REVIEW
A	KSM	01/11/2022	STATUS	

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

PLS OR PE
PLS OR PE
PLS OR PE

3 Unit Apartment Building
31 Forest Street
Major Site Plan Application
PL-002018-2022
31 Forest LLC, Applicant

Submitted to:	Portland Planning Board	Prepared By:	Austen Torres Davis
Public Hearing Date:	January 24, 2023	Date:	January 20, 2023

I. INTRODUCTION

31 Forest LLC has submitted a Major Site Plan application to facilitate the construction of a three-unit, 3,690 square foot residential building with ground floor parking at 31 Forest Street, within the Saint John Valley neighborhood, zoned R-6 Residential.

The 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.

In anticipation of this Planning Board Public Hearing, the Planning and Urban Development Department mailed 85 notices to residences within 500 feet of the subject property. A legal advertisement ran in the January 13, 2023 and January 14, 2023 editions of the *Portland Press Herald*.

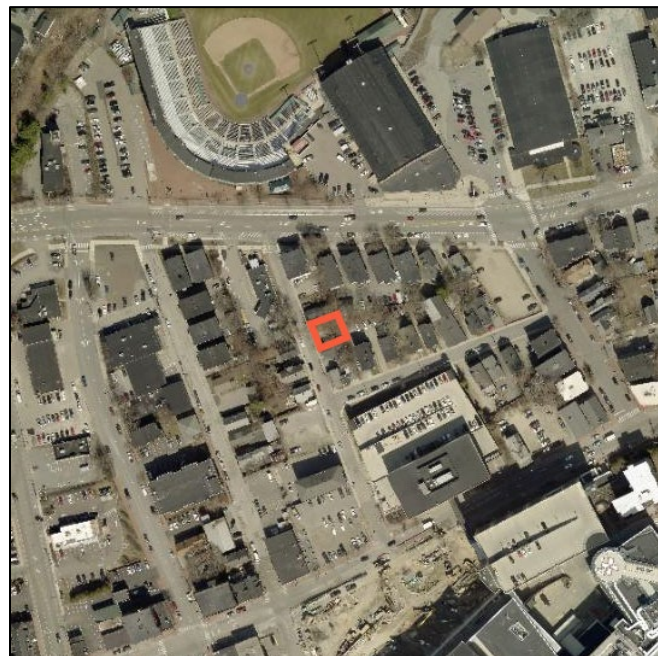


Figure 1. 31 Forest Street in Neighborhood Context

The Planning Board held a workshop on September 27, 2022.

Applicant: Ray Chang, 31 Forest LLC.

Applicant Team: Eric Dube, Trillium Engineering Group; Paul Lewandowski, Paul Designs Projects.

II. REQUIRED REVIEWS

<i>Review</i>	<i>Applicable Standards</i>
Major Site Plan	Section 14.6

III. WAIVER REQUESTS

<i>Waiver Requests</i>	<i>Applicable Standards</i>
Construction of concrete sidewalk to match existing materials along Forest Street.	Technical Manual, Section 1.6.1 Sidewalk construction and materials

	Per the <i>City Sidewalk Materials Policy (Technical Manual Appendix 1)</i> Sidewalks on Forest Street between Congress Street and Park Avenue are required to be constructed of brick.
--	--

IV. PROJECT DATA

Existing Zoning	R-6 Residential
Lot Size	2,625 sf
Existing Use	Vacant lot
Proposed Use	Multifamily
Total Residential Units	3 (Rental)

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Impervious Surface Area	0 sf	1,679 sf	+1,679 sf
Building Footprint	0 sf	1,230 sf	+1,230 sf
Building Floor Area	0 sf	3,690 sf	+3,690 sf
Parking Spaces	0	3	+3
Bicycle Parking Spaces	0	2	+2

V. BACKGROUND AND EXISTING CONDITIONS

The subject property at 31 Forest Street is a vacant lot with a lot area of 2,625 square feet. The site is located half a block south of Hadlock Field, and one and a half blocks north of Maine Medical Center. The area is characterized by a mixture of single and multi-family residential buildings, with non-residential uses clustered along Congress Street to the south and St. John Street to the west. Historically, the site was occupied by a three-story, two-unit building that was demolished under previous ownership.

The site is accessible to public transit with GP Metro Routes 9A, 9B, and 1 along Congress Street, and GP Metro Route 5 along Park Avenue. The nearest bus stops on Congress Street and Park Avenue are located 460 and 450 feet from the site respectively.



Figure 2. 31 Forest Street, Existing Conditions

VI. SEPTEMBER 27, 2022 WORKSHOP SUMMARY

A Planning Board Workshop was held on September 27, 2022. Board deliberation at the workshop entailed questions regarding the unit count, parking demand, as well as design features. Members of the Planning

Board expressed preference for the addition of ground floor residential space rather than parking. Additionally, the inclusion of a garage door, and the articulation of the structure's cornice were discussed. Public comment at the workshop included abutter concerns related to the building's proximity to adjacent structures' foundations, as well as concern that the parcel is often used as a cut-through for nearby pedestrians.

The project has since undergone numerous revisions in response to questions and concerns expressed by both the Board and public during the workshop and subsequent staff-level review. Revisions include providing a garage door and stockade fence to reinforce ownership and façade articulation. Details such as snow storage locations, and stormwater details have also been added to plans.

VII. PROPOSED DEVELOPMENT

The applicant proposes the development of a four-story residential building totaling approximately 3,690 square feet in floor area, with three residential units intended to be apartments for rent. Because the total number of residential units is below 10, the City's Inclusionary Zoning ordinance is not in effect. The proposed building would rise to a maximum height of approximately 35 feet.

All residential units in the structure are proposed to have two bedrooms, and include a reserved parking space. Three covered parking spaces would be provided on the ground level of the new building. Parking would be accessed via an approximately 15-foot curb cut off of Forest Street.

Associated site improvements proposed in connection with the new building include a rebuilt sidewalk, to be constructed of poured concrete with granite curbs, two street trees, and a rain garden to alleviate stormwater runoff.



Figure 3. Site Renderings

VI. RIGHT, TITLE AND INTEREST AND FINANCIAL/TECHNICAL CAPACITY

The owner of the property is 31 Forest LLC, a Maine-based limited liability company. The applicant has submitted a Statement of Financial Capacity letter from their financial institution, Camden National Bank, as demonstration of their financial capacity (Attachment E). A Statement of Technical Capacity has been provided by the applicant's representative, Trillium Engineering Group, which lists the consultant team and mentions the team's experience in design and development (Attachment F).

VII. ZONING ANALYSIS

31 Forest Street (parcel 053 A011001), is located in the R-6 Residential zone. The R-6 dimensional standards are described in Table 7-A of the Land Use Code. Multi-family dwellings are listed as a permitted use in the R-6 zone as described in Table 6-A of the Land Use Code.

As per Article 19, Table 19-A, the minimum off-street parking requirement is calculated as one space per dwelling unit. However, within the R-6 zone, no off-street parking is required for the first three dwelling units as described in Table 19-B. Therefore, the baseline zoning requirement is zero parking spaces at 31 Forest Street. The applicant proposes to provide three vehicular parking spaces and two bicycle parking spaces.



Figure 4. 31 Forest Street in R-6 Zone Context

The following table shows the dimensional requirements of the R-6 zone which are met by this proposal:

<i>Standard</i>	<i>R-6 Zoning Requirement</i>	<i>31 Forest Street</i>
Minimum Lot Area	2,000 square feet	2,625 square feet
Minimum Lot Area Per Dwelling Unit	725 square feet	875 square feet
Minimum Street Frontage	20 feet	49.39 feet
Minimum Front Setback	5 feet (or average depth of adjacent front yards)	4.45 feet (average of adjacent front yards)
Minimum Rear Setback	10 feet	16.72 feet
Minimum Side Setback (>2.5 stories)	5 feet	5.91 feet (R) 5.48 feet (L)
Maximum Lot Coverage	60%	45.98%
Minimum Lot Width	20 feet	49.39 feet
Maximum Structure Height	45 feet	34.95 feet
Minimum Landscaped Open Area	20%	21.5%

Minimum Off-Street Parking	0	3
Minimum Off-Street Bicycle Storage	2 Spaces (per 5 units)	2

VIII. DEVELOPMENT REVIEW

A. SITE PLAN REVIEW STANDARDS (Section 14.6)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and other applicable regulations. Staff comments are listed below.

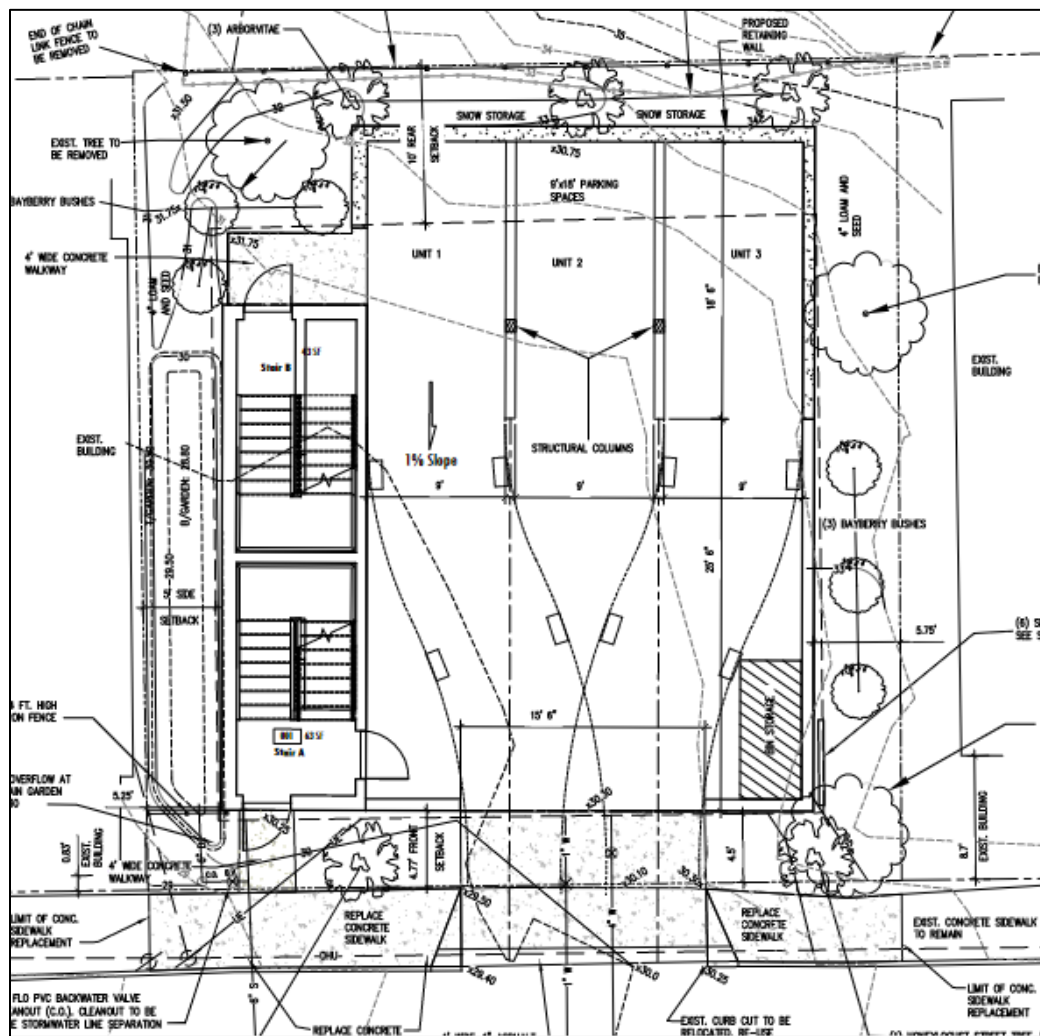


Figure 5. Site & Landscape Plan of 31 Forest Street

a) Transportation Standards

1. Impact on Surrounding Street Systems

The proposed project is located on Forest Street, which is a minor residential street, and the applicant is proposing to provide three parking spaces for a three-unit residential building. The site

is accessible to public transit and it is not anticipated to adversely affect surrounding street systems.

Staff Response: *This standard has been met.*

2. **Access and Circulation**

The applicant proposes a driveway leading from Forest Street to the three proposed parking spaces located on the ground floor of the proposed building. New sidewalk and curbs would be built, as well as a new curb cut for the driveway and walkway to the front entrance. At 15 feet and six inches in width, the driveway conforms to the width standards of the *Technical Manual*. A turning template has been provided to demonstrate how vehicles would maneuver between Forest Street and the proposed parking area.

The applicant is seeking a waiver to construct the sidewalk adjacent to the site in concrete rather than brick as required by the *Technical Manual*. The predominant paving material along Forest Street is concrete, while the nearest brick sidewalks are located at the Park Avenue and Congress Street intersections. The Department of Public Works supports this waiver to permit the applicant to replace the concrete sidewalk in kind.

The below final traffic and circulation comments were provided to the applicant as of January 17, 2023. Updates are forthcoming, and as a condition of approval finalized plans will be required to meet the satisfaction of Department of Public Works reviewers.

Janine Ba, DPW Project Engineer, offers the following comments:

- *The proposed TERMINAL CURB PROFILE and VERTICAL CURB PLAN VIEW details are missing some information. Add a note to each that references the City standard detail figure I-12 shall be followed or update your details with the missing information.*
- *The proposed DRIVEWAY APRON AT CONSTRAINED SIDEWALKS detail is missing some information. Add a note to each of the driveway details that references the City standard detail figure I-9C shall be followed or update your details with the missing information.*
- *The TYP. CONCRETE DRIVE DETAIL needs to be updated to include a note that references the City standard detail for REINFORCED CONCRETE DRIVEWAY APRON I-10B or update your details with the missing information.*
- *The TYP. CONCRETE SIDEWALK DETAIL needs to be updated to include a note that references the City standard detail for REINFORCED CONCRETE SIDEWALK I-11B or update your detail with the missing information.*
- *The existing sidewalk is 5ft wide and shall be reconstructed at that width. There is currently landscape debris covering the sidewalk. The plans shall be updated to show the proper width.*
- *Provide spot elevations at the limit of concrete sidewalk replacement.*
- *Provide dimensions on the proposed improvements in the ROW.*

3. **Public Transit Access**

All residential developments consisting of 20 or more dwelling units shall provide a transit shelter adjacent to or within the public right-of-way along its frontage. The proposed project provides a total of three units, therefore this standard is not applicable.

4. **Parking: Vehicle and Bicycle**

This development proposes three parking spaces that are to be used by residents of the new building yielding a parking ratio of one space per unit, with no changes to on-street parking. The applicant proposes to include two bicycle parking spaces meeting the minimum bicycle parking requirements. All vehicle parking is located on the ground floor tucked under the new building.

Staff Response: This standard has been met.

b) **Environmental Quality Standards**

1. **Preservation of Significant Natural Features**

This is an urban infill site; aside from the existing building on site, the lot currently consists of denatured land devoid of significant natural features as defined by Section 14.6.2. (A).

Staff Response: This standard has been met.

2. **Landscaping and Landscape Preservation**

The applicant proposes to plant two new street trees as well as plantings and shrubbery in various areas around the building. With three residential units proposed the applicant is required to plant three street trees. In the event that the applicant is unable to plant all three trees, they may utilize a street tree alternative as described in the City's Technical Manual Section 4.6.4 to meet the requirement. With two street trees proposed, the applicant is required to pay \$400, corresponding to one street tree, into the City Tree Fund.

The applicant proposes to remove three trees on site, one of which measured as 16" DBH and the remaining two measured at 25" DBH. The City of Portland Land Use Code requires that all development subject to zoning setbacks preserve a minimum of 30% of existing trees 10 inches DBH or greater within the required setback area unless the trees are non-native species. According to the City Arborist, the existing trees are Norway Maples and are listed on the State of Maine's Invasive Plant list and therefore are permitted to be removed.

Staff Response: With two street trees proposed to be planted on site, the applicant is required to pay \$400, corresponding to \$400 for one street tree into the City's Tree Fund.

3. **Water Quality, Storm Water Management and Erosion Control**

The Applicant has provided a detailed Stormwater Management Report (Attachment J), as well as an Erosion and Sedimentation Control Report to meet the Basic Standards. Additionally, the applicant has submitted a wastewater capacity application. The below final water resources comment was provided to the applicant as of January 17, 2023. Updates are forthcoming, and as a condition of approval finalized plans will be required to meet the satisfaction of Department of Public Works reviewers.

Justin Pellarin, Senior Water Resources Engineer, offers the following comments:

- *The proposed backflow preventer shall be relocated to prevent sewage backups into the proposed building.*

Public Infrastructure and Community Safety Standards

1. **Consistency with City Master Plans**
This development is consistent with the goals and policies outlined in *Portland's Plan 2030*. The new housing development aligns with the City's vision statements and goals by increasing the overall housing supply in a contextual manner in a walkable, transit accessible location, which has the ability to enable people who work in Portland to have the option to live in Portland.

Goals:

- Housing: Increase, preserve, and modify the overall supply of housing city-wide to meet the needs, preferences and financial capabilities of all Portland residents.
- Housing: 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.
- Housing: Pursue policies to enable people who work in Portland to have the option to live in Portland.
- Environment: Adopt sustainable land use and transportation policies that support connectivity, walkable neighborhoods, and multi-modal transportation.



Figure 6. Vision Statement from Portland's Plan 2030

2. **Public Safety and Fire Prevention (CPTED and Fire)**

The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance addresses the principles of natural surveillance, access control and territorial reinforcement so that the design of developments enhance the security of public and private spaces and reduce the potential for crime. The site's landscaping reinforces ownership while its windows and relation to neighboring buildings promote natural surveillance. The lighting is sufficient to promote visibility and security.

Staff have recommended utilizing a secured garage door to promote security and clearly demarcate the separation between public and private space. The applicant has revised the building to incorporate the suggested garage door.

Staff Response: This standard has been met.

3. **Availability and Adequate Capacity of Public Utilities**

The Applicant has requested an ability to serve confirmation from the Portland Water District. Central Maine Power conducted a site evaluation and has approved overhead service for 31 Forest Street. The applicant has submitted a Wastewater Capacity Authorization from the Department of Public Works to meet basic standards.

Staff Response: This standard is be met.

c) Site Design Standards

1. Massing, Ventilation and Wind Impact

The new building proposed is not anticipated to impact any adjacent structures as it relates to bulk or diminution of available light and air to abutting properties. The urban infill building does not differ substantially from adjacent and nearby structures regarding massing so negative impacts are not anticipated. The proposed building rises up to a height of approximately 35 feet, which is below the maximum 45 feet permitted in the R-6 zone.

Staff Response: This standard has been met.

2. Shadows

As an infill development that conforms to dimensional standards and setbacks, negative impacts regarding shadows are not anticipated; additionally, the development site is not proximate to any parkland.

Staff Response: This standard has been met.

3. Snow and Ice Loading

The applicant has provided information related to snow and ice storage and removal, with snow storage provided at the rear of the property. As an infill building of similar scale to the surrounding neighborhood, no adverse impacts are anticipated related to snow and ice storage.

Staff Response: This standard has been met.

4. View Corridors

Staff Response: Not applicable.

5. Historic Resources

The site is not within or proximate to an established historic district, nor within 100 feet of a historic landmark.

Staff Response: Not applicable.

6. Exterior Lighting

The Applicant has submitted lighting specifications and cut sheets, and have also submitted a photometrics plan demonstrating compliance with City site lighting standards.

Staff Response: This standard has been met.

7. Noise and Vibration

All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will be required to meet state and federal emissions requirements. Staff have discussed this standard with the applicant and are awaiting the submittal of updated plans showing the location of HVAC, AHU, and similar equipment.

Staff Response: A condition of approval requiring the applicant to submit updated plans locating HVAC equipment and to be reviewed by the Planning Authority has been added.

8. **Zoning Related Design Standards**

As this development is located within the R-6 zone, a design review was conducted according to the City of Portland Design Manual Standards. Planning staff and the city's Urban Designer reviewed site plans and renderings against the R-6 Residential Zone Standards (Appendix 7 of the Design Manual).

Final design review comments from staff are attached (Attachment 6).

Staff Response: This standard has been met.

IX. **PUBLIC COMMENT**

At the time of writing this report, the Planning and Urban Development Department has received no written public comments. Public comment at the workshop were related to the development's proximity to adjacent structures, stormwater concerns, and concern related to the site's use as a cut-through for area residents. Site plans have been updated to address these comments through stormwater infrastructure and the installation of fencing and garage doors to reinforce ownership and safety.

X. **STAFF RECOMMENDATION**

Subject to the proposed motions and conditions of approval listed below, Planning Department staff recommends that the Planning Board find that the three-unit residential development at 31 Forest Street meets the applicable standards of Portland's Land Use Code.

XI. **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 January 24, 2023 for application #PL-002018-2022 at 31 Forest Street 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. **Sidewalk construction and materials**

The Planning Board [**finds/does not find**] based upon the City Engineer's Review, that extraordinary conditions exist or undue hardship may result from strict compliance with the Technical Manual standard Section 1.6.1 which requires, for sidewalks along Forest Street between Congress Street and Park Avenue, that sidewalks shall be constructed of brick, 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 1.6.1 to allow sidewalk construction material of concrete, to match existing conditions along Forest Street.

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 January 24, 2023 for application #PL-002018-2022 at 31 Forest Street relevant to the site plan regulations; and the testimony presented at the Planning Board hearing, the Planning Board [**finds/does not find**] that the plan is in conformance with the site plan standards of the land use code subject to the following conditions of approval:

PRIOR TO APPLYING FOR A BUILDING PERMIT

1. The site plan set shall be finalized to the satisfaction of the Planning Authority and the Department of Public Works and include a backflow preventer located and configured to allow for easy access and maintenance. Clear descriptions shall be provided of the drain line and sewer connection at the property line and sidewalk grades.
2. The site plan set shall show the location and configuration of HVAC equipment meeting city standards to be reviewed and approved by the Planning Authority.

PRIOR TO ISSUANCE OF A BUILDING PERMIT

3. The applicant shall contribute to the tree fund in the amount of \$400 for one street tree.

XII. ATTACHMENTS**PLANNING BOARD REPORT ATTACHMENTS**

1. Preliminary Site Plan Review Comments
2. Secondary Site Plan Review Comments
3. DPW Secondary Comments and Responses
4. DPW Final Comments
5. Preliminary Design Review Comments
6. Final Design Review Comments

APPLICANT'S SUBMITTAL

- A. Project Narrative
- B. Major Site Plan Checklist
- C. Right, Title, and Interest
- D. Zoning Assessment
- E. Waiver Requests
- F. Financial Capacity
- G. Technical Capability
- H. PWD Request for Ability to Serve
- I. DPW Request for Ability to Serve
- J. Stormwater Narrative
- K. Wastewater Capacity Application
- L. Lighting Specs
- M. Construction Management Report
- N. CMP Letter
- O. Pre-Development HydroCAD Report

P. Post-Development HydroCAD Report

PLANS

- Plan 1 – Cover Sheet
- Plan 2 – Survey
- Plan 3 – Existing Site Plan
- Plan 4 – Proposed Site Layout Plan
- Plan 5 – Proposed Grading and Drainage Plan
- Plan 6 – Pre-Development Watershed Plan
- Plan 7 – Post-Development Watershed Plan
- Plan 8 – Site Details
- Plan 9 – Photometrics Plan
- Plan 10 – Construction Management Plan
- Plan 11 – Parking Turning Template
- Plan 12 – Architectural Plans

PUBLIC COMMENT

- Pc1. Kris Hall

May 4, 2022

City of Portland
389 Congress Street
Portland, ME 04101

Re: 31 Forest Street – Proposed Building
Major Site Plan Application

Dear Planning:

Trillium Engineering Group is providing this project narrative for the proposed building to be constructed at 31 Forest Street. This development proposed the addition of a new three-unit apartment building on a currently undeveloped 2,625 square foot parcel (Parcel ID 053 A011).

The existing site is currently undeveloped with three trees with grade generally sloping in a westerly direction. The proposed state shall feature a new 1,210± square foot, three-unit residential building with garage parking as illustrated on the attached site and architectural plans. Access to the building shall be provided via a new curb cut and driveway, while a portion of the parking shall extend beyond the existing building footprint. In total, this shall result in a net gain of 1,610 square feet of impervious area.

To combat the negative environmental effects of the increase in stormwater runoff, Trillium Engineering Group is proposing a new rain garden along the northernmost property line. This garden shall treat impervious runoff from the roof, while interior slab drains shall collect runoff from the exposed parking area. This drain shall then connect to the outlet drain from the rain garden before ultimately discharging into the adjacent public network. Please see the attached stormwater narrative for additional information.

Please see the plans, application, and below responses to the City of Portland Major Site Plan Application Checklist for further information.

1. Project Description

Response: A project description has been provided above.

2. Completed checklist

Response: A completed checklist has been provided, see attached documents.

3. Evidence of Right, Title, and Interest

Response: A deed to the property has been provided, see attached documents

4. Evidence of State or Federal Approvals

Response: This section is non-applicable, as the project will not require state or federal approval.

5. Zoning Assessment

Response: The zoning assessment table has been included in the application.

6. Site Plan Standards Assessment

Response: This project meets all the relevant standards outlined in Section 14.6 of the City of Portland Land Use Code. Due to the small nature of the work in question, this project will not have a notable effect on the surrounding transportation, public transit access, or environmental quality. This site meets the necessary off-street parking, public infrastructure, and site design requirements.

7. Summary of existing and/or proposed easements or covenants

Response: This section is non-applicable, as there are no known easements or covenants associated with this project.

8. Waiver requests

Response: Trillium Engineering Group is not requesting any waivers for this project.

9. Evidence of financial and technical capacity

Response: Letters of financial and technical capacity have been included in this application, see attached.

Transportation

Response: Vehicle access to the site shall be provided by installing a new curb cut as shown on Sheet C101. From there, cars shall park in designated spaces as shown on the architectural plans. Due to the small scope of this project, this development will not have a notable impact on the surrounding traffic pattern.

Environmental

Response: Site landscaping has been provided as shown on Sheet C101. Portland Water District regulations state that street trees are not permitted within 10' of new water lines. This only leaves room for (2) honeylocust street trees in front of the proposed site.

Due to the small size of this site, it is not feasible to preserve the existing on-site trees. To combat this, Trillium Engineering Group is proposing three new arborvitae trees along the rear property line and seven bayberry bushes around various parts of the building. Please see the attached Sheet C101 for additional landscaping information.

There are no significant natural features on this site. Please see the attached stormwater narrative for drainage information.

Public Infrastructure and Safety

Response: This project is consistent with the City's Master Plan. Trillium Engineering Group has spoken with George Carhart of the Portland Department of Public Works to confirm the location of the existing sewer main and to coordinate the proposed connection. Additionally, Mr. Carhart has also provided guidance with respect to the proposed stormwater drain connection.

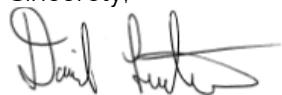
Trillium Engineering Group has reached out to the Portland Water District regarding a potential Ability to Serve letter and is still in the process of gaining approval.

Site Design

Response: Exterior lighting information has been included in the attached documents, and the location of the exterior lights have been shown on the architectural plans. All other portions of the site design checklist are not applicable.

Thank you for taking the time to review this. Should you have any further questions or require any additional information, please do not hesitate to ask.

Sincerely,



David Latham, P.E.
Trillium Engineering Group

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		
☒	NA	Project Description Cover letter with detailed project description
☒	NA	Completed Checklist (this document)
☒	NA	Evidence of Right, Title, and Interest Deeds, leases, or purchase and sales agreements
Yes	☒	Evidence of State or Federal Approvals Permits or letters of non-jurisdiction, if applicable
☒	NA	Zoning Assessment (see Zoning Assessment Table) Summary of compliance with use and dimensional standards of the land use code
☒	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
☒	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
☒	NA	Waiver Requests (see Waiver Table) Written request for waiver describing request and compliance with applicable waiver standards
☒	NA	Financial Capability Letter or evidence from a financial institution or third party verifying financial capacity to undertake project
☒	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

MAINE REAL ESTATE TAX-Paid

DLN 1002140147747

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, that, **ALEX NG** and **JENNIFER CHADBURN**, of the City of Lexington, Commonwealth of Massachusetts, for consideration paid, grant to **31 FOREST LLC**, whose mailing address is 46 Turner Street, Portland, Maine 04101, with WARRANTY COVENANTS, the premises situated on or about 31 Forest Street, City of Portland and County of Cumberland and State of Maine, described on the Exhibit A attached hereto and made a part hereof.

Being the same premises conveyed to the within Grantors by Deed of Patrick Mulligan and William Jones, dated September 26, 2014, recorded in the Cumberland County Registry of Deeds in Book 31818, Page 149.

IN WITNESS WHEREOF, the said Alex Ng and Jennifer Chadburn have signed and sealed this instrument on June 7, 2021.

Witness

Alex Ng

Witness

Jennifer Chadburn

STATE OF Massachusetts
COUNTY OF WindsorJune 7, 2021

Then personally appeared Alex Ng and Jennifer Chadburn and acknowledged the foregoing instrument to be their free act and deed.

Before me,

Notary Public/Attorney-at-Law



LAURIE POLAND
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

EXHIBIT A

A certain lot or parcel of land, together with the buildings and improvements thereon, situated on the easterly side of Forest Street in the City of Portland, County of Cumberland and State of Maine, known as 31-33 Forest Street in said City of Portland, and bounded and described as follows:

Beginning at a point on the easterly sideline of Forest Street in the said City of Portland, which point is located one hundred forty-three and five tenths (143.5) feet southerly along the easterly sideline of said Forest Street from the southerly sideline of Park Avenue formerly called Portland Street, thence easterly at right angles with the easterly sideline of said Forest Street, a distance of Fifty-three and fifty-seven hundredths (53.57) feet to land now or formerly of Mead; thence southerly by said Mead land to a point; thence westerly parallel to the first described bound, a distance of fifty-four (54) feet to the easterly sideline of said Forest Street; thence northerly by the easterly sideline of said Forest Street and at right angles to the last described bound, a distance of forty-nine and thirty-nine one-hundredths (49.39) feet to the point of beginning.

Containing 2,656.19 square feet more or less, and being shown as City of Portland Tax Map 53, Block A, Lot 11.

ZONING ANALYSIS Relevant Zone(s) R-6

All Projects:

	Required	Proposed
Lot Size	2,000	2,625
Area Per Dwelling Unit	725	875
Minimum Street Frontage	20'	49.39'
Front Yard Minimum	4.45'	4.45'
Front Yard Maximum	--	--
Rear Yard	10'	16.72'
Yard Right	5'	5.91'
Yard Left	5	5.48'
Side Street Setback	--	--
Step Back	--	--
Maximum Lot Coverage	60%	45.98%
Minimum Lot Coverage	--	--
Maximum Height	45'	34.95'
Open Space	20%	21.50%
Maximum Impervious Area	60%	45.98%
Pavement Setback	5'	--
Floor Area Ratio	--	--
Off Street Parking Spaces	2	3
Loading Bays	--	--
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):			

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.
Section 1.6.1	Sidewalk construction and materials: - City is requesting brick sidewalks in this specific area	We are requesting to construct/repair the existing sidewalk with concrete	The existing sidewalk is concrete and we are matching the existing material at both ends of our repair



March 9, 2022

To Whom It May Concern:

This letter is to confirm that 31 Forest LLC has financing in place for the construction project located at 31 Forest Street in Portland, Maine.

The Bank has reviewed the financials provide by its Principal. The company has the financial capacity to finance the project as presented. Please feel free to contact me if you have any questions, or require additional information.

Regards,

A handwritten signature in blue ink, appearing to read "Todd Zukowski", is written over a light blue horizontal line.

Todd Zukowski
Senior Vice President
Commercial Lending
(207) 588-8423





189 Main Street, Suite 200
Yarmouth, ME 04096

March 7, 2022

To Whom It May Concern:

We hereby authorize

Trillium Engineering Group
189 Main Street
Yarmouth, ME 04096

As our agent to act on our behalf in all matter relating to all processes required in the proposed building work located at 31 Forest Street in Portland, Maine.

This certification commences on the date of signing and is valid for two years from March 7, 2022 to March 7, 2024.

This certificate will become null and void unless it is agreed between both parties to make an extension.

Sincerely,

A handwritten signature in black ink, appearing to read 'David Latham', written over a horizontal line.

David Latham, P.E.
Trillium Engineering Group

A handwritten signature in black ink, appearing to read 'Ray Chang', written over a horizontal line.

Signature of Owner
Ray Chang

A handwritten signature in black ink, appearing to read 'David Latham', written over a horizontal line.

Signature of Agent
David Latham, P.E.



189 Main Street, Suite 200
Yarmouth, ME 04096

May 4, 2022

City of Portland
389 Congress Street
Portland, ME 04101

Re: Warren Mechanical
Letter of Technical Capacity

Dear City of Portland:

The Applicant has assembled a team of qualified professionals for the design and permitting of the project. Each team member has extensive experience in the design and permitting of projects throughout the state of Maine. The consultant team consists of the following members:

Civil Engineer: David Latham, PE.
Trillium Engineering Group
189 Main Street
Yarmouth, Maine 04096

Architect: Paul Lewandowski, AIA
Paul Designs Projects
142 High Street
Portland, ME 04101

David Latham

From: David Latham
Sent: Tuesday, April 5, 2022 11:30 AM
To: AMaP MEANS
Subject: Request For Ability to Serve - 31 Forest Street
Attachments: 31 Forest Locus Map.pdf; 31 Forest Proposed Site Plan.pdf; 31 Forest PWD Ability to Serve.pdf; Peak Flow Based on Fixture Count Exist. Bldg.xls; 31 Forest Arch Plans.pdf

To Whom It May Concern:

On behalf of Trillium Engineering Group, I am pleased to submit the following request for ability to serve for a proposed development at 31 Forest Street in Portland, Maine. Please find the attached site plan, architectural plan, project narrative, locus map, and peak flow based on fixture count.

Thank you for taking the time to review this. Should you have any questions or require any additional information, please let me know.

Best,

-David

David Latham, P.E.
Project Engineer
Trillium Engineering Group
189 Main Street Suite 200
Yarmouth, ME 04096
Office: 207 307 0872
Mobile: 978 852 4593



www.trilliumengineeringgroup.com



189 Main Street, Suite 200
Yarmouth, ME 04096

January 12, 2023

Portland Public Works
250 Canco Road
Portland, ME 04103

Re: 31 Forest Street – Proposed Residence
Request for Ability to Serve

Dear Portland Public Works:

On behalf of Trillium Engineering Group, I am pleased to submit this request for Ability to Serve letter regarding a new three-unit residential building located at 31 Forest Street in Portland, Maine (Parcel ID 053 A011). Trillium Engineering Group proposes to install a new 6 inch sewer line to service the proposed development.

This project consists of constructing a new 3-unit residence on the existing vacant lot. This project is in the R-6 district, which allows for these uses. The building is to be placed on a currently undeveloped parcel featuring with access directly to Forest Street. Trillium Engineering Group is currently planning on installing a new 6 inch diameter sewer line for the project. We will also plan to add a separate 6 inch diameter storm drain line connected to an adjacent infiltration rain garden that will contain stormwater from the property. The separate 6 inch storm drain line will utilize a backflow preventer and cleanout on the subject property in order to account for any future sewer and drain line separation.

Thank you for taking the time to review this application. Please find attached the site plan and locus map. Should you need any more information, Trillium Engineering Group would be happy to oblige.

Sincerely,

A handwritten signature in black ink, appearing to read 'Eric Dube', is written over a light blue horizontal line.

Eric Dube, P.E.
Trillium Engineering Group

STORMWATER MANAGEMENT REPORT
PROPOSED THREE-UNIT DEVELOPMENT

31 FOREST STREET
PORTLAND, MAINE

May 4, 2022

PREPARED BY:

*TRILLIUM ENGINEERING GROUP
189 MAIN STREET
YARMOUTH, ME 04096
(207) 307-0872*

A. Project Background:

Trillium Engineering Group is proposing a new three-unit apartment building on a currently undeveloped 2,625 square foot parcel (Parcel ID 053 A011). The applicant is looking to break ground as soon as possible.

Access to the site is via Forest Street. The new building is to be served by public water, sewer, and underground electricity/telephone/cable. The parcel slopes in a general westerly direction and does not feature any rare or protected vegetation. The existing site takes some off-site runoff which flows onto the adjacent property, along with most of the on-site runoff, which eventually drains into the public catch basin located towards the intersection of Forest Street and Park Ave. There also exists a portion of the on-site runoff that drains directly onto Forest Street.

In the proposed state, the site shall be re-graded such that a smaller percentage of the on-site area drains towards the adjacent property. A new rain garden shall be installed to catch over 95% of the proposed on-site impervious area before discharging said runoff into the existing public network. Note that the catch basin network on Park Ave does not currently extend to this portion of Forest Street, so the drainage pipe shall be cut at the property line, join the proposed sewer line, and then connect to the existing sewer main. If and when the catch basin network extends to this part of Forest Street, the piping shall be re-worked such that the rain garden drains directly to the storm drain network. This design choice was made at the request of George Carhart of the Portland Public Works. A copy of the correspondence has been included in this application.

For additional information, see Sheet C102 and C103, Pre- and Post-Watershed Plans. It is anticipated that this projects site infrastructure will be constructed in 16 months.

B. Existing Site Conditions

The existing site is currently an undeveloped parcel with no protected natural resources. The topography of the site is shown at a one-foot contour interval with data provided by Owen Haskell. The grade follows a general westerly slope.

C. Wetlands and Streams

The site does not feature any wetlands, streams, or other protected resources.

D. Soils

All soils on site have been assigned to Hydrologic Soil Group "A", per the United States Web Soil Survey.

E. Proposed Use

The proposed development will call for (3) additional housing units with garage parking. A portion of the parking shall stick out beyond the building footprint. The runoff from this impervious area shall grade towards the interior slab where a drain shall collect it and discharge the runoff via the rain garden outlet pipe.

In the existing state, all off-site runoff and a sizable portion of the on-site runoff drains towards the adjacent property. The off-site flow shall not be changed in the proposed state, but the site shall be re-graded such that a smaller percentage of on-site runoff drains towards the adjacent property. By inspection, this will lead to a net decrease in stormwater runoff heading towards the adjacent property.

In total, this project will create a net increase of 1,679 square feet of impervious area. 1,607 square feet of said total (95.7%) shall be treated by the rain garden or connected to the rain garden outlet via the interior

slab drain. This impervious runoff shall discharge into the existing sewer main as described in Section A, Project Background, while the remainder of the on-site runoff shall drain towards the existing catch basin near Park Avenue.

The stormwater system has been designed in accordance with the latest version of the Maine DEP BMP's for stormwater.

F. Stormwater

We have been authorized to perform a drainage analysis on the site that would meet the standards of the Maine Department of Environmental Protection and the City of Portland, Maine. I have reviewed the drainage characteristics of the site, which includes proposed driveways and buildings. The analysis required post construction stormwater flows to be substantially equal to or less than the existing stormwater flow rates.

We have used the SCS TR-20 (HydroCAD 10.00 stormwater model) method of computing stormwater runoff peak flow rates. This method accounts for soil types, existing land uses, topography, vegetative cover, and proposed land use for the parcel to be developed. The future conditions were analyzed using data for a design frequency of occurrence of 2/10/25 years. The Type III, 24-hour storm distribution rainfall has a 3.1, 4.6, and 5.8 inches/hour respectively has been used, and storm values have been provided by Appendix H of Chapter 500 of the State of Maine Stormwater Management Law. All supporting calculations and data are submitted with this report.

The existing and proposed site conditions were evaluated using information taken from the existing condition and proposed design plan of the area. Impervious, lawns/fields, and woods areas for each hydrologic soil condition were measured by HydroCAD in order to calculate a weighted curve number that typifies the drainage condition of the site.

Pre-Condition Modeling

The pre-condition is modeled as it is currently found today. Note that only the watershed area from the rain garden has been included in the pre-condition modeling,

Post-Condition Modeling

A rain garden has been designed such that 1,607 square feet of impervious area and 459 square feet of pervious surfaces will be treated and discharged into the existing sewer network. The site has also been re-graded such that there is less runoff draining onto the adjacent property. All on-site stormwater runoff that is not obtained by the rain garden will eventually drain into the existing catch basin located near Park Ave.

The rain garden will detain and discharge the flow without overtopping in the 2-, 10, and 25-year storm events. The garden is designed such that any and all excess runoff follows its natural path off-site and towards the off-site catch basin. The rain garden will typically revert to dry bottom conditions in between rain events.

Total Area Detained By Rain Garden = 1,635 square feet
Impervious Area in the Existing Condition: 0 square feet
Impervious Area in the Proposed Condition: 1,679 square feet
Total Modeled Impervious Area Treated By Rain garden: 1,607 square feet
Total Proposed Untreated Impervious Runoff: 0 acres

Stormwater Model Summary – Rain Garden Watershed

CFS (Cubic Feet per Second = Rate)

Value based on flow entering Analysis Points (AP) 1 and 2

Storm Event	2-Yr (Pre)	2-Yr (Post)	10-Yr (Pre)	10-Yr (Post)	25-Yr (Pre)	25-Yr (Post)
Adjacent Property ^A	0.00	0.00	0.00	0.00	0.01	0.00
Forest St Sewer ^B	--	0.03	--	0.12	--	0.21
Forest Street CB	0.00	0.00	0.00	0.00	0.00	0.01

^ANote that off-site impervious flow is not included in flow rates. This portion of the analysis is strictly focused on the on-site flow.

^BNote that the Forest Street sewer flow rates are only in relation to the stormwater flow. Septic flow rates from internal building use have not been calculated by Trillium Engineering Group.

Calculations for the 2-, 10-, and 25-year Pre- and Post-Drainage are included in the attached stormwater reports.

Evaluation of Results

As evidenced by the data above, all flow rates are left effectively unchanged in the proposed condition. Over 95% of the impervious stormwater runoff is treated on-site, while the remainder is detained and eventually treated by the City of Portland's public networks.

G. Water Quantity and Quality

Quantity: Peak flows have been reduced or left effectively unchanged in the 2-, 10-, and 25-year storm events. Because of this, we can assume the stormwater quantity will not lead to increased erosion rates.

Quality: Despite increasing the total amount of impervious area, the site will only see an increase of 71 square feet of untreated impervious area leaving the site. This runoff will not be untreated for long, as it quickly flows into the existing catch basin near Park Avenue. Because of this, we can assume that this project will not have an adverse impact on the stormwater quality leaving the site.

H. Maintenance Plan for Rain gardens & Best Management Practices

Site Inspection & Maintenance During Construction: Weekly inspections, as well as routine inspections following rainfalls, shall be conducted by the General Contractor of all temporary and permanent erosion control devices until final acceptance of the project (85% grass catch). Necessary repairs shall be made to correct undermining or deterioration.

Final acceptance shall include a site inspection to verify the stability of all disturbed areas and slopes. Until final inspection, all erosion and sedimentation control measures shall immediately be cleaned and repaired by the General Contractor as required. Disposal of all temporary erosion control devices shall be the responsibility of the General Contractor.

We recommend that the Owner hire a design engineer, or other qualified individual, to provide compliance inspections (during active construction) relative to the Stormwater and Erosion Control Plans. Such inspections should be at least weekly during construction.

Maintenance Agreement: The Contractor shall be responsible for short-term sedimentation maintenance and shall clean out all swales, structures and grass basins prior to turning project over to Owner. After project turnover, the Owner will be responsible for inspecting and maintaining all stormwater conveyances as directed in the Inspection and Maintenance Report attached in this submittal.

Conclusion

We believe that this project will not have any adverse impacts on abutters, down gradient systems or adjacent resources. Moreover, this plan includes all appropriate measures to prevent negative impacts and to keep post development flows and impacts to the resources at a minimum using land grading, reductions in allowable disturbed area, erosion control practices and land use. It is important to note that proper erosion control and re-vegetation of disturbed areas is essential for the proper operation of the stormwater facilities. Maintenance of the yard areas, driveway, and careful attention to the cleanliness of the rain gardens, bioretention filter, and catch basin must be a top priority in order for the system to function properly. Please feel free to contact me if you have any questions concerning the calculations of stormwater from this project. Thank you for involving us on your project.

Sincerely yours,



David Latham, P.E.
Trillium Engineering Group

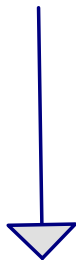
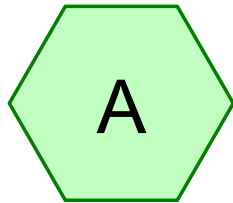
PROPOSED BUILDING

Pre-Development Stormwater Analysis

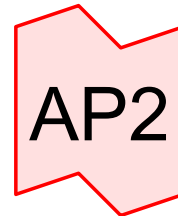
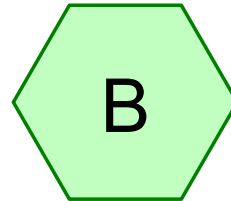
**31 Forest Street
Portland, Maine 04102**

Submitted:

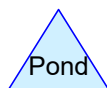
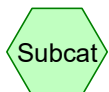
May 4, 2022



Adjacent Property



Forest St CB



21-285 Pre

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Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr Storm	Type III 24-hr		Default	24.00	1	3.10	2
2	10-yr Storm	Type III 24-hr		Default	24.00	1	4.60	2
3	25-yr Storm	Type III 24-hr		Default	24.00	1	5.80	2

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.060	39	>75% Grass cover, Good, HSG A (A, B)
0.060	39	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.060	HSG A	A, B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.060		TOTAL AREA

21-285 Pre

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Page 5

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.060	0.000	0.000	0.000	0.000	0.060	>75% Grass cover, Good	A, B
0.060	0.000	0.000	0.000	0.000	0.060	TOTAL AREA	

21-285 Pre*Type III 24-hr 2-yr Storm Rainfall=3.10"*

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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

SubcatchmentA:

Runoff Area=2,148 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

SubcatchmentB:

Runoff Area=477 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Link AP1: Adjacent Property

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
100.00% Pervious = 0.060 ac 0.00% Impervious = 0.000 ac

21-285 Pre

Prepared by HP Inc.

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Type III 24-hr 2-yr Storm Rainfall=3.10"

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Summary for Subcatchment A:[49] Hint: $T_c < 2dt$ may require smaller dt

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

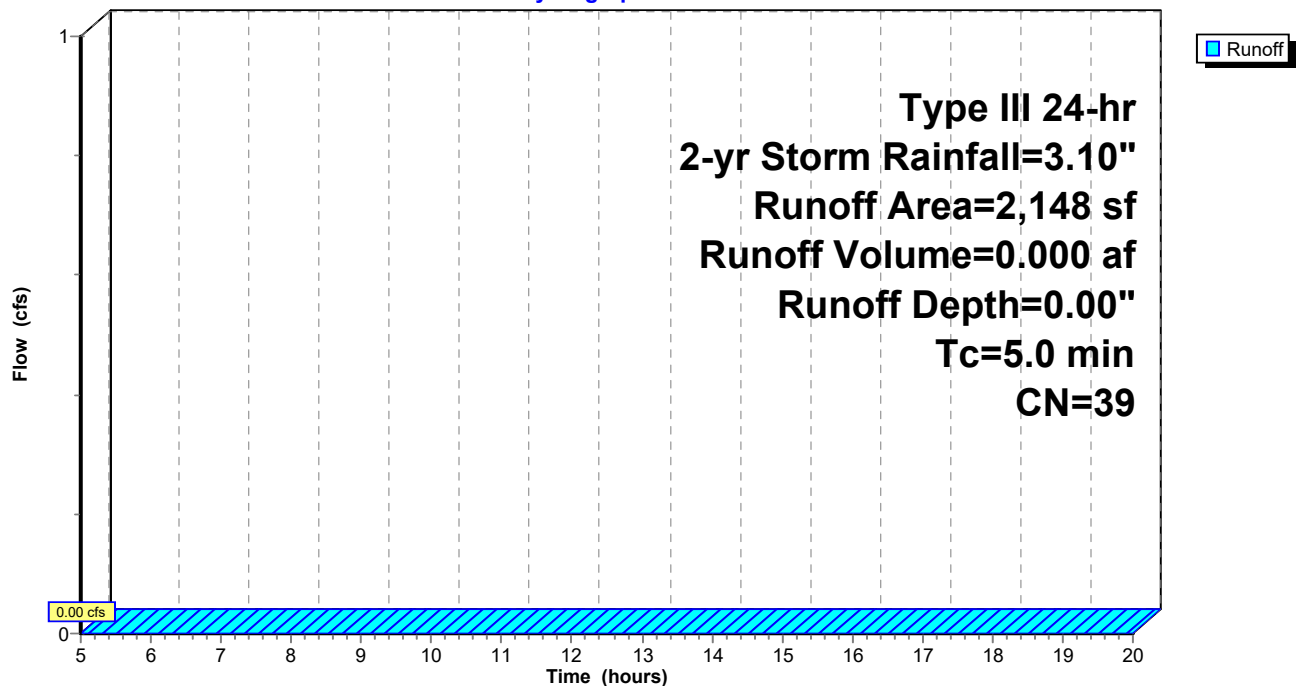
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
2,148	39	>75% Grass cover, Good, HSG A
2,148		100.00% Pervious Area

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

Subcatchment A:

Hydrograph



21-285 Pre

Prepared by HP Inc.

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Type III 24-hr 2-yr Storm Rainfall=3.10"

Printed 5/4/2022

Page 8

Summary for Subcatchment B:[49] Hint: $T_c < 2dt$ may require smaller dt

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

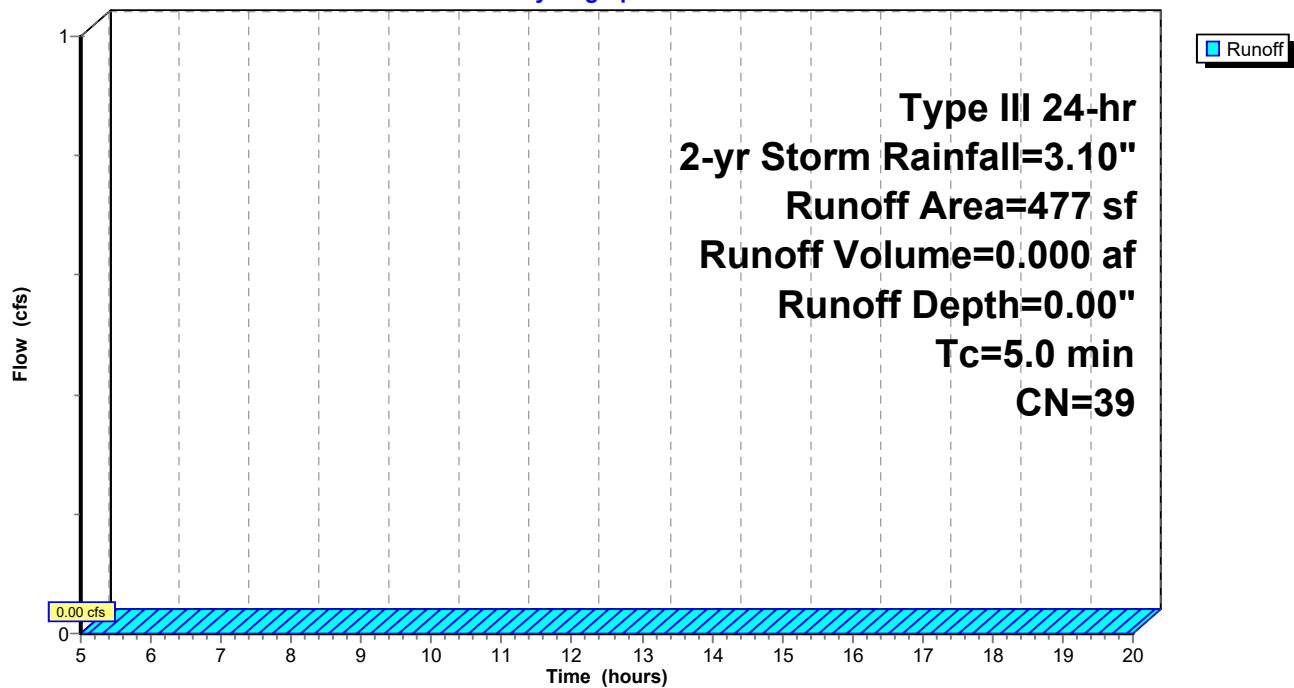
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
477	39	>75% Grass cover, Good, HSG A
477		100.00% Pervious Area

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

Subcatchment B:

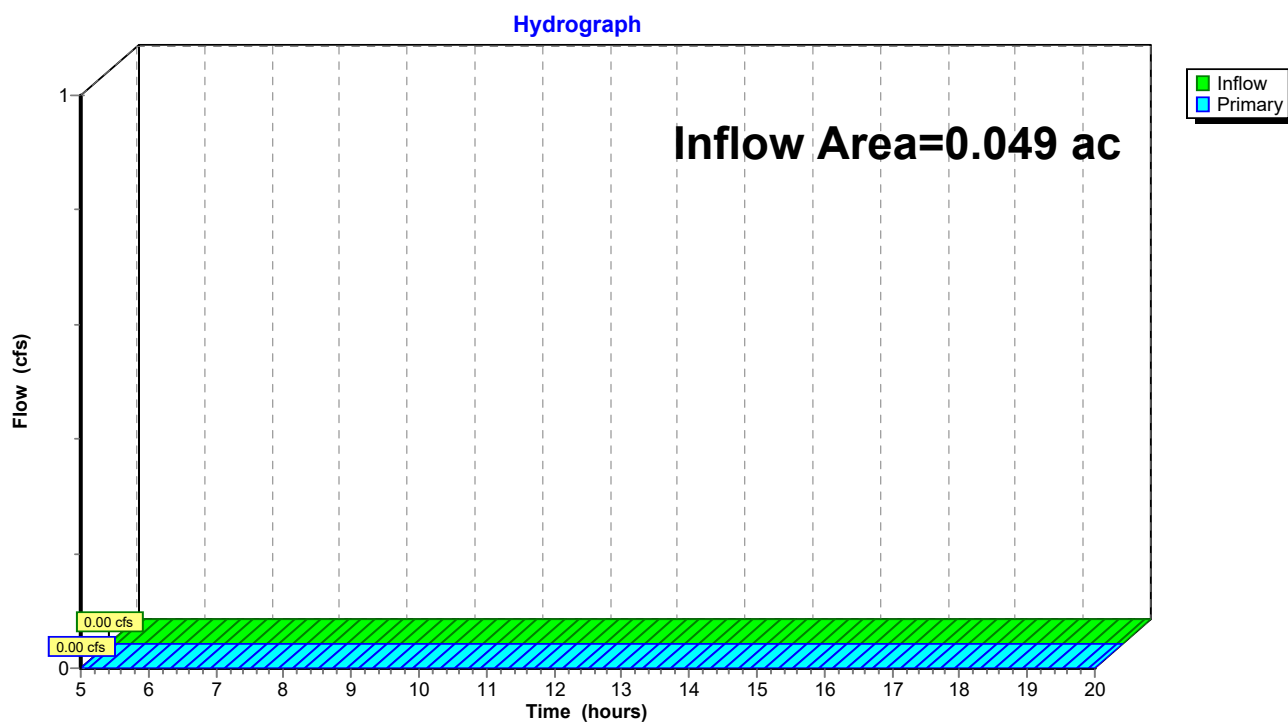
Hydrograph



Summary for Link AP1: Adjacent Property

Inflow Area = 0.049 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

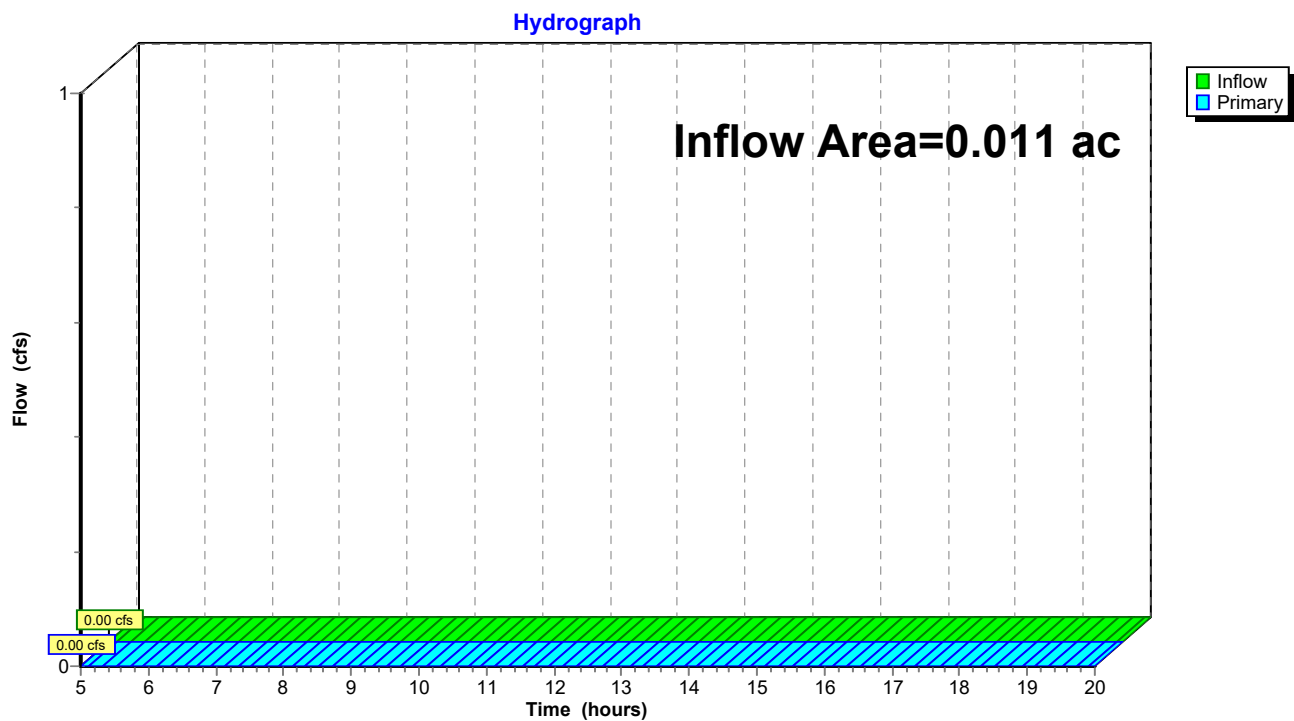
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent Property

Summary for Link AP2: Forest St CB

Inflow Area = 0.011 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP2: Forest St CB

21-285 Pre*Type III 24-hr 10-yr Storm Rainfall=4.60"*

Prepared by HP Inc.

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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

SubcatchmentA:

Runoff Area=2,148 sf 0.00% Impervious Runoff Depth>0.10"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

SubcatchmentB:

Runoff Area=477 sf 0.00% Impervious Runoff Depth>0.10"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Link AP1: Adjacent Property

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.10"
100.00% Pervious = 0.060 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A:

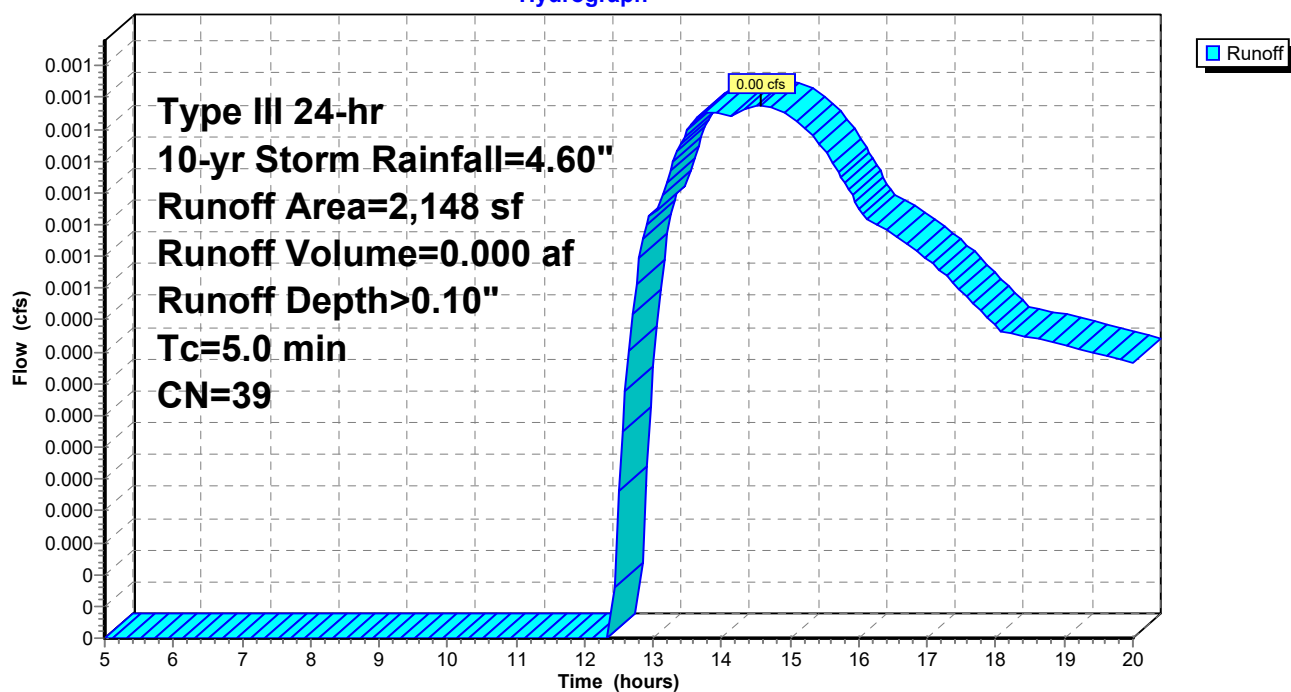
[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Depth> 0.10"

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 Storm Rainfall=4.60"

Area (sf)	CN	Description
2,148	39	>75% Grass cover, Good, HSG A
2,148		100.00% Pervious Area

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

Subcatchment A:**Hydrograph**

Summary for Subcatchment B:

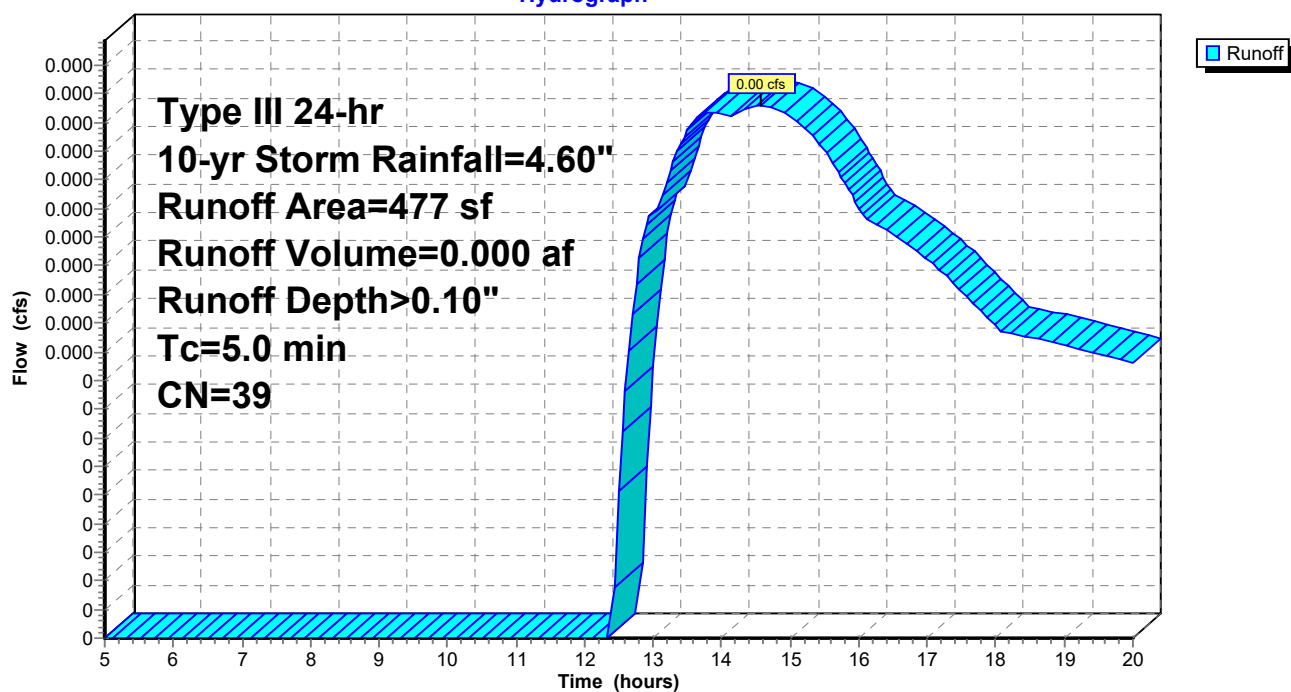
[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Depth> 0.10"

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 Storm Rainfall=4.60"

Area (sf)	CN	Description
477	39	>75% Grass cover, Good, HSG A
477		100.00% Pervious Area

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

Subcatchment B:**Hydrograph**

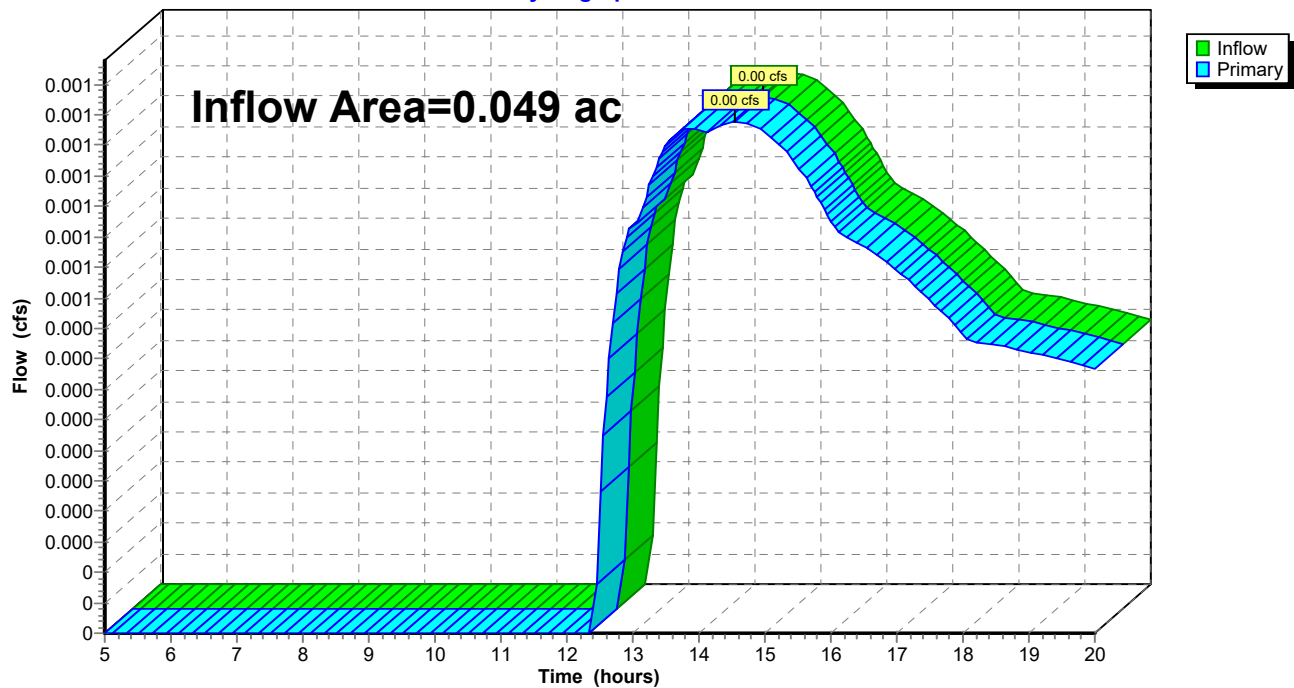
Summary for Link AP1: Adjacent Property

Inflow Area = 0.049 ac, 0.00% Impervious, Inflow Depth > 0.10" for 10-yr Storm event
Inflow = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP1: Adjacent Property

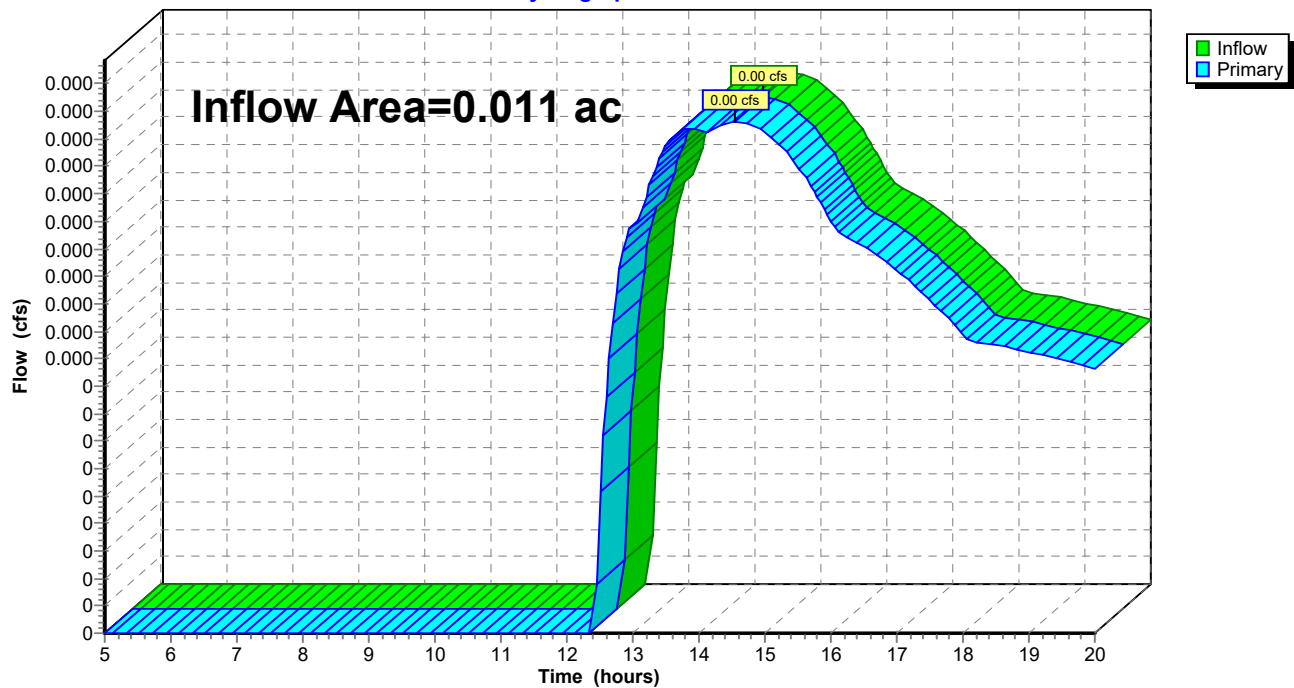
Hydrograph



Summary for Link AP2: Forest St CB

Inflow Area = 0.011 ac, 0.00% Impervious, Inflow Depth > 0.10" for 10-yr Storm event
Inflow = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP2: Forest St CB**Hydrograph**

21-285 Pre*Type III 24-hr 25-yr Storm Rainfall=5.80"*

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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

SubcatchmentA:

Runoff Area=2,148 sf 0.00% Impervious Runoff Depth>0.32"
Tc=5.0 min CN=39 Runoff=0.01 cfs 0.001 af

SubcatchmentB:

Runoff Area=477 sf 0.00% Impervious Runoff Depth>0.32"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Link AP1: Adjacent Property

Inflow=0.01 cfs 0.001 af
Primary=0.01 cfs 0.001 af

Link AP2: Forest St CB

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.002 af Average Runoff Depth = 0.32"
100.00% Pervious = 0.060 ac 0.00% Impervious = 0.000 ac

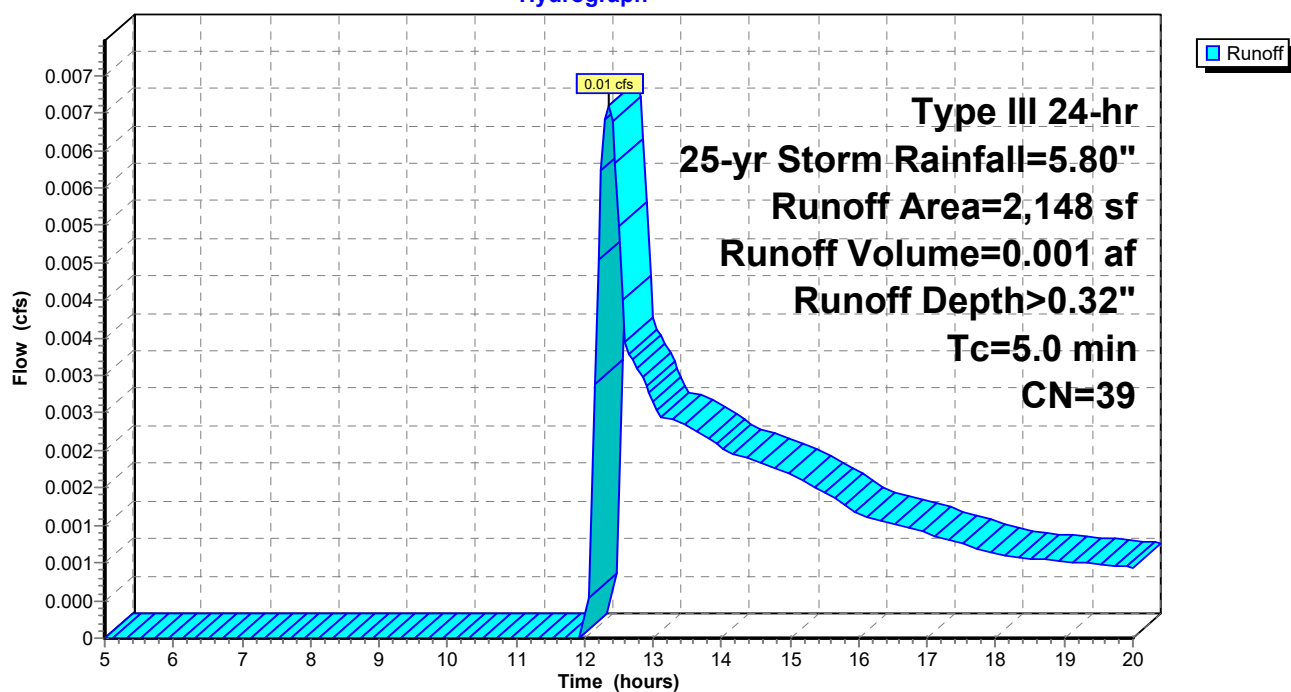
Summary for Subcatchment A:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.01 cfs @ 12.35 hrs, Volume= 0.001 af, Depth> 0.32"

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 Storm Rainfall=5.80"

Area (sf)	CN	Description
2,148	39	>75% Grass cover, Good, HSG A
2,148		100.00% Pervious Area

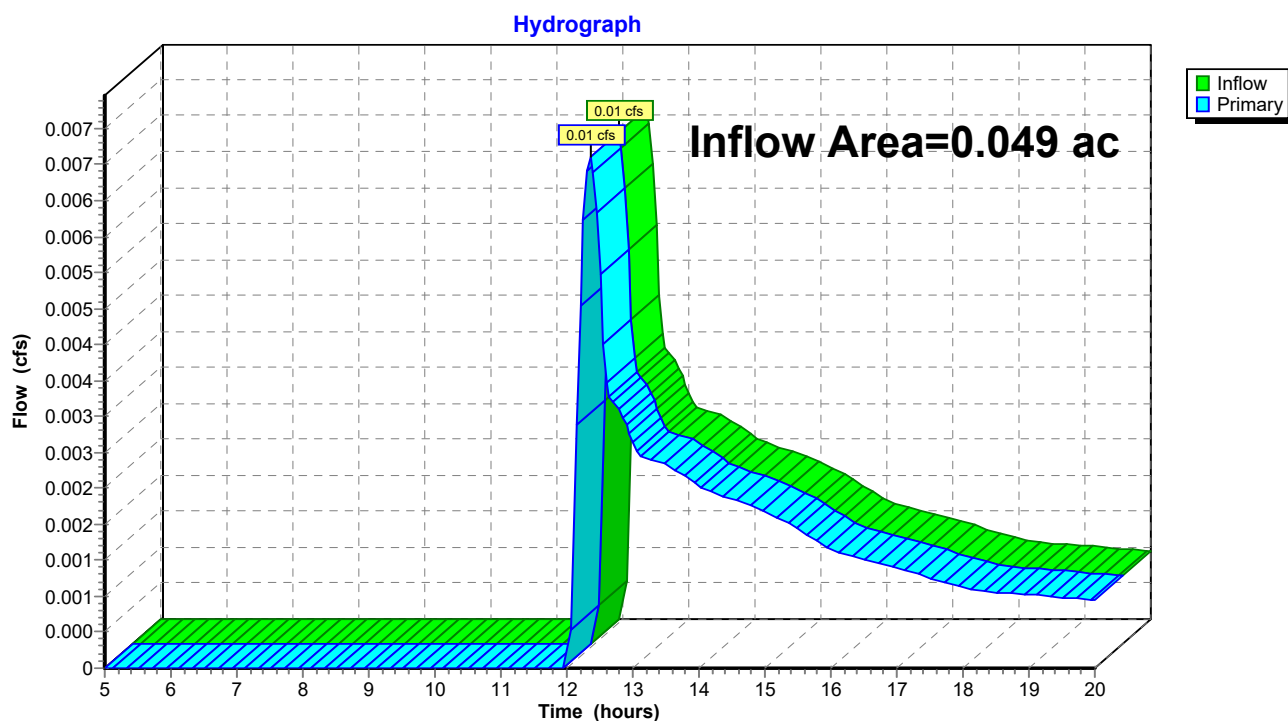
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment A:**Hydrograph**

Summary for Link AP1: Adjacent Property

Inflow Area = 0.049 ac, 0.00% Impervious, Inflow Depth > 0.32" for 25-yr Storm event
Inflow = 0.01 cfs @ 12.35 hrs, Volume= 0.001 af
Primary = 0.01 cfs @ 12.35 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

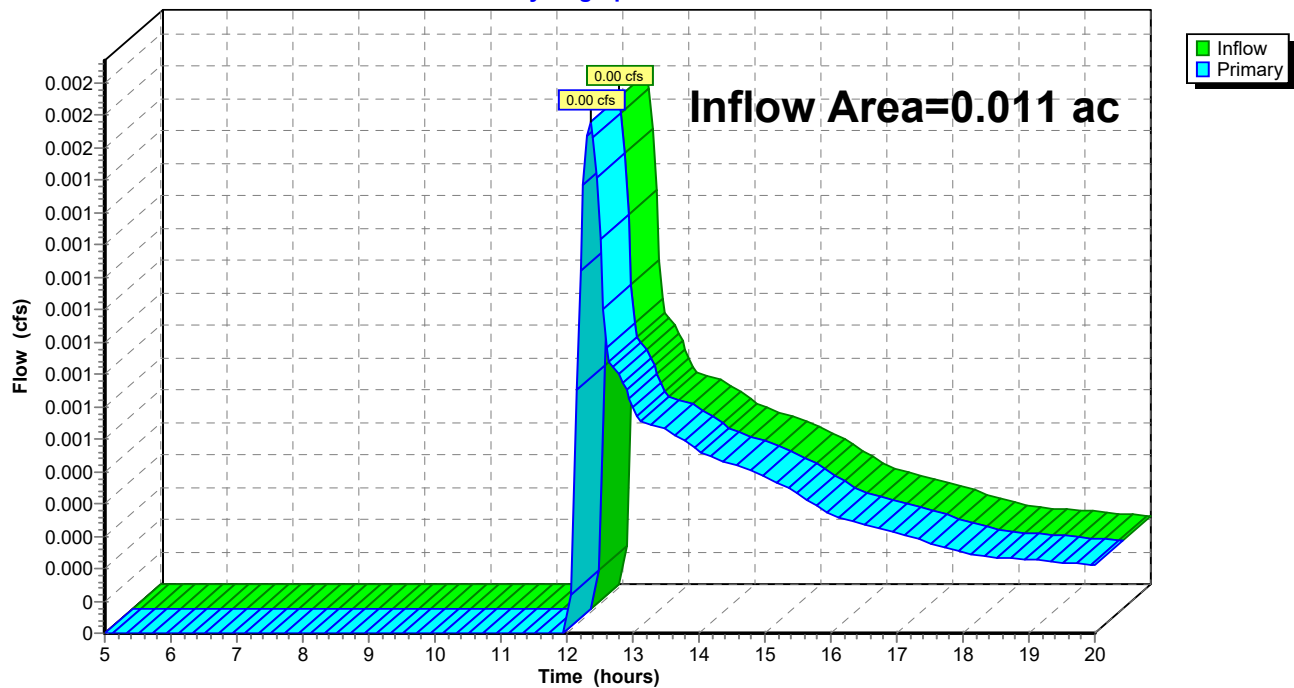
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent Property

Summary for Link AP2: Forest St CB

Inflow Area = 0.011 ac, 0.00% Impervious, Inflow Depth > 0.32" for 25-yr Storm event
Inflow = 0.00 cfs @ 12.35 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.35 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP2: Forest St CB**Hydrograph**

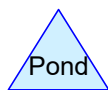
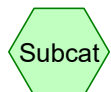
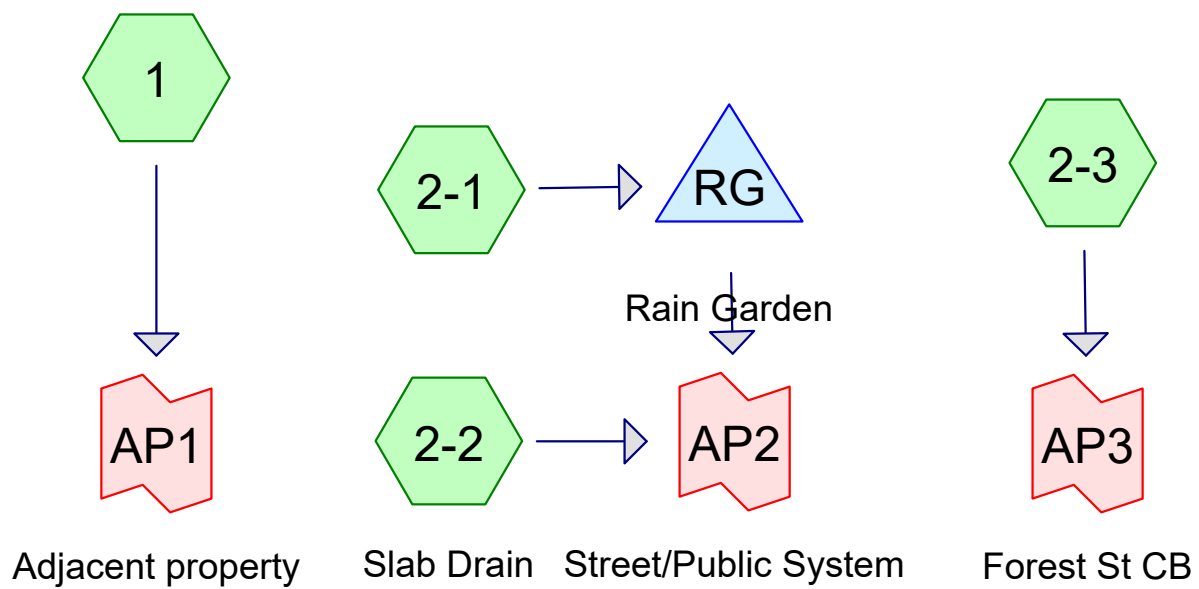
PROPOSED SUBDIVISION

Post-Development Stormwater Analysis

**31 Forest Street
Portland, Maine 04102**

Submitted:

May 4, 2022



Routing Diagram for 21-285 Post
 Prepared by HP Inc., Printed 5/4/2022
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21-285 Post

Prepared by HP Inc.

Printed 5/4/2022

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Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr Storm	Type III 24-hr		Default	24.00	1	3.17	2
2	10-yr Storm	Type III 24-hr		Default	24.00	1	4.72	2
3	25-yr Storm	Type III 24-hr		Default	24.00	1	5.94	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.022	39	>75% Grass cover, Good, HSG A (1, 2-1, 2-3)
0.039	98	Impervious (2-1, 2-2, 2-3)
0.060	77	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.022	HSG A	1, 2-1, 2-3
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.039	Other	2-1, 2-2, 2-3
0.060		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.022	0.000	0.000	0.000	0.000	0.022	>75% Grass cover, Good	1, 2-1, 2-3
0.000	0.000	0.000	0.000	0.039	0.039	Impervious	2-1, 2-2, 2-3
0.022	0.000	0.000	0.000	0.039	0.060	TOTAL AREA	

21-285 Post*Type III 24-hr 2-yr Storm Rainfall=3.17"*

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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

Subcatchment1: Runoff Area=167 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2-1: Runoff Area=1,666 sf 72.45% Impervious Runoff Depth>1.40"
Tc=5.0 min CN=82 Runoff=0.07 cfs 0.004 af

Subcatchment2-2: Slab Drain Runoff Area=401 sf 100.00% Impervious Runoff Depth>2.75"
Tc=5.0 min CN=98 Runoff=0.03 cfs 0.002 af

Subcatchment2-3: Runoff Area=391 sf 18.16% Impervious Runoff Depth>0.10"
Tc=5.0 min CN=50 Runoff=0.00 cfs 0.000 af

Pond RG: Rain Garden Peak Elev=30.25' Storage=83 cf Inflow=0.07 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Primary=0.01 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Link AP1: Adjacent property Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Street/Public System Inflow=0.03 cfs 0.002 af
Primary=0.03 cfs 0.002 af

Link AP3: Forest St CB Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.007 af Average Runoff Depth = 1.32"
36.04% Pervious = 0.022 ac 63.96% Impervious = 0.039 ac

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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 1:[49] Hint: $T_c < 2dt$ may require smaller dt

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

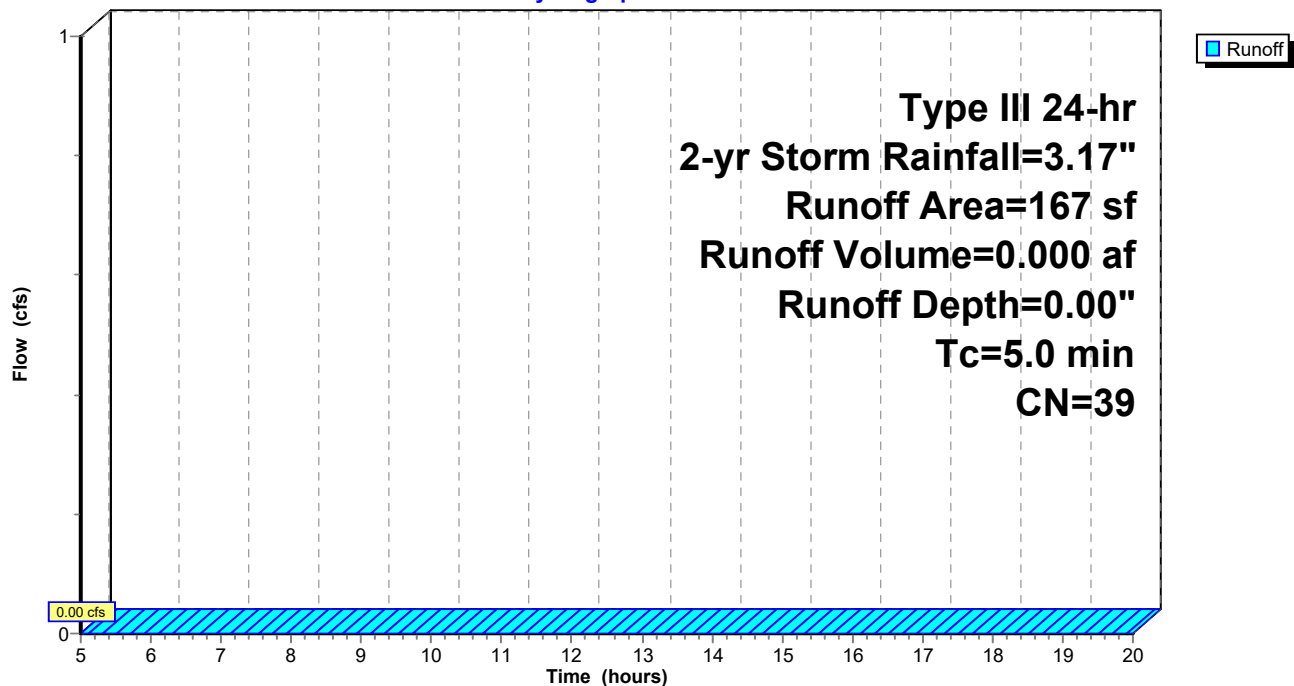
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

Area (sf)	CN	Description
167	39	>75% Grass cover, Good, HSG A
167		100.00% Pervious Area

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

Subcatchment 1:

Hydrograph



21-285 Post

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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 2-1:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.004 af, Depth> 1.40"

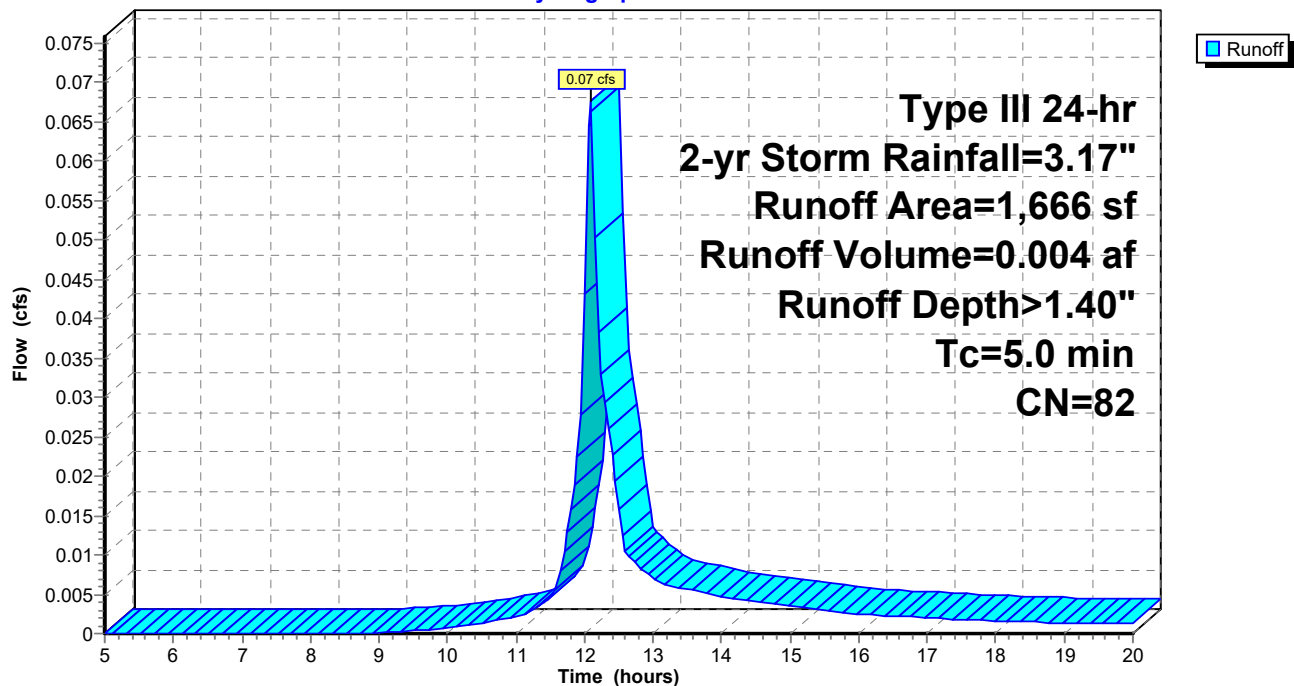
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

	Area (sf)	CN	Description
*	1,207	98	Impervious
	459	39	>75% Grass cover, Good, HSG A
	1,666	82	Weighted Average
	459		27.55% Pervious Area
	1,207		72.45% Impervious Area

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

Subcatchment 2-1:

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 2-2: Slab Drain[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.03 cfs @ 12.07 hrs, Volume= 0.002 af, Depth> 2.75"

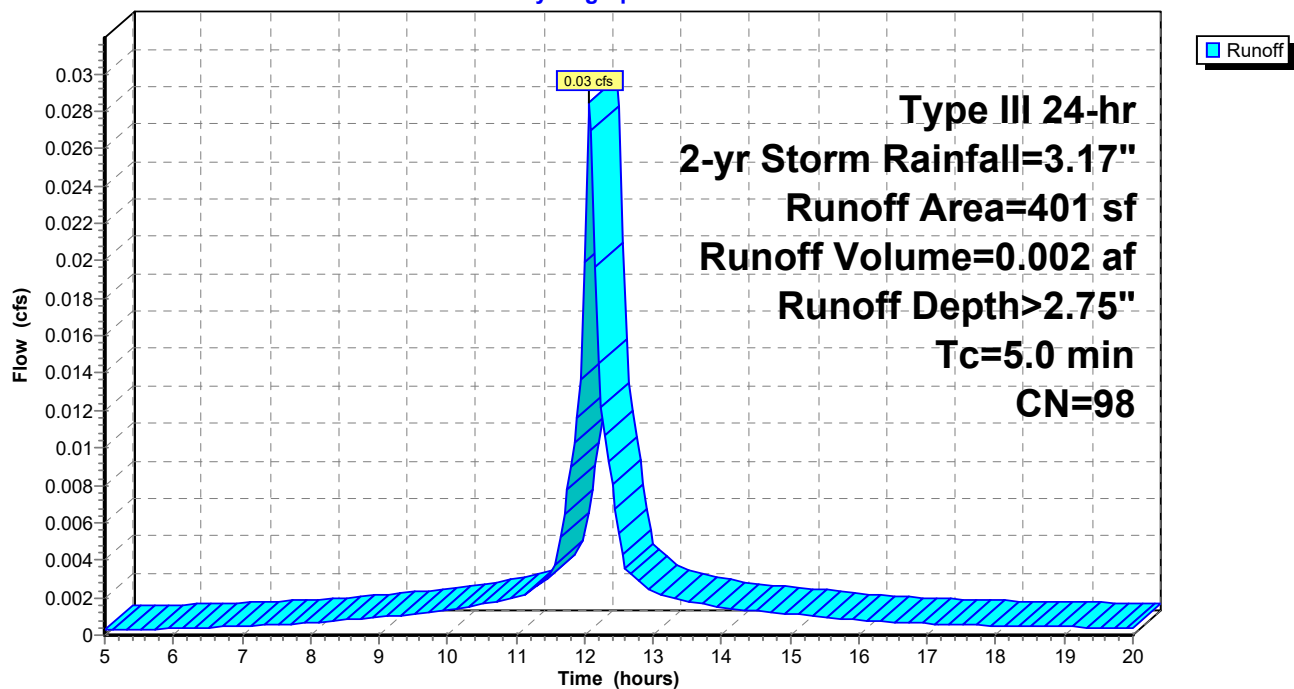
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

	Area (sf)	CN	Description
*	401	98	Impervious
	401		100.00% Impervious Area

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

Subcatchment 2-2: Slab Drain

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 2-3:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.00 cfs @ 12.47 hrs, Volume= 0.000 af, Depth> 0.10"

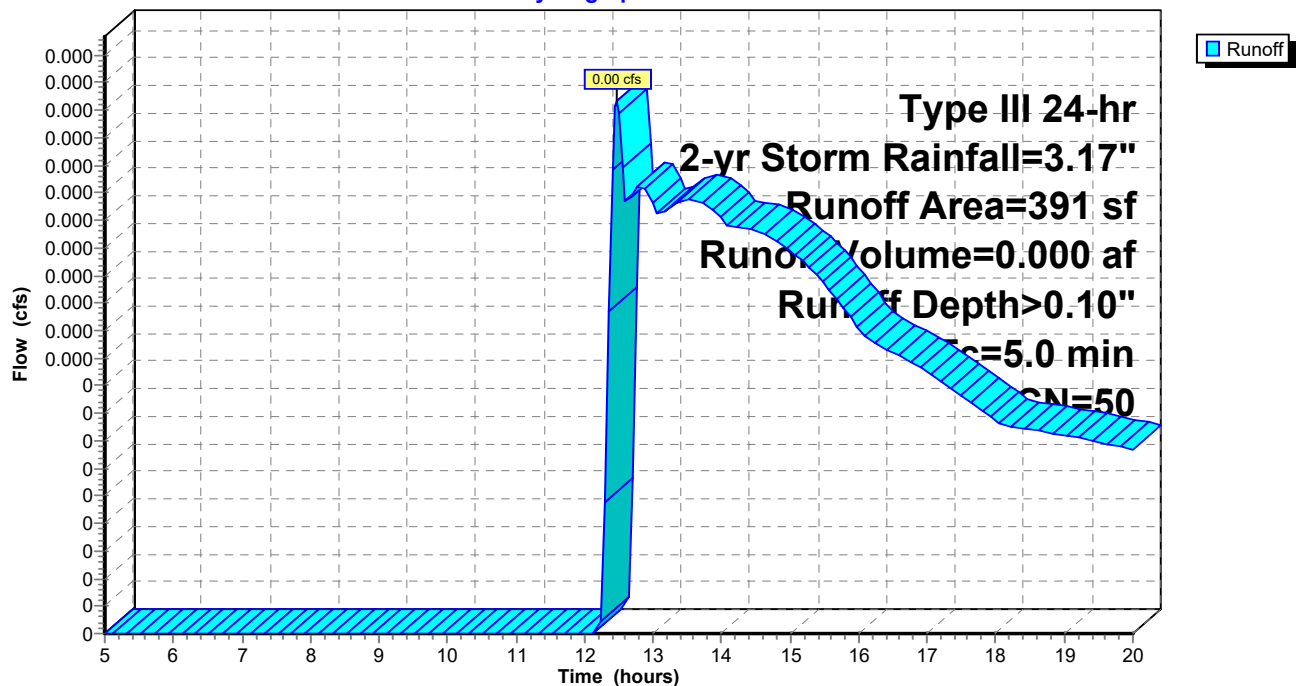
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

	Area (sf)	CN	Description
*	71	98	Impervious
	320	39	>75% Grass cover, Good, HSG A
	391	50	Weighted Average
	320		81.84% Pervious Area
	71		18.16% Impervious Area

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

Subcatchment 2-3:

Hydrograph



21-285 Post

Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Pond RG: Rain Garden

Inflow Area = 0.038 ac, 72.45% Impervious, Inflow Depth > 1.40" for 2-yr Storm event
 Inflow = 0.07 cfs @ 12.08 hrs, Volume= 0.004 af
 Outflow = 0.01 cfs @ 12.54 hrs, Volume= 0.004 af, Atten= 80%, Lag= 27.7 min
 Discarded = 0.01 cfs @ 12.54 hrs, Volume= 0.004 af
 Primary = 0.01 cfs @ 12.54 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 30.25' @ 12.54 hrs Surf.Area= 123 sf Storage= 83 cf

Plug-Flow detention time= 130.0 min calculated for 0.004 af (94% of inflow)

Center-of-Mass det. time= 107.9 min (906.1 - 798.2)

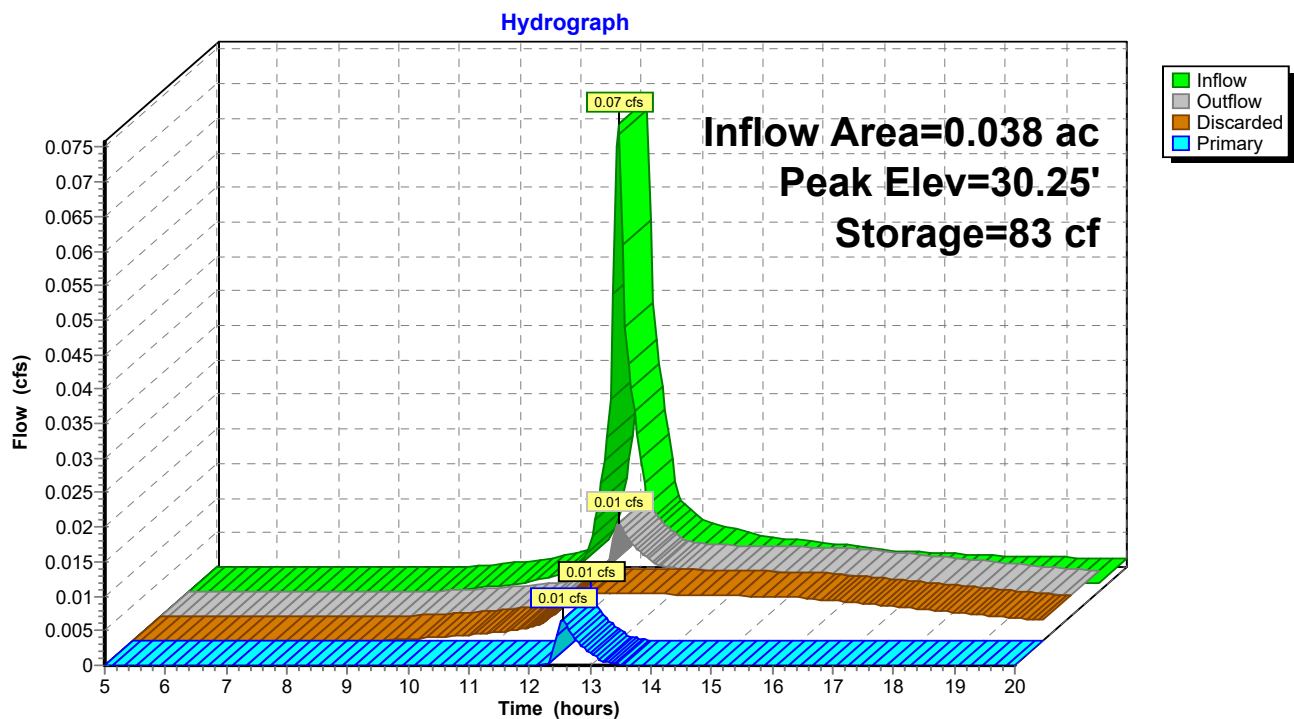
Volume	Invert	Avail.Storage	Storage Description
#1	29.02'	116 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.02	0	0	0
29.50	53	13	13
30.00	112	41	54
30.50	135	62	116

Device	Routing	Invert	Outlet Devices
#1	Discarded	29.02'	2.410 in/hr Exfiltration over Surface area
#2	Primary	30.20'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.54 hrs HW=30.25' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.01 cfs @ 12.54 hrs HW=30.25' (Free Discharge)↑**2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.73 fps)

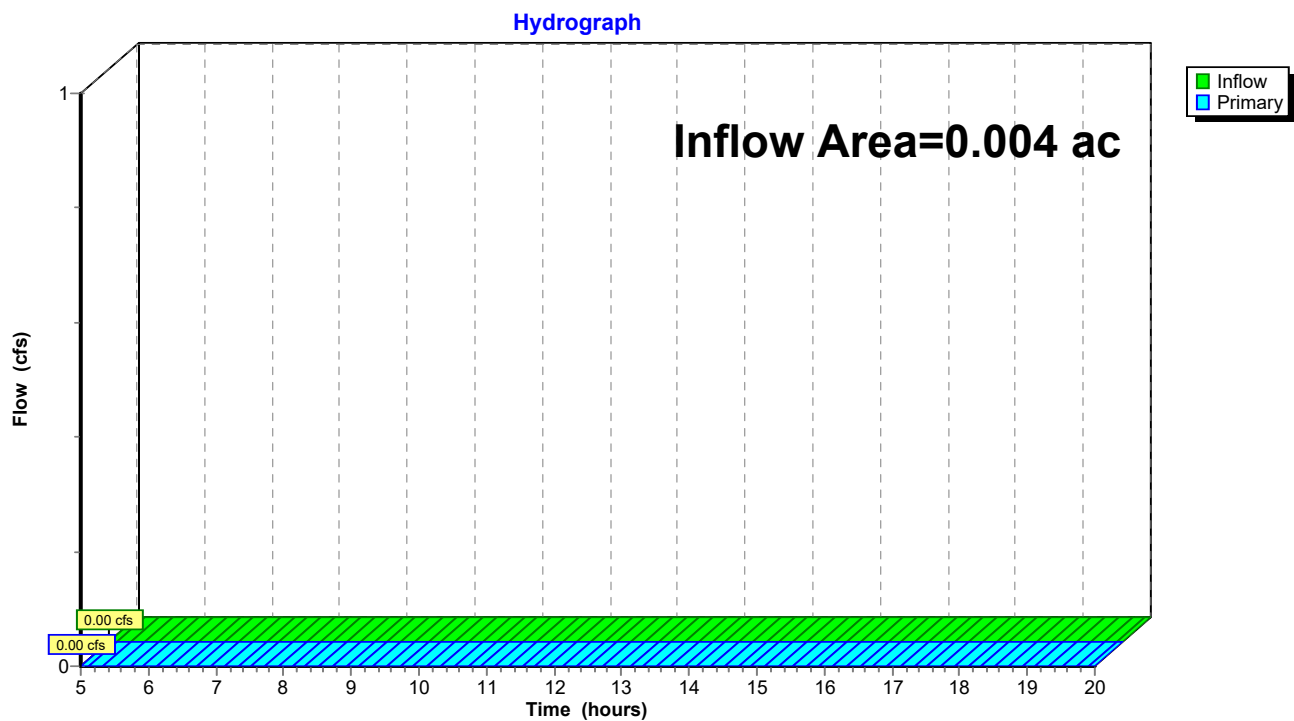
Pond RG: Rain Garden



Summary for Link AP1: Adjacent property

Inflow Area = 0.004 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

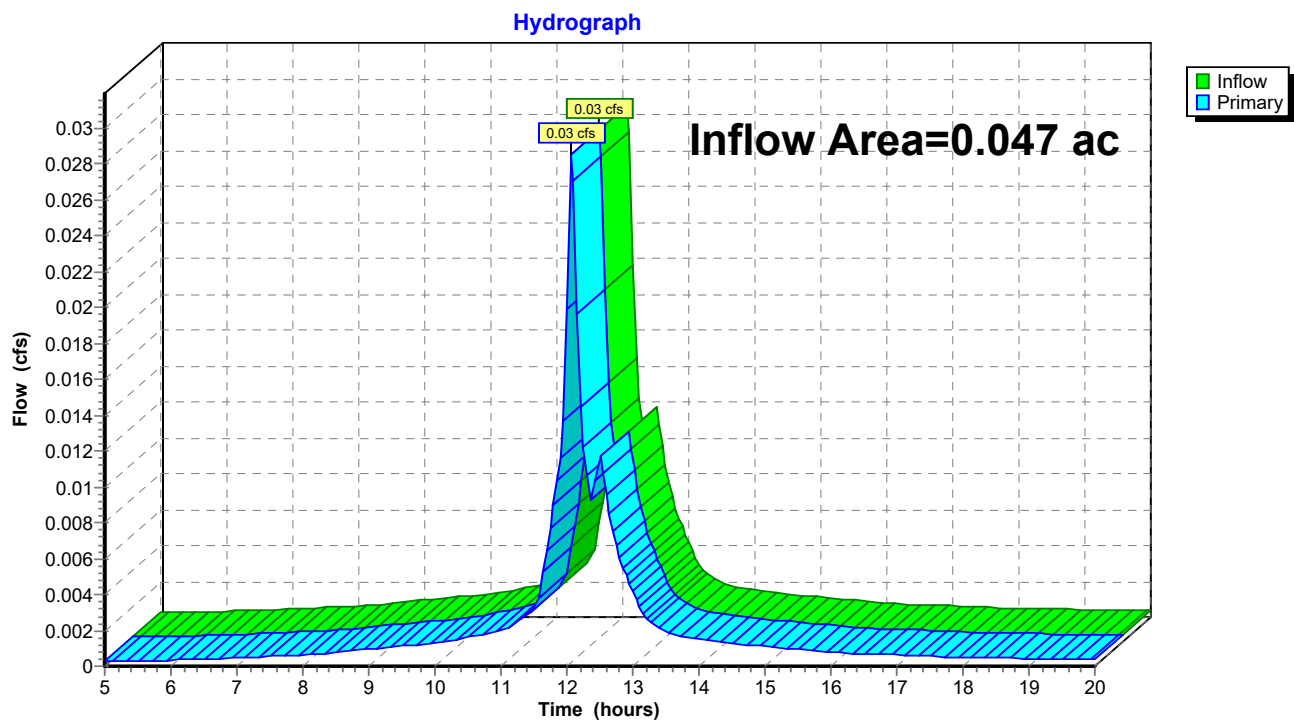
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent property

Summary for Link AP2: Street/Public System

Inflow Area = 0.047 ac, 77.79% Impervious, Inflow Depth > 0.59" for 2-yr Storm event
Inflow = 0.03 cfs @ 12.07 hrs, Volume= 0.002 af
Primary = 0.03 cfs @ 12.07 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

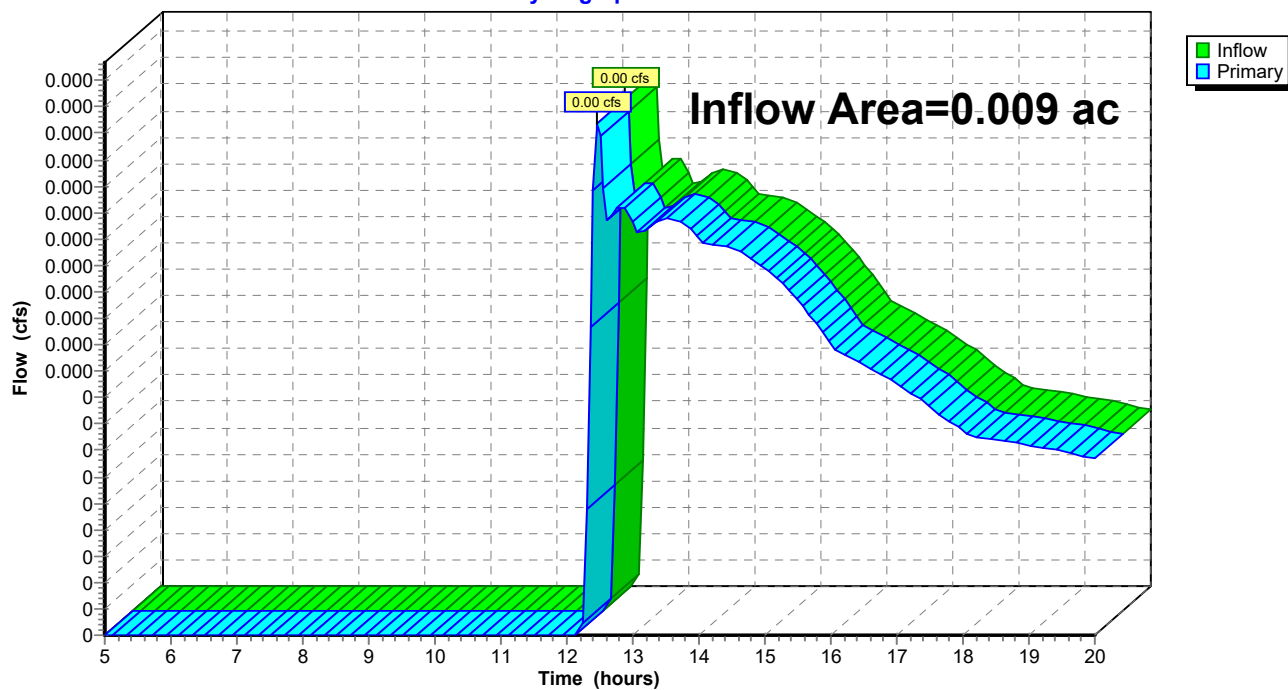
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP2: Street/Public System

Summary for Link AP3: Forest St CB

Inflow Area = 0.009 ac, 18.16% Impervious, Inflow Depth > 0.10" for 2-yr Storm event
Inflow = 0.00 cfs @ 12.47 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.47 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP3: Forest St CB**Hydrograph**

21-285 Post*Type III 24-hr 10-yr Storm Rainfall=4.72"*

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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

Subcatchment1: Runoff Area=167 sf 0.00% Impervious Runoff Depth>0.11"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2-1: Runoff Area=1,666 sf 72.45% Impervious Runoff Depth>2.65"
Tc=5.0 min CN=82 Runoff=0.13 cfs 0.008 af

Subcatchment2-2: Slab Drain Runoff Area=401 sf 100.00% Impervious Runoff Depth>4.16"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment2-3: Runoff Area=391 sf 18.16% Impervious Runoff Depth>0.50"
Tc=5.0 min CN=50 Runoff=0.00 cfs 0.000 af

Pond RG: Rain Garden Peak Elev=30.38' Storage=100 cf Inflow=0.13 cfs 0.008 af
Discarded=0.01 cfs 0.005 af Primary=0.09 cfs 0.003 af Outflow=0.10 cfs 0.008 af

Link AP1: Adjacent property Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Street/Public System Inflow=0.12 cfs 0.006 af
Primary=0.12 cfs 0.006 af

Link AP3: Forest St CB Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.012 af Average Runoff Depth = 2.40"
36.04% Pervious = 0.022 ac 63.96% Impervious = 0.039 ac

21-285 Post

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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 1:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.00 cfs @ 13.73 hrs, Volume= 0.000 af, Depth> 0.11"

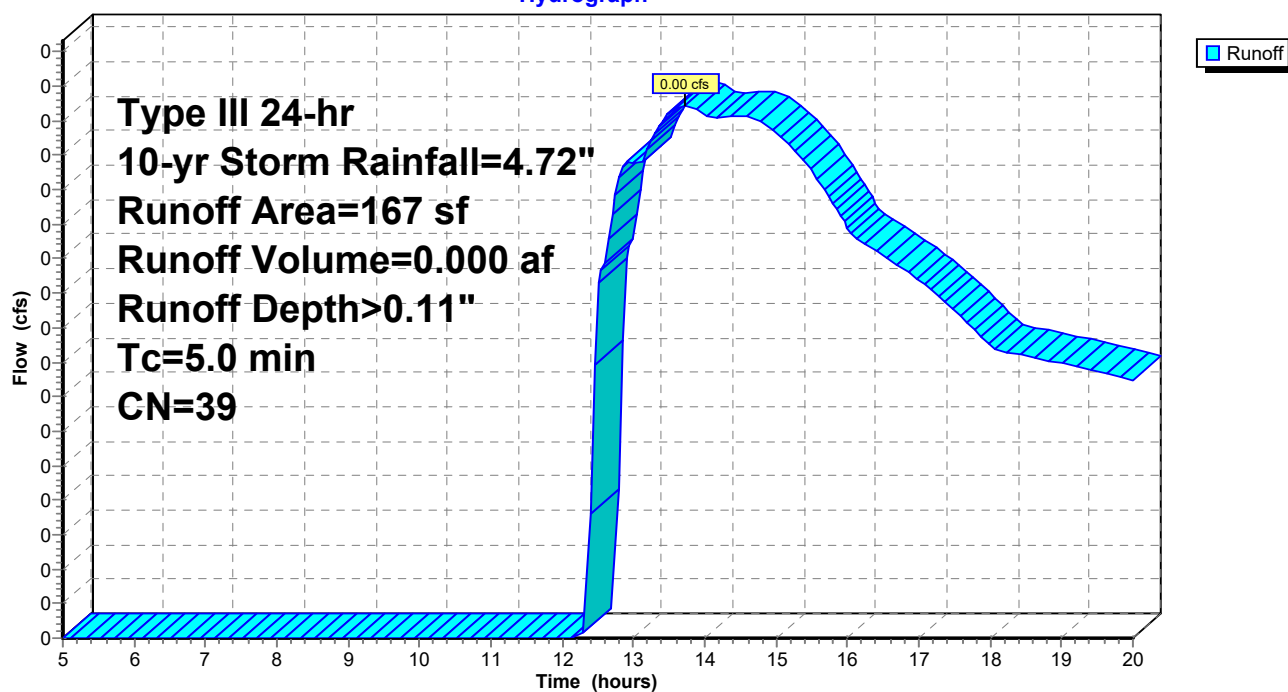
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

Area (sf)	CN	Description
167	39	>75% Grass cover, Good, HSG A
167		100.00% Pervious Area

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

Subcatchment 1:

Hydrograph



21-285 Post

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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 2-1:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.008 af, Depth> 2.65"

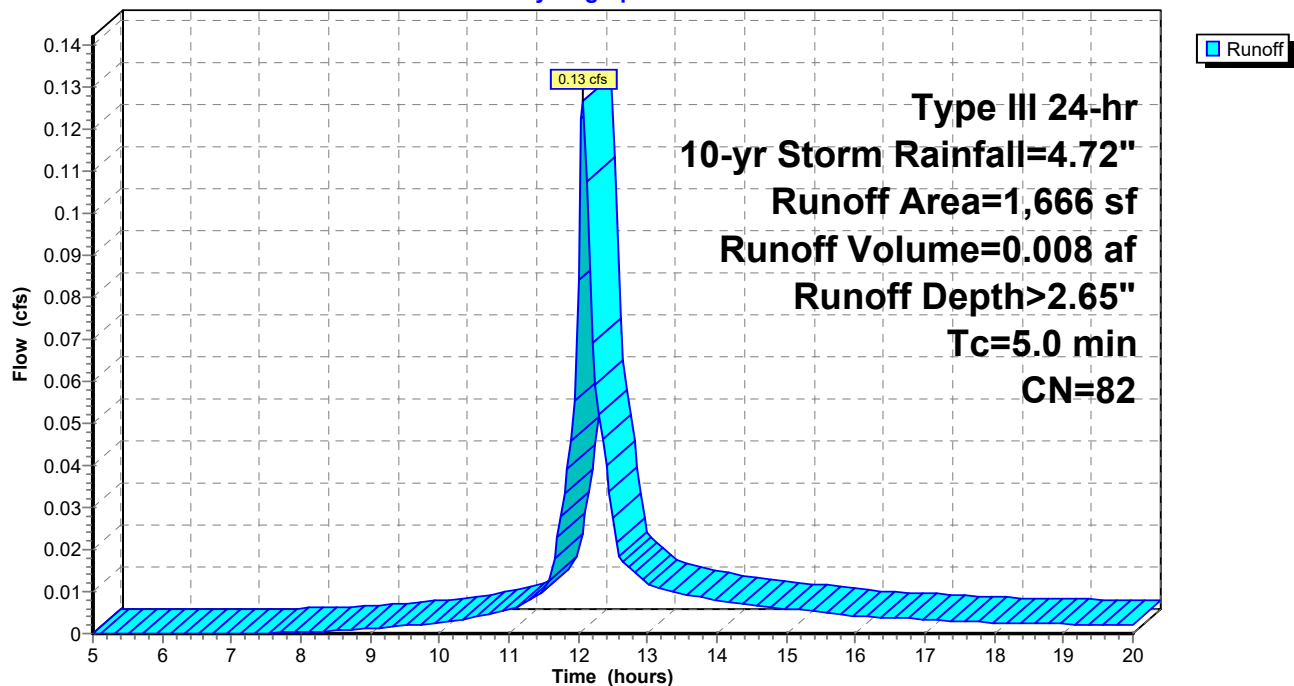
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

	Area (sf)	CN	Description
*	1,207	98	Impervious
	459	39	>75% Grass cover, Good, HSG A
	1,666	82	Weighted Average
	459		27.55% Pervious Area
	1,207		72.45% Impervious Area

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

Subcatchment 2-1:

Hydrograph



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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 2-2: Slab Drain[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af, Depth> 4.16"

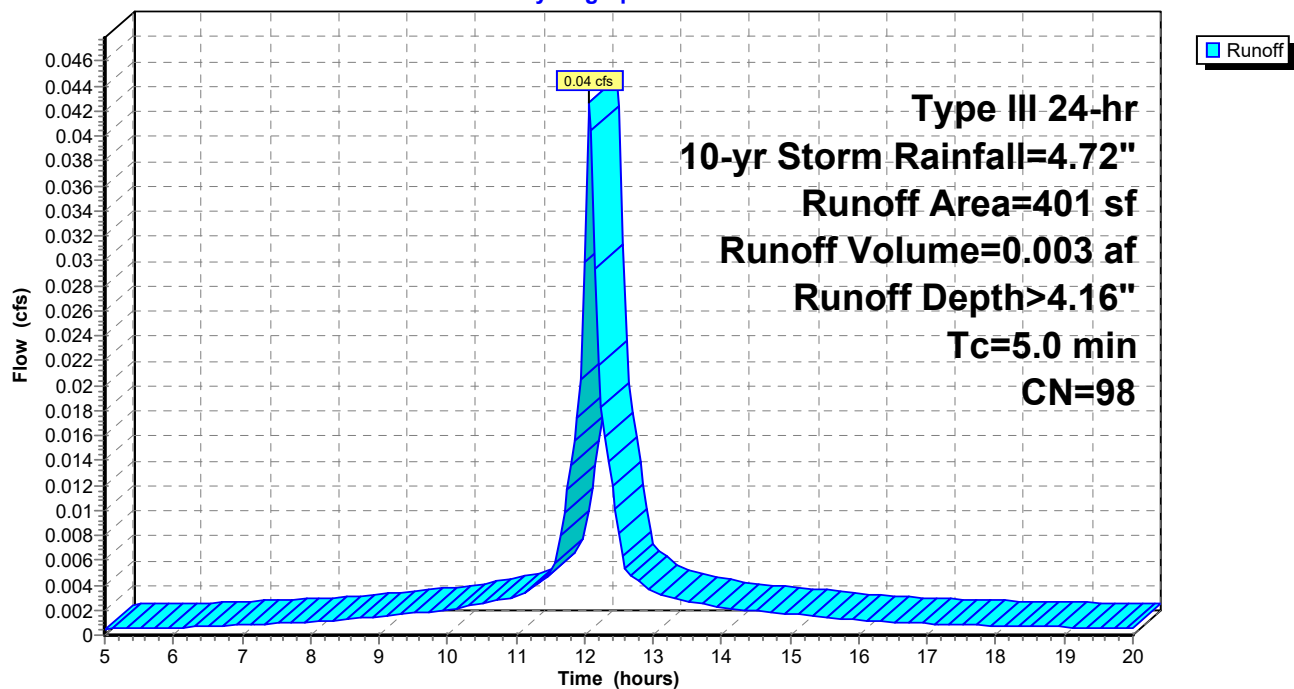
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

	Area (sf)	CN	Description
*	401	98	Impervious
	401		100.00% Impervious Area

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

Subcatchment 2-2: Slab Drain

Hydrograph



21-285 Post

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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 2-3:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.00 cfs @ 12.12 hrs, Volume= 0.000 af, Depth> 0.50"

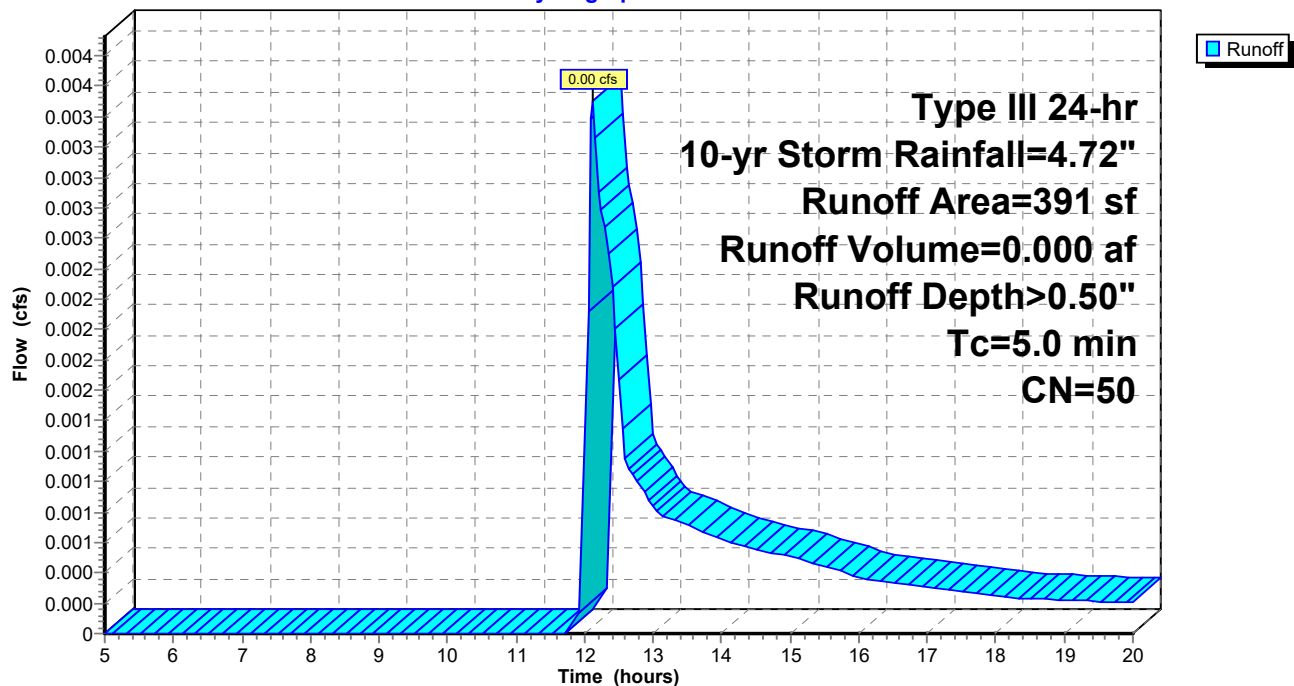
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

	Area (sf)	CN	Description
*	71	98	Impervious
	320	39	>75% Grass cover, Good, HSG A
	391	50	Weighted Average
	320		81.84% Pervious Area
	71		18.16% Impervious Area

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

Subcatchment 2-3:

Hydrograph



21-285 Post

Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Pond RG: Rain Garden

Inflow Area = 0.038 ac, 72.45% Impervious, Inflow Depth > 2.65" for 10-yr Storm event
 Inflow = 0.13 cfs @ 12.08 hrs, Volume= 0.008 af
 Outflow = 0.10 cfs @ 12.15 hrs, Volume= 0.008 af, Atten= 20%, Lag= 4.7 min
 Discarded = 0.01 cfs @ 12.15 hrs, Volume= 0.005 af
 Primary = 0.09 cfs @ 12.15 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 30.38' @ 12.15 hrs Surf.Area= 130 sf Storage= 100 cf

Plug-Flow detention time= 90.0 min calculated for 0.008 af (92% of inflow)
 Center-of-Mass det. time= 63.5 min (847.2 - 783.7)

Volume	Invert	Avail.Storage	Storage Description
#1	29.02'	116 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.02	0	0	0
29.50	53	13	13
30.00	112	41	54
30.50	135	62	116

Device	Routing	Invert	Outlet Devices
#1	Discarded	29.02'	2.410 in/hr Exfiltration over Surface area
#2	Primary	30.20'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

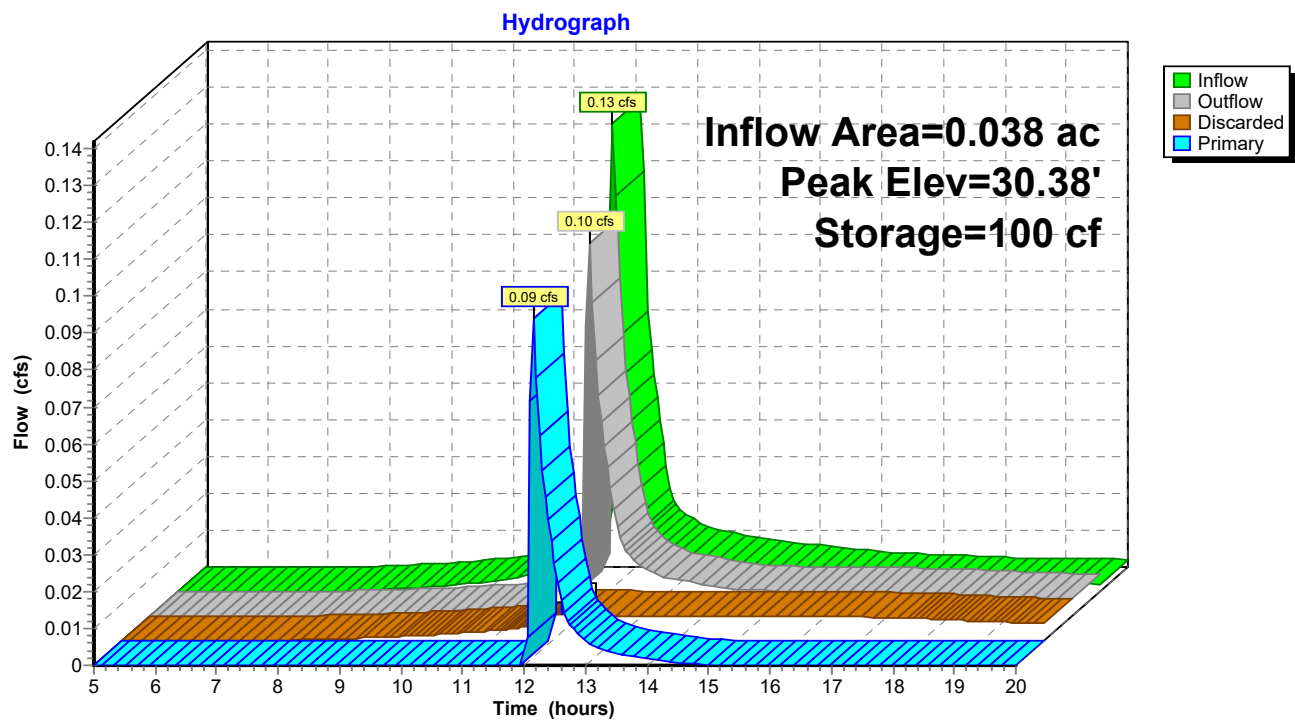
Discarded OutFlow Max=0.01 cfs @ 12.15 hrs HW=30.38' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.09 cfs @ 12.15 hrs HW=30.38' (Free Discharge)

↑ **2=Orifice/Grate** (Orifice Controls 0.09 cfs @ 1.45 fps)

Pond RG: Rain Garden



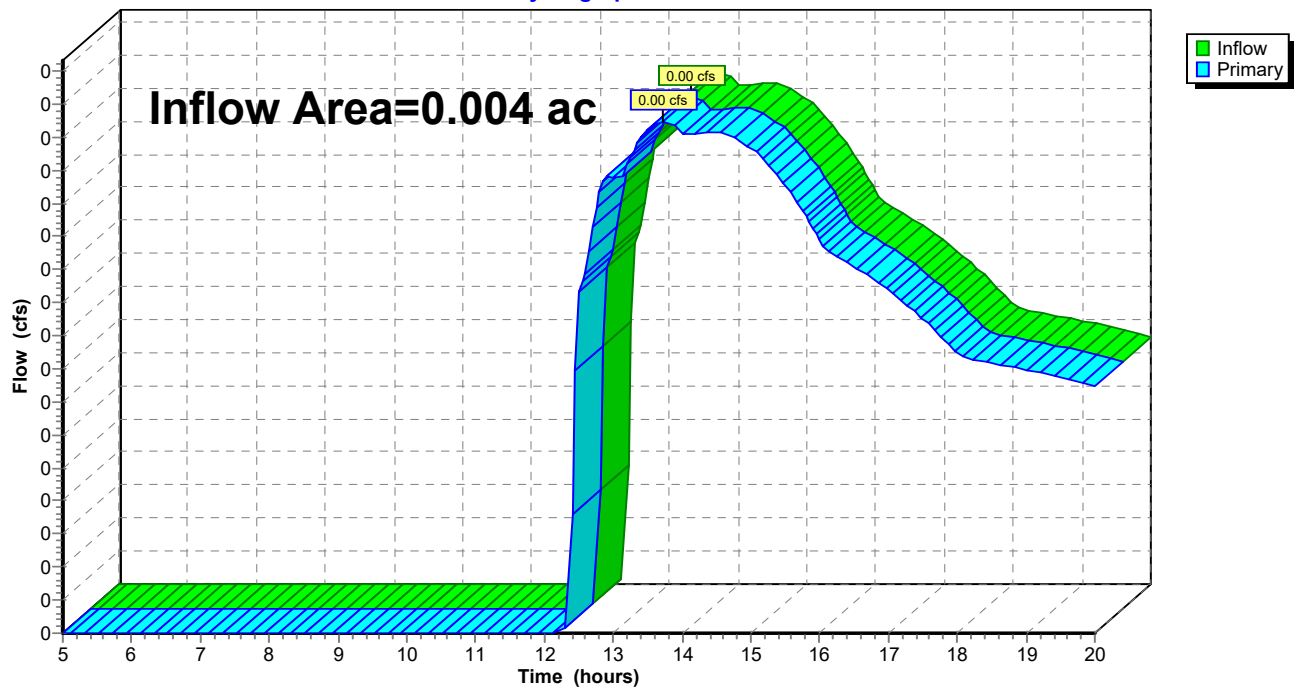
Summary for Link AP1: Adjacent property

Inflow Area = 0.004 ac, 0.00% Impervious, Inflow Depth > 0.11" for 10-yr Storm event
Inflow = 0.00 cfs @ 13.73 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 13.73 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP1: Adjacent property

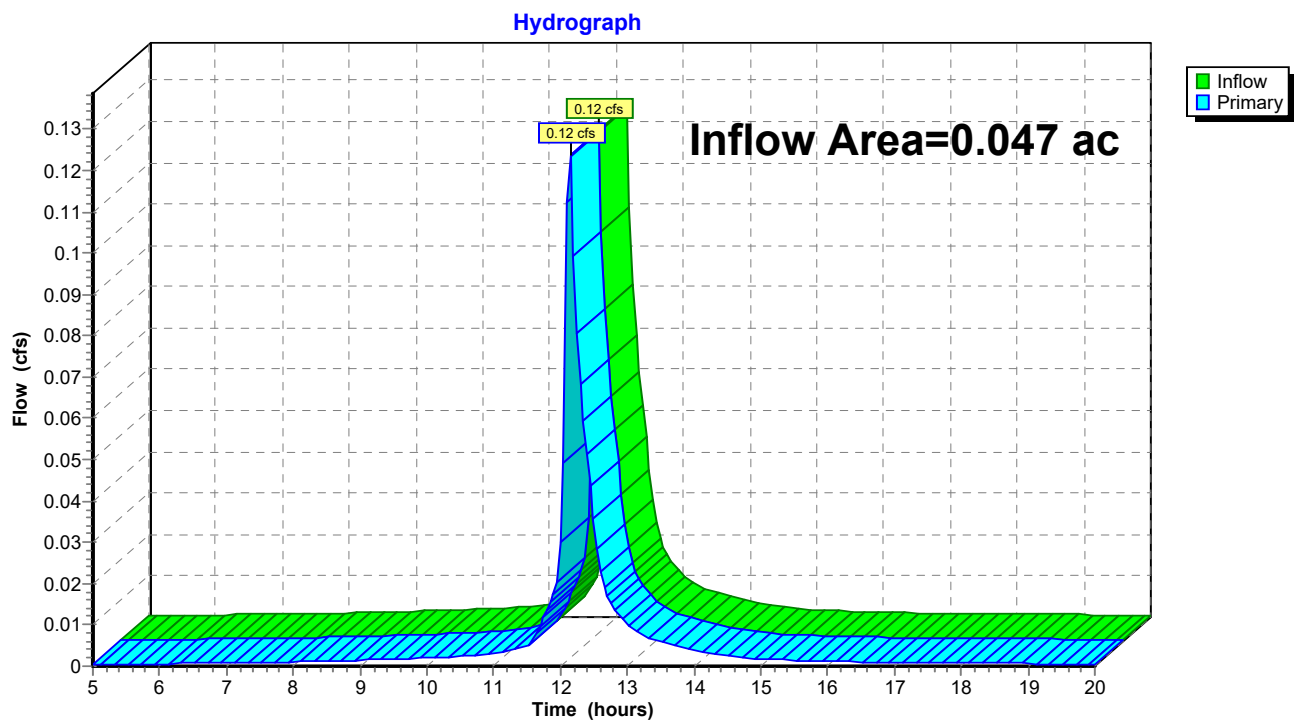
Hydrograph



Summary for Link AP2: Street/Public System

Inflow Area = 0.047 ac, 77.79% Impervious, Inflow Depth > 1.55" for 10-yr Storm event
Inflow = 0.12 cfs @ 12.14 hrs, Volume= 0.006 af
Primary = 0.12 cfs @ 12.14 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

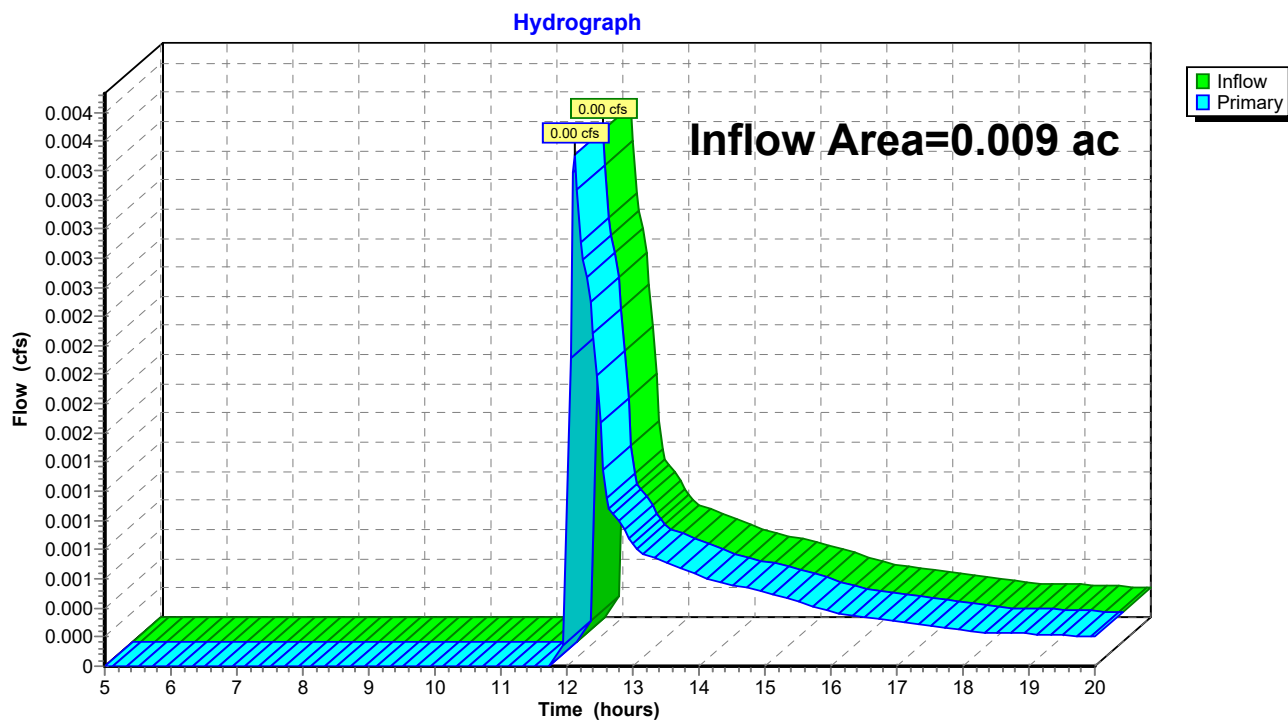
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP2: Street/Public System

Summary for Link AP3: Forest St CB

Inflow Area = 0.009 ac, 18.16% Impervious, Inflow Depth > 0.50" for 10-yr Storm event
Inflow = 0.00 cfs @ 12.12 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.12 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP3: Forest St CB

21-285 Post*Type III 24-hr 25-yr Storm Rainfall=5.94"*

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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

Subcatchment1: Runoff Area=167 sf 0.00% Impervious Runoff Depth>0.36"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2-1: Runoff Area=1,666 sf 72.45% Impervious Runoff Depth>3.69"
Tc=5.0 min CN=82 Runoff=0.18 cfs 0.012 af

Subcatchment2-2: Slab Drain Runoff Area=401 sf 100.00% Impervious Runoff Depth>5.27"
Tc=5.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment2-3: Runoff Area=391 sf 18.16% Impervious Runoff Depth>0.99"
Tc=5.0 min CN=50 Runoff=0.01 cfs 0.001 af

Pond RG: Rain Garden Peak Elev=30.44' Storage=108 cf Inflow=0.18 cfs 0.012 af
Discarded=0.01 cfs 0.005 af Primary=0.16 cfs 0.006 af Outflow=0.16 cfs 0.011 af

Link AP1: Adjacent property Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Street/Public System Inflow=0.21 cfs 0.010 af
Primary=0.21 cfs 0.010 af

Link AP3: Forest St CB Inflow=0.01 cfs 0.001 af
Primary=0.01 cfs 0.001 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.017 af Average Runoff Depth = 3.32"
36.04% Pervious = 0.022 ac 63.96% Impervious = 0.039 ac

Summary for Subcatchment 1:

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.00 cfs @ 12.33 hrs, Volume= 0.000 af, Depth> 0.36"

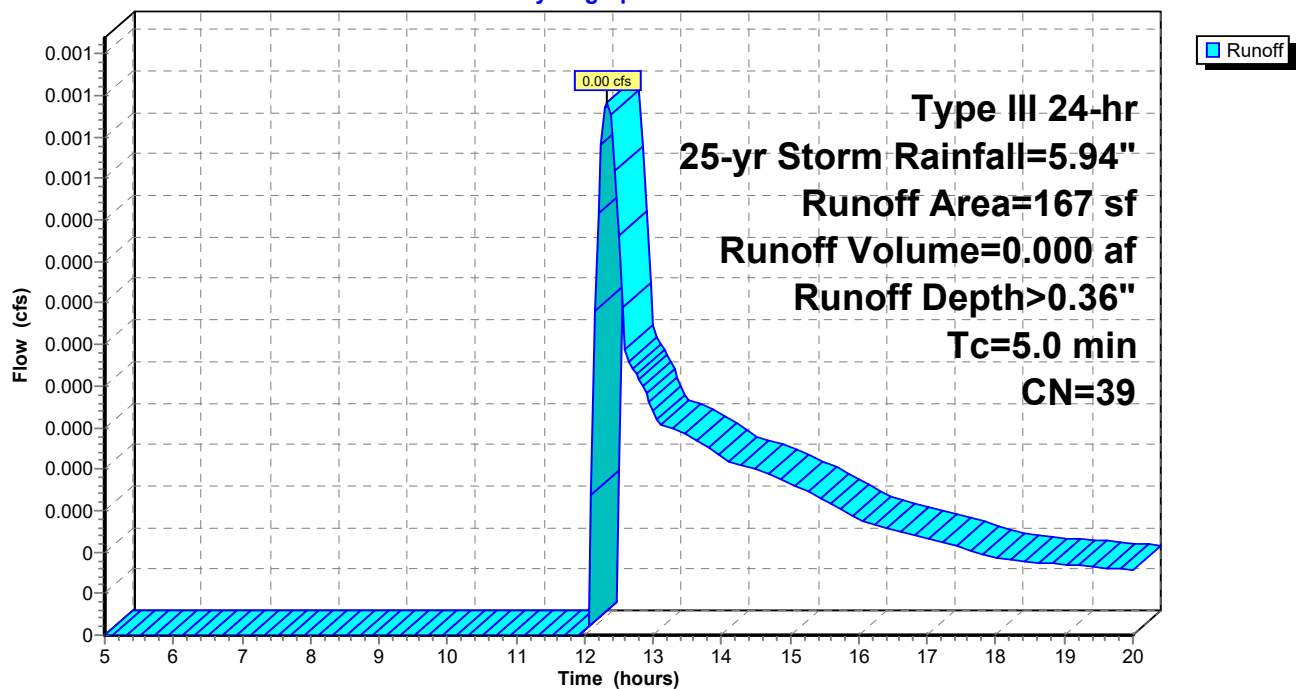
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

Area (sf)	CN	Description
167	39	>75% Grass cover, Good, HSG A
167		100.00% Pervious Area

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

Subcatchment 1:

Hydrograph



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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 2-1:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 3.69"

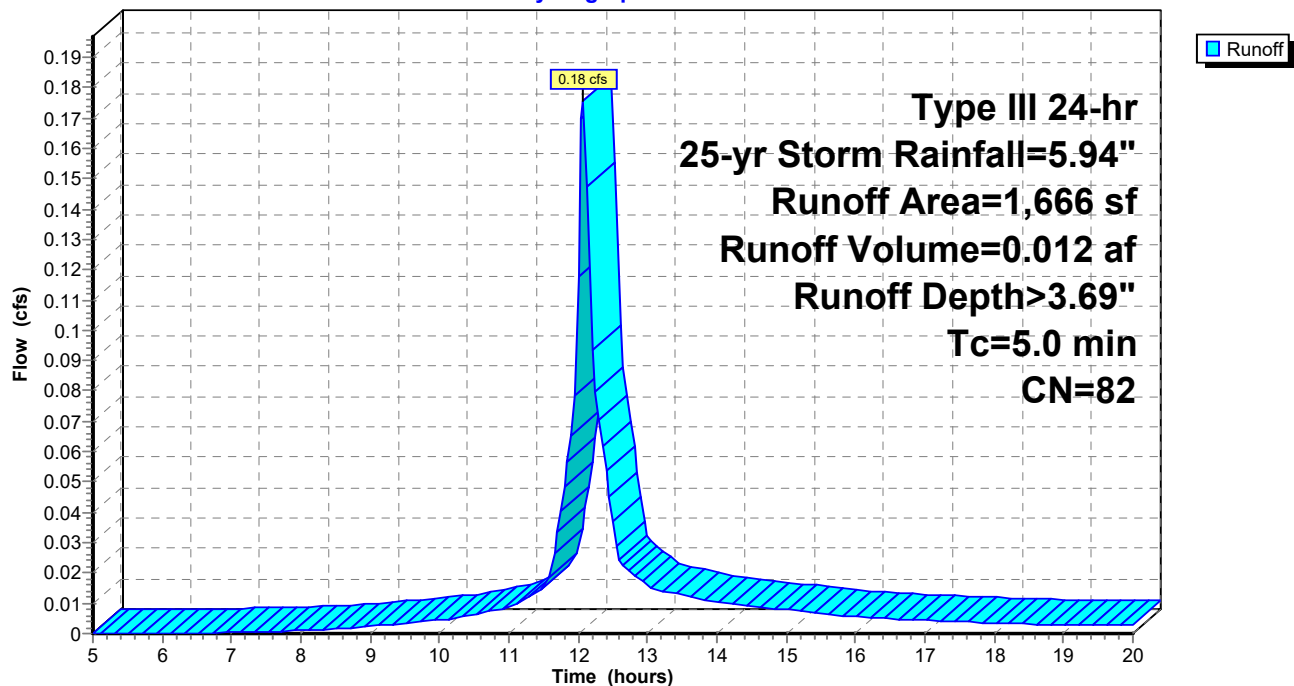
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

	Area (sf)	CN	Description
*	1,207	98	Impervious
	459	39	>75% Grass cover, Good, HSG A
	1,666	82	Weighted Average
	459		27.55% Pervious Area
	1,207		72.45% Impervious Area

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

Subcatchment 2-1:

Hydrograph



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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 2-2: Slab Drain[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.05 cfs @ 12.07 hrs, Volume= 0.004 af, Depth> 5.27"

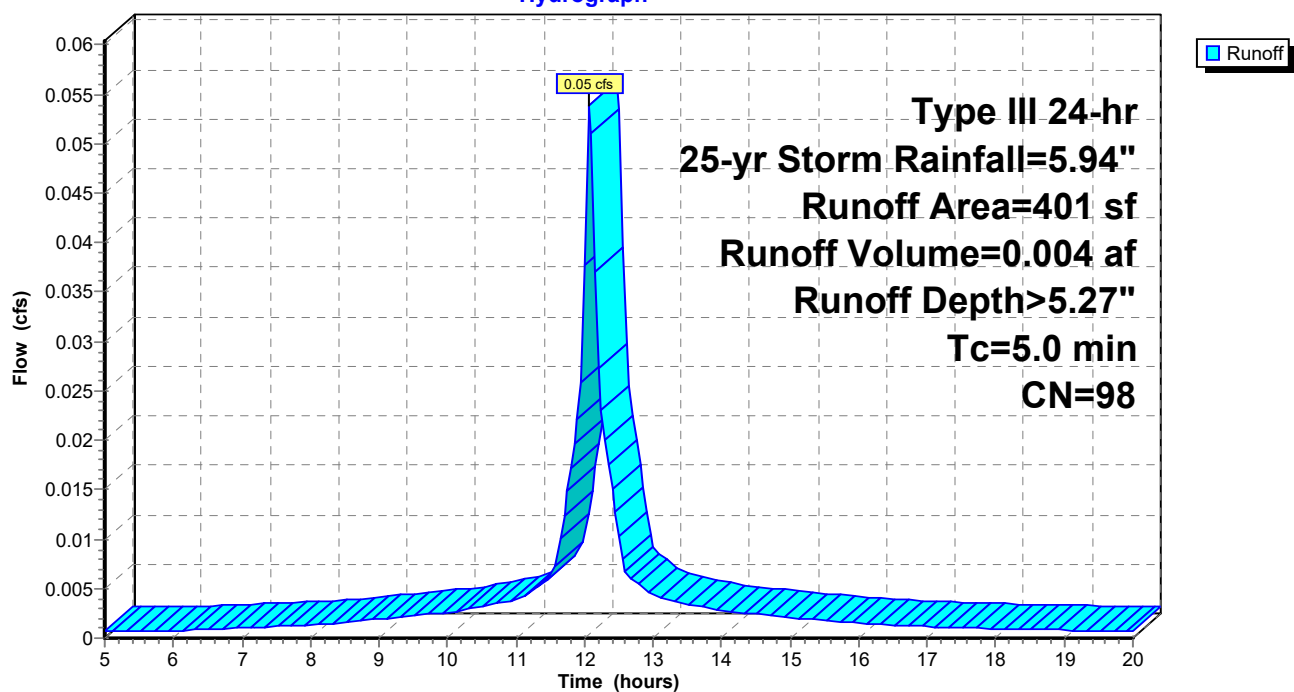
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

	Area (sf)	CN	Description
*	401	98	Impervious
	401		100.00% Impervious Area

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

Subcatchment 2-2: Slab Drain

Hydrograph



21-285 Post

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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 2-3:[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af, Depth> 0.99"

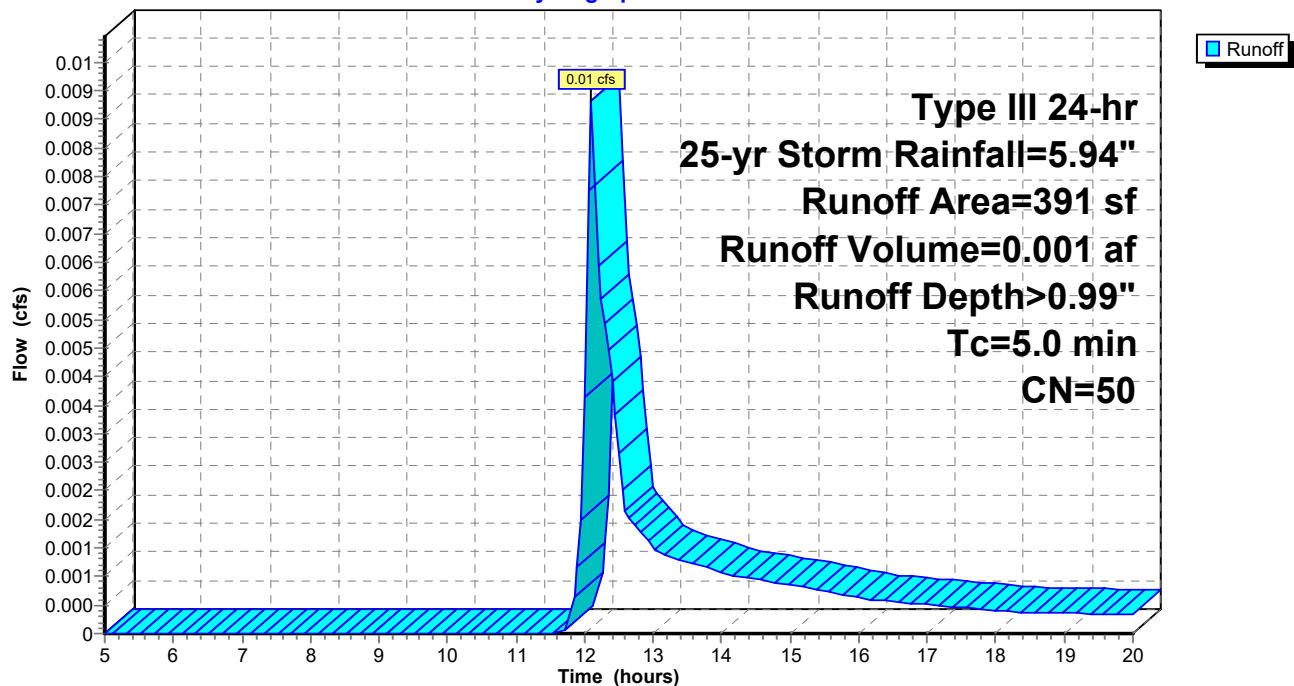
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

	Area (sf)	CN	Description
*	71	98	Impervious
	320	39	>75% Grass cover, Good, HSG A
	391	50	Weighted Average
	320		81.84% Pervious Area
	71		18.16% Impervious Area

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

Subcatchment 2-3:

Hydrograph



21-285 Post

Type III 24-hr 25-yr Storm Rainfall=5.94"

Prepared by HP Inc.

Printed 5/4/2022

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Summary for Pond RG: Rain Garden

Inflow Area = 0.038 ac, 72.45% Impervious, Inflow Depth > 3.69" for 25-yr Storm event
 Inflow = 0.18 cfs @ 12.07 hrs, Volume= 0.012 af
 Outflow = 0.16 cfs @ 12.11 hrs, Volume= 0.011 af, Atten= 6%, Lag= 2.2 min
 Discarded = 0.01 cfs @ 12.11 hrs, Volume= 0.005 af
 Primary = 0.16 cfs @ 12.11 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 30.44' @ 12.11 hrs Surf.Area= 132 sf Storage= 108 cf

Plug-Flow detention time= 72.3 min calculated for 0.011 af (92% of inflow)
 Center-of-Mass det. time= 45.2 min (821.1 - 775.8)

Volume	Invert	Avail.Storage	Storage Description
#1	29.02'	116 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.02	0	0	0
29.50	53	13	13
30.00	112	41	54
30.50	135	62	116

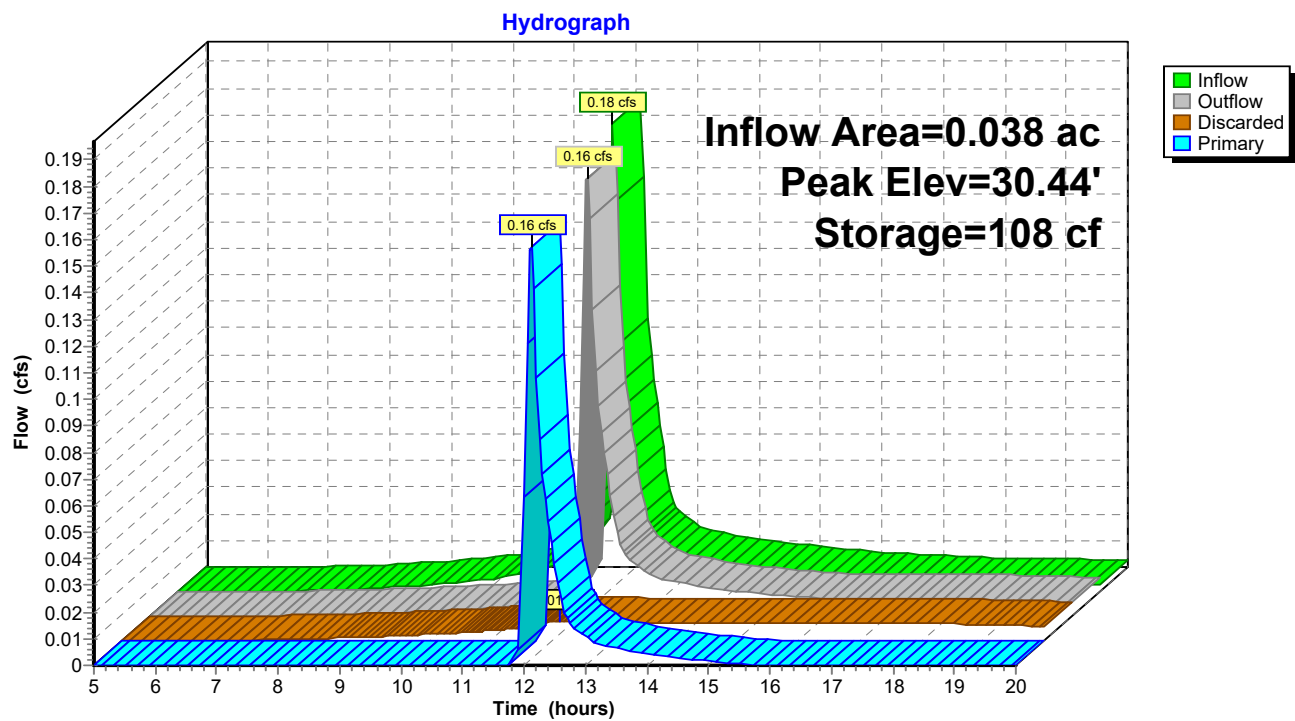
Device	Routing	Invert	Outlet Devices
#1	Discarded	29.02'	2.410 in/hr Exfiltration over Surface area
#2	Primary	30.20'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.11 hrs HW=30.44' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.15 cfs @ 12.11 hrs HW=30.44' (Free Discharge)

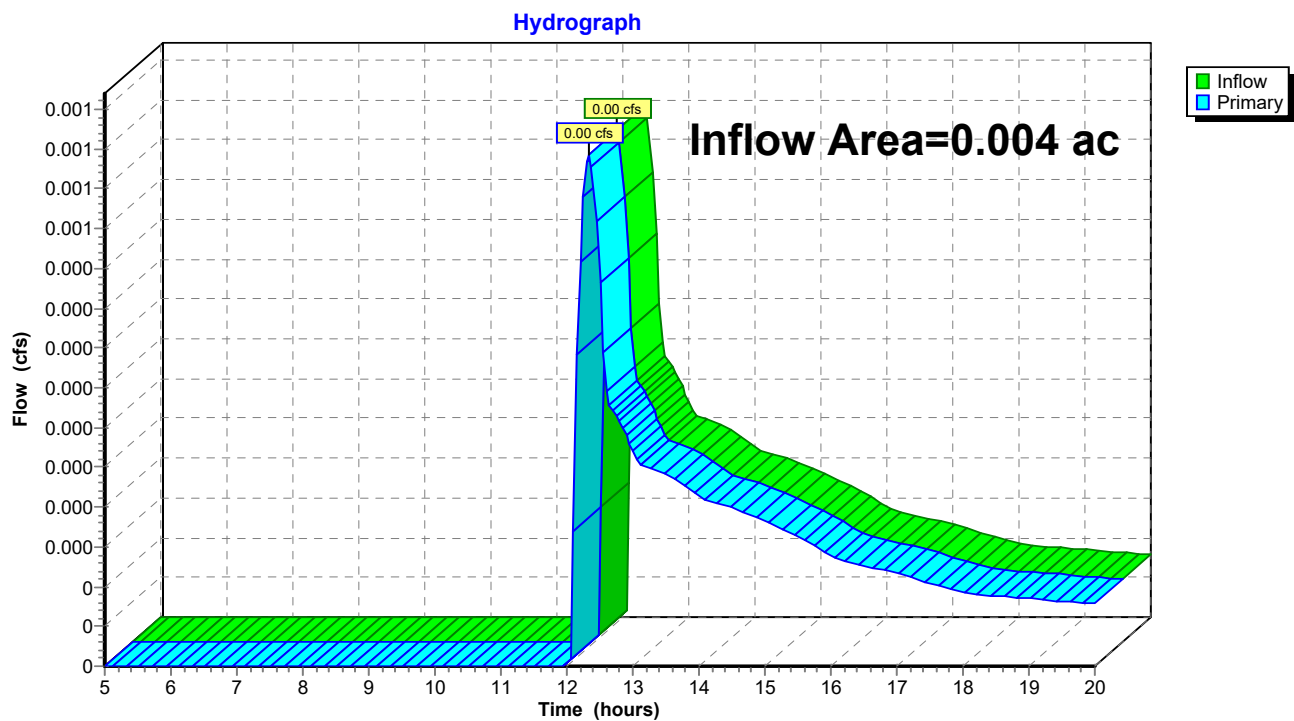
↑ **2=Orifice/Grate** (Orifice Controls 0.15 cfs @ 1.66 fps)

Pond RG: Rain Garden

Summary for Link AP1: Adjacent property

Inflow Area = 0.004 ac, 0.00% Impervious, Inflow Depth > 0.36" for 25-yr Storm event
Inflow = 0.00 cfs @ 12.33 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.33 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

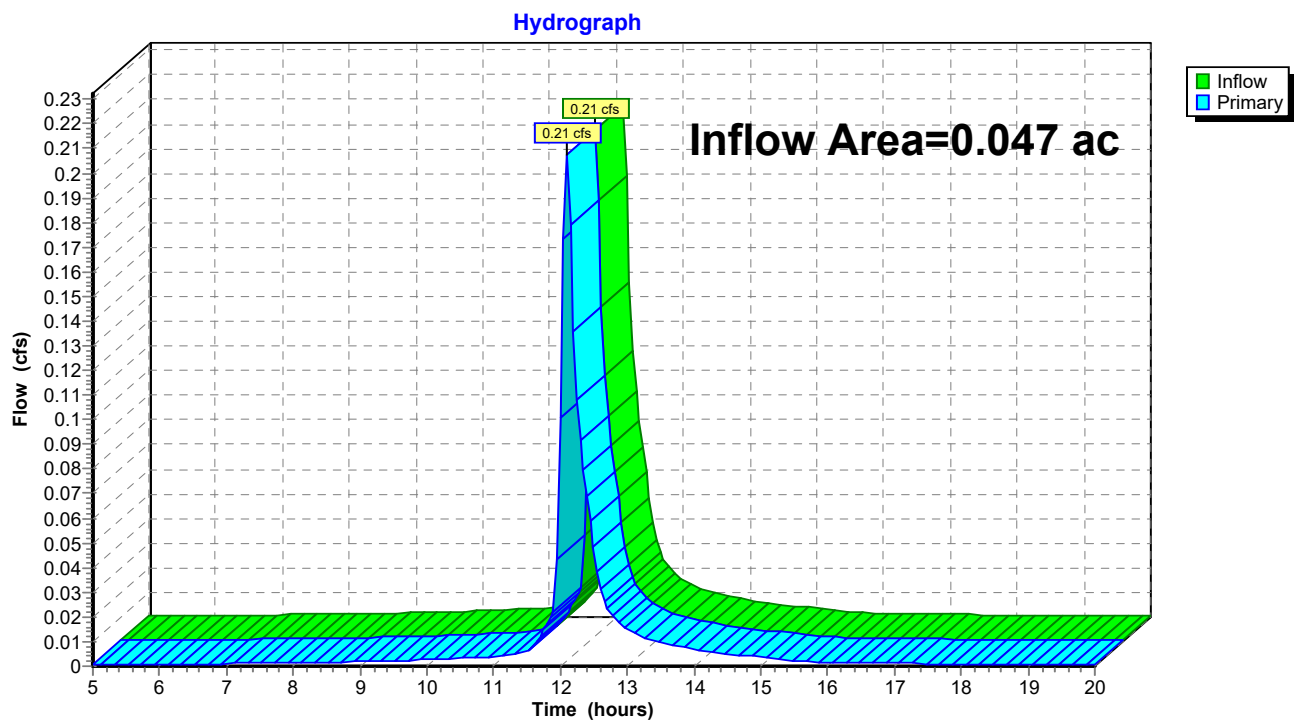
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent property

Summary for Link AP2: Street/Public System

Inflow Area = 0.047 ac, 77.79% Impervious, Inflow Depth > 2.42" for 25-yr Storm event
Inflow = 0.21 cfs @ 12.10 hrs, Volume= 0.010 af
Primary = 0.21 cfs @ 12.10 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

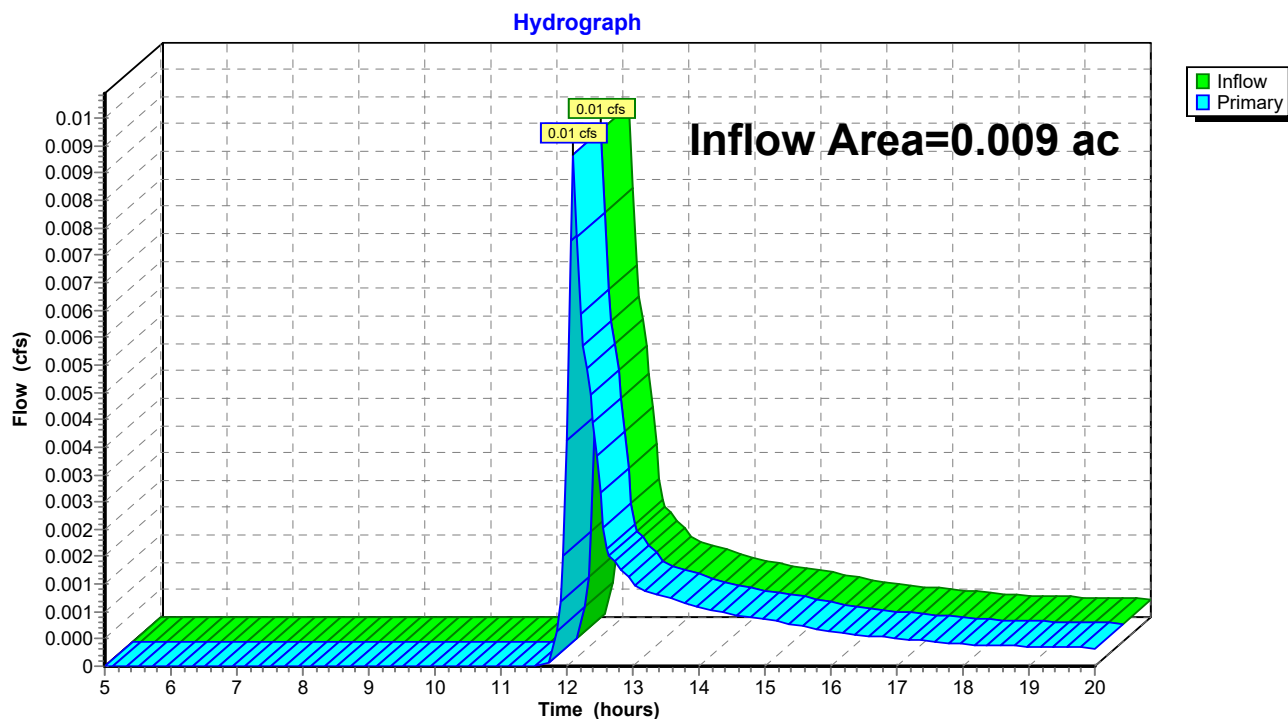
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP2: Street/Public System

Summary for Link AP3: Forest St CB

Inflow Area = 0.009 ac, 18.16% Impervious, Inflow Depth > 0.99" for 25-yr Storm event
Inflow = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af
Primary = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

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

Link AP3: Forest St CB

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: 01/19/23

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 31 Forest St, Portland ME 04101

Chart Block Lot Number: 053 A011001

Proposed Use: Residential Apartments

Previous Use: Empty Land

Existing Sanitary Flows: _____ GPD

Existing Process Flows: _____ GPD

Description and location of City sewer that is to
receive the proposed building sewer lateral.

Site Category	Commercial (see part 4 below)	☐
	Industrial (complete part 5 below)	☐
	Governmental	☐
	Residential	☒
	Other (specify)	☐

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Austen Davis Phone: 207-874-8632

Owner/Developer Name: 31 Forest, LLC / Ray Chang

Owner/Developer Address: 46 Turner St Unit 3, Portland ME 04101

Phone: 781-540-8641 Fax: _____ E-mail: ray@db9ventures.com

Engineering Consultant Name: Eric Dube, PE - Trillium Engineering Group

Engineering Consultant Address: 189 Main St Suite 200 Yarmouth, ME 04096

Phone: 207-712-7022 Fax: _____ E-mail: ericd@trilliumeg.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: 540 GPD

Peaking Factor/ Peak Times: 6:00 - 8:00 AM

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)

Chapter 241: State of Maine Subsurface Wastewater Disposal Rules

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: _____

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: _____ 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.

Calculation For Domestic Wastewater:

Per Chapter 241.4.E.2., "the design flow for multiple family dwelling units is calculated at 120 gallons per unit for one-bedroom units, and 90 gallons per day per bedroom for multiple bedroom units"

We have (3) Units of 2 Bedrooms per Unit; a Total of 6 Bedrooms * 90/gallons/bedroom = 540 gallons

Total Demand: 540 gallons per day



4" ROUND DEEP DOWNLIGHT WILDLIFE FRIENDLY

UNIVERSAL HOUSINGS WITH INTERCHANGEABLE TRIMS

Spectrum's Enduro 4" recessed round downlight series features a trim and variety of options for accent and general illumination.

LUMENS AND WATTAGE CHART					
PART NUMBER	LUMENS	SOURCE LUMENS ¹	DELIVERED LUMENS ²	SYSTEM WATTS	LPW
RDD4F	TA5L	500	390	16	25
RDD4F	TD10L	1000	803	16	51

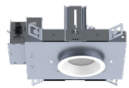
PROJECT: _____

TYPE: _____



AVAILABLE HOUSING TYPES

SR4MO - New Construction



SR4MR - Remodel Construction



FIXTURE HOUSING SPECIFICATION

SERIES	LUMENS ¹	DRIVER / DIMMING / VOLTAGE	OPTIONS	MOUNTING
SR4MO New Construction	AMBER ONLY ³	DO10 1%, 0-10V	EB Black Housing	H12 ⁶ 12" - 24" Expandable Bars
SR4MR Remodel Construction	TA5L 500 Lm Amber Only		PR ⁵ Consult Factory	BH27 27" Solid Bars CB24 24" C-Channel Bars
	DUAL CIRCUIT ⁴	DS2W ELV/MLV, 120V		
	TD10L CIR 1 1000 Lm at 3000K CIR 2 500 Lm Amber Only			

- Full Shielding.
- Die-cast aluminum trim with a wide variety of options.
- Deep regressed trim.
- Universal housing accepts all trim types, including N-Line trimless.
- 5 year warranty on fixture and electronics.
- Sustainable fixture.

AVAILABLE TRIM / MODULE TYPES

RDD4F



TRIM / MODULE SPECIFICATION

TRIM	CCT	FINISH	FLANGE FINISH	LENS ⁹	OPTIONS
RDD4F Downlight	AMBER ONLY ³	MW ⁷ Matte White	WF White Flange	SO ¹⁰ Micro Prism Solite™ Lens	PR ⁵ Consult Factory
	AMB 500 Lm Amber Only	MB Matte Black	MF Matching Flange	GL Clear Glass Lens	
		PT Platinum Silver		FG Frosted Glass Lens	
		BZ Bronze			
		CH Charcoal			
		OB Oil Rubbed Bronze			
	DUAL CIRCUIT ⁴	AS Sapphire			
	30K CIR 1 1000 Lm at 3000K	AM Malachite			
		SN Sun Gold			
	CIR 2 500 Lm Amber Only	CO Copper Metallic			
		GH Graphite			
		CC ⁸ Custom Color			

EXAMPLE: SR4MOTA5LDS2W1/H12/RDD4FAMBCHWFSO

EXAMPLE: SR4MOTD10LDS2W1/H12/RDD4F30KCHWFSO

NOTES:

1 Nominal Source Lumens 2 Nominal Delivered Lumens 3 Specify with TA Only 4 Specify with TD Only, TD/Dual Circuit Option Requires Dedicated on Site Controls by Others, Controls by Others Are Not to Allow Both Circuits to be Energized Simultaneously, Consult Factory for More Information 5 Contact Factory 6 Standard Bar Hangers 7 Standard Finish 8 Contact Factory for Special Finishes 9 Lens is Required 10 Standard Lens



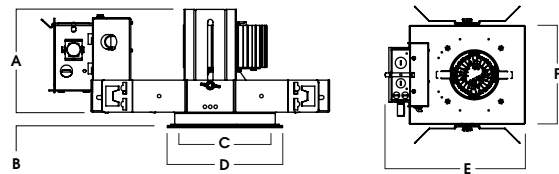
Dimensions and values shown are nominal. Spectrum Lighting continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.



HOUSING DIMENSIONS

SR4MO - NEW CONSTRUCTION

Non-IC rated, thermally protected frame-in kit for new construction. Non-IC designation requires insulation must be minimum of 3" from housing.



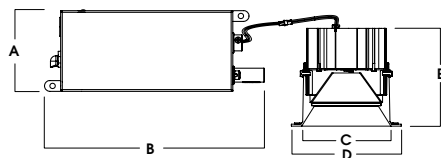
A	B	C	D	E	F
4.8	.625	4.4	5.4	13.1	9.5
121.9 mm	15.2 mm	111.8 mm	137.2 mm	332.7 mm	241.3 mm

Fixture Weight: 7 lbs

Ceiling Cutout: Ø 5"

SR4MR - REMODEL CONSTRUCTION

Non-IC rated frame-in kit for existing construction. Non-IC designation requires insulation must be minimum of 3" from housing.



A	B	C	D	E
3.8	10.2	4.4	5.4	5.0
96.5 mm	259.1 mm	111.8 mm	137.2 mm	127.0 mm

Fixture Weight: 5 lbs

Ceiling Cutout: Ø 5"

FEATURES

FRAME-IN KIT

Precision Die-formed 20 gauge galvanized steel housing and integral junction box with (3) 5/8", (3) 7/8" and (2) 1 1/8" knockouts. Junction box capacity: 8 12AWG rated for 90 °C. Tool-less driver and junction box access for ease of maintenance. Post-loc trim retention springs for 5/8"-1" ceiling thickness.

MOUNTING

A variety of mounting bars are available (excluding remodel). Ceiling materials must be rigid to support luminaire frame.

TRIM

Self-flanged, one-piece, die-cast aluminum finished in a variety of powdercoat options. Designed for wet location. Specify finish and flange finish. For trimless options see N-Line.

REMODEL

Features tethered power supply and junction box with sheathed wire.

ELECTRONICS

Full shielding. Single circuit, amber only option is available. Amber LEDs are monochromatic, narrow spectral bandwidth that only emit long wavelengths >560 nm and <625 nm. Proprietary 2-circuit LED system: Circuit 1 is 3000K at 1000 lumens, Circuit 2 is Amber only at 500 lumens. 3000K white light is 3-step MacAdam Ellipse binning, with 80+ CRI.

EMERGENCY

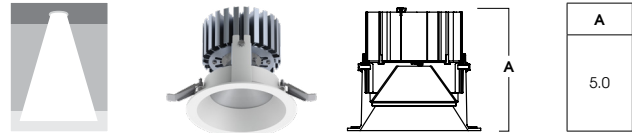
Contact Factory.

COLOR VARIATION

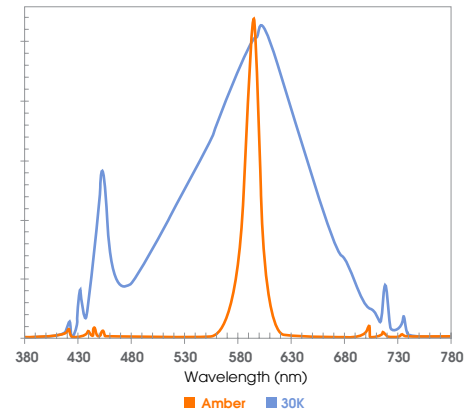
Standard CRI (80) within 3-step MacAdam Ellipse.

TRIM / MODULE DATA

RDD4F - DOWNLIGHT MODULE



SPECTRAL POWER DISTRIBUTION COMPARISON



LISTINGS

ETL Certified to meet US and Canadian Standards. Manufactured and tested to UL standard No. 1598/8750. BAA compliant. Suitable for wet locations. International Dark-Sky Association approved fixture.

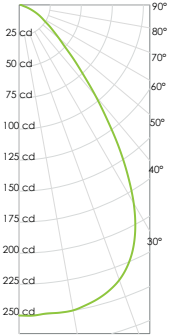
WARRANTY

Fixtures, LEDs and drivers carry 5 year Spectrum warranty, as well as individual OEM warranty. Warranty is 5 years from date of manufacturing. LED system rated for operation in an ambient temperatures up to 25 °C.



PHOTOMETRIC DATA - 4" ROUND DEEP DOWNLIGHT

SR4MOTA5 LE1 RDD4x AMB MWxSO

CANDLEPOWER CURVE TEST SP-00789_2	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE				MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT									
	0.00°	0° - 10°	24	6%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4			
	0.00° 250	0° - 20°	93	24%	5.5' - 8 fc	8.1' - 4 fc	9'	6'	9	0.37	11	0.54				
	5.00° 250	0° - 30°	194	50%	6.5' - 6 fc	9.6' - 3 fc	12'	8'	6	0.25	5	0.25				
	10.00° 250	0° - 40°	285	73%	7.5' - 4 fc	11.0' - 2 fc	16'	12'	2	0.09	3	0.12				
	15.00° 245	0° - 60°	367	94%	8.5' - 3 fc	12.5' - 2 fc	Delivered Illuminance Rating: (DIR)		24 FC per W/Sq. Ft.		20 FC per W/Sq. Ft.					
	20.00° 236	0° - 80°	388	100%	10.0' - 3 fc	14.7' - 1 fc										
	30.00° 184	0° - 90°	390	100%	12.0' - 2 fc	17.6' - 1 fc	Recessed Mounting Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. -2.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. -2.5' x 2.50 Average Footcandles at 2.5' Above Floor									
	40.00° 96	Total	390	100%	14.0' - 1 fc	20.6' - 1 fc										
	50.00° 42				16.0' - 1 fc	23.5' - 0 fc										
	60.00° 21															
	70.00° 9															
	80.00° 2															
	90.00° 1															

Delivered Lumens: **390**
Luminaire Watts: **15.8**
LER: **24.68**

CP at 0deg (Nadir): **250**
CRI: **N/A**

Beam Angle: **74.9**
Spacing Ratio: **1.12**

Lumen Multiplier: **N/A**
CCT Multiplier: **N/A**

SR4MOTD 10LE1 RDD4x 30K MWxSO

CANDLEPOWER CURVE TEST SP-00790_2	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT							
	0.00°	0° - 10°	52	6%	Mounting Height AFF FC at Center on Floor Beam Diameter FC at Beam Edge	Ceiling Height Fixture Spacing	RCR 2		RCR 4		
	0.00° 531	0° - 20°	199	25%		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.		
	5.00° 529	0° - 30°	412	51%		9'	6'	19	0.38	23	0.54
	10.00° 531	0° - 40°	604	75%		12'	8'	13	0.25	11	0.25
	15.00° 525	0° - 60°	768	96%		16'	12'	4	0.09	5	0.13
	20.00° 504	0° - 80°	802	100%		Delivered Illuminance Rating: (DIR)		50 FC per W/Sq. Ft.		42 FC per W/Sq. Ft.	
	30.00° 400	0° - 90°	803	100%		Recessed Mounting Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. -2.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. -2.5' x 2.50					
	40.00° 211	Total	803	100%		* Average Footcandles at 2.5' Above Floor					
	50.00° 89										
	60.00° 41										
	70.00° 14										
	80.00° 3										
	90.00° 1										

Delivered Lumens: **803**
Luminaire Watts: **15.9**
LER: **50.50**

CP at 0deg (Nadir): **531**
CRI: **80**

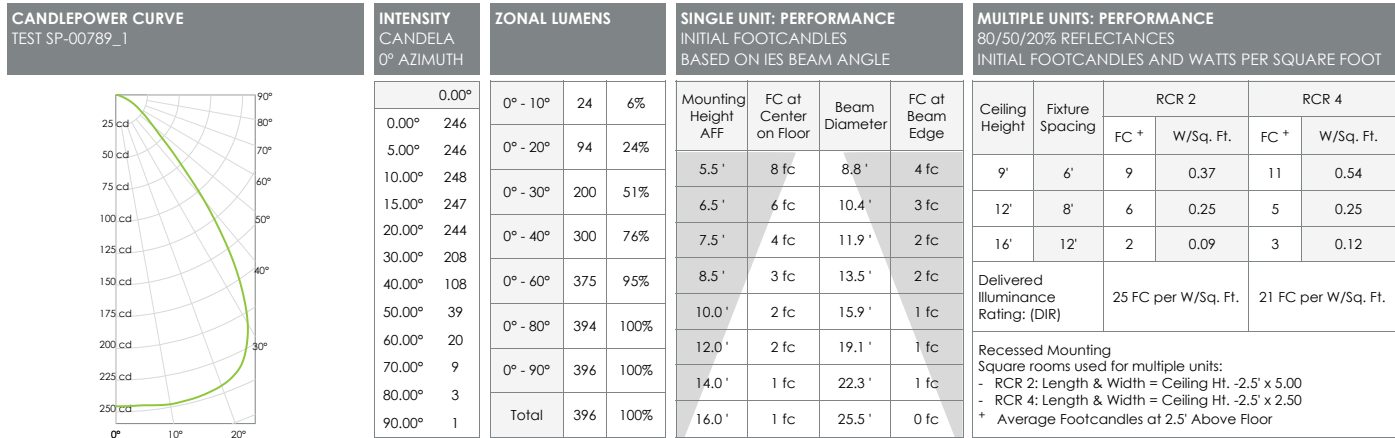
Beam Angle: **74.34**
Spacing Ratio: **1.13**

Lumen Multiplier: **only 10K available**
CCT Multiplier: **only 30K available**



PHOTOMETRIC DATA - 4" ROUND DEEP DOWNLIGHT

SR4MOTA5 LE1 RDD4x AMB MWxGL



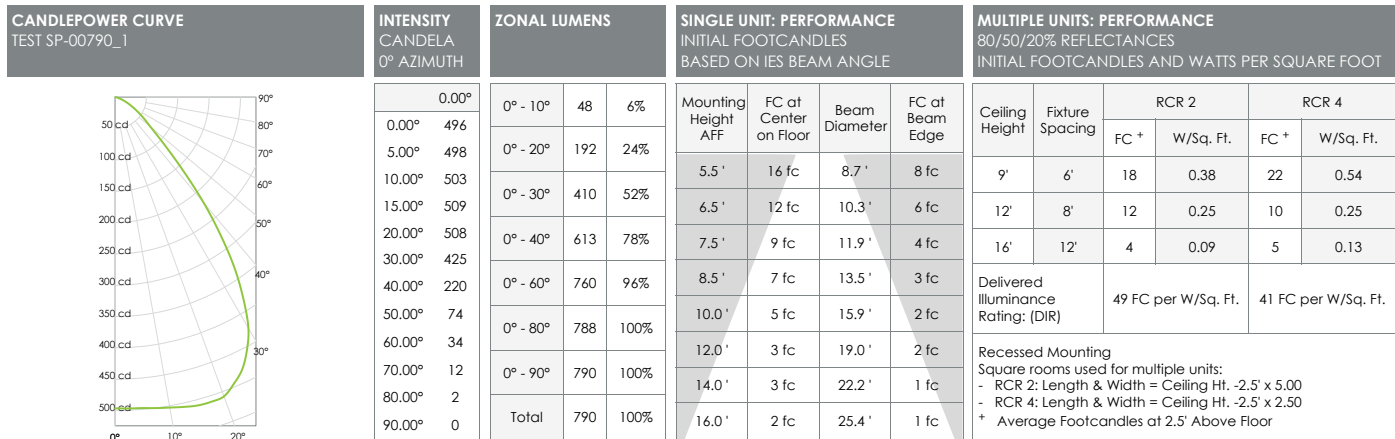
Delivered Lumens: 396
Luminaire Watts: 15.8
LER: 25.06

CP at 0deg (Nadir): 246
CRI: N/A

Beam Angle: 77.08
Spacing Ratio: 1.21

Lumen Multiplier: N/A
CCT Multiplier: N/A

SR4MOTD 10LE1 RDD4x 30K MWxGL



Delivered Lumens: 790
Luminaire Watts: 15.9
LER: 49.69

CP at 0deg (Nadir): 496
CRI: 80

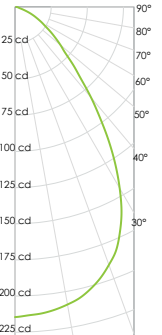
Beam Angle: 76.84
Spacing Ratio: 1.21

Lumen Multiplier: only 10L available
CCT Multiplier: only 30K available



PHOTOMETRIC DATA - 4" ROUND DEEP DOWNLIGHT

SR4MOTA 5LE1 RDD4x AMB MWxFG

CANDLEPOWER CURVE TEST SP-00789	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT														
	0.00°	0° - 10°	21	6%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4					
	0.00° 215	0° - 20°	78	24%	5.5' - 7' 9"	7 fc	7.9'	3 fc	9'	6'	FC +	W/Sq. Ft.	FC +	W/Sq. Ft.				
	5.00° 213	0° - 30°	157	48%	6.5' - 5 fc	5 fc	9.3'	2 fc	12'	8'	5	0.25	4	0.25				
	10.00° 209	0° - 40°	229	70%	7.5' - 4 fc	4 fc	10.7'	2 fc	16'	12'	3	0.12	2	0.12				
	15.00° 202	0° - 60°	305	93%	8.5' - 3 fc	3 fc	12.1'	1 fc	Delivered Illuminance Rating: (DIR)		20 FC per W/Sq. Ft.		17 FC per W/Sq. Ft.					
	20.00° 190	0° - 80°	325	99%	10.0' - 2 fc	2 fc	14.3'	1 fc										
	30.00° 145	0° - 90°	326	100%	12.0' - 1 fc	1 fc	17.1'	1 fc	Recessed Mounting Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. -2.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. -2.5' x 2.50 Average Footcandles at 2.5' Above Floor									
	40.00° 82	Total	326	100%	14.0' - 1 fc	1 fc	20.0'	1 fc										
	50.00° 41				16.0' - 1 fc	1 fc	22.8'	0 fc										
	60.00° 21																	
	70.00° 8																	
	80.00° 2																	
	90.00° 1																	

Delivered Lumens: 326

Luminaire Watts: 15.8

LER: 20.63

CP at 0deg (Nadir): 215

CRI: N/A, Amber Light

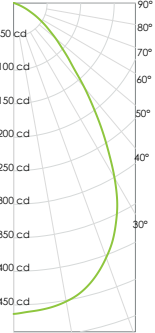
Beam Angle: 73.17

Spacing Ratio: 1.06

Lumen Multiplier: N/A

CCT Multiplier: N/A

SR4MOTD 10LE1 RDD4x 30K MWxFG

CANDLEPOWER CURVE TEST SP-00790	INTENSITY CANDELA 0° AZIMUTH	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT														
	0.00°	0° - 10°	44	6%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4					
	0.00° 463	0° - 20°	168	24%	5.5' -	15 fc	7.6' -	7 fc	9' -	6' -	FC +	W/Sq. Ft.	FC +	W/Sq. Ft.				
	5.00° 459	0° - 30°	338	49%	6.5' -	11 fc	8.9' -	5 fc	12' -	8' -	11	0.25	9	0.25				
	10.00° 452	0° - 40°	493	72%	7.5' -	8 fc	10.3' -	4 fc	16' -	12' -	5	0.13	4	0.13				
	15.00° 434	0° - 60°	651	95%	8.5' -	6 fc	11.7' -	3 fc	Delivered Illuminance Rating: (DIR)		42 FC per W/Sq. Ft.		35 FC per W/Sq. Ft.					
	20.00° 404	0° - 80°	685	100%	10.0' -	5 fc	13.8' -	2 fc										
	30.00° 301	0° - 90°	687	100%	12.0' -	3 fc	16.5' -	2 fc	Recessed Mounting Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. -2.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. -2.5' x 2.50 * Average Footcandles at 2.5' Above Floor									
	250 cd	Total	687	100%	14.0' -	2 fc	19.3' -	1 fc										
	300 cd				16.0' -	2 fc	22.0' -	1 fc										
	350 cd																	
	400 cd																	
	450 cd																	

Delivered Lumens: 687

Luminaire Watts: 15.9

LER: 43.21

CP at 0deg (Nadir): 463

CRI: 80

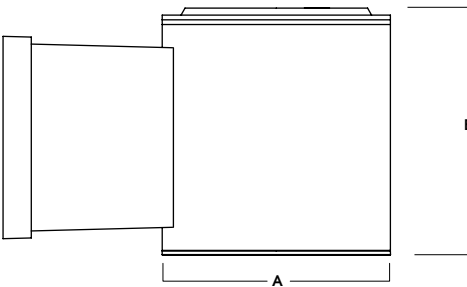
Beam Angle: 72.69

Spacing Ratio: 1.04

Lumen Multiplier: only 10L available

CCT Multiplier: only 30K available





A	B
6.1 154.9 mm	6.6 167.6 mm

6" ROUND DIRECT WILDLIFE FRIENDLY



CW0606 - WALL MOUNT

APPLICATION

6" round x 6" high cylinder luminaire for general illumination. Meets Florida Fish and Wildlife Conservation Commission's Certified Wildlife Lighting. International Dark-Sky Association approved fixture.

FEATURES

Full shielding and option for Static Amber 560 NM or Dual Circuit 3000K 560 NM. Rugged design with a variety of options. Two stage optical system design delivers smooth general illumination.

FINISH

Durable powder-coat paint over aluminum fixture to resist corrosion.

ELECTRONICS

Single circuit, amber only option is available. Amber LEDs are monochromatic, narrow spectral bandwidth that only emit long wavelengths >560 nm and <625 nm. Proprietary 2-circuit LED system: Circuit 1 is 3000K at 1000 lumens, Circuit 2 is Amber only at 500 lumens. 3000K white light is 3-step MacAdam Ellipse binning, with 80+ CRI.

CONSTRUCTION

Extruded seamless aluminum fixture housing. Stainless steel hardware with galvanized steel brackets to resist corrosion. One piece reflector trim and finished to specification.

CODE COMPLIANCE

BAA compliant. ETL certified to meet US and Canadian standards. Suitable for wet locations. Manufactured and tested to UL standards No. 1598/8750.

LUMENS / WATTAGE DATA				
PART NUMBER	SOURCE LUMENS ¹	DELIVERED LUMENS ²	SYSTEM WATTS	LPW
CW0606TA5L	500	305	15	20
CW0606TD10L	1000	801	16	50

SERIES	LUMENS ¹	CCT	DRIVER / DIMMING ⁴		TRIM	MOUNTING	FINISH ⁵		
CW0606	AMBER ONLY		DX DS2W1	1%, 0-10V, 120V/277V ELV / MLV, 120V	LENS		WALL MOUNT		
	TA5L 500 Lm Amber Only	AMB >560 NM			SO GL FG	Micro Prism Solite™ Lens Clear Glass Lens Frosted Glass Lens	WM	Wall Mount Extension	MW ⁶ Matte White
									MB ⁶ Matte Black
									PT ⁶ Platinum Silver
									CC Custom Color
DUAL CIRCUIT ³						See Page 6 for Full Range of Color Options (83-90165)			
TD10L	CIR 1 1000 Lm at 3000K CIR 2 500 Lm Amber Only	30K	3000K						

EXAMPLE: CW0606TA5LAMBDX/GL/WM/MW

EXAMPLE: CW0606TD10L30KDX/GL/WM/MW

NOTES:

1 Nominal Source Lumens 2 Nominal Delivered Lumens at DX GL MW 3 TD/Dual Circuit Option Requires Dedicated on Site Controls by Others, Controls by Others Are Not to Allow Both Circuits to be Energized Simultaneously, Consult Factory for More Information 4 Contact Factory for Additional Options 5 See Color Page for More Options/Consult Factory for Special Finishes 6 Standard Finishes



PROJECT: _____
TYPE: _____

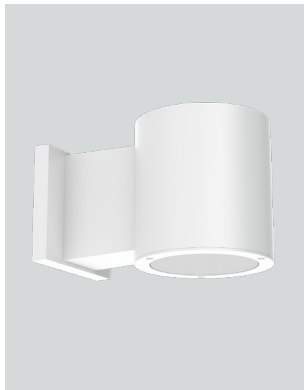


Dimensions and values shown are nominal. Spectrum Lighting continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

6" ROUND DIRECT
WILDLIFE FRIENDLY / FIXTURE OPTIONS

STANDARD FINISHES

MW
MATTE WHITE



MB
MATTE BLACK

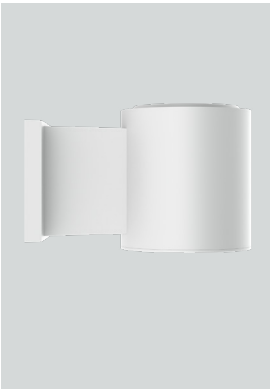


PT
PLATINUM SILVER

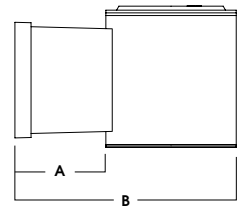


WALL MOUNT DETAIL

WM
WALL MOUNT EXTENSION

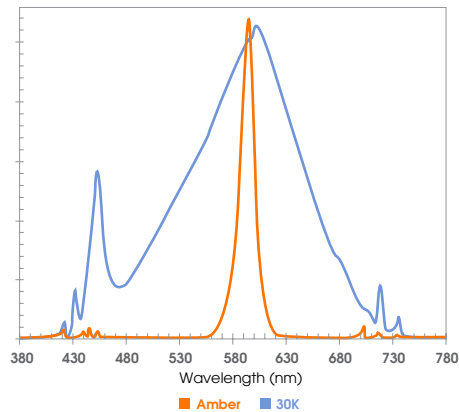


SIDE VIEW



A	B
4.2 106.7 mm	10.3 261.6 mm

SPECTRAL POWER DISTRIBUTION COMPARISON



6" ROUND DIRECT

WILDLIFE FRIENDLY / PHOTOMETRIC DATA



CW0606TA-05L-AMB-EX-SO-MW

CANDLEPOWER CURVE	INTENSITY	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT								
	0.00° 148	0° - 10° 14 5%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4	
	5.00° 147	0° - 20° 54 19%	6.50 ' 4 fc	12.1 ' 2 fc	9' 6'	6 0.32	5 0.32					
	10.00° 144	0° - 30° 118 41%	7.50 ' 3 fc	14.0 ' 1 fc	12' 8'	4 0.21	2 0.14					
	15.00° 141	0° - 40° 190 66%	8.50 ' 2 fc	15.8 ' 1 fc	16' 10'	3 0.14	2 0.14					
	20.00° 140	0° - 60° 267 93%	10.00 ' 1 fc	18.6 ' 1 fc	Delivered Illuminance Rating: (DIR)		18 FC per W/Sq. Ft. 15 FC per W/Sq. Ft.					
	30.00° 134	0° - 80° 286 99%	12.00 ' 1 fc	22.4 ' 0 fc								
	40.00° 91	0° - 90° 287 100%	14.00 ' 1 fc	26.1 ' 0 fc	1' Suspension Length Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 + Average Footcandles at 2.5' Above Floor							
	50.00° 43	Total 288 100%	16.00 ' 1 fc	29.8 ' 0 fc								
	60.00° 21		20.00 ' 0 fc	37.3 ' 0 fc								
	70.00° 8											
	80.00° 2											
	90.00° 1											
	Delivered Lumens: 288	CP at 0deg (Nadir): 148	Beam Angle: 85.93	Lumen Multiplier: N/A								
Luminaire Watts: 15.3	CRI: N/A, Amber Light	Spacing Ratio: 1.29	CCT Multiplier: N/A									
LER: 18.82												

CW606TD-10L-30K-EX-SO-MW

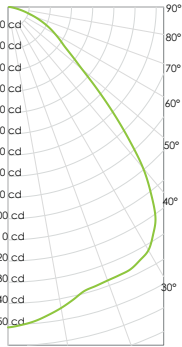
CANDLEPOWER CURVE	INTENSITY	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT														
	0.00°	0° - 10°	35	5%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4					
	0.00° 365	0° - 20°	134	20%	6.50 '	9 fc	11.9 '	4 fc	9'	6'	FC +	W/Sq. Ft.	FC +	W/Sq. Ft.				
	5.00° 363	0° - 30°	291	43%	7.50 '	6 fc	13.8 '	3 fc	12'	8'	22	0.53	11	0.34				
	10.00° 357	0° - 40°	466	68%	8.50 '	5 fc	15.6 '	2 fc	16'	10'	9	0.22	5	0.14				
	15.00° 352	0° - 60°	645	94%	10.00 '	4 fc	18.4 '	2 fc	Delivered Illuminance Rating: (DIR)		41 FC per W/Sq. Ft.		34 FC per W/Sq. Ft.					
	20.00° 347	0° - 80°	682	100%	12.00 '	3 fc	22.1 '	1 fc										
	30.00° 328	0° - 90°	683	100%	14.00 '	2 fc	25.7 '	1 fc	1' Suspension Length Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 * Average Footcandles at 2.5' Above Floor									
	40.00° 219	Total	683	100%	16.00 '	1 fc	29.4 '	1 fc										
	50.00° 99				20.00 '	1 fc	36.8 '	0 fc										
	60.00° 45																	
	70.00° 15																	
	80.00° 3																	
	90.00° 1																	
Delivered Lumens: 683 Luminaire Watts: 15.9 LER: 42.96	CP at 0deg (Nadir): 365 CRI: 80	Beam Angle: 85.18 Spacing Ratio: 1.27	Lumen Multiplier: only 10L available CCT Multiplier: only 30K available															

6" ROUND DIRECT

WILDLIFE FRIENDLY / PHOTOMETRIC DATA



CW0606TA-05L-AMB-EX-GL-MW

CANDLEPOWER CURVE	INTENSITY	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT																													
	0.00° 151	0° - 10° 14 5%	Mounting Height AFF	FC at Center on Floor	<table><tr><th rowspan="2">Ceiling Height</th><th rowspan="2">Fixture Spacing</th><th colspan="2">RCR 2</th><th colspan="2">RCR 4</th></tr><tr><th>FC +</th><th>W/Sq. Ft.</th><th>FC +</th><th>W/Sq. Ft.</th></tr><tr><td>9'</td><td>6'</td><td>10</td><td>0.51</td><td>5</td><td>0.32</td></tr><tr><td>12'</td><td>8'</td><td>4</td><td>0.21</td><td>2</td><td>0.14</td></tr><tr><td>16'</td><td>10'</td><td>3</td><td>0.14</td><td>2</td><td>0.14</td></tr></table>	Ceiling Height	Fixture Spacing	RCR 2		RCR 4		FC +	W/Sq. Ft.	FC +	W/Sq. Ft.	9'	6'	10	0.51	5	0.32	12'	8'	4	0.21	2	0.14	16'	10'	3	0.14	2	0.14
	Ceiling Height	Fixture Spacing	RCR 2					RCR 4																									
			FC +	W/Sq. Ft.	FC +	W/Sq. Ft.																											
	9'	6'	10	0.51	5	0.32																											
	12'	8'	4	0.21	2	0.14																											
	16'	10'	3	0.14	2	0.14																											
	5.00° 149	0° - 20° 54 18%	6.50' 4 fc	12.5' 2 fc	Delivered Illuminance Rating: (DIR)																												
	10.00° 144	0° - 30° 117 38%	7.50' 3 fc	14.5' 1 fc																													
	15.00° 139	0° - 40° 191 63%	8.50' 2 fc	16.4' 1 fc	1' Suspension Length Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 + Average Footcandles at 2.5' Above Floor																												
	20.00° 137	0° - 60° 275 90%	10.00' 2 fc	19.3' 1 fc																													
	30.00° 133	0° - 80° 303 99%	12.00' 1 fc	23.1' 0 fc																													
	40.00° 99	0° - 90° 305 100%	14.00' 1 fc	27.0' 0 fc																													
	50.00° 46	Total 305 100%	16.00' 1 fc	30.9' 0 fc																													
60.00° 26		20.00' 0 fc	38.6' 0 fc																														
70.00° 13																																	
80.00° 4																																	
90.00° 0																																	

CW0606TD-10L-30K-EX-GL-MW

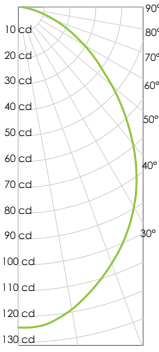
CANDLEPOWER CURVE	INTENSITY	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT											
	0.00°	0° - 10° 38 5%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge									
	0.00° 394	0° - 20° 143 18%	6.50 ' 9 fc	12.9 ' 4 fc											
	5.00° 392	0° - 30° 309 39%	7.50 ' 7 fc	14.8 ' 3 fc											
	10.00° 381	0° - 40° 507 63%	8.50 ' 5 fc	16.8 ' 2 fc											
	15.00° 369	0° - 60° 733 92%	10.00 ' 4 fc	19.8 ' 2 fc											
	20.00° 366	0° - 80° 798 100%	12.00 ' 3 fc	23.8 ' 1 fc											
	30.00° 348	0° - 90° 801 100%	14.00 ' 2 fc	27.7 ' 1 fc											
	40.00° 268	Total 801 100%	16.00 ' 2 fc	31.7 ' 1 fc											
	50.00° 124		20.00 ' 1 fc	39.6 ' 0 fc											
	60.00° 65														
	70.00° 31														
	80.00° 6														
	90.00° 1														
Delivered Lumens: 801 Luminaire Watts: 15.9 LER: 50.38		CP at 0deg (Nadir): 394 CRI: 80		Beam Angle: 89.41 Spacing Ratio: 1.3		Lumen Multiplier: only 10L available CCT Multiplier: only 30K available									
				Ceiling Height		Fixture Spacing		RCR 2		RCR 4					
				FC +		W/Sq. Ft.		FC +		W/Sq. Ft.					
				9'		6'		16		0.34		13		0.34	
				12'		8'		11		0.22		5		0.14	
				16'		10'		7		0.15		6		0.15	
				Delivered Illuminance Rating: (DIR)		48 FC per W/Sq. Ft.		39 FC per W/Sq. Ft.							
				1' Suspension Length		Square rooms used for multiple units:									
				- RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00											
				- RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50											
				+ Average Footcandles at 2.5' Above Floor											

6" ROUND DIRECT

WILDLIFE FRIENDLY / PHOTOMETRIC DATA



CW606TA-05L-AMB-EX-FG-MW

CANDLEPOWER CURVE	INTENSITY	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT										
	0.00° 124	0° - 10° 12 5%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4			
	5.00° 123	0° - 20° 43 17%	6.50 ' 3 fc	12.2 ' 1 fc	9' 6'	8	0.51	4	0.32					
	10.00° 119	0° - 30° 89 35%	7.50 ' 2 fc	14.0 ' 1 fc	12' 8'	3	0.21	4	0.30					
	15.00° 113	0° - 40° 138 55%	8.50 ' 2 fc	15.9 ' 1 fc	16' 10'	2	0.14	2	0.14					
	20.00° 106	0° - 60° 217 86%	10.00 ' 1 fc	18.7 ' 1 fc	Delivered Illuminance Rating: (DIR)		15 FC per W/Sq. Ft.		12 FC per W/Sq. Ft.					
	30.00° 90	0° - 80° 249 99%	12.00 ' 1 fc	22.5 ' 0 fc										
	40.00° 69	0° - 90° 252 100%	14.00 ' 1 fc	26.2 ' 0 fc	1' Suspension Length Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 + Average Footcandles at 2.5' Above Floor									
	50.00° 47	Total 253 100%	16.00 ' 0 fc	30.0 ' 0 fc										
	60.00° 29		20.00 ' 0 fc	37.5 ' 0 fc										
	70.00° 15													
	80.00° 5													
	90.00° 2													

Delivered Lumens: 253
Luminaire Watts: 15.3
LER: 16.54

CP at 0deg (Nadir): 124
CRI: N/A, Amber Light

Beam Angle: 86.25
Spacing Ratio: 1.09

Lumen Multiplier: N/A
CCT Multiplier: N/A

CW606TD-10L-30K-EX-FG-MW

CANDLEPOWER CURVE	INTENSITY	ZONAL LUMENS	SINGLE UNIT: PERFORMANCE INITIAL FOOTCANDLES BASED ON IES BEAM ANGLE	MULTIPLE UNITS: PERFORMANCE 80/50/20% REFLECTANCES INITIAL FOOTCANDLES AND WATTS PER SQUARE FOOT												
	0.00°	0° - 10°	32	5%	Mounting Height AFF	FC at Center on Floor	Beam Diameter	FC at Beam Edge	Ceiling Height	Fixture Spacing	RCR 2		RCR 4			
	0.00° 333	0° - 20°	117	17%	6.50 ' 8 fc	12.5 ' 4 fc	9' 6'	21	0.53	11	0.34					
	5.00° 329	0° - 30°	239	36%	7.50 ' 6 fc	14.4 ' 3 fc	12' 8'	9	0.22	10	0.32					
	10.00° 319	0° - 40°	374	56%	8.50 ' 5 fc	16.3 ' 2 fc	16' 10'	6	0.15	5	0.15					
	15.00° 305	0° - 60°	588	87%	10.00 ' 3 fc	19.2 ' 1 fc	Delivered Illuminance Rating: (DIR)		39 FC per W/Sq. Ft.		32 FC per W/Sq. Ft.					
	20.00° 286	0° - 80°	668	99%	12.00 ' 2 fc	23.0 ' 1 fc										
	30.00° 242	0° - 90°	672	100%	14.00 ' 2 fc	26.9 ' 1 fc	1' Suspension Length Square rooms used for multiple units: - RCR 2: Length & Width = Ceiling Ht. - 3.5' x 5.00 - RCR 4: Length & Width = Ceiling Ht. - 3.5' x 2.50 + Average Footcandles at 2.5' Above Floor									
	40.00° 189	Total	672	100%	16.00 ' 1 fc	30.7 ' 1 fc										
	50.00° 129				20.00 ' 1 fc	38.4 ' 0 fc										
	60.00° 78															
	70.00° 38															
	80.00° 10															
	90.00° 2															

Delivered Lumens: 672
Luminaire Watts: 15.9
LER: 42.26

CP at 0deg (Nadir): 333
CRI: 80

Beam Angle: 87.62
Spacing Ratio: 1.1

Lumen Multiplier: only 10L available
CCT Multiplier: only 30K available

COLOR OPTIONS - POWDER COAT PAINT FINISHES

NOTE: NO PRINTED IMAGE CAN EQUAL THE EXACT COLOR OF FINISH ON METAL.
SEE INDIVIDUAL SPECIFICATION SHEETS OR CONSULT FACTORY FOR ADDITIONAL INFORMATION.



STANDARD CORD / STEM / CANOPY FINISHES

FIXTURE COLOR	STANDARD CORD COLOR	STANDARD CANOPY / STEM COLOR
Matte White, Textured White	Matte White	Matte White
Gloss White	Matte White	Gloss White
Matte Black, Textured Black	Matte Black	Matte Black
All Others	Matte Black	Same Color as Fixture
Custom Color	Contact Factory	Contact Factory

PAINT TIMES

TIER	COST	AVERAGE PAINT TIME*
Tier 1 - Standard Finishes	\$	①
Tier 2 - Typical Finishes	\$\$	①①
Custom Color	Contact Factory	Contact Factory

*CONTACT FACTORY FOR SPECIFIC PRODUCT LEAD TIMES

TIER 1 - STANDARD FINISHES

MW Matte White	GW Gloss White	PT Platinum Silver	MB Matte Black	BZ Bronze

TIER 2 - TYPICAL FINISHES

TW Textured White	TB Textured Black	SN Sun Gold	CO Copper Metallic	BR Brecchia	GH Graphite	CH Charcoal	AL Almond	VE Verde Green	BL Blue Streak	RD Red Baron
OR Orange	CM Camel	PL Purple	PG Pub Green	TQ Turquoise	SF Sea Foam	PK Pink	AY Aero Yellow	EG Evergreen	LG Lime Green	LB Light Blue
BY Burgundy	AK Anodic Black	AM Anodic Malachite	AZ Anodic Bronze	AS Anodic Sapphire	AN Anodic Natural	AC Anodic Champagne				

CUSTOM COLOR FINISHES

CONTACT FACTORY

CC
Custom Color



*UNAVAILABLE FOR WET LOCATION

May 4, 2022

City of Portland
389 Congress Street
Portland, ME 04101

Re: 31 Forest Street – Proposed Building
Construction Management Plan Narrative

Dear Planning:

The following narrative provides an overview of the construction management principles that Trillium Engineering Group and the contractor have identified to minimize impacts from construction, such as noise, vibrations, ground movement, truck traffic, and other construction related factors to the surrounding building and communities.

Development Review of Construction Management Plan

Trillium Engineering Group has submitted a Construction Management Plan that provides a comprehensive logistics and safety program for the construction project. Minimizing impacts to areas surrounding the building shall be primary considerations to the process.

The following details define the intended approach to the successful management of the project construction and the construction management plan will address the general conditions contained below.

Performance Guarantees, Inspection Fees, Pre-Construction Meetings, and Permits

Prior to scheduling a pre-construction meeting and the issuance of any city required permits, Trillium Engineering Group and the contractor shall meet all of the requirements contained in Section 14-530: Development Review Fees and Post Approval Requirements and 14-542: General Requirements and Enforcement of Portland's Land Use Code. Since this is a Level III Site Plan Application with under 50,00 square feet of proposed work, the fee shall be \$2,750, per Section 14-530.

No other permits will be required for this project.

Construction Administration and Communication

Trillium Engineering Group and the contractor will work diligently to implement a communication strategy as outlined below. The communication strategy is intended to ensure that all construction operations are performed in accordance with all agreements, ordinances, and special permits applicable to this project. The Construction Manager will work closely with the adjacent abutters, businesses and all parties informed, as far in advance as possible, of schedule work, particularly work anticipated to cause significant noise, vibrations, or dust. The final construction management plan shall provide the following:

1. Contact Person and contact information for the contractor and who is available 24 hours.
2. Construction Signage posted on the site with contact information for contractor.
3. Describe any additional communication strategies.
4. All construction site signage is temporary and shall be removed at project completion.

Construction Schedule

Mobilization – September 2022
Initial Sitework – October/November 2022
Construction – December 2022 – June 2023
Final Closeout – July 2023

Security and Public Safety

See Construction Management Plan for depiction of all proposed fencing or other barriers and access gates (with Knox locking devices) separating pedestrian and vehicle circulation from the construction site. All work done on the existing building shall comply with NFPA 1 Chapter 16, *Safeguarding Construction, Alteration, and Demolition Operations*.

Construction Permitting and Traffic Control Plans

Trillium Engineering Group is proposing a small amount of work in the Forest Street right-of-way to install a new 4" fire service line and 6" sewer/stormwater line. On Sheet C104, "Construction Management Plan," Trillium Engineering Group has added a note instructing the contractor to coordinate with the City and shift traffic during road construction.

Site Management and Controls

The final Construction Management Plan will address maintaining the site in a safe condition and includes the following:

1. Trash and debris will be removed as required by the contractor. The on-site staging area will allow for plenty of trash and debris storage prior to removal.
2. Street cleaning and damage controls will be performed as required by contractor.
3. Dust controls complying with Portland's requirements under Section 25-129 on Noise, dust, and debris shall be followed.
4. Contractor will comply with Portland's requirements under Section 25-129
5. Snow removal per Section 25-173.

Erosion Control and Preservation of Trees

Erosion control shall be performed by the contractor as depicted on Sheets C104, C200 and C300. This project does not propose any preservation of trees as explained in the project narrative submitted to the Planning Board.

Construction Staging Area

Due to the small dimensions of the site, material staging shall be performed in phases. To begin, the contractor shall pour the garage slab and wait for it to cure. Once it is at full strength, the contractor shall order and store materials on the slab as required. Because this is a smaller project, the contractor shall not require large vehicles or machines during construction, and all lifts and other relevant construction tools shall be able to fit on-site without affecting the boundaries established by the construction fencing. Also note that the proposed plantings are to be installed following the completion of the building, so the landscaping shall not pose an issue with on-site staging.

There will not be a need for off-site delivery truck holding areas. All other staging areas shall be laid out as shown on Sheet C102, "Construction Management Plan".

Parking During Construction

Workers will utilize the nearby street parking during construction. The site itself will not have any residential demand until the project is completed.

Dewatering Plan

Trillium Engineering Group is not anticipating groundwater to be an issue during construction.

Special Measures as Necessary

This section does not apply, as construction is not anticipated to take over a long period as defined by the General Construction Management Template.

Thank you for taking the time to review this. Should you have any further questions or require any additional information, please do not hesitate to ask.

Sincerely,



David Latham, P.E.
Trillium Engineering Group



July 20, 2022

To Whom This May Concern,

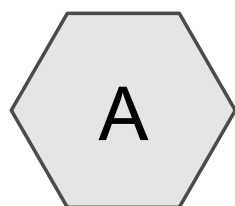
CMP Customer Chia Ray Chang, with a property at 31 Forest St. in Portland, Maine 04101 (Notification 10300902818) has completed the required Site Evaluation and we have approved the Overhead Service Installation for this property. Overhead Service is the preferred method for this property and the project.

Sincerely,

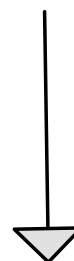
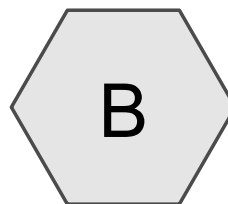
Cory Osborne

New Service Coordinator

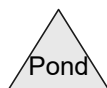
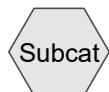
1-800-750-4000



Adjacent Property



Forest St CB



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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr Storm	Type III 24-hr		Default	24.00	1	3.10	2
2	10-yr Storm	Type III 24-hr		Default	24.00	1	4.60	2
3	25-yr Storm	Type III 24-hr		Default	24.00	1	5.80	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.060	39	>75% Grass cover, Good, HSG A (A, B)
0.060	39	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.060	HSG A	A, B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.060		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.060	0.000	0.000	0.000	0.000	0.060	>75% Grass cover, Good	A, B
0.060	0.000	0.000	0.000	0.000	0.060	TOTAL AREA	

21-285 Pre*Type III 24-hr 2-yr Storm Rainfall=3.10"*

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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

SubcatchmentA:

Runoff Area=2,148 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

SubcatchmentB:

Runoff Area=477 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Link AP1: Adjacent Property

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
100.00% Pervious = 0.060 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment A:

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

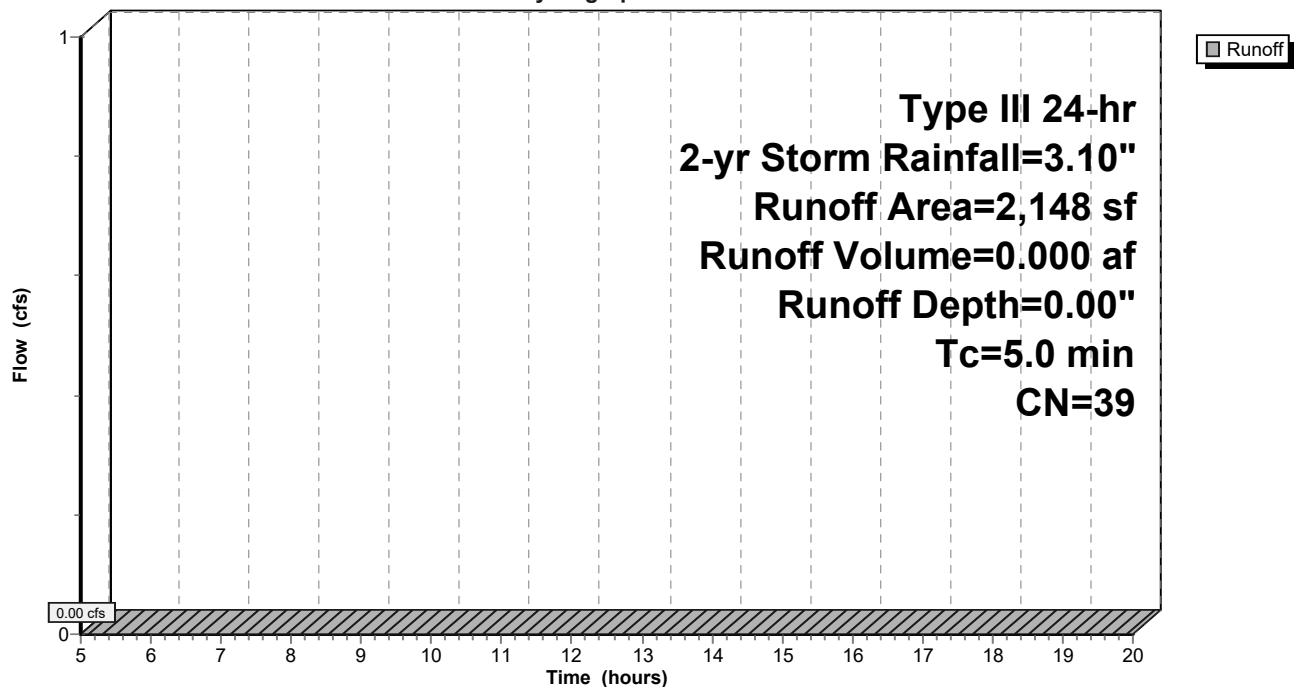
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
2,148	39	>75% Grass cover, Good, HSG A
2,148		100.00% Pervious Area

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

Subcatchment A:

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.10"

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Summary for Subcatchment B:

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

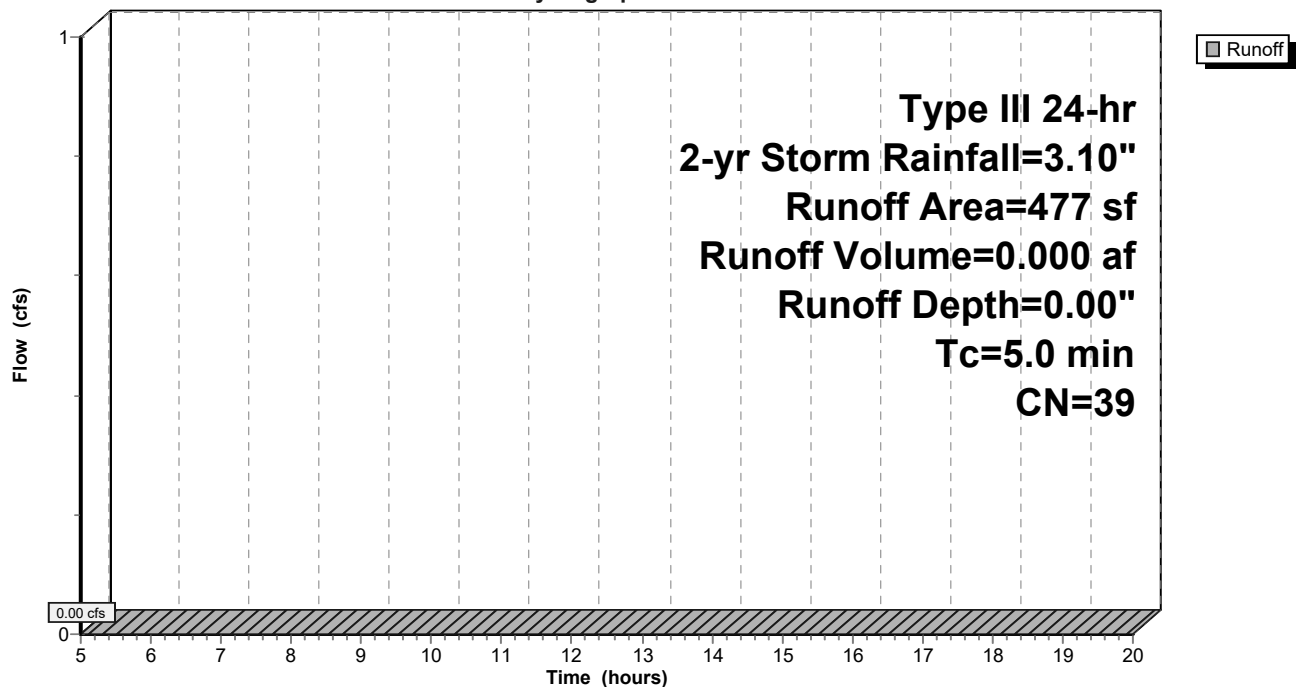
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.10"

Area (sf)	CN	Description
477	39	>75% Grass cover, Good, HSG A
477		100.00% Pervious Area

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

Subcatchment B:

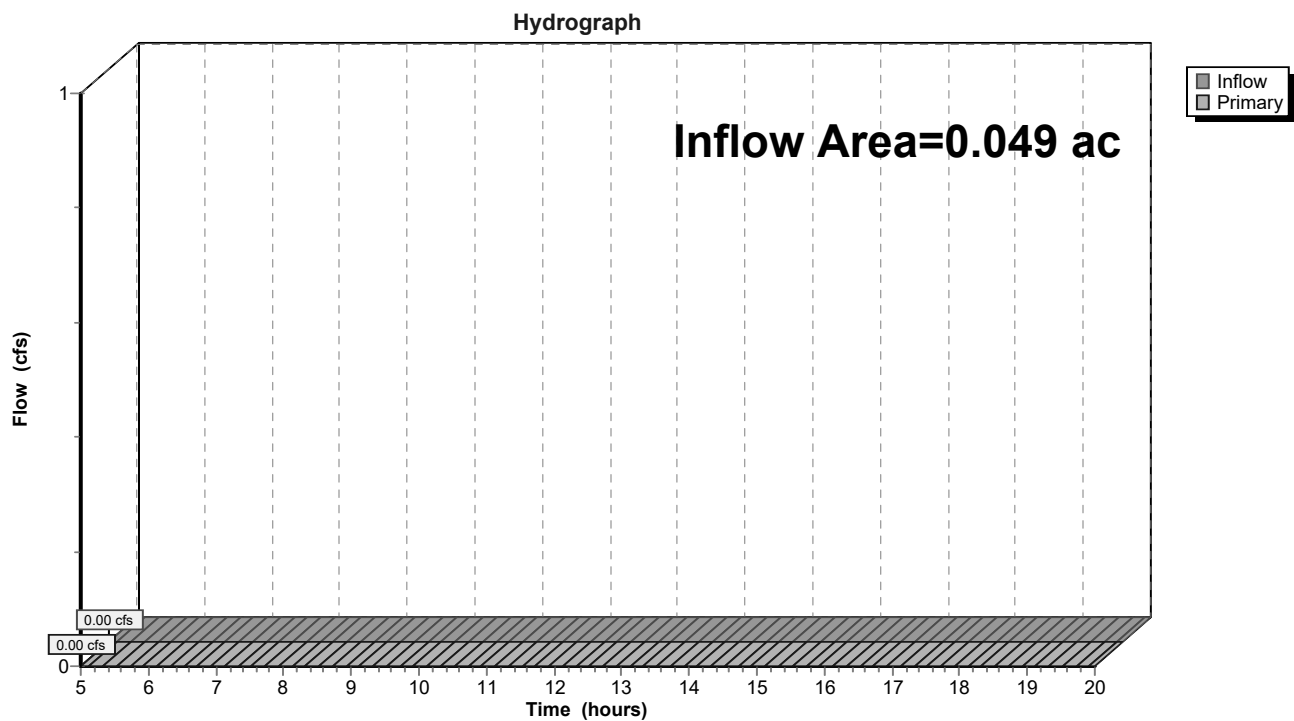
Hydrograph



Summary for Link AP1: Adjacent Property

Inflow Area = 0.049 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

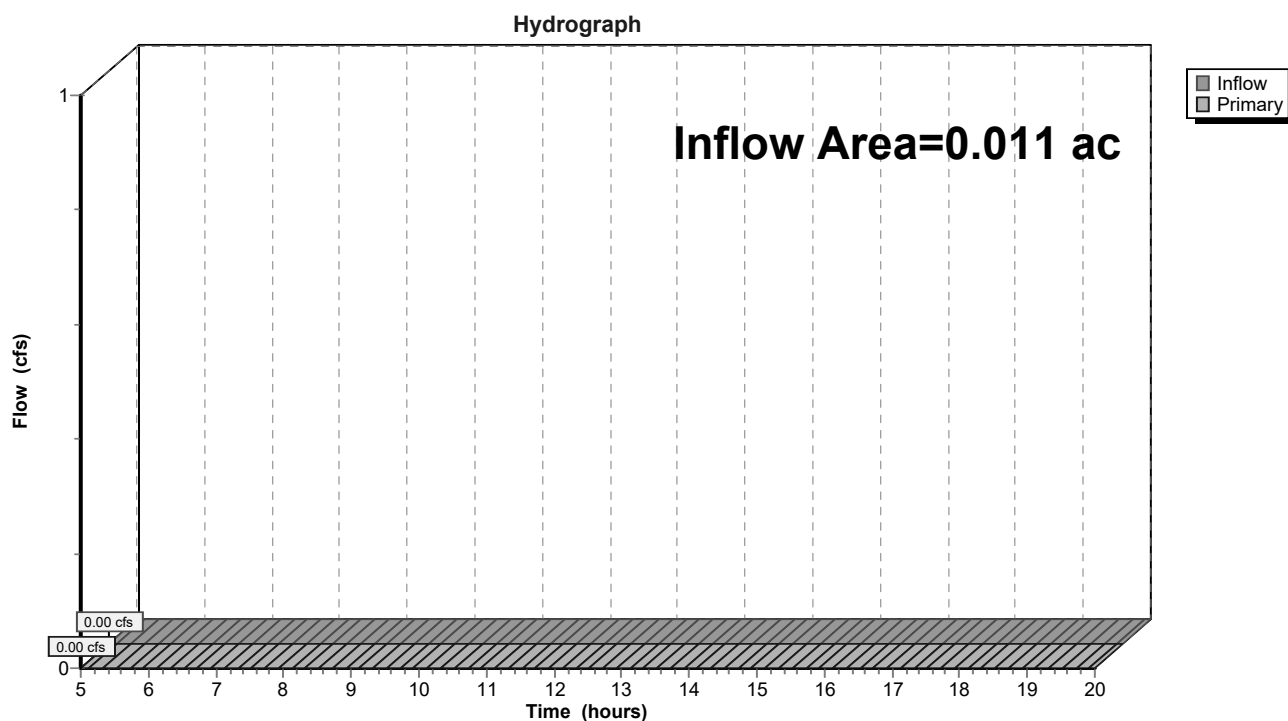
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent Property

Summary for Link AP2: Forest St CB

Inflow Area = 0.011 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP2: Forest St CB

21-285 Pre*Type III 24-hr 10-yr Storm Rainfall=4.60"*

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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

SubcatchmentA:

Runoff Area=2,148 sf 0.00% Impervious Runoff Depth>0.10"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

SubcatchmentB:

Runoff Area=477 sf 0.00% Impervious Runoff Depth>0.10"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Link AP1: Adjacent Property

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.10"
100.00% Pervious = 0.060 ac 0.00% Impervious = 0.000 ac

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Type III 24-hr 10-yr Storm Rainfall=4.60"

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Summary for Subcatchment A:

Runoff = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Depth> 0.10"

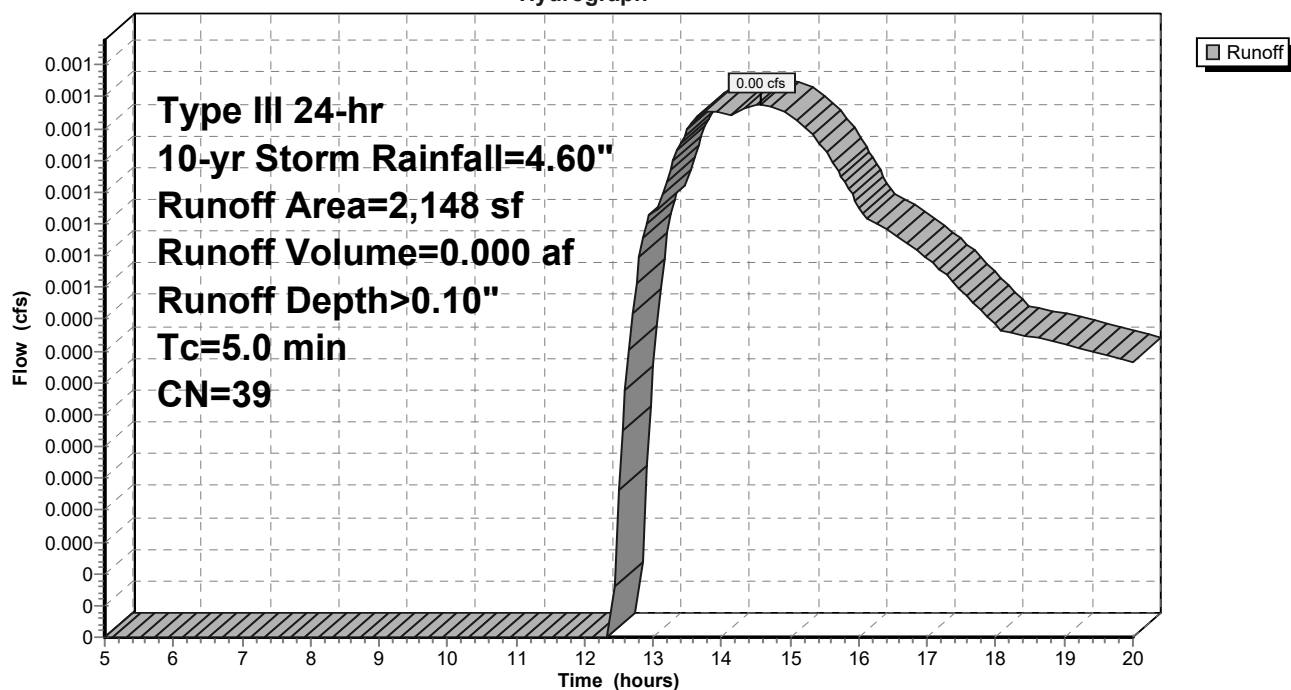
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.60"

Area (sf)	CN	Description
2,148	39	>75% Grass cover, Good, HSG A
2,148		100.00% Pervious Area

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

Subcatchment A:

Hydrograph



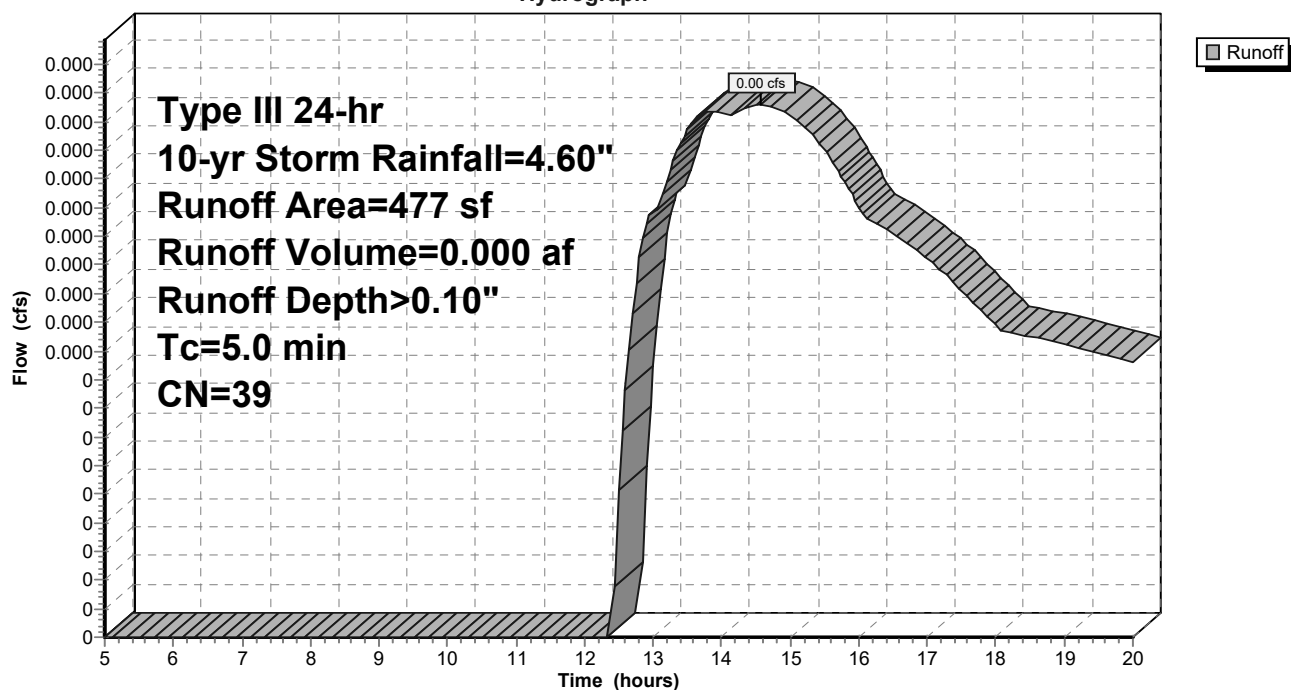
Summary for Subcatchment B:

Runoff = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Depth> 0.10"

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 Storm Rainfall=4.60"

Area (sf)	CN	Description
477	39	>75% Grass cover, Good, HSG A
477		100.00% Pervious Area

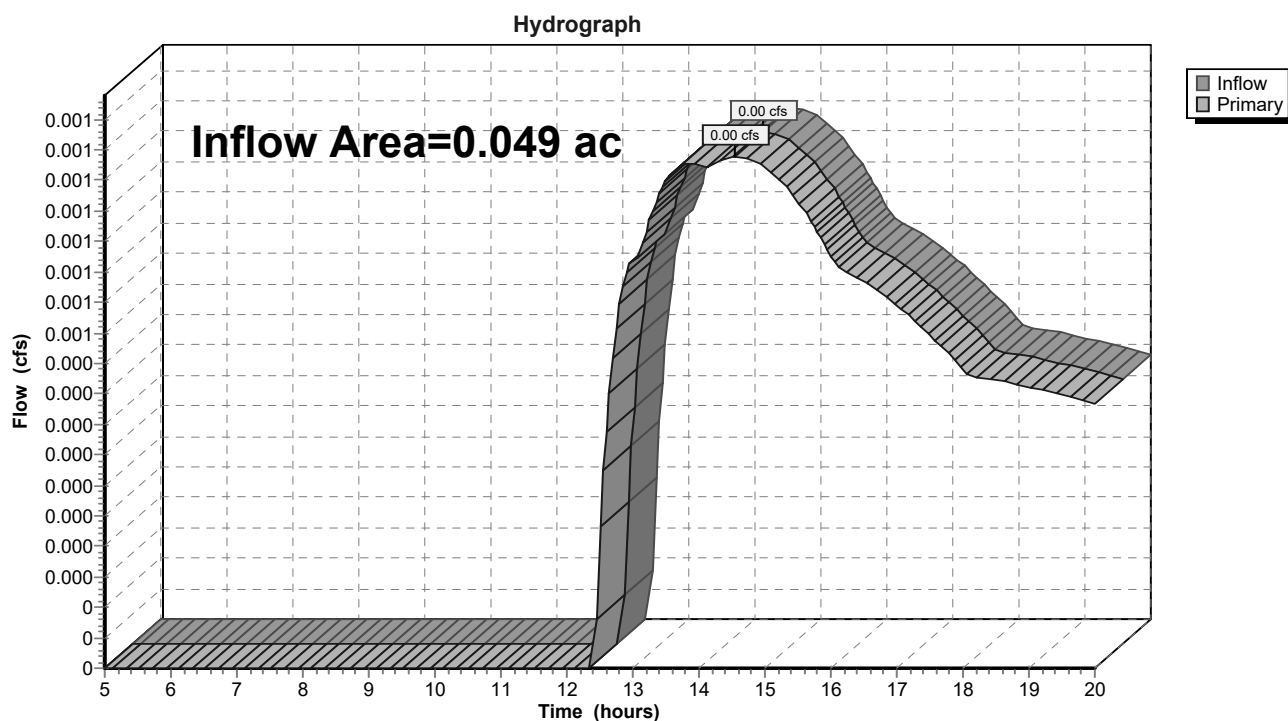
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment B:**Hydrograph**

Summary for Link AP1: Adjacent Property

Inflow Area = 0.049 ac, 0.00% Impervious, Inflow Depth > 0.10" for 10-yr Storm event
Inflow = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

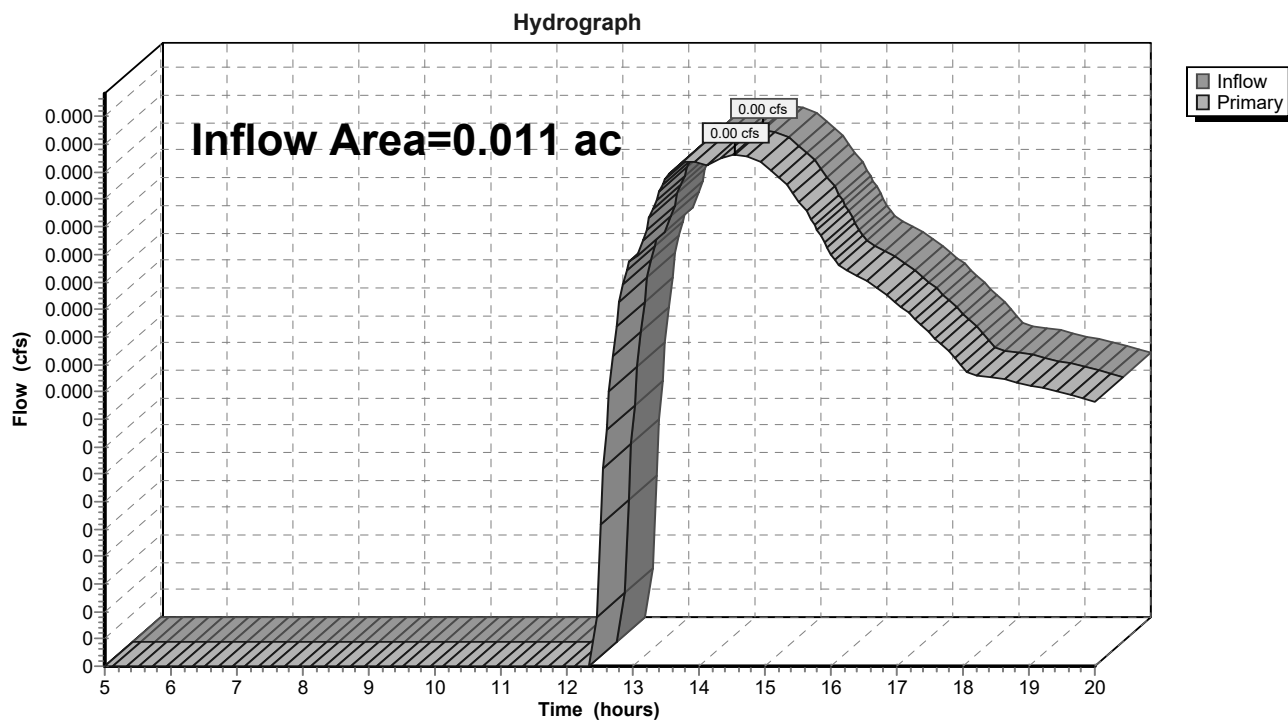
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent Property

Summary for Link AP2: Forest St CB

Inflow Area = 0.011 ac, 0.00% Impervious, Inflow Depth > 0.10" for 10-yr Storm event
Inflow = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 14.56 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP2: Forest St CB

21-285 Pre*Type III 24-hr 25-yr Storm Rainfall=5.80"*

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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

SubcatchmentA:

Runoff Area=2,148 sf 0.00% Impervious Runoff Depth>0.32"
Tc=5.0 min CN=39 Runoff=0.01 cfs 0.001 af

SubcatchmentB:

Runoff Area=477 sf 0.00% Impervious Runoff Depth>0.32"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Link AP1: Adjacent Property

Inflow=0.01 cfs 0.001 af
Primary=0.01 cfs 0.001 af

Link AP2: Forest St CB

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.002 af Average Runoff Depth = 0.32"
100.00% Pervious = 0.060 ac 0.00% Impervious = 0.000 ac

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Type III 24-hr 25-yr Storm Rainfall=5.80"

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Summary for Subcatchment A:

Runoff = 0.01 cfs @ 12.35 hrs, Volume= 0.001 af, Depth> 0.32"

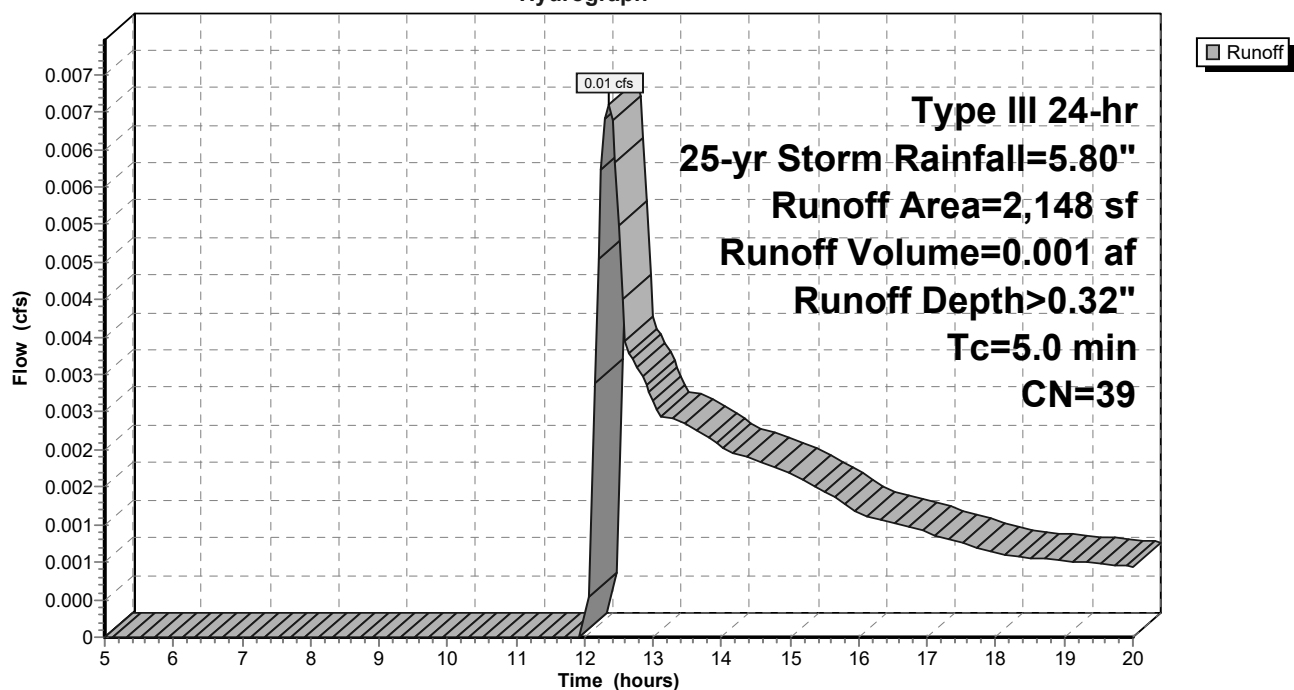
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
2,148	39	>75% Grass cover, Good, HSG A
2,148		100.00% Pervious Area

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

Subcatchment A:

Hydrograph



Summary for Subcatchment B:

Runoff = 0.00 cfs @ 12.35 hrs, Volume= 0.000 af, Depth> 0.32"

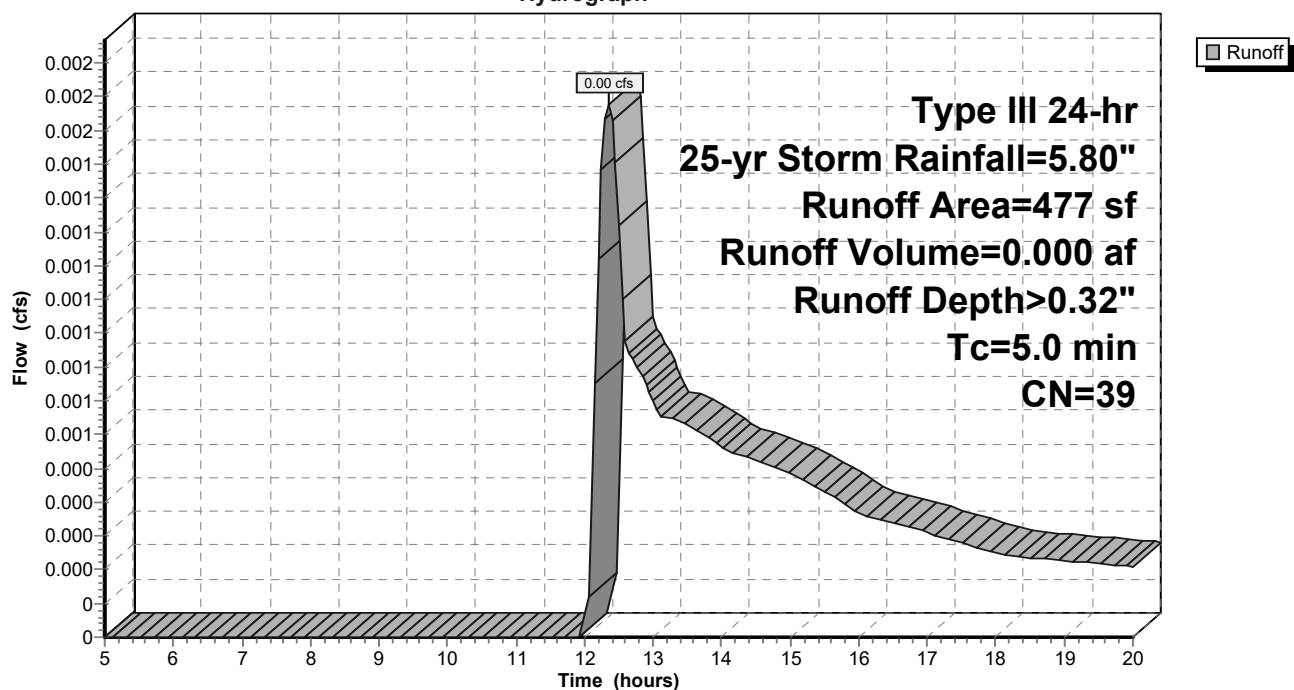
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.80"

Area (sf)	CN	Description
477	39	>75% Grass cover, Good, HSG A
477		100.00% Pervious Area

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

Subcatchment B:

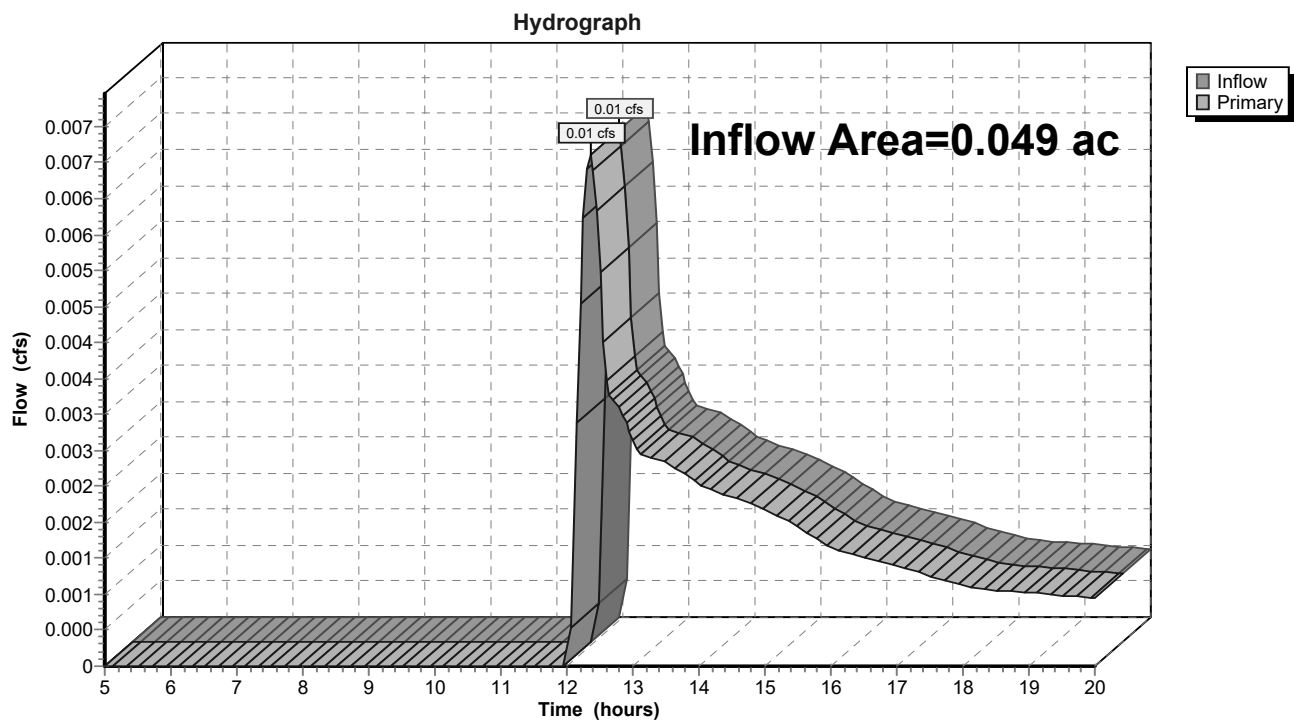
Hydrograph



Summary for Link AP1: Adjacent Property

Inflow Area = 0.049 ac, 0.00% Impervious, Inflow Depth > 0.32" for 25-yr Storm event
Inflow = 0.01 cfs @ 12.35 hrs, Volume= 0.001 af
Primary = 0.01 cfs @ 12.35 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

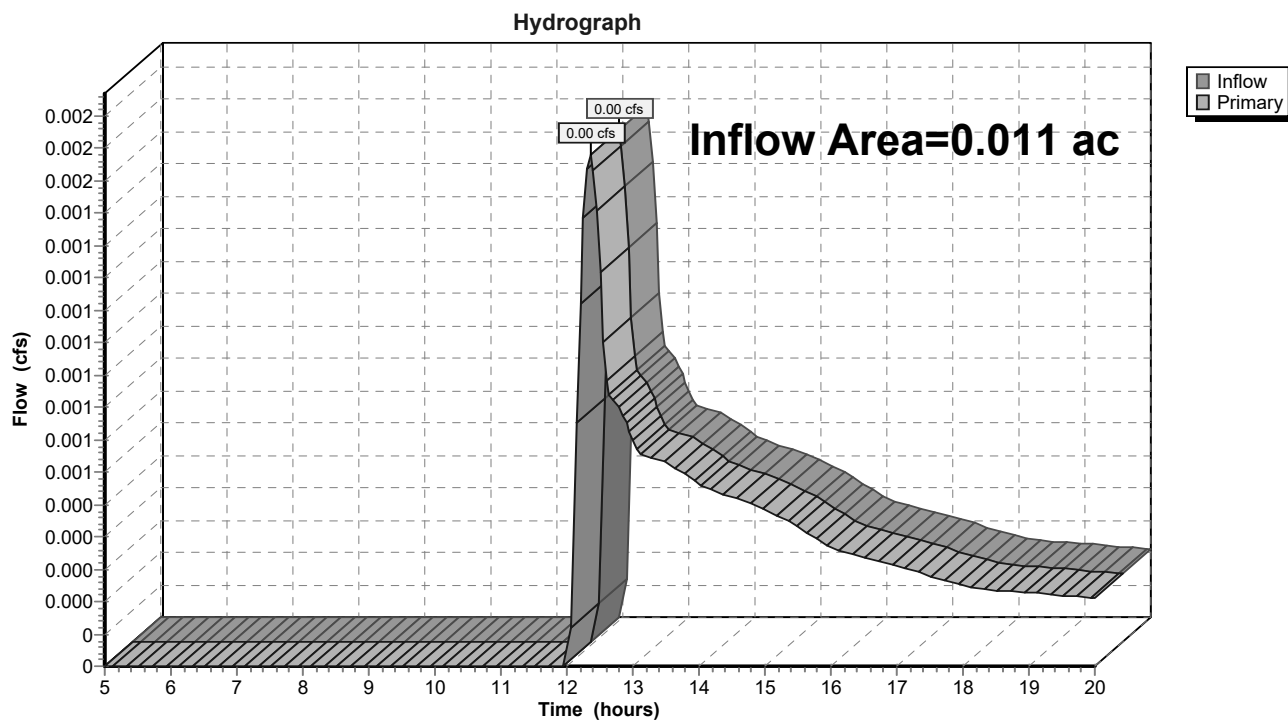
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

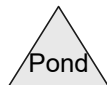
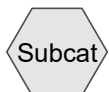
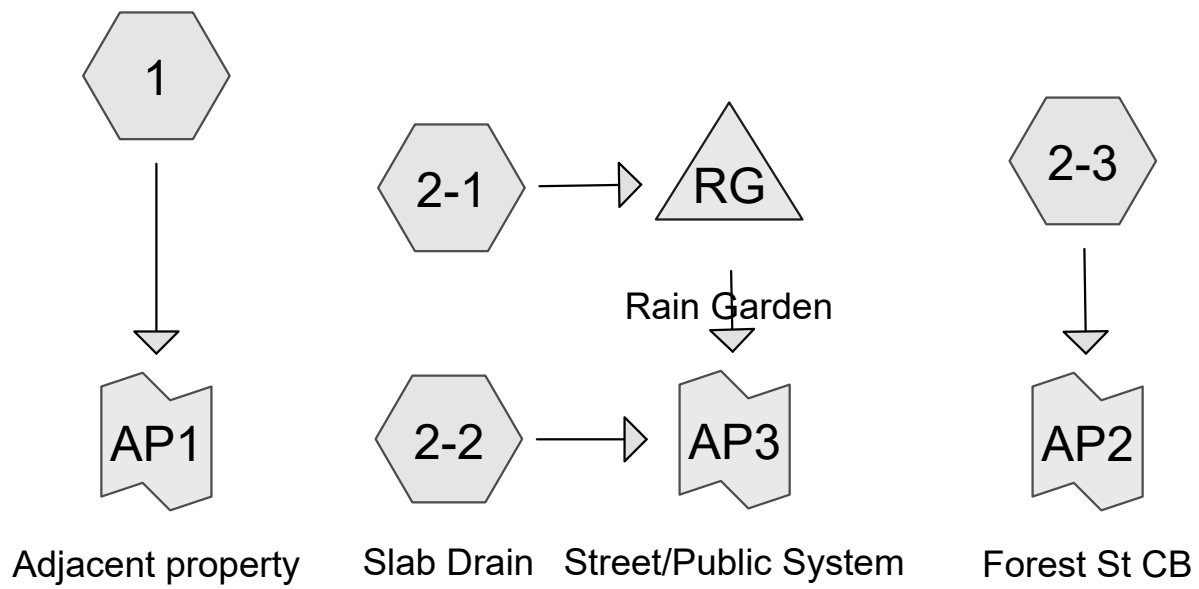
Link AP1: Adjacent Property

Summary for Link AP2: Forest St CB

Inflow Area = 0.011 ac, 0.00% Impervious, Inflow Depth > 0.32" for 25-yr Storm event
Inflow = 0.00 cfs @ 12.35 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.35 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Link AP2: Forest St CB



Routing Diagram for 21-285 Post
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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr Storm	Type III 24-hr		Default	24.00	1	3.17	2
2	10-yr Storm	Type III 24-hr		Default	24.00	1	4.72	2
3	25-yr Storm	Type III 24-hr		Default	24.00	1	5.94	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.022	39	>75% Grass cover, Good, HSG A (1, 2-1, 2-3)
0.039	98	Impervious (2-1, 2-2, 2-3)
0.060	77	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.022	HSG A	1, 2-1, 2-3
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.039	Other	2-1, 2-2, 2-3
0.060		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.022	0.000	0.000	0.000	0.000	0.022	>75% Grass cover, Good	1, 2-1, 2-3
0.000	0.000	0.000	0.000	0.039	0.039	Impervious	2-1, 2-2, 2-3
0.022	0.000	0.000	0.000	0.039	0.060	TOTAL AREA	

21-285 Post*Type III 24-hr 2-yr Storm Rainfall=3.17"*

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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

Subcatchment1: Runoff Area=167 sf 0.00% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2-1: Runoff Area=1,666 sf 72.45% Impervious Runoff Depth>1.40"
Tc=5.0 min CN=82 Runoff=0.07 cfs 0.004 af

Subcatchment2-2: Slab Drain Runoff Area=401 sf 100.00% Impervious Runoff Depth>2.75"
Tc=5.0 min CN=98 Runoff=0.03 cfs 0.002 af

Subcatchment2-3: Runoff Area=391 sf 18.16% Impervious Runoff Depth>0.10"
Tc=5.0 min CN=50 Runoff=0.00 cfs 0.000 af

Pond RG: Rain Garden Peak Elev=30.22' Storage=80 cf Inflow=0.07 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Primary=0.01 cfs 0.000 af Outflow=0.02 cfs 0.004 af

Link AP1: Adjacent property Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP3: Street/Public System Inflow=0.03 cfs 0.002 af
Primary=0.03 cfs 0.002 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.007 af Average Runoff Depth = 1.32"
36.04% Pervious = 0.022 ac 63.96% Impervious = 0.039 ac

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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 1:

Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

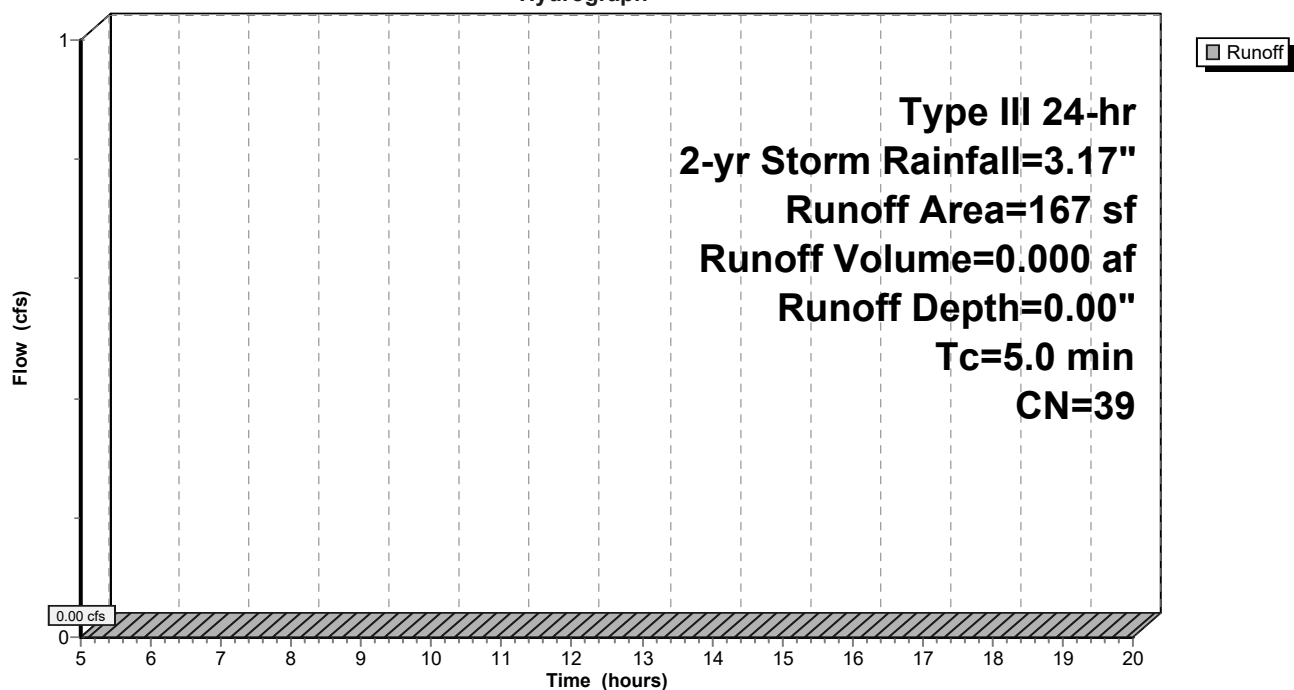
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

Area (sf)	CN	Description
167	39	>75% Grass cover, Good, HSG A
167		100.00% Pervious Area

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

Subcatchment 1:

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 2-1:

Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.004 af, Depth> 1.40"

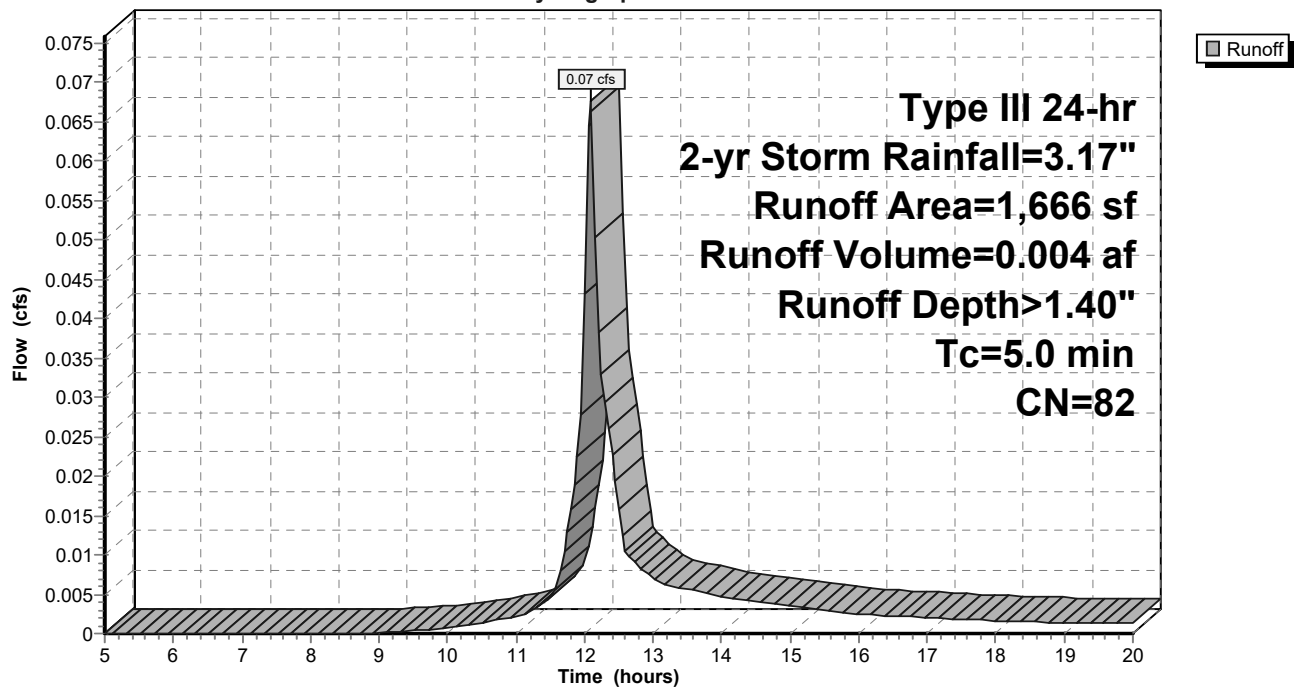
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

	Area (sf)	CN	Description
*	1,207	98	Impervious
	459	39	>75% Grass cover, Good, HSG A
	1,666	82	Weighted Average
	459		27.55% Pervious Area
	1,207		72.45% Impervious Area

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

Subcatchment 2-1:

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 2-2: Slab Drain

Runoff = 0.03 cfs @ 12.07 hrs, Volume= 0.002 af, Depth> 2.75"

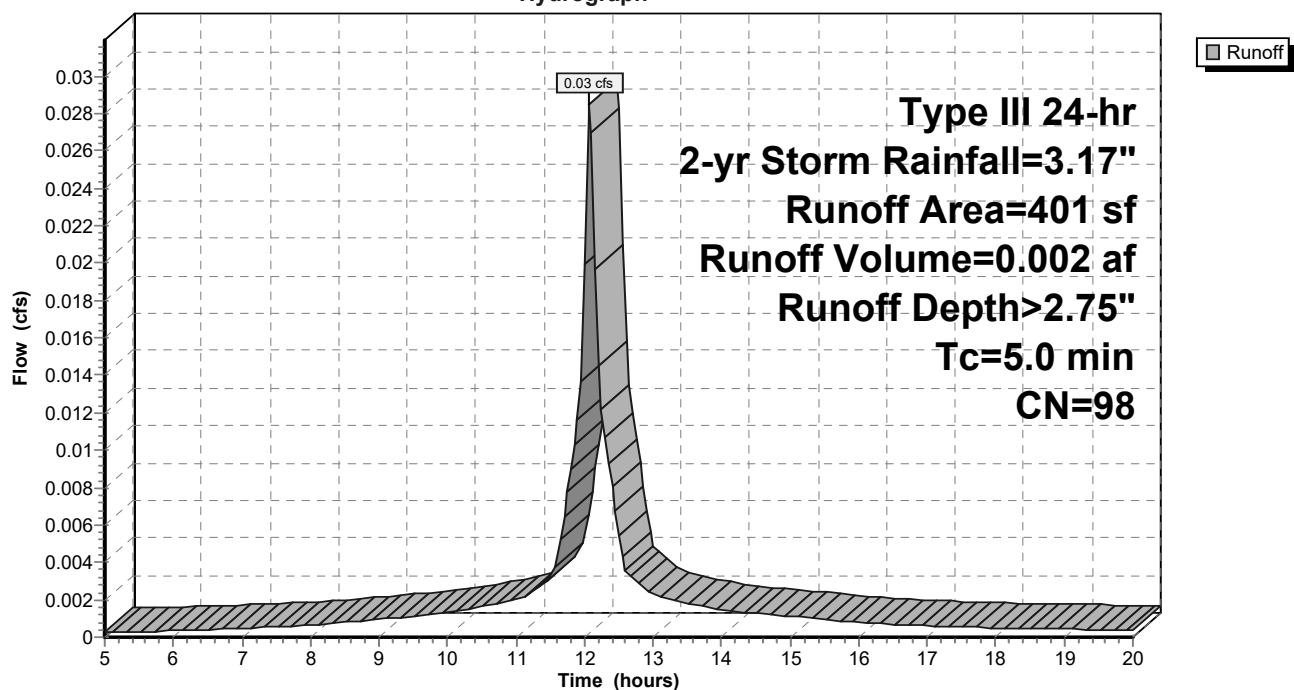
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

Area (sf)	CN	Description
* 401	98	Impervious
401		100.00% Impervious Area

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

Subcatchment 2-2: Slab Drain

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Subcatchment 2-3:

Runoff = 0.00 cfs @ 12.47 hrs, Volume= 0.000 af, Depth> 0.10"

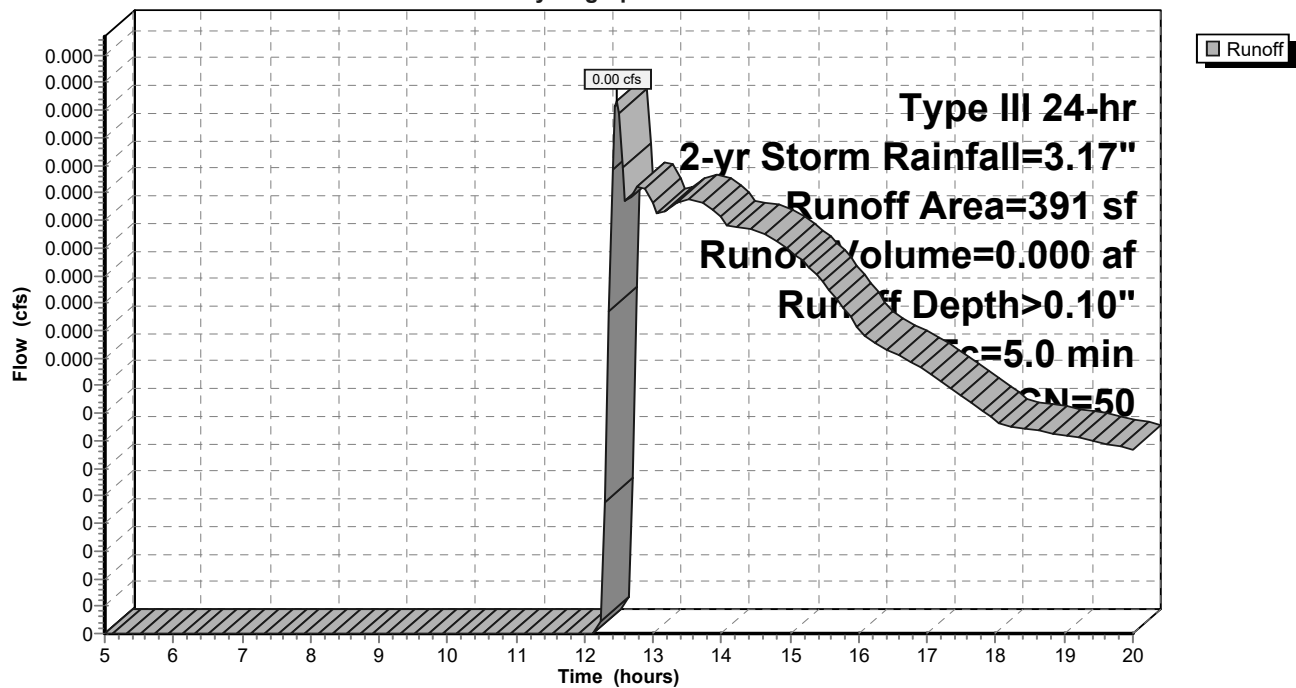
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Storm Rainfall=3.17"

	Area (sf)	CN	Description
*	71	98	Impervious
	320	39	>75% Grass cover, Good, HSG A
	391	50	Weighted Average
	320		81.84% Pervious Area
	71		18.16% Impervious Area

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

Subcatchment 2-3:

Hydrograph



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Type III 24-hr 2-yr Storm Rainfall=3.17"

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Summary for Pond RG: Rain Garden

Inflow Area = 0.038 ac, 72.45% Impervious, Inflow Depth > 1.40" for 2-yr Storm event
 Inflow = 0.07 cfs @ 12.08 hrs, Volume= 0.004 af
 Outflow = 0.02 cfs @ 12.46 hrs, Volume= 0.004 af, Atten= 71%, Lag= 22.7 min
 Discarded = 0.01 cfs @ 12.46 hrs, Volume= 0.004 af
 Primary = 0.01 cfs @ 12.46 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 30.22' @ 12.46 hrs Surf.Area= 122 sf Storage= 80 cf

Plug-Flow detention time= 127.3 min calculated for 0.004 af (94% of inflow)

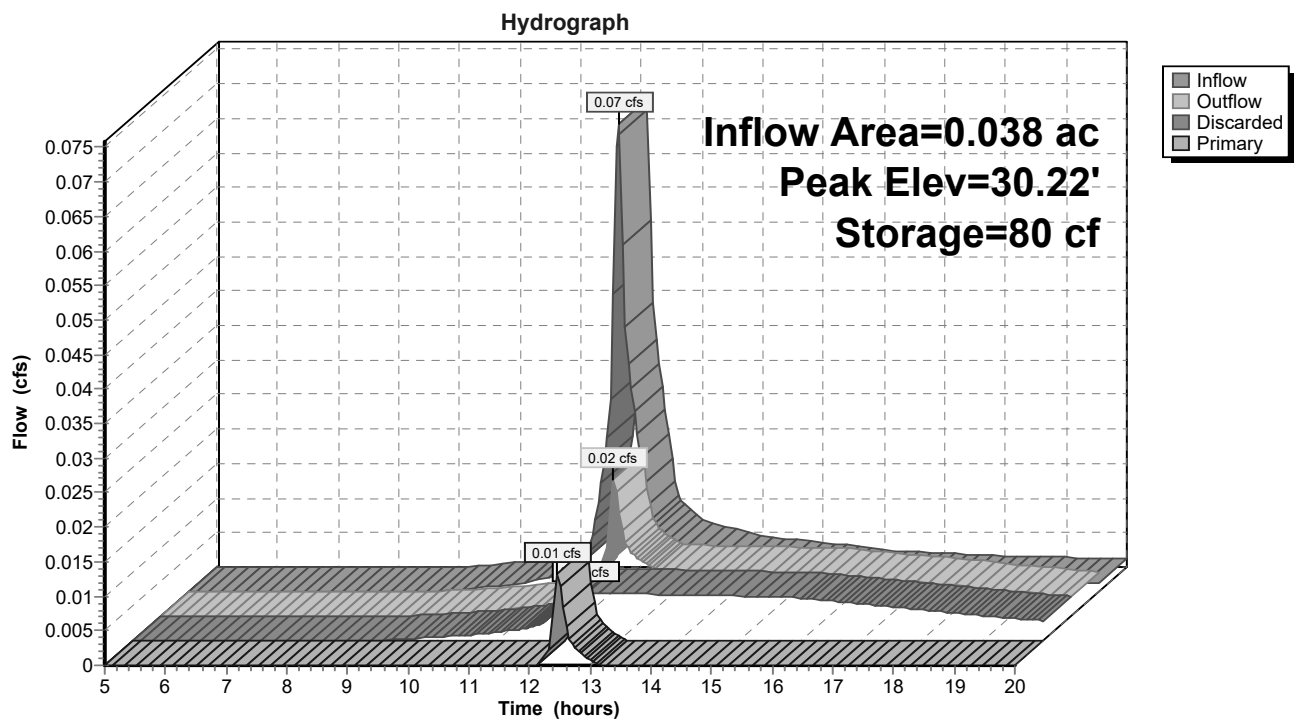
Center-of-Mass det. time= 105.6 min (903.8 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	29.02'	116 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.02	0	0	0
29.50	53	13	13
30.00	112	41	54
30.50	135	62	116

Device	Routing	Invert	Outlet Devices
#1	Discarded	29.02'	2.410 in/hr Exfiltration over Surface area
#2	Primary	30.20'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

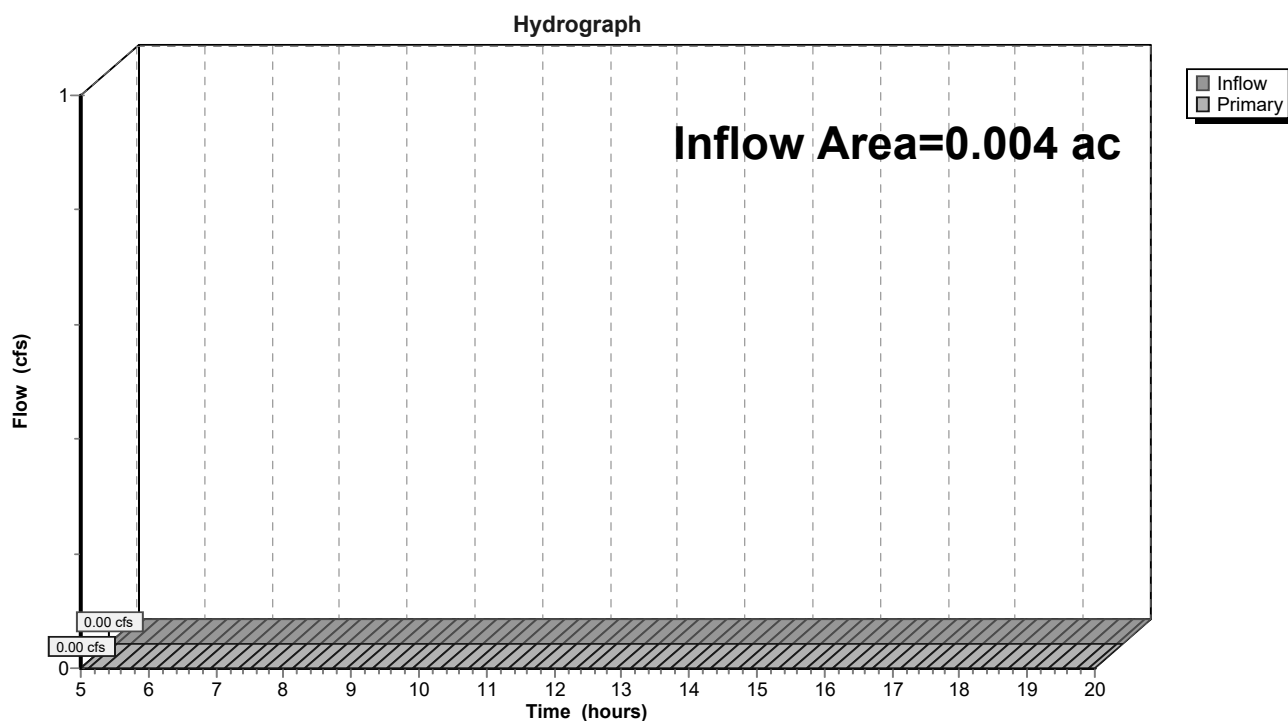
Discarded OutFlow Max=0.01 cfs @ 12.46 hrs HW=30.22' (Free Discharge)↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.01 cfs @ 12.46 hrs HW=30.22' (Free Discharge)↑ **2=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.44 fps)

Pond RG: Rain Garden

Summary for Link AP1: Adjacent property

Inflow Area = 0.004 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr Storm event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

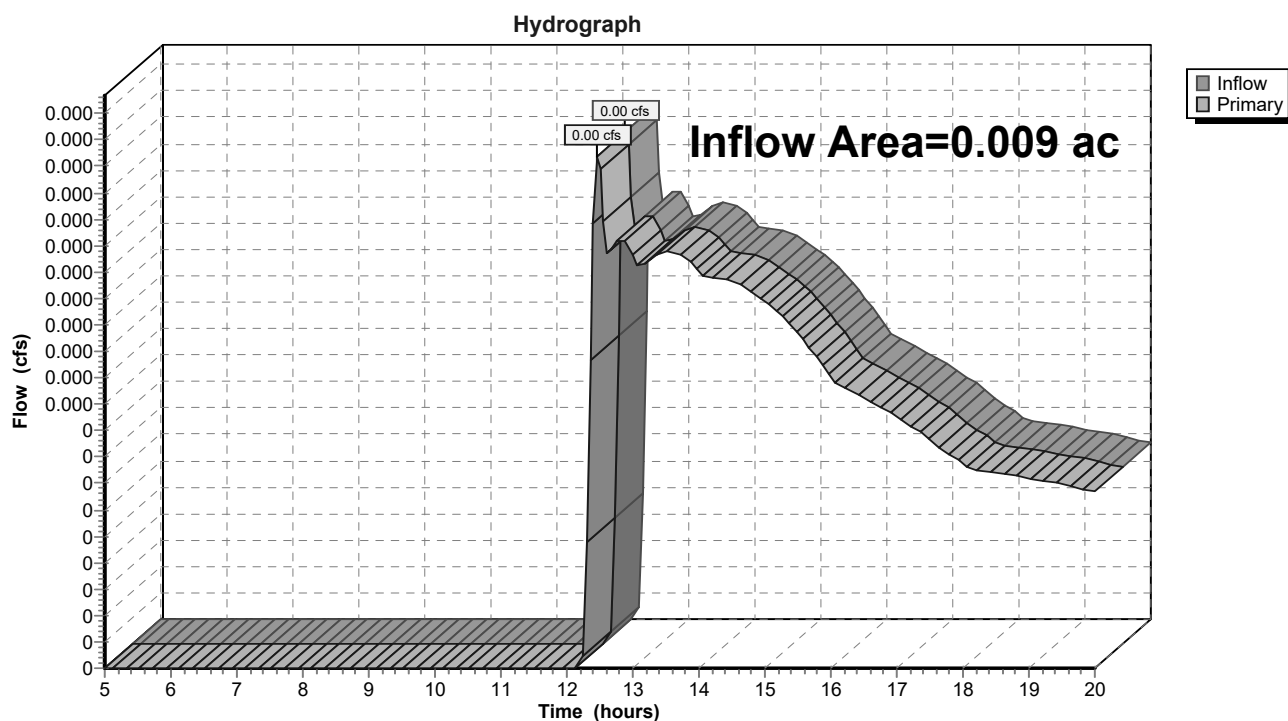
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent property

Summary for Link AP2: Forest St CB

Inflow Area = 0.009 ac, 18.16% Impervious, Inflow Depth > 0.10" for 2-yr Storm event
Inflow = 0.00 cfs @ 12.47 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.47 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

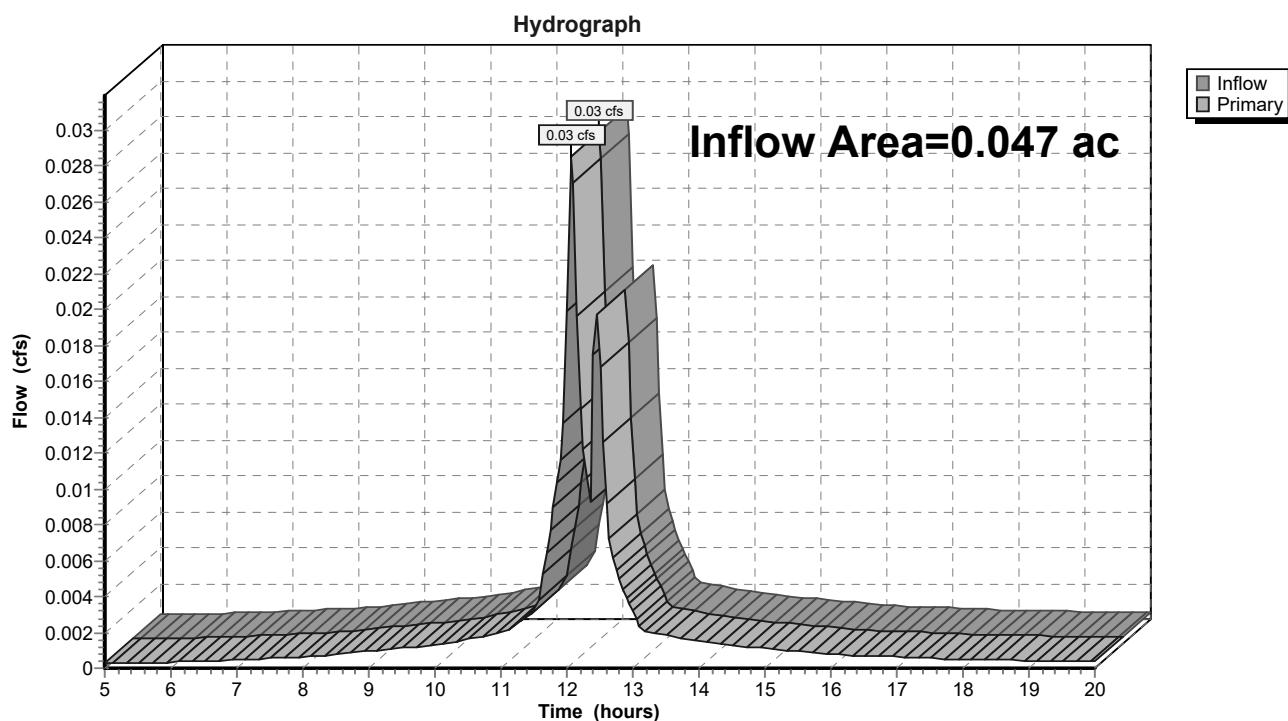
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP2: Forest St CB

Summary for Link AP3: Street/Public System

Inflow Area = 0.047 ac, 77.79% Impervious, Inflow Depth > 0.60" for 2-yr Storm event
Inflow = 0.03 cfs @ 12.07 hrs, Volume= 0.002 af
Primary = 0.03 cfs @ 12.07 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

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

Link AP3: Street/Public System

21-285 Post*Type III 24-hr 10-yr Storm Rainfall=4.72"*

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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

Subcatchment1: Runoff Area=167 sf 0.00% Impervious Runoff Depth>0.11"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2-1: Runoff Area=1,666 sf 72.45% Impervious Runoff Depth>2.65"
Tc=5.0 min CN=82 Runoff=0.13 cfs 0.008 af

Subcatchment2-2: Slab Drain Runoff Area=401 sf 100.00% Impervious Runoff Depth>4.16"
Tc=5.0 min CN=98 Runoff=0.04 cfs 0.003 af

Subcatchment2-3: Runoff Area=391 sf 18.16% Impervious Runoff Depth>0.50"
Tc=5.0 min CN=50 Runoff=0.00 cfs 0.000 af

Pond RG: Rain Garden Peak Elev=30.29' Storage=88 cf Inflow=0.13 cfs 0.008 af
Discarded=0.01 cfs 0.005 af Primary=0.13 cfs 0.003 af Outflow=0.14 cfs 0.008 af

Link AP1: Adjacent property Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP3: Street/Public System Inflow=0.17 cfs 0.006 af
Primary=0.17 cfs 0.006 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.012 af Average Runoff Depth = 2.40"
36.04% Pervious = 0.022 ac 63.96% Impervious = 0.039 ac

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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 1:

Runoff = 0.00 cfs @ 13.73 hrs, Volume= 0.000 af, Depth> 0.11"

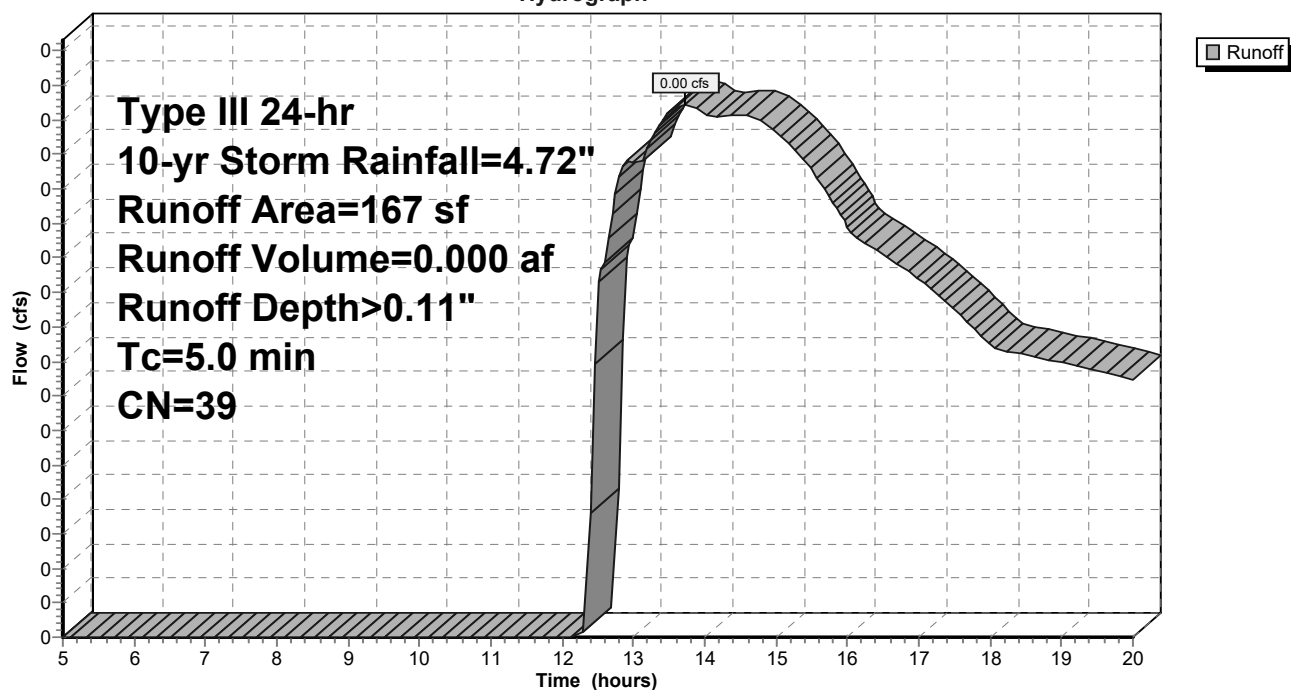
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

Area (sf)	CN	Description
167	39	>75% Grass cover, Good, HSG A
167		100.00% Pervious Area

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

Subcatchment 1:

Hydrograph



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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 2-1:

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.008 af, Depth> 2.65"

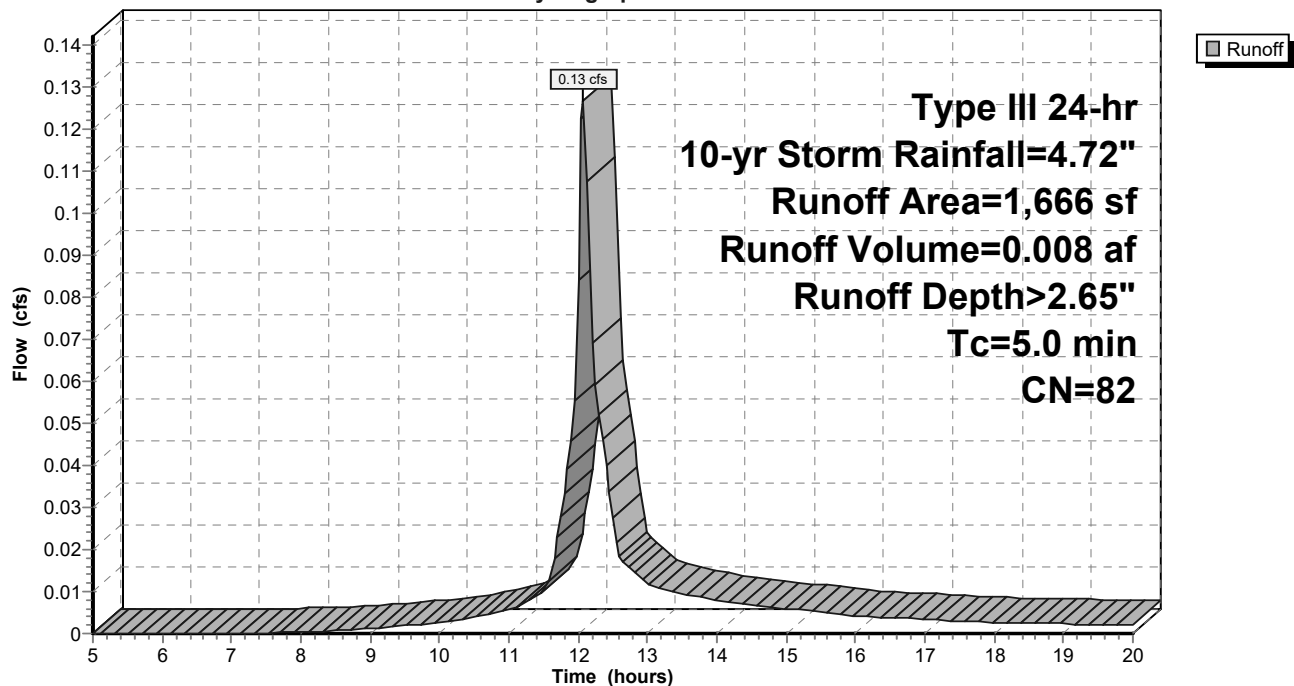
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

	Area (sf)	CN	Description
*	1,207	98	Impervious
	459	39	>75% Grass cover, Good, HSG A
	1,666	82	Weighted Average
	459		27.55% Pervious Area
	1,207		72.45% Impervious Area

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

Subcatchment 2-1:

Hydrograph



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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 2-2: Slab Drain

Runoff = 0.04 cfs @ 12.07 hrs, Volume= 0.003 af, Depth> 4.16"

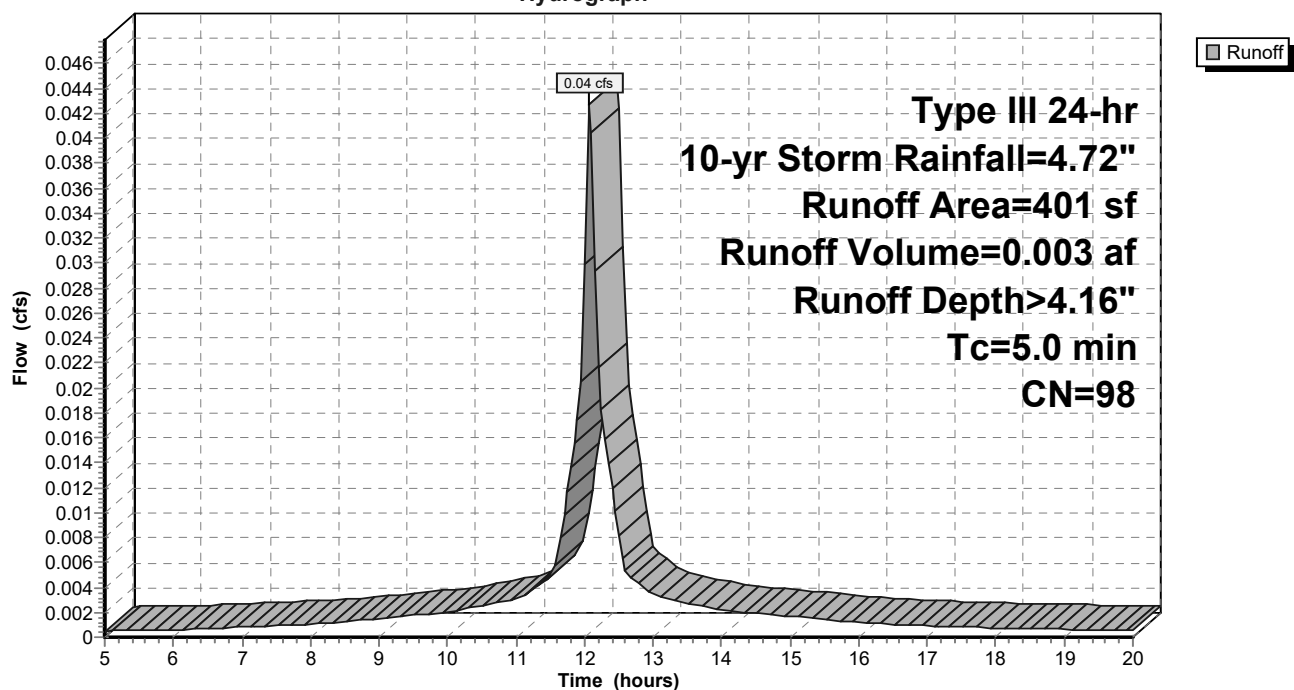
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

	Area (sf)	CN	Description
*	401	98	Impervious
	401		100.00% Impervious Area

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

Subcatchment 2-2: Slab Drain

Hydrograph



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Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Subcatchment 2-3:

Runoff = 0.00 cfs @ 12.12 hrs, Volume= 0.000 af, Depth> 0.50"

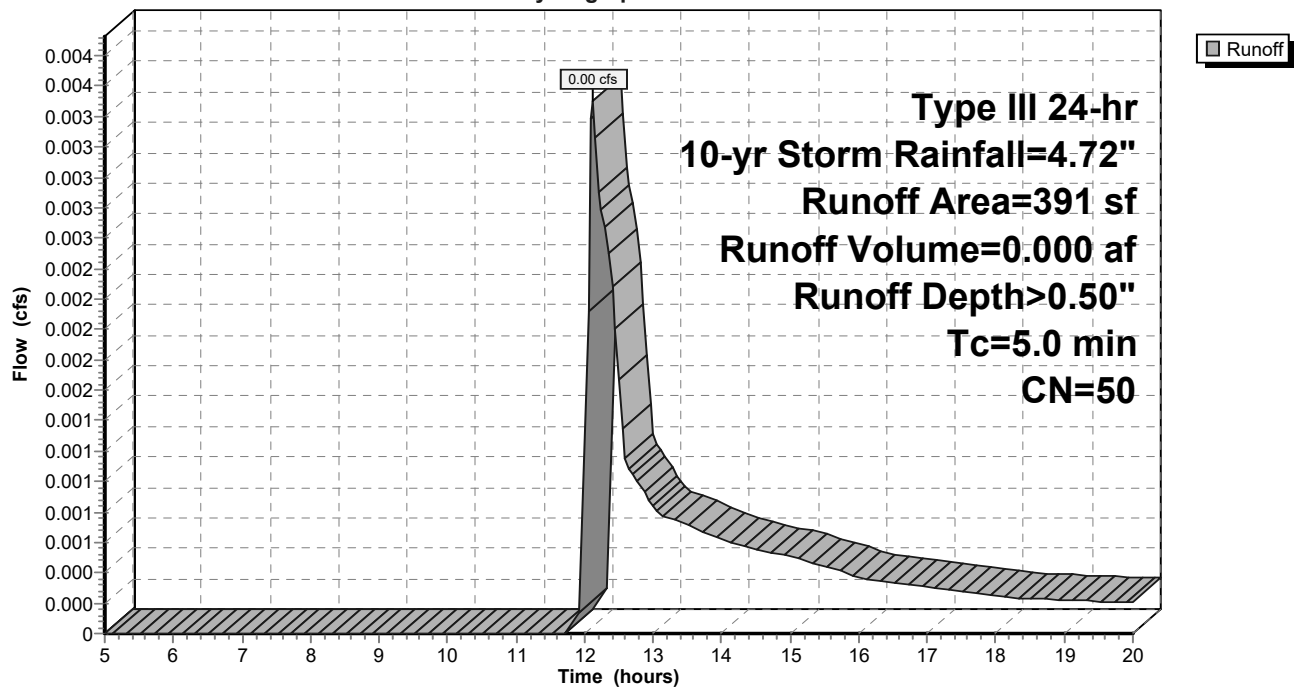
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Storm Rainfall=4.72"

Area (sf)	CN	Description
* 71	98	Impervious
320	39	>75% Grass cover, Good, HSG A
391	50	Weighted Average
320		81.84% Pervious Area
71		18.16% Impervious Area

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

Subcatchment 2-3:

Hydrograph



21-285 Post

Type III 24-hr 10-yr Storm Rainfall=4.72"

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Summary for Pond RG: Rain Garden

Inflow Area = 0.038 ac, 72.45% Impervious, Inflow Depth > 2.65" for 10-yr Storm event
 Inflow = 0.13 cfs @ 12.08 hrs, Volume= 0.008 af
 Outflow = 0.14 cfs @ 12.11 hrs, Volume= 0.008 af, Atten= 0%, Lag= 2.2 min
 Discarded = 0.01 cfs @ 12.11 hrs, Volume= 0.005 af
 Primary = 0.13 cfs @ 12.11 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 30.29' @ 12.11 hrs Surf.Area= 125 sf Storage= 88 cf

Plug-Flow detention time= 87.3 min calculated for 0.008 af (92% of inflow)

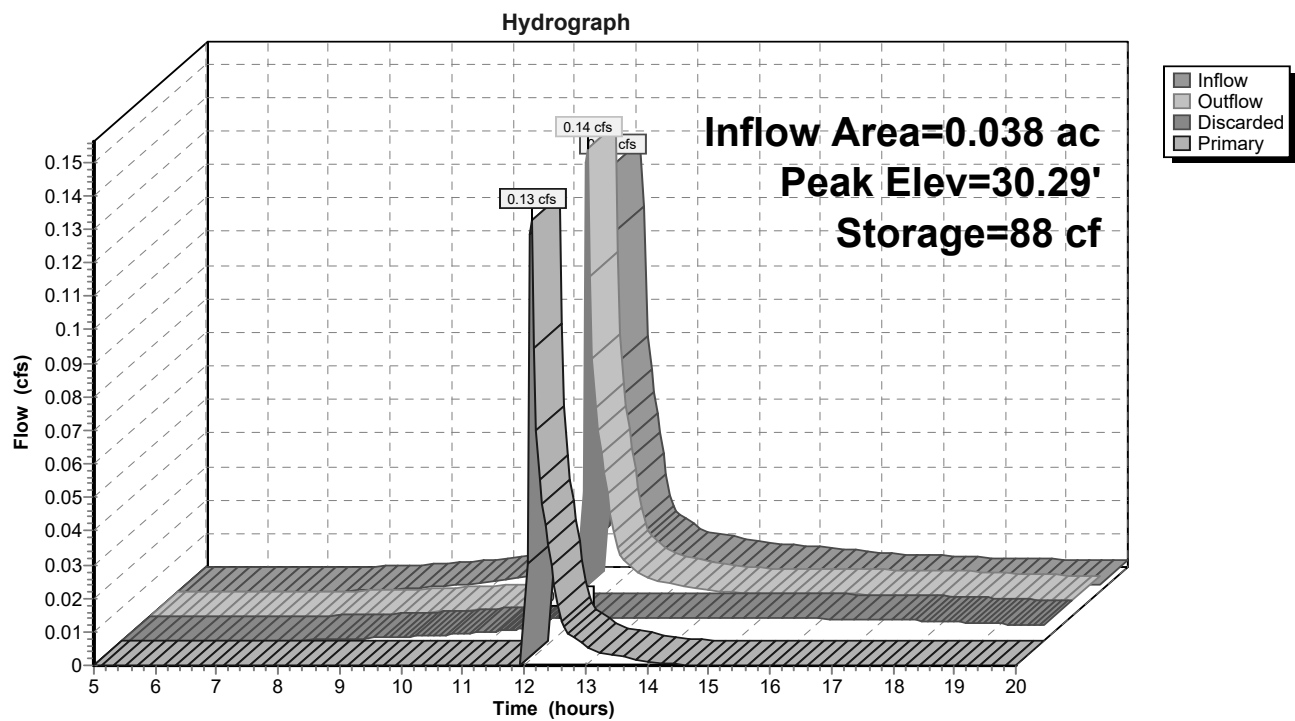
Center-of-Mass det. time= 61.1 min (844.8 - 783.7)

Volume	Invert	Avail.Storage	Storage Description
#1	29.02'	116 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.02	0	0	0
29.50	53	13	13
30.00	112	41	54
30.50	135	62	116

Device	Routing	Invert	Outlet Devices
#1	Discarded	29.02'	2.410 in/hr Exfiltration over Surface area
#2	Primary	30.20'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

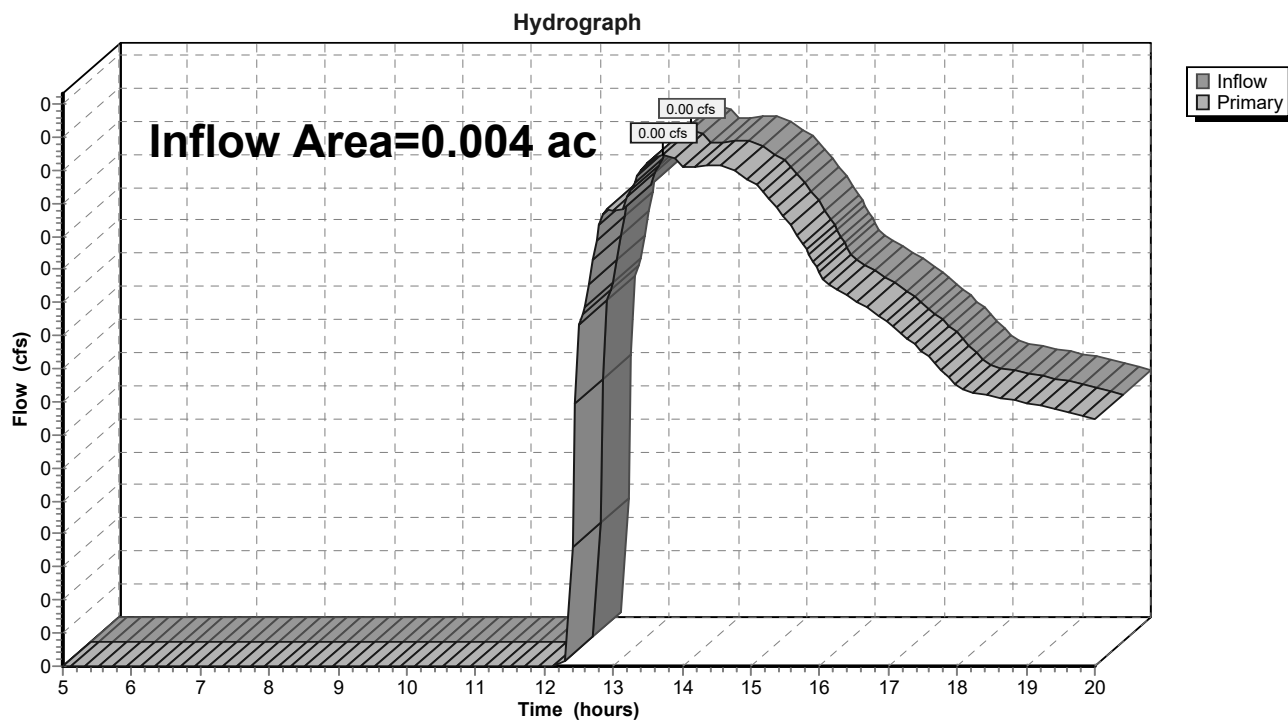
Discarded OutFlow Max=0.01 cfs @ 12.11 hrs HW=30.28' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.12 cfs @ 12.11 hrs HW=30.28' (Free Discharge)↑**2=Orifice/Grate** (Weir Controls 0.12 cfs @ 0.93 fps)

Pond RG: Rain Garden

Summary for Link AP1: Adjacent property

Inflow Area = 0.004 ac, 0.00% Impervious, Inflow Depth > 0.11" for 10-yr Storm event
Inflow = 0.00 cfs @ 13.73 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 13.73 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

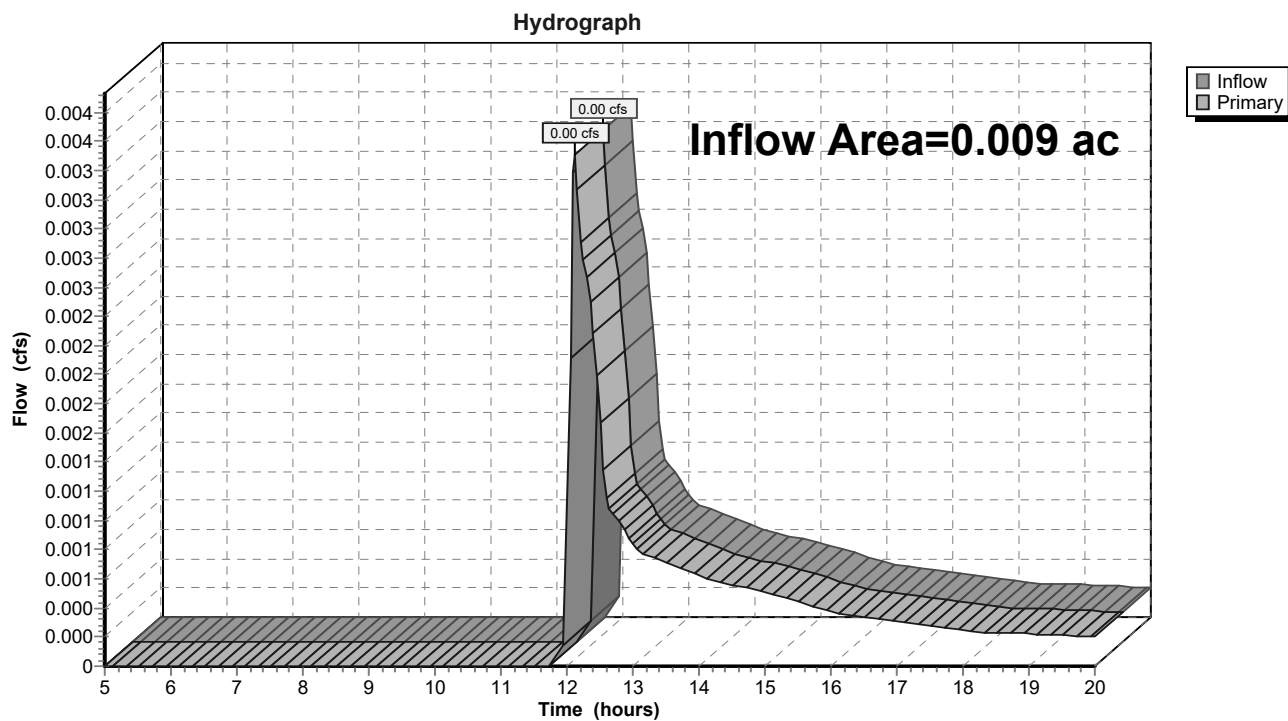
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent property

Summary for Link AP2: Forest St CB

Inflow Area = 0.009 ac, 18.16% Impervious, Inflow Depth > 0.50" for 10-yr Storm event
Inflow = 0.00 cfs @ 12.12 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.12 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

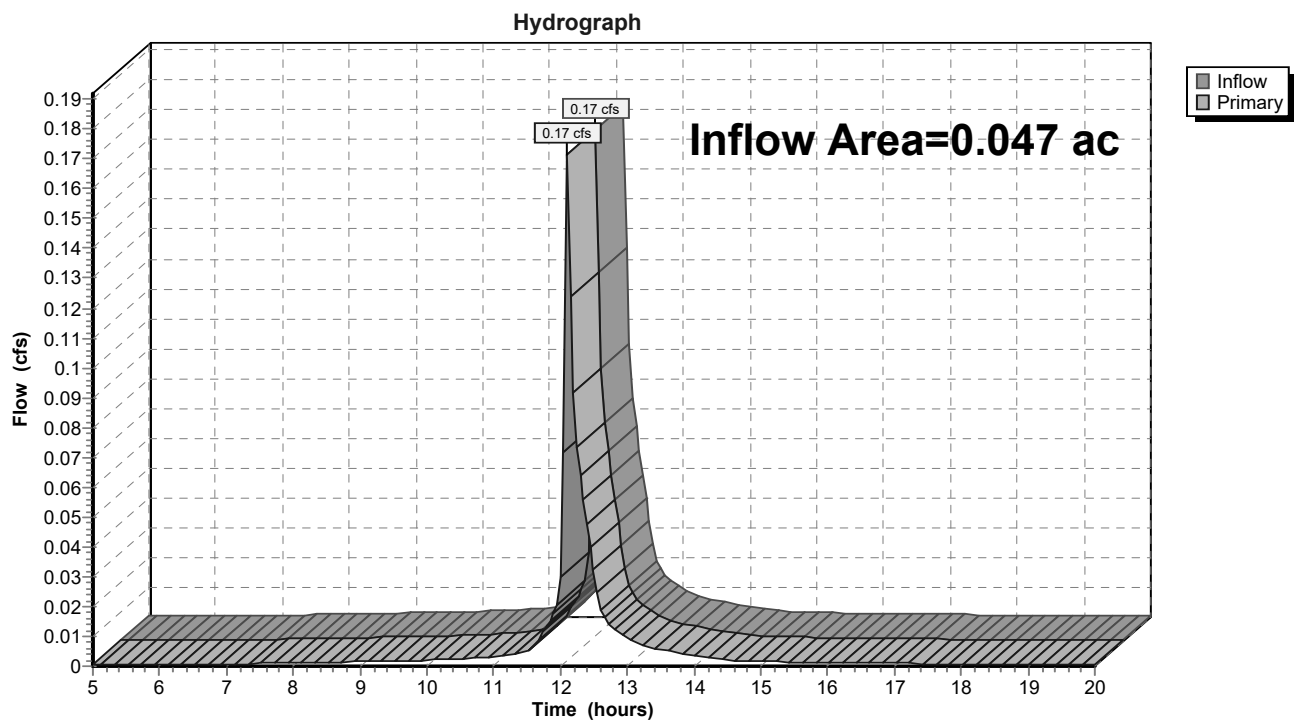
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP2: Forest St CB

Summary for Link AP3: Street/Public System

Inflow Area = 0.047 ac, 77.79% Impervious, Inflow Depth > 1.56" for 10-yr Storm event
Inflow = 0.17 cfs @ 12.11 hrs, Volume= 0.006 af
Primary = 0.17 cfs @ 12.11 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

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

Link AP3: Street/Public System

21-285 Post*Type III 24-hr 25-yr Storm Rainfall=5.94"*

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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

Subcatchment1: Runoff Area=167 sf 0.00% Impervious Runoff Depth>0.36"
Tc=5.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment2-1: Runoff Area=1,666 sf 72.45% Impervious Runoff Depth>3.69"
Tc=5.0 min CN=82 Runoff=0.18 cfs 0.012 af

Subcatchment2-2: Slab Drain Runoff Area=401 sf 100.00% Impervious Runoff Depth>5.27"
Tc=5.0 min CN=98 Runoff=0.05 cfs 0.004 af

Subcatchment2-3: Runoff Area=391 sf 18.16% Impervious Runoff Depth>0.99"
Tc=5.0 min CN=50 Runoff=0.01 cfs 0.001 af

Pond RG: Rain Garden Peak Elev=30.30' Storage=90 cf Inflow=0.18 cfs 0.012 af
Discarded=0.01 cfs 0.005 af Primary=0.17 cfs 0.006 af Outflow=0.17 cfs 0.011 af

Link AP1: Adjacent property Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link AP2: Forest St CB Inflow=0.01 cfs 0.001 af
Primary=0.01 cfs 0.001 af

Link AP3: Street/Public System Inflow=0.22 cfs 0.010 af
Primary=0.22 cfs 0.010 af

Total Runoff Area = 0.060 ac Runoff Volume = 0.017 af Average Runoff Depth = 3.32"
36.04% Pervious = 0.022 ac 63.96% Impervious = 0.039 ac

21-285 Post

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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 1:

Runoff = 0.00 cfs @ 12.33 hrs, Volume= 0.000 af, Depth> 0.36"

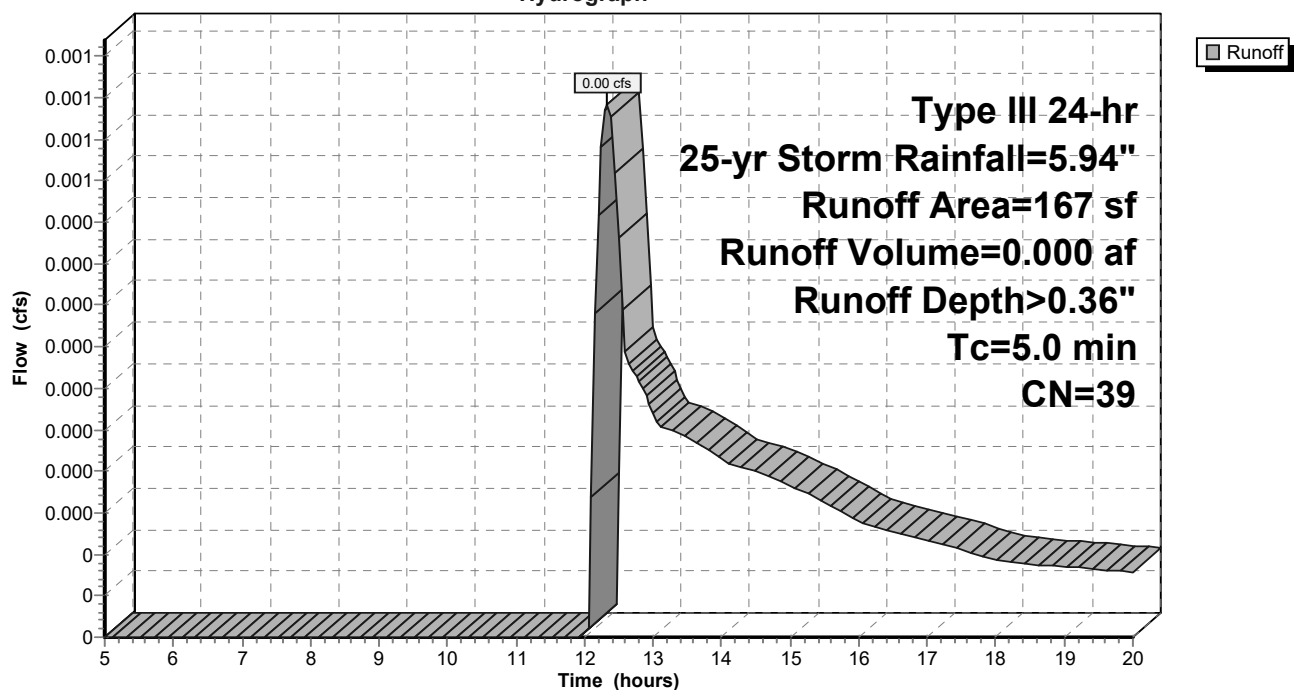
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

Area (sf)	CN	Description
167	39	>75% Grass cover, Good, HSG A
167		100.00% Pervious Area

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

Subcatchment 1:

Hydrograph



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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 2-1:

Runoff = 0.18 cfs @ 12.07 hrs, Volume= 0.012 af, Depth> 3.69"

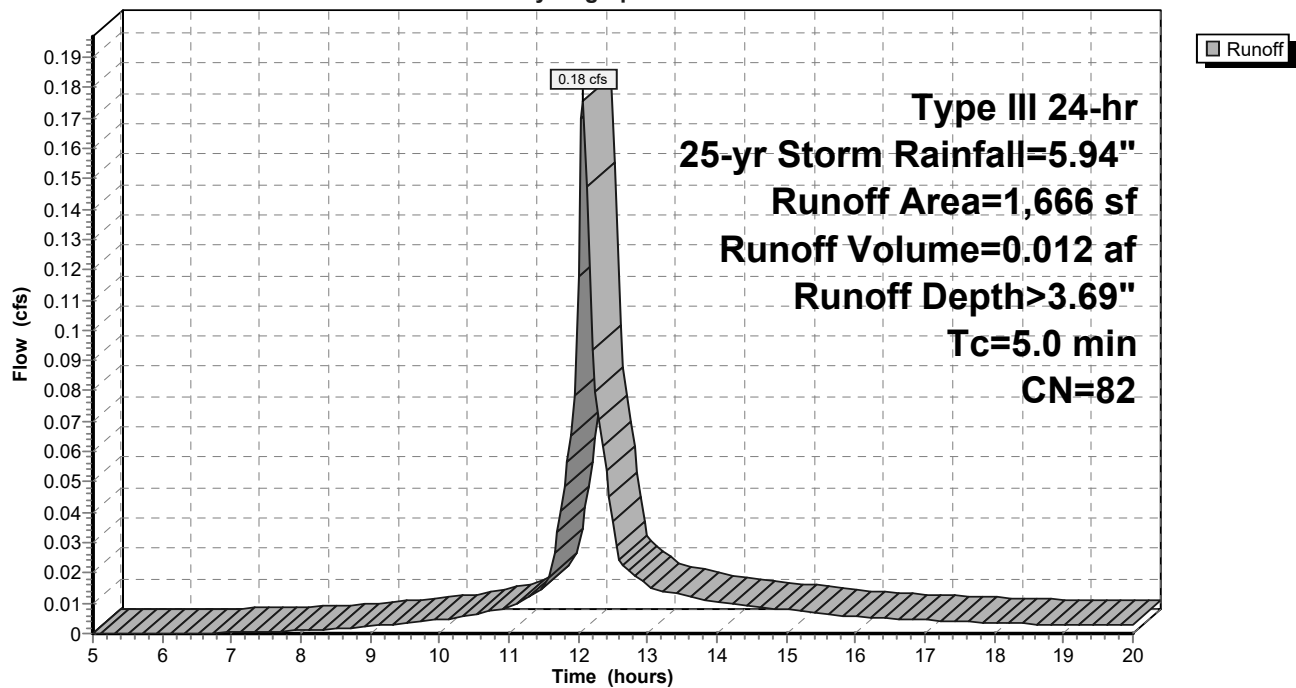
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

	Area (sf)	CN	Description
*	1,207	98	Impervious
	459	39	>75% Grass cover, Good, HSG A
	1,666	82	Weighted Average
	459		27.55% Pervious Area
	1,207		72.45% Impervious Area

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

Subcatchment 2-1:

Hydrograph



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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 2-2: Slab Drain

Runoff = 0.05 cfs @ 12.07 hrs, Volume= 0.004 af, Depth> 5.27"

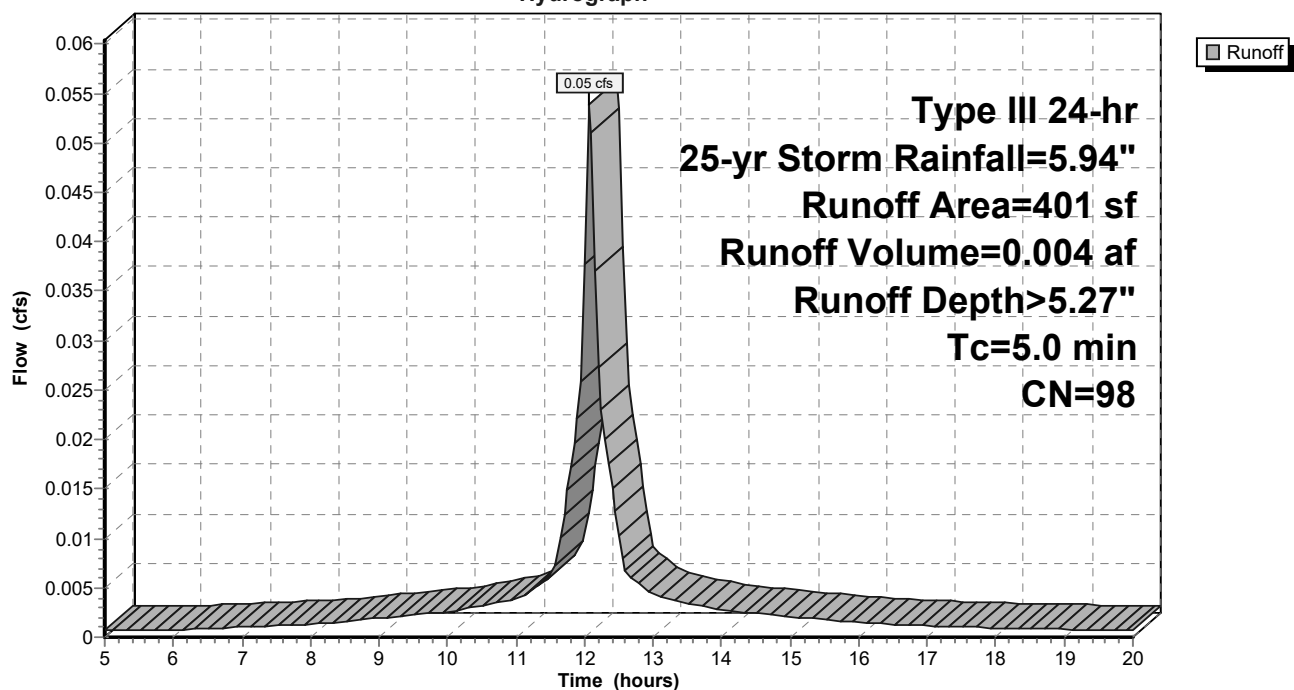
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

Area (sf)	CN	Description
* 401	98	Impervious
401		100.00% Impervious Area

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

Subcatchment 2-2: Slab Drain

Hydrograph



21-285 Post

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Type III 24-hr 25-yr Storm Rainfall=5.94"

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Summary for Subcatchment 2-3:

Runoff = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af, Depth> 0.99"

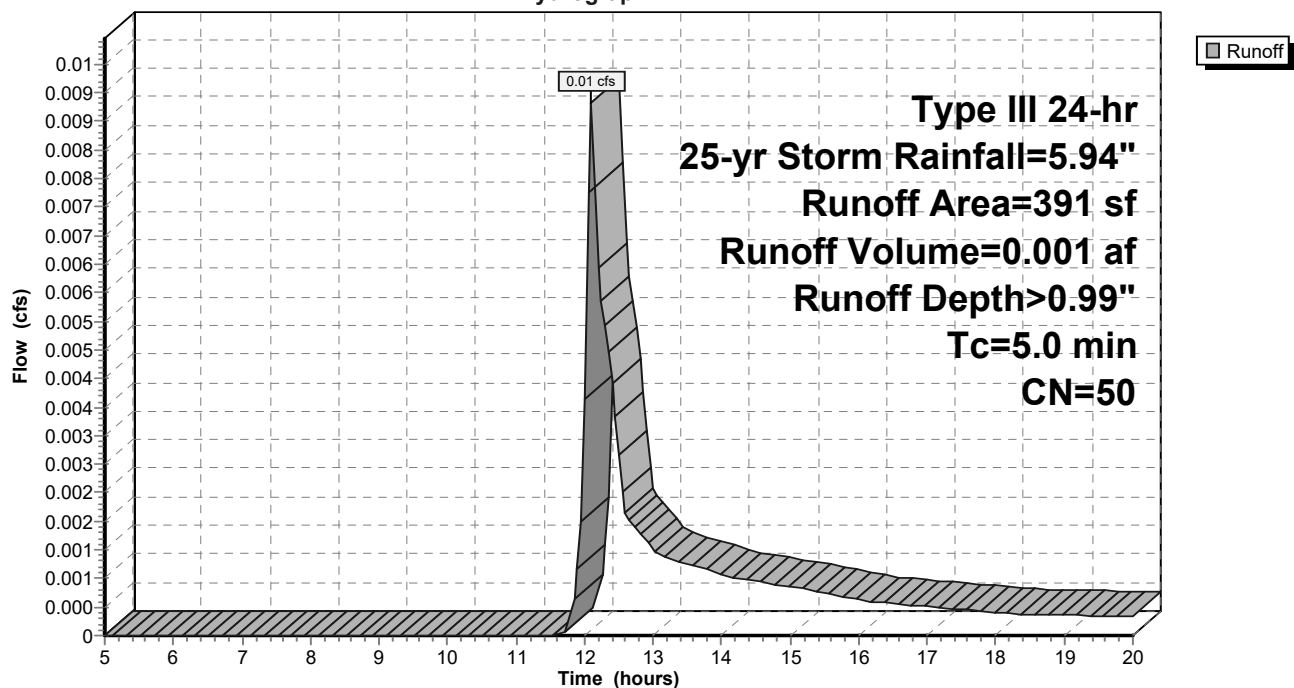
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Storm Rainfall=5.94"

Area (sf)	CN	Description
* 71	98	Impervious
320	39	>75% Grass cover, Good, HSG A
391	50	Weighted Average
320		81.84% Pervious Area
71		18.16% Impervious Area

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

Subcatchment 2-3:

Hydrograph



21-285 Post

Type III 24-hr 25-yr Storm Rainfall=5.94"

Prepared by HP Inc.

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Summary for Pond RG: Rain Garden

Inflow Area = 0.038 ac, 72.45% Impervious, Inflow Depth > 3.69" for 25-yr Storm event
 Inflow = 0.18 cfs @ 12.07 hrs, Volume= 0.012 af
 Outflow = 0.17 cfs @ 12.09 hrs, Volume= 0.011 af, Atten= 1%, Lag= 1.2 min
 Discarded = 0.01 cfs @ 12.09 hrs, Volume= 0.005 af
 Primary = 0.17 cfs @ 12.09 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 30.30' @ 12.09 hrs Surf.Area= 126 sf Storage= 90 cf

Plug-Flow detention time= 69.6 min calculated for 0.011 af (92% of inflow)

Center-of-Mass det. time= 42.8 min (818.7 - 775.8)

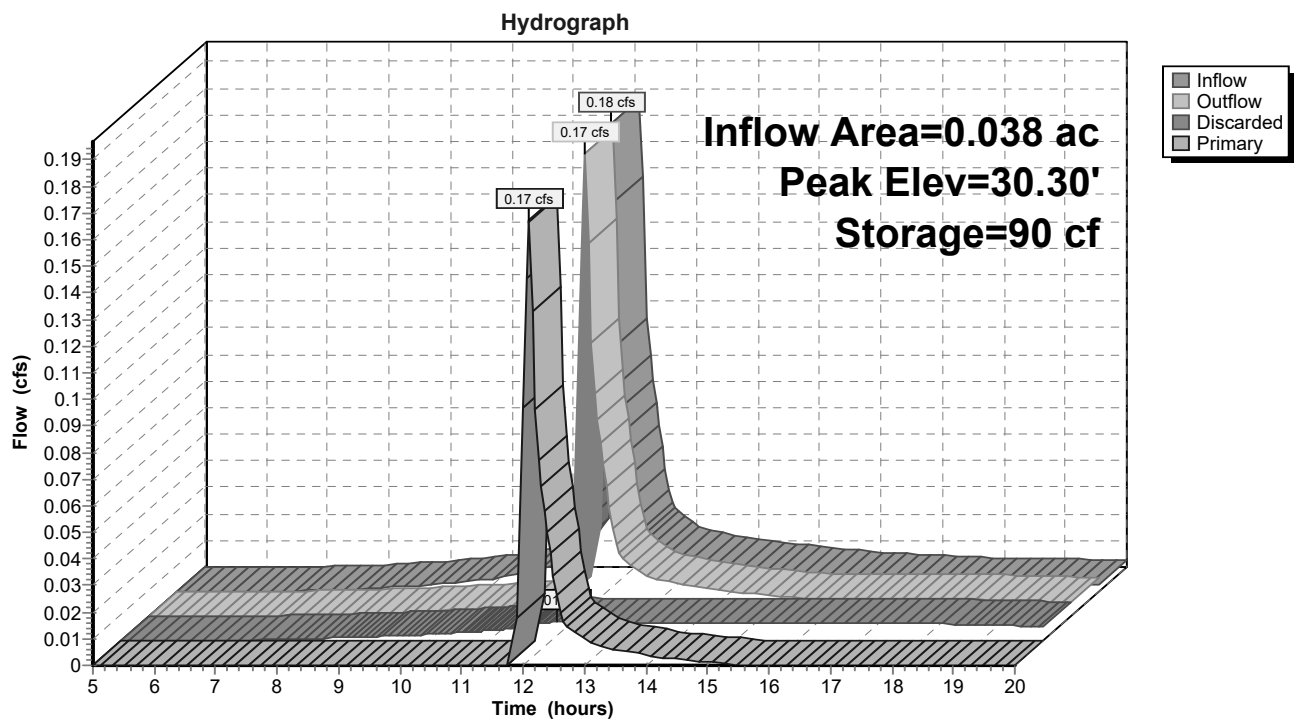
Volume	Invert	Avail.Storage	Storage Description
#1	29.02'	116 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
29.02	0	0	0
29.50	53	13	13
30.00	112	41	54
30.50	135	62	116

Device	Routing	Invert	Outlet Devices
#1	Discarded	29.02'	2.410 in/hr Exfiltration over Surface area
#2	Primary	30.20'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 12.09 hrs HW=30.30' (Free Discharge)↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.16 cfs @ 12.09 hrs HW=30.30' (Free Discharge)↑ **2=Orifice/Grate** (Weir Controls 0.16 cfs @ 1.04 fps)

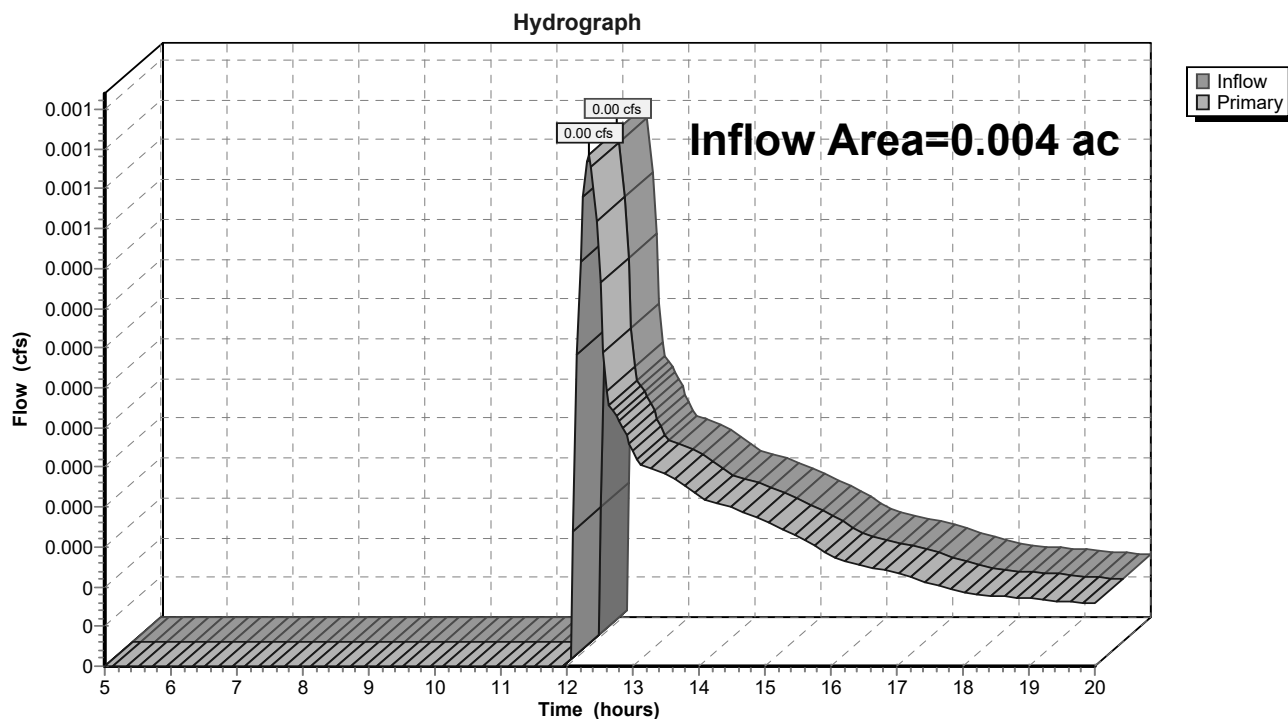
Pond RG: Rain Garden



Summary for Link AP1: Adjacent property

Inflow Area = 0.004 ac, 0.00% Impervious, Inflow Depth > 0.36" for 25-yr Storm event
Inflow = 0.00 cfs @ 12.33 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 12.33 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

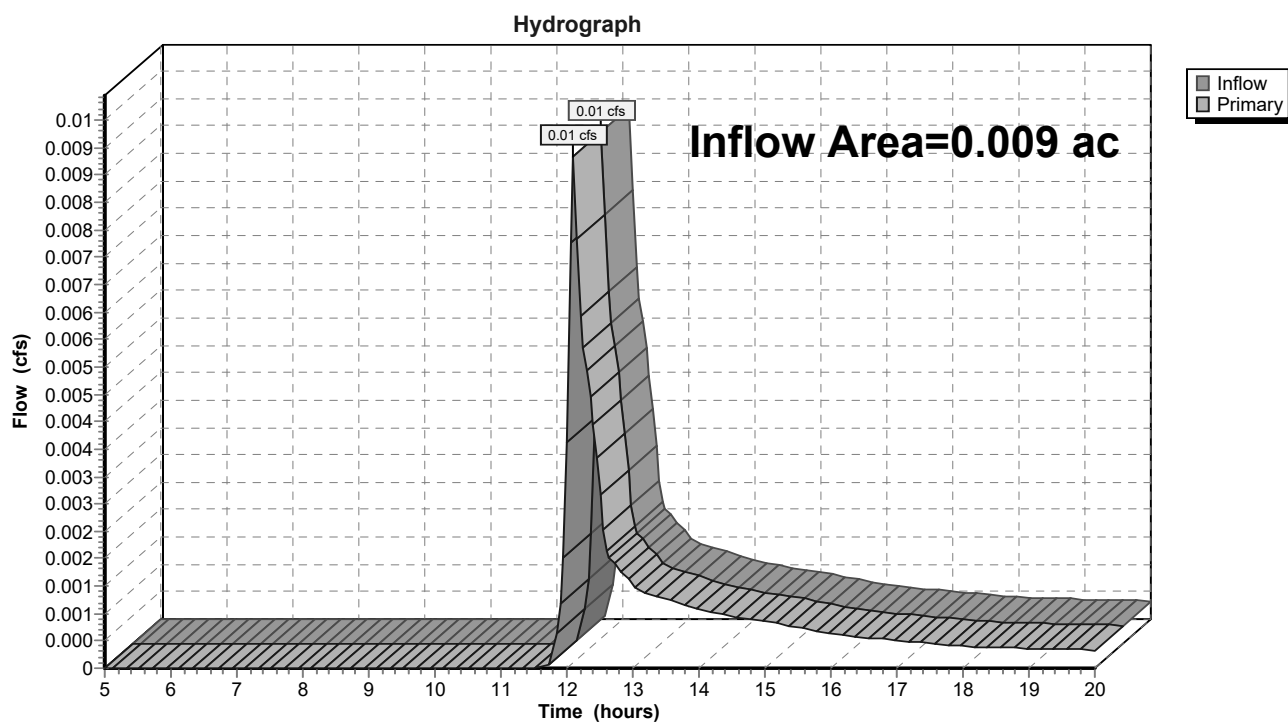
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP1: Adjacent property

Summary for Link AP2: Forest St CB

Inflow Area = 0.009 ac, 18.16% Impervious, Inflow Depth > 0.99" for 25-yr Storm event
Inflow = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af
Primary = 0.01 cfs @ 12.10 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

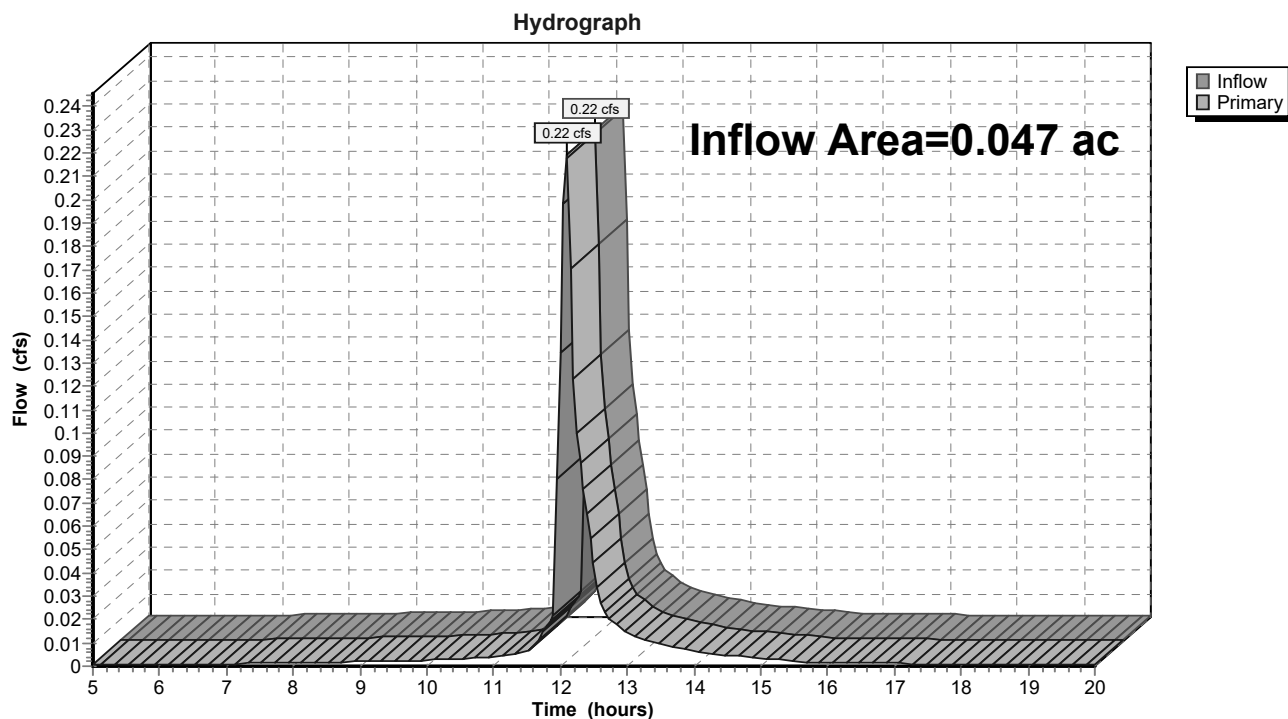
Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP2: Forest St CB

Summary for Link AP3: Street/Public System

Inflow Area = 0.047 ac, 77.79% Impervious, Inflow Depth > 2.43" for 25-yr Storm event
Inflow = 0.22 cfs @ 12.09 hrs, Volume= 0.010 af
Primary = 0.22 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

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

Link AP3: Street/Public System

Kris Hall <chall4@une.edu>

Oct 17, 2022, 12:07:48 PM (20 hours ago)

to planningboard@portlandmaine.gov, Troy Bennett

This message was sent securely using Zix®

Hi planning board - I wanted to follow up on the last meeting regarding a new 4 story, 3-unit rental property at 31 forest street.

Regarding parking - I think offering parking below the building is important - the existing street parking here is tight, and if any tenants are two car households, this building will be adding to the current parking problems even with the garage. That said, is there any way to lay out the garage so that everyone can pull through in a circle? Each (admittedly compact-only!) car pulls into a corner to park, but they can back up a bit inside the garage, and then drive around to pull out front-first into the street? Also, if the garage is going to be open in the back, it will not be secure. Theft, transactions of various kinds and "camping" will occur regularly and be unmanageable in a lighted and sheltered space like that. It needs to have solid walls, and doors that lock behind people without fail, because they will be tried regularly.

External lighting is also very important, the Parkside community policing recommendation has for years been to have porch lights that are on all the time after dark, and we and most of our neighbors adhere to that norm. Motion sensing is a good second option. Dark corners will be taken advantage of.

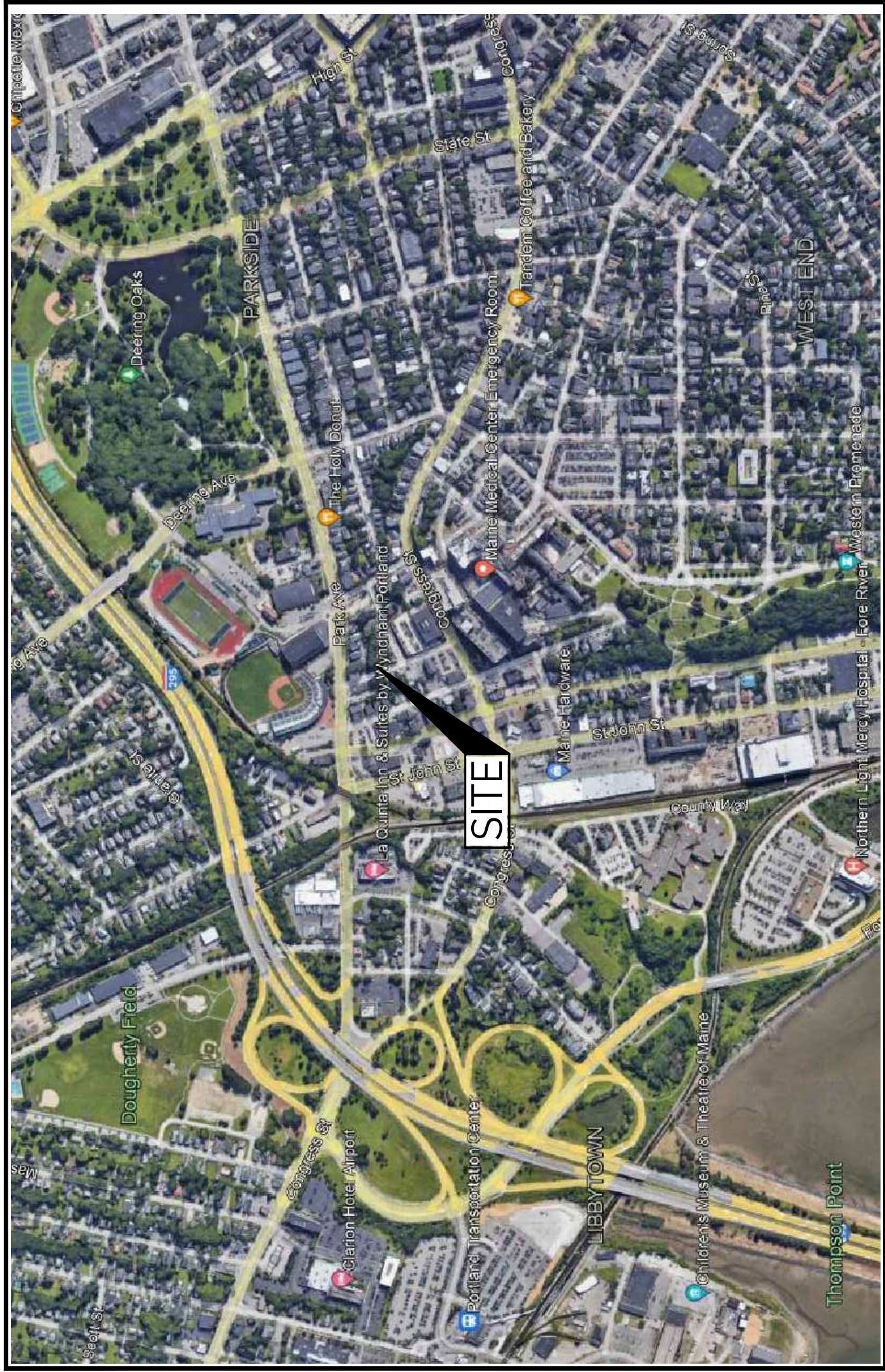
Finally - what is the plan for heating? If it is heat pumps - where will they be placed?

Thanks, Kris

31 FOREST STREET

PORTLAND, ME 04102

MAY 4, 2022



LOCUS MAP

NOT TO SCALE

DRAWING LIST

- | | |
|------|----------------------------------|
| C100 | EXISTING SITE PLAN |
| C101 | PROPOSED GRADING & DRAINAGE PLAN |
| C102 | PRE-DEVELOPMENT WATERSHED PLAN |
| C103 | POST-DEVELOPMENT WATERSHED PLAN |
| C104 | CONSTRUCTION MANAGEMENT PLAN |
| C200 | SITE DETAILS |
| C300 | EROSION CONTROL DETAILS |

OWNER:

RAY CHANG
26 OXFORD STREET
PORTLAND, ME 04101

CONSULTANTS:

PAUL DESIGNS PROJECTS
142 HIGH STREET
PORTLAND, ME 04101

TRILLIUM ENGINEERING GROUP
189 MAIN STREET
YARMOUTH, ME 04096

COVER SHEET

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

[illegible]

SHEET TITLE:

31 FOREST STREET
PORTLAND
PROPOSED BUILDING

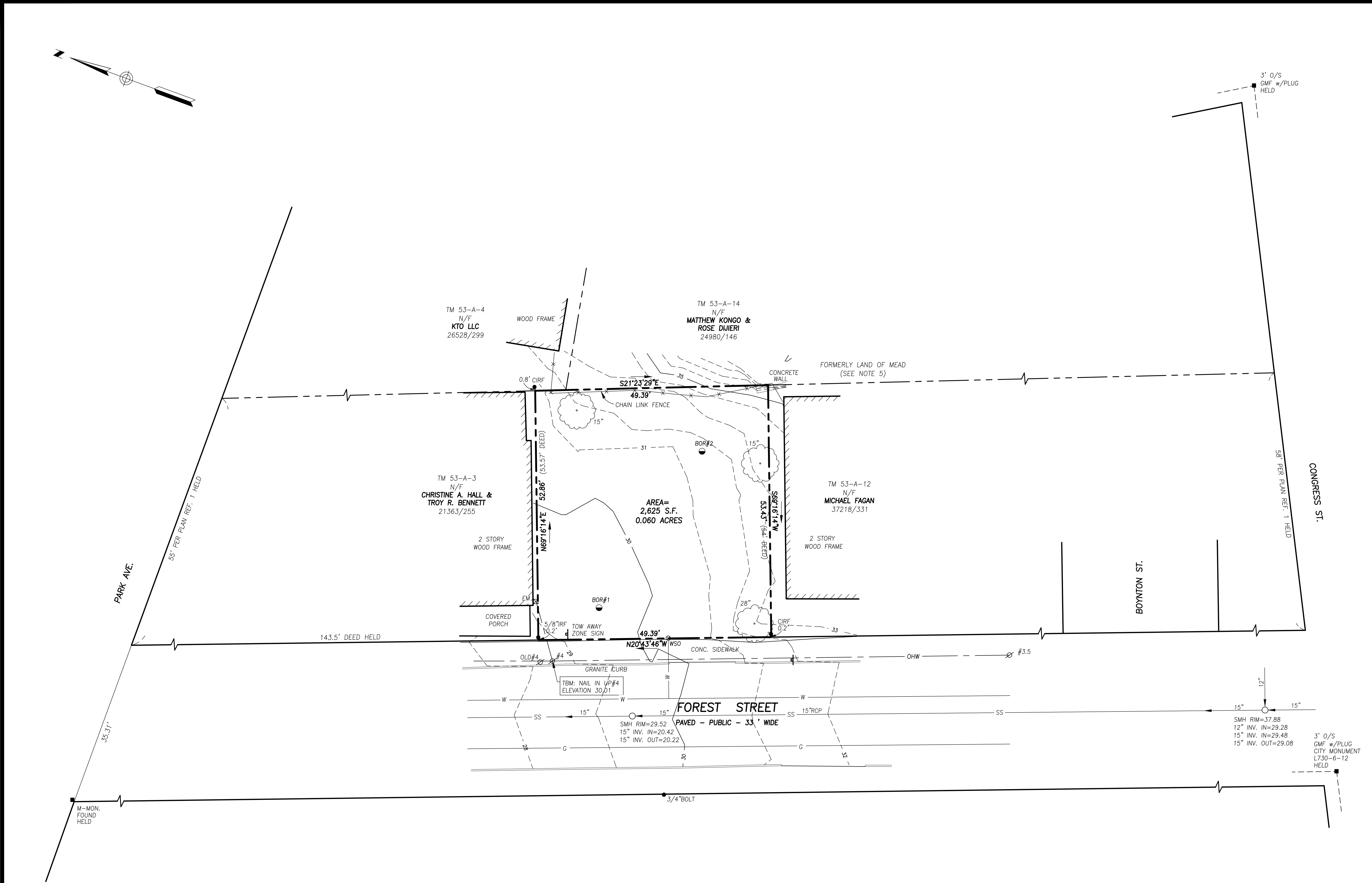
MAINE

PRELIMINARY
NOT FOR CONSTRUCTION



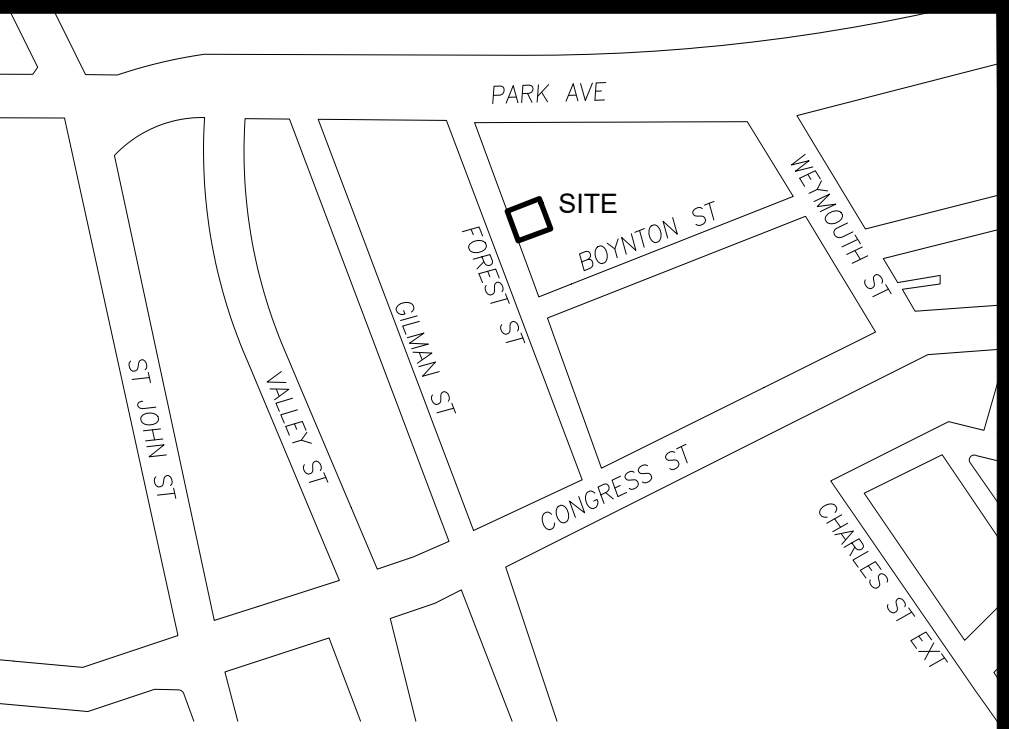
CLIENT:
31 FOREST, LLC

46 TURNER STREET
PORTLAND, ME 04101



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.



LOCATION MAP N.T.S.

LEGEND

- | | | | |
|---|------------------------|-----------|------------------------|
| ● | IRON PIPE OR ROD FOUND | —X—X— | FENCE |
| ■ | MONUMENT FOUND | ===== | CURB |
| ○ | UTILITY POLE | —OHW— | OVERHEAD WIRES |
| ○ | MANHOLE | —W— | WATER LINE |
| ⊗ | ELECTRIC METER | —G— | GAS LINE |
| ⊗ | EM SIGN | —SS— | SANITARY SEWER |
| ⊕ | WATER VALVE OR SHUTOFF | —30— | 1' CONTOUR |
| ○ | DECIDUOUS TREE | —IPF/IRF— | IRON PIPE OR ROD FOUND |
| ● | BORING | N/F | NOW OR FORMERLY |
| | | 000/000 | DEED BOOK / PAGE |

PLAN REFERENCES

1. "PLAN OF MEAD & BANKS PROPERTY, PORTLAND, ME" RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 10, PAGE 135.
2. "PLAN OF LAND IN PORTLAND, MAINE MADE FOR STEFFIAN, STEFFIAN & BRADLEY" JAN. 22, 1970 BY OWEN HASKELL, INC.
3. "PLAN OF LAND IN PORTLAND, MAINE, PARK AVENUE, FOR MEDICAL SERVICES FEDERAL CREDIT UNION" OCT. 28, 1983, REVISED DEC. 11, 1983 BY OWEN HASKELL, INC.
4. "PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR CHARLES P. WERNIG, 244 PARK AVENUE, PORTLAND, MAINE, RE-SURVEY PARCELS NO. 13, 14, 15 & 16 (STANDARD BOUNDARY SURVEY)" SEPT. 1, 1993 BY ROBERT J. CYR RECORDED IN PLAN BOOK 193, PAGE 251.
5. "CONDOMINIUM PLAT '260 PARK AVENUE CONDOMINIUM' 260 PARK AVENUE, PORTLAND, MAINE MADE FOR WILLIAM D. VAIL" MARCH 28, 2002 BY OWEN HASKELL, INC.
6. "CONGRESS STREET MEDICAL BUILDING CONDOMINIUM PLAT MADE FOR MAINE MEDICAL CENTER, 22 BRAMHALL STREET, PORTLAND, MAINE" JAN. 16, 1996, REVISED THROUGH MARCH 29, 2000 BY TITCOMB ASSOCIATES RECORDED IN PLAN BOOK 200, PAGE 158.

GENERAL NOTES

1. OWNER OF RECORD: 31 FOREST LLC
TAX MAP 53 BLOCK A LOT 11
C.C.R.D. BOOK 38297 PAGE 95
2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATES NAD83. CITY POINTS USED:
L730-6-12 SB249-4-5
N:299213.46 N:299758.53
E:2923447.38 E:2923693.42
3. ELEVATIONS ARE BASED ON CITY DATUM. MONUMENT AT WESTERLY CORNER OF FOREST STREET AND CONGRESS STREET ELEVATION=52.03' PER PLAN REFERENCE 6.
4. PROPERTY IS LOCATED IN CITY OF PORTLAND RESIDENTIAL R6 ZONE
5. REAR PROPERTY LINE ESTABLISHED BY PLAN REFERENCE 1. DEEDS CALL FOR LAND OF MEAD.

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.

ELLEN C. BREWER, PLS #2367

DATE

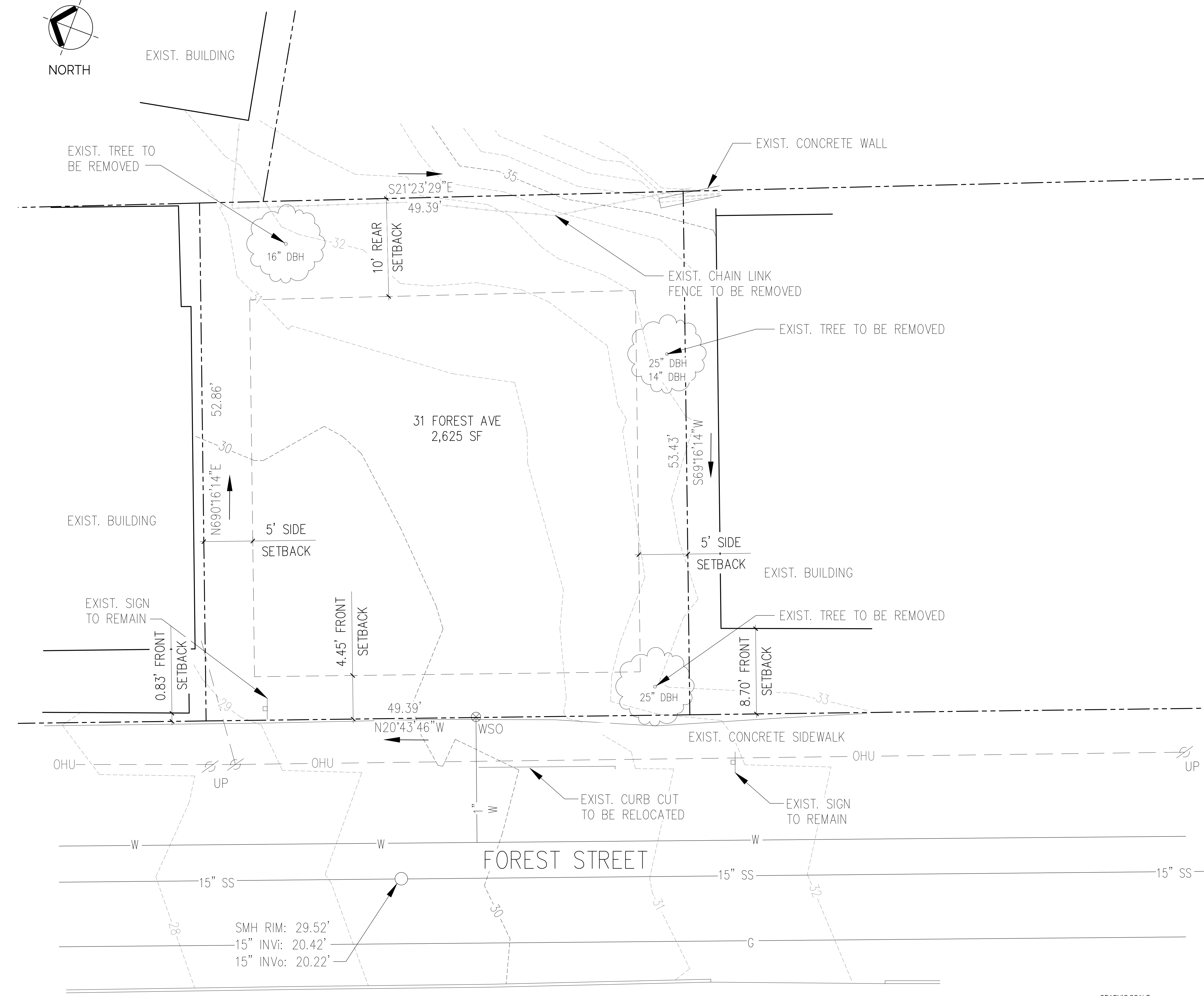
Boundary & Topographic Survey
At

31 Forest Street, Portland, Maine
Made for
DB9 Ventures, LLC
146 Pleasant Street, Lexington, MA 02421

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424

DRAWN BY:	RS / JLW	DATE:	JULY 15, 2021	JOB NO.	2021-149 P
CHECKED BY:	ECB	SCALE:	1" = 10'	DRWG. NO.	1

Z:\01 - Projects\2021\21-285 31 Forest Site\03 - Dwg\21-285-C100.dwg, 1/12/2023 1:53:02 PM

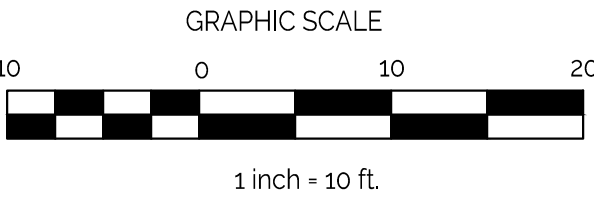


EXISTING SITE PLAN

GENERAL NOTES

- 1) BOUNDARY AND TOPOGRAPHY INFO. TAKEN FROM "BOUNDARY AND TOPOGRAPHIC SURVEY AT 31 FOREST STREET, PORTLAND, MAINE" BY OWEN HASKELL, INC. DATED JULY 15, 2021.
- 2) THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.
- 3) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ALL CONTRACTORS TO CONFORM TO ALL APPLICABLE OSHA STANDARDS. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.
- 4) ALL CONSTRUCTION WITHIN THE TOWN RIGHT OF WAY SHALL COMPLY WITH TOWN PUBLIC WORKS STANDARDS. ALL UTILITY CONSTRUCTION SHALL CONFORM TO RESPECTIVE UTILITY STANDARDS.
- 5) THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED BY THE TOWN PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE TOWN REQUIRED TO PERFORM ALL THE WORK (STREET OPENINGS, BUILDING PERMIT, ETC.). THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
- 6) PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR IS TO INFORM ALL AREA UTILITY COMPANIES AND GOVERNMENTAL AGENCIES OF PLANNED CONSTRUCTION. THE SITE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE (1-800-225-4977) AT LEAST 3 BUSINESS DAYS PRIOR TO ANY EXCAVATION TO VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY LOCATIONS.
- 7) THE PROJECT DRAWINGS ARE GENERALLY SCHEMATIC AND INDICATE THE POSSIBLE LOCATION OF EXISTING UNDERGROUND UTILITIES. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY MAPS, MUNICIPAL RECORD MAPS, AND FIELD SURVEY. IT IS NOT GUARANTEED TO BE CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES, WHEN THOSE SERVICES ARE TO BE LEFT IN PLACE. THE CONTRACTOR IS TO PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING THE EXCAVATING AND BACKFILLING OPERATIONS. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.
- 8) OSHA REGULATIONS MAKE IT UNLAWFUL TO OPERATE CRANES, BOOMS, HOISTS, ETC. WITHIN TEN FEET (10') OF ANY ELECTRIC LINE. IF THE CONTRACTOR MUST OPERATE CLOSER THAN 10', THE CONTRACTOR MUST CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS BEFORE ENCROACHING ON THIS REQUIREMENT.
- 9) IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLANS, APPROVALS, AND DETAILS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL THE SITE CONDITIONS IN THE FIELD AND CONTACT THE DESIGN ENGINEER IF THERE ARE ANY DISCREPANCIES REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT AN APPROPRIATE REVISION CAN BE MADE PRIOR TO BIDDING.
- 10) THE CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF THE BUILDING AREA. BUILDING AND DRIVEWAYS SHOWN ARE CONCEPTUAL. ALL SITE DIMENSIONS ARE REFERENCED TO PROPERTY LINES, THE FACE OF CURBS, OUTSIDE FACE OF WALLS, OR EDGE OF PAVING UNLESS OTHERWISE NOTED.
- 11) ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED IN WRITING BY THE OWNER, DESIGN ENGINEER, AND APPROPRIATE GOVERNMENTAL AGENCY PRIOR TO INSTALLATION.
- 12) THE CONTRACTOR SHALL RESTORE ALL UTILITY STRUCTURES, PIPE, UTILITIES, PAVEMENT, CURBS, SIDEWALKS, AND LANDSCAPED AREAS DISTURBED BY CONSTRUCTION TO AS GOOD AS BEFORE BEING DISTURBED AS DETERMINED BY CITY CODE ENFORCEMENT OFFICIALS. ANY DAMAGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 13) ALL EXCAVATION SHALL BE BACKFILLED TO EXISTING GRADE BEFORE THE END OF THE DAY OR ADEQUATELY PROTECTED FROM DANGER TO HUMANS AND ANIMALS.
- 14) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE OWNER WILL PROVIDE A BENCH MARK AT THE CONSTRUCTION SITE FROM WHICH TO BEGIN LAYOUT.
- 15) THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.
- 16) THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
- 17) A PRE-CONSTRUCTION CONFERENCE WITH THE OWNER, DESIGNERS, TOWN OFFICIALS AND CONTRACTOR SHALL BE REQUIRED BEFORE ANY CONSTRUCTION OCCURS ON THE PROJECT. DURING CONSTRUCTION THERE SHALL BE WEEKLY PROGRESS MEETINGS WITH THE OWNER (ON SITE OR TELECONFERENCE) UNTIL PROJECT COMPLETION.
- 18) PROPER IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. 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, THEIR REPRESENTATIVES, OR STATE/LOCAL/ FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

LEGEND		
EXISTING	DESCRIPTION	PROPOSED
---	LOT SETBACKS	---
---	PROPERTY LINE	---
---	EDGE OF ROAD/TRAVELLED WAY	---
---	CONTOUR	---
---	SPOT GRADE	---
---	GAS SHUT-OFF	---
---	UTILITY POLE	---
---	OVERHEAD ELECTRICAL	---
---	UNDERGROUND ELECTRICAL	---
---	FIRE HYDRANT	---
---	WATER LINE	---
---	WATER GATE	---
---	SEWER LINE	---
---	SEWER MANHOLE	---
---	DRAINAGE MANHOLE	---
---	CATCH BASIN	---
---	UNDERDRAIN/STORMDRAIN	---
---	UNDERDRAIN	---
---	SILT FENCE	---
---	GRADING AND FLOW DIRECTION	---
---	STORMWATER BOUNDARY	---
---	STORMWATER FLOW (Tc)	---
---	FACE OF LEDGE OUTCROP	---
---	BIRCH	---
---	MAPLE	---



SCALE: 1" = 10'-0"



CLIENT:

31 FOREST, LLC

46 TURNER STREET
PORTLAND, ME 04101

PRELIMINARY
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31 FOREST STREET
PORTLAND
MAINE

PROPOSED BUILDING

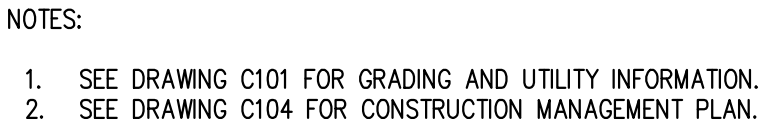
ISSUED	DR.	CHK.	DATE
DESCRIPTION	BY	ED	
SITE PLAN SUBMISSION	DL	ED	05-04-22
SITE PLAN SUBMISSION	B	ED	10-11-22
SITE PLAN SUBMISSION	C	ED	12-7-22
REVISED SITE PLAN SUBMISSION	D	ED	12-29-22
No	A		

SHEET TITLE:

EXISTING SITE
PLAN

DESIGNED: DL
DRAWN: DL
DATE: 05-04-22
PROJECT NUMBER: 21-285

C100



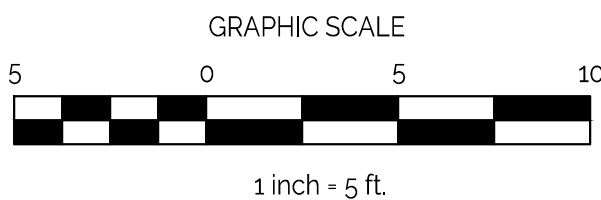
CLIENT:
31 FOREST, LLC
46 TURNER STREET
PORTLAND, ME 04101

31 FOREST STREET
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MAINE

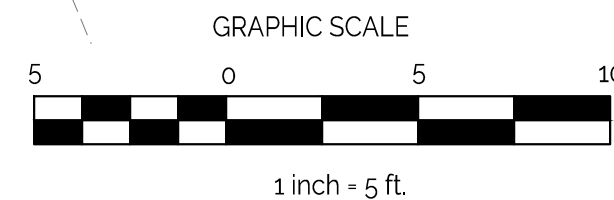
SHEET TITLE:

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

SCALE: 1" = 5'-0"



LEGEND		
EXISTING	DESCRIPTION	PROPOSED
	LOT SETBACKS	
	PROPERTY LINE	
	EDGE OF ROAD/TRAVELLED WAY	
	CONTOUR	
	SPOT GRADE	
	GAS SHUT-OFF	
	UTILITY POLE	
	OVERHEAD ELECTRICAL	
	UNDERGROUND ELECTRICAL	
	FIRE HYDRANT	
	WATER LINE	
	WATER GATE	
	SEWER LINE	
	SEWER MANHOLE	
	DRAINAGE MANHOLE	
	CATCH BASIN	
	UNDERDRAIN/STORMDRAIN	
	UNDERDRAIN	
	SILT FENCE	
	GRADING AND FLOW DIRECTION	
	STORMWATER BOUNDARY	
	STORMWATER FLOW (10)	
	FACE OF LEDGE OUTCROP	
	BIRCH	
	MAPLE	



^ACODE ALLOWS FOR A FRONT SETBACK EQUAL TO THE AVERAGE DEPTH OF ADJACENT FRONT YARDS IN THIS ZONE.

^BSIDE SETBACK CAN BE REDUCED TO 0' ON ONE SIDE AS LONG AS THERE IS COMBINED 10' OR MORE OF SIDE YARD

PLANTING SCHEDULE		
TYPE	SIZE	QUANTITY
MYRICA PENNSYLVANICA/NORTHERN BAYBERRY	#5	7
HONEYLOCUST	2-2.5" CAL.	2
ARBORVITAE/WIDE CEDAR	5'-6" HEIGHT	3

No.	DESCRIPTION	DR BY	CXO BY	DATE
A	SITE PLAN SUBMISSION	DL	ED	05-04-22
B	SITE PLAN SUBMISSION	ED	ED	10-11-22
C	SITE PLAN SUBMISSION	ED	ED	12-7-22
D	REVISED SITE PLAN SUBMISSION	ED	ED	12-29-22

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

SCALE: 1" = 5'-0"



31 FOREST STREET
PORTLAND
MAINE



- WATERSHED NOTES:
1. ALL SOILS ARE ARE HYDROLOGIC SOIL GROUP "A", PER THE UNITED STATES WEB SOIL SURVEY (WSS).
 2. ALL TIME OF CONCENTRATION VALUES NOT SHOWN HAVE BEEN ASSIGNED A MINIMUM 5 MINUTE VALUE.



CLIENT:
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46 TURNER STREET
PORTLAND, ME 04101

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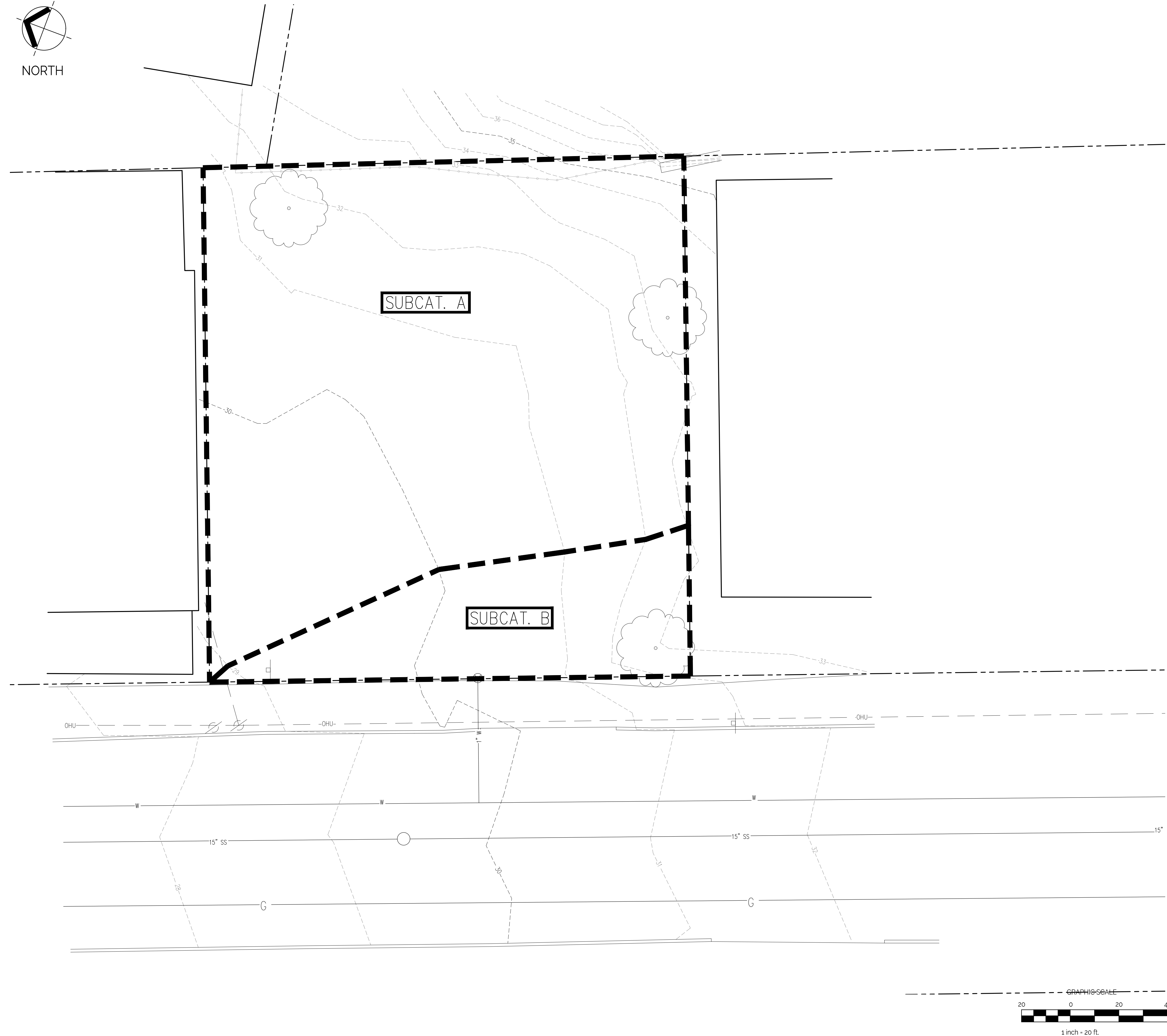
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SHEET TITLE:

PRE-DEVELOPMENT
WATERSHED PLAN

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

C102



PRE-DEVELOPMENT WATERSHED PLAN



WATERSHED NOTES:

1. ALL HYDROLOGIC SOIL INFORMATION HAS BEEN PROVIDED BY THE UNITED STATES WEB SOIL SURVEY (WSS) AND HAS BEEN DELINEATED AS SHOWN ON PLAN.
2. ALL TIME OF CONCENTRATION VALUES NOT SHOWN HAVE BEEN ASSIGNED A MINIMUM 5 MINUTE VALUE.



31 FOREST, LLC

46 TURNER STREET
PORTLAND, ME 04101

PRELIMINARY
NOT FOR CONSTRUCTION

MAINE

31 FOREST STREET
PORTLAND
PROPOSED BUILDING

PORTLAND

[illegible]

ISSUED

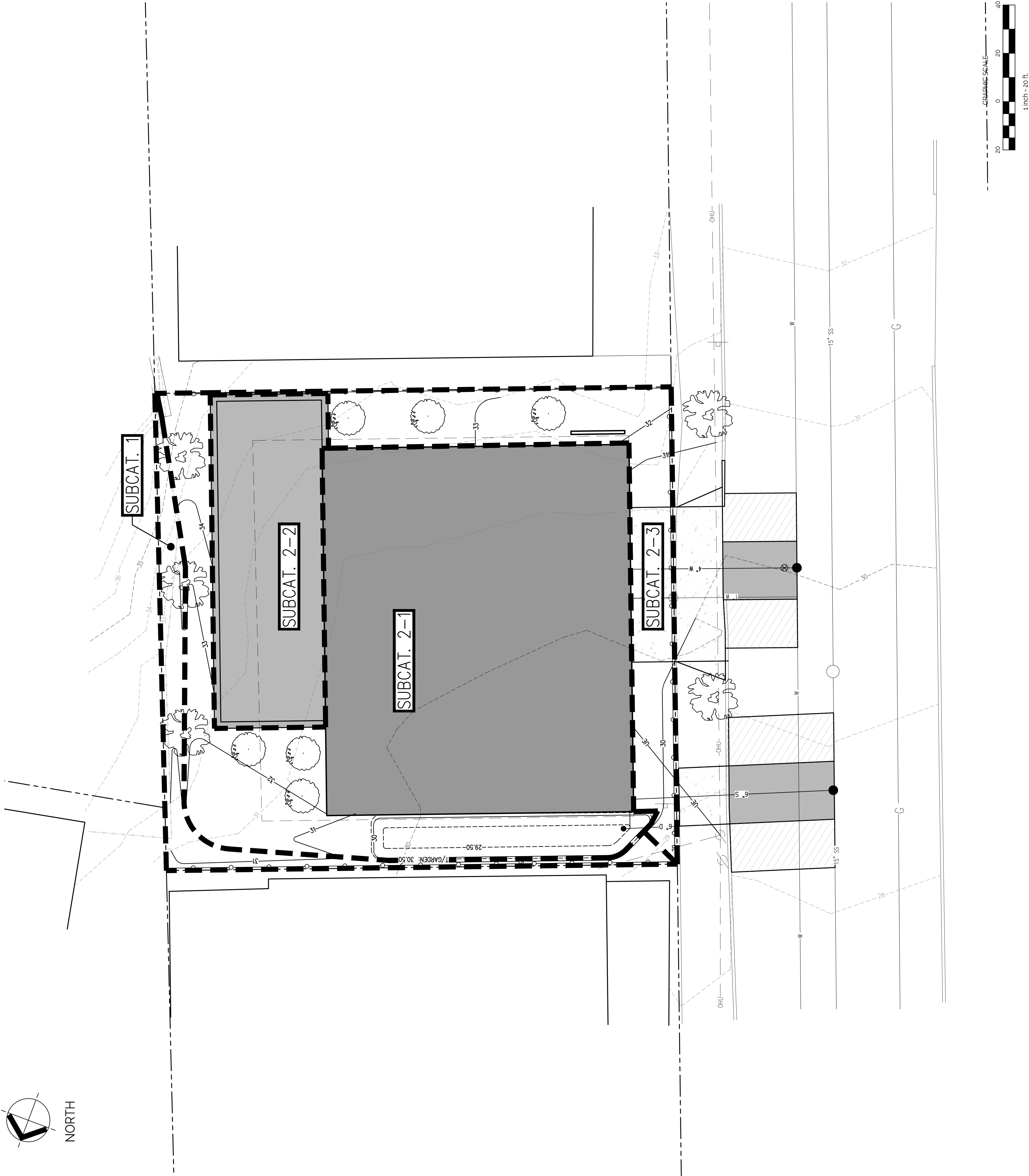
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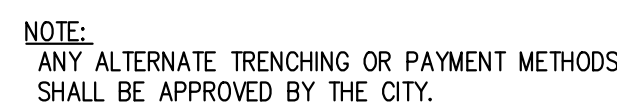
POST-DEVELOPMENT WATERSHED PLAN

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

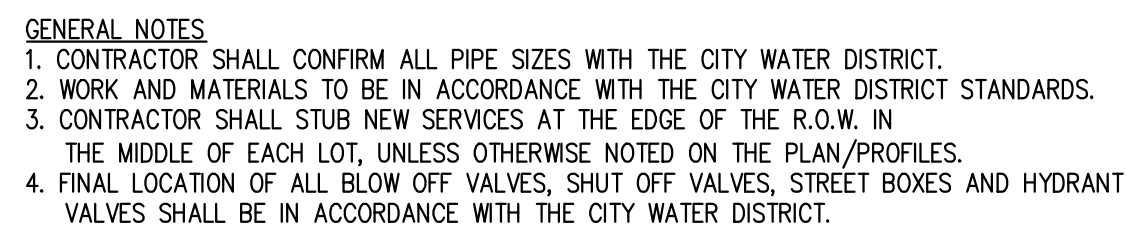
POST-DEVELOPMENT WATERSHED PLAN

SCALE: 1" = 20'-0"

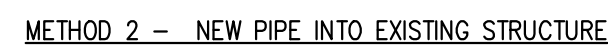
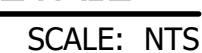




SCALE: NTS



SCALE: NTS

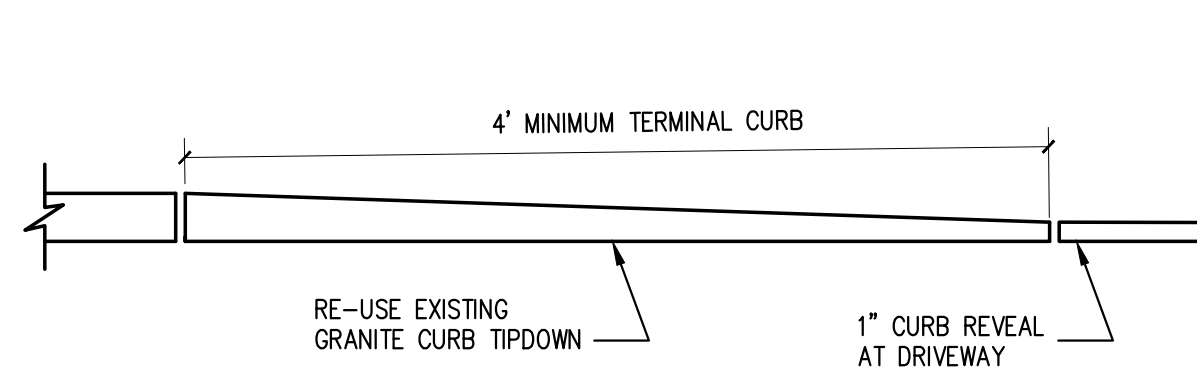


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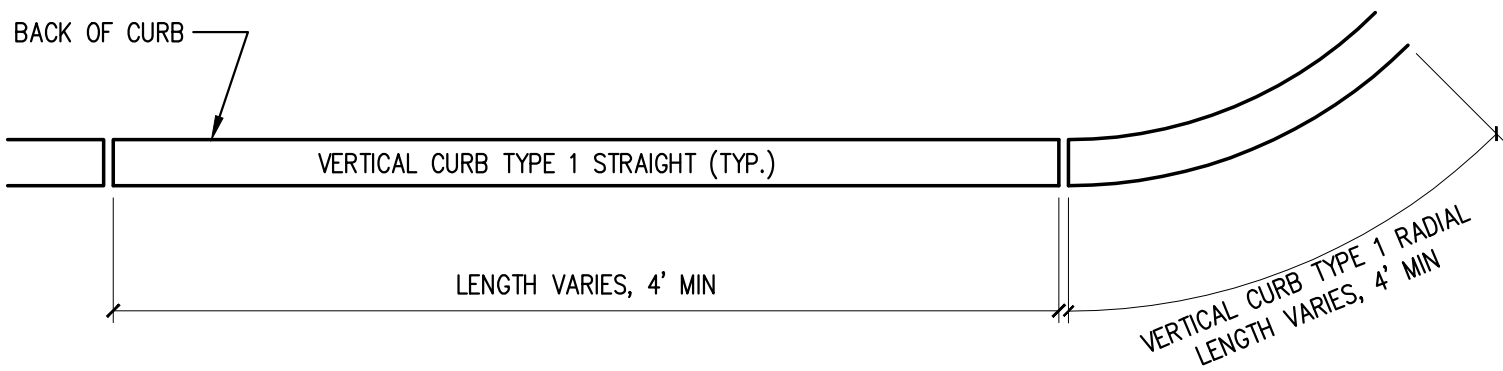


PROPOSED BUILDING

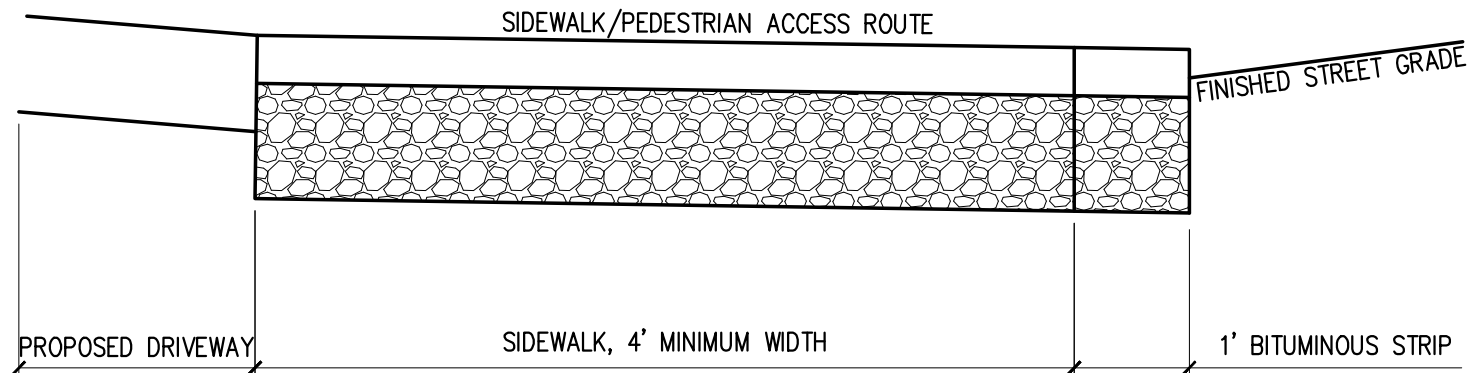
C200



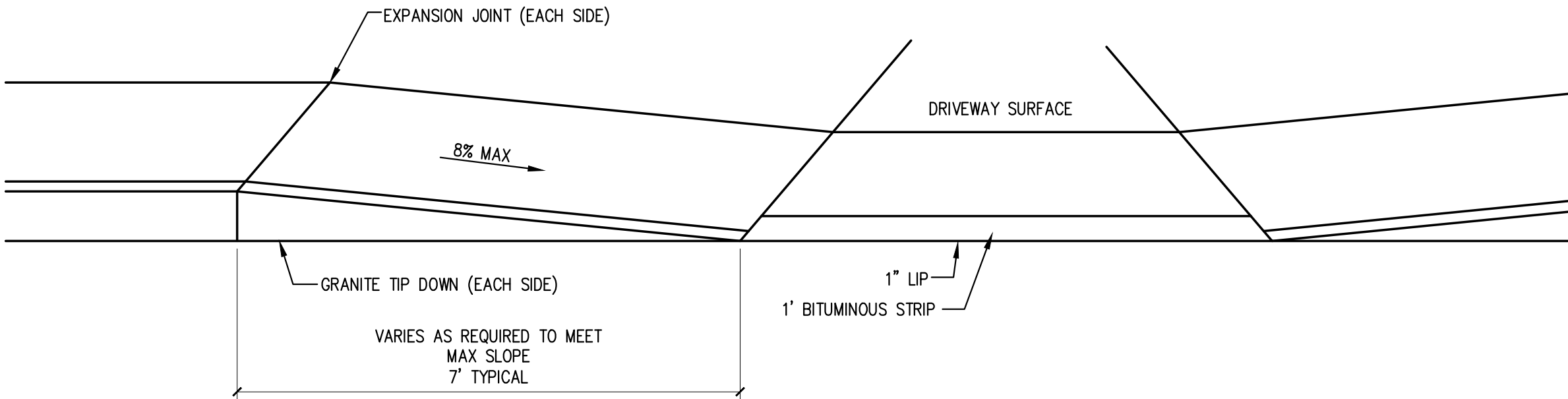
TERMINAL CURB PROFILE
SCALE: NTS



VERTICAL CURB PLAN VIEW
SCALE: NTS



DRIVEWAY APRON SECTION
SCALE: NTS



DRIVEWAY APRON
SCALE: NTS

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NOT FOR CONSTRUCTION

31 FOREST STREET
PORTLAND
MAINE
PROPOSED BUILDING

ISSUED		DR	CHKD	DATE
No.	DESCRIPTION	BY	BY	
A	SITE PLAN SUBMISSION	DL	ED	05-04-22
B	SITE PLAN SUBMISSION	ED	ED	12-07-22
C	REVISED FOR SITE PLAN SUBMISSION	ED	ED	1-09-23

SHEET TITLE:

SITE DETAILS

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

C201

1. THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR DEALING WITH SOIL EROSION AND SEDIMENTATION DURING AND AFTER PROJECT CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARD AND SPECIFICATIONS FOR EROSION PREVENTION AS CONTAINED IN THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: "MAINE EROSION AND SEDIMENT CONTROL BMPs" PUBLISHED BY THE MAINE DEP, LATEST EDITION.

1. EROSION/SEDIMENT CONTROL DEVICES
THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

- EROSION/SEDIMENT CONTROL DEVICES
- THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.
- 1.1 SILT FENCE: SILT FENCE WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORAGE OF DISCHARGES THE SILT FENCE WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SILT FENCE AND TO PROVIDE ADDITIONAL TREATMENT.
 - 1.2 HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.
 - 1.3 RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.
 - 1.4 LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.
 - 1.5 STRAW AND HAY MULCH: USED TO COVER DENUDATED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. DENUDATED AREAS MAY BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. ALL OTHER SLOPES MUST BE COVERED WITH JUTE MESH OVER MULCH, OR CURLEX II OR EXCELSIOR MAY BE USED IN PLACE OF JUTE MESH AND MULCH OVER LOAM AND SEED.
 - 1.6 MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELSIOR OR CURLEX.
 2. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES
PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:
 - 2.1 SILTATION FENCE ALONG THE DOWNGRADING EDGE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. PARKING AND DEVELOPMENT AREAS SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.
 - 2.2 HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SILT FENCE.
 - 2.3 PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:
 - A. SOIL STOCKPILE SITE SLOPES SHALL NOT EXCEED 2:1.
 - B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
 - C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
 - D. SURROUND STOCKPILE SOIL WITH SILTATION FENCE AT BASE OF PILE.
 - 2.4 ALL DENUDATED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD OR PARKING AND DEVELOPMENT AREAS SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.
 - 2.5 IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDATED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.
 - 2.6 TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
 3. PERMANENT EROSION CONTROL MEASURES
THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:
 - 3.1 ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED AND SEEDED, NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.
 - 3.2 SLOPES GREATER THAN 2:1 WILL RECEIVE RIPRAP.

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

- ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 15 DAYS, SEE ITEM NO. 4.
2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP CHANNELS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.
3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THAN 100' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SILTATION FENCE BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:
 - A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
 - B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
 - C. INSTALL SILT FENCE AROUND STOCKPILE AT BASE OF PILE.STOCKPILES TO HAVE SILT FENCE INSTALLED AT TIME OF ESTABLISHMENT AT BASE OF PILE.
4. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE EITHER:
 - A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR
 - B. SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.
5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)
6. ALL CULVERTS WILL BE PROTECTED WITH STONE RIPRAP (D50 = 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

1. A MINIMUM OF 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.
2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

LAWNS	SWALES
KENTUCKY BLUEGRASS 0.46 LBS/1000 SF.	RED TOP 0.05 LBS/1000 SF.
CREeping RED FESCUE 0.46 LBS/1000 SF.	TALL FESCUE 0.46 LBS/1000 SF.
PERENNIAL RYE GRASS 0.11 LB/1000 SF.	
3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH, JUTE NET OR OTHER MULCH, PRE-MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.
 - A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL NOT BE VISIBLE)
 - I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
 - II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%.
 - III. SEE NOTE 6, GENERAL NOTES, AND NOTE 8, WINTER CONSTRUCTION.
 - B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.
4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.
 - A. ONLY UNFROZEN LOAM SHALL BE USED.
 - B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
 - C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.
 - D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
 - E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.
 - F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.
5. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 85% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.

MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. HAY BALE BARRIERS, SILT FENCE, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL REMOVE THE BARRIERS AND FENCE THE AREA.
2. VISUALLY INSPECT RIPRAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.
3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEED AS NEEDED. EXPOSED AREAS WILL BE RESEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.



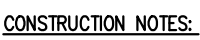
1. REMOVE THE CATCH BASIN GRATE AND PLACE THE SACK INTO THE OPENING. HOLD OUT APPROXIMATELY SIX (6) INCHES OF THE SACK BEYOND THE BASIN FRAME TO ALLOW ACCESS TO THE "SILTSACK" LIFTING STRAPS. REPLACING THE GRATE BACK INSIDE OF ITS FRAME WILL HOLD THE SACK IN PLACE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AND MAINTAINING THIS SEDIMENT CONTROL DEVICE. THE SACK IS CONSIDERED FULL AND READY TO EMPTY WHEN THE THE "RESTRAINT CORD" IS NO LONGER VISIBLE.
3. THE "SILTSACK" IS REMOVED BY PLACING TWO (2) PIECES IF 1 INCH DIAMETER REBAR THROUGH THE LIFTING LOOPS LOCATED ON EACH SIDE OF THE SACK AND LIFTING WITH AN APPROPRIATE PIECE OF CONSTRUCTION EQUIPMENT. THE LIFTING STRAPS ARE CONNECTED TO THE BOTTOM OF THE SACK AND THE LIFTING ACTION WILL CAUSE THE SACK TO TURN INSIDE OUT, AND EMPTYING THE CONTENTS. THE SACK SHOULD THEN BE CLEANED, RINSED AND RETURNED TO ITS ORIGINAL SHAPE AND PLACED BACK IN THE BASIN.
4. THE "SILTSACK" IS REUSABLE, THEREFORE, ONCE THE CONSTRUCTION CYCLE IS COMPLETE, REMOVE THE SACK FROM THE BASIN, CLEAN AND STORE OUT OF DIRECT SUNLIGHT UNTIL ITS NEXT USE.
5. THE "SILTSACK" SEDIMENT CONTROL DEVICE IS MANUFACTURED BY: ACF ENVIRONMENTAL

1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.
4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SURFACE OF THE AREA BEING WORKED ON HAS BEEN STABILIZED, SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION THAN LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 SQ. FT. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDERED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES 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 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED AND PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND PROTECTED BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SILT FENCE OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.
7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYES WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8% VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELISOR OR CURLEX.
8. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYES WITH SLOPES GREATER THAN 15% . AFTER OCTOBER 1 THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
9. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOT RECOMMENDED. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF 40 DEGREES OR SOIL PERCENT DORMANT SEEDS ARE 10% OR MORE.
10. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (65% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE TO CORRECT ANY WEAKNESSES OR DEFICIENCIES DETECTED. THE OWNER SHALL REQUIRE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTION (DURING ACTIVE CONSTRUCTION) TO VERIFY THE IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEPARTMENT.
2. SHORT-TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER TO THE CITY.

1. LONG-TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL FACILITIES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER OR THEIR DESIGNEE. SUCH RESPONSIBILITIES INCLUDE BUT ARE NOT LIMITED TO THOSE DETAILED AS FOLLOWS:
 - A. PAVING LOT SHALL BE MECHANICALLY SWEEPED TWICE PER YEAR. THE FIRST SHALL TAKE PLACE IN THE FIRST WINTER (AFTER THAW) TO REMOVE ACCUMULATED SANDS FROM WINTER SANDING AT THIS POINT. THE SECOND SWEEPING SHALL TAKE PLACE AFTER WINTER SANDING OPERATIONS TERMINATE BUT PRIOR TO MAY 1.
 - B. INSPECTION OF STORMWATER OUTLET STRUCTURE SHOULD BE CONDUCTED TWICE PER YEAR. ACCESS TO THE STRUCTURE IS THROUGH THE TOP. THE OIL/WATER SEPARATOR UNIT SHALL BE PUMPED DOWN AND THE SEDIMENT AND TRASH SHALL BE REMOVED AT THE TIME OF THE INSPECTION. THE REMOVAL OF ALL SEDIMENT AND TRASH WILL HELP MINIMIZE VOLUME LOSS.
2. THE OWNER SHALL FILE A YEARLY MAINTENANCE REPORT TO THE CITY DOCUMENTING THE REQUIRED MAINTENANCE FOR THE STORMWATER SYSTEM.



NOTE: GRADING PLAN GOVERNS IN ALL LOCATIONS



N.T.S.

PRELIMINARY
NOT FOR CONSTRUCTION

31 FOREST STREET
PORTLAND
MAINE

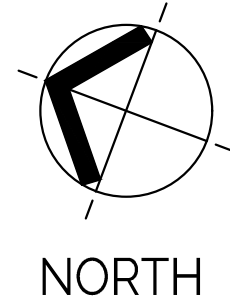
ISSUED				
No	DESCRIPTION	DR. BY	CMD BY	DATE
A	SITE PLAN SUBMISSION	DL	ED	05-04-22
B	SITE PLAN SUBMISSION	DL	ED	12-07-22

SHEET TITLE

EROSION CONTROL DETAILS

DESIGNED:	DL
DRAWN:	DL
DATE:	05-04-22
PROJECT NUMBER:	21-285

C300



CLIENT:
31 FOREST, LLC
46 TURNER STREET
PORTLAND, ME 04101

PRELIMINARY
NOT FOR CONSTRUCTION

31 FOREST STREET
PORTLAND
MAINE
PROPOSED BUILDING

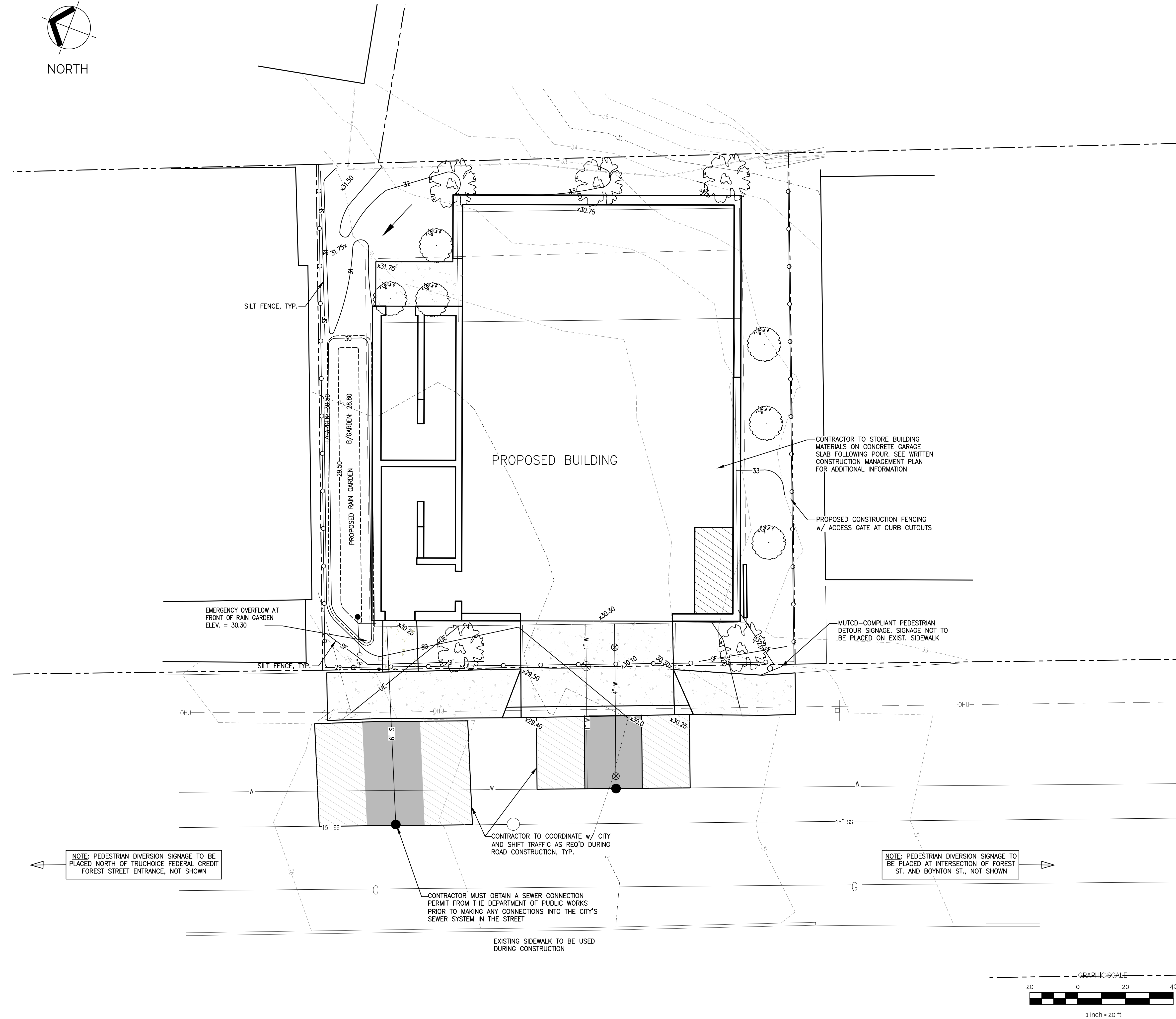
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A	SITE PLAN SUBMISSION	DL	ED	05-04-22	
B	SITE PLAN SUBMISSION	DL	ED	10-11-22	
C	SITE PLAN SUBMISSION	DL	ED	12-7-22	
D	REVISED SITE PLAN SUBMISSION	DL	ED	12-29-22	

SHEET TITLE:

CONSTRUCTION
MANAGEMENT PLAN

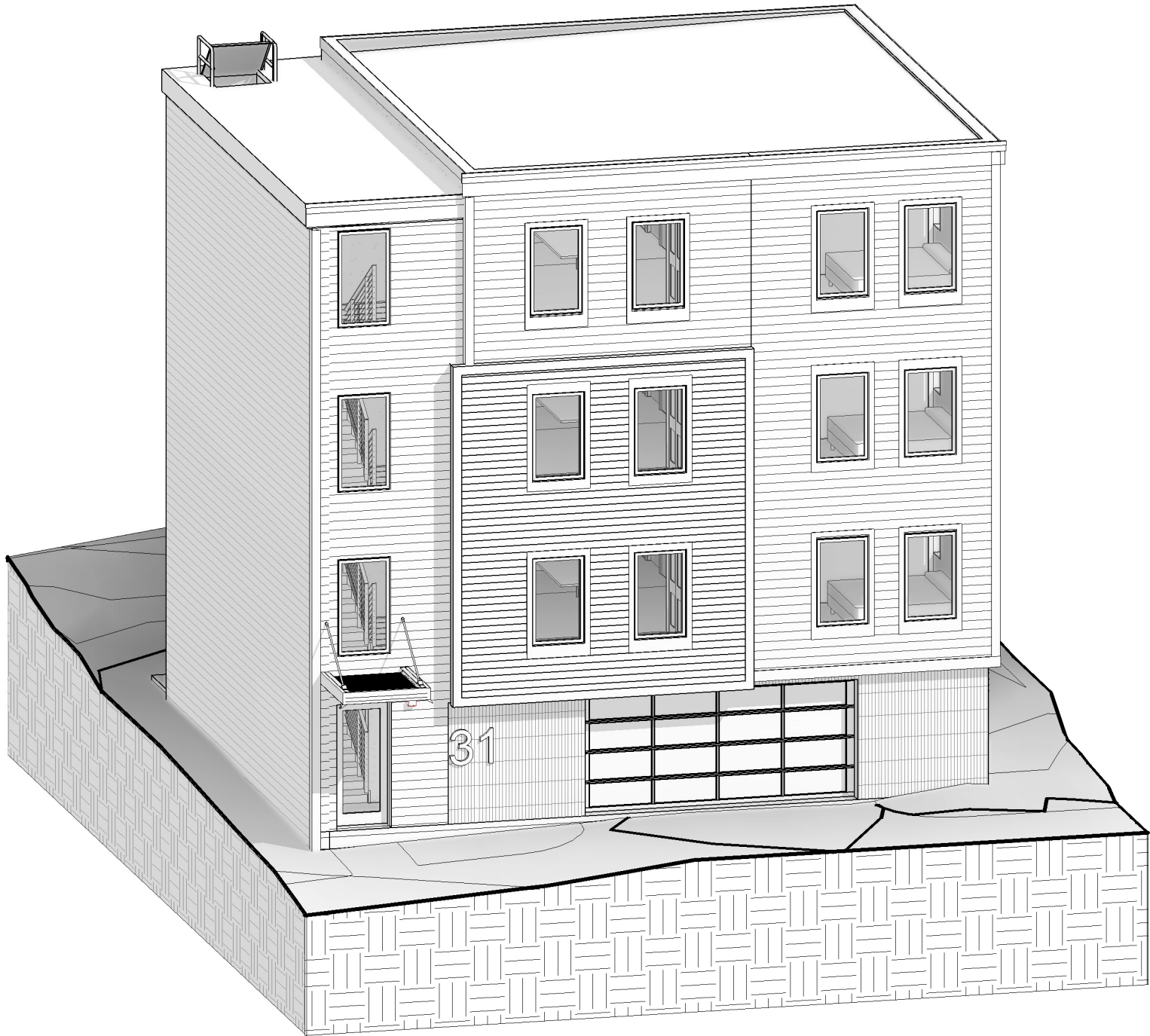
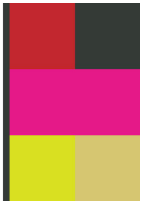
DESIGNED: DL
DRAWN: DL
DATE: 05-04-22
PROJECT NUMBER: 21-285

C104



CONSTRUCTION MANAGEMENT PLAN

SCALE: 1" = 20'-0"

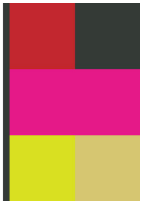


Sheet List	
Sheet Number	Sheet Name

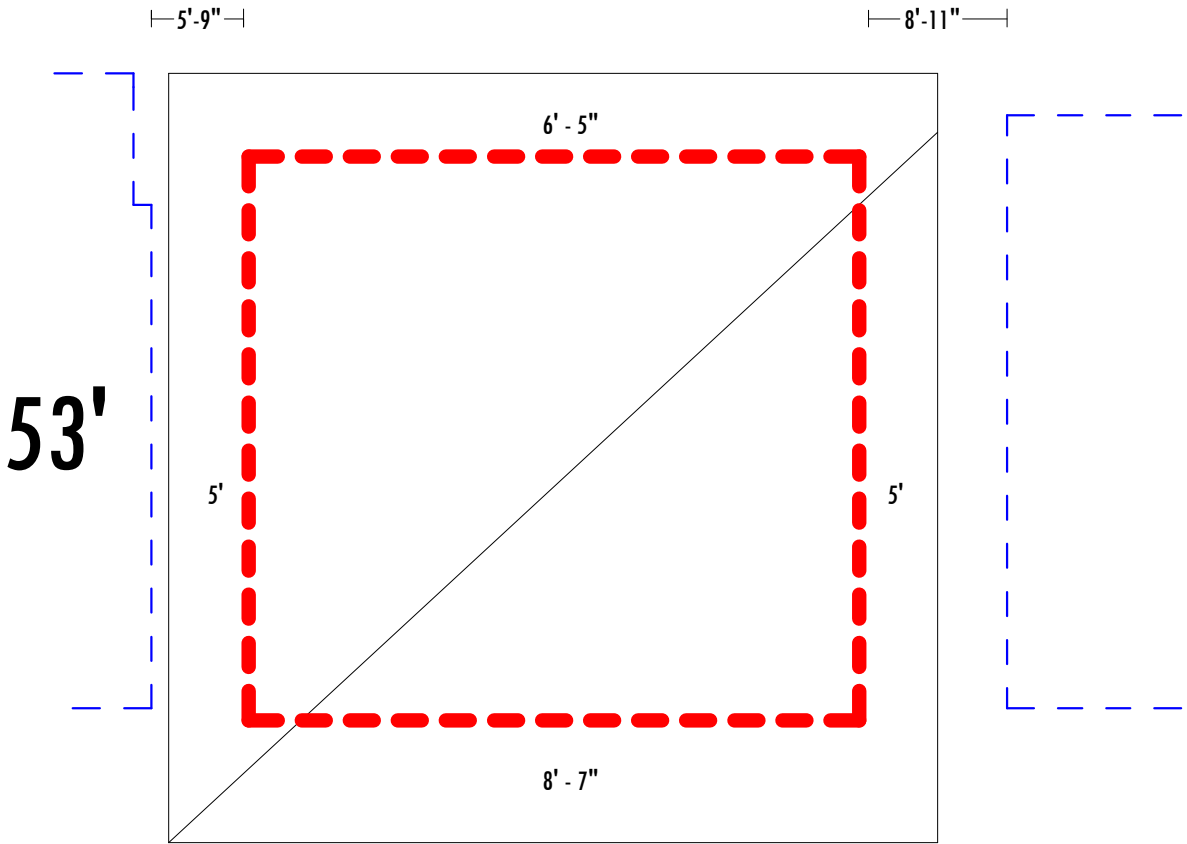
A000	Cover
A001	General Information
A002	Codes
A100	Plans
A101	Upper Level Plans
A102	Roof Plan
A200	Facade Elevation
A201	Elevations
A202	3D Views
A300	Sections
A400	Enlarged Plan - Bathroom Typ.
A401	Enlarged Plans - Kitchen Typ.
A600	Schedules

31 Forest St.
Portland, ME 04101

Concept



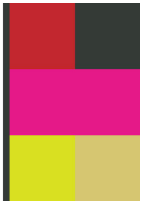
	R-6 ^{6,7}	R-6a ¹³
Governmental		
Hospital	2 ac.	
Intermediate or long-term, extended care facility	1 ac. ⁸	
Lodging house	2,000 SF	
Multiplex		
Place of assembly	<10,000 SF	10,000 SF
	>10,000 SF	15,000 SF
Post-secondary school	2,000 SF	
Elementary, middle, and secondary school	30,000 SF	
Raising of animals		
Residential	2,000 SF	4 ac.
All other uses	2,000 SF	
Lot area per dwelling unit (min.)	725 SF	
Lot area per rooming unit (min.)	250 SF ⁹	
Lot area per multiplex unit (min.)		
Lot area per SNIDU ¹ (min.)		
Street frontage (min.)	20 ft.	
Lot width (min.)	20 ft.	
Front setback (min.)	5 ft.	
Rear setback (min.)	10 ft.	
Side setback (min.)	Detached accessory (< 250 SF footprint)	5 ft.
	<1.5 stories to 1.5 stories	<45 ft. in height: 10 ft.
	2 stories	
	2.5 stories	5 ft. ¹⁰
Side setback (min.)	Detached accessory (< 250 SF footprint)	>45 ft. in height: 15 ft.
	On side street (min.)	None



NOTE: Building setbacks adjusted to align with current existing context

Lot = 2597SF
Max. Buildable Area = 1482SF
 $1482/2597 = .57$ or 57%

Allowed Lot Coverage for R6 = 60%



BUILDING INFORMATION AND ALLOWABLE BUILDING HEIGHTS AND AREA
(IBC Chapter 5, Table 504.4, 506.2)(NFPA)

Construction Date 2022
Building Height 4 Stories
Total Area 3,690 sf
Building height 35' (new)

Allowable Building area (per IBC 2015, NFPA101)

Construction Type (existing)	TYPE 5A-S
Occupancy Classification (existing)	R-2
Sprinkler System -	YES
Allowable Building Height (TABLE 504.3)	65 feet
Allowable No. of Stories (TABLE 504.4)	4
Allowable Building Area (TABLE 506.2)	UL

FIRE RESISTIVE RATINGS (IBC Table 601), (NFPA Table A.8.2.1.1)

Structural Frame	0 hour
Bearing Walls, Exterior and Interior	0 hours
Non-Bearing Walls and partitions, interior	0 hours
Non-Bearing Walls and partitions, exterior	0 hours
Floor Construction and Secondary Members	0 hours
Roof Construction and Secondary Members	0 hours

Occupancy Load (IBC Table 310.5)
Residential R-6

CODE SUMMARY

APPLICABLE CODES

Maine State Building Codes

2015 International Residential Building Code (IRC) - as amended by State Building Code
2015 International Energy Conservation Code (IECC)
2015 International Plumbing Code
2017 International Electrical Code

Fire/Life Safety

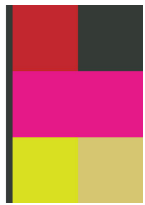
2015 NFPA v.101 - as amended by State Fire Code

OCCUPANCY CLASSIFICATION (IBC Sec 302.1.8, 310.1)

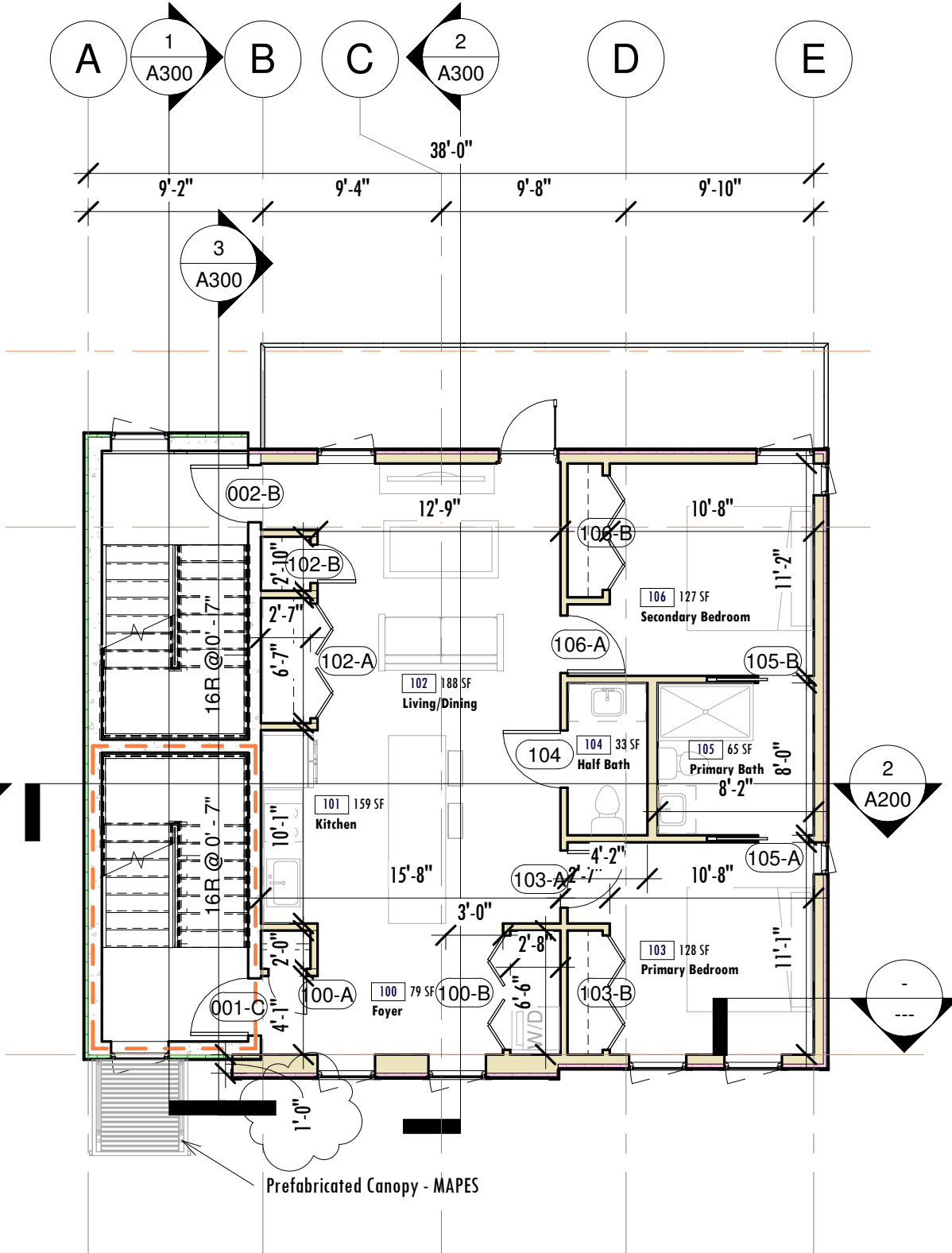
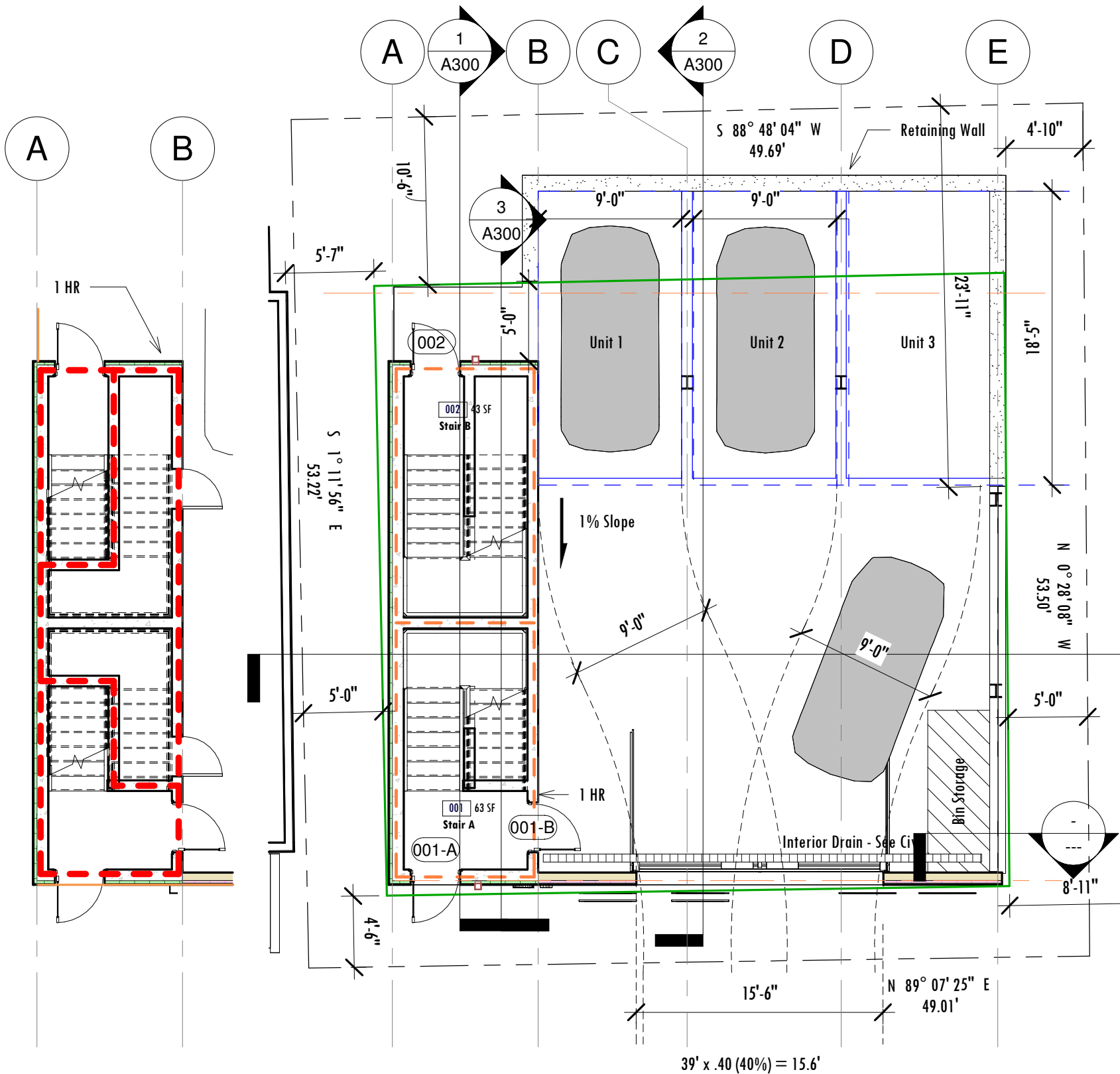
Residential **R-2** Multi-Family Housing

WIND LOAD

Exposure C
Special Wind Region



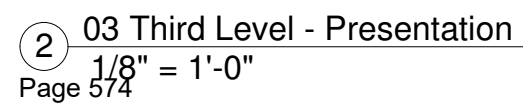
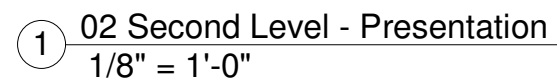
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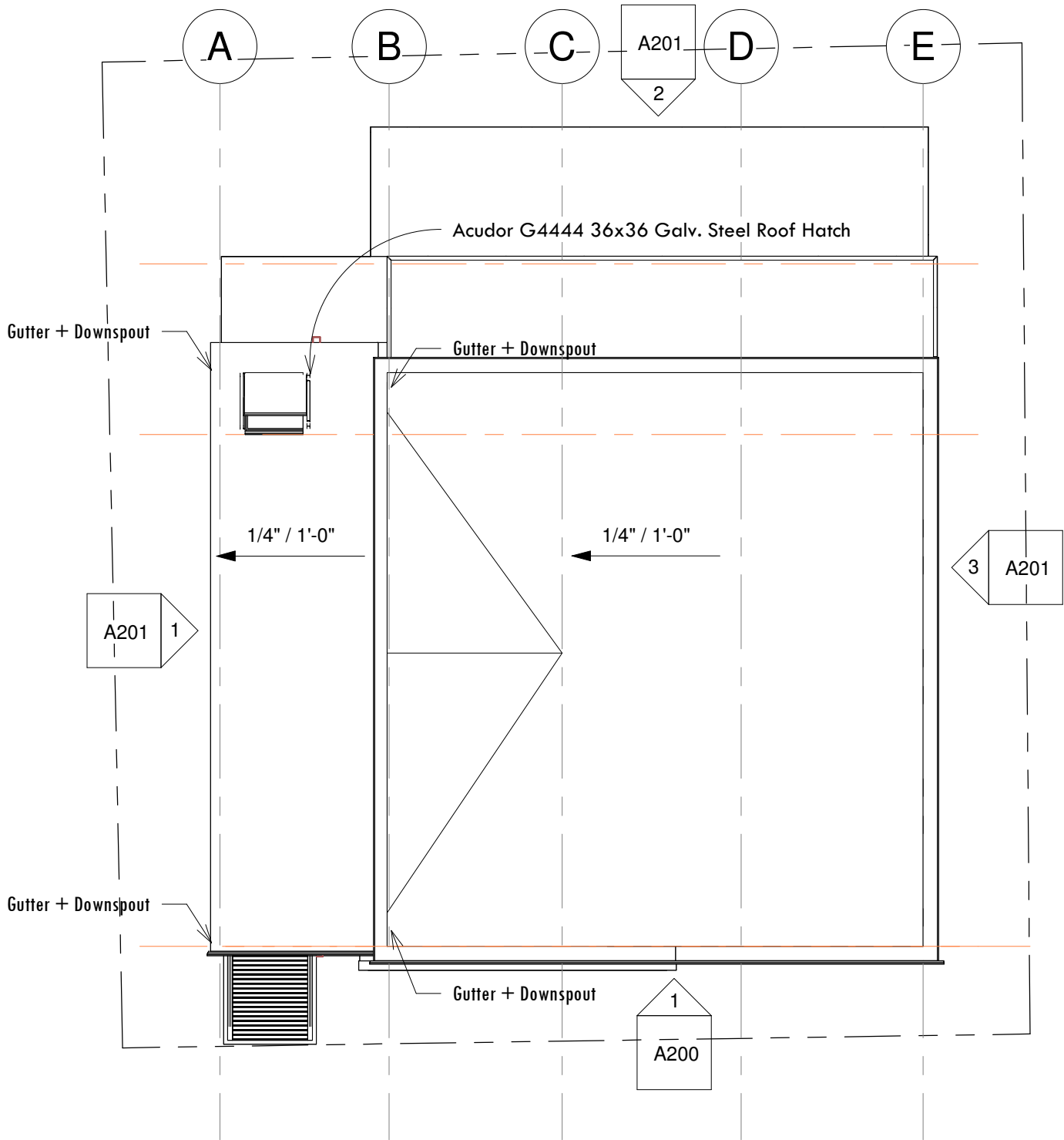
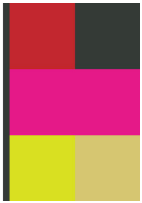


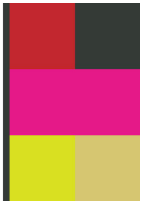
3 00-B - Mechanical
1/8" = 1'-0"

1 00 Garage - Presentation
1/8" = 1'-0"

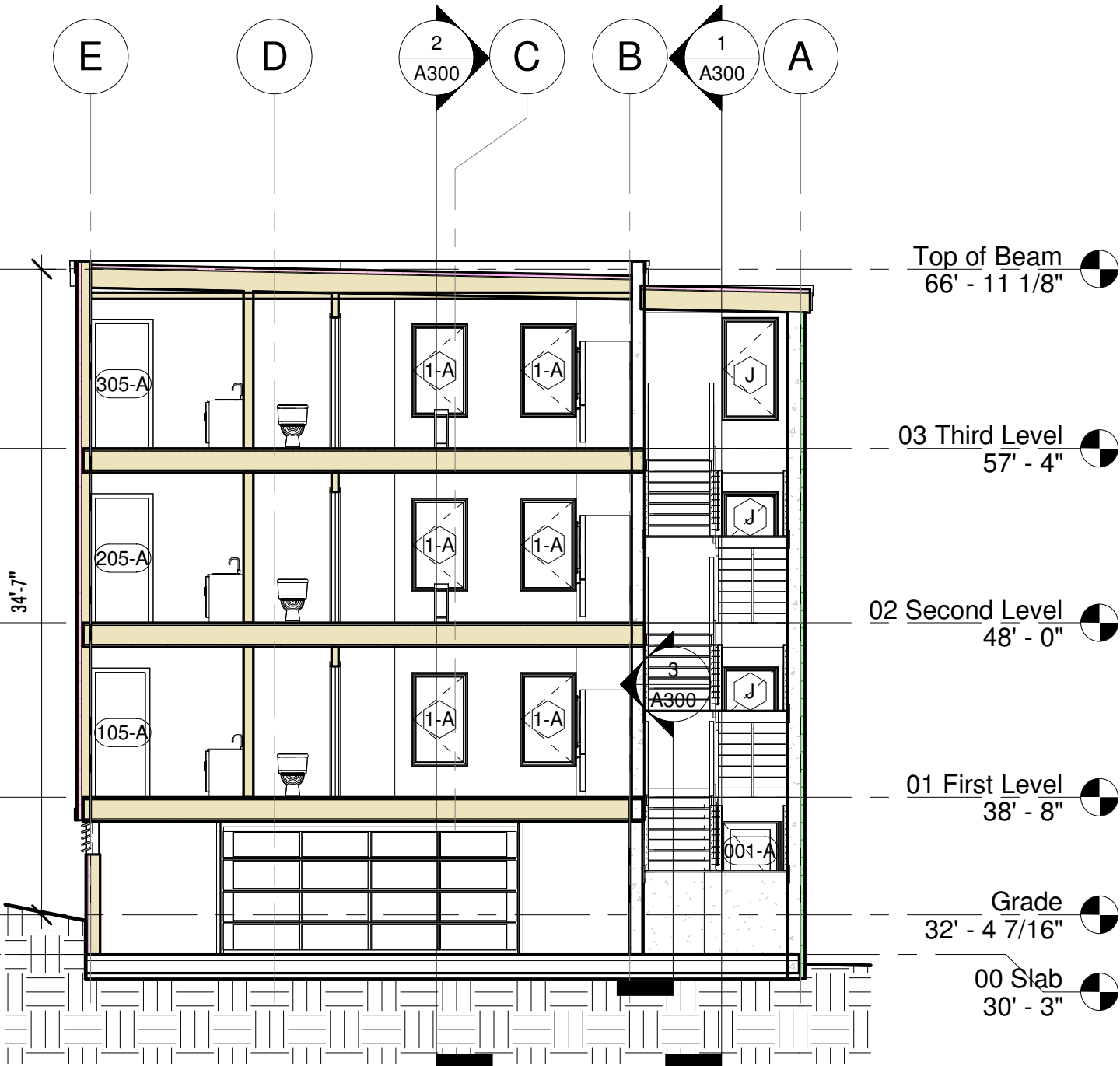
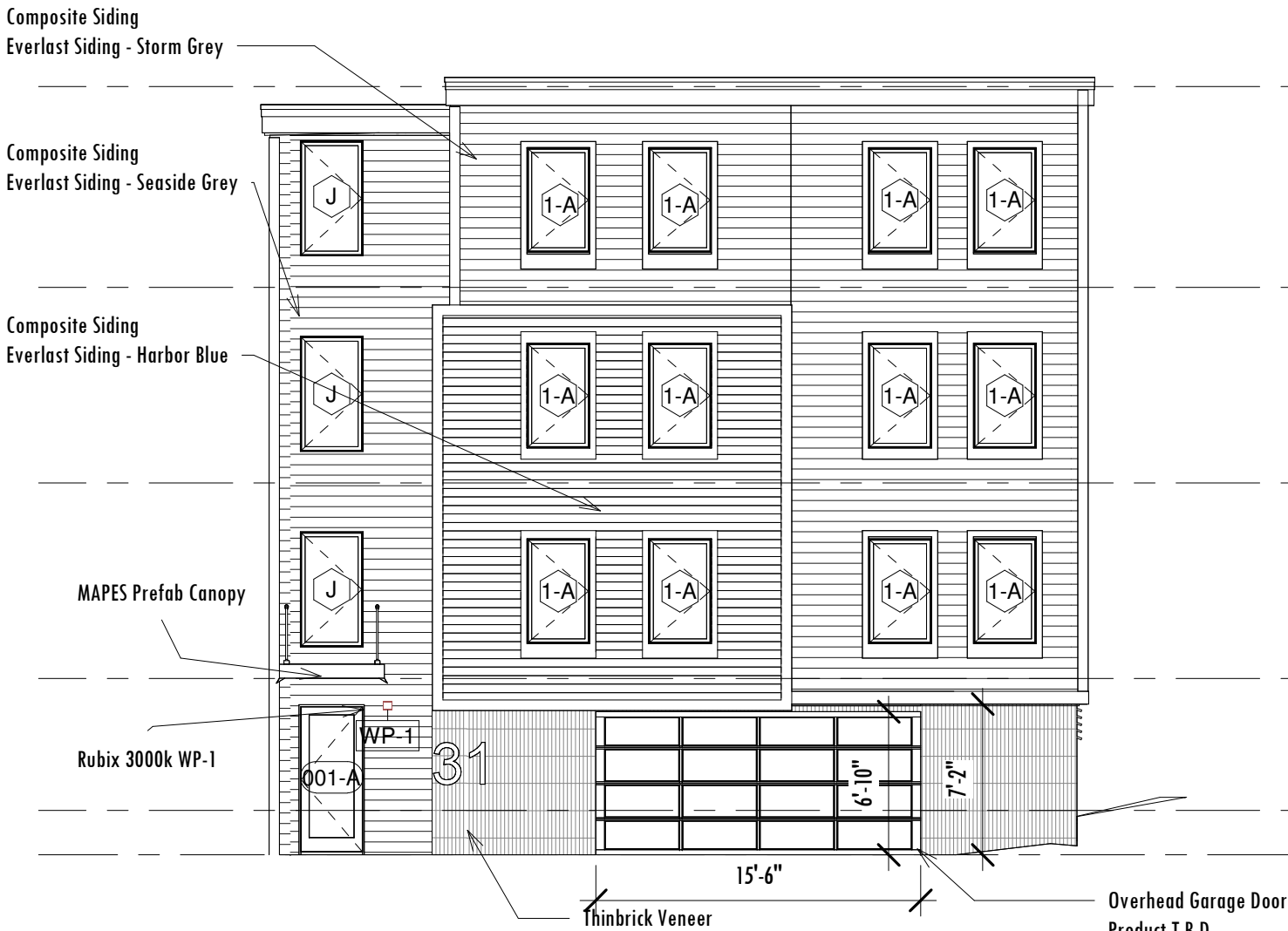
2 01 First Level - Presentation
1/8" = 1'-0"





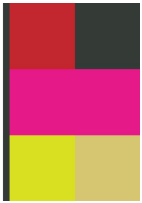


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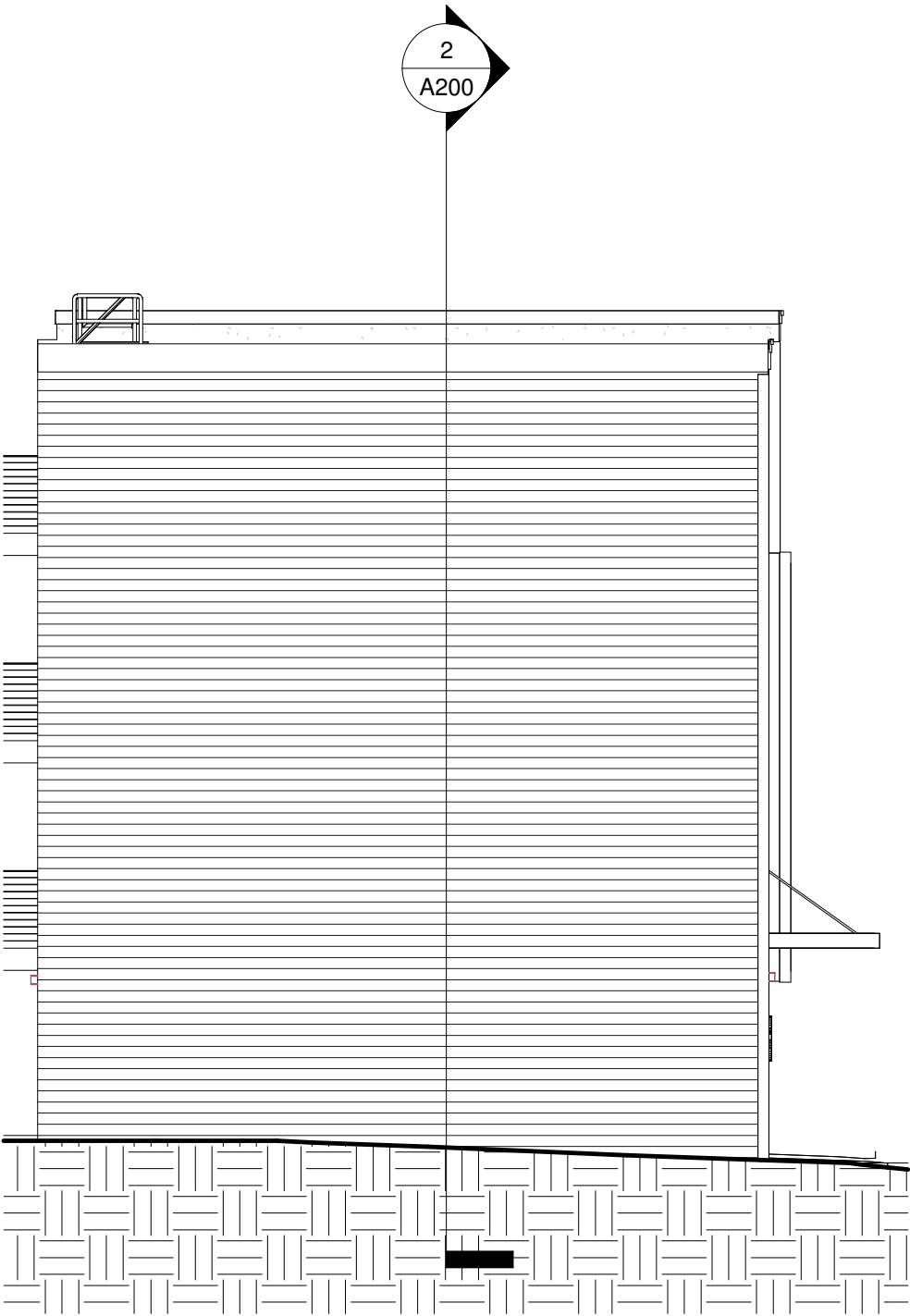


1 Elevation - South
1/8" = 1'-0"

2 Section - Transverse
1/8" = 1'-0"



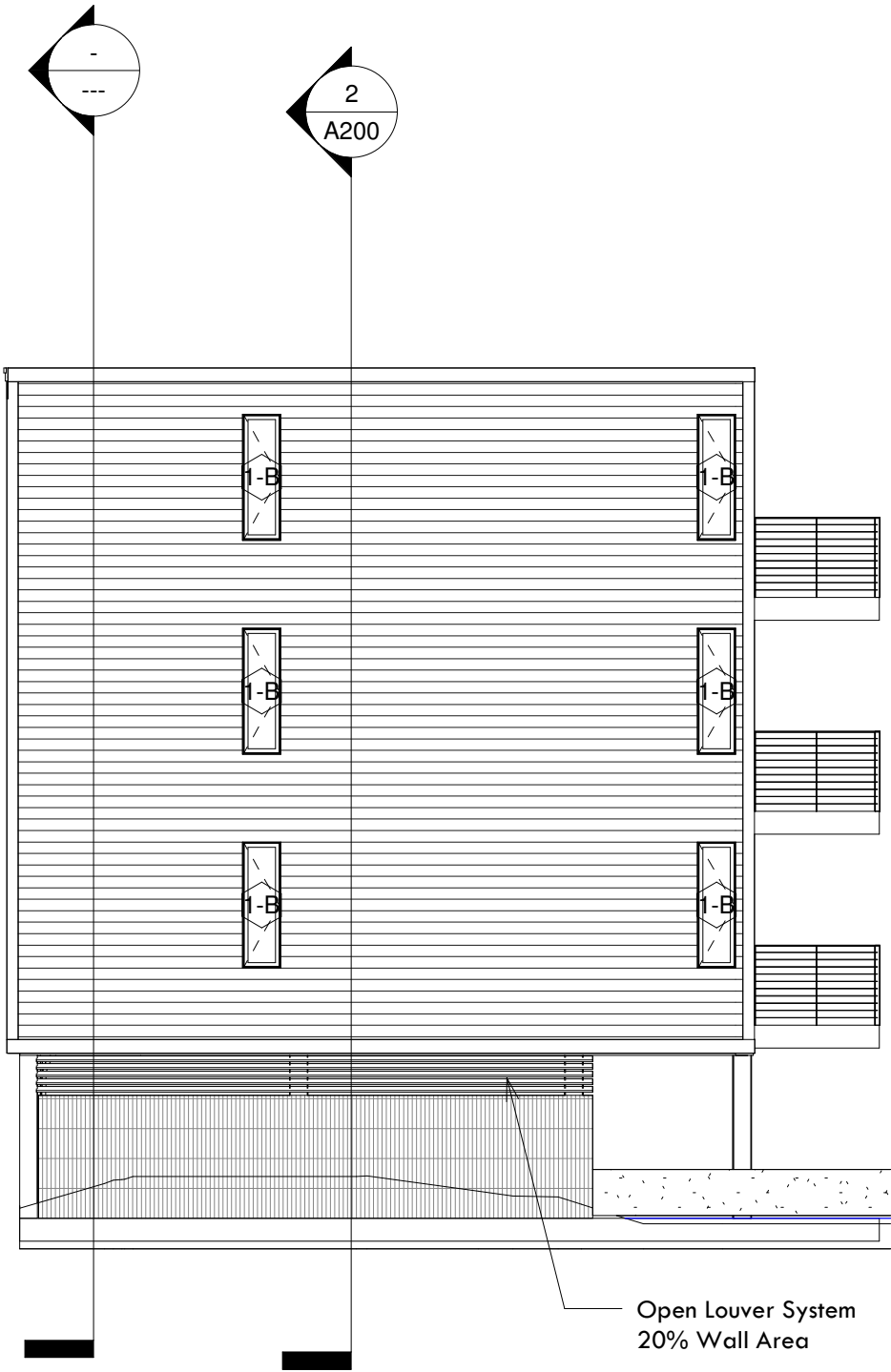
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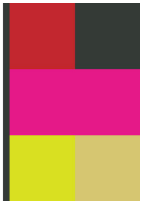
1 Elevation - West
1/8" = 1'-0"



2 Elevation - North
1/8" = 1'-0"

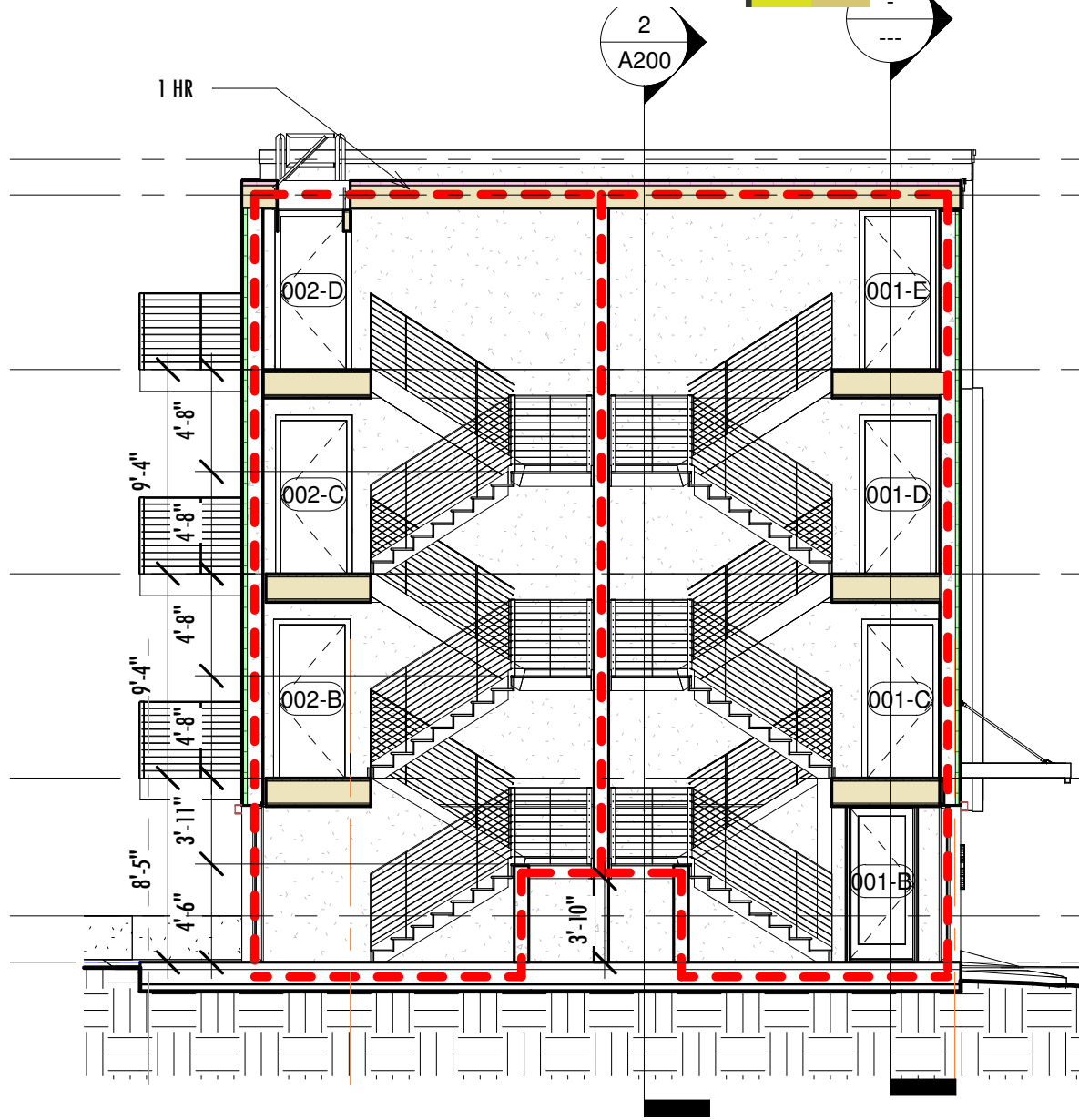
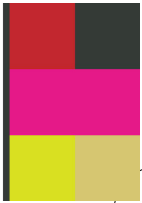


3 Elevation - East
1/8" = 1'-0"

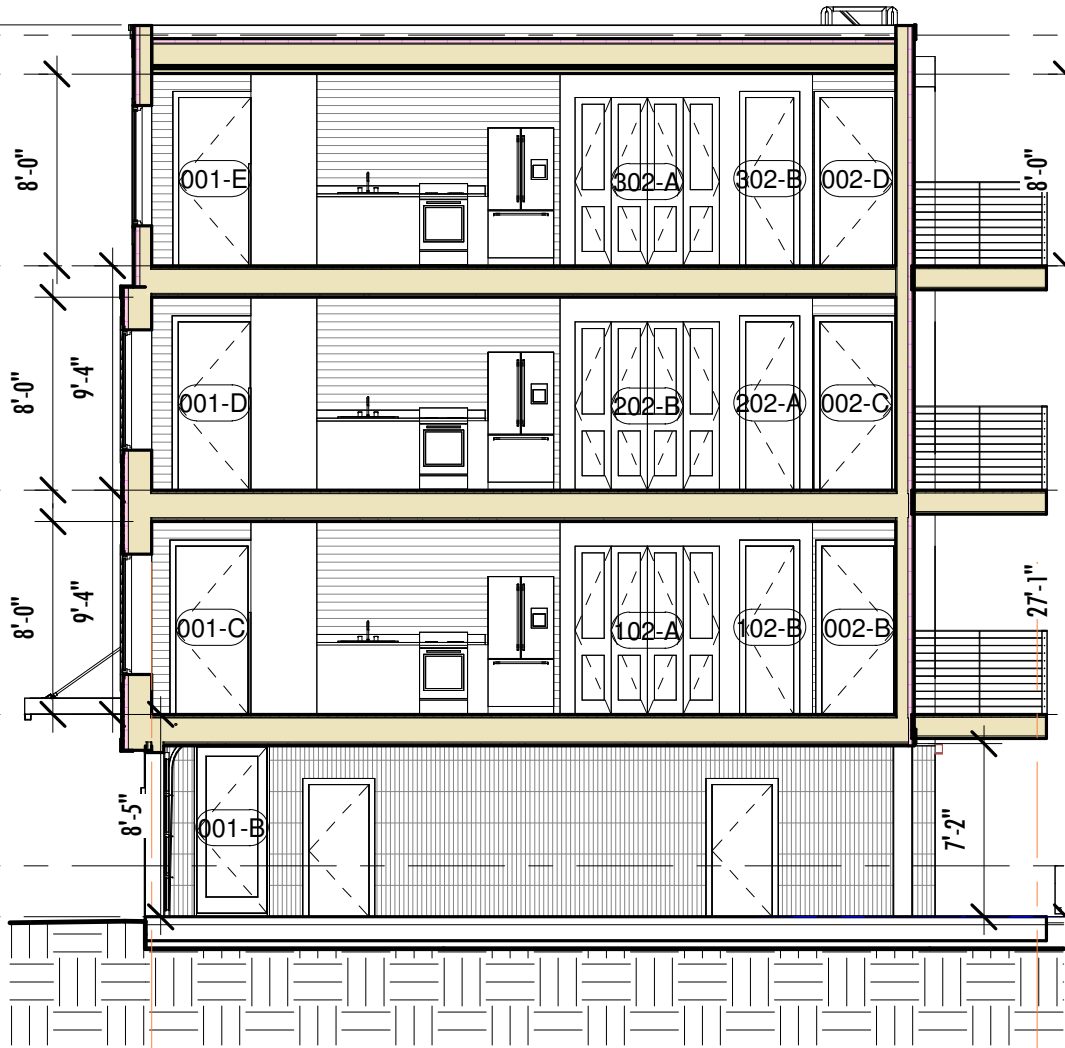


1 3D View 1

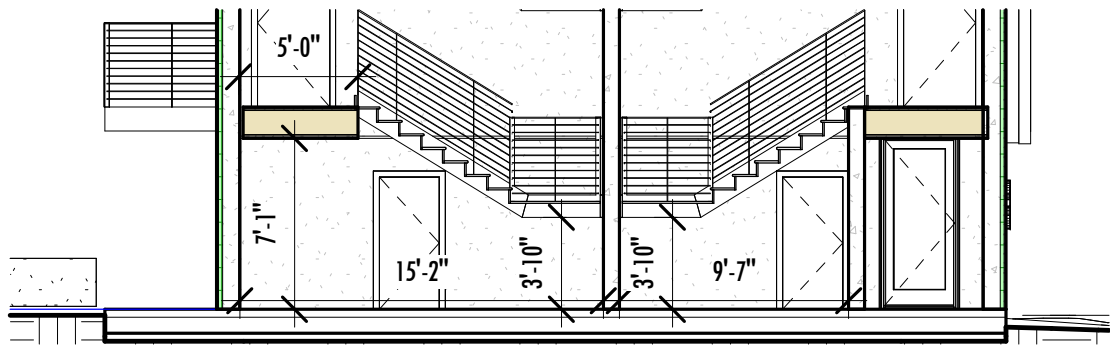
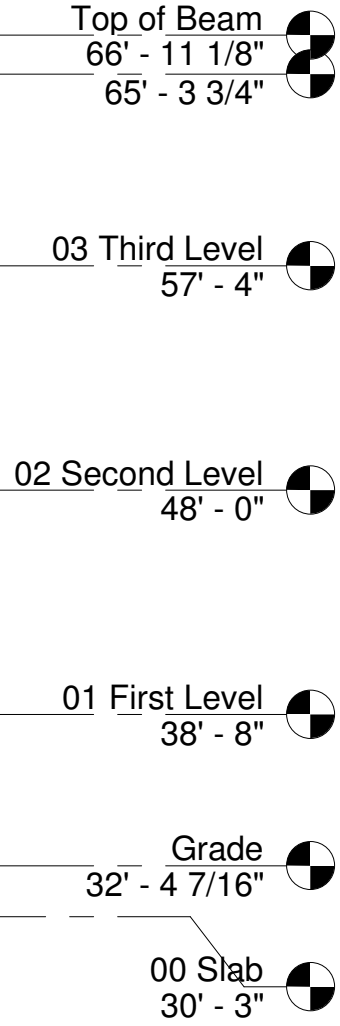
2 3D View 2



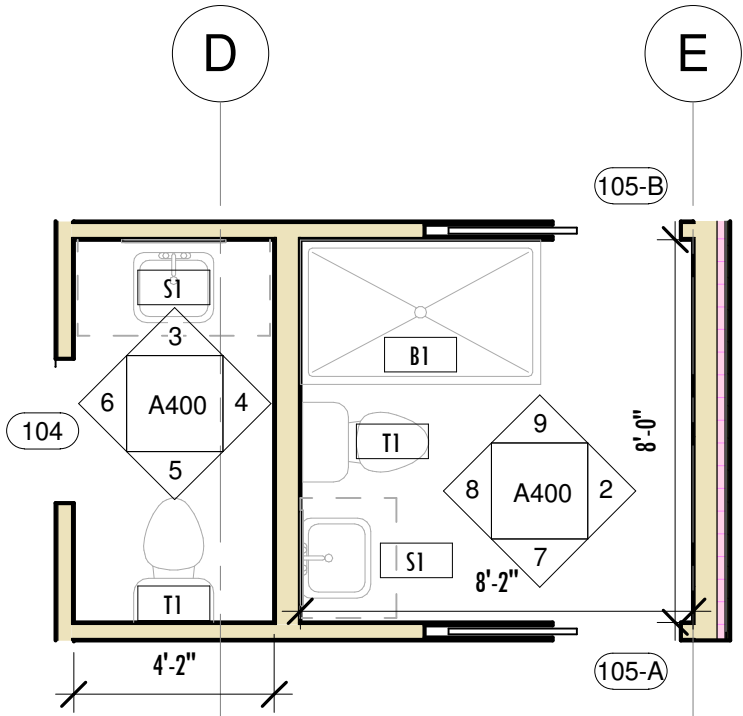
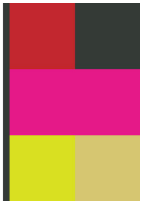
1 Section - Stair Tower
1/8" = 1'-0"



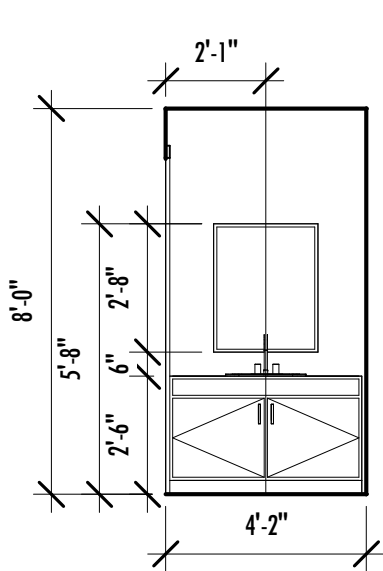
2 Section - Longitudinal
1/8" = 1'-0"



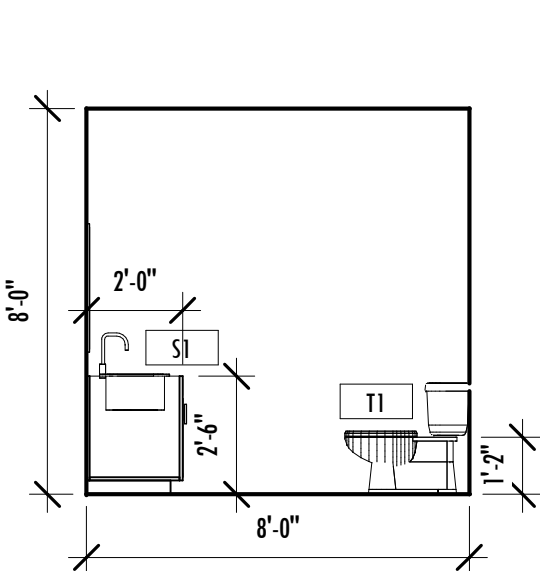
3 Section - Mechanical Crawlspace
1/8" = 1'-0"



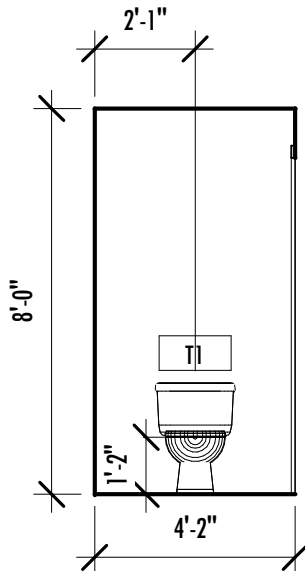
1 Enlarged Plan - Bathrooms Typ.
1/4" = 1'-0"



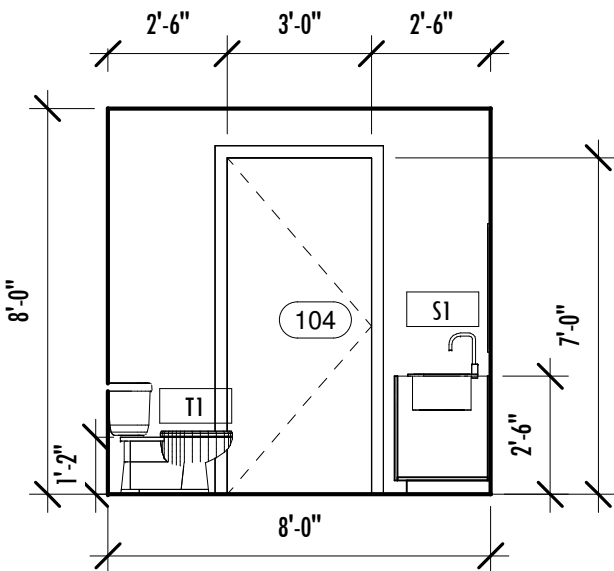
3 Elevation - Powder Room - A
1/4" = 1'-0"



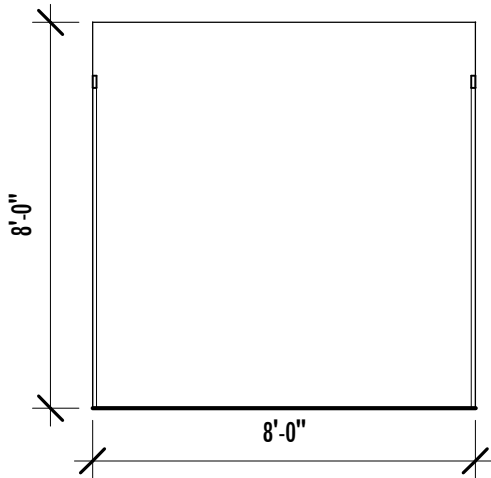
4 Elevation - Powder Room - B
1/4" = 1'-0"



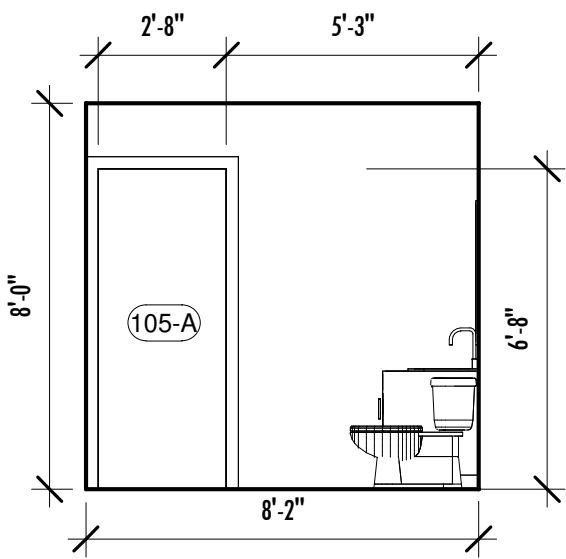
5 Elevation - Powder Room C
1/4" = 1'-0"



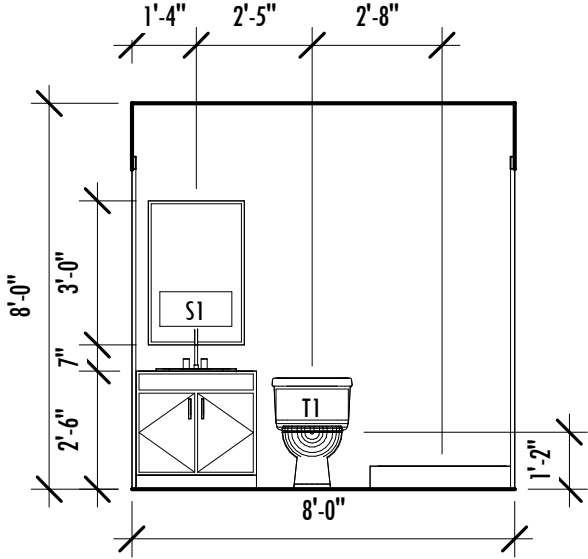
6 Elevation - Powder Room D
1/4" = 1'-0"



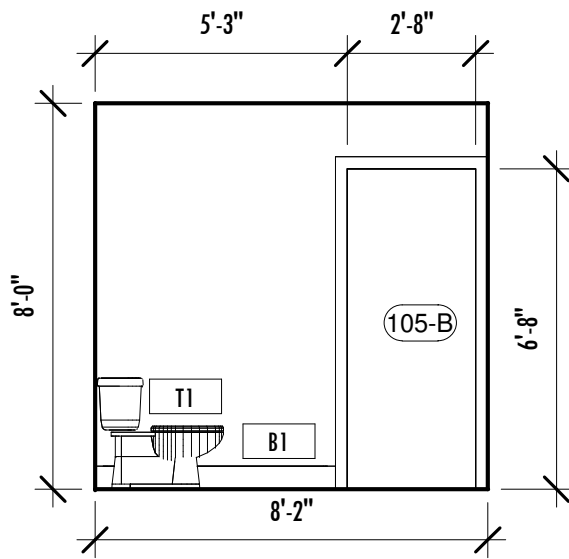
2 Elevation - Primary Bath - A
1/4" = 1'-0"



7 Elevation - Primary Bath - B
1/4" = 1'-0"

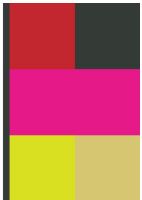


8 Elevation - Primary Bath - C
1/4" = 1'-0"



9 Elevation - Primary Bath - D
1/4" = 1'-0"





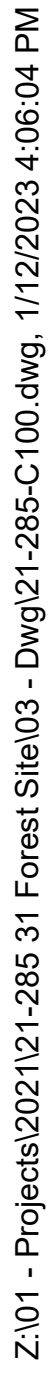
Schedules

Scale 12.30.2022

Window Schedule							
Type Mark	Count	Type Comments	Model	Height	Width	Sill Height	Comments
1-A	18			5' - 0"	3' - 0"	1' - 8"	
1-B	6		MCACRK	5' - 6"	1' - 4"	2' - 6"	
2G	1						
J	5	Casement		5' - 6"	3' - 0"	1' - 6"	

Room Finish Schedule								
Num.	Name	Area	Ceiling Height	Ceiling Mat'l	Floor Mat'l	Base Mat'l	Wall Finish	Comments
100	Foyer	79 SF						
101	Kitchen	159 SF						
102	Living/Dining	188 SF						
103	Primary Bedroom	128 SF						
104	Half Bath	33 SF						
105	Primary Bath	65 SF						
106	Secondary Bedroom	127 SF						
200	Foyer	79 SF						
201	Kitchen	159 SF						
202	Living/Dining	188 SF						
203	Primary Bedroom	128 SF						
204	Half Bath	33 SF						
205	Primary Bath	65 SF						
206	Secondary Bedroom	127 SF						
300	Foyer	79 SF						
301	Kitchen	159 SF						
302	Living/Dining	188 SF						
303	Primary Bedroom	128 SF						
304	Half Bath	33 SF						
305	Primary Bath	65 SF						
306	Secondary Bedroom	127 SF						

Plumbing Fixture Schedule					
Type Mark	Count	Description	Type Comments	Color	Comments
B1	3	Shower Base			
S1	6	Vanity Sink			
S2	3	Kitchen Sink			
T1	6	Floor Mouth Flush Tank Toilet			



ISSUED				DR	CMO	DATE
N ^o	DESCRIPTION	BY	BY			
A	SITE PLAN SUBMISSION	DL	ED	05-04-22		
B	SITE PLAN SUBMISSION	ED	ED	10-11-22		
C	SITE PLAN SUBMISSION	ED	ED	12-7-22		
D	REVISED SITE PLAN SUBMISSION	ED	ED	12-29-22		

C105

Planning and Urban Development Department



Subject: Site Plan Review Comments – 31 Forest Street.

Written by: Austen Torres Davis, Planner

Date Written: September 23, 2022

Dear Ray Chang,

The proposed multi-family building and associated site improvements located at 31 Forest Street (PL-002018-2022) was reviewed against Chapter 14 of the City of Portland Land Use Code, as well as the City of Portland Technical Manual. Please find below, comments from Planning & Urban Development Department staff and site plan peer-reviewers.

General Comments from Planning Staff

- As various trees are proposed to be removed to facilitate this development, a tree survey should be conducted showing all trees on site that are 10" DBH or greater to determine if tree replacement requirements are applicable.
- The proposal to plant two street trees may not be feasible due to site constraints such as the adjacent sidewalk's width. Planning & Development Department staff recommend paying a total of \$1,200 into the city's Tree Fund (\$400 per-tree for three trees) as an alternative to planting street trees on site.
- Snow and ice storage should be shown on plans.
- Access to the first floor garage area should be controlled with a garage door to meet public safety standards of Land Use Code section 14.6.3 (B).
- The applicant is proposing to close the existing sidewalk along the property frontage during construction. The applicant will be required to divert pedestrians across the street and meet all ADA standards. The locations being proposed by the applicant will require the construction of temporary ADA sidewalk ramps. The construction management plan should be updated to show these temporary crossings. Any sidewalk disturbances created by these temporary crossings shall be restored by the applicant contractor at the conclusion of construction.

Comments from Traffic and Circulation Reviewers:

- New curb and sidewalk shall be constructed along the entire property frontage on Forest Street based on the proposed curb cut relocation and driveway construction.
- Forest Street from Congress Street to Park Avenue is part of the City's brick sidewalk district as indicated in the City's sidewalk and driveway material policy located in Appendix A of the City's Technical Manual. There are certain exceptions to this policy listed in appendix A. A formal waiver request would be required to install brick sidewalk along this proposed frontage.

- The applicant shall provide further clarity on the proposed driveway grading through the City's sidewalk to ensure it meets sidewalk ADA standards. The driveway apron detail provided in the plan set does not appear to be feasible based on the narrow width of the existing sidewalk. It appears the sidewalk will need to be tipped down to some extent in the driveway zone to ensure ADA cross slope requirements are met. A detail depicting two options for how driveway aprons should be constructed at narrow sidewalk locations is attached to these comments. The grading plan shall be updated to show key spot grades in the driveway apron area to ensure the standard is being met. A detail from the upcoming Tech Manual update has been provided to show this general configuration.
- DPW is requesting that the two proposed street trees be installed 1'-2' back further from the sidewalk on private property due to the narrow width of the existing sidewalk facility along this frontage.
- Sidewalk and curbing details from the City's upcoming technical manual update have been provided and should be added to the plan set.

Comments from Zoning Reviewers:

- Plans and the submitted survey show partial footprints of the abutting properties. These properties should be annotated with their setbacks to confirm the averaging the front yard setback.
- As building height is measured to the highest point of the roof beam (section 7.2) on a flat roof, applicants should indicate the top of the roof beam in elevations to confirm the building height is meeting standard.

Comments from Stormwater Management Reviewers:

- The applicant shall install a backflow preventer between the building sanitary outlet and the proposed storm drain connection.
- Further clarification shall be added to the plans regarding the drain line/sewer connection at the property line.
- The proposed 6" building sewer lateral shall be connected to the 15" combined sewer line in the street by the use of wyes, tee/gyes or Inserta-Tees per tech manual standard 2.5.7. Notes should be updated on the plan to reflect how the connection will be made. A note shall also be added to the plan which states "The contractor must obtain a sewer connection permit from the Department of Public Works prior to making any connections into the City's sewer system in the street."
- The grading plan indicates that runoff from the easterly adjacent parcel will be diverted around the proposed stormwater management system and be directed towards the northerly edge of the parcel. There the plan provides a lack of clarity as to how stormwater will be routed around the rain garden without impacting the neighboring parcel (35 Forest Street). The applicant must provide a plan which clearly shows that stormwater is not being directed towards neighboring property.
- The edge of the proposed rain garden appears to be located less than 1' from the adjacent property at 35 Forest Street. It appears the construction of the proposed rain garden will impact the adjacent property. The applicant should provide a plan which will not impact neighboring properties during construction.

- The proposed rain garden is located within two feet of an existing building foundation located on adjacent property. The rain garden should be redesigned to move further away from the adjacent building foundation and shall be constructed with an impermeable liner to ensure that the rain garden does not exfiltrate towards the adjacent building foundation.

Planning and Urban Development Department



Subject: Site Plan Review Comments – 31 Forest Street.

Written by: Austen Torres Davis, Planner

Date Written: September 23, 2022

Dear Ray Chang,

The proposed multi-family building and associated site improvements located at 31 Forest Street (PL-002018-2022) was reviewed against Chapter 14 of the City of Portland Land Use Code, as well as the City of Portland Technical Manual. Please find below, comments from Planning & Urban Development Department staff and site plan peer-reviewers.

General Comments from Planning Staff

- As various trees are proposed to be removed to facilitate this development, a tree survey should be conducted showing all trees on site that are 10" DBH or greater to determine if tree replacement requirements are applicable.
- The proposal to plant two street trees may not be feasible due to site constraints such as the adjacent sidewalk's width. Planning & Development Department staff recommend paying a total of \$1,200 into the city's Tree Fund (\$400 per-tree for three trees) as an alternative to planting street trees on site.
- Snow and ice storage should be shown on plans.
- Access to the first floor garage area should be controlled with a garage door to meet public safety standards of Land Use Code section 14.6.3 (B).
- The applicant is proposing to close the existing sidewalk along the property frontage during construction. The applicant will be required to divert pedestrians across the street and meet all ADA standards. The locations being proposed by the applicant will require the construction of temporary ADA sidewalk ramps. The construction management plan should be updated to show these temporary crossings. Any sidewalk disturbances created by these temporary crossings shall be restored by the applicant contractor at the conclusion of construction.

Comments from Traffic and Circulation Reviewers:

- New curb and sidewalk shall be constructed along the entire property frontage on Forest Street based on the proposed curb cut relocation and driveway construction.
- Forest Street from Congress Street to Park Avenue is part of the City's brick sidewalk district as indicated in the City's sidewalk and driveway material policy located in Appendix A of the City's Technical Manual. There are certain exceptions to this policy listed in appendix A. A formal waiver request would be required to install brick sidewalk along this proposed frontage.

- The applicant shall provide further clarity on the proposed driveway grading through the City's sidewalk to ensure it meets sidewalk ADA standards. The driveway apron detail provided in the plan set does not appear to be feasible based on the narrow width of the existing sidewalk. It appears the sidewalk will need to be tipped down to some extent in the driveway zone to ensure ADA cross slope requirements are met. A detail depicting two options for how driveway aprons should be constructed at narrow sidewalk locations is attached to these comments. The grading plan shall be updated to show key spot grades in the driveway apron area to ensure the standard is being met. A detail from the upcoming Tech Manual update has been provided to show this general configuration.
- DPW is requesting that the two proposed street trees be installed 1'-2' back further from the sidewalk on private property due to the narrow width of the existing sidewalk facility along this frontage.
- Sidewalk and curbing details from the City's upcoming technical manual update have been provided and should be added to the plan set.

Comments from Zoning Reviewers:

- Plans and the submitted survey show partial footprints of the abutting properties. These properties should be annotated with their setbacks to confirm the averaging the front yard setback.
- As building height is measured to the highest point of the roof beam (section 7.2) on a flat roof, applicants should indicate the top of the roof beam in elevations to confirm the building height is meeting standard.

Comments from Stormwater Management Reviewers:

- The applicant shall install a backflow preventer between the building sanitary outlet and the proposed storm drain connection.
- Further clarification shall be added to the plans regarding the drain line/sewer connection at the property line.
- The proposed 6" building sewer lateral shall be connected to the 15" combined sewer line in the street by the use of wyes, tee/gyes or Inserta-Tees per tech manual standard 2.5.7. Notes should be updated on the plan to reflect how the connection will be made. A note shall also be added to the plan which states "The contractor must obtain a sewer connection permit from the Department of Public Works prior to making any connections into the City's sewer system in the street."
- The grading plan indicates that runoff from the easterly adjacent parcel will be diverted around the proposed stormwater management system and be directed towards the northerly edge of the parcel. There the plan provides a lack of clarity as to how stormwater will be routed around the rain garden without impacting the neighboring parcel (35 Forest Street). The applicant must provide a plan which clearly shows that stormwater is not being directed towards neighboring property.
- The edge of the proposed rain garden appears to be located less than 1' from the adjacent property at 35 Forest Street. It appears the construction of the proposed rain garden will impact the adjacent property. The applicant should provide a plan which will not impact neighboring properties during construction.

- The proposed rain garden is located within two feet of an existing building foundation located on adjacent property. The rain garden should be redesigned to move further away from the adjacent building foundation and shall be constructed with an impermeable liner to ensure that the rain garden does not exfiltrate towards the adjacent building foundation.



Austen Davis <austentd@portlandmaine.gov>

PL-002018-2022 31 Forest Street DPW Comments

Austen Davis <austentd@portlandmaine.gov>

Wed, Jan 11, 2023 at 9:31 AM

To: Janine Ba <janineba@portlandmaine.gov>

Cc: Keith Gray <kgray@portlandmaine.gov>, Justin Pellerin <jrp@portlandmaine.gov>, Benjamin Pearson <bnp@portlandmaine.gov>, Lauren Swett <lswett@woodardcurran.com>, Maxwell Martin <mjmartin@portlandmaine.gov>, Matthew Grooms <mrgrooms@portlandmaine.gov>

Good morning everyone,

I received the below comment responses today and wanted to share them with the group.

At first glance it seems we will need to follow up and re-request some of the bullet points below (for example we still need a wastewater capacity application though the applicant notes this has been submitted).

As this will be going to a Planning Board Public Hearing on January 24th, please respond with any outstanding concerns or questions asap, preferably this week so Matt and I can plan accordingly.

Thank you all for your time.

Best wishes,
Austen

• DPW Transportation

- The applicant proposes 2 Honeylocust street trees in front of the proposed building. Depending on which plan sheet you look at the trees are placed in the middle of the sidewalk accessible path, on the property line or outside the ROW. The proposed trees shall be placed outside of the accessible path to maintain an accessible sidewalk within the City ROW. The plans need to be updated to reflect this. *The plan has been revised to show this.*
- All pavement cuts in the City ROW shall be repaired per the Minor Excavation Pavement Repair Details found in the [Rules and Regulations for Excavation Activity](#). *Detail has been added to C200*
 - 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. *Contractor will coordinate as required*
- 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. *Pedestrian control shown on drawing C104*
- The plans do not provide enough information to determine if the sidewalk and driveway are compliant. The applicant shall make the proposed driveway apron compliant per the City's Technical Manual Section 1 and the City's Sidewalk and Driveway Apron Material Policy. Provide spot grades and slope for the proposed driveway. *Refer to drawing C101 and C200 for additional information requested.*
- The concrete sidewalk along the 31 Forest Street frontage shall be reconstructed in accordance with the City's Sidewalk and Driveway Apron Material Policy. The applicant shall update the plans and provide spot grades and slopes for the proposed sidewalk. *See previous response*
- The proposed concrete 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. The plans shall be updated to show the existing and proposed spot elevations at the grade breaks in the sidewalk. *Refer to drawing C101 and C200 for additional information requested.*
- The applicant shall verify that the condition of the existing curb and curb reveal are salvageable along the 31 Forest Street frontage. The installation of new or reset curbing may be required. *We plan to re-use the existing granite tipdowns for the project as they are in adequate shape for re-use*

• DPW Water Resources

- The applicant shall install a backflow preventer between the building sanitary outlet and the proposed storm drain connection. The applicant shall clarify on the plans that the backflow preventer shall be placed upstream of where the private building sewer outlet connects to the private rain garden outlet. It is suggested that the backflow preventer be located and configured to allow for easy access and maintenance. *Backflow preventer valve added to C101, upstream of sewer line connection. This enables the stormdrain line to be easily separated from the existing sewer line during any future utility separation project.*
- Further clarification shall be added to the plans regarding the drain line/sewer connection at the property line. *Clarification for the two lines has been added as requested, see drawing C101*
- It appears the grading on sheet C-101 has been updated to direct offsite runoff towards the proposed rain garden system. Sheet C-101 should be updated to show the location and rim elevation of the proposed beehive overflow, and the location and elevation of under drain piping. The applicant has set the top of the rain garden at elevation 30.50. The overflow structure rim in the rain garden is set at 30.20. The applicant should clarify how runoff will be directed towards the street and not neighboring property in the event that the overflow gets overwhelmed or plugged. It also doesn't appear the applicant has submitted updated stormwater management calculations to account for the additional offsite watershed area being directed to the rain garden. *Grading has been revised on drawing C101 to ensure that stormwater is directed to the proposed raingarden. I added in a lower spot grade depression on the streetside of the proposed raingarden for an emergency overflow if the beehive grate is plugged during a storm event.*
- The applicant shall submit a wastewater capacity application to DPW water resources engineering for review and authorization. *Wastewater capacity application was provided as part of our submission*
- Sheet C-104 should be updated to depict the grading updates made to C-101 in this latest submission. *C104 has been revised as requested*

[Quoted text hidden]



Austen Davis <austentd@portlandmaine.gov>

PL-002018-2022 31 Forest Street DPW Transportation Comments

Janine Ba <janineba@portlandmaine.gov>

Fri, Jan 20, 2023 at 10:26 AM

To: Austen Davis <austentd@portlandmaine.gov>, Keith Gray <kgray@portlandmaine.gov>

Cc: Justin Pellerin <jrp@portlandmaine.gov>, Benjamin Pearson <bnp@portlandmaine.gov>, Lauren Swett <lswett@woodardcurran.com>

Good morning Austen,

The existing sidewalk along the property is concrete and should be replaced in kind. The nearest brick sidewalks are at the intersections at Park Avenue and Congress Street. I will check with Keith on how to formally respond to the waiver.

Regards,

[Quoted text hidden]



Austen Davis <austentd@portlandmaine.gov>

PL-002018-2022 31 Forest Street DPW Transportation Comments

Janine Ba <janineba@portlandmaine.gov>

Tue, Jan 17, 2023 at 3:07 PM

To: Austen Davis <austentd@portlandmaine.gov>

Cc: Keith Gray <kgray@portlandmaine.gov>, Tom Errico <thomas.errico@tylin.com>, Jeremiah Bartlett <jbartlett@portlandmaine.gov>, Justin Pellerin <jrp@portlandmaine.gov>, Benjamin Pearson <bnp@portlandmaine.gov>, Lauren Swett <lszett@woodardcurran.com>

Good afternoon Austen,

Below are DPW's comments for PL-002018-2022 31 Forest Street. Let me know if you have any questions.

Project Number: PL-002018-2022

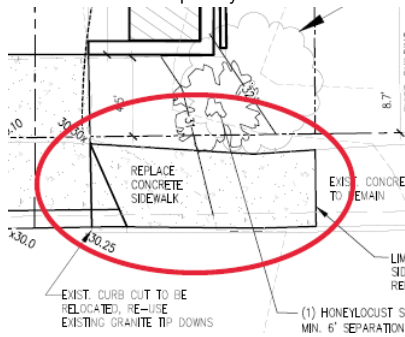
31 Forest Street

DPW Development Review Comments

01/17/2023

DPW Transportation

- The proposed TERMINAL CURB PROFILE and VERTICAL CURB PLAN VIEW details are missing some information. Add a note to each that references the City standard detail figure I-12 shall be followed or update your details with the missing information.
- The proposed DRIVEWAY APRON AT CONSTRAINED SIDEWALKS detail is missing some information. Add a note to each of the driveway details that references the City standard detail figure I-9C shall be followed or update your details with the missing information.
- The TYP. CONCRETE DRIVE DETAIL needs to be updated to include a note that references the City standard detail for REINFORCED CONCRETE DRIVEWAY APRON I-10B or update your details with the missing information.
- The TYP. CONCRETE SIDEWALK DETAIL needs to be updated to include a note that references the City standard detail for REINFORCED CONCRETE SIDEWALK I-11B or update your detail with the missing information.



- The existing sidewalk is 5ft wide and shall be reconstructed at that width. There is currently landscape debris covering the sidewalk. The plans shall be updated to show the proper width.
- Provide spot elevations at the limit of conc. sidewalk replacement.
- Provide dimensions on the proposed improvements in the ROW.

Regards,

--
 Janine Ba
 Project Engineer
 City of Portland Department of Public Works
 212 Canco Rd. Suite B
 Portland, ME 04103
janineba@portlandmaine.gov
 207-874-8463

Design Review

Planning and Urban Development Department



Subject: 31 Forest Street
Zone: R-6
Date of September 22, 2022
Review: Design Review
Reviewer(s): Sean King (Urban Designer), Austen Davis (Planner), Kevin Kraft (Deputy Director)
Project ID: PL-002018-2022

I. INTRODUCTION

The project was reviewed against the R6 Residential Zone Standards (Appendix 7 of the Design Manual).

R-6 ZONE INFILL DEVELOPMENT

(1) STANDARDS. Small residential lot development located in the R-6 zone on lots of ten thousand (10,000) square feet or less shall provide a high degree of architectural quality and compatibility with the surrounding neighborhood as demonstrated by compliance with the principles and standards of the R-6 Infill Development Principles and Standards, promulgated by the Planning Board and contained in Appendix 7 of this manual. Any proposal required to obtain a certificate of appropriateness under Portland's historic preservation ordinance is exempt from the R-6 design review standard.

II. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, **red** text denotes standards not met to require resubmission.

PRINCIPLE A - Overall Context. A building design shall contribute to and be compatible with the predominant character-defining architectural features of the neighborhood. - Met

STANDARD A-1 - Scale and Form:

Scale and form is compatible with the nearby multi-family residential buildings within the neighborhood.

STANDARD A-2 - Composition of Principal Facades:

Composition of the new building façade includes a projection with windows at second and third levels, variation of façade materials and rhythm, size, orientation and proportion of window openings that is compatible with the neighborhood.

STANDARD A-3 - Relationship to Street:

The building placement towards the street is consistent with the spacing and rhythm of the residential fabric. The building's main entry is oriented toward the street, indicated with an overhead canopy and positioned towards the downhill side of the front façade that is consistent with the multi-family residential buildings in the neighborhood.

PRINCIPLE B - Massing – The massing of the building has a relationship with the multi-family residential buildings that anchor Forest Street. The building massing is sculpted at the front

elevation to assist with identifying the primary entrance / stairs, delineate floors and expressed through a variety of façade materials. – **Not Met**

STANDARD B-1 - Massing - Met

The building's massing is appropriate in relationship to size, scale and shape for a multi-family residential building within the existing neighborhood.

STANDARD B-2 - Roof Forms – Met

Roof form is compatible with the predominant character-defining architectural features of the neighborhood with multi-family at or below 35 feet that utilize a flat roof form expressed by a continuous cornice line.

STANDARD B-3 - Main Roofs and Subsidiary Roofs – Not met

The building main roof form is compatible with subsidiary roof forms appropriately identified as flat roof that are parallel and perpendicular to the street. **Staff recommends continuing the pronounced cornice detail currently shown over the living space to the stair tower portion of the building.**

STANDARD B-4 - Roof Pitch – Met

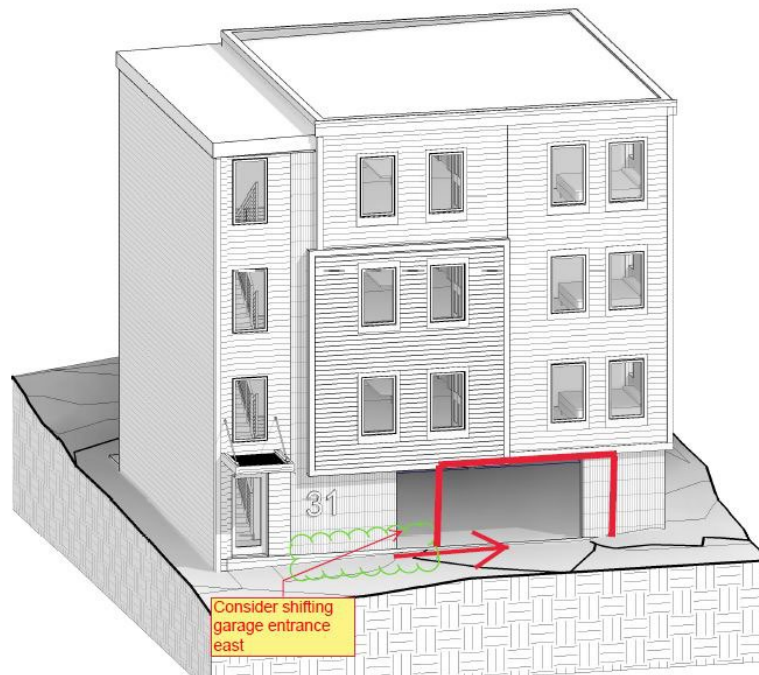
The proposed roof form for multi-family at or below 35 feet is a flat roof form expressed by a pronounced cornice.

STANDARD B-5 - Façade Articulation – Not Met

The proposed façade is articulated by large bay window projection composed at the second and third floor front elevation with a dimension of 12" to receive credit as a design feature. The second articulation includes a recessed entry and canopy, applicant shall confirm that the recessed entry is a minimum 12" offset to receive credit as a design feature.

STANDARD B-6 - Garages – Not Met

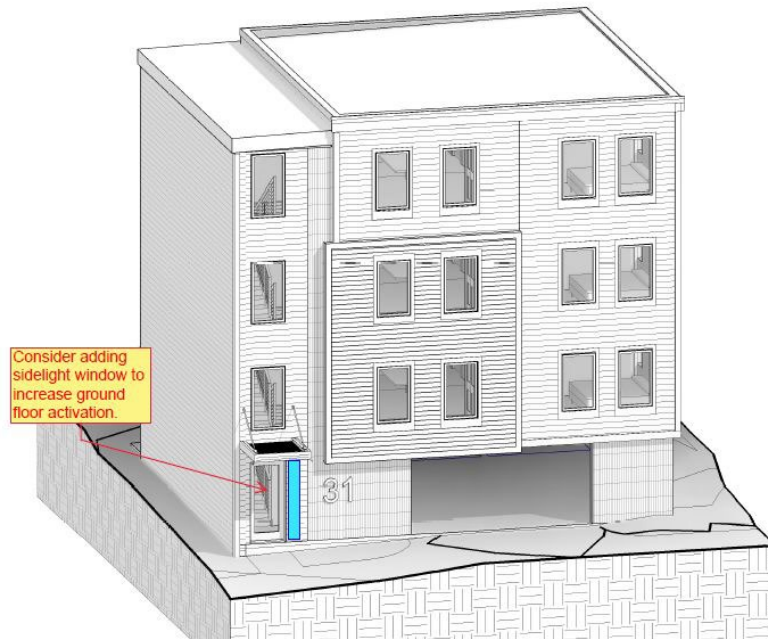
A garage entry is proposed at the street-facing façade integrated into the building form, therefore a garage door shall be required. The garage door width may be no more than 40% of the width of the building's overall façade. Staff recommends adjusting the location of the garage entry by shifting it slightly towards Boynton Street, which will allow for a more visible main entrance and landscaped area buffering the garage entrance and primary building entrance (shown below).



PRINCIPLE C - Orientation to the Street – The building façade shall reinforce a sense of the public realm of the sidewalk while providing a sense of transition into the private realm of the home. – **Not Met**

STANDARD C-1 – Entrances – **Not Met**

Main entrance is oriented toward the street and articulated with recessed entry and canopy. **Applicant shall indicate dimension of recession at main entrance doorway and shall integrate architectural lighting at entrance façade, within overhead canopy or similar to increase ground floor activation. Staff recommend that the applicant consider adding a sidelight window, parallel to the front door to increase ground floor activation and transparency (shown below – in blue).**



STANDARD C-2 - Visual Privacy

Not applicable as no occupancy of dwellings at ground level.

STANDARD C-3 - Transition Spaces – **Not Met**

The front setback proposed provides adequate transition spaces through recessed main entrance and allocation of landscape buffer with (2) trees to delineate sidewalk from building. **Applicant shall provide additional shrub planting in landscape buffer to establish a continuous transition space along the street facing building façade.**

PRINCIPLE D - Proportion and Scale – Building proportions must be harmonious and individual building elements shall be human scaled. -Met

STANDARD D-1 – Windows - Met

All windows are rectangular and vertically positioned with a proportional relationship to the overall massing of the building.

STANDARD D-2 – Fenestration – Met

Windows, doorways and garage entry are scaled appropriately and meet at least 12% area of fenestration of the total street facing façade area.

STANDARD D-3 - Porches

Porch standard does not apply.

PRINCIPLE E – Balance – The building façade elements must create a sense of balance by employing local or overall symmetry and by appropriate alignment of building forms, features and elements. - Met

STANDARD E-1 - Window and Door Height - Met

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

STANDARD E-2 - Window and Door Alignment - Met

The majority of windows and door stack to express a vertical alignment.

STANDARD E-3 – Symmetricality - Met

The primary window composition is symmetrical arranged at the living spaces facing the street.

PRINCIPLE F – Articulation – The design of the building is articulated to create a visually interesting and well composed residential façade. – Not Met

STANDARD F-1 – Articulation – Met

Surface articulation include detailed consistency on the living space façade through dimensional window trim, corner boards and cornice as well a minimal window trim at stair column that is visible from the public right of way.

STANDARD F-2 - Window Types - Met

Two window types and sizes are used on the street-facing façade.

STANDARD F-3- Visual Cohesion – Not Met

The proposed façade is composed of composite siding with a horizontal orientation of various colors and thin brick veneer at the base of the building along with a vertical expression at the stair column to delineate material type. **The architectural façade elevation does not accurately represent the proposed composite siding colors as described in the submitted elevations, City staff recommends the simple color palette visually shown to reduce the amount of finishes to correspond with the predominant character of the surrounding residential neighborhood.**

STANDARD F-4- Delineation Between Floors - Met

Delineation between floors is assembled by fenestration pattern set by window alignment at the street facing facade.

STANDARD F-5 - Porches, etc. - Met

Entryway is architecturally integrated into the overall design of the building and positioned at the corner of the building.

STANDARD F-6 - Main Entries – Met

The main pedestrian entrance faces Forest Street and is minimally recessed with an overhead canopy.

STANDARD F-8 - Articulation – Not Met

Articulation is incorporated through the façade projection at second – third floor, façade trim at windows, doors and corner boards, and pronounced cornice. **Applicant shall indicate dimension of projection offsets proposed to confirm minimal of 12” standard is met.**

Principle G - Materials – Building facades shall utilize appropriate building materials that are harmonious with the character defining materials and architectural features of the neighborhood. - Not Met

STANDARD G-1 – Materials - Met

Composite siding is proposed with a variation of colors and vertically stacked brick at the base that contributes and is compatible with the predominant character-defining architectural features of the neighborhood.

STANDARD G-2 - Material and Façade Design – Not Met

The selection of façade materials is appropriate as proposed. However, City staff recommends the simple color palette visually shown or to reduce the amount of color finishes to correspond with the predominant character of the surrounding residential neighborhood.

STANDARD G-3 – Chimneys

No chimneys are visible, standard not applicable.

STANDARD G-4 - Window Types - Met

The window types include only two types on the front façade. The predominant character in this context is vertical proportioned windows with one or two types visible from the street.

STANDARD G-5 - Patios and Plazas

No patios and/or plaza are proposed, standard not applicable.

Design Review

Planning and Urban Development Department



Subject: 31 Forest Street
Zone: R-6
Date of January 20, 2023
Review: Design Review – Resubmitted plans
Reviewer(s): Sean King (Urban Designer), Austen Davis (Planner), Kevin Kraft (Deputy Director)
Project ID: PL-002018-2022

I. INTRODUCTION

The project was reviewed against the R6 Residential Zone Standards (Appendix 7 of the Design Manual).

R-6 ZONE INFILL DEVELOPMENT

(1) STANDARDS. Small residential lot development located in the R-6 zone on lots of ten thousand (10,000) square feet or less shall provide a high degree of architectural quality and compatibility with the surrounding neighborhood as demonstrated by compliance with the principles and standards of the R-6 Infill Development Principles and Standards, promulgated by the Planning Board and contained in Appendix 7 of this manual. Any proposal required to obtain a certificate of appropriateness under Portland’s historic preservation ordinance is exempt from the R-6 design review standard.

II. DESIGN REVIEW COMMENTS: **bold** text denotes recent updates met, **red** text denotes standards not met to require resubmission.

PRINCIPLE A - Overall Context. A building design shall contribute to and be compatible with the predominant character-defining architectural features of the neighborhood. - Met

STANDARD A-1 - Scale and Form - Met

Scale and form is compatible with the nearby multi-family residential buildings within the neighborhood.

STANDARD A-2 - Composition of Principal Facades - Met

Composition of the new building façade includes a projection with windows at second and third levels, variation of façade materials and rhythm, size, orientation and proportion of window openings that is compatible with the neighborhood.

STANDARD A-3 - Relationship to Street - Met

The building placement towards the street is consistent with the spacing and rhythm of the residential fabric. The building’s main entry is oriented toward the street, indicated with an overhead canopy and positioned towards the downhill side of the front façade that is consistent with the multi-family residential buildings in the neighborhood.

PRINCIPLE B - Massing – The massing of the building has a relationship with the multi-family residential buildings that anchor Forest Street. The building massing is sculpted at the front elevation, identified by the

primary entrance / stairs, delineation of floors by rhythm of fenestrations and composition of façade materials that reduce the scale of the building. – **Met**

STANDARD B-1 - Massing - Met

The building's massing is appropriate in relationship to size, scale and shape for a multi-family residential building within the existing neighborhood.

STANDARD B-2 - Roof Forms – Met

Roof form is compatible with the predominant character-defining architectural features of the neighborhood with multi-family at or below 35 feet that utilize a flat roof form expressed by a continuous cornice line.

STANDARD B-3 - Main Roofs and Subsidiary Roofs – Met

The building main roof form is compatible with subsidiary roof forms appropriately identified as flat roof that are parallel and perpendicular to the street. **Applicant has provided a continuous cornice detail that provides a cohesive termination at varying roof heights.**

STANDARD B-4 - Roof Pitch – Met

The proposed roof form for multi-family at or below 35 feet is a flat roof form expressed by a pronounced cornice.

STANDARD B-5 - Façade Articulation – Met

The proposed façade is articulated by large bay window projection composed at the second and third floor front elevation with a dimension of 12", shown on A100, to receive credit as a design feature. The second articulation includes an entry with overhead canopy to receive credit as a design feature.

STANDARD B-6 - Garages – Met

A garage entry is proposed at the street-facing façade integrated into the building form, therefore a garage door shall be required. **The applicant has provided a garage door that meets the width standard to be no more than 40% of the width of the building's overall façade.**

PRINCIPLE C - Orientation to the Street – The building façade shall reinforce a sense of the public realm of the sidewalk while providing a sense of transition into the private realm. – **Met**

STANDARD C-1 – Entrances – Met

Main entrance is oriented toward the street and articulated with an overhead canopy above doorway that extends 5' towards street. **In addition, the applicant has included a wall mounted exterior light fixture at the main entrance.**

STANDARD C-2 - Visual Privacy

Not applicable as no occupancy of dwellings at ground level.

STANDARD C-3 - Transition Spaces – Met

The front setback proposed provides adequate transition spaces through recessed main entrance and allocation of landscape buffer with (2) trees to delineate sidewalk from building.

PRINCIPLE D - Proportion and Scale – Building proportions are harmonious and individual building elements are human scaled. -Met

STANDARD D-1 – Windows - Met

All windows are rectangular and vertically positioned with a proportional relationship to the overall massing of the building.

STANDARD D-2 – Fenestration – Met

Windows, doorways and garage door are scaled appropriately and meet at least 12% area of fenestration of the total street facing façade area.

STANDARD D-3 - Porches

Porch standard does not apply.

PRINCIPLE E – Balance – The building façade elements create a sense of balance through overall symmetry and by appropriate alignment of building forms, features and elements. - Met

STANDARD E-1 - Window and Door Height - Met

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

STANDARD E-2 - Window and Door Alignment - Met

The majority of windows and door stack to express a vertical alignment.

STANDARD E-3 – Symmetricality - Met

The primary window composition is symmetrical arranged at the living spaces facing the street.

PRINCIPLE F – Articulation – The design of the building is articulated to create a visually interesting and well composed residential façade. – **Met**

STANDARD F-1 – Articulation – Met

Surface articulation include detailed consistency on the living space façade through dimensional window trim, corner boards and cornice as well a minimal window trim at stair column that is visible from the public right of way.

STANDARD F-2 - Window Types - Met

Two window types and sizes are used on the street-facing façade.

STANDARD F-3- Visual Cohesion – **Met**

The proposed façade is composed of composite siding with a horizontal orientation of various colors and thin brick veneer at the base of the building along with a vertical expression at the stair column to delineate material type. **The applicant has provided plans that illustrate the proposed composition siding colors within the revised elevations and renderings. Staff finds the variation in façade colors assist to reduce the overall massing of the building is appropriate.**

STANDARD F-4- Delineation Between Floors - Met

Delineation between floors is assembled by fenestration pattern set by window alignment at the street facing facade.

STANDARD F-5 - Porches, etc. - Met

Entryway is architecturally integrated into the overall design of the building and positioned at the corner of the building.

STANDARD F-6 - Main Entries – Met

The main pedestrian entrance faces Forest Street and is minimally recessed with an overhead canopy.

STANDARD F-8 - Articulation – Met

Articulation is incorporated through the façade projection at second – third floor, **the applicant has provided 12” dimension on A100 to meet standard.** Additional architectural elements feature façade trim at windows, doors and corner boards, and pronounced cornice.

Principle G - Materials – Building facades utilize appropriate building materials harmonious with the character defining materials and architectural features of the neighborhood. - Met

STANDARD G-1 – Materials - Met

Composite siding is proposed with a variation of colors and vertically stacked brick at the base that contributes and is compatible with the predominant character-defining architectural features of multi-family residential buildings in the neighborhood.

STANDARD G-2 - Material and Façade Design – Met

The selection of façade materials is appropriate as proposed, **the thin brick masonry anchors the building at the ground along with partitioning the composite siding at the stair tower. Staff finds the variation in façade colors assist to reduce the overall massing of the building is appropriate.**

STANDARD G-3 – Chimneys

No chimneys are visible, standard not applicable.

STANDARD G-4 - Window Types - Met

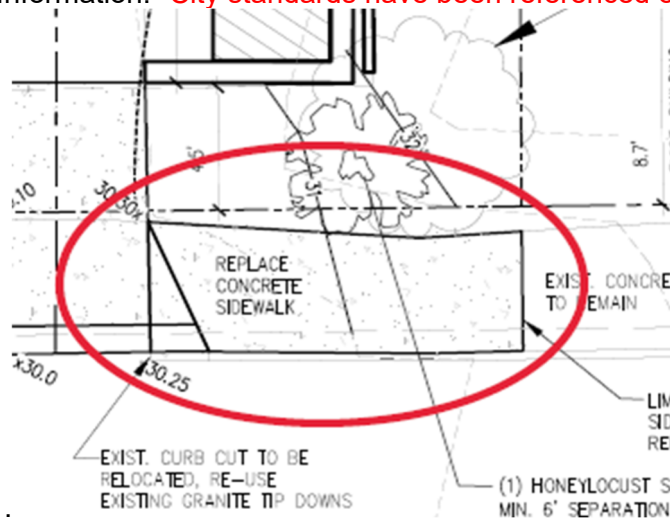
The window types include only two types on the front façade. The predominant character in this context is vertical proportioned windows with one or two types visible from the street.

STANDARD G-5 - Patios and Plazas

No patios and/or plaza are proposed, standard not applicable.

○ DPW Transportation:

- The proposed TERMINAL CURB PROFILE and VERTICAL CURB PLAN VIEW details are missing some information. Add a note to each that references the City standard detail figure I-12 shall be followed or update your details with the missing information. -City standards have been referenced on sheet C201.
- The proposed DRIVEWAY APRON AT CONSTRAINED SIDEWALKS detail is missing some information. Add a note to each of the driveway details that references the City standard detail figure I-9C shall be followed or update your details with the missing information. -City standards have been referenced on sheet C201.
- The TYP. CONCRETE DRIVE DETAIL needs to be updated to include a note that references the City standard detail for REINFORCED CONCRETE DRIVEWAY APRON I-10B or update your details with the missing information. -City standards have been referenced on sheet C201.
- The TYP. CONCRETE SIDEWALK DETAIL needs to be updated to include a note that references the City standard detail for REINFORCED CONCRETE SIDEWALK I-11B or update your detail with the missing Information. -City standards have been referenced on sheet C201.



- The existing sidewalk is 5ft wide and shall be reconstructed at that width. -5' sidewalk width is called out on sheet C101.
- There is currently landscape debris covering the sidewalk. The plans shall be updated to show the proper width .
- Provide spot elevations at the limit of conc.sidewalk replacement. -Spot grades show on sheet C101.
- Provide dimensions on the proposed improvements in the ROW. – Dimensions have been added to sheet C101.

○ DPW Water Resources:

- The proposed backflow preventer shall be located to prevent sewage backups into the proposed building. The current design does not accomplish this. -Backflow preventer valve has been shown in a revised location per Portland Water District. The revision was made to sheet C101.
- The applicant shall submit a wastewater capacity application to DPW water resources engineering for review and authorization. - Application was submitted to Austen Davis on 1-19-23.

385 Congress Street Subdivision
Subdivision Review
PL-002332-2023
Fathom Congress, LLC., Applicant

Submitted to:	Portland Planning Board	Prepared By:	Zach Powell
Public Hearing Date:	January 24, 2023	Date:	January 20, 2023

I. INTRODUCTION

Fathom Congress, LLC, is seeking approval to subdivide the property at 385 Congress Street into three lots (Lot 1 (Hotel): 27,466 square feet | Lot 2 (Condo A): 32,571 square feet | Lot 3 (Condo B & C): 38,441 square feet), with Fathom LLC owning Lot 1 and Reger Dasco Properties owning Lots 2 & 3.

The subject property received Master Development Plan (MDP) approval from the Planning Board on [August 9, 2022](#) and the applicant is currently seeking Major Site Plan Approval ([PL-002156-2022](#)) for the project's first phase. Please refer to the report prepared for the October 25, 2022 Workshop for additional information related to the proposed site plan and subdivision applications at the following link: <https://portlandme.civicclerk.com/Web/Player.aspx?id=2782&key=-1&mod=-1&mk=-1&nov=0>

In approving the 385 Congress Street MDP, the Planning Board required that the applicant receive subdivision approval, and record a finalized subdivision plat with the Cumberland County Registry of Deeds, prior to seeking approval for the Phase I site plan. The proposed subdivision application aims to satisfy this MDP condition. While the site plan and subdivision application were previously running under one application number (PL-002156-2022), the site plan and subdivision have now been separated into two separate applications, as the two applications will be acted on at two separate meetings. The new application number for the subdivision application is PL-002332-2023.

This memorandum will solely focus on the proposed subdivision, with a subsequent meeting that will address the proposed Major Site Plan application to develop Phase 1 and Traffic Movement Permit for the entire MDP.

The Planning and Urban Development Department mailed 104 notices advertising this meeting to property owners within 500 feet of the site. A legal advertisement ran in the January 13, 2023 edition of the *Portland Press Herald*.

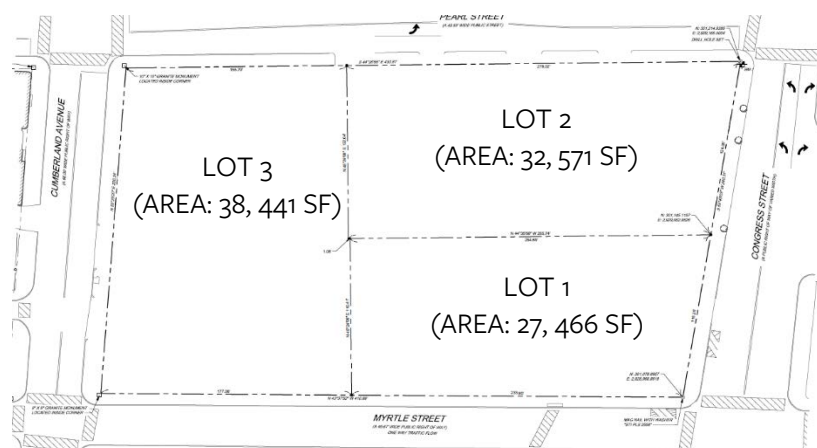


Figure 1: Map of proposed subdivision.

Applicant: Marieke Thormann, Fathom Congress, LLC

Consultants: Daniel Riley, Sebago Technics Inc

II. REQUIRED REVIEWS

Review	Applicable Standards
Subdivision Review	Section 15

III. PROJECT DATA

Existing Zoning	B-3 Downtown Business, Downtown Entertainment Overlay, PAD Encouragement Area
Existing Use	Off-Street Parking (Surface and Structured) (141 spaces) Storage (±3,914 SF)
Property Size	98,470 SF (2.26 acres)

IV. EXISTING CONDITIONS

The project site occupies the entirety of a city block that is 2.26 acres in area. The site is bounded to the north by Pearl Street, to the south by Myrtle Street, to the east by Congress Street, and to the west by Cumberland Avenue. The site was previously bisected by Chapel Street, which was discontinued in 1973.

Previously, the site was occupied by a number of commercial and residential structures, including Payson Memorial Church. In the 1960s, a portion of the site served as the printing facilities to the Portland Press Herald. Currently, the site serves as off-street parking (both surface and structured) for daily and monthly parking and is currently occupied by surface and structured parking, totaling 173 spaces. Additionally, the structure on the northwestern corner of the site is used for auxiliary storage.



Figure 2: Photo of the subject property.

The subject block and immediate area is well-served by public transit. Approximately two blocks to the southwest is the METRO PULSE at Elm Street (Downtown Transportation Center), the hub for METRO where bus routes, #2, #4, #5, #7, and the Husky Line begin and end their routes. METRO bus routes #1, #7, #8, #9A, #9B and the Biddeford Saco Old Orchard Beach Transit 60 Green line can be accessed along Congress Street within one block of the site. South Portland Bus routes 21, 24A, and 24B can be accessed along Congress Street roughly two blocks southwest of the site. METRO bus route 8 is located along Cumberland Avenue less than one block from the site.

V. RIGHT, TITLE & INTEREST

The owner of the property is 385 Congress, LLC. The applicant for the subdivision (The Fathom Companies d/b/a Fathom Congress, LLC) has entered into a Purchase and Sale Agreement, which serves as sufficient right-title-interest documentation for The Fathom Companies for the purpose of reviewing a subdivision application.

The submitted existing conditions survey for the site plan application (**P1.** and **P2.**) indicates the property has no existing easements. As part of the proposed subdivision, a sidewalk easement is included along Myrtle Street for an expanded sidewalk area (**P4.**). As noted in the Purchase and Sale Agreement and Figure 5, access and utility easements will be created as part of the site plan application to facilitate access pre- and post-construction.



Figure 3: Northwest view of the subject property in 1900.
Source: Maine Historical Society.



Figure 4: Western view of the subject property in 1965 showing the construction of the Portland Press Herald Printing Facility.

VI. FINANCIAL & TECHNICAL CAPACITY

The applicant has submitted a letter of financial capacity from their financial institutions as documentation stating that the Applicant is in good standing (**Attachments B and C**).

VII. ZONING ANALYSIS

The site is encompassed by the B-3 Downtown Business Zone, the Pedestrian Activities District (PAD) encouragement area, and the Downtown Entertainment Overlay Zone.

The zoning dimensional requirements are intentionally permissive in the B-3 zone – in most cases the requirements are intended to create dense, taller buildings that fill the site and maintain a street wall line. Compliance with the applicable B-3 dimensional requirements for all three lots is shown in Table 1.

Table 1: Compliance of Proposed Subdivision with B-3 Dimensional Lot Standards				
Standard	Required	Lot 1 (Hotel)	Lot 2 (Phase 2 Condos)	Lot 3 (Phase 3 & 4 Condos)
Minimum Lot Area	N/A	Complies (27,493 SF)	Complies (32,426 SF)	Complies (38,558 SF)

Minimum Street Frontage	15 feet	Complies (350.69 ft.)	Complies (407.95 ft.)	Complies (564.13 ft.)
Maximum Lot Coverage	25% of Lot Area for Portions of Structures Exceeding 125 feet in height ⁴ (Footnote 4: Except that no floor area shall be required to be less than 10,500 SF gross)	Complies (Currently, no structure on the proposed Lot 1 exceeds 125 feet in height.)	Complies (Currently, no structure on the proposed Lot 2 exceeds 125 feet in height.)	Complies (Currently, no structure on the proposed Lot 3 exceeds 125 feet in height.)

VIII. STAFF REVIEW

Subdivision Review Standards Section 15.4

Section 15.4 of the City's Land Use Code establishes standards under which subdivision applications must be reviewed. Per this section, subdivisions shall adhere to the following requirements:

1. Will Not Result in Undue Water or Air Pollution (Section 15.4.1.A)

Staff Comment: The proposed subdivision of land will not result in pollution or soil erosion. The proposed subdivision will create developable lots for uses permitted within the B-3 zone. The Applicant has proposed the use of two on-site detention and filtration systems as part of the site plan applications (one for the first phase and a second for future phases) that are designed to mitigate undue water pollution to the City's combined sewer system.

2. Has sufficient water available and will not cause unreasonable burden on existing water supply (Section 15.4.1.B and C)

Staff Comment: The Applicant has indicated that water and sewer service can be provided to the site by the Portland Water District, has requested capacity to serve letters, and is awaiting response. Receipt of ability to serve letters for water and sewer service have been included as a recommended condition of approval.

3. Will Not Cause Unreasonable Soil Erosion (Section 15.4.1.D)

Staff Comment: The entirety of the proposed subdivision is pre-developed and the Applicant has submitted an erosion & sediment control (ESC) plan for the first phase of development to minimize negative erosion impacts.

4. 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)

Staff Comment: The subdivision of 385 Congress Street will be followed by subsequent site plan applications as well as a Traffic Movement Permit (TMP) for the construction of a phased mixed-use development, within the B-3 Downtown Business zone, which encourages dense, intensive mixed-use development within the downtown. Additionally, the site is well-served by public transit and is approximately two blocks from the METRO PULSE at Elm Street (Downtown Transportation Center), the hub for METRO where bus routes #2, #4, #5, #7, and the Husky Line begin and end their routes. METRO bus routes #1, #7, #8, #9A, #9B and the Biddeford Saco Old Orchard Beach Transit 60 Green line can be accessed along Congress Street within one block of the site. South Portland Bus routes 21, 24A, and 24B can be accessed along Congress Street roughly two blocks southwest of the site. METRO bus route 8 is located along Cumberland Avenue less than one block from the site. Moreover, the site is within walking distance to many jobs and services within the commercial center of the region.

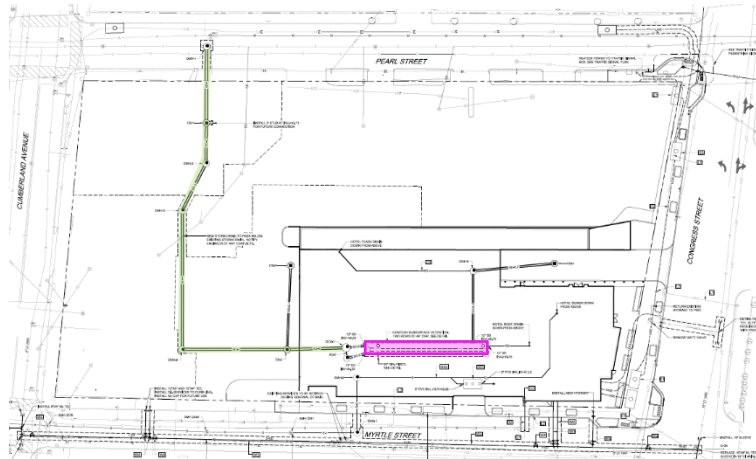


Figure 5: Utility plan sheet showing the proposed installation of an on-site detention basin (shown in magenta) and new connections to the Myrtle Street Main (shown in green).

5. Will provide adequate Sanitary Waste and Stormwater Disposal (Section 15.4.1.F), and will not cause an unreasonable burden on municipal disposal of solid waste and sewage (Section 15.4.1.G)

Staff Comment: The proposed subdivision of land will not impact municipal disposal of solid waste or sewage and will provide adequate stormwater disposal. As part of the Major Site Plan application for phase 1 of the MDP the Applicant has developed a design that reroutes stormwater to Pearl Street and sewer to Cumberland Avenue to not burden the more proximate Myrtle Street combined sewer.

6. Will Not Have an Undue Adverse Effect on the Scenic or Natural Beauty of the Area, Aesthetics, Historic Sites, or Significant Wildlife Habitats (Section 15.4.1.H)

Staff Comment: The project site does not include any identified scenic or natural resources, or significant wildlife habitats. While the proposed subdivision does not result in impacts to adjacent historic resources, review of the proposed building design is being handled through the site plan review which includes advisory Historic Preservation staff review as the site is within 100 feet of a historic district and landmark.

7. Conforms with the Comprehensive Plan (Section 15.4.1.I)

Staff Comment: The proposed subdivision aligns with the strategies and goals in Portland's Plan 2030 by facilitating the infill of an underdeveloped site primarily used for automobile parking located at the heart of Portland's walkable downtown, proximate to some of the tallest structures in the city, with residential units,

commercial uses, and publicly accessible open spaces and pedestrian connections that better reflect the downtown location.

The Comprehensive Plan, *Portland 2030*, identifies Congress Street as a priority corridor. Priority corridors are key corridors that connect major nodes and neighborhoods and therefore serve as areas that can accommodate additional mixed-use, higher density growth to take advantage of the transit benefits and services that well-designed, diverse corridors can offer.

The scale of the proposed buildings facilitate an increase in dwelling units within a walking and transit-oriented site. Along with increasing the viability of downtown, the proposed infill project potentially reduces the need for new construction in green field or outlying areas and dependency on single occupancy vehicles, which promotes more sustainable development practices.



Figure 6: Rendering of Congress Street looking south depicting the proposed expanded sidewalk area.

8. Adequate Financial and Technical Capacity (Section 15.4.1.J)

Staff Comment: As discussed in Section VI of this memorandum, the Applicant has submitted a letter of financial capacity from their financial institutions (**Attachment B**) as documentation stating that the Applicant is in good standing. Additionally, supporting documentation related to the technical capacity of the Applicant to complete the proposed work has been supplied in **Attachment C**.

9. Will Not Negatively Impact Waterbody Quality or Shoreline (Section 15.4.1.K)

Staff Comment: Not Applicable. The site is not located within 250 feet of any wetland, great pond, or river and is not located within the watershed of any pond or lake.

10. Cumulative Impact of Proposed Project and Existing Activities Will Not Negatively Impact Groundwater Quality or Quantity (Section 15.4.1.L)

Staff Comment: Currently, there is no groundwater located on the site or adjacent to the site. Through modifications to the routing of stormwater and sewage from the site to minimize negative impacts on the Myrtle Street combined sewer as part of the site plan application, the contribution to outfall by the project will minimize negative impacts to groundwater quality and quantity.

11. Is or Is Not Located in a Flood-Prone Area (Section 15.4.1.M)

Staff Comment: Not Applicable

12. Supplies Adequate Stormwater Management (Section 15.4.1.N)

Staff Comment: The proposed development and future phases will be reviewed as Major Site Plan applications and will be required to meet stormwater standards of the Portland Land Use Code and Technical Manual. The Applicant has coordinated with the Portland Water District to develop a system for the site plan and tentative stormwater management improvements for future phases of the Master Development Plan.

13. Lot Depth-To-Shore Ratio Less than 5-To-1 (Section 15.4.1.O)

Staff Comment: Not Applicable.

14. Subdivisions Crossing Municipal Boundaries Will Not Result in Negative Impacts to Adjoining Municipalities (Section 15.4.1.P)

Staff Comment: Not Applicable.

IX. NEIGHBORHOOD MEETING & PUBLIC COMMENT

As this proposed subdivision entails the creation of less than five lots, the applicant is not required to hold a neighborhood meeting as expressed in Section 15.3.3 of the Land Use Code.

X. STAFF RECOMMENDATIONS

Subject to the proposed motions and conditions of approval listed below, Planning Department staff recommends that the Planning Board approve application #PL-002332-2023 for a three-lot subdivision at the subject property.

XI. PROPOSED MOTIONS

A. SUBDIVISION

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board reports for the public workshop on October 25, 2022 for application PL-002156-2022 and the public hearing on January 24, 2023 for application PL-002332-2023 relevant to the subdivision regulations; and the testimony presented at the Planning Board hearing, the Planning Board finds that the plan **[is/is not]** in conformance with the subdivision standards of the Land Use Code and **[approves/does not approve]** the application, subject to the following conditions:

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, Department of Public Works, and Corporation Counsel prior to signature by the Planning Board.
2. The Applicant shall submit Ability to Serve Letters from the Portland Water District for water and sewer service.

PRIOR TO ISSUANCE OF A BUILDING PERMIT ASSOCIATED WITH PL-002156-2022

3. **Easements and Licenses:** That sidewalk & public access easements along Congress Street, Cumberland Avenue, and Myrtle Street shall be finalized to the satisfaction of the Planning Authority, Department of Public Works, and Corporation Counsel.

XII. ATTACHMENTS

Applicant's Documents

- A. Cover Letter and Description
- B. Financial Capacity
- C. Technical Capacity

Plans

- P1. Existing Conditions Plan
- P2. Existing Conditions Plan – Structure Table
- P3. Subdivision Plan
- P4. Easement Plan – Lot 1
- P5. Elevation – Congress Street
- P6. Elevation – Myrtle Street
- P7. Elevation – West (Site Interior)
- P8. Elevation – North (Site Interior)

Public Comment: None

January 5, 2023
19371-01

Zachary Powell
City of Portland Office of Planning and Urban Development
389 Congress Street
Portland, ME 04101

Subdivision Application - 385 Congress Street PL-002156-2022

Dear Zach,

As we have recently discussed, the applicant(s) for the approved 385 Congress Street Master Development Plan and the pending Lot 1 Hotel Level III Site Plan application are requesting that the City of Portland separate the review and approval of the Subdivision Plan by 385 Congress LLC (Reger Dasco) that will divide the land into 3 lots from the Site Plan application by the Fathom Congress, LLC for the development of Lot 1.

We are requesting that the Subdivision application be advanced to a public hearing on January 24, 2023, for consideration concurrent with, or if necessary, independent of the review of the Lot 1 Site Plan.

As you are aware, the Master Development Plan was approved with a condition that a subdivision plan dividing the land into three (3) parcels be approved and recorded prior to the first Site Plan approval. The applicants are seeking to meet this MDP condition and the approved subdivision would also support the upcoming sale of Lot 1.

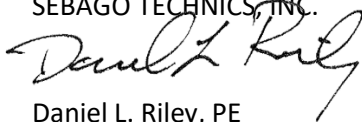
The enclosed subdivision plan presents the division of the property into three (3) lots consistent with the Master Plan conditions of approval. This plan has been previously submitted as part of the combined site and subdivision application and no changes are proposed compared to previous submittals.

Once the subdivision is approved, any changes, conditions, or easements that may become necessary for the development of Lot 1 and Lot 2 can be addressed with amended subdivision plans or conditions of approval which are specific to each lot's development.

Thank you for your time and attention to this project. Please call if you have questions or need additional information. We look forward to continuing the design and review of the project with staff and the Planning Board.

Sincerely,

SEBAGO TECHNICS, INC.



Daniel L. Riley, PE
Vice President, Engineering

DLR/RLG
Enc.

Financial Capability

The proposed project is comprised of three separate developments and there are two different entities providing financing:

- Reger Dasco Properties (dba 385 Congress LLC) will develop the condominiums on Lots 2 and 3;
- The Fathom Companies (dba Fathom Congress, LLC) will develop the hotel and condominiums on Lot 1

Attached please find the following letters as proof of financial capability:

- Letter dated March 31, 2020 from Newmark Knight Frank for Reger Holdings (Reger Dasco Properties);
- Letter dated February 1, 2022 from Mascoma Bank for Fathom Congress LLC.



March 31, 2020

Portland Planning Staff
Portland City Hall
389 Congress Street
Portland, ME 04101

RE: Congress Street in Portland

To Whom it May Concern:

I'm writing regarding the future development of Congress Street in Portland being proposed by Reger Holdings. Our firm Newmark Knight Frank and my prior firm has acted as a financing intermediary for Reger Holdings for the past 15 years on numerous projects from condominiums to industrial. In the last 3 years alone, we arranged the financing for over \$150 million of development in Maine, Massachusetts and South Carolina. Two local examples include: (i) the 383 Commercial Street condominium development; we arranged a \$42 million loan from a Boston Bank; and (ii) the Bay House Condominiums in Downtown Portland; we arranged a \$20 million dollar construction loan with a Boston Bank that had a very successful sellout.

NKF Debt Group in Boston has the capacity to finance large development projects thru our long term lending relationships. We also have access to financing sources through our ownership group BGC Partners (NYSE: BGCP) and our proprietary lending platform Cantor Commercial as well as our GSE lending arm.

Reger Holdings is a third generation well respected real estate company with numerous holdings and experience. The company is run and spearheaded by Mr. Gordon Reger. Our dealing with him and his firm have always been handled in a first class manner. As a result, we would highly recommend Reger Holdings for the development of Congress Street.

If I can be of any assistance in your decision, please do not hesitate to give me a call. Thank you.

Regards,

David Douvadjian

A handwritten signature in black ink, appearing to read 'David Douvadjian'.

Head of Mortgage Banking
New England
(617) 863-8388
ddouvadjian@ngkf.com



SENT VIA EMAIL

February 1, 2022

City of Portland
Planning Board
385 Congress Street
4th Floor
Portland, Maine 04101

Re: Statement of Financial Capacity: Fathom Congress, LLC, as part of Fathom Development, LLC, and Mr. James Brady.

To Whom It May Concern,

We are pleased to confirm that Fathom Congress, LLC, as part of Fathom Development, LLC, and Mr. James Brady possess the full financial capacity and experience to successfully finance the proposed development to be located at 385 Congress Street, Portland, Maine 04101.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Tad Atwell
Tad.Atwell@MascomaBank.com
Senior Vice President
48 Free Street, Portland, Maine

Technical Capability

There is a highly qualified team of developer, architects, and engineers that have been compiled for the proposed project.

The proposed hotel is to be developed by Fathom Companies (dba Fathom Congress, LLC). The Fathom Companies is a fully integrated real estate development, management, and investment company based in Falmouth Maine. Fathom has developed and currently operates several hotel and commercial properties in Portland including the Press Hotel, 80 Exchange Street and Canopy by Hilton Waterfront Hotel

Architect

Architectural services for the hotel are to be provided by Johnson Nathan Strohe.

Johnson Nathan Strohe (JNS) is a Denver Colorado base architectural firm with over 26 years of experience. Theirs is a diverse team comprised of architects and designers that have competed a wide range of projects across the country. Please see the additional information included as part of this exhibit for additional qualification information.

Civil/Survey/Permitting

Civil engineering, surveying, and permitting services are being provided by Sebago Technics.

Sebago Technics, Inc. (STI) is a multi-disciplined engineering firm with 40 years of experience, that offers a wide range of services specializing in land development, planning, permitting and engineering design services. We maintain a staff of multi-disciplinary professionals to provide services in the areas of general civil engineering, road and utility infrastructure design, construction management, permitting, landscape architecture, soil science, wetlands science, land surveying, and environmental engineering.

Please see the attached STI resumes for Steve Doe, RLA, Dan Riley, P.E.



Completed Portfolio Fall 2021

info@fathomcompanies.com

www.fathomcompanies.com

207.808.8787

Fathom Companies is a fully integrated real estate development, management, and investment company focusing on exceptional properties in secondary and tertiary markets. We seek to add value to mixed-use, office, retail and hospitality facilities through thoughtful design and fastidious attention to detail. Our hospitality management branch brings decades of experience with some of the most successful brands in the industry. We aim to foster an environment of empowerment, creativity and teamwork.

The Press Hotel

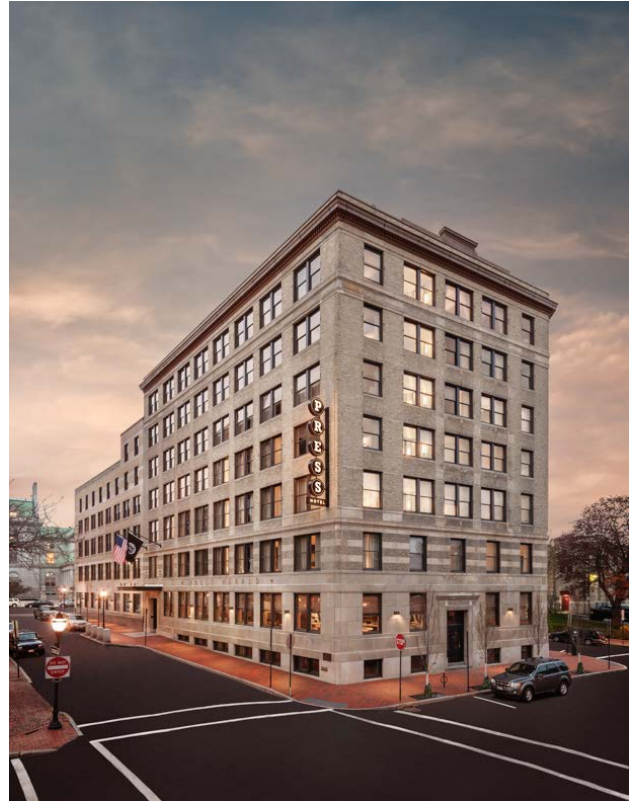
Portland, Maine

- Historic Rehabilitation Adaptive Reuse
- Former Newspaper Headquarters of the Portland Press Herald
- 110 Guest Room Boutique Hotel with 100 Seat Restaurant
- Ranked #1 and RevPAR leader in the market
- Opened May 2015

The opening marked the City of Portland's first lifestyle boutique hotel, breathing new life into a cherished, historic city landmark.

Design & Construction Team:

- Architype Architect
- Wright Ryan Construction



The Press Hotel

80 Exchange Street

Portland, Maine

- Historic Rehabilitation
- 15,000 Square Feet
- 4 Story Retail and Class A Office Space
- Opened January 2019

The project set out to bring back the once glorious building and restore its place in the urban fabric as a good neighbor and leader in design, and community development.



4th Floor Fathom Office at 80 Exchange Street

Design & Construction Team:

- Briburn Architects
- Warren Construction

Canopy by Hilton Portland Waterfront Hotel

Portland, Maine

- Ground Up Construction
- Canopy Lifestyle Brand by Hilton
- 135 Guestroom Lifestyle Hotel with indoor/outdoor rooftop bar and restaurant overlooking Casco Bay.
- Opened June 2021

Design & Construction Team:

- HKS Architects
- Baskervill Architects
- Cianbro Construction



Luna Rooftop Bar at Canopy Portland Waterfront Hotel



JOHNSON NATHAN STROHE

PRAGMATIC BEAUTY

ARCHITECTURE QUALIFICATIONS

HOSPITALITY





JOHNSON NATHAN STROHE

is a Denver-based architectural and interior design firm that specializes in delivering integrated solutions for hospitality, multifamily and mixed-use projects, from ground-up to historic preservation, renovation and adaptive reuse.

Over the last 26 years, our diverse team of architects and designers has completed hundreds of projects across the country with an equal focus on creativity, context, budget and program. The result is award-winning spaces that deliver unique and inspiring experiences, support the end user and deliver a return for the investor.

PRAGMATIC BEAUTY™

Our design philosophy blends creativity and practicality to deliver compelling environments that are both aesthetically striking and thoroughly functional for their intended use. It's what we call Pragmatic Beauty™. We use this philosophy as a guiding principle that allows us to innovate through challenges, work collaboratively with the teams and optimize pragmatism and beauty.

HOSPITALITY EXPERIENCE

Our niche expertise in hospitality fosters responsive, creative design solutions that meet both schedule and budget demands through a fully integrated service model. Through our

context-based design process, we consider the project's long-term impact on the community and environment, creating added value for clients and residents alike. By establishing close relationships with partners, we remain keenly focused on every phase of the project in order to ensure it meets our rigorous quality and client service expectations.

Our expert team has designed more than 80 boutique and corporate-branded hotels across the country, including award-winning projects like The Crawford Hotel at Denver Union Station, The Perry Hotel Key West and The Maven Hotel at Dairy Block (Denver).

PROFESSIONAL SERVICES INCLUDE:

Programming | Historic Preservation | Entitlement Leadership | Complete Architectural Services | Sustainable / LEED Certified Design
Interior Design | Feasibility and Yield Studies | Construction Value Strategies | Construction Administration | Post-Construction Services



NICOLE NATHAN

AIA | NCARB | LEED AP

PARTNER

Nicole Nathan is a creative visionary with more than 20 years of experience as a design architect creating some of the most dynamic spaces in Denver and across the country. As a Partner at JNS, Nicole leads the firm’s architectural and interior design studios, focusing on hospitality, urban mixed-use and housing projects. Nicole’s leadership throughout her 19 years with the firm has helped grow JNS into a top architecture and interior design firm in the region.

NATIONAL COUNCIL OF
ARCHITECTURAL REGISTRATION
BOARDS (NCARB)

U.S. GREEN BUILDING COUNCIL
URBAN LAND INSTITUTE (ULI)

LICENSED ARCHITECT
Licensed in 6 States

MASTER OF ARCHITECTURE
University of Illinois
at Urbana-Champaign

**BACHELOR OF
ENVIRONMENTAL DESIGN**
University of Colorado at Boulder



TOBIAS STROHE

AIA | LEED AP

PARTNER

As a Partner at JNS, Tobias Strohe contributes to the firm’s technical and creative direction. Tobias, who has 25 years of professional experience, ensures projects meet JNS’ high standards, collaborating with all partners and teams to create pragmatically beautiful solutions. His expertise spanning the entire spectrum of the architectural industry is balanced with an acute attention to detail.

DOWNTOWN DENVER PARTNERSHIP
Leadership Program

U.S. GREEN BUILDING COUNCIL
AIA HISTORIC RESOURCES COMMITTEE
CLEWORTH ARCHITECTURAL LEGACY

LICENSED ARCHITECT
Colorado | California

MASTER OF ARCHITECTURE
Technical University | Dresden, Germany

ERASMUS PROGRAM, EU
Technical University | Vienna, Austria

BACHELOR’S DEGREE
Technical University, Germany



LIZ MCDONALD

AIA | NCARB | LEED AP

PRINCIPAL

Liz McDonald is a dynamic leader known for designing spaces that achieve the perfect balance of creativity and practicality. As the firm’s youngest Principal, Liz oversees JNS’ multifamily division, leading projects at the forefront of housing trends. Over the last 14 years, Liz has honed her design skills, while her strong project management skills and meticulous attention to detail have earned her a reputation for delivering truly memorable spaces for clients.

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URBAN LAND INSTITUTE (ULI)

LICENSED ARCHITECT
Colorado

LICENSED ARCHITECT
Colorado

**BACHELOR OF
ARCHITECTURE**
University of Kansas
School of Architecture

PROJECT LIST

FULL PORTFOLIO CAN BE SEEN ON
[JNS.DESIGN](https://www.jns.design)

- Hilton Garden Inn, Union Station - Denver, Colorado
- Aspen St. Regis Resort - Aspen, Colorado
- Blackstone Hotel - Chicago, Illinois
- Canary Hotel - Santa Barbara, California
- AC Hotel - Clayton, Missouri
- Westin DIA - Denver, Colorado
- Double Tree Cherry Creek - Denver, Colorado
- Embassy Suite - Boulder Colorado
- Double Tree at Lincoln Park - Greeley, Colorado
- Halcyon Hotel Cherry Creek - Denver, Colorado
- Hilton Charlotte Downtown - Charlotte, North Carolina
- Hilton Garden Inn - Boulder, Colorado
- Hotel Colorado - Glenwood Springs, Colorado
- Hotel Monaco - Denver, Colorado
- Hotel Monaco - Salt Lake City, Utah
- Hyatt Centric Downtown - Denver, Colorado
- Magnolia Hotel - Denver, Colorado
- Magnolia Hotel - Omaha, Nebraska
- Metro State Hotel & Learning Center, Springhill Suites - Denver, Colorado
- Moxy Cherry Creek - Denver, Colorado
- Springhill Suites - Oceanside, California
- One York, AC Hotel - St Louis, Missouri
- Oxford Hotel - Denver, Colorado
- Renaissance Hotel Downtown - Pittsburgh, Pennsylvania
- Marriott Courtyard Downtown - San Diego, California
- Marriott Gaslamp Quarter - San Diego, California
- Scioto Peninsula Hotel - Columbus, Ohio
- Sheraton Downtown - Albuquerque, New Mexico
- Sheraton Downtown - Denver, Colorado
- The Crawford Hotel at Union Station - Denver, Colorado
- The Maven Hotel at Dairy Block - Denver, Colorado
- The Mercantile Residence Inn - Missoula, Montana
- The Nines Hotel - Portland, Oregon
- The Ramble Hotel - Denver, Colorado
- The Vail Cascade - Vail, Colorado
- Wine Country Inn - Palisades, Colorado

Introduction to Sebago Technics, Inc.



Year Established: 1981 (38 years in business)

About Us: Sebago Technics, Inc. (STI) is a consulting firm of more than 70 design professionals and technical staff providing services throughout New England. From the start, our business plan was simple: “to provide quality, cost-effective civil engineering services that are responsive to a customer’s goals, schedule and budget.” Our One Company capabilities and resources provide clients with experience and solutions to respond to their planning, permitting and design needs.



Structure: Employee-owned since 1998

Services: Civil, environmental, transportation & traffic engineering; municipal engineering; local/state/federal permitting and planning; land surveying & laser scanning; GIS; landscape architecture; environmental services; and natural resources.

Employee Disciplines:

Professional Engineers, Civil Engineers, Transportation Engineers, Landscape Architects, Professional Land Surveyors, Survey Technicians, CADD Designers, Wetland Scientist, Soil Scientist, Construction Inspectors, Community Planner, Environmental Scientists, GIS Professionals, Marketing, Administrative & Financial



Professional Focus: Sebago Technics provides engineering and planning services to both public and private sector clients. In the municipal and government sectors we have provided multiple discipline services through General Services Contracts (GSC) and project specific contracts. A few examples include the Portland Jetport, City of Portland Public Services, City of South Portland, City of Lewiston, City of Westbrook and several smaller communities. Our municipal sector work includes street and utility infrastructure design, municipal facility planning and specialty work such as Island marine and solid waste planning & engineering.

Location: South Portland, ME

Primary Geographic Service Area: Maine, New Hampshire, Vermont, Massachusetts

Web Site: www.sebagotechnics.com



STEPHEN G. DOE, RLA, LEED-AP

Senior Landscape Architect



When Mr. Doe joined Sebago Technics, Inc. in 1988, he brought with him a versatile and highly proficient background in land planning, site development, landscape architecture and graphic presentation, and construction. With a fine understanding for detail and construction practices, he has continually proven his ability to prepare functional, yet aesthetically pleasing land development programs and Site Plans for both public and private sector clients. He is proficient in combining his technical knowledge with highly skilled graphic communications to prepare all levels of plan documents from Conceptual Site Plans to complete construction documents and specifications. His strong public presentation skills and attention to detail in preparing and administering Site Plan Applications with state and local regulators has proven beneficial to clients in receiving timely approvals and respect within their communities.

EXPERIENCE



Boothbay Harbor Country Club, Boothbay, Maine – Steve was Sebago's Project Manager and Lead Site Designer for this complete renovation of the Boothbay Harbor Country Club. Working in collaboration with Knickerbocker Group, Steve prepared the master plan, detailed site plan, landscaping and grading plan for this new world class country club and was fully involved in the construction administration of the entire project. This \$21M rebuild broke ground in 2013 and opened in 2016. The landscape planting budget alone exceeded \$1.2M and included the installation of 8 inch caliper trees along a boulevard entry drive. The golf course itself underwent a \$14M renovation during the same time frame as the clubhouse.

Boothbay Harbor Country Club Fitness Pavilion, Boothbay, Maine – Continuing with the BHCC and the Knickerbocker Group, Sebago completed the site design, engineering and permitting for an expansion to the campus by designing a fitness pavilion with an outdoor pool and spa. This development included a separate entry drive to the campus from the Boothbay Village Common. This design process started in 2014 and opened in Spring 2018.

Route 27 Street Improvement Project, Boothbay, Maine – Steve was the Project Landscape Architect for this upgrade and street improvement project in the heart of Boothbay Village. The design included landscaped median islands, central round-about, new street lights, signage and redevelopment of several properties, including the Town hall and Village Market that conflicted with street re-alignments. Steve also worked with the Town's Landscape Committee to collaborate with them on the landscape design and plant selection. Steve performed construction administration and inspections of the landscape installation. Project was completed in July 2018.

Kennebunkport Resort Collection- Various Properties, Kennebunk and Kennebunkport, Maine - Steve is the Lead Site Planner and Permitting Specialist for the entire holdings of the Kennebunkport Resort Collection. This group owns and operates numerous high-end hotels throughout the Kennebunk's. Sebago has been involved with KRC since its inception in 2015. These properties include: Hidden Pond and Earth Restaurant, The Tides Beach Club, Cabot Cove Cottages, The Grand, The Yachtsman, The Boathouse, The Lodge on the Cove, The Arundel Inn and The Old Fort Inn.

Residential Properties, Kennebunk, Kennebunkport, Maine - As a resident of Kennebunkport, Steve has developed a solid reputation with the Town Planning and Code Enforcement offices in these communities and consequently has received numerous referrals from the officials to assist homeowners, developers and architects with design, engineering and permitting for their projects. He is familiar with the regulations and permitting process in these Towns and has developed a respect with the Planning Boards in providing quality engineering and land planning work that complies with local codes.

EDUCATION



Ohio State University - Columbus, OH
Bachelor of Science, Landscape
Architecture, 1986

Architectural Technical Institute,
Ohio State University - Wooster, OH
Associated Degree in Applied
Science, 1980

MEMBERSHIPS

Sigma Lambda Alpha Honor Society
for Landscape Architects

National Landscape Architecture
Honor Society

Town of Kennebunkport Shade Tree
Committee Member

REGISTRATIONS

Registered Landscape Architect:
Maine #131

LEED Accredited Professional
CLARB Certified



DANIEL L. RILEY, PE, CFM

Vice President, Engineering



Mr. Riley is a Senior Project Manager and Vice President of Engineering with over 25 years of experience in the civil engineering field on projects for the private sector, as well as federal and municipal clients. He has a diverse background in civil engineering, site design, residential and commercial development and permitting.

He is experienced and well versed in presenting complex, controversial and publicly sensitive issues to a variety of audiences. Since 2008, Mr. Riley has been the Contract Manager and lead engineer for Sebago Technics' General Engineering Services Contract with the City of South Portland. In that role, he is responsible for coordinating the firm's services and providing engineering support for City Departments including Planning and Development, Bus/Transportation and Waterfront, Public Works, and Parks and Recreation.

Prior to joining Sebago Technics, Mr. Riley worked as a professional engineer in Colorado specializing in water resources engineering. In that role, he managed projects for federal and municipal clients, including stormwater master planning and floodplain studies and assisted communities with the implementation of Stormwater Management Utilities. He maintains status as an ASFPM Certified Floodplain Manager.

EXPERIENCE



City of South Portland Maine Engineering Services

Mr. Riley has been the Contract Manager and lead engineer for Sebago Technics' General Engineering Services Contract with the City of South Portland since 2009. In that role, he is responsible for coordinating the firm's services and providing engineering support for City Departments including Planning and Development, Bus/Transportation and Waterfront, Public Works, and Parks and Recreation. Since 2012 his focus for South Portland has been combined sewer separation projects. Notable projects include:

- Knightville Sewer Separation and Street Improvements Phases 1 and 2
- Thornton Heights Improvements Project Phases 1-3
- Pleasantdale Sewer Separation Project
- SWMM Model updates, Greenbelt Trunkline, West High Pump Station and Pearl street Pumps Station Service areas.
- Greenbelt Sewer Replacement Project

City of Portland Combined Sewer Separation Projects

Mr. Riley has been the Project Manager for several of Sebago Technics' Sewer Separation contracts with the City of Portland since 2010. Notable Relevant Projects include:

- Fall Brook Watershed Study- City of Portland Public Services Department
- Woodford Street and Melrose Street: Design and Inspection Services 2016-2017
- Forest Avenue, Deering Street and Ocean Avenue: Design and Inspection Services 2017-2018
- Mackworth-Ocean and Walnut Street: Design Services 2018-2019 for construction in 2020-2021

EDUCATION



Villanova University, Villanova, PA
Bachelor of Science, Civil Engineering
1991

REGISTRATIONS

Professional Engineer:
Maine #9967
Colorado: #32176

Certified Floodplain Manager
#32249

MEMBERSHIPS

Chi Epsilon, National Civil Engineering
Honor Society

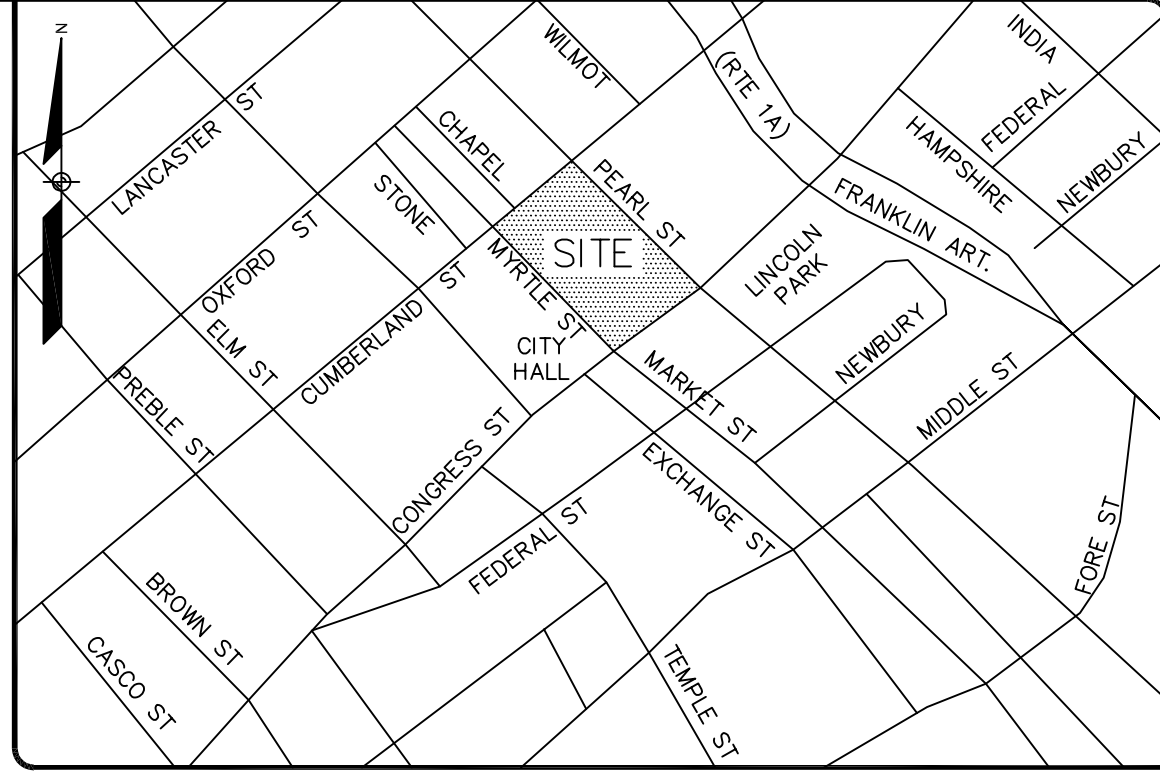
Association of State Floodplain
Managers (ASFPM)



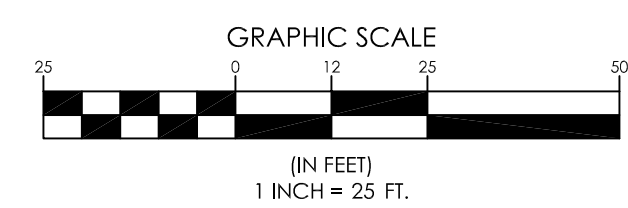
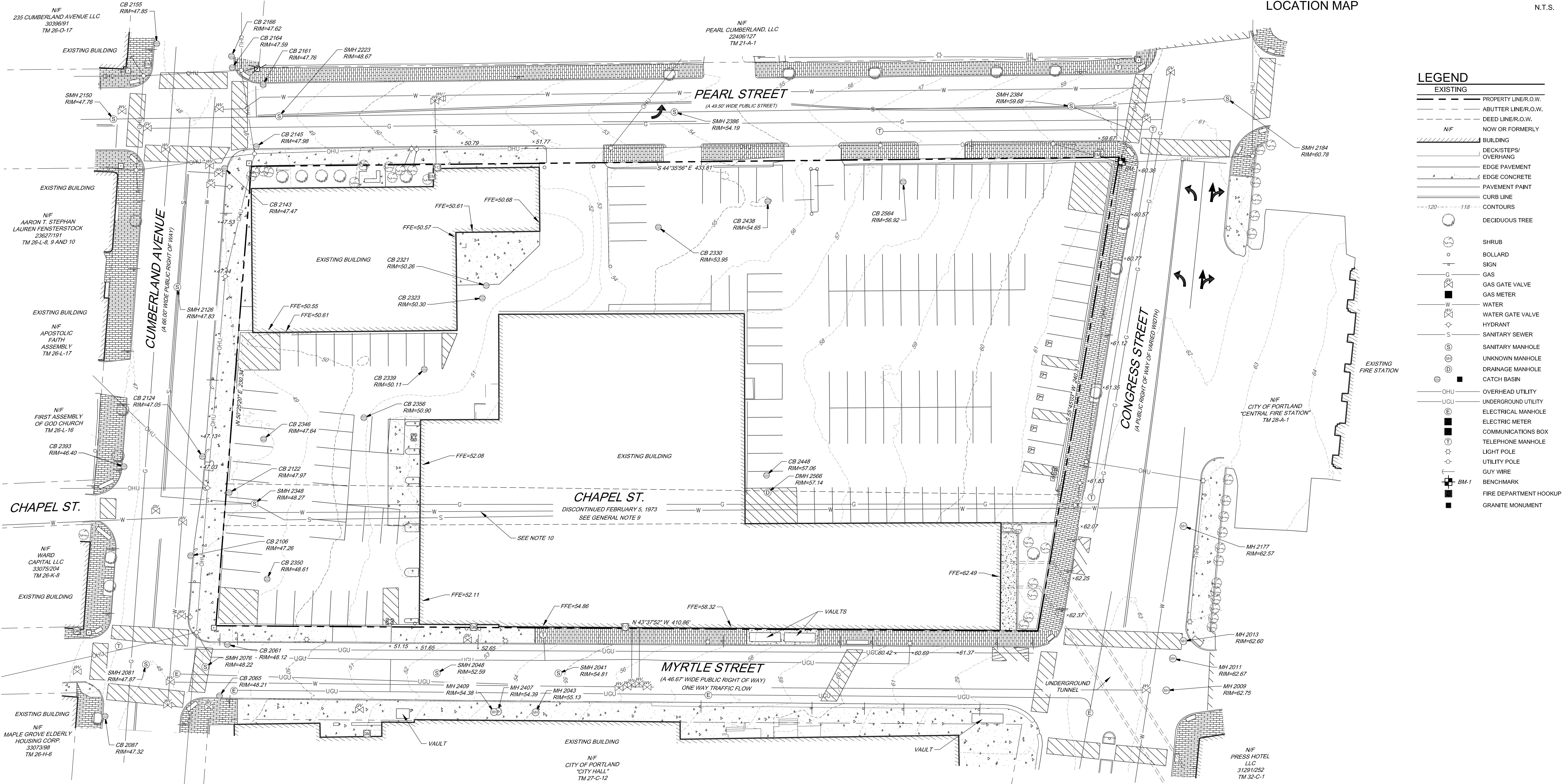
GENERAL NOTES:

- THE RECORD OWNER OF THE PARCEL IS 385 CONGRESS LLC BY DEED DATED OCTOBER 20, 2017 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS (CCR) IN BOOK 34401, PAGE 214.
- THE PROPERTY IS SHOWN AS LOT 1 ON THE CITY OF PORTLAND TAX MAP 27 AND IS LOCATED IN THE B3 DOWNTOWN BUSINESS DISTRICT.
- SPACE AND BULK CRITERIA FOR THE B3 DISTRICT ARE AS FOLLOWS:
MINIMUM LOT SIZE: N/A
MINIMUM STREET FRONTAGE: 15 FEET
MINIMUM FRONT YARD: N/A
MINIMUM SIDE YARD: N/A
MINIMUM REAR YARD: N/A
MAXIMUM BUILDING HEIGHT: 150 FEET
MAXIMUM LOT COVERAGE: 100%
* SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
- TOTAL AREA OF PARCEL IS APPROXIMATELY 2.26 ACRES.
- THE BOUNDARY IS BASED ON PLAN REFERENCE 6F. TOPOGRAPHIC INFORMATION SHOWN HEREON, SEBAGO TECHINCS INC. UPDATED RECORDS RESEARCH FROM 2009 TO DATE REGARDING THE BOUNDARY INFORMATION.
- IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHINCS, INC. OCTOBER, 2019.

- PLAN REFERENCES:
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 - PORTLAND DEPARTMENT OF PUBLIC WORKS STREET WORKSHEETS AND BLUESHEETS FOR STREETS BOUNDING THE LOCUS PARCEL AND ON FILE WITH THE PORTLAND DEPARTMENT OF PUBLIC WORKS AS 1595.
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 - NEW MECHANICAL BUILDING, GUY GANNETT PUBLISHING COMPANY, PORTLAND, ME, TUNNEL PLAN AND SECTIONS BY LOCKWOOD, GREENE ENGINEERS, INC. REVISED THROUGH MAY 12, 1965 AND ON FILE WITH THE PORTLAND DEPARTMENT OF PUBLIC WORKS AS 2032.
 - PLAN OF PROPERTY IN PORTLAND, ME, MADE FOR GUY GANNETT PUBLISHING CO. BY H.I. & E.C. JORDAN - SURVEYORS, REVISED THROUGH FEBRUARY 6, 1973 AND ON FILE WITH OWEN HASKELL INC.
 - ALTA/ACSLAND TITLE SURVEY OF CONGRESS STREET SITE, 385 CONGRESS STREET, PORTLAND, ME DATED JULY 1, 2009 BY SEBAGO TECHINCS INC. PROJECT NUMBER 09235.
- PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE NGVD29 PER CITY STANDARDS AS VERIFIED BY A UNITED STATES COAST & GEODETIC SURVEY BRASS DISK LOCATED IN A GRANITE BLOCK OF THE CITY HALL BUILDING HAVING A PUBLISHED ELEVATION OF 68.66' (NAVOD88 68.95')
- THE CITY OF PORTLAND DISCONTINUED THAT PORTION OF CHAPEL STREET "RUNNING FROM CONGRESS STREET TO CUMBERLAND STREET" BY ORDER OF CITY COUNCIL ON FEBRUARY 5, 1973 AND RECORDED AT THE CITY OF PORTLAND RECORDS IN VOLUME 89, PAGE 61. PUBLIC AND PRIVATE RIGHTS MAY EXIST FOR PUBLIC HIGHWAY AND UTILITIES THAT STILL LIE WITHIN THE LIMITS OF CHAPEL STREET. SEBAGO TECHINCS, INC. SUGGEST LEGAL COUNSEL BE SOUGHT TO CLARIFY THE INTEREST OF OTHERS IN THESE RIGHTS.
- PURSUANT TO A CONVERSATION BETWEEN SEBAGO TECHINCS, INC. AND THE PORTLAND WATER DISTRICT, THE WATER LINE SHOWN AS BEING LOCATED IN THE DISCONTINUED PORTION OF CHAPEL STREET HAS BEEN REMOVED AND NO LONGER EXISTS.
- UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD C100-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
- THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY-PANEL NUMBER 230051 0013 B, HAVING AN EFFECTIVE DATE OF JULY 17 1986. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF AREAS OF MINIMAL FLOODING.
- BENCHMARK:
BM-1 EASTERLY BOLT AT BASE OF UTILITY POLE ELEVATION: 61.55 (NGVD29)



LOCATION MAP N.T.S.

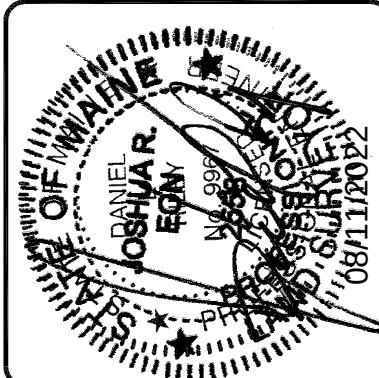
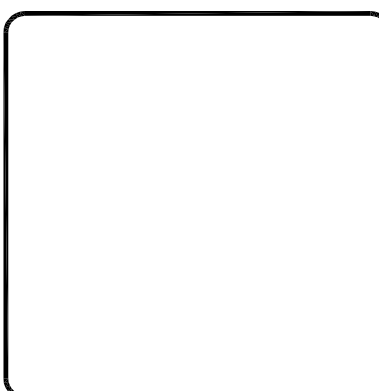


PROJECT BENCHMARK
US&G BRASS DISK SET IN
GRANITE STEP
DESIGNATION: TIDAL 38 STA 64
STAMPED "1919-38"
NAVD 88 ELEVATION = 68.95'
NGVD29 ELEVATION = 68.66'

SURVEYOR'S STATEMENT

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSES FOR PROFESSIONAL LAND SURVEYORS.

JOSHUA F. EON, PLS 2558 12/16/2019



ADDED STRUCTURE INFO AND MINOR DRAFTING REVISIONS	
F	JRE 2/20/2020
E	JRE 2/10/2020
D	JRE 2/7/2020
C	JRE 1/20/2020
B	JRE 1/08/2020
A	JRE 12/16/2019
REV. BY:	DATE:
STATUS:	
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHINCS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHINCS, INC.	



EXISTING CONDITIONS PLAN
OF:
CONGRESS / PEARL BLOCK
CONGRESS STREET AND PEARL STREET
PORTLAND, MAINE 04101
FOR RECORD OWNER:
385 CONGRESS STREET, LLC.
2730 TRANSIT ROAD
WEST SENECA, NY 14224

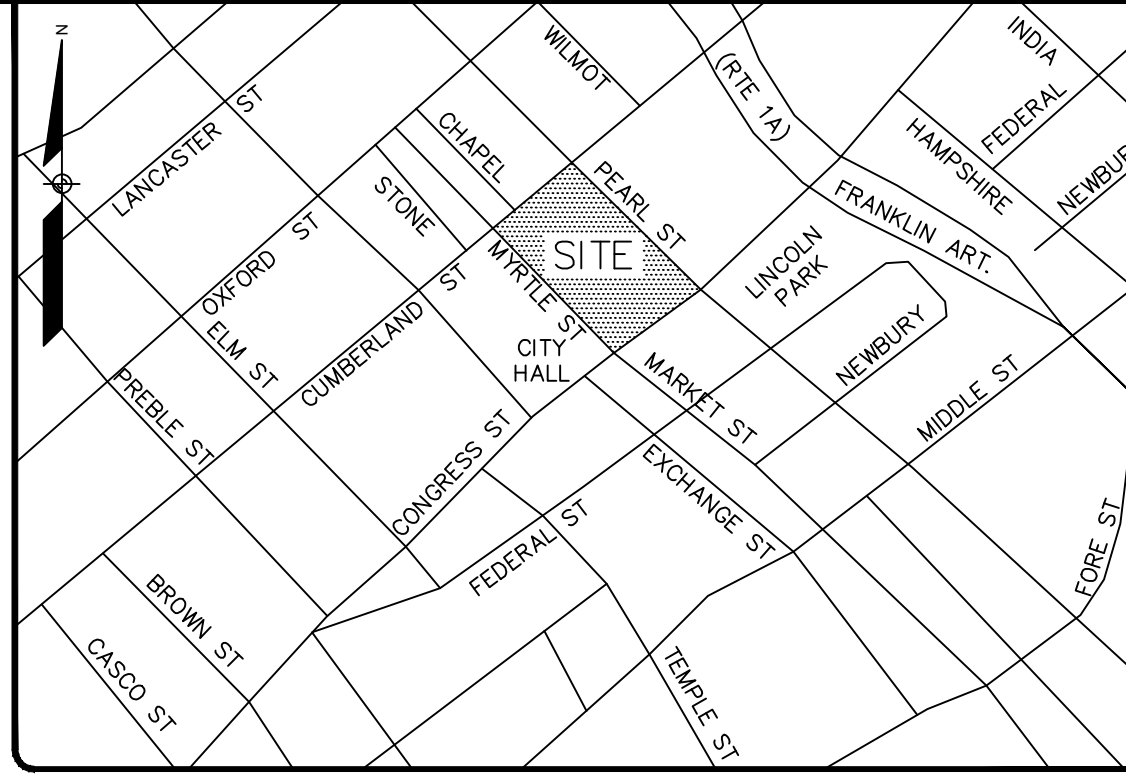
DESIGNED	-
DRAWN	RHS/TSL
CHECKED	JRE/CDM
DATE	12/16/19
SCALE	1" = 25'
PROJECT	19371

SHEET 1 OF 2

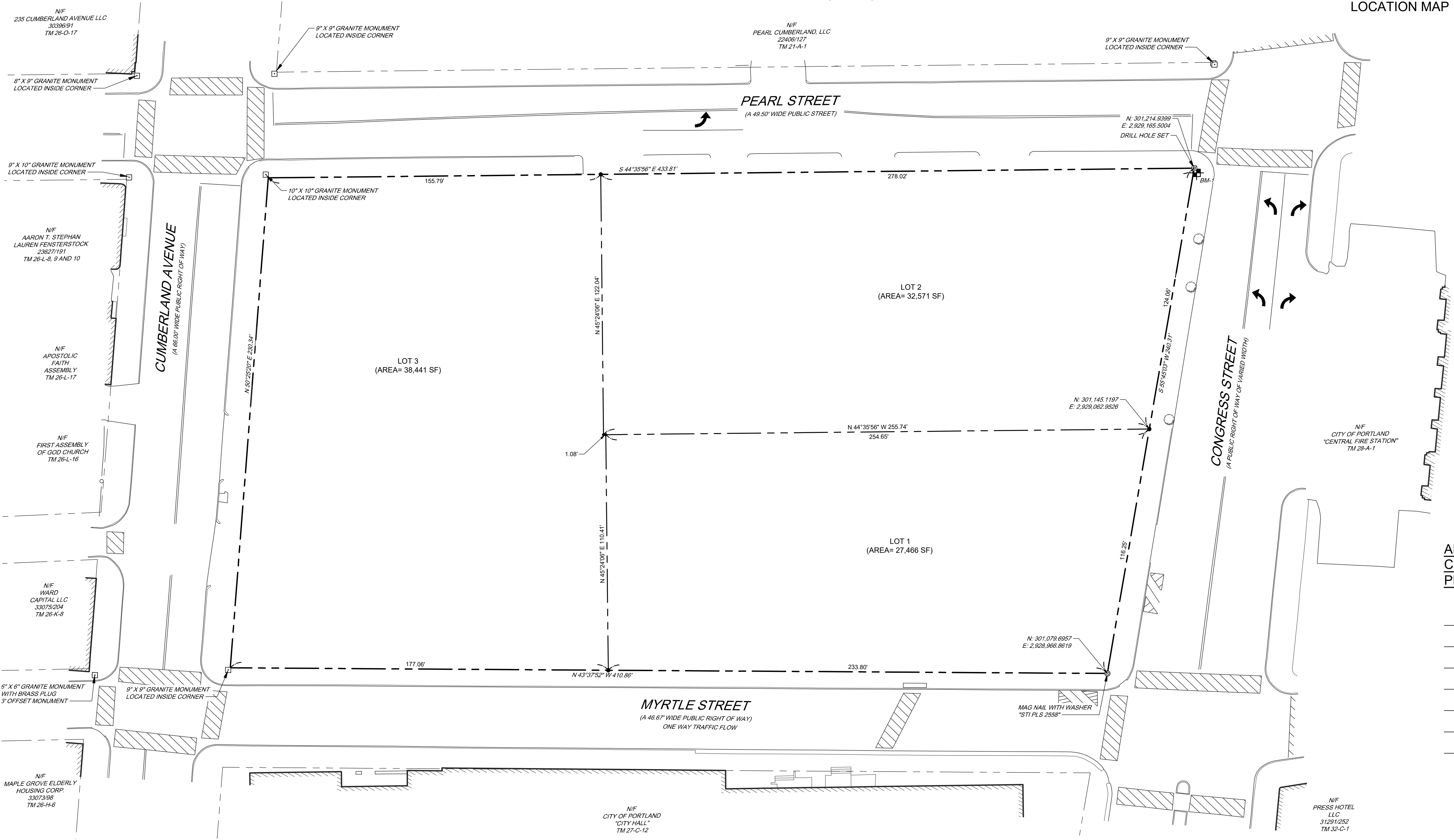
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2. THE PROPERTY IS SHOWN AS LOT 1 ON THE CITY OF PORTLAND TAX MAP 27 AND IS LOCATED IN THE B3 DOWNTOWN BUSINESS DISTRICT.
3. SPACE AND BULK CRITERIA FOR THE B3 DISTRICT ARE AS FOLLOWS:

MINIMUM LOT SIZE:	N/A
MINIMUM STREET FRONTAGE:	15 FEET
MINIMUM FRONT YARD:	N/A
MINIMUM SIDE YARD:	N/A
MINIMUM REAR YARD:	N/A
MAXIMUM BUILDING HEIGHT:	150 FEET
MAXIMUM LOT COVERAGE:	100%
- * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
4. TOTAL AREA OF PARCEL IS APPROXIMATELY 2.26 ACRES.
5. THE BOUNDARY IS BASED ON PLAN REFERENCE 7F. SEBAGO TECHINCS INC. UPDATED RECORDS RESEARCH FROM 2009 TO DATE REGARDING THE BOUNDARY INFORMATION.
6. IMPROVEMENTS ON THE SITE ARE NOT SHOWN HEREON. FOR SITE INFORMATION SEE PLAN REFERENCE 7F.

- PLAN REFERENCES:
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- F. ALTA/ACSM LAND TITLE SURVEY OF CONGRESS STREET SITE, 385 CONGRESS STREET, PORTLAND, ME DATED JULY 1, 2009 BY SEBAGO TECHNICS INC, PROJECT NUMBER 09235.
8. PLAN ORIENTATION IS GRID NORTH. MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE NGVD29 PER CITY STANDARDS AS VERIFIED BY A UNITED STATES COAST & GEODETIC SURVEY BRASS DISK LOCATED IN A GRANITE BLOCK OF THE CITY HALL BUILDING HAVING A PUBLISHED ELEVATION OF 69.66' (NAD83 68.95')
9. THE CITY OF PORTLAND DISCONTINUED THAT PORTION OF CHAPEL STREET THAT FORMERLY RAN THROUGH THE SURVEYED PREMISES INCLUDING ALL UTILITY RIGHTS THEREIN "RUNNING FROM CONGRESS STREET TO CUMBERLAND STREET" BY ORDER OF CITY COUNCIL ON FEBRUARY 5, 1973 AND RECORDED AT THE CITY OF PORTLAND RECORDS IN VOLUME 59, PAGE 61.
10. PURSUANT TO A CONVERSATION BETWEEN SEBAGO TECHNICS, INC. AND THE PORTLAND WATER DISTRICT, THE WATER LINE SHOWN AS BEING LOCATED IN THE DISCONTINUED PORTION OF CHAPEL STREET HAS BEEN REMOVED AND NO LONGER EXISTS.
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12. THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY-PANEL NUMBER 230051-001B, HAVING AN EFFECTIVE DATE OF JULY 17 1996. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF AREAS OF MINIMAL FLOODING.
13. BENCHMARK:
BM-1 EASTERLY BOLT AT BASE OF UTILITY POLE ELEVATION: 61.55 (NGVD29)
PROPOSED UNITS LOT 1:
PROPOSED LOT: 156 ROOMS
PROPOSED RESIDENTIAL CONDOMINIUMS: 9 UNITS



EXISTING	PROPOSED
_____	PROPERTY LINE/R.O.W.
_____	ABUTTER LINE/R.O.W.
N/A	NOW OR FORMERLY
	BUILDING
	DECK/STEPS/ OVERHANG
	EDGE PAVEMENT
	EDGE CONCRETE
	PAVEMENT PAINT
	CURB LINE
BM-1	BENCHMARK
	GRANITE MONUMENT
	IRON PIPE/ROD
	DRILL HOLE
	DECIDUOUS TREE



DATE _____

CHAIRPERSON _____

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.


JACOB I. BARTLETT, PLS 2513

IN ACCORDANCE WITH TITLE 33 MRSA §652, SECTION 3, THE PROFESSIONAL SIGNATURE BELOW WILL BE ADDED AFTER THE PLANNING BOARD HAS SIGNED, AS AN ORIGINAL SIGNATURE, FOR RECORDING STANDARDS.

STATE OF MAINE, CUMBERLAND
COUNTY SS, REGISTRY OF DEEDS

RECEIVED _____, 20____
AT ____H ____M _____M AND
RECORDED IN
PLAN BOOK _____ PAGE _____

ATTEST: _____

REGISTERED

A circular professional seal for Jacob L. Bartlett, a Professional Engineer in the State of Maine. The seal features the text "STATE OF MAINE" at the top, "JACOB L. BARTLETT" in the center, "PROFESSIONAL ENGINEER" at the bottom, and "2543" on the right side. A five-pointed star is located at the bottom center. The seal is overlaid with a large, stylized signature in black ink.

C	DLR	01/11/2023	SUBMITTED FOR SUBDIVISION APPROVAL
B	DLR	12/02/2023	SUBMITTED FOR SUBDIVISION APPROVAL
A	DLR	11/18/2022	SUBMITTED FOR SUBDIVISION APPROVAL
REV. BY:	DATE:	STATUS:	

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SEBAGO
TECHNICS

WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-209-2100

SUBDIVISION PLAN

OF:

385 CONGRESS STREET
CONGRESS STREET AND PEARL STREET
PORTLAND, MAINE

FOR:

385 CONGRESS STREET LLC
2730 SENECA ROAD
WEST SENECA, NY 14224

RECORD OWNER:
385 CONGRESS LLC
2730 TRANSIT ROAD
WEST SENECA, NY 14224

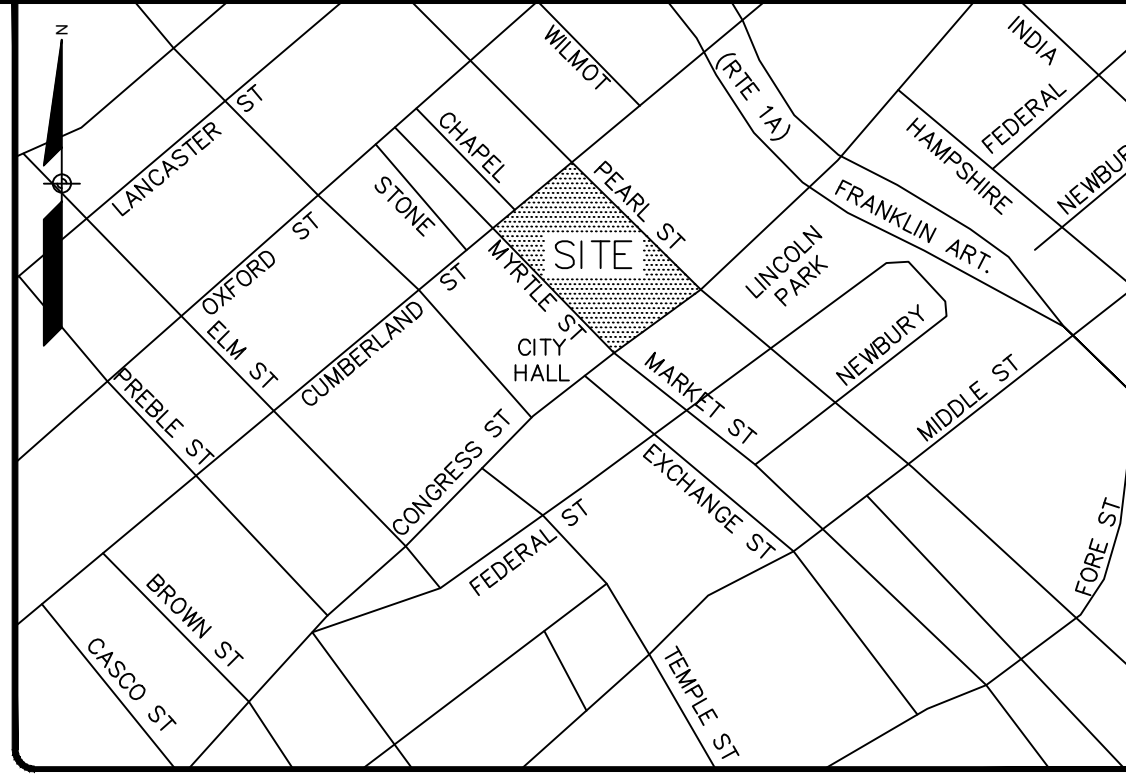
DESIGNED	DJS
DRAWN	DAB
CHECKED	DLR
DATE	12/02/2022
SCALE	1" = 25'
PROJECT	19371

SHEET 1 OF 1

1. THE RECORD OWNER OF THE PARCEL IS 385 CONGRESS LLC BY DEED DATED OCTOBER 20, 2017 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS (CCRD) IN BOOK 34401, PAGE 214.
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MINIMUM STREET FRONTAGE:	15 FEET
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MINIMUM REAR YARD:	N/A
MAXIMUM BUILDING HEIGHT:	150 FEET
MAXIMUM LOT COVERAGE:	100%
- * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
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6. TOPOGRAPHIC INFORMATION SHOWN HEREON, IS BASED UPON FIELD WORK PERFORMED BY SEBAGO TECHNICS, INC. OCTOBER, 2019.

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8. PLAN ORIENTATION IS GRID NORTH. MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE NGVD29 PER CITY STANDARDS AS VERIFIED BY A UNITED STATES COAST & GEODETIC SURVEY BRASS DISK LOCATED IN A GRANITE BLOCK OF THE CITY HALL BUILDING HAVING A PUBLISHED ELEVATION OF 69.66' (NAVDS8 68.95')
8. THE CITY OF PORTLAND DISCONTINUED THAT PORTION OF CHAPPEL STREET INCLUDING ALL UTILITY RIGHTS THEREIN" RUNNING FROM CONGRESS STREET TO CUMBERLAND STREET" BY ORDER OF CITY COUNCIL ON FEBRUARY 5, 1973 AND RECORDED AT THE CITY OF PORTLAND RECORDS IN VOLUME 89, PAGE 61.
10. PURSUANT TO A CONVERSATION BETWEEN SEBAGO TECHNICS, INC. AND THE PORTLAND WATER DISTRICT, THE WATER LINE SHOWN AS BEING LOCATED IN THE DISCONTINUED PORTION OF CHAPPEL STREET HAS BEEN REMOVED AND NO LONGER EXISTS.
10. UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASSE) STANDARD CHASE 38-42. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
11. THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY PANEL NUMBER 230951 001 B, HAVING AN EFFECTIVE DATE OF JULY 17 1998. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF AREAS OF MINIMAL FLOODING.
12. BENCHMARK:
BM-1 EASTERLY BOLT AT BASE OF UTILITY POLE ELEVATION: 61.55 (NGVD29)
13. SITE FEATURES SHOWN HEREON ARE PROPOSED. SEE FULL PLAN SET OF 385 CONGRESS STREET FOR DESIGN ELEMENTS.



LEGEND	
EXISTING	PROPOSED

EASEMENT LINE TABLE		
LINE	DIRECTION	DISTANCE
L1	N 45°24'06" E	4.45'
L2	S 44°35'54" E	1.06'
L3	N 45°24'06" E	5.55'
L4	S 49°35'54" E	15.12'
L5	S 44°35'54" E	10.83'
L6	S 55°24'06" W	7.50'
L7	S 44°35'54" E	84.96'
L8	N 45°40'12" E	0.64'
L9	S 44°38'05" E	22.33'
L10	S 45°40'16" W	0.65'
L11	S 44°35'54" E	28.29'
L12	S 45°24'35" W	2.98'
L13	S 44°35'25" E	56.25'
L14	S 55°45'03" W	4.85'

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

ATTEST: _____ REGISTERED

DESIGNED	DJS
DRAWN	DAB
CHECKED	DLR
DATE	01/13/2023
SCALE	1" = 25'
PROJECT	19371-01

SHEET 3 OF 24

DANIEL I RILEY PE 9967 IACOB I BARTI ETT PI S 2513

A circular professional seal for Jacob E. Barlett, a Professional Land Surveyor in the State of Maine. The seal contains the text "STATE OF MAINE", "JACOB E. BARLETT", "PROFESSIONAL LAND SURVEYOR", and "No. 2413". A five-pointed star is at the bottom. A handwritten signature in black ink is written across the seal.

[illegible]

SEBAGO
TECHNICS

WWW.SEBAGOTECHNICS.COM

75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

RECORD OWNER:
385 CONGRESS LLC
2730 TRANSIT ROAD
WEST SENECA, NY 14224

EASEMENT PLAN- LOT 1
OF:
385 CONGRESS STREET
CONGRESS STREET AND MYRTLE STREET
PORTLAND, MAINE
FOR:
THE FATHOM COMPANIES
80 EXCHANGE ST. SUITE 400
PORTLAND, ME 04101

19371 - SR - P1 dwg TAB:3 EASEMENT PLAN-LOT 1

385 CONGRESS HOTEL | BUILDING ELEVATION

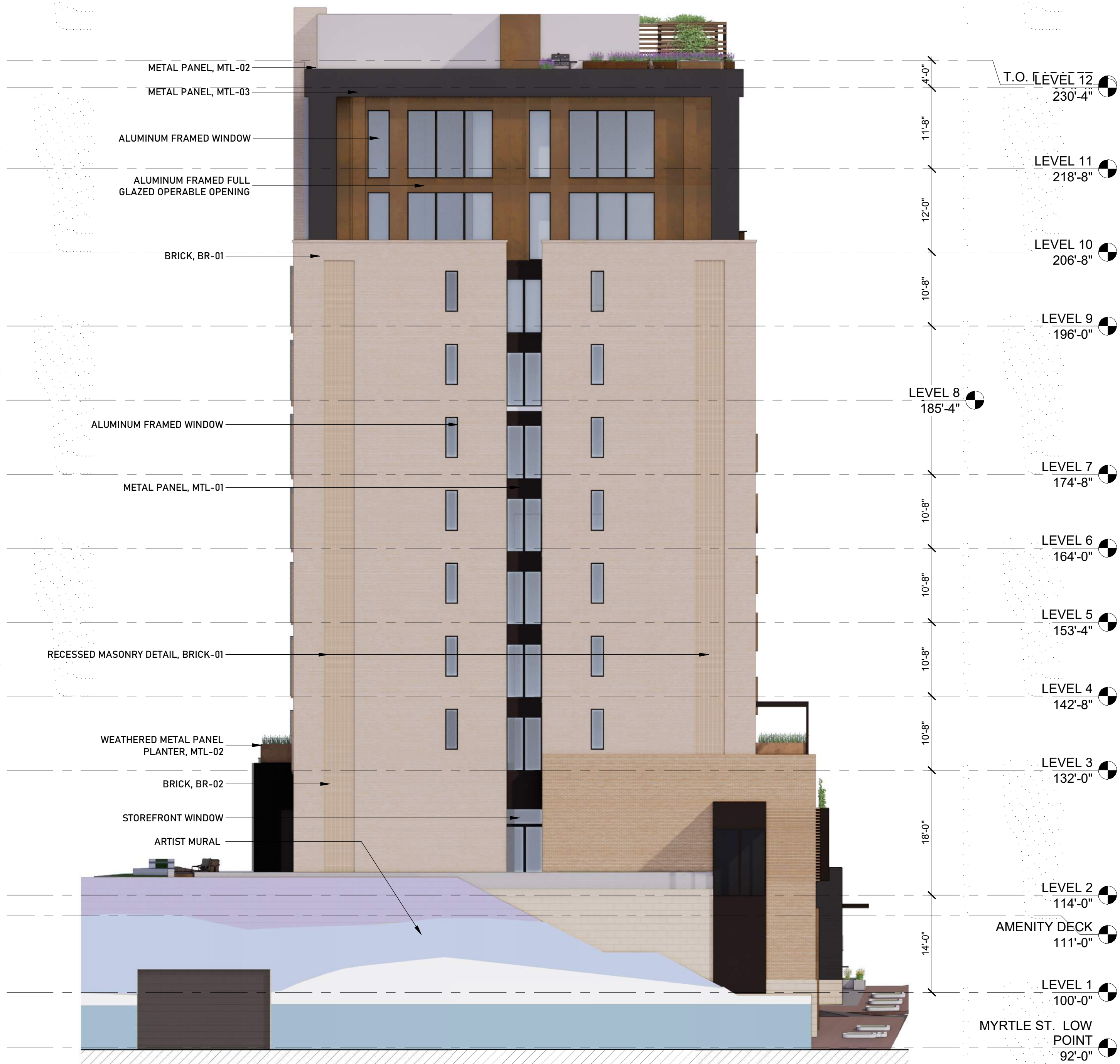


EAST ELEVATION - CONGRESS STREET
3/32" = 1'-0"

385 CONGRESS HOTEL | BUILDING ELEVATION



385 CONGRESS HOTEL | BUILDING ELEVATION



WEST ELEVATION - SITE INTERIOR
3/32" = 1'-0"

385 CONGRESS HOTEL | BUILDING ELEVATION



NORTH ELEVATION - SITE INTERIOR
3/32" = 1'-0"

Planning and Urban Development

Kevin Kraft, AICP

Deputy Director



From: Kevin Kraft, AICP - Deputy Director Planning & Urban Development

To: Portland Planning Board

Date: 1/20/2023

Subject: 165 Lambert Street Major Site Plan - Tabling

The applicant, Maine Cooperative Development Partners, has requested that the Major Site Plan application for 165 Lambert Street be removed from the January 24, 2023 Planning Board Agenda. Staff recommends that the Planning Board table this item until February 28, 2023.