City of Biddeford
Planning Board

July 16, 2025 at 6:00 PM
City Hall Council Chambers & Zoom

Join Zoom Meeting Online
Or call in by phone: +1 312 626 6799
Meeting ID: 949 8353 1202
Passcode: 223739

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
3. Adjustment(s) to Agenda
4. Planner's Business
5. Consent Agenda
   - 5.a Approval of Meeting Minutes from July 2 & 9, 2025
6. Unfinished Business
7. New Business
   - 7.a 2025.19 Review of a Shoreland Zoning Application for Brian T. Anderson to rebuild his house & attached garage at 49-Mile Stretch Road (Tax Map 62, Lot 29-32) in the Coastal Residential and Shoreland Overlay Zone. This request was approved in 2021, but the approval expired when there was no construction.
   - 7.b 2025.07 Review of an application for Site Plan Review for Bohler c/o Chick-fil-A to construct a 4900±SF restaurant with a drive-thru at 150 Shops Way (Tax Map 2, Lot 24) in the Business 2 (B2) Zone.
   - 7.c 2024.55 Review of Final Subdivision for 3 Lincoln, LLC for the proposed redevelopment of 3 Lincoln Street, (Pearl Street, Lot 3) (Tax Map 71, Lot 2) in the MSRD 3 zone and shoreland overlay. This applicant wishes to amend the previous Major Site Plan and Subdivision Approval (2022.02) from 3 buildings on Lot 3 to 4. The amendment includes the addition of five (5) town homes and revises Building A from 85 residential units to up to 52 units, Building B from 129 residential units to up to 85 units, and Building C will remain as a restaurant with approximately 154 total seats.
   - 7.d 2024.34 Review of site plan application and shoreland permits for a proposed research pier and floats at 11 Hills Beach

Road for the University of New England. The project is located in the city Institutional (IN) zone and the Limited Residential District shoreland zone.

8. Other Business

9. Adjourn

The Board reserves the right to halt official business at 9:30 p.m. Items not heard at tonight's meeting shall be rescheduled to the next meeting of the Board. All materials pertaining to items on the agenda are available for public review at the Biddeford Planning Department, second floor, Biddeford City Hall during normal business hours.

CITY OF BIDDEFORD

Planning and Development Department

205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115

Planning Board Meeting
Meeting Minutes
DRAFT

Date: July 2, 2025
Time: 6:00 PM
Location: Council Chambers & Zoom

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
   Quorum Present: Alexa Plotkin, Chair, Roch Angers, Matt Dubois, & Kayla Lewis (Alternate Member) Lewis is voting in place of Patoine
   Board Members Absent: Larry Patoine (Excused), Sue Deschambault (Excused), Steve Beaudette (unexcused)
   Staff Present: Adi Iriqat & Nan Whitten
   The chair called the meeting to order at 6:07 PM
3. Adjustments to the Agenda
4. Planner's Business
   4.a Plan for 3 Lincoln LLC (Fathom)
5. Consent Agenda
   5.A. Approval of Meeting Minutes from June 18, 2025
   MOTIONS: 6:10 PM
   Motion- Angers -Motion to approve Consent Agenda
   Second- Dubois
   Vote-Unanimous
6. Unfinished Business-N/A
7. New Business
   7.a 2025.25 Review of a Greatest Practical Extent application (Shoreland Zoning) for Matthew & Mary Lopresti to reconstruct the home at 100-Mile Stretch Road (Tax Map 61, Lot 3) in the Coastal Residential (CR) Zone and Shoreland Overlay.
   - Iriqat introduced the project as a reapproval as it was approved previously but approval expired while waiting for DEP permits.
   - Mike Morse of Archipelago represented the applicants
   - The change to the property will make the structure more conforming
   - Currently at 42' after construction the structure will be 82' from the HAT Line
   - Morse discussed the criteria for relocating the structure. The applicant meets all 6 criteria of the ordinance.
   - NO PUBLIC COMMENTS

DRAFT

- **Angers, no changes he is in favor**

MOTIONS: 6:27 PM

Motion- Dubois - Motion to Approve Case #2025.25 Greatest Practical Extent Determination for Archipelago LLC on behalf of Matthew & Mary Lopresti (Tax Map 61, Lot 3) in the Coastal Residential Zoning District with the above-listed Conditions of Approval.

Conditions of Approval:

1. The razed building shall not be relocated closer to any of the existing property lines as noted on the approved plan

2. The Code Enforcement Officer shall review and approve conformance to Section 15 of the Shoreland Zoning Ordinance

3. Obtain all required permits from the Maine Department of Environmental Protection and the Biddeford Code Enforcement Office

4. This approval shall expire one year from the date below if a substantial start is not made in construction. If a substantial start (30% of project completion, i.e., framing and foundation) is made within one year of the date below, the applicant shall have one additional year to complete the project thereinafter; this approval shall expire 7-2-26.

Second Angers

Vote-Motion passed unanimously

7.b. 2024.32 The Biddeford Planning Board will hold a Public Meeting and take comments to review a Final Plan Subdivision Application for Coastal Oaks, LLC. The property is located at 512 Pool Street (Tax Map 9, Lot 31) in the RF & SR-1 Zones. The applicants propose to construct a subdivision containing 8 single-family homes.

- **Iriqat introduced the project**
- **Lot 9 dedicated open space 850' private access way maintained by HOA**
- **Drew Olehowsky with Haley Ward represented the applicant**
- **Harvesting permits have been taken care of**
- **Vernal Pools non-significant reports sent to DEP & IF&W no comments**
- **99% of Wright Pierce comments taken care of**
- **They will update the maintenance report as requested**
- **Street name of Belle Woods Way approved by Dylan Martin of BPD**
- **Ethan Scott also spoke on behalf**

  PUBLIC COMMENTS

  Peter Robbins Newtown Road speaking personally not on behalf of the Conservation Commission.

  Ethan Scott replied that they had the vernal pools surveyed and flagged prior to lot clearing and the canopy remains intact.
- **Dubois asked about the private accessway**
- **Lewis asked questions regarding the HOA bi-laws; bi-laws are standard but some things such as landscaping, lighting, snow removal are specific to this neighborhood.**

DRAFT

- **Lewis-page 5 going into 6 amendments to bi-laws of HOA confirm applicants will maintain lot 9, changes will need applicants' signature-not if they already have 4/5ths vote. Approval from the grantor for holiday decorations, excessive? Applicant very experienced and receptive to comments, wants & needs from homeowners. Asked questions about legal actions, she recommends a dispute procedure because they seem kind of "tight". Scott-this is to watch what is rented out and keep all the homeowners happy. If the homeowners ask to have it changed by 4/5ths vote it will be changed.**
- **Angers what is replacing the 3 items cut, Timber harvesting, there is a permit, second one drive way to lot not connected it has connection to pool street which will be abandoned and hooked up to the access road, 3rd parcel 9 dedicate as open space or land trust, applicant will keep it as an open space but retain the rights to develop further if so desired, it gives them more options.**

MOTIONS:6:51

Motion- Dubois- Motion to APPROVE Case # 2024.32 Final Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision) a proposed single-family residential subdivision consisting of 9-lot subdivision (8 residential & 1 open space) to be located at 512 Pool Road (Tax ID# Map 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.
Second-Angers
Vote-

8. **Other Business-N/A**
9. **Adjourn 6:54 PM**

DRAFT

_____ _____

Planning Board Chair/Vice Chair **Date**

These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.

CITY OF BIDDEFORD

Planning and Development Department

205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115

Planning Board
Site Walk
University of New England
Meeting Minutes
DRAFT

Date: July 9, 2025
Time: 5:00 PM
Location: 11 Hills Beach Road

1. **Declaration of Quorum/Voting Members**
   Quorum Present: Larry Patoine, Vice Chair, Matt Dubois, Roch Angers & Kayla Lewis
   Board Members Absent: Alexa Plotkin, Sue Deschambault (both excused) Steve Beaudette
   Staff Present: Adi Iriqat & Nan Whitten
2. **2024.34 Site Walk for proposed Marine Science Pier for University of New England**

Because this Site Walk is considered a workshop for the Planning Board members, the public will not be permitted to ask questions or make public comments. Please send all questions/comments to nan.whitten@biddefordmaine.org in the Planning Department prior to the July 16th Planning Board Meeting. Thank you

- **Site walk was conducted for the proposed marine science pier for UNE**
- **Attached is the sign in sheet for the site walk.**

Planning Board Chair/Vice Chair **Date**

These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.

DRAFT

SITE WALK SIGN-UP / SIGN-IN SHEET

University of New England: Marine Science Pier

DATE: June 9, 2025- Please write legibly

PRINT NAME	RELATIONSHIP TO PROJECT
Nan Whitten	Planning Dept.
Adi Iriqat	Planning Dept.
Alan Thibeault	UNE
Kyle Noble	citizen
JOHN SCHAFFER	NEIGHBOR
HARRY Patoine	Planning Board
Peter Robbins	citizen
Sharon Robbins	citizen
Matthew Dubois	Planning Board
Robert A. Anders	Planning Board
ANDREW PHILIPPE	UNE
Ron Schneider	UNE

SITE WALK SIGN-UP / SIGN-IN SHEET

University of New England: Marine Science Pier

DATE: June 9, 2025- Please write legibly

PRINT NAME	RELATIONSHIP TO PROJECT
Jim Irwin	VHB CFO
Kayla Lewis	Planning Board

CITY OF BIDDEFORD
Planning and Development Department

Adi Iriqat
Assistant City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
adi.iriqat@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Plotkin and Members of the Biddeford Planning Board

FROM: Adi Iriqat, Assistant City Planner
DATE: July 08, 2025

RE: 2025.19 Greatest Practical Extent Determination for Werner Gilliam, CFM of Walsh Engineering, INC., on behalf of Brian T. Anderson, to reconstruct a two-story non-conforming structure. The property is 49 Mile Stretch Road (Tax Map 62, Lot 29-32) in the Coastal Residential Zone.

MEETING DATE: July 16, 2025, at 6:00 PM

1) INTRODUCTION

Constructed in 1922, the subject property features a two-story single-family residence with a total of four bedrooms. The property consists of four separate parcels. Lots 31 and 32 are developed with a single-family home, a garage, a stone driveway, and a lawn, whereas lots 29 and 30 are vacant and undeveloped.

The Board originally approved this application on April 23, 2021. However, the applicant did not move forward with the construction within the required one-year timeframe. No changes have been made to the proposed relocation since it was originally approved.

Please note that the enclosed application and supporting materials are identical to those previously submitted for the Board's review. Additionally, **the applicant is not requesting a waiver or for this application to be reviewed as a Site Plan in conjunction with a shoreland zoning application – Only to be viewed as a shoreland zoning application.**

2025.19 Greatest Practical Extent Determination for Werner Gilliam, CFM of Walsh Engineering, INC., on behalf of Brian T. Anderson, to reconstruct a two-story non-conforming structure. The property is 49 Mile Stretch Road (Tax Map 62, Lot 29-32) in the Coastal Residential Zone.



Figure 1 An Aerial View of the Property

2) PROJECT DATA/INFORMATION

1.	Applicant:	Brian T. Anderson 1 Taft Street, Ayer, MA 01432
2.	Owner of Property:	Same as Applicant
3.	Agent:	Werner Gilliam CFM 1 Karen Drive, Suite 2A, Westbrook, ME 04092
4.	Engineer:	Norman G. Chamberlain II. PE 1 Karen Drive, Suite 2A, Westbrook, ME 04092
5.	Project Location:	49 Mile Stretch Rd
6.	Project Tax Map & Lot:	Tax Map 62, Lot 29-32
7.	Lot Size:	2.355 acres
8.	Base Zoning:	CR
9.	Overlay Zoning:	RP
10.	Existing Use:	Residential Dwellings and Improvements
11.	Proposed Use:	Reconstruct a **two-story** non-conforming structure
12.	Approvals Required:	Greatest Practical Extent
13.	Uses in the Vicinity:	Single Family Residential
14.	Number of Lots:	4

15.	Minimum Lot Size Required: Provided: Proposed:	20,000 sf 6468 sf ± N/A
16.	Frontage Required: Existing: Proposed:	150' N/A' N/A
17.	Front Setback Required: Existing: Proposed:	40' 14.3' 14.3'
18.	Side Setback Required: Existing: Proposed:	25' 10' 10'
19.	Rear Setback Required: Existing: Proposed:	25' 81.3' N/A
20.	Height Requirements: Provided: Proposed:	35 feet or three stories 35.8' 35.1'
21.	Water Supply:	Public Water
22.	Sewage Disposal:	Private Sewer
23.	Solid Waste Disposal:	Public Trash
24.	Fire Protection:	City of Biddeford
25.	Floodplain Status:	Zone AE
26.	Ownership of Road:	Mile Stretch Road is a Public Road
27.	Impervious Surface Area:	N/A
28.	Total Disturbed Area:	3,500 s.f.
29.	Waivers Needed:	None
30.	Waivers Granted:	None
31.	Variances Needed for Approval:	None
32.	Other Permits Obtained:	N/A
33.	Other Non-City Permits Required:	DEP
34.	Fees Paid:	Yes
35.	**Planning Board Review History:**	July 16, 2025

3) Existing Conditions

The project proposes to remove the existing non-conforming structure and reconstruct within the same existing footprint. The structures in their existing locations and configurations are at risk of damage from coastal storms and flooding, as they are located within the FEMA flood zone AE, established at an elevation of 13.0 feet (NAVD88).

2025.19 Greatest Practical Extent Determination for Werner Gilliam, CFM of Walsh Engineering, INC., on behalf of Brian T. Anderson, to reconstruct a two-story non-conforming structure. The property is 49 Mile Stretch Road (Tax Map 62, Lot 29-32) in the Coastal Residential Zone.

The lot is also contained within a mapped back dune (D2) and Erosion Hazard Area (EHA) by the Maine Geological Survey and are subject to a Limit of Moderate Wave Action (LIMWA) line. The highest astronomical tide (HAT) elevation on the property is 7.4 feet (NAVD88) and is 20.3 feet from the closest corner of the existing structures.

4) Proposed Project

Scope of Work Summary: 49 Mile Stretch Road

Demolition and Site Preparation
- Demolition of the existing dwelling and associated features as necessary.
- Minimal removal of vegetation; disturbed areas to be replanted with grass.

Structure Relocation
- House location to remain primarily within the same location as the existing.
- The location of the replacement structure and foundation meets the greatest practical extent of setback from the HAT as previously determined by the City of Biddeford Planning Board on April 23, 2021.

Shoreland Zone Compliance
- Comply with Biddeford's Shoreland Zoning requirements and Planning Board standards.
- In compliance with the newly adopted FEMA maps, the structure will be elevated to provide a finished floor elevation of 14.66 (NAVD88), which is 1.66 feet above the base flood elevation of 13.0 feet within the FEMA AE flood zone

Planning Board Criteria Considerations
- Address six statutory relocation criteria:
    - Lot size and configuration: The lot is very large; however, all but most of it is below the HAT and cannot be developed. The site for the proposed relocation and replacement is the only developable spot on the property
    - Slope condition: The lot is fairly flat and does not cause any site restrictions.
    - Soil stability: Again, the lot is fairly flat, and normal soil erosion control measures will protect the resource
    - Nearby structures: The proposed replacement house will be in the exact location as the existing house, and no closer to the structure to the northeast
    - Septic system location: The existing septic system, located in the lawn to the north of the house, is relatively new and was designed for a four-bedroom home. The replacement house would have four bedrooms as well
    - Vegetation impact: The only vegetation to be removed would be some foundation plantings around the existing house and garage. These would be replaced as part of the landscaping for the replacement house

2025.19 Greatest Practical Extent Determination for Werner Gilliam, CFM of Walsh Engineering, INC., on behalf of Brian T. Anderson, to reconstruct a two-story non-conforming structure. The property is 49 Mile Stretch Road (Tax Map 62, Lot 29-32) in the Coastal Residential Zone.

Regulatory Context:

- The structure is non-conforming due to being within the 100-foot shoreline setback (25' from the westerly HAT and 32.52' from the northerly HAT).
- Reconstruction allowed per Article XIV, Section 12(C)(4) of the City Code.
- The application seeks Planning Board approval for a footprint relocation determination to the greatest practical extent.

Conclusion:

- The applicant believes that the proposed relocation of the non-conforming structure's footprint establishes the minimum shoreline setback to the greatest practical extent as discussed above.

- Due to the proximity to Biddeford Pool and associated coastal wetlands, there is no location on the lots that would allow for the construction of a structure that would meet required setbacks. The existing home and garage are located partially within the front setback of Mile Stretch, and the entire structures area are located within the 75' setback from the Highest Astronomical Tide. The garage is located within 25' of the HAT. For these reasons, the structures are non-conforming.

- Accordingly, the applicant respectfully requests the Planning Board's concurrence that the structure's footprint, at its greatest practical extent, can be relocated on the lot to 81.3 feet from the NHWL.

STAFF REVIEW

Waivers: N/A

Staff Recommendation

If the applicant has addressed the outstanding items to the satisfaction of the Planning Board and the Planning Board approves the project, Staff recommends doing so with the following Conditions of Approval:

1. The razed building shall not be relocated closer to any of the existing property lines as noted on the approved plan

2. The Code Enforcement Officer shall review and approve conformance to Section 15 of the Shoreland Zoning Ordinance

3. Obtain all required permits from the Maine Department of Environmental Protection and the Biddeford Code Enforcement Office

4. This approval shall expire one year from the date below if a substantial start is not made in construction. If a substantial start (30% of project completion, i.e., framing and foundation) is made within one year of the date below, the applicant shall have one additional year to complete the project thereinafter; this approval shall expire 07-16-26.

2025.19 Greatest Practical Extent Determination for Werner Gilliam, CFM of Walsh Engineering, INC., on behalf of Brian T. Anderson, to reconstruct a two-story non-conforming structure. The property is 49 Mile Stretch Road (Tax Map 62, Lot 29-32) in the Coastal Residential Zone.

SAMPLE MOTIONS

A. Motion to Approve Case #2025.19 Greatest Practical Extent Determination for **Walsh Engineering, INC., on behalf of Brian T. Anderson** (Tax Map 62, Lot 29- 32) in the Coastal Residential Zoning District with the above-listed Conditions of Approval.

B. Motion to Table Case #2025.19 Greatest Practical Extent Determination for **Walsh Engineering, INC., on behalf of Brian T. Anderson** (Tax Map 62, Lot 29- 32), in the Coastal Residential Zoning District, for the following reasons:

1) _____

2) _____

3) _____

C. Motion to Deny Case #2025.19 Greatest Practical Extent Determination for **Walsh Engineering, INC., on behalf of Brian T. Anderson** (Tax Map 62, Lot 29-32), in the Coastal Residential Zoning District, for the following reasons:

1) _____

2) _____

3) _____

City of Biddeford
Site Plan Application

For

Reconstruction of Existing Single-Family Dwelling & Garage
49 Mile Stretch Road
Biddeford, ME 04005

June 24, 2025

Applicant
Brian T. Anderson
1 Taft Street
Ayer, Massachusetts 01432

Prepared By:

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Drive, Suite 2A
Westbrook, Maine
207.553.9898

WALSH
ENGINEERING ASSOCIATES, INC.

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Application Form
Agent Authorization

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Site Plan Application Checklist ..... Attachment 3
Assessment of Compliance with Zoning Standards ..... Attachment 4
Photo Log ..... Attachment 5
Previous Planning Board Approval 2021 ..... Attachment 6
Plan Sets ..... Attachment 7

Site/Architectural Plans:
Shoreland Zone Setback Requirement to the Greatest Practical Extent Site Plan C1.0
Overall Existing Conditions Plan C1.1
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WALSH
ENGINEERING ASSOCIATES, INC.

June 24, 2025

City of Biddeford Planning Board
c/o Mr. David Galbraith, Deputy Director of Planning & Development
205 Main Street, Biddeford, ME 04005

RE: Biddeford Site Plan Review Application
49 Mile Stretch Road

Dear Planning Board Members,

On behalf of Brian T. Anderson (Applicant), Walsh Engineering Associates, Inc. (WEA), is pleased to submit the enclosed Site Plan Application for the proposed replacement of a single-family home with a garage located at 49 Mile Stretch Road, identified by the City of Biddeford Tax Assessor as Map 62, Lots 29-32. The property is located within the Coastal Residential Zone, and Resource Protection (RP) Shoreland Overlay district.

Existing Conditions

The project site consists of 4 parcels of land located along Mile Stretch Road in Biddeford which directly abuts Biddeford Pool on their northern boundaries. Lots 31 and 32 are developed with a single-family home and garage, a stone driveway, and lawn. Lots 29 and 30 are vacant and undeveloped. The structures in their existing locations and configuration are at risk of damage by coastal storms and flooding, as they are within the FEMA flood zone AE established at elevation 13.0 feet (NAVD88). The lot is also contained within a mapped back dune (D2) and Erosion Hazard Area (EHA) by the Maine Geological Survey and are subject to a Limit of Moderate Wave Action (LIMWA) line. The highest astronomical tide (HAT) elevation on the property is 7.4 feet (NAVD88) and is 20.3’ from the closest corner of the existing structures.

Due to the proximity to Biddeford Pool, and associated coastal wetlands, there is no location on the lots that would allow for the construction of a structure which would meet required setbacks. The existing home and garage are located partially within the front setback of Mile Stretch, and the entire structures area are located within the 75’ setback from the Highest Astronomical Tide. The garage is located within 25’ of the HAT. For these reasons, the structures are non-conforming.

Proposed Development

The client proposes the reconstruction of the existing non-conforming structures on a raised foundation, in compliance with the standards for construction within the FEMA AE flood zone. We request the Board to authorize the replacement of the non-conforming structures as allowable under the Biddeford Land Development Regulations Article XIV, Section 12.C.2 and 3. The house and deck will be approximately the same size as existing, and the garage will be replaced with an attached structure to the house and moved outside of the 25’ setback from the HAT.

This project was reviewed and approved previously by the Planning Board on April 23, 2021, for the same proposal. The project did not move forward with construction at that time, and the permission from the Planning Board has since expired. The provided proposal maintains the previously approved location and footprint for the structure as seen on the included previous findings and approved site plan dated April 23, 2021. The proposed structure location is that of the greatest practical extent for setback from the Highest Astronomical Tide on the property, as approved by the Board in 2021.

The house, garage and deck currently occupy 1,775 square feet of the site. The proposed structure will occupy 1,794 square feet, which results in an increase of 19 square feet. The maximum height of the wing of the house to the west will be 20 feet. The main portion of the house to the east will be no higher than the existing structure, with a maximum ridge peak of el. 35.1 feet. Article XIV, Section 12.C.1.c of the Biddeford Land Development Regulations allows for a non-conforming structure located between 25' and 75' of the HAT to be no more than 20 feet high, or the height of the existing structure and expanded by no more than 1,000 square feet or 30% larger than the footprint that existed on January 1, 1989, whichever is greater. The proposed expansion is within the allowed expansion dimensions.

In response to the newly adopted FEMA maps the proposed replacement home will be elevated to meet flood elevation requirements and be constructed to withstand future storm events. To meet the standards of the City of Biddeford Floodplain Management Ordinance, the structure will be elevated to provide a finished floor elevation of 14.66 (NAVD88) which is 1.66 feet above the base flood elevation of 13.0 feet within the FEMA AE flood zone. The foundation for the new structure will meet Maine DEP requirements to allow for the movement of sand and water under Chapter 355, Coastal Sand Dune Rules.

Required Approvals

This project will require approval from the Maine DEP under the Natural Resources Protection Act Permit-by-Rule (PBR) Sections 2 and 16 for activities within 75' of protected natural resources and activities within coastal sand dune systems. A previous approval was granted by the DEP in 2021, which has since lapsed.

The project will also require approval from the City of Biddeford Code Enforcement Officer for a Building Permit and Flood Hazard Permit.

Waiver Requests

At this time we are requesting the following waiver requests for the submission of this Site Plan Application.

1. We request the waiving of the requirement for a Performance Guarantee as per Section 4.A for the advancement of a bond worth 150% of the cost of improvements due to the nature and scale of the project.

We trust that we have provided the necessary information for approval of this project by the Planning Board. We look forward to your review of this application and our collaboration on this project to ensure its success.

Respectfully,

Werner Gilliam

Werner Gilliam, CFM
Walsh Engineering Associates, Inc.

cc. Brian T. Anderson
Structural Integrity Consulting Engineers, Inc (c/o Aaron C. Jones)
Enc. Site Plan Application & Supporting Documents

City of Biddeford – Planning Department
Planning Board Application
P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

Type of Application:

☑ Shoreland Zoning Permit ☐ Site Plan Review (Please include checklist) ☐ Extraction
☐ Conditional Use Permit ☐ Subdivision (Please include Checklist) ☐ Private Way
☐ Other: _____

Applicant Information:

Name: Brian T. Anderson
Mailing Address: 1 Taft Street Ayer, Massachusetts 01432
Telephone: _____
Email: brian@andersonfuneral.com
What is your legal interest in the property?
☑ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: _____
Mailing Address: _____
Telephone: _____
Email: _____

Agent's Information:

Name: Werner Gilliam CFM
Mailing Address: 1 Karen Drive, Suite 2A Westbrook, Maine 04092
Telephone: 207-553-9898
Email: werner@walsh-eng.com

Engineer/Surveyor's Information:

Name: Norman G. Chamberlain II. PE
Mailing Address: 1 Karen Drive, Suite 2A Westbrook, Maine 04092
Telephone: 207-553-9898
Email: norm@walsh-eng.com

Project Location and Lot Information:

Street Address: 49 Mile Stretch Drainage Watershed: Atlantic Ocean
Tax Map: 62 Lot: 29-32
Current Zoning: CR and RP overlay Shoreland Zoning: Yes
Size of Lot: 2.355 (☑ acres ☐ s.f. Lot Frontage: 298+/- ft.
Existing Use of Property: single family residence with a detached garage

Property currently serviced by:

☑ City Road ☐ Public Sewer ☑ Public Water ☐ Public Trash
☐ Private Road ☑ Septic System ☐ Private Well ☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☑ Flat (0-3% slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? ☑ (Yes) ☐ (No) if yes attach information
Is the project within the 100-year floodplain? ☑ (Yes) ☐ (No) if yes attach information
Do you plan to bring fill onto the lot? ☐ (Yes) ☑ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

Single family residence with attached garage

Property to be Serviced by:

☑ City Road ☐ Public Sewer ☑ Public Water ☐ Public Trash
☐ Private Road ☑ Septic System ☐ Private Well ☐ Private Hauler

Limits of Disturbance: 3,500 ( )acres (☑)s.f.
Net change in impervious cover: _____ (☐)acres (☑)s.f.
Is this project part of a larger project? ☐(Yes) ☑(No)
Is the project proposing a new Private or Public Road? ☐(Yes, Private) ☐(Yes, Public) ☑(No)
Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) ☐(Yes) ☑(No)
Is the project proposing any Stormwater facilities/BMPs? ☐(Yes) ☑(No)
Will a Traffic Movement Permit (TMP) be required?: ☐(Yes) ☑(No)

☑ **If in a Shoreland Zone:**
Percent of residential lot coverage (Max 20%): 9.6%
Percent of structure expansion (Max 30%): -0.6%
☐ **If Subdivision Review, number of lots proposed:** _____
☐ **If a Private Way is proposed, number of lots served:** _____

If Site Plan Review, you must provide the following information:

Total new square feet footprint of structure: 1,571
Total new square feet paving/parking: 251

Waiver Requests (attach details):

1. Performance Guarantee Cost Estimate
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval
N/A Fire Department – Contact Chief or Deputy Chief – 282-9986
N/A Ability to Serve for Water Service – Maine Water – 282-1543
N/A Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118
N/A Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127
N/A Ability to Serve for Electrical Service-CMP-1-866-225-4200
☑ Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.

B. Photographs of Site.
C. Architectural renderings/drawings of proposed buildings, as required.
D. Engineering Plans, as required.
E. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- $75 Nonrefundable Administration Fee is required for every application.
- Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance? ◯(Yes) ☑(No)

- **If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.**

Signature of Applicant: Werner Gilliam **Date** 6/24/2025

Signature of Property Owner: _____ **Date** _____

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

A) PDF OF SIGNED APPLICATION

B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)

- Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVDUAL DRAWING NAME.pdf'

B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.

C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)

- All drawings & CAD reference files must be to-scale and within the following coordinate systems:

- MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIUDAL DRAWINGS REQUIRING BOARD SIGNATURE

B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

To Whom It May Concern,

By this letter, the undersigned authorizes Walsh Engineering Associates, Inc. to act as the agent for the undersigned in the preparation and submission of all Federal, State, and Local permit applications and relevant documents and correspondence for all necessary permits for the construction on the property identified as 49 Mile Stretch Road, Biddeford, Maine to attend meetings and site visits; to appear before all boards, commissions, and committees, and to provide such other services as are necessary and appropriate in furtherance of the aforementioned project.

Sincerely,

Signature

Printed Name and Title

9/11/2020

Date

Attachment 1:

Deed
-YCRD BK 17272 PG 921

After recording return to:
Brian T. & Anne M. Anderson
One Taft Street
Ayer, MA. 01432

F
3P

BK 17272 PGS 921 - 923
INSTR # 2016026774
RECEIVED YORK SS
07/12/2016 09:09:48 AM
DEBRA ANDERSON
REGISTER OF DEEDS

Space Above This Line For Recording Data

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, that **ROBERT LOGAN** FOR CONSIDERATION PAID, hereby grants to **BRIAN T. ANDERSON AND ANNE M. ANDERSON**, whose mailing address is 1 Taft Street, Ayer, Massachusetts, 01432, with WARRANTY COVENANTS, as joint tenants, two certain lots or parcels of land commonly known and designated as 44 and 49 Mile Stretch Road, located in the City of Biddeford, York County, Maine; being more particularly described as follows:

SEE EXHIBIT A ATTACHED HERETO AND
INCORPORATED HEREIN BY REFERENCE

Maine R.E. Transfer Tax Paid

IN WITNESS WHEREOF, Robert Logan has hereunder set his hand and seal as of this 9th day of July, 2016.

Witness

Robert Logan

STATE OF MAINE
YORK COUNTY, ss.

July 9, 2016

Personally appeared the above-named Robert Logan and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Attorney at Law/Notary Public
Scott Emmons
#9934

EXHIBIT A

49 MILE STRETCH ROAD PARCEL

A certain lot or parcel of land, together with any improvements thereon, situated on the northwesterly side of Mile Stretch Road, so-called, in Biddeford, York County, Maine and being more particularly bounded and described as follows:

BEGINNING at an iron rod set in the apparent northwesterly sideline of the Mile Stretch Road, marking the southeasterly corner of the parcel herein conveyed and the southwesterly corner of land now or formerly of Lorigan as described in deed recorded in the York County Registry of Deeds in Book 6731, Page 328;

THENCE North 10°29'35" West along said Lorigan land a distance of 347.16 feet, more or less, to the high water line of the "Pool", so-called;

THENCE along the normal high water line of the Pool in a westerly direction a distance of 298 feet, more or less, to a point and land of Ferguson as described in deed recorded in the York Registry of Deeds in Book 6473, Page 3.

THENCE South 10°20'35" East along said Ferguson land a distance of 356 feet, more or less, to an iron rod set in the northwesterly sideline of Mile Stretch Road;

THENCE North 79°24'25" East along said Road a distance of 298 feet to the point of beginning.

ALSO CONVEYING any right, title or interest Grantor may have in any lands lying northwesterly of the high water line of the "Pool" so-called, as it extends within the bounds of an extension of the easterly and westerly sidelines of the property above described.

The portion of the above described which is shown on Biddeford Tax Map 62, Lot 31, approximately 48 feet on the Mile Stretch Road by 350 feet in depth, is being conveyed with quit-claim covenants only.

The above described premises are conveyed subject to a five (5) foot wide pedestrian easement as set forth in deeds to Ostrander (as set forth in Book 8814 at Page 104 at said York County Registry of Deeds) and Feather (as set forth in Book 8801 at Page 159) to which deeds reference should be made for a more particular description.

44 MILE STRETCH ROAD PARCEL

ALSO, another certain lot or parcel of land situated on the southeasterly side of Mile Stretch Road in Biddeford, York County, Maine, and being more particularly bounded and described as follows:

BEGINNING at an iron rod set in the southeasterly sideline of Mile Stretch Road marking the northwesterly corner of the parcel herein described and the northeasterly corner of land now or formerly of Ferguson;

THENCE South 10°29'35" East along said Ferguson land a distance of 66 feet, more or less, to a point on the remains of an old granite seawall;

THENCE North 83°11'25" East along said seawall a distance of 99.82 feet to an iron rod and land now or formerly of Feather;

THENCE North 10°01'35" West along said Feather land a distance of 72.59 feet to an iron rod set in the southeasterly sideline of Mile Stretch Road;

THENCE South 79°24'25" West along said Road a distance of 100.2 feet to the point of beginning.

ALSO CONVEYING all my right, title and interest to any lands lying southerly or southeasterly of the seawall noted above, between the prolongation of the easterly and westerly southeasterly of the seawall noted above, between the prolongation of the easterly and westerly sideline of the above described property as it extends to the waters of the Atlantic Ocean.

The above descriptions were drafted from a plan entitled "Estate of Mildred E. Eastwood" by William Pierce.

Title reference is hereby made to a Deed of Sale by Personal Representative from Mark A. McComiskey, acting as personal representative of the Estate of Mildred H. Eastwood, deceased (testate), as shown by the probate records on York County, Maine, (York County Probate Docket No. F-1996-0133) to Robert Logan dated November 8, 1998 and recorded in the York County Registry of Deeds in Book 9176, Page 276.

Attachment 2:

Location Plan



GRAPHIC SCALE

2,000 0 1,000 2,000

1 inch =2,000 ft.

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

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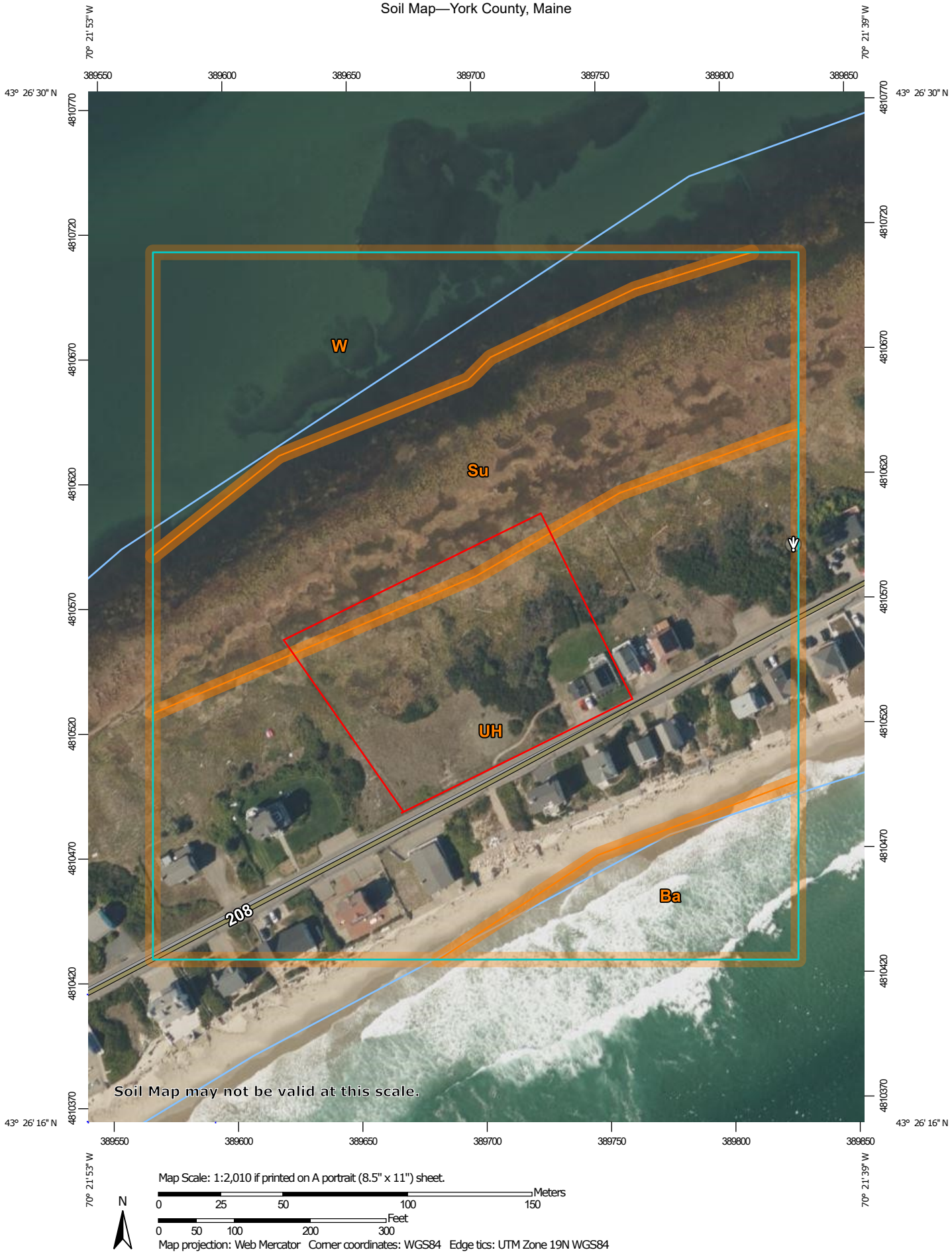
49 Mile Stretch Road

49 Mile Stretch Road
Biddeford, Maine 04005

Sheet Title:
Site Location Plan

Job No.:	694
Date:	09/10/2020
Scale:	AS SHOWN
Drawn:	TFG
Checked:	NGC

P:\694 - 49 Mile Stretch Road, Biddeford\3. CAD\694 - Base.dwg plot date: 9/10/2020 3:58 PM



Map Scale: 1:2,010 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: York County, Maine
Survey Area Data: Version 23, Aug 26, 2024

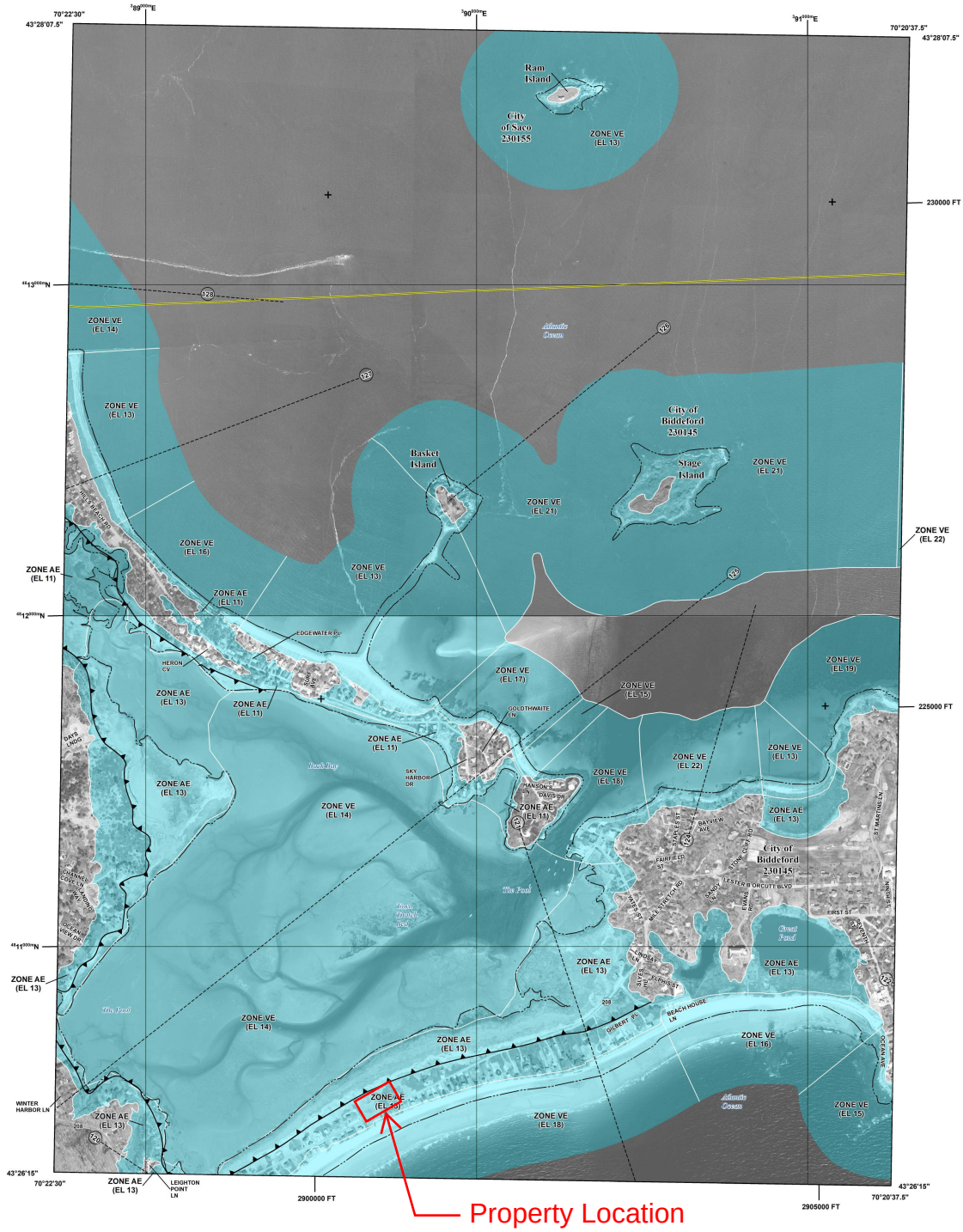
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background 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
Ba	Beaches, sand	1.5	8.0%
Su	Pemaquid, Todds point, and Damariscotta soils, 0 to 2 percent slopes	5.1	27.7%
UH	Urban land-Hooksan complex, 0 to 8 percent slopes	8.6	47.1%
W	Water bodies	3.1	17.1%
Totals for Area of Interest		**18.3**	**100.0%**



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard Zone X
- Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM provided in digital format by State of Maine, Maine office of GIS (MeGIS). This information was derived from MeGIS, dated 2012.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and FDTs may reflect stream channel distances that differ from what is shown on the map.

The AE Zone category has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Limit of Moderate Wave Action (LiMWA)

SCALE

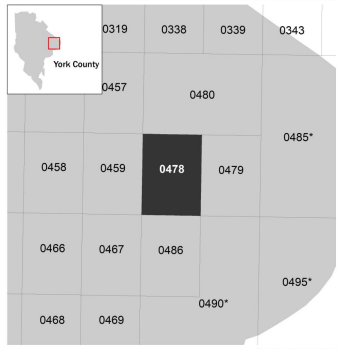
Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

YORK COUNTY, MAINE
All Jurisdictions

PANEL 0478 OF 0800

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
BIDDEFORD, CITY OF	230145	0478	G
SACO, CITY OF	230155	0478	G

VERSION NUMBER
2.3.2.1

MAP NUMBER
23031C0478G

EFFECTIVE DATE
JULY 8, 2024

Attachment 3:

Site Plan Application Checklist

CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST *LAST REVISED: 11/26/2024*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant and included on all preliminary and final Site Plan & Subdivision submittals. No checklist is required for sketch submittals.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal information with non-acceptable reasoning will be rejected and required to resubmit.
4. Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval.
5. Items in **BLUE** are only required for 'Final' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	49 Mile Stretch Road
Planning Board # (if available):	
Applicant Name/Info:	Walsh Engineering Associates, One Karen Drive Suite 2A Westbrook, ME (207) 553-9898
Submittal #/Type (Prelim/Final):	Prelim
Submittal Date:	6/20/2025

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE			CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	**GENERAL PLAN REQUIREMENTS**					
A	Drawing specific legends (linetypes, hatches, etc.)	Yes	All			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	Yes				
C	North arrows, standard engineering scale viewports, scale bars, dated revision blocks	Yes	All			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	Yes	All			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	Yes	All			
2	**COVER SHEET**					
A	Project Name & Property Address	Yes	Cover, All			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	Yes	Cover, All			
C	Site Location Map	Yes	Cover, All			
D	Sheet Set List of Drawings	Yes	Cover			
E	Tax Map and Lot ID	Yes	Cover, C1.1, C1.2			
F	Zoning & Shoreland Zone Information	Yes	C1.1			
G	Existing Use Description	Yes	Application Page			
H	Proposed Use Description	Yes	Application Page			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	Yes	Application Page, Cover Letter			
J	Name of Drainage Watershed	Yes	All			
K	Within the MS4 Urbanized Area (Yes/No)	No		Not within MS4 Mapping		
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	Yes	All			
M	Within the 100-year Flood Zone (Yes/No)	Yes	C1.1			
N	Public Road Proposed (Yes/No)	No		No road is being proposed		
O	Private Road Proposed (Yes/No)	No		No road is being proposed		
P	Public Sewer Connection (Yes/No)	No		Property is on Septic		
Q	Public Storm Drain Connection (Yes/No)	No		None proposed		
R	Limits of Disturbance in square feet and acres	Yes	Application Page	.1 acres (approx 4,400 sq ft)		
S	Pervious Land Cover square footage, existing and proposed	Yes	C2.0	On Comp. Sheet		
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	Yes	C2.0	On Comp. Sheet		
U	Building Roof square footage, existing and proposed	Yes	C2.0	On Comp. Sheet		
V	Assigned Planning Board Number					
W	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)					
3	**EXISTING CONDITIONS PLAN**					
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	Yes	All			
B	Property & Right-of-Way Lines	Yes	All			
C	Boundary line information (bearings, distances, etc.)	Yes	Survey			
D	Property pin and monumentation locations	Yes	Survey			
E	Existing easements with proper ownership identified	No		None proposed		
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	Yes	C1.1			
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes	All			
H	100-year Flood Zone Limits & Elevation	Yes	All			
I	Existing contours with adequate contour labelling; minimum 1' contour interval	Yes	All			
J	Existing building FFEs annotated	Yes	C1.1, C1.2			
K	Spot elevations for all tie-in locations (curb cuts, property line)	No		None provided		
L	Existing buildings & structures	Yes	C1.1, C1.2			
M	Existing pavement areas & number of parking spaces	No		None provided		
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	No		Residential Home, None		
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	Yes	Survey, C1.1, C1.2			
P	Existing signage and striping	No		Residential Home, None		
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	Yes	Survey			
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes	Survey			
S	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	No		N/A		
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	Yes	C1.1			
U	Location of any borings, drinking wells, and monitoring wells	No		N/A		
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**			**C1.2 Existing Conditions and Removals Plan**		
A	Limits-of-disturbance outlined and acreage annotated	Yes	All	0.1 acres, approx 4,400 square feet.		
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes	All			
C	100-year Flood Zone Limits	Yes	All			
D	Callout existing site features to be demolished/removed/replaced	Yes	C1.2			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	Yes	C1.2			
F	Hatch existing buildings and pavement to be removed	Yes	C1.2 & C2.0			
G	Construction Entrance location(s)	No		Driveway		
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	Yes	C2.0			
I	Stockpile and staging area(s) identified (with proper perimeter control)	No		N/A		
J	Inlet protection location(s)	No		N/A		
K	Note requiring contractor to implement dust control measures throughout construction	No		N/A		
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	No		N/A		
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing					
N	If large development is proposed with an extensive underground stormwater conveyance network, identify how SWM infrastructure and BMPs will be protected during construction and if sediment traps/basins are needed					
5	**SITE PLAN/SUBDIVISION PLAN**					
A	Partial Site Plans needed for any viewport scale greater than 1"=20'					
B	Existing property and right-of-way lines	Yes	All			
C	Proposed subdivision lot lines and labels	No		Not a subdivision		
D	Required Zoning Setbacks shown with dimensions and annotation	Yes	All			

	E	Bulk requirement summary table (zoning/parking calculations)	No		N/A		
	F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes	All			
	G	100-year Flood Zone Limits	Yes	All			
	H	Proposed building outlines, door entrances and loading docks	Yes	C2.0			
	I	Proposed building labels	Yes	C2.0			
	J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	No		N/A		
	K	Proposed parking and accessible parking locations; annotate parking space counts	No		N/A		
	L	Proposed signage, parking striping, and traffic striping	No		N/A		
	M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	No		N/A		
	N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	Yes	C2.0			
	O	Proposed landscaping; detailed landscaping design should be shown on separate plans	No		N/A		
	P	Designated snow storage areas	No		N/A		
	Q	Proposed dumpster locations and trash removal access	No		N/A		
	R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	No		N/A		
	S	Radial dimensions for all curbs, landscaped islands, sidewalks	No		N/A		
	T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	No		N/A		
	U	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	No		N/A		
	V	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	No		N/A		
	W	Planning Board signature block for final recording	Yes	C1.0			
6		**GRADING PLAN**	No		No new grading needed, site is flat		
	A	Partial Grading Plans needed for any viewport greater than 1"=20'					
	B	Limits-of-disturbance outlined and acreage annotated					
	C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)					
	D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval					
	E	Proposed contours with adequate contour labelling; minimum 1' contour interval					
	F	Detailed grading for all ditches, swales, outfalls, and riprap					
	G	All proposed contours tie-into existing contours at limits-of-disturbance outline					
	H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations					
	I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)					
	J	100-year Flood Zone Limits					
	K	Proposed spot elevations for all important roadway geometric points (including but not limited to: parking/drive aisles, building corners/entrances, retaining walls, loading docks, EOP/curblines)					
	L	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points					
	M	Proposed % slope arrows for all ADA parking spaces and sidewalks					
	N	Proposed longitudinal % slope arrows for drainage ditch centerlines					
	O	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas					
	P	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)					
7		**ROAD PROFILES (if public/private road proposed)**	No		No Road proposed		
	A	Existing surface; dashed and screened					
	B	Proposed surface; continuous and bold					
	C	Road design speed must be clearly identified					
	D	Corresponding centerline stationing and curve data annotation					
	E	All vertical curves must identify the proposed 'K' values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-35 & 3-37					
	F	Clear annotation if proposed road will be public or private					
	G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance					
	H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads					
8		**UTILITY PLAN**					
	A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)					
	B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)					
	C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)					
	D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)					
	E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)					
	F	Proposed storm culverts, outfalls, and riprap locations and sizes					
	G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)					
	H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope					
	I	Flow directional arrows for storm & sewer pipes					
	J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)					
	K	All storm drains must be sized to convey the 25-year storm					
	L	Sewer force main sizes and invert elevations					
	M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W); additional details and hydraulic calculations required for any Public pump station proposed.					
	N	Locations, sizes, and elevations of any: grease traps, oil-water separators, septic systems, drinking wells					
	O	Proposed water sizes labelled					
9		**UTILITY PROFILES**					
	A	Utility profiles required for all gravity storm drain and sewer pipes proposed: within the right-of-way, within private or public roads, for non-driveway culverts, and for any public infrastructure tie-ins					
	B	Existing surface; dashed and screened					
	C	Proposed surface; continuous and bold					
	D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)					
	E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope					
	F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated					
	G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated					
10		**DETAILS**					
	A	Road section detail, including pavement/gravel depths & cross slopes	No		There is no road being proposed.		
	B	Sidewalk, paver, crosswalk, and any other pavement section details	No		There is no crosswalks or sidewalks being proposed.		
	C	Pavement sawcut & shiplap details	No		There is no sawcutting of pavement		
	D	Utility trench/backfill detail	No		No work within ROW		

	E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	No		There is no extra site details		
	F	Signage, striping, and ADA details	No		There is no need for ADA or striping		
	G	E&S notes and details	Yes	C3.0			
	H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	No		None Proposed		
	I	Storm outfall & riprap details	No		There is no outfall or riprap		
	J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	No		There is no drainage ditch being proposed		
	K	Pump station, grease trap, oil-water separator, septic, drinking well details					
	L	Conduit section details					
11		**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**					
	A	As required by ordinance; at a minimum: locations, counts, lighting models, and landscaping species must be identified					
	B	Landscaping & lighting details					
12		**DOCUMENTS/REPORTS/CALCULATIONS**					
	A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Durability/As-Built inspections post construction	Yes	Provided			
	B	Stormwater Management Report, including: 1. Predevelopment & Post-development Drainage Area Maps, including: a. Subdrainage areas delineated and labeled b. Points of Interest/Analysis shown and labeled c. Hatching for different land cover areas (impervious, pervious, gravel) within each applicable USDA soil boundary d. Time of concentration (Tc) paths & durations e. Four City-standardized stormwater summary tables 2. If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies 3. Sizing calculations for any SWM water quality BMP or detention facility 4. A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: a. Annual maintenance requirements b. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed c. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	No		No stormwater analysis		
	C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	No		No new connection		
	D	A Performance Guarantee Cost Estimate utilizing Planning's template	No		N/A		
	E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	No		N/A		
	F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified					
	K	Public sewer pump station sizing calculations and maintenance plan					
	M	Grease trap sizing calculations					
	N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more					
	O	Summary list & copy of any required DOT/DEP/USACE permits & approvals	No		DEP Approval Pending		

Attachment 4:

Assessment of Compliance with Zoning Standards

WALSH
ENGINEERING ASSOCIATES, INC.

Standards Review for 49 Mile Stretch Road

City of Biddeford, ME Part III Land Use Development Regulations

Article XIV Shoreland Zoning Ordinance
Section 12 C: Non-Conformance
Section 15 H1: Roads and Driveways
Section 15 K1: Septic Waste Disposal

Section 12 C: Non-Conformance

1. Expansions. All new principal and accessory structures, excluding functionally water-dependent uses, must meet the water body, tributary stream, or wetland setback requirements contained in Section 15B1. A nonconforming structure may be added to or expanded after obtaining a permit from the same permitting authority as that for a new structure if such addition or expansion does not increase the nonconformity of the structure and is in accordance with Subparagraphs a and b below.

a. Expansion of any portion of a structure within 25 feet of the normal high-water line of a water body, tributary stream, or upland edge of a wetland is prohibited, even if the expansion will not increase nonconformity with the water body, tributary stream or wetland setback requirement. Expansion of an accessory structure that is located closer to the normal high-water line of a water body, tributary stream, or upland edge of a wetland than the principal structure is prohibited, even if the expansion will not increase nonconformity with the water body, tributary stream, or wetland setback requirement.

Standard Met: No portions of the replacement structure will be within 25' of the normal high-water line.

b. Notwithstanding Subparagraph a, above, if a legally existing nonconforming principal structure is entirely located less than 25 feet from the normal high-water line of a water body, tributary stream, or upland edge of a wetland, that structure may be expanded as follows, as long as all other applicable municipal land use standards are met and the expansion is not prohibited by Section 12C1.

i. The maximum total footprint for the principal structure may not be expanded to a size greater than 800 square feet or 30% larger than the footprint that existed on January 1, 1989, whichever is greater. The maximum height of the principal structure may not be made greater than 15 feet or the height of the existing structure, whichever is greater.

Standard Not applicable: Legally existing structure is located entirely outside of 25' from the high-water mark.

c. All other legally existing nonconforming principal and accessory structures that do not meet the water body, tributary stream, or wetland setback requirements may be expanded or altered as follows, as long as other applicable municipal land use standards are met and the expansion is not prohibited by Section 12C1, or Section 12C1a, above.

Standard Applicable: Replacement non-conforming structure will be replaced and expanded per the restrictions specified in Section 12.C.1.

i. For structures located less than 100 feet from the normal high-water line of a water body, tributary stream, or upland edge of a wetland, the maximum combined total footprint for all structures may not be expanded to a size greater than 1,000 square feet or 30% larger than the footprint that existed on January 1, 1989, whichever is greater. For structures located less than 75 feet but greater than 25 feet from the normal high-water line of a water body, tributary stream, or the upland edge of a wetland the maximum height of any structure may not be made greater than 20 feet or the height of the existing structure, whichever is greater. For structures located less than 100 feet but greater than 75 feet from the normal high-water line of a water body, tributary stream, or the upland edge of a wetland the maximum height of any structure may not be made greater than 25 feet or the height of the existing structure, whichever is greater. [Amended 3-7-2017 by Ord. No. 2017-17]

Standard Met: Existing building footprint including decks and steps is 1,894 square feet. The proposed reconstructed footprint is 1,884 square feet which is a 10 square foot decrease. The documented current building height (35.1' NAVD88 or 25.1' from highest grade) will be maintained. Proposed replacement building not to exceed current building height.

ii. In addition to the limitations in Subparagraph i, for structures that are legally nonconforming due to their location within the Resource Protection District, the maximum combined total footprint for all structures may not be expanded to a size greater than 1,500 square feet or 30% larger than the footprint that existed at the time the Resource Protection District was established on the lot, whichever is greater. The maximum height of any structure may not be made greater than 25 feet or the height of the existing structure, whichever is greater, except that any portion of those structures located less than 100 feet from the normal high-water line of a water body, tributary stream, or upland edge of a wetland

must meet the footprint and height limits in Section 12C1bi, and Section 12C1ci, above.

Standard Met: The footprint of the proposed structure is 10 square feet less than the current structure. The height of the proposed structure will not exceed existing building peak elevation, and standards 12.C.1.b.i and 12.C.1.c.i will be met.

d. An approved plan for expansion of a nonconforming structure must be recorded by the applicant with the Registry of Deeds within 90 days of approval. The recorded plan must show the existing and proposed footprint of the nonconforming structure, the existing and proposed structure height, the footprint of any other structures on the parcel, the Shoreland Zone boundary and evidence of approval by the municipal review authority.

Standard Met: Plan sheet C1.0 has been prepared for signature by the Planning Director on behalf of the Board and will be recorded at the York County Registry of Deeds upon approval.

2. Foundations. Whenever a new, enlarged, or replacement foundation is constructed under a nonconforming structure, the structure and new foundation must be placed such that the setback requirement is met to the greatest practical extent as determined by the Planning Board, basing its decision on the criteria specified in Section 12C3 (Relocation) below.

Standard Applicable: The location of the replacement structure and foundation meets the greatest practical extent of setback from the HAT as previously determined by the City of Biddeford Planning Board on April 23, 2021.

3. Relocation: A nonconforming structure may be relocated within the boundaries of the parcel on which the structure is located, provided that the site of relocation conforms to all setback requirements to the greatest practical extent as determined by the Planning Board, and provided that the applicant demonstrates that the present subsurface sewage disposal system meets the requirements of state law and the State of Maine Subsurface Wastewater Disposal Rules (Rules), or that a new system can be installed in compliance with the law and said Rules. In no case shall a structure be relocated in a manner that causes the structure to be more nonconforming.
In determining whether the building relocation meets the setback to the greatest practical extent, the Planning Board shall consider the size of the lot, the slope of the land, the potential for soil erosion, the location of other structures on the property and on adjacent properties, the location of the septic

system and other on-site soils suitable for septic systems, and the type and amount of vegetation to be removed to accomplish the relocation. When it is necessary to remove vegetation within the water or wetland setback area in order to relocate a structure, the Planning Board shall require replanting of native vegetation to compensate for the destroyed vegetation in accordance with Section 15S. In addition, the area from which the relocated structure was removed must be replanted with vegetation. Replanting shall be required as follows:

Standard Met: Replacement Building has been placed to meet local setbacks to the greatest extent practicable. (Previous Planning Board determination provided).

a. Trees removed in order to relocate a structure must be replanted with at least one native tree, three feet in height, for every tree removed. If more than five trees are planted, no one species of tree shall make up more than 50% of the number of trees planted. Replaced trees must be planted no further from the water or wetland than the trees that were removed. Other woody and herbaceous vegetation and ground cover that are removed or destroyed in order to relocate a structure must be reestablished. An area at least the same size as the area where vegetation and/or ground cover was disturbed, damaged, or removed must be reestablished within the setback area. The vegetation and/or ground cover must consist of similar native vegetation and/or ground cover that was disturbed, destroyed or removed.

Standard Met: There will be no removals of existing trees for the replacement structure.

b. Where feasible, when a structure is relocated on a parcel, the original location of the structure shall be replanted with vegetation which may consist of grasses, shrubs, trees, or a combination thereof.

Standard Met: House location to remain primarily within the same location as existing.

4. Reconstruction or replacement. Any nonconforming structure which is located less than the required setback from a water body, tributary stream, or upland edge of a wetland which is removed, or damaged or destroyed regardless of the cause, by more than 50% of the market value of the structure before such damage, destruction or removal, may be reconstructed or replaced provided that a permit is obtained within 18 months of the date of said damage, destruction, or removal, and provided that such reconstruction or

replacement is in compliance with the water body, tributary stream or wetland setback requirement to the greatest practical extent as determined by the Planning Board in accordance with the purposes of this ordinance. If the reconstructed or replacement structure is less than the required setback it shall not be any larger than the original structure, except as allowed pursuant to Section 12.C.1 above, as determined by the nonconforming footprint of the reconstructed or replaced structure at its new location. If the total footprint of the original structure can be relocated or reconstructed beyond the required setback area, no portion of the relocated or reconstructed structure shall be replaced or constructed at less than the setback requirement for a new structure. When it is necessary to remove vegetation in order to replace or reconstruct a structure, vegetation shall be replanted in accordance with Section 12C3 above.

Any nonconforming structure which is located less than the required setback from a water body, tributary stream, or wetland and which is removed by 50% or less of the market value, or damaged or destroyed by 50% or less of the market value of the structure, excluding normal maintenance and repair, may be reconstructed in place if a permit is obtained, from the Code Enforcement Officer within one year of such damage, destruction, or removal.

In determining whether the building reconstruction or replacement meets the setback to the greatest practical extent the Planning Board shall consider in addition to the criteria in Section 12C3 above, the physical condition and type of foundation present, if any.

Standard Met: Permits will be obtained within 18 months of removal of current structure. The site has been carefully reviewed and proposed to meet replacement to greatest practical extent. Proposed reconstruction will be more conforming that the current structure. In addition, the replacement building will comply with flood plain elevation requirements.

Section 15 H1: Roads and Driveways

1. Roads and driveways shall be set back at least 100 feet, horizontal distance, from the normal high-water line of a great pond classified GPA or a river that flows to a great pond classified GPA, and 75 feet, horizontal distance, from the normal high-water line of other water bodies, tributary steams, or the upland edge of a wetland unless no reasonable alternative exists as determined by the Planning Board. If no other reasonable alternative exists, the road and/or driveway setback requirement shall be no less than 50 feet, horizontal distance, upon clear showing by the applicant that appropriate techniques will be used to prevent sedimentation of the water body, tributary stream, or wetland. Such techniques may include, but are not limited to, the installation of settling basins, and/or the effective use of additional ditch relief culverts and turnouts placed so as to avoid sedimentation of the water body, tributary stream, or wetland. On

slopes of greater than 20% the road and/or driveway setback shall be increased by 10 feet, horizontal distance, for each five-percent increase in slope above 20%.

No proposed changes to the existing driveway.

Section 15 K1: Septic Waste Disposal

1. All subsurface sewage disposal systems shall be installed in conformance with the State of Maine Subsurface Wastewater Disposal Rules and the following: a) clearing or removal of woody vegetation necessary to site a new system and any associated fill extensions, shall not extend closer than 75 feet, horizontal distance, from the normal high-water line of a water body or the upland edge of a wetland and b) a holding tank is not allowed for a first-time residential use in the Shoreland Zone.

No changes are proposed to the existing Subsurface Waste Disposal System, which is located behind the existing deck area. The current home is listed as 4 bedrooms. The proposed replacement home will be 4 bedrooms.

Attachment 5:

Photos

WALSH
ENGINEERING ASSOCIATES, INC.

PHOTO LOG

49 Mile Stretch Road

Biddeford, ME

Photo No. 1 **Date:** 3/24/2025 **Site Location:** 49 Mile Stretch **Description:** Southwest corner of developed lot view of garage and home.	
Photo No. 2 **Date:** 3/24/2025 **Site Location:** 49 Mile Stretch **Description:** Backside of existing garage and home viewed from the northwest.	

Photo No. 3 **Date:** 5/27/2025 **Site Location:** 49 Mile Stretch **Description:** Space between existing garage and home from south.	
Photo No. 4 **Date:** 5/27/2025 **Site Location:** 49 Mile Stretch **Description:** Front of existing house with covered porch.	

Photo No. 5	
Date: 5/20/2024	
Site Location: 49 Mile Stretch	
Description: Space between existing house and abutting structure.	

Attachment 6:

2021 Previous Planning Board Approval

CITY OF BIDDEFORD

Planning and Development Department

Greg D. Tansley, A.I.C.P.
City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 282-7119 or (207) 284-9115
Greg.Tansley@biddefordmaine.org

NOTICE OF DECISION

April 23, 2021

Norman G. Chamberlain II (via e-mail)
Walsh Engineering Associates, Inc
1 Karen Drive, Westbrook, ME 04092

Re: 2020.41 Shoreland Zone/Determination of Greatest Practical Extent for Brian Anderson at 49 Mile Stretch Road (Tax Map 62, Lots 29 through 32) in the CR and RP (shoreland) zones.

Dear Norman,

At their meeting of April 21, 2021 the Biddeford Planning Board reviewed your request for a Determination of Greatest Practical Extent at 49 Mile stretch Road (Tax Map 62, Lots 29 thorugh 32) in the CR and RP zones. Brian Anderson and Anne M. Anderson own the property and you presented the application to the Board.

Based on the presentation and the materials submitted, including the plan entitled *"49 Mile Stretch Road"*, Sheet C1.0, the Planning Board approved the application identifying the setback to the greatest practical extent while considering all factors outlined in Section 12.C.2 of the Biddeford Shoreland Zoning Ordinance, and further authorized the City Planner to sign the plan for a Determination of Greatest Practical Extent, and approved the Findings of Fact conditioned on the following:

1. **Prior to signing the final plan, a revised plan per staff and Board comments shall be submitted to the City Planner for his review and approval**
2. **No new (reconstruction) structure is permitted closer to the shoreline as what is depicted on the approved plan entitled: *Shoreland Zone Setback Requirement to the Greatest Practical Extent – Site Plan, 49 Mile Stretch Road, Biddeford...prepared for Brian Anderson*, Prepared by Walsh Engineering, Associates, Inc. and signed by the City Planner.**
3. **No portion of the structure shall be reconstructed within the City Right-Of-Way.**
4. **The Code Enforcement Officer shall review and approve conformance to provisions of Article XIV of the Land Development Regulations (Shoreland Zoning Ordinance) that are required in addition to the Planning Board's approval of the required setback to the greatest practical extent.**

5. **Trees removed in order to relocate a structure must be replanted with at least one native tree, three feet in height, for every tree removed. If more than five trees are planted, no one species of tree shall make up more than 50% of the number of trees planted. Replaced trees must be planted no further from the water or wetland than the trees that were removed. Other woody and herbaceous vegetation and ground cover that are removed or destroyed in order to relocate a structure must be reestablished. An area at least the same size as the area where vegetation and/or ground cover was disturbed, damaged, or removed must be reestablished within the setback area. The vegetation and/or ground cover must consist of similar native vegetation and/or ground cover that was disturbed, destroyed or removed.**
6. **Where feasible, when a structure is relocated on a parcel, the original location of the structure shall be replanted with vegetation which may consist of grasses, shrubs, trees, or a combination thereof.**
7. **Obtain all required permits from Maine Department of Environmental Protection and the Biddeford Code Enforcement Office.**
8. **This approval shall expire one year from the date below if a substantial start is not made in construction. If a substantial start is made within one year of the date below, the applicant shall have one additional year to complete the project, thereinafter this approval shall expire.**

Please contact the Code Enforcement Office to move forward with the permitting process for this project when ready. This determination is only valid for one (1) year from date of decision.

Appeals of the Planning Board's decision may be made as per the Biddeford Revised Code of Ordinances.

Please contact us at 284-9115 if you have any questions.

FOR THE BIDDEFORD PLANNING BOARD

Greg D. Tansley, A.I.C.P.
City Planner

Cc: R. Fecteau, Code Enforcement Officer (hardcopy with plan)
File

49 Mile Stretch Road

49 Mile Stretch Road
Biddeford, Maine 04005

Prepared For:

Brian Anderson
1 Taft Street
Ayer, Massachusetts 01432

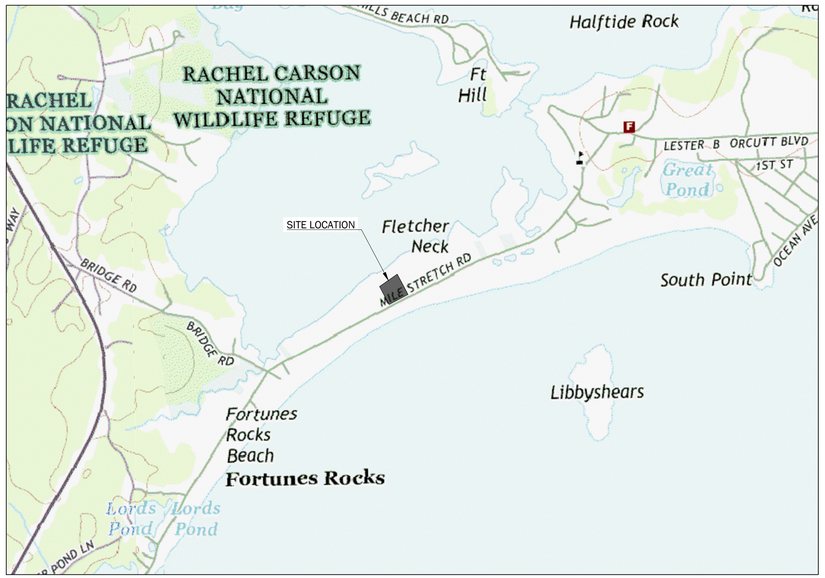
June 24, 2025

Design Consultants:

CIVIL ENGINEER
WALSH ENGINEERING ASSOCIATES, INC.
ONE KAREN DRIVE, SUITE 2A
WESTBROOK, MAINE 04092
207-553-9898

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com



List of Drawings:

SHEET NO.	SHEET TITLE
	COVER SHEET
C1.0	SHORELAND ZONE SETBACK REQUIREMENT TO THE GREATEST PRACTICAL EXTENT SITE PLAN
C1.1	OVERALL EXISTING CONDITIONS PLAN
C1.2	EXISTING CONDITIONS & REMOVALS PLAN
C2.0	PROPOSED SITE PLAN & SECTION
C3.0	EROSION CONTROL SITE DETAILS
ARCHITECTURAL PLANS	
A-1	SCHEMATIC DESIGN
S-1	FOUNDATION PLAN
S-2	DETAILS

Record Owner:

BRIAN T. & ANNE M ANDERSON
1 TAFT STREET
AYER, MASSACHUSETTS 01432

PARCEL ID:

MAP 62
LOT 29, 30, 31, & 32

PERMITS:

TYPE	JURISDICTION	DATE	STATUS
SHORELAND ZONING PERMIT & SITE PLAN REVIEW	CITY OF BIDDEFORD		

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
ROAD	RIGHT-OF-WAY LINE	
	EASEMENT LINE	
	PROPERTY SETBACK	
	MONUMENT (IRON)	
	ABUTTING PROPERTY LINE	
	WETLANDS	
	8.1' CONTOUR SETBACK	
	FLOOD ZONE	
	SAND DUNE	
	STORM DRAIN CATCH BASIN	
	HYDRANT	
	UTILITY POLE	
ohu	OVERHEAD UTILITY	
	BUILDING	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
	TREELINE	
SF	SILT FENCE	SF

PLAN REFERENCES:

1. TOPOGRAPHIC AND PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
   - 1.1. A PLAN TITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR BRIAN T. ANDERSON AND ANNE M. ANDERSON", PREPARED BY DOW & COULOMBE, INC. OF 13 PARK STREET, SACO, MAINE 04072, DATED 13 FEB. 2020.
     - 1.1.1. A PLAN TITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR BRIANT T. ANDERSON AND ANNE M. ANDERSON" CONVERTED FROM NGVD 1929 TO NAVD 88 USING NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ONLINE VERTICAL DATUM TRANSFORMATION.
2. FIELD OBSERVATIONS BY WALSH ENGINEERING ASSOCIATES, INC. ON MAY 3, 2017.
3. ELEVATIONS AND CONTOURS ARE BASED ON THE NAVD 88 VERTICAL DATUM.

IMPERVIOUS AREA CALCULATIONS (SF)			
	EXISTING	PROPOSED	AREA CHANGE
HOUSE & COVERED PORCH	1,167	1,571	-45
GARAGE	449		
DECK	244	270	26
STEPS	34	43	9
DRIVEWAY	246	246	0
WALKWAYS & PADS	143	0	-143
TOTAL LOT COVERAGE	2,283	2,130	-153
LOT AREA TO 7.4' CONTOUR	23,710	23,710	
PERCENT IMPERVIOUS COVERAGE	9.6%	9.0%	-0.6%

FLOOD ZONE INFORMATION:

CLASSIFICATIONS: ZONE AE (EL. 13)

FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 23031C0478G

EFFECTIVE DATE: JULY 17, 2024

ZONING INFORMATION*:

1.	CLASSIFICATION:	COASTAL RESIDENTIAL ZONE(CR)	RESOURCE PROTECTION SHORELAND ZONE (RP)
2.	PERMITTED USES:	RESIDENTIAL	
3.	LOT AREA:	2.355± AC	
4.	LOT COVERAGE MAXIMUM:	20%	
5.	MAXIMUM BUILDING HEIGHT:	35 FT	20 FT OR EXISTING STRUCTURE (WHICHEVER IS GREATER)
6.	MINIMUM STREET FRONTAGE:	150 FT	40 FT
7.	FRONT SETBACK:	40FT	15 FT
8.	SIDE SETBACK:	25FT	10 FT
9.	REAR SETBACK:	25FT	15 FT
10.	SETBACK TO RIGHT-OF-WAY (NON-CONFORMING): MAY BE REDUCED TO THE AVERAGE OF THE LOTS IMMEDIATELY ADJACENT: N/F LOHMEYER = 1.9 FT N/F PISANO & SHANNON = 43.2 FT AVERAGE SETBACK = 22.55 FT	40 FT	

11. THE HIGHEST ASTRONOMICAL TIDE (HAT) SETBACK AS SHOWN ON THIS PLAN WAS APPROVED BY THE CITY OF BIDDEFORD PLANNING BOARD AT ITS APRIL 23, 2021 MEETING.

*ZONING STANDARDS FROM TOWN OF BIDDEFORD LAND USE ORDINANCE, DATED NOVEMBER 7, 2024.

CONDITIONS OF APPROVAL:

1. PRIOR TO SIGNING THE FINAL PLAN, A REVISED PLAN PER STAFF AND BOARD COMMENTS SHALL BE SUBMITTED TO THE CITY PLANNER FOR HIS REVIEW AND APPROVAL.
2. NO NEW (RECONSTRUCTION) STRUCTURE IS PERMITTED CLOSER TO THE SHORELINE AS WHAT IS DEPICTED ON THE APPROVED PLAN ENTITLED: SHORELAND ZONE SETBACK REQUIREMENT TO THE GREATEST PRACTICAL EXTENT – SITE PLAN, 49 MILE STRETCH ROAD, BIDDEFORD...PREPARED FOR BRIAN ANDERSON, PREPARED BY WALSH ENGINEERING, ASSOCIATES, INC. AND SIGNED BY THE CITY PLANNER.
3. NO PORTION OF THE STRUCTURE SHALL BE RECONSTRUCTED WITHIN THE CITY RIGHT-OF-WAY.
4. THE CODE ENFORCEMENT OFFICER SHALL REVIEW AND APPROVE CONFORMANCE TO PROVISIONS OF ARTICLE XIV OF THE LAND DEVELOPMENT REGULATIONS (SHORELAND ZONING ORDINANCE) THAT ARE REQUIRED IN ADDITION TO THE PLANNING BOARD'S APPROVAL OF THE REQUIRED SETBACK TO THE GREATEST PRACTICAL EXTENT.
5. TREES REMOVED IN ORDER TO RELOCATE A STRUCTURE MUST BE REPLANTED WITH AT LEAST ONE NATIVE TREE, THREE FEET IN HEIGHT, FOR EVERY TREE REMOVED. IF MORE THAN FIVE TREES ARE PLANTED, NO ONE SPECIES OF TREE SHALL MAKE UP MORE THAN 50% OF THE NUMBER OF TREES PLANTED. REPLACED TREES MUST BE PLANTED NO FURTHER FROM THE WATER OR WETLAND THAN THE TREES THAT WERE REMOVED. OTHER WOODY AND HERBACEOUS VEGETATION AND GROUND COVER THAT ARE REMOVED OR DESTROYED IN ORDER TO RELOCATE A STRUCTURE MUST BE REESTABLISHED. AN AREA AT LEAST THE SAME SIZE AS THE AREA WHERE VEGETATION AND/OR GROUND COVER WAS DISTURBED, DAMAGED, OR REMOVED MUST BE REESTABLISHED WITHIN THE SETBACK AREA. THE VEGETATION AND/OR GROUND COVER MUST CONSIST OF SIMILAR NATIVE VEGETATION AND/OR GROUND COVER THAT WAS DISTURBED, DESTROYED OR REMOVED.
6. WHERE FEASIBLE, WHEN A STRUCTURE IS RELOCATED ON A PARCEL, THE ORIGINAL LOCATION OF THE STRUCTURE SHALL BE REPLANTED WITH VEGETATION WHICH MAY CONSIST OF GRASSES, SHRUBS, TREES, OR A COMBINATION THEREOF.
7. OBTAIN ALL REQUIRED PERMITS FROM MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE BIDDEFORD CODE ENFORCEMENT OFFICE.
8. THIS APPROVAL SHALL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF A SUBSTANTIAL START IS NOT MADE IN CONSTRUCTION. IF A SUBSTANTIAL START IS MADE WITHIN ONE YEAR OF THE DATE BELOW, THE APPLICANT SHALL HAVE ONE ADDITIONAL YEAR TO COMPLETE THE PROJECT, THEREINAFTER THIS APPROVAL SHALL EXPIRE.

GENERAL NOTES:

1. THIS PLAN SHOWS THE LOCATION OF THE PROPOSED RECONSTRUCTED NONCONFORMING STRUCTURE TO THE GREATEST PRACTICAL EXTENT, PER ARTICLE XIV, SECTION 12.C.4 OF THE LAND DEVELOPMENT REGULATIONS AND AS APPROVED BY THE BIDDEFORD PLANNING BOARD ON _____.
2. THE NEW BUILDING WILL BE NO CLOSER THAN 25 FEET FROM THE HIGHEST ANNUAL TIDE (HAT) LINE TO THE WEST AND NO CLOSER THAN 32.16 FEET TO THE NORTH.

EROSION CONTROL NOTES:

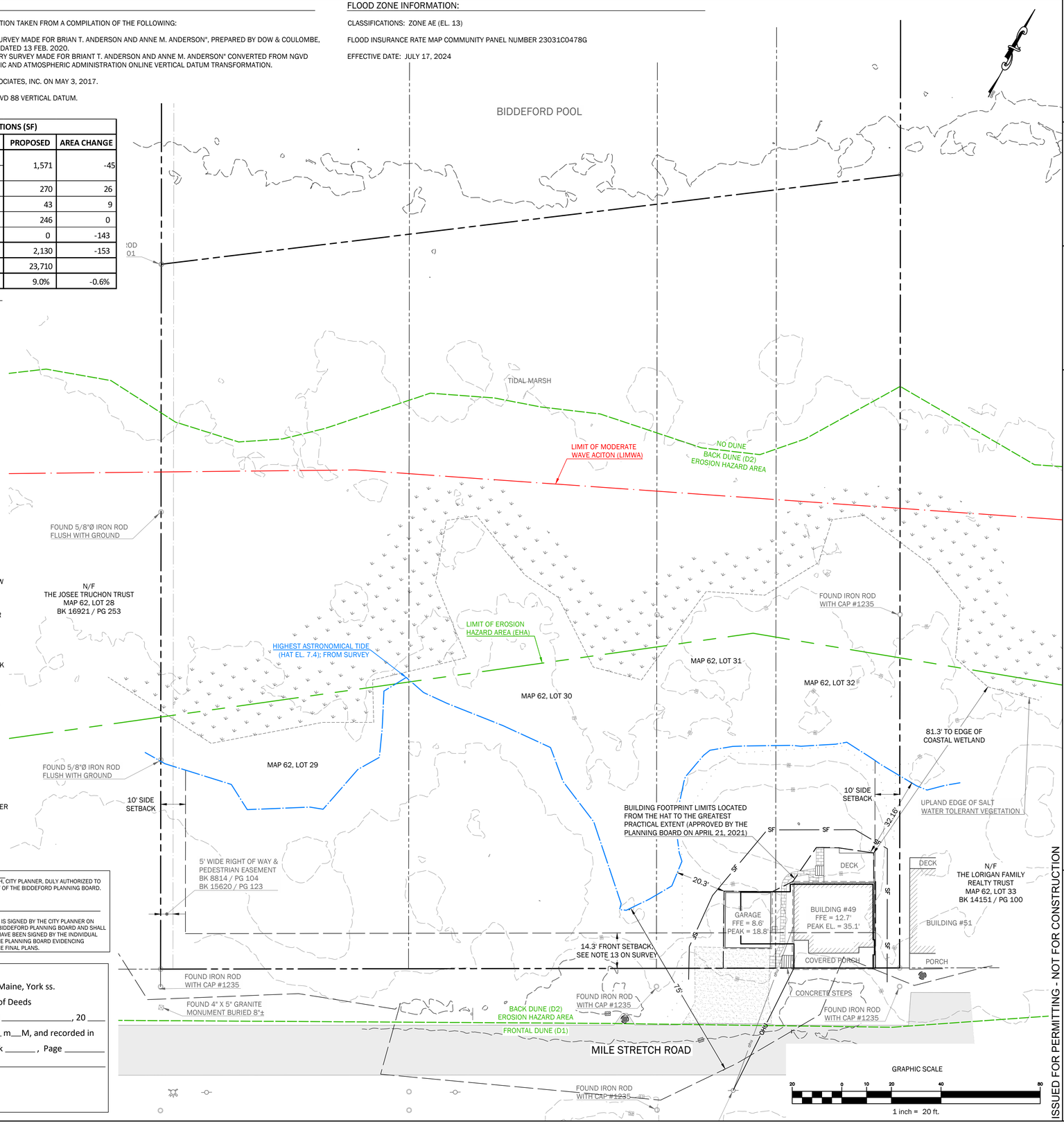
1. THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS.
2. THE CONTRACTOR SHALL COMPLY WITH THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS MANUAL AS PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BUREAU OF LAND AND WATER QUALITY, MARCH 2014 OR LATEST EDITION.
3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. ALL DISTURBED AREAS ON SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED, OR BY OTHER METHODS AS REQUIRED BY THE WRITTEN EROSION CONTROL PLAN.
4. DISTURBED AREAS SHALL BE LIMITED TO ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION. FOR DISTURBED AREAS THAT ARE NOT UNDER ACTIVE CONSTRUCTION AND THAT CAN NOT YET UNDERGO FINAL GRADING, INSTALL TEMPORARY SEEDING AND MULCHING (REFER TO WRITTEN EROSION CONTROL PLAN).
5. PERMANENT SEEDING OR STABILIZATION SHALL BE CARRIED OUT IMMEDIATELY AFTER FINAL GRADING IS COMPLETED, OR TEMPORARY MEASURES SHALL BE APPLIED SUCH AS MULCHING OR SEEDING UNTIL PERMANENT STABILIZATION MEASURES ARE IN PLACE.
6. TOPSOIL SHALL BE STOCKPILED IN AREAS AWAY FROM PROTECTED NATURAL RESOURCES AND IN AREAS WHICH HAVE A MINIMAL POTENTIAL FOR EROSION; REFER TO OWNER FOR LOCATION OF MATERIAL STOCKPILE.
7. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED AND REPAIRED IN ACCORDANCE WITH THE WRITTEN EROSION CONTROL PLAN FOR THE DURATION OF THE PROJECT UNTIL ALL AREAS ARE STABILIZED. REMOVE ACCUMULATED SILT AND SEDIMENT AS NEEDED AND MAINTAIN SILT FENCE IN GOOD, OPERABLE CONDITION.

DATE: _____
DAVID GALBRAITH, CITY PLANNER, DULY AUTHORIZED TO SIGN ON BEHALF OF THE BIDDEFORD PLANNING BOARD.

_____

NOTE: THIS PLAN IS SIGNED BY THE CITY PLANNER ON BEHALF OF THE BIDDEFORD PLANNING BOARD AND SHALL BE DEEMED TO HAVE BEEN SIGNED BY THE INDIVIDUAL MEMBERS OF THE PLANNING BOARD EVIDENCING APPROVAL OF THE FINAL PLANS.

State of Maine, York ss.
Registry of Deeds
Received _____, 20 ____
at __h__ m__M, and recorded in
Plan Book _____, Page _____
Attest: _____
Register



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STATE OF MAINE
NORMAN G. CHAMBERLAIN II
No. 7444
4/11/2025
LICENSED PROFESSIONAL ENGINEER

49 Mile Stretch Road, Biddeford

49 Mile Stretch Road
Biddeford, Maine 04005

PREPARED FOR:
Brian Anderson
1 Taft Street
Ayer, Massachusetts 01432

Rev.	Date	Description	Drawn	Check

Sheet Title:
SHORELAND ZONE SETBACK REQUIREMENT TO THE GREATEST PRACTICAL EXTENT SITE PLAN

Job No.:	694
Date:	June 24, 2025
Scale:	AS SHOWN
Drawn:	MRM / MBP
Checked:	NGC

Sheet No.: C1.0

Plotted: 6/24/2025 2:42 PM
Saved: J:\694 Brian Anderson\1 CADD\1 Base Files\Civil\694 Site Plan.dwg

LEGEND

EXISTING

- PROPERTY LINE
- ABUTTERS PROPERTY LINE
- EASEMENT
- PROPERTY SETBACK
- IRF or IPF — IRON ROD OR PIN FOUND
- STORM DRAIN CATCH BASIN
- HYDRANT
- WATER LINE GATE VALVE
- SEWER MANHOLE
- ohu — OVERHEAD UTILITY
- ugu — UNDERGROUND UTILITY
- UTILITY POLE
- BUILDING
- SIGN
- BITUMINOUS PAVEMENT
- GRAVEL
- 100 — INDEX CONTOUR
- 101 — INTERMEDIATE CONTOUR
- + 90.00 — SPOT GRADE
- TREELINE
- EFFECTIVE FLOODZONE
- HIGHEST ASTRONOMICAL TIDE (HAT)
- SAND DUNE BOUNDARY
- SAND DUNE HAZARD

PARCEL INFORMATION:

1. OWNER OF RECORD: 4 OCEAN EDGE LANE REALTY TRUST
2. STREET ADDRESS: 49 MILE STRETCH ROAD
3. PARCEL SHOWN HEREON IS TOWN OF BIDDEFORD TAX MAP 62, LOTS 29, 30, 31 & 32.
4. TOTAL AREA OF PARCEL: 2.355± ACRES
5. CURRENT ZONE: LIMITED RESIDENTIAL (LR)
6. MAG NAIL IN POLE #19, EL. 12.14 (NAVD 88 DATUM)

FLOOD ZONE INFORMATION:

CLASSIFICATIONS: ZONE AE (EL. 13)

FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 23031C0478G

EFFECTIVE DATE: JULY 17, 2024

PLAN REFERENCES:

1. TOPOGRAPHIC AND PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
   - 1.1. A PLAN TITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR BRIAN T. ANDERSON AND ANNE M. ANDERSON", PREPARED BY DOW & COULOMBE, INC. OF 13 PARK STREET, SACO, MAINE 04072, DATED 13 FEB. 2020.
     - 1.1.1. A PLAN TITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR BRIANT T. ANDERSON AND ANNE M. ANDERSON" CONVERTED FROM NGVD 1929 TO NAVD 88 USING NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ONLINE VERTICAL DATUM TRANSFORMATION.
2. FIELD OBSERVATIONS BY WALSH ENGINEERING ASSOCIATES, INC. ON MAY 3, 2017.
3. ELEVATIONS AND CONTOURS ARE BASED ON THE NAVD 88 VERTICAL DATUM.

ZONING INFORMATION*:

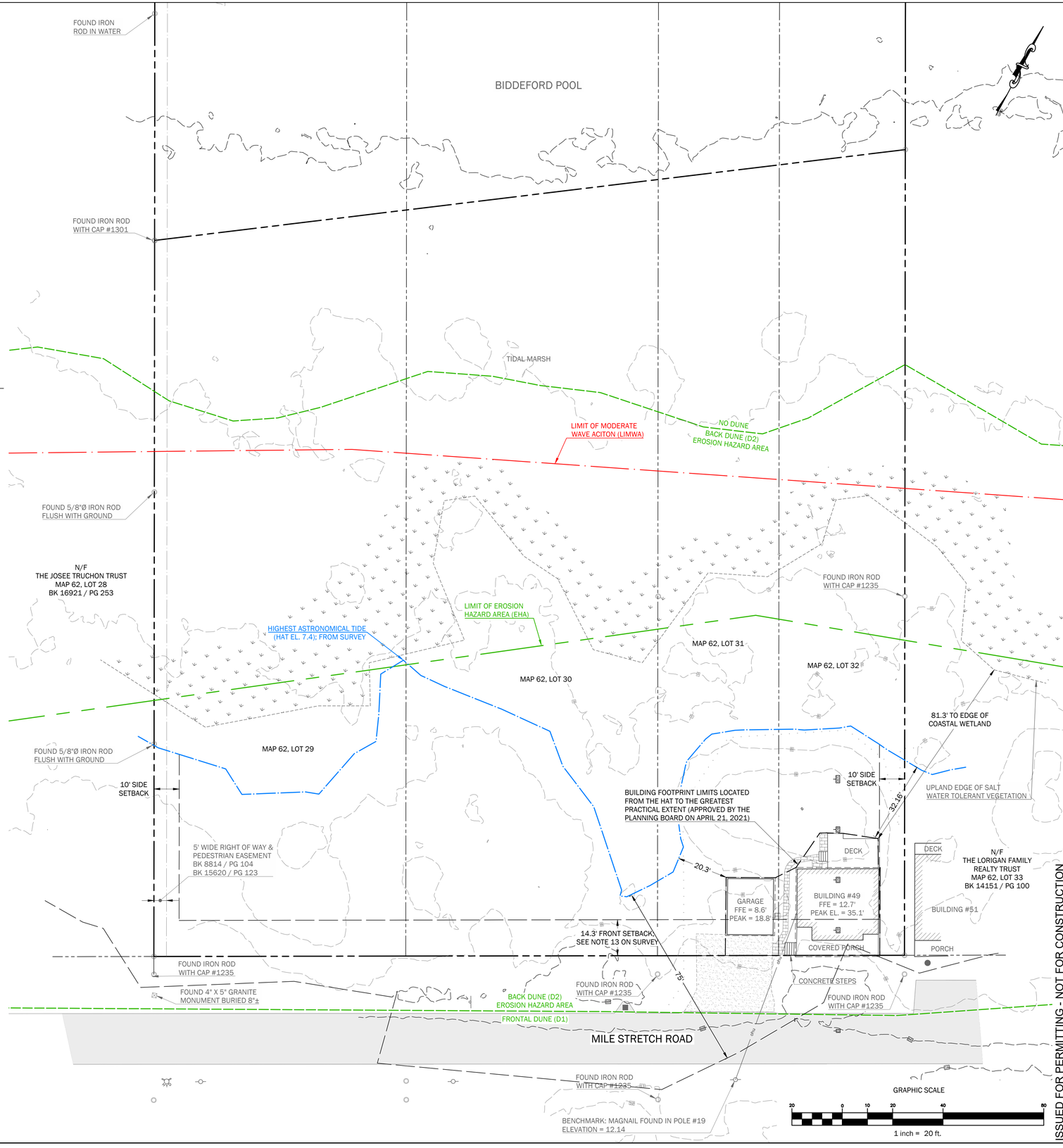
1.	CLASSIFICATION:	COASTAL RESIDENTIAL ZONE(CR)	RESOURCE PROTECTION SHORELAND ZONE (RP)
2.	PERMITTED USES:	RESIDENTIAL	
3.	LOT AREA:	2.355± AC	
4.	LOT COVERAGE MAXIMUM:	20%	
5.	MAXIMUM BUILDING HEIGHT:	35 FT	20 FT OR EXISTING STRUCTURE (WHICHEVER IS GREATER)
6.	MINIMUM STREET FRONTAGE:	150 FT	40 FT
7.	FRONT SETBACK:	40FT	15 FT
8.	SIDE SETBACK:	25FT	10 FT
9.	REAR SETBACK:	25FT	15 FT
10.	SETBACK TO RIGHT-OF-WAY (NON-CONFORMING): MAY BE REDUCED TO THE AVERAGE OF THE LOTS IMMEDIATELY ADJACENT: N/F LOHMEYER = 1.9 FT N/F PISANO & SHANNON = 43.2 FT AVERAGE SETBACK = 22.55 FT	40 FT	

11. THE HIGHEST ASTRONOMICAL TIDE (HAT) SETBACK AS SHOWN ON THIS PLAN WAS APPROVED BY THE CITY OF BIDDEFORD PLANNING BOARD AT ITS APRIL 23, 2021 MEETING.

*ZONING STANDARDS FROM TOWN OF BIDDEFORD LAND USE ORDINANCE, DATED NOVEMBER 7, 2024.

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AND LOCAL UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH MAINE STATE LAW. "DIG SAFE" TELEPHONE NUMBER IS 1-888-344-7233.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL AND ANY MEANS, METHODS, AND TECHNIQUES EMPLOYED TO PERFORM THE WORK SHOWN ON THE PLANS.
3. ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING ALL SAFETY REGULATIONS (OSHA).
4. ALL WORK SHALL BE IN CONFORMANCE ALL UTILITY COMPANIES STANDARDS.
5. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THE WORK SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION.
6. ALL PAVEMENT/CONCRETE CUTS SHALL BE SAW CUT TO RESULT IN CLEAN EDGES. A TACK COAT SHALL BE APPLIED ALONG THE PAVEMENT CUT EDGES AND THE NEW PAVEMENT BUTTED TO IT, UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
7. ALL WORK SHALL COMPLY WITH THE TOWN OF BIDDEFORD STREET OPENING PERMIT REQUIREMENTS.
8. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. REFER TO THE WRITTEN EROSION CONTROL PLAN AND DRAWINGS FOR FURTHER EROSION CONTROL GUIDELINES.
9. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.



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STATE OF MAINE
NORMAN G. CHAMBERLAIN II
No. 7444
4/11/2025
LICENSED PROFESSIONAL ENGINEER

49 Mile Stretch Road, Biddeford

49 Mile Stretch Road
Biddeford, Maine 04005

PREPARED FOR:
Brian Anderson
1 Tiff Street
Ayer, Massachusetts 01432

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check

Sheet Title:
Overall Existing Conditions Plan

Job No.:	694
Date:	June 24, 2025
Scale:	AS SHOWN
Drawn:	MRM / MBP
Checked:	NGC

Sheet No.: C1.1

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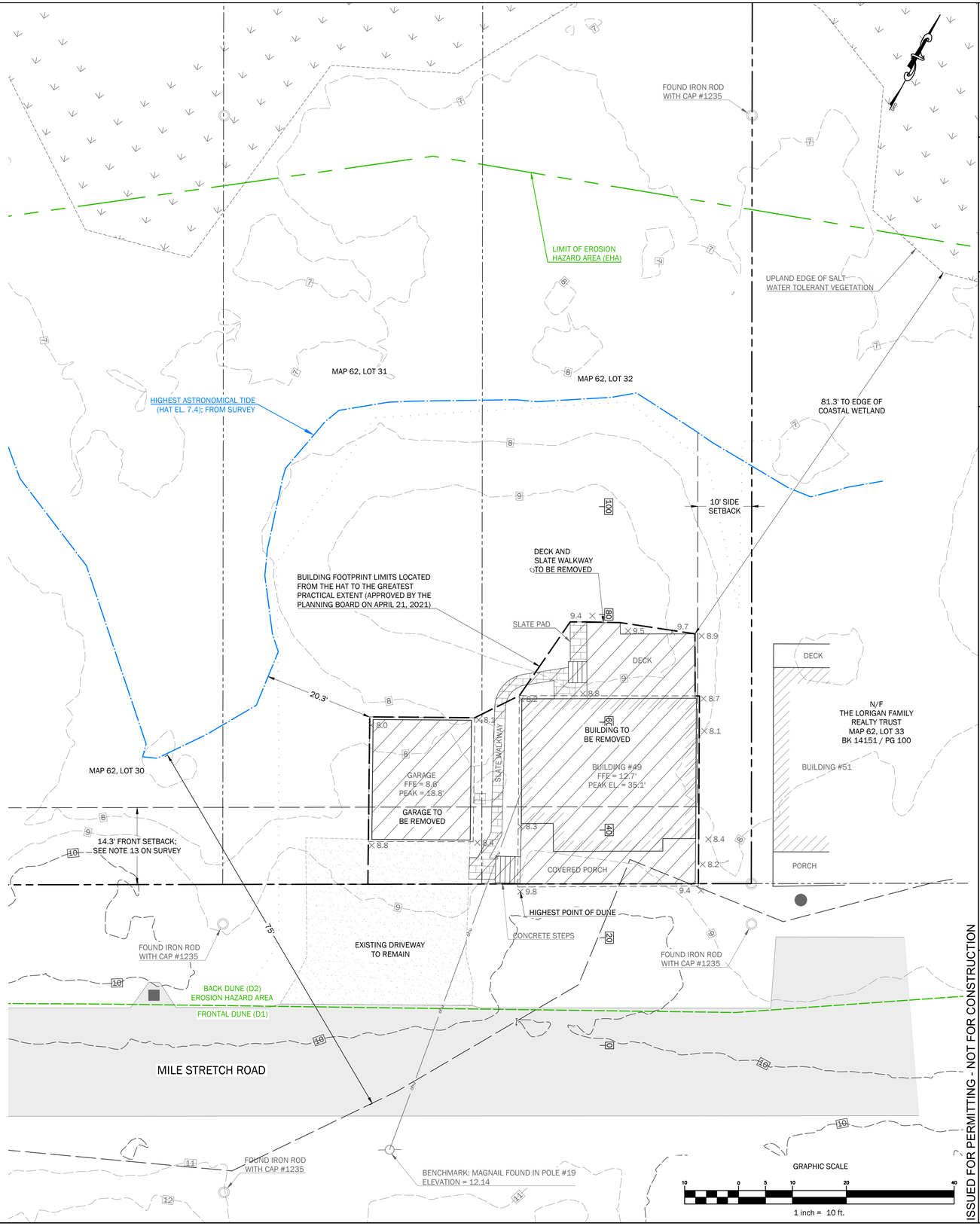
LEGEND

EXISTING

- PROPERTY LINE
- ABUTTERS PROPERTY LINE
- EASEMENT
- PROPERTY SETBACK
- IRF or IPF — IRON ROD OR PIN FOUND
- STORM DRAIN CATCH BASIN
- HYDRANT
- WATER LINE GATE VALVE
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- TREELINE
- EFFECTIVE FLOODZONE
- HIGHEST ASTRONOMICAL TIDE (HAT)
- SAND DUNE BOUNDARY
- SAND DUNE HAZARD

IMPERVIOUS AREA CALCULATIONS (SF)	
HOUSE & COVERED PORCH	1,167
GARAGE	449
DECK	244
STEPS	34
DRIVEWAY	246
WALKWAYS & PADS	143
TOTAL LOT COVERAGE	2,283
LOT AREA TO 7.4' CONTOUR	23,710
PERCENT IMPERVIOUS COVERAGE	9.6%

DEVELOPED AREA CALCULATIONS (SF)	
HOUSE & COVERED PORCH	1,167
GARAGE	449
DECK	244
STEPS	34
DRIVEWAY	246
WALKWAYS & PADS	143
LAWN & VEGETATION	4,967
TOTAL DEVELOPED AREA	7,250
LOT AREA TO 7.4' CONTOUR	23,710
PERCENT DEVELOPED AREA	30.6%



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NORMAN G. CHAMBERLAIN II
No. 7444
6/11/2025
LICENSED PROFESSIONAL ENGINEER

49 Mile Stretch Road, Biddeford

49 Mile Stretch Road
Biddeford, Maine 04005

PREPARED FOR:
Brian Anderson
1 Taft Street
Ayer, Massachusetts 01432

Rev.	Date	Description	Drawn	Check

Sheet Title:
Existing Condition & Removals Plan

Job No.:	694
Date:	June 24, 2025
Scale:	AS SHOWN
Drawn:	MRM / MBP
Checked:	NGC

Sheet No.: C1.2

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	ABUTTERS PROPERTY LINE	
	EASEMENT	
	PROPERTY SETBACK	
IRF or IPF	IRON ROD OR PIN FOUND	
	STORM DRAIN CATCH BASIN	
	HYDRANT	
	WATER LINE GATE VALVE	
	SEWER MANHOLE	
ohu	OVERHEAD UTILITY	OHU
ugu	UNDERGROUND UTILITY	UGU
	UTILITY POLE	
	BUILDING	
	SIGN	
	BITUMINOUS PAVEMENT	
	GRAVEL	
100	INDEX CONTOUR	
101	INTERMEDIATE CONTOUR	
+ 90.00	SPOT GRADE	
	TREELINE	
	EFFECTIVE FLOODZONE	
	HIGHEST ASTRONOMICAL TIDE (HAT)	
	SAND DUNE BOUNDARY	
	SAND DUNE HAZARD	
	SILT FENCE	SF
	EROSION CONTROL BERM	ECB
	TURF REINFORCEMENT MATTING	
	CATCH BASIN INLET PROTECTION	
	CONSTRUCTION ENTRANCE	

LAYOUT, MATERIALS, AND UTILITY NOTES:

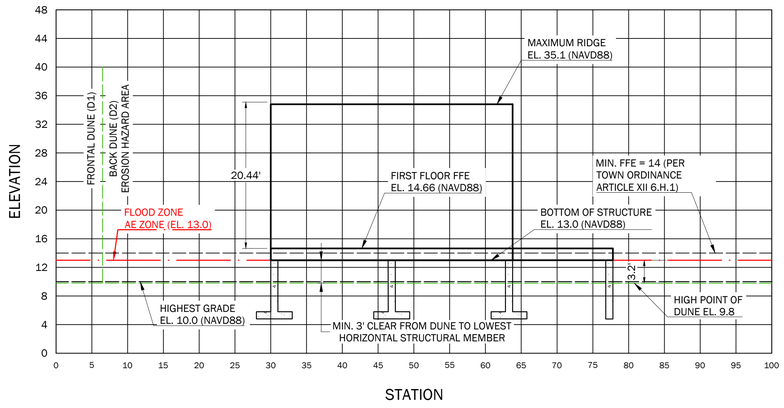
1. REFER TO SHEET C1.0 FOR FLOOD ZONE, BOUNDARY AND TOPOGRAPHIC INFORMATION.
2. ALL DIMENSIONS, LOCATIONS AND CONTROLS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
3. DO NOT SCALE THE DRAWINGS FOR REQUIRED DIMENSIONS. ANY DISCREPANCIES IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
4. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE SHOWN.
5. ALL EDGES OF PAVING SHALL BE STAKED OUT BY THE CONTRACTOR AND REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
6. PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.
7. ALL DISTURBED AREAS NOT OTHERWISE TREATED SHALL BE LOAMED AND SEEDED.
8. CENTERLINES OF DRIVEWAY AND WALKWAY, PROPOSED PARKING LOTS AND PROPOSED UTILITY LINES SHALL BE LOCATED AND LAID OUT BY PROFESSIONALLY LICENSED SURVEYOR.
9. SEE LANDSCAPING PLAN FOR NON-PAVED AREA SURFACE TREATMENTS AND CONCRETE PAVER PATTERN LAYOUTS.

EROSION CONTROL NOTES:

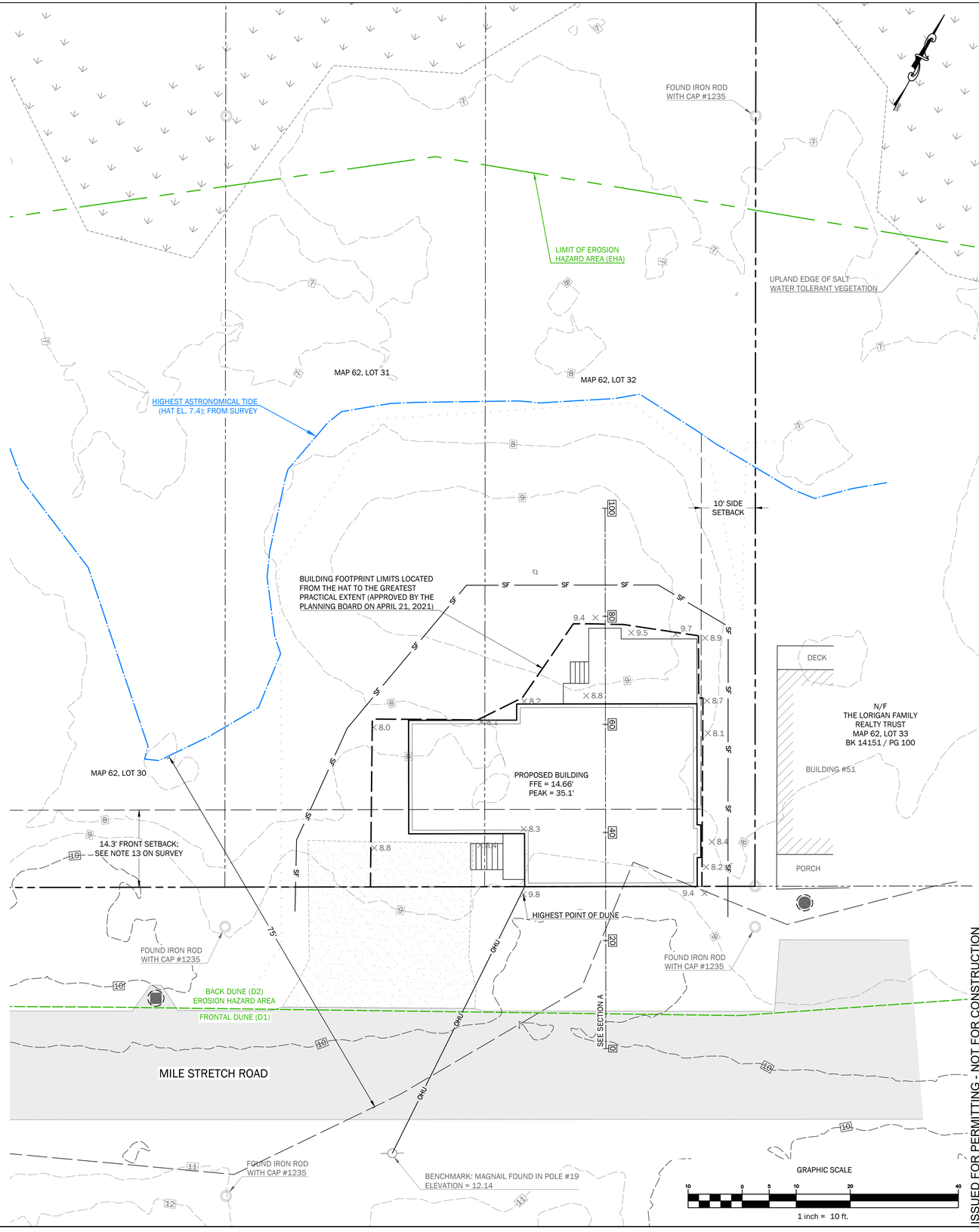
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2. THE CONTRACTOR SHALL COMPLY WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS MANUAL AS PUBLISHED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BUREAU OF LAND AND WATER QUALITY, MARCH 2003 OR LATEST EDITION.
3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. ALL DISTURBED AREAS ON SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED, OR BY OTHER METHODS AS REQUIRED BY THE WRITTEN EROSION CONTROL PLAN.
4. DISTURBED AREAS SHALL BE LIMITED TO ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION. FOR DISTURBED AREAS THAT ARE NOT UNDER ACTIVE CONSTRUCTION AND THAT CAN NOT YET UNDERGO FINAL GRADING, INSTALL TEMPORARY SEEDING AND MULCHING (REFER TO WRITTEN EROSION CONTROL PLAN).
5. PERMANENT SEEDING OR STABILIZATION SHALL BE CARRIED OUT IMMEDIATELY AFTER FINAL GRADING IS COMPLETED, OR TEMPORARY MEASURES SHALL BE APPLIED SUCH AS MULCHING OR SEEDING UNTIL PERMANENT STABILIZATION MEASURES ARE IN PLACE.
6. TOPSOIL SHALL BE STOCKPILED IN AREAS AWAY FROM PROTECTED NATURAL RESOURCES AND IN AREAS WHICH HAVE A MINIMAL POTENTIAL FOR EROSION; REFER TO OWNER FOR LOCATION OF MATERIAL STOCKPILE.
7. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED AND REPAIRED IN ACCORDANCE WITH THE WRITTEN EROSION CONTROL PLAN FOR THE DURATION OF THE PROJECT UNTIL ALL AREAS ARE STABILIZED. REMOVE ACCUMULATED SILT AND SEDIMENT AS NEEDED AND MAINTAIN SILT FENCE IN GOOD, OPERABLE CONDITION.

IMPERVIOUS AREA CALCULATIONS (SF)		
	EXISTING	PROPOSED
HOUSE & COVERED PORCH	1,167	1,571
GARAGE	449	
DECK	244	270
STEPS	34	43
DRIVEWAY	246	246
WALKWAYS & PADS	143	0
TOTAL LOT COVERAGE	2,283	2,130
LOT AREA TO 7.4' CONTOUR	23,710	23,710
PERCENT IMPERVIOUS COVERAGE	9.6%	9.0%

DEVELOPED AREA CALCULATIONS (SF)		
	EXISTING	PROPOSED
HOUSE & COVERED PORCH	1,167	1,571
GARAGE	449	
DECK	244	270
STEPS	34	43
DRIVEWAY	246	246
WALKWAYS & PADS	143	0
LAWN & VEGETATION	4,967	5,120
TOTAL DEVELOPED AREA	7,250	7,250
LOT AREA TO 7.4' CONTOUR	23,710	23,710
PERCENT DEVELOPED AREA	30.6%	30.6%



Section A



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Biddeford, Maine 04005

PREPARED FOR:
Brian Anderson
1 Taft Street
Ayer, Massachusetts 01432

Rev.	Date	Description	Drawn	Check

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

Sheet Title:
Proposed Site Plan & Section

Job No.:	694
Date:	June 24, 2025
Scale:	AS SHOWN
Drawn:	MRM / MBP
Checked:	NGC

Sheet No.: C2.0

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EROSION AND SEDIMENTATION CONTROL NOTES:

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE MAINE EROSION & SEDIMENT CONTROL BMPS MANUAL, OCTOBER 2016, AND MAINE EROSION AND SEDIMENT CONTROL PRACTICE FIELD GUIDE FOR CONTRACTORS, REVISED 2014, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THESE PUBLICATIONS AND ADHERE TO THEM AND THE PRACTICES PRESENTED HEREIN

THERE SHALL BE NO DISTURBANCE WITHIN 50 FEET OF PROTECTED NATURAL RESOURCES WITHOUT AN APPROVED PERMIT BY RULE NOTIFICATION FOR THAT DISTURBANCE.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:

1) LIMIT DISTURBANCE AND, HENCE, EROSION
2) CORRECT ANY EROSION PROBLEMS IMMEDIATELY
3) REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL
4) REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION
5) CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE SITE'S MAINE DEP EROSION & SEDIMENT CONTROL BMP MANUAL.

A SIGNIFICANT STORM EVENT SHALL BE DEFINED AS 0.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD.

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWN GRADIENT SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES WHERE SLOPES EXCEED 8% OR THERE IS FLOWING WATER BOTH SILT FENCE AND EROSION CONTROL MATTING BERMS SHALL BE USED.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADIENT CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES AND IN ALL ONSITE CATCH BASINS UNTIL SITE HAS BEEN COMPLETELY STABILIZED.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. EROSION AND SEDIMENTATION CONTROL BMPS SHALL BE INTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES.

2. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. AN AREA NO LARGER THAN WHAT CAN BE MULCHED IN ONE DAY MAY BE OPEN AT ONCE. IN NO CASE SHALL AN AREA GREATER THAN 10 ACRES BE UNSTABILIZED. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO "POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 7 DAYS OF COMPLETING CONSTRUCTION IN THE AREA OR WITHIN 48 HOURS IF WITHIN 75 FEET OF A NATURAL RESOURCE. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.

3. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADIENT PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.

4. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 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. STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPILING COMMENCES.

5. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:

   A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1000 SQUARE FEET FROM 4/16 TO 10/1, OR AT A RATE OF 150-200 LBS. PER 1000 SQUARE FEET FROM 10/1 TO 4/15.

   B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1000 SQ.FT.) AND MULCHED IMMEDIATELY. FROM 10/1 TO 4/15, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SUB-SECTION 4.D. OF THE "POST CONSTRUCTION REVEGETATION" SECTION.

   C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.

5. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL, AND IN NO CASE SHALL SLOPES EXCEED 1.5:1. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION).

6. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.

7. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEPT AND VACUUMED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.

8. ALL AREAS DRAINING TO A STORMWATER FILTER OR BMP SHALL BE STABILIZED PRIOR TO CONSTRUCTION OF FILTER MEDIA TO PREVENT SEDIMENT FROM CLOGGING MEDIA.

DEWATERING

1. ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 75' FROM STREAMS AND 25' FROM WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING AND SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL BMPS G-1, G-2, AND G-3.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 4" OF TOPSOIL EXCAVATED FROM THE SITE WILL BE SPREAD OVER DISTURBED AREAS TO BE REVEGETATED AS MEADOW AREA AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.

2. SEEDING UNDER SOLAR PANEL ARRAY: LOW MAINTENANCE NATIVE GRASS AND CLOVER SEED MIX.

3. SEEDING OUTSIDE OF SOLAR PANEL ARRAY: NATIVE POLLINATOR FRIENDLY SEED MIXES.

4. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COURSE MATERIALS.

   A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.

   B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.

   C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.

5. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 10/1 AND 4/15.

6. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:

   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 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.

   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.

   E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.

   F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, SHALL BE DOUBLE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.

6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE 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. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL, AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.

2. CONSTRUCTION ENTRANCE SHALL BE VISUALLY INSPECTED AND REPAIRED AS NEEDED. ANY AREAS SUBJECT TO RUTTING SHALL BE STABILIZED IMMEDIATELY. IF THE VOIDS OF THE CONSTRUCTION ENTRANCE BECOME FILLED WITH MUD, MORE CRUSHED STONE SHALL BE ADDED AS NEEDED. THE PUBLIC ROADWAY SHALL BE SWEPT AND VACUUMED SHOULD MUD BE DEPOSITED/TRACKED ONTO THEM.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD:

1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING AT TWICE THE RATE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.

   B. STABILIZE THE SLOPE WITH EROSION CONTROL MIX: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF EROSION CONTROL MIX ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

   C. STABILIZE THE SLOPE WITH STONE RIPRAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL 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, 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.

   B. STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 15T. PROPER INSTALLATION INCLUDES THE CONTRACTOR 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.

   C. STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 90% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE: SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.

2. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED ONCE THE COMPACTED ROADWAY BASE IN IN PLACE. STONE AND SEDIMENT FROM THE CONSTRUCTION ENTRANCE SHALL BE REDISTRIBUTED TO AN AREA UNDERGOING GRADING OR REMOVED AND RELOCATED OFFSITE.

3. MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE.
CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS AND THE STANDARDS OF THE NATURAL RESOURCES PROTECTION ACT, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM FROM THE PROJECT.

INSPECTION AND MAINTENANCE (APPENDIX B)

THE OWNER SHALL BE RESPONSIBLE FOR SEEING THAT EROSION AND SEDIMENT CONTROL MEASURES ARE UNDERTAKEN AND MAINTAINED. IF INSPECTIONS ARE REQUIRED BY PERMITTING AGENCIES, THE DESIGN ENGINEER, OR THIRD PARTY INSPECTOR SHALL FOLLOW THE PROCEDURES OUTLINED BELOW:

1. INSPECTION AND MAINTENANCE REQUIREMENTS: INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A SIGNIFICANT STORM EVENT AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS IN THE MCGP AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THE MCGP, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE STARTED BY THE END OF THE NEXT WORKIN DAY AND COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS AREA PERMANENTLY STABILIZED. DOCUMENTATION OF CORRECTION ACTIONS SHALL BE MAINTAINED WITH THE INSPECTION FORMS.

2. INSPECTION LOG (REPORT): A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE INSPECTION LOG THE CORRECT ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE PERMANENT STABILIZATION.

HOUSEKEEPING (APPENDIX C)

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DEWATERING: EXCAVATION DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

- DISCHARGES FROM FIREFIGHTING ACTIVITY;
- FIRE HYDRANT FLUSHINGS;
- VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE, AND TRANSMISSION WASHING IS PROHIBITED);
- DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
- ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
- PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
- UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
- UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
- UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
- POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
- LANDSCAPE IRRIGATION

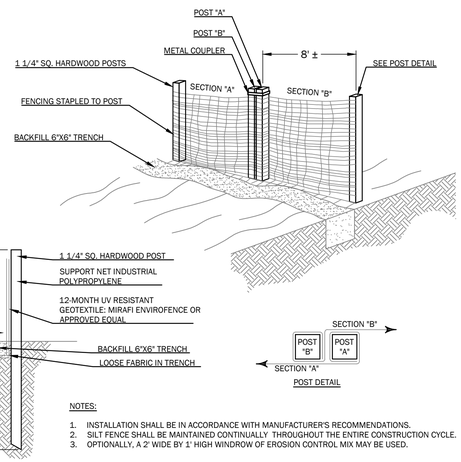
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
- TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

8. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

1 EROSION AND SEDIMENTATION CONTROL NOTES

NOT TO SCALE

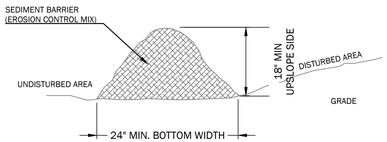


NOTES:

1. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. SILT FENCE SHALL BE MAINTAINED CONTINUALLY THROUGHOUT THE ENTIRE CONSTRUCTION CYCLE.
3. OPTIONALLY, A 2' WIDE BY 1' HIGH WINDROW OF EROSION CONTROL MIX MAY BE USED.

2 PREFABRICATED SILT FENCE OR SEDIMENT BARRIER (EROSION CONTROL MIX)

NOT TO SCALE



NOTES

1. THE EROSION CONTROL MIX SHALL CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.

2. MATERIAL SHALL MEET THE FOLLOWING REQUIREMENTS

   A. THE ORGANIC CONTENT SHALL BE BEWTEEN 80 AND 100% DRY WEIGHT BASIS
   B. PARTICLE SIZE BY WIEGHT SHALL BE 100% PASSING A 6" SCREEN AND A MAXIMUM OF 85% PASSING A 0.75" SCREEN
   C. THE ORG



4 | 1/4"=1'-0" | RIGHT SIDE ELEVATION



2 | 1/4"=1'-0" | REAR ELEVATION



3 | 1/4"=1'-0" | LEFT ELEVATION



1 | 1/4"=1'-0" | FRONT ELEVATION

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PROJECT

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05/20/21

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INFORMATION

Path: m:\architecture\anderson\

Issue Date: tbd

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Checked By: DG

Revision:

1.

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3.

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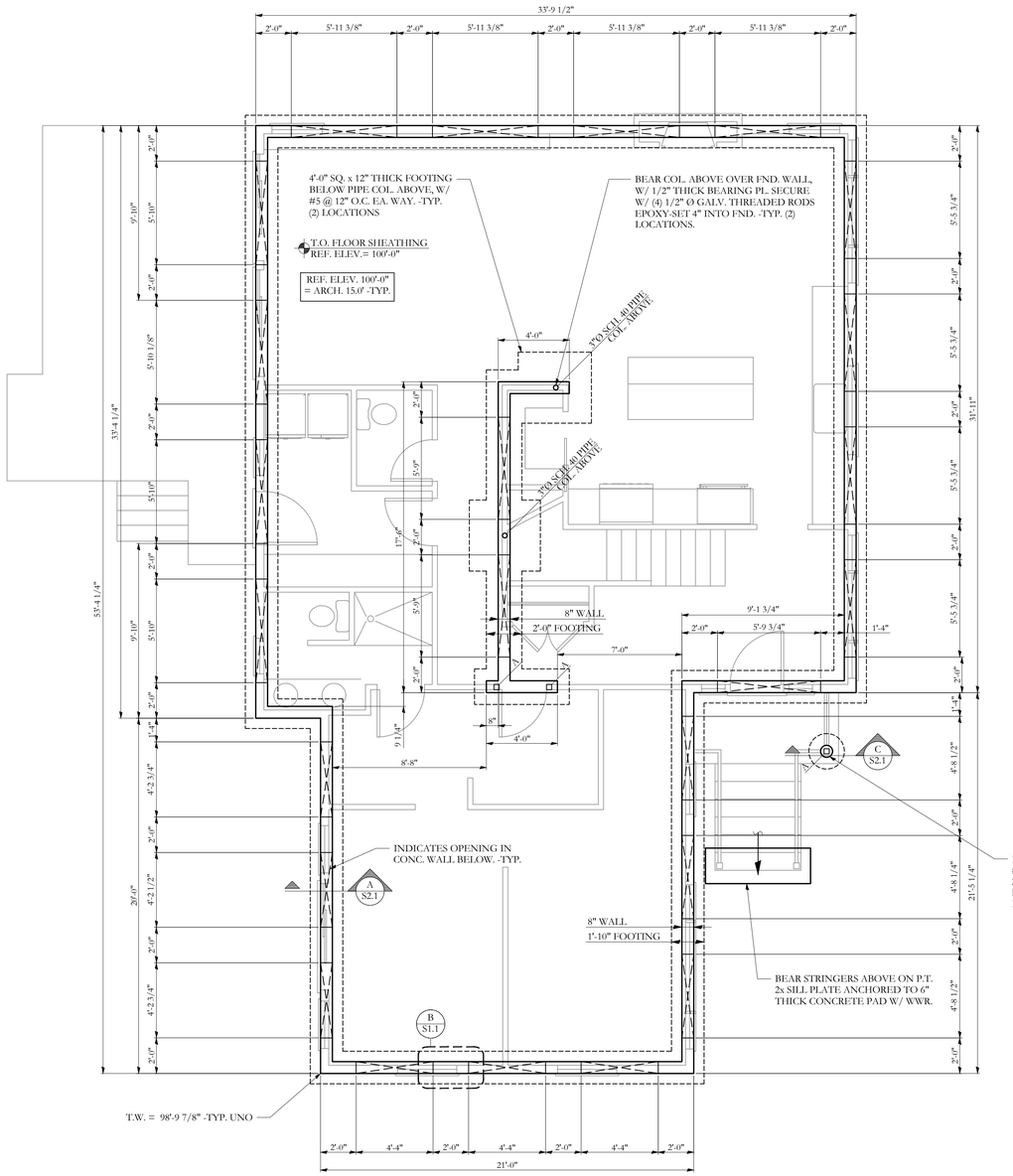
TITLE

ELEVATIONS

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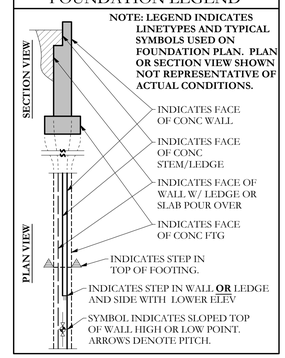
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A-1



FOUNDATION LEGEND

NOTE: LEGEND INDICATES LINETYPES AND TYPICAL SYMBOLS USED ON FOUNDATION PLAN. PLAN OR SECTION VIEW SHOWN NOT REPRESENTATIVE OF ACTUAL CONDITIONS.



FOUNDATION PLAN

0' 1' 5' 10'

SCALE 1/4"=1'-0"

NOTES:

1. SEE SHEET S1.0 FOR GENERAL STRUCTURAL NOTES.
2. ALL FOOTINGS ARE 24" DEEP x 1'-10" WIDE x CONT. WITH (8) #5 LONGITUDINAL BARS. PROVIDE #4 TIES @ 16" O.C., SEE A/S2.1 ⚠1
3. STEPS IN TOP OF WALL ARE INDICATED THUS ⊏, AND SHOWS THE LOWER SIDE OF THE WALL.
4. STEPS IN TOP OF FOOTING ARE INDICTED THUS ⊐ , AND SHOWS THE LOWER FOOTING.
5. BOTTOM OF ALL FOOTINGS TO BE 4'-0" MIN. BELOW EXTERIOR GRADE -TYP. UNO.
6. TOP OF WALL ELEV. VARIES, INDICATED AS THUS: TW=XX'-XX"
7. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND NOTIFY S.I. INC. IF CONDITIONS ARE NOT WHAT IS SHOWN ON THE CONTRACT DRAWINGS.
8. CONTRACTOR SHALL NOT REMOVE ANY EXISTING STRUCTURE WITHOUT DIRECTION FROM S.I. INC.
9. UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS ALL EXISTING STRUCTURE SHALL REMAIN.
10. CONTRACTOR SHALL NOTIFY S.I. INC. OF ANY DAMAGED STRUCTURE NOT IDENTIFIED ON THE STRUCTURAL DRAWINGS.
11. FRAMING INDICATED REPRESENTS THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE TO SHORE EXISTING STRUCTURE AS REQUIRED TO PERFORM THE WORK SPECIFIED ON THE STRUCTURAL DRAWINGS.
12. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BUILDING, FINISHES, AND STRUCTURE ADJACENT TO ANY AREA OF WORK.

Structural Integrity
Consulting Engineers, Inc.
46 Forest Ave.
Portland, ME, 04101
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BUILD WITH CONFIDENCE

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SI Job# 20-0149

STATE OF MAINE
AARON C. JONES
No. 10968
LICENSED PROFESSIONAL ENGINEER

Anderson Residence

49 Mile Stretch Road
Biddeford Pool, ME

Sheet Title

FOUNDATION PLAN

Scale: AS NOTED

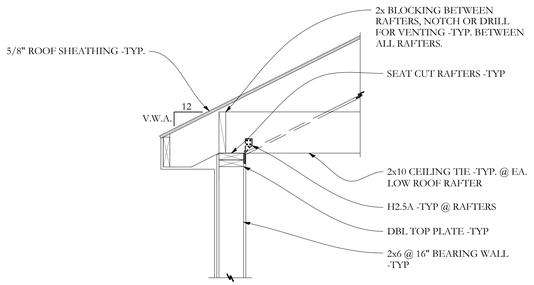
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Revisions

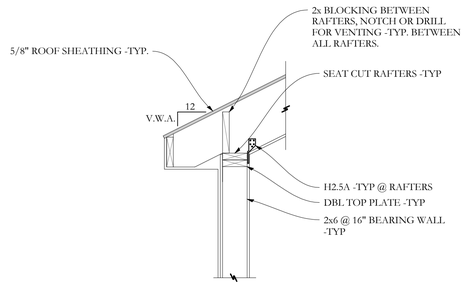
⚠1 09/24/2021

Sheet

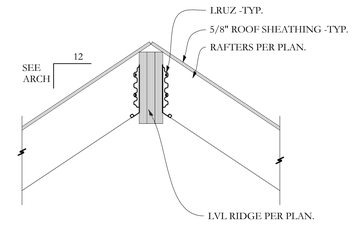
S1.1



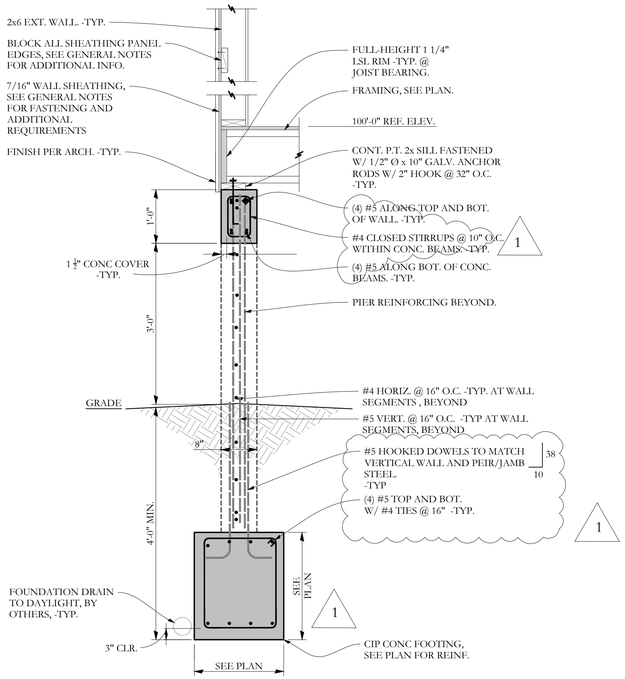
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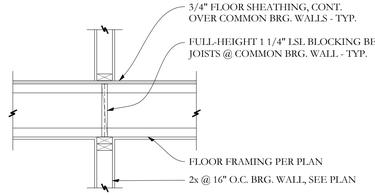
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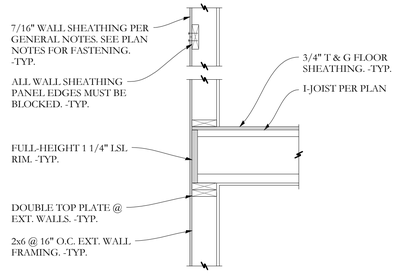
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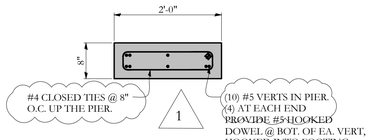
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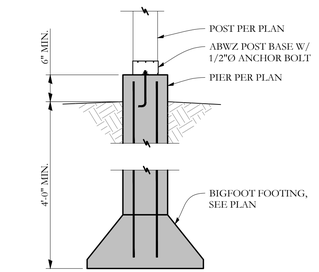
SECTION D S2.1 3/4"=1'-0"



SECTION E S2.1 3/4"=1'-0"



SECTION B S2.1 3/4"=1'-0"



SECTION C S2.1 3/4"=1'-0"

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SI Job# 20-0149

STATE OF MAINE
AARON C. JONES
No. 10988
LICENSED PROFESSIONAL ENGINEER

Anderson Residence
49 Mile Stretch Road
Biddeford Pool, ME

Sheet Title
DETAILS

Scale: AS NOTED

Date: 08/05/2021

Revisions
1 09/24/2021

Sheet
S2.1

CITY OF BIDDEFORD
Planning and Development Department

Adi Iriqat
Assistant City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
adi.iriqat@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Plotkin and Members of the Biddeford Planning Board

FROM: Adi Iriqat, Assistant City Planner
DATE: July 09, 2025

RE: 2025.07 A Final Site Plan Review Application for Bohler Engineering c/o Chick-fil-A to rebuild a Vacant Building Previously Occupied by Olive Garden into a Chick-fil-A Quick-Serve Restaurant. The property is at 150 Shops Way (Tax Map 2, Lot 24) in the Highway Business District (B2).

MEETING DATE: July 16, 2025, at 6:00 PM

1. Introduction

Bohler LLC is presenting this application on behalf of Chick-fil-A, referred to as the Applicant throughout this document. The project involves the demolition of the existing Olive Garden and the construction of a 5,200-square-foot Quick-Serve Restaurant with a double Drive-Thru. The project is at 150 Shops Way in Biddeford, Maine, Tax Map 2, Lot 24. The parcel is a 13.416-acre shopping plaza with multiple tenants in the Highway Business District (B2). The plaza features Kobe Japanese Grill, Panera Bread, Michaels, and additional retailers. The site is bounded by Alfred Road (State Route 111) to the north, and Mariner Way to the west. Driveways off Mariner Way and Alfred Road grant access to the site (See Figure below). The proposed building is generally in the exact location of the existing Olive Garden.



Figure 1 A location map of the site

The scope of work summarized includes:

- Demolition of an 8,083 vacant building, parking lot, and landscaped area.
- Construction of a newly 5,200 building with a dual drive-thru
- Addition of a new utility service, landscaping enclosure
- Addition of a catch basin
- Installation of two canopies over the drive-thru

2. Project Data/ Information

1.	**Applicant:**	Bohler c/o Chick-fil-A 352 Turnpike Rd, Southborough, MA
2.	Owner of Property:	DSM MB II LLC 8875 East St, Tewksbury, MA 01876
3.	Agent:	Joey Fonseca – Bohler Engineer 352 Turnpike Rd, Southborough, MA
4.	Surveyor:	Gerry Holdright – Control Point Associates (Surveyor) 352 Turnpike Rd, Southborough, MA
5.	Project Location:	150 Shops Way
6.	Project Tax Map & Lot:	Tax Map 2, Lot 24
7.	Lot Size:	13.4 Acres
8.	Base Zoning:	Highway Business District (B2)
9.	Overlay Zoning:	N/A
10.	Existing Use:	Vacant Former Olive Garden Building
11.	Proposed Use:	Chick-fil-A Restaurant
12.	Approvals Required:	Site Plan
13.	Uses in the Vicinity:	Commercial
14.	Waivers Needed:	N/A
18.	Waivers Granted:	N/A
22.	Other Non-City Permits Required:	
23.	Fees Paid	Yes
25.	Planning Board Review History:	**Preliminary** Plan: March 05, 2025. **Final** Plan: July 16, 2025

3. Existing Conditions

The project site currently comprises parking spaces and an existing vacant building. Access to the shopping plaza is provided via one signalized full-access driveway on Alfred Street and one right-in/right-out driveway on Alfred Street. The project site is in the northeast portion of the Shops at Biddeford Crossing shopping plaza in Biddeford, ME. The site is located on the southwest corner of Alfred Road (Route 111) and Shops Way. The site currently contains a parking lot and an existing vacant building. See the location map below.



Figure 2 The aerial image shows the 13.4 acres plaza, which is highlighted in light green.



Figure 3 An oblique view of the current vacant Olive Garden

4. Proposed Project

The project consists of demolishing the existing 8,083 vacant building (previously occupied by Olive Garden) located at the northeasterly corner of the parcel and demolishing parts of the existing parking lot and landscaped areas. The proposed development will consist of a newly constructed ±5,200 square foot freestanding restaurant with a drive-thru and associated drive-thru components.

The parking area, with the newly constructed drive-thru lanes, has been modified to improve traffic circulation around the site. Also included in the proposed development are new utility services to the proposed freestanding building, a trash refuse enclosure, updating landscaping within and around the site, and site improvements within the newly paved areas. Stormwater will be managed similarly to its existing condition; however, additional catch basins will be utilized to improve overall water quality before it is

conveyed to the existing stormwater system within the plaza. The landscaping throughout the parcel will also be enhanced to match the existing condition.

Two canopies are also being installed over the drive-thru, one near the order boards and the other at the pickup window. The restaurant will have 62 interior seats and 16 seasonal outdoor seats. Overall, parking within the shared parcel will be reduced by +45. This is primarily due to the creation of better circulation within the parking area shared with Kobe Grill. The total spaces will be +100 within this parking field.

The proposed Chick-fil-A restaurant's utility demands for water and sewer will also be reduced, as it will have considerably fewer seats than the former Oliver Garden.

5. Review Process

Per the City Ordinance, this application is subject to Regulations, Article XI (Site Plan Review), and Article VI (Performance Standards), and approval by the Planning Board. The permitting process for this proposed development is anticipated to consist only of a Site Plan Review and Building Permit, for which no waivers are being requested.

General Review Comments:

- **Application Completeness:** This application is for a Final Site Plan review
- **Zoning:** The subject property is zoned as Highway Business District (B2)
- **Review Standards:** Staff generally found the final plan application to satisfy City Site Plan requirements.
- **Waivers:** N/A

Staff Review Comments:

Conditioned means the items will be included as part of the Conditions of Approvals and will be supplied prior to the issuance of the building permits. That includes *ongoing* as well.

A. Planning Department Comments:

1. The required Traffic Movement Permit (TMP) shall be reviewed by the City's Peer Review Consultant (Diane Morabito, mordi@sewall.com) (Ongoing)
2. ~~Parking calculations (required and provided) shall be submitted. Any off-property parking provided within the shopping center's parking lot shall include the amount of off-site parking, a shared parking agreement, and a rationale for why required parking may be permitted off the subject property.~~
3. ~~Shops Way shall remain open to through traffic during construction.~~
4. Final Plans shall include a staging plan identifying materials laydown areas, site access, and the location of construction fencing during construction (Conditioned)
5. Revised plans shall include a fully dimensioned retaining wall plan, including elevations and images of the proposed wall. All retaining walls over 4 feet in height shall be structurally engineered and shall include a decorative fence at the top of the wall (Conditioned)

B. Engineering Department

1. ~~The existing shopping center is served by multiple underground stormwater management facilities, initially designed by Gorrill-Palmer. The applicant shall conduct a stormwater analysis to determine if the existing underground system can accommodate any proposed increases in impervious cover.~~
2. Applicant shall modify any existing DEP SLODA/SWM permits and provide documentation to the City (Ongoing)
3. Applicant shall document where vehicle traffic backups may occur during peak hours and what circulation will be impacted within the Shopping Center and Alfred Street (Applicant to speak to it at the hearing)
4. Per our new sewer impact fees ($59,620), since they are demolishing the existing structure, they will be subject to a complete sewer impact fee: (Ongoing)

5C. No existing flows can be credited towards the proposed 'Impact Fee' for any new building (i.e. demolition/rebuild) or change-in-use.

C. Fire Department

1. The sprinkler design must be submitted to the State Fire Marshall's Office (SFMO) for review and approval (Conditioned)
2. ~~Fire Connections shall be shown in the revised plans. The fire connection should be placed in the front of the building to avoid conflicts with the drive-thru facilities.~~
3. The fire alarm panel shall be shown in the revised plans (Conditioned)
4. It is proposed that private on-site fire hydrants serve the site. The Fire Department will require: A) Flow ratings of the on-site hydrants and test reports supporting the property redevelopment (Ongoing)
5. ~~The submitted "Demolition Plan" (Sheet C-100) shows four underground propane tanks "to be removed." Is natural gas being utilized at this site? If so, please identify it on the utility sheets.~~

D. Code Department:

1. ~~Is the applicant planning on temporarily fencing off the site for demolition?~~
2. ~~Will Shops Way Rd remain open to provide an entrance to the Saco & Biddeford Saving Bank.~~

E. Fees / Contributions / Permitting:

1. A sewer permit fee will be assessed, which will be a Condition of Approval (COA) at the final plan review. As the existing building is being demolished, there will be no credits from the past Olive Garden use (Ongoing)
2. The project requires a Traffic Movement Permit (TMP) (Ongoing)
3. Applicant shall confirm what modifications/re-timing will be required at the existing Mariner Way traffic signal and will be responsible for all upgrade costs (Ongoing)
4. Due to existing pedestrian traffic and the anticipated increase in pedestrian access to the shopping center, the Applicant shall contribute to installing a pedestrian crossing at Alfred Street and Mariner Way. The contribution will be determined by City Staff payment, which must be paid before the Occupancy Permit Issuance (City Planner to confirm)

6. Sample Motions

A. Motion to Approve Case 2025.07 A Final Site Plan Review Application for Bohler Engineering c/o Chick-fil-A to rebuild a Vacant Building Previously Occupied by Olive Garden into a Chick-fil-A Quick-Serve Restaurant at 150 Shops Way (Tax Map 2, Lot 24) in the Highway Business District (B2).

B. Motion to Table Case 2025.07 A Final Site Plan Review Application for Bohler c/o Chick-fil-A to rebuild a Vacant Building Previously Occupied by Olive Garden into a Chick-fil-A Quick-Serve Restaurant at 150 Shops Way (Tax Map 2, Lot 24) in the Highway Business District (B2), for the following reasons:

1) _____

2) _____

3) _____

C. Motion to Deny Case 2025.07 A Final Site Plan Review Application for Bohler c/o Chick-fil-A to rebuild a Vacant Building Previously Occupied by Olive Garden into a Chick-fil-A Quick-Serve Restaurant at 150 Shops Way (Tax Map 2, Lot 24) in the Highway Business District (B2), for the following reasons:

1) _____

2) _____

3) _____

CITY OF BIDDEFORD
Planning and Development Department

Adi Iriqat
Assistant City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
adi.iriqat@biddefordmaine.org

FINDINGS OF FACT AND CONCLUSIONS OF LAW

Bohler c/o Chick-fil-A
Final Site Plan
150 Shops Way (Tax Map 2, Lot 24)
July 16, 2025

RE: 2025.07 A Final Site Plan Review Application for Bohler c/o Chick-fil-A to rebuild a Vacant Building Previously Occupied by Olive Garden into a Chick-fil-A Quick-Serve Restaurant. The property is at 150 Shops Way (Tax Map 2, Lot 24) in the Highway Business District (B2).

Under the provisions of the City of Biddeford Code of Ordinances Land Development Regulations, Article XI (Site Plan Review), and Article VI (Performance Standards), the Biddeford Planning Board has considered the application of Based on its review, including supportive data, public hearing testimony and related materials contained in the record, the Planning Board makes the following Findings of Fact and Conclusions of Law:

1. PROJECT DATA/INFORMATION

1.	**Applicant:**	Bohler c/o Chick-fil-A 352 Turnpike Rd, Southborough, MA
2.	Owner of Property:	DSM MB II LLC 8875 East St, Tewksbury, MA 01876
3.	Agent:	Joey Fonseca – Bohler Engineer 352 Turnpike Rd, Southborough, MA
4.	Surveyor:	Gerry Holdright – Control Point Associates (Surveyor) 352 Turnpike Rd, Southborough, MA
5.	Project Location:	150 Shops Way
6.	Project Tax Map /Lot #:	Tax Map 2, Lot 24
7.	Lot Size:	13.4 Acres
8.	Base Zoning:	Highway Business District (B2)
9.	Overlay Zoning:	N/A
10.	Existing Use:	Vacant Former Olive Garden Building
11.	Proposed Use:	Chick-fil-A Restaurant
12.	Approvals Required:	Site Plan
13.	Uses in the Vicinity:	Commercial
14.	Waivers Needed:	N/A
18.	Waivers Granted:	N/A

22.	Other Non-City Permits Required:	
23.	Fees Paid:	Yes
25.	Planning Board Review History:	**Preliminary** Plan: March 05, 2025. **Final** Plan: July 16, 2025

2. CONCLUSIONS OF LAW:

1. The proposed use meets specific requirements outlined in this ordinance and would comply with applicable state or federal laws.

2. The proposed use would not create fire safety hazards by providing adequate access to the site or the buildings for emergency vehicles. It would not develop hazards through the storage of chemicals and wastes.

3. The proposed exterior lighting, where allowed, would not create hazards to motorists traveling on adjacent public streets, is adequate for the safety of occupants or users of the site, or would not damage the value and diminish the usability of neighboring properties.

4. The provisions for buffers and on-site landscaping adequately protect neighboring properties from the development's detrimental or unsightly features.

5. The proposed use would not significantly affect the use and peaceful enjoyment of abutting property due to noise, vibrations, fumes, odor, dust, glare, hours of operation, or other causes.

6. The provisions for vehicular loading, unloading, parking, and vehicular and pedestrian circulation on the site and adjacent public streets would not create hazards to public safety or traffic congestion.

7. The proposed use would generate a volume of traffic that can reasonably be accommodated by the existing road network, would not create unreasonable traffic hazards, would not exacerbate an existing traffic hazard, or would not create unreasonable traffic congestion.

8. The proposed use would not have a significant, detrimental effect on the value of adjacent properties, which could be avoided by reasonably modifying the proposal.

9. The proposed use would not adversely impact the privacy of the residents of the immediate area (within 500 feet), which could be avoided by reasonable modification of the proposal.

10. The proposed use would comply with Biddeford's Comprehensive Plan.

11. The proposed use would not adversely impact the immediate neighborhood or the community relative to architectural design, scale, bulk and building height, identity and historical character, or visual integrity, which could be avoided by reasonable modification of the proposal.

12. The site's design would not result in significant flood hazards or flood damage or would be in conformance with applicable flood hazard protection requirements.

13. Adequate provision has been made for disposing of wastewater or solid waste or for preventing ground or surface water contamination.

14. Adequate provision has been made to control erosion or sedimentation.

15. Adequate provision has been made to handle stormwater runoff or other drainage problems on the site, and the proposed development will not unduly burden off-site surface water systems.

16. The proposed water supply would meet the demands of the proposed use for fire protection purposes.

17. Adequate provision has been made for the transportation, storage, and disposal of hazardous substances and materials as defined by state law.

18. The proposed use would not adversely impact scenic vistas, significant wildlife habitat, wetland areas, or water bodies, which could be avoided by reasonable modification of the proposal.

19. When located in the Shoreland Zone, the proposed use would meet the purposes of Shoreland Zoning as identified in Article XIV, Section 1 (Purposes) of this ordinance.

3. APPROVAL GRANTED:

Based on the evidence and conclusions above, the Biddeford Planning Board approves the proposed project summarized within the attached Staff report. Under the provisions of the City of Biddeford Code of Ordinances Land Development Regulations, Article XI (Site Plan Review), and Article VI (Performance Standards), the Biddeford Planning Board has approved the application of Site Plan Review. Herby approves the proposed construction of a Chick-fil-A Quick-Serve Restaurant at 150 Shops Way (Tax Map 2, Lot 24) for Bohler c/o and approves the recommended Findings of Fact (FOF) with the following Conditions of Approval (COA):

1. Standard Conditions of Approval apply.

2. The applicant must comply with all directives from the following departments: Engineering, Fire, Codes, and Planning.

3. Before scheduling the required Pre-construction meeting, the Applicant shall make any changes necessary to the project Civil Plans for the review and approval of the Public Works Director.

4. Bonding and Inspection Fees: Bonding and inspection fees shall be established before the Pre-construction meeting.

5. The required Traffic Movement Permit (TMP) shall be reviewed by the City's Peer Review Consultant (Diane Morabito, mordi@sewall.com)

6. Final Plans shall include a staging plan identifying materials laydown areas, site access, and the location of construction fencing during construction

7. Revised plans shall include a fully dimensioned retaining wall plan, including elevations and images of the proposed wall. All retaining walls over 4 feet in height shall be structurally engineered and shall include a decorative fence at the top of the wall

8. The sprinkler design must be submitted to the State Fire Marshall's Office (SFMO) for review and approval

9. The fire alarm panel shall be shown in the revised plans

10. It is proposed that private on-site fire hydrants serve the site. The Fire Department will require: A) Flow ratings of the on-site hydrants and test reports supporting the property redevelopment

11. Modifications to Approved Development Plans: The project shall be constructed according to the approved development plans. If any changes are needed, the applicant must submit a letter requesting a "Minor Modification" to the approved development plans. The applicant must adequately justify the reasons for those deviations. The narrative shall include the current approved plans and the proposed modifications, which the City Planner shall agree to in writing before construction. Changes beyond the authority of the City Planner shall be reviewed and approved by the Planning Board.

12. Once the As-Built drawings are submitted to the Planning Department (clearly identifying what deviations and variances were installed based on the approved permit drawings), the City Engineering Department will conduct an inspection. The "as-built Checklist" shall be submitted for review and approval for any performance guarantee release.

13. As-built drawings and CAD Files must be submitted to the Planning & Engineering Departments before a 'Site Punchlist Inspection' and any bond release.

14. York County Recorded Drawings: The applicant must submit copies of York County Registry of Deed drawings to the Planning & Engineering Department before the Building Permit is issued.

15. Sewer Permits must be finalized and paid before a Building Permit is issued; payment of $59,620 will go through the Engineering Department.

16. Required Inspections:

    i. Erosion & Sediment Control Inspections
        1. It needs to be completed by a city-approved third-party Inspector and paid by the Applicant via the inspection fee escrow held by the city.
        2. Initial, monthly, and final inspections.
        3. At a minimum, the City's Engineering Department shall be notified for an initial E&S inspection before breaking ground.

    ii. Right-of-way Inspections
        1. Needs to be completed by the City Engineering Department.
        2. For all public roads, storm, and sewer connections.
        3. Private right-of-way inspections: The design engineer shall complete private right-of-way/road and utility inspections and certify that they have been constructed as approved before the full or partial release of established bonding.

    iii. Stormwater BMP Installation Inspections
        1. Needs to be completed by the design engineer.
        2. Confirming stormwater facilities are installed correctly per design.
        3. Inspection reports need to be submitted to the Engineering Department.

    iv. Post-construction BMP Maintenance Annual Inspections
        1. Needs to be completed annually by the design engineer or 3rd third-party inspector.

2. Needs to assess the current condition of each BMP, what repairs are needed, and confirm ongoing maintenance has occurred.
3. Upon completing each inspection, copies of all inspection reports must be submitted to the Engineering Department.

_____

Alexa Plotkin, Planning Board Chair

_____

Date

50 Washington Street, Suite 2000
Westborough, MA 01581
508.480.9900

April 4, 2025

City of Biddeford
Planning Department
205 Main Street
Biddeford, ME 04005

Attn: Mr. Adi Iriqat, Assistant Planner

Re: Response to Comments (Wright-Pierce)
Site Plan Application
Chick-fil-A
150 Shops Way

Dear Mr. Iriqat:

Bohler is in receipt of the comment letter prepared by Wright-Pierce titled 2025.07 Bohler. Chick-fil-A, 150 Shops Way Preliminary Plan Review dated February 20, 2025. On behalf of Applicant Chick-fil-A., Bohler offers the following responses to the comments identified in the peer review letter.

For clarity, the original comments and responses are in **italics,** while our responses are directly below in **bold** type.

General

Article VI Performance Standards Comments:

Comment 1: *Since the parking lot is over ¼ acre, the design should incorporate deciduous shade trees to reduce solar heating in the summer and provide for windbreaks. It appears there is additional opportunity for shade trees in the parking lot.*

Response: **The proposed landscape plan, Sheet L-100 prepared by Bohler, includes various deciduous trees within the parking area and along the permitter of the site.**

Comment 2: *Clarify on the plan whether light duty or heavy duty pavement is proposed for the parking lot and adjacent paved areas, as referenced in the Pavement Section detail on C-500.*

Response: **Standard light duty pavement will be installed for this parking area. Detail has been revised on Sheet C-500.**

Comment 3: *Provide vehicle turning diagrams showing emergency vehicles can properly navigate into and through the site.*

Response: **A truck turn exhibit is included as a separate exhibit and attached with this response packet.**

Comment 4: *The note in the parking requirements on the site plan (C-200) indicates 78 total seats proposed; however, the site plan indicates 90 seats on the building footprint. The number of proposed seats should be confirmed and the number of seats as well as the number of required parking spaces should be updated accordingly. Additionally, it is unclear where all 146 existing and 101 proposed parking spaces are located. Based on the site plan (C-200), 95 parking spaces were located (existing and proposed) and based on the demolition plan (C-100), 140 existing parking spaces were located.*

Response: **The survey plan didn't include a few of the existing spaces around the Kobe Grill Restaurant. The parking space between the two restaurants contains 146 spaces. With the proposed Chick-fil-A improvements, the total parking will be reduced to 101 spaces. The parking table has also been updated to reflect the building seat count.**

Comment 5: *Are all of the proposed parking spaces for the Chic-fil-A restaurant? Please clarify this. The proposed parking lot connects to an existing parking lot not shown to be disturbed. That existing parking lot is also adjacent to another leased area. Will this one parking lot serve both this leased area and the Chic-fil-A? If so, provide information showing that there are enough spaces for both uses.*

Response: **The parking, similar to the overall plaza, is subject to cross-parking agreements with the tenants. This parking field will be shared with the Kobe Grill Restaurant, as well as other visitors to the plaza. In discussions with the City, the overall plaza is overparked.**

Comment 6: *It appears there are 4 ADA parking spaces (2 existing and 2 proposed) to serve the site; however, 5 ADA parking spaces are required if there are 100-150 total parking spaces.*

Response: **Kobe Grill Restaurant has 2 additional ADA parking spaces directly in front of their building that is not shown on the survey plan. This brings the total to 6 ADA spaces within this parking field.**

Section 59 Signs:

Comment 1: *A cursory review of the submitted sign package was conducted. A sign permit issued by Code Enforcement will be required.*

Response: **Comment acknowledged. A sign permit will be applied for separately.**

Section 61 Stormwater Management

Comment 1: *The drainage memo references a previously approved plan titled "Drainage Plan – 1, The Shops at Biddeford Crossing" prepared by Gorrill-Palmer Engineers, Inc., which it states was reviewed to confirm that drainage from this portion of the site drains to a series of large subsurface detention basins. The memo also states that redevelopment does increase the impervious area on site from the existing conditions but does not exceed the impervious coverage of the original Gorrill-Palmer design. The drainage memo should clearly state the impervious coverage of the originally approved design, the existing Olive Garden conditions, and what is proposed.*

Response: **The Drainage Memo has been revised to include the following: The prior stormwater design for this portion of the plaza inclusive of the Kobe Grill and Olive Garden buildings with associated parking contained approximately ±74,200 square feet of impervious coverage. Based on the redevelopment area of the Chick-fil-A**

and existing conditions of the Kobe Grill, the total impervious coverage is approximately 72,600 square feet.

Comment 2: *Prior stormwater or site law permit approvals should be submitted and referenced in the drainage memo. Applicant to comment on whether amendments to prior permits or new permit approvals from the Maine Department of Environmental Protection are required.*

Response: **Based on the change in use, a SLODA amendment application has been filed online.**

Comment 3: *All new construction and development shall be designed to reflect or resemble, as nearly as possible, natural runoff conditions in terms of volume, velocity, and location of runoff. As stated previously, submit information verifying the impervious coverage will be less than what was approved when the subsurface stormwater detention system was designed to confirm that runoff can be expected to be reduced. Areas of the site not draining to the detention system should also be modelled and compared to the pre-development condition (for example, the sidewalk on the northern side of the site, which currently drains to a catch basin, but is proposed to drain towards Alfred Street).*

Response: **There are existing walkways to the Olive Garden that do pitch toward Alfred Rd. The attached Grading Plan, Sheet C-300, was revised to pitch all sidewalk surfaces toward the parking or drive-thru lane thus removing that stormwater. Prior conversations with Engineering and the City Staff indicated that a full stormwater report wasn't required since we were constructing within the limits of the prior development. As mentioned above in Comment #2, this development results in a reduction in impervious coverage for the area that is conveying stormwater to the existing subsurface infiltration system located south of the property.**

Comment 4: *Submit stormwater calculations showing the stormwater system can properly convey the 24-hour, 25-year storm. Submit supporting information such as the following: Drainage area delineation figures showing subcatchments, land cover, soil data, points of analysis, and time of concentration paths.*

Response: **Pipe sizing calculations are provided in the attached Stormwater Memo prepared by Bohler. As mentioned previously, a full Stormwater Report was not prepared for this location given the coordination our office had with the Planning/Engineering Staff. The drainage patterns for this redevelopment are similar to the existing condition.**

Comment 5: *It is our understanding The Shops at Biddeford Crossing is required to comply with Code of Ordinance, Chapter 34, Article VI Post-Construction Stormwater Discharge. Please provide the post-construction stormwater management plan (inspection and maintenance plan) for the subsurface stormwater system and update if needed. The plan must define maintenance requirements and identify parties responsible for maintenance of the stormwater control system.*

Response: **It is our understanding that Chick-fil-A will be maintaining the catch basins within the parking area. Stormwater generated from this parking area drain toward the former Olive Garden site and collected via catch basins. This condition will remain with the construction of the Chick-fil-A. New catch-basins will be installed to more effectively handle stormwater generated from this parking area.**

Article XI Site Plan Review, Site Plan Design Criteria

Drainage:

Comment 1: *Drainage comments are included in Section 61 stormwater management comments above.*

Response: **Comment acknowledged.**

Utilities:

Comment 1: *Any proposal within 200 feet of a public water or sewer line must connect to system, as is proposed. Applicant must supply copies of letters from the environmental specialist of the City of Biddeford for sewer, and water company shall confirm details of connection and/or concerns.*

Response: **Required action from the City.** ***Sewer application is currently under review with the City of Biddeford.***

Comment 2: *Applicant states acquiring an ability to serve letter for the sewer service is "in progress". Is an ability to serve letter from Maine Water Company required?*

Response: **Required action from the City.** ***Water service applications are currently under review with the City of Biddeford.***

Comment 3: *The following items must be specified in application narrative and on the plan:*
a. Rated normal capacity and gallons per minute at prime use time.
b. Rated maximum capacity and gallons per minute at prime use time.
c. Residual pressure of proposed tap line.

Response: **This information has been requested from the Architect. Our office will supply this information once received.**

Comment 4: *The inverts for manhole S-10 should be clarified as it is difficult to decipher the information the way it is presented. The approximate inverts of the existing pipe connections should be noted in plan view. It is unclear where the inverts of the proposed drop are located in relation to the invert of the drop inlet in S-10.Please clarify. We recommend noting elevations related to the drop on the detail, including the invert of the reverse wye connection and the invert in the manhole.*

Response: **SMH S-10 inverts have been adjusted and should be. This will be an interior drop manhole and will connect into the 8-inch sewer service.**

Comment 5: *Although the sewer service connects to an existing private sewer, we recommend the sewer service be a minimum of 6" throughout. Additionally, we recommend the drop for manhole S-10 be an inside drop or drop bowl rather than an external drop.*

Response: **The Plumbing Plan, Sheet PS-100, has been revised to indicate an inside drop manhole. The Detail has been added to Sheet C-501**

Structural Layout and Design

Comment 1: *Coordinate with the Fire Department and submit coordination showing they approve the proposed design. We have the following comments from our own cursory review of emergency access:*
a. Provide vehicle turning diagrams showing emergency vehicles and access and circulate the site.
b. Show proposed snow storage areas and ensure that snow storage will not impede access for emergency vehicles.
c. Provide comment on whether internal sprinklers are proposed.
d. Provide comment on whether gas is proposed. If gas is proposed, a separate external shutoff valve shall be provided for the proposed building. The valve location shall be indicated on the plan and approved in writing by the fire chief/fire marshal.

Response: **a. Vehicle turning exhibits included in this response packet.**
b. Snow storage areas are indicated on the Site Plan, Sheet C-200.
c. Internal Sprinklers will be provided.
d. Gas is not going to be used. The building will be all electric.

Comment 2: *No paving, parking, or storage (except for entrances/exits) shall be permitted within the required setback of any side or rear property line or within 25 feet of the front property line. As stated in the checklist comments, please clarify the setback lines on the plans and more clearly annotate them to confirm this requirement is met.*

Response: **Setbacks are clearly shown on the Site Plan, Sheet C-200. No paving, parking or storage is proposed within 25-ft of the front property line.**

We trust the above as well as the attached information is sufficient for your continued review of the project. Should you have any questions or require additional information, please do not hesitate to contact us at (508) 480-9900.

Sincerely,

BOHLER ENGINEERING MA, LLC

Joey Fonseca

PROPOSED SITE PLAN DOCUMENTS

FOR

Chick-fil-A

PROPOSED

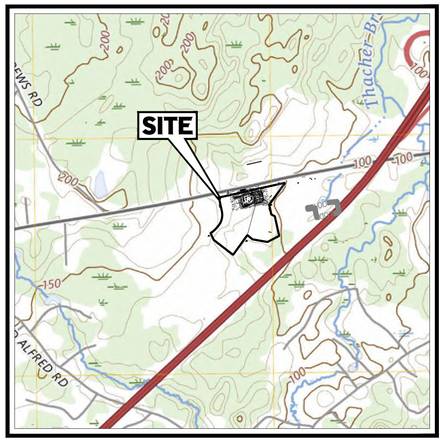
RESTAURANT W/ DRIVE-THRU

LOCATION OF SITE

150 SHOPS WAY, CITY OF BIDDEFORD

YORK COUNTY, MAINE

MAP 2, LOT 24



N

LOCATION MAP

SCALE: 1" = 1,000'
SOURCE: USGS

PREPARED BY

BOHLER

CONTACT: JOEY FONSECA

REFERENCES AND CONTACTS

REFERENCES
- ♦BOUNDARY & TOPOGRAPHIC SURVEY:
  CONTROL POINT ASSOCIATES, INC.
  352 TURNPIKE ROAD
  SOUTHBOROUGH, MA 01772
  DATED: 04/29/24 (REV 1)
  SURVEY JOB #: 03-240044-00
  ELEVATIONS: NAVD 1988

* THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

CITY OF BIDDEFORD PLANNING BOARD #2025.07

ZONE: B2 - HIGHWAY BUSINESS DISTRICT
EXISTING USE - OLIVE GARDEN (RESTAURANT)
PROPOSED USE: CHICK-FIL-A (RESTAURANT W/ DRIVE-THRU)

BULK REQUIREMENTS

ITEM	PROPOSED
DRAINAGE WATERSHED	LOWER THACKER BROOK
WITHIN MS4 URBANIZED AREA?	YES
NATURAL RESOURCES ON SITE	NONE
WITHIN 100-YEAR FLOOD ZONE?	NO
PUBLIC ROAD PROPOSED	NO
PRIVATE ROAD PROPOSED	NO
PUBLIC SEWER CONNECTION	YES, EXISTING
PUBLIC STORM CONNECTION	NO
LIMIT OF DISTURBANCE AREA	1.1 AC
PERVIOUS LAND COVER	5,000 SF
IMPERVIOUS LAND COVER	41,500 SF
BUILDING ROOF COVER	5,189 SF
ESTIMATED CUT / FILL VOLUME	510 CU. YD. (FILL)

WAIVERS REQUESTED:
- ♦NONE

APPROXIMATE CUT/FILL (SURFACE TO SURFACE):
- ♦TOTAL FILL = ±825 CUBIC YARDS
- ♦TOTAL CUT = ±180 CUBIC YARDS

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT. WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-000
GENERAL NOTES AND LEGEND	C-001
DEMOLITION PLAN	C-100
SITE PLAN	C-200
GRADING PLAN	C-300
DRAINAGE PLAN	C-301
EROSION AND SEDIMENT CONTROL PLAN	C-302
EROSION AND SEDIMENT CONTROL DETAILS	C-303
PLUMBING SITE PLAN	PS-100
LANDSCAPE PLAN	L-100
LANDSCAPE NOTES AND DETAILS	L-101
LIGHTING PLAN	L-200
LIGHTING NOTES AND DETAILS	L-201
CFA STANDARD DETAILS	C-400 - C-403
CONSTRUCTION DETAILS	C-500 - C-501
ALTA SURVEY (BY OTHERS)	3 SHEETS
TOTAL SHEETS	18

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

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STATE OF MAINE
JOHN F. KUCICH
No. 12553
LICENSED PROFESSIONAL ENGINEER

CHICK-FIL-A
150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT # MAA230431.00
PRINTED FOR ISSUED FOR PERMIT
DATE 11/08/2024
DRAWN BY AEH
CHECKED BY JNF

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SHEET
COVER SHEET

SHEET NUMBER
C-000

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL_CND3-MAA230431.00-1B-----3LAYOUT: C-000 - COVER SHEET

GENERAL NOTES

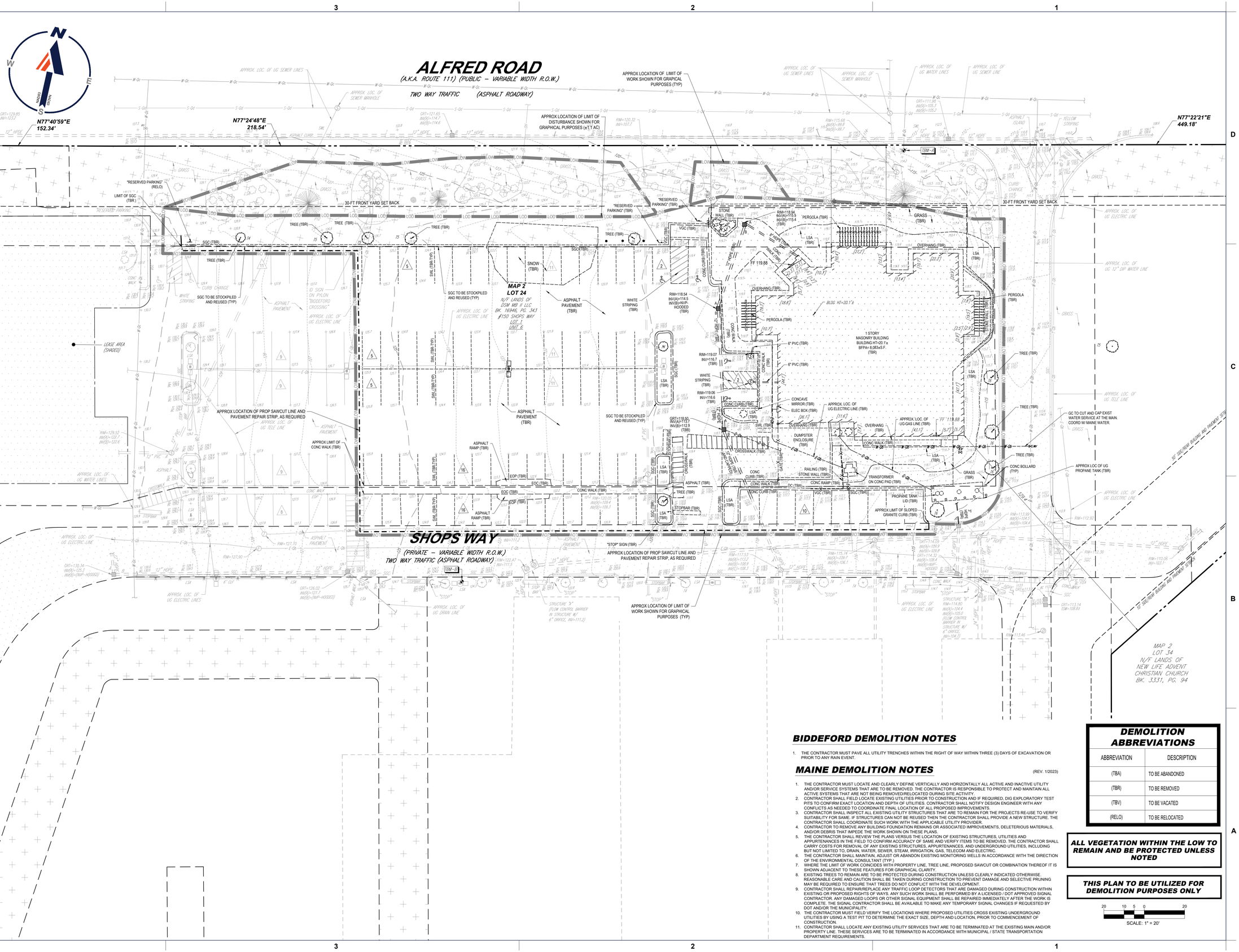
(Rev. 1/2023)

1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING MA, LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE PROFESSIONAL OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER , IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS. THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE PROFESSIONAL OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS IS THE CONTRACTOR'S SOLE AND COMPLETE RESPONSIBILITY.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL BOHLER HAS THOROUGHLY REVIEWED THE CONDITIONS OF APPROVAL TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS IN AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL, CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND PROFESSIONAL OF RECORD AND BOHLER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
7. CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH THE APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
8. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY PROFESSIONAL OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION, NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE BECAUSE DIMENSIONS SHOWN INCORRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING PROFESSIONAL OF RECORD AND BOHLER WRITTEN NOTIFICATION OF SAME AND (B) PROFESSIONAL OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR IN THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION/ORDERING OF PARTS AND MATERIALS AND COMMENCEMENT OF SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SHALL SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.
10. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS; AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE PROFESSIONAL OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS SET FORTH BY ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.
12. PROFESSIONAL OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS/TOXIC SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.
13. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES. BOHLER IS NOT REQUIRED TO OVERSEE PORTIONS OF CONTRACTOR'S SOLE COST AND EXPENSE.
14. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO ENSURE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
17. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL MATERIALS, INTERCONNECTION CABLE, WIRING CONFIGURATIONS AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE PROFESSIONAL OF RECORD AND BOHLER PRIOR TO THE START OF CONSTRUCTION.
18. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME. THE PROFESSIONAL OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO PERFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF PROFESSIONAL OF RECORD'S AND BOHLER'S SERVICES AS RELATED TO THE PROJECT. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR, AND DO NOT HAVE CONTROL OF, ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.
19. THE CONTRACTOR MUST IMMEDIATELY NOTIFY BOHLER PROFESSIONAL OF RECORD AND BOHLER , ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE, IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE PROFESSIONAL OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.
20. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, CURRENT CODES, RULES, STATUTES AND THE LIKE. IF THE CONTRACTOR AND/OR OWNER WISH TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND HOLD THE PROFESSIONAL OF RECORD AND BOHLER HARMLESS FOR AND FROM ANY AND ALL INJURIES, CLAIMS AND DAMAGES THAT PROFESSIONAL OF RECORD AND BOHLER SUFFER AND ANY AND ALL COSTS THAT PROFESSIONAL OF RECORD AND BOHLER INCUR AS RELATED TO SAME.
21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE SPECIFIED AND COMMERCIALLY REASONABLE STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE, INCLUDING COVERAGE FOR XCU AND UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER , AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, CONSULTANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSUREDS AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO IN THE CONTRACT HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE TERM OF THE CONTRACT AND FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION. CONTRACTOR MUST ENSURE ALL PERMITS ARE ISSUED, WHICHEVER DATE IS LATER. IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, CONSULTANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTOR(S), ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. THE CONTRACTOR MUST NOTIFY PROFESSIONAL OF RECORD, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
22. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS IN SCOPE AND REVISIONS THAT RESULT FROM SAME. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE FOR DETERMINING THE MEANS AND METHODS FOR COMPLETION OF THE WORK, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
23. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER, NOR THE PRESENCE OF BOHLER AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, CONSULTANTS, EMPLOYEES, AND RELATED ENTITIES, AND ITS SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE (HEREIN "BOHLER PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION, THE CONTRACTOR OR ITS EMPLOYEES RELATING TO THEIR WORK AND ALL HEALTH AND SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND, PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, SERVICES AND/OR VIOLATIONS OF THIS NOTE. THESE NOTES OR ANY NOTES IN THE PLAN SET AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE.
24. WHEN IT IS CLEARLY AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER, BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA SHEETS AND SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE NOT THE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME. BOHLER WILL PERFORM ITS SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT, DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE, MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW ON SITE PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
25. IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE PROFESSIONAL OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN PROFESSIONAL OF RECORD'S SCOPE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATE FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL CONSEQUENTIAL AND PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT, AND HOLD HARMLESS THE PROFESSIONAL OF RECORD AND BOHLER FOR ANY AND ALL CLAIMS RELATED TO THE LAW, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, CLAIMS, INJURIES, PENALTIES AND THE LIKE RELATED TO SAME.
26. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILITY.
27. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN; AND, FURTHER, THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE THEREWITH, OWNER AGREES TO INDEMNIFY AND HOLD THE PROFESSIONAL OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT PROFESSIONAL OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE.
28. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
29. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCIES WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. PROFESSIONAL OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.
30. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL EXISTING AND/OR COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY, INDEPENDENTLY, SEPARATELY, COLLECTIVELY, AND SEVERALLY INDEMNIFY, DEFEND, PROTECT AND HOLD PROFESSIONAL OF RECORD AND BOHLER PARTIES HARMLESS FOR ALL INJURIES AND DAMAGES THAT PROFESSIONAL OF RECORD SUFFERS AND COSTS THAT PROFESSIONAL OF RECORD INCURS AS A RESULT OF SAID FAILURE.
31. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP. THE CONTRACTOR MUST ATTEND TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE AND FURTHER, THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SO.
32. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE PROFESSIONAL OF RECORD AND BOHLER, THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION CONSTITUTE(S) AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE PROFESSIONAL OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.

DEMOLITION NOTES

(Rev. 1/2023)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPLICABLE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OR PARKING LOT DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.
3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY, THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.
4. THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN.
   A. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL OR RECORD AND BOHLER IN WRITING.
   B. THIS PLAN IS NOT INTENDED TO AND DOES NOT PROVIDE DIRECTION REGARDING THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES MUST BE IN STRICT ACCORDANCE AND CONFORMANCE WITH ALL STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FREE FOR THE CONTRACTOR AND THE PUBLIC.
5. THE CONTRACTOR MUST PROVIDE ALL "METHODS AND MEANS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR, AT THE CONTRACTOR'S SOLE COST, MUST REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIRS MUST INCLUDE THE RESTORATION OF ALL ITEMS UNSATISFACTORY TO THEIR PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.
6. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION, REMOVAL AND ALL ACTIVITIES COMPLYING WITH ALL OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY AND SAFETY TO ALL PROPERTY ON THE SITE OR ADJACENT OR NEAR TO THE SAME.
7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND/OR NECESSARY SAFETY FEATURES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM ANY AND ALL DANGEROUS CONDITIONS AND ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS AT ANY TIME DURING THE DEMOLITION AREA.
8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE SAFETY OF THE WORKERS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PAR



BIDDEFORD DEMOLITION NOTES

1. THE CONTRACTOR MUST PAVE ALL UTILITY TRENCHES WITHIN THE RIGHT OF WAY WITHIN THREE (3) DAYS OF EXCAVATION OR PRIOR TO ANY RAIN EVENT.

MAINE DEMOLITION NOTES

(REV. 1/2023)

1. THE CONTRACTOR MUST LOCATE AND CLEARLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
2. CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND IF REQUIRED, DIG EXPLORATORY TEST PITS TO CONFIRM EXACT LOCATION AND DEPTH OF UTILITIES. CONTRACTOR SHALL NOTIFY DESIGN ENGINEER WITH ANY CONFLICTS AS NEEDED TO COORDINATE FINAL LOCATION OF ALL PROPOSED IMPROVEMENTS.
3. CONTRACTOR SHALL INSPECT ALL EXISTING UTILITY STRUCTURES THAT ARE TO REMAIN FOR THE PROJECTS RE-USE TO VERIFY SUITABILITY FOR SAME. IF STRUCTURES CAN NOT BE REUSED THEN THE CONTRACTOR SHALL PROVIDE A NEW STRUCTURE. THE CONTRACTOR SHALL COORDINATE SUCH WORK WITH THE APPLICABLE UTILITY PROVIDER.
4. CONTRACTOR TO REMOVE ANY BUILDING FOUNDATION REMAINS OR ASSOCIATED IMPROVEMENTS, DELETERIOUS MATERIALS, AND/OR DEBRIS THAT IMPEDE THE WORK SHOWN ON THESE PLANS.
5. THE CONTRACTOR SHALL REVIEW THE PLANS VERSUS THE LOCATION OF EXISTING STRUCTURES, UTILITIES AND APPURTENANCES IN THE FIELD TO CONFIRM ACCURACY OF SAME AND VERIFY ITEMS TO BE REMOVED. THE CONTRACTOR SHALL CARRY COSTS FOR REMOVAL OF ANY EXISTING STRUCTURES, APPURTENANCES, AND UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO, DRAIN, WATER, SEWER, STEAM, IRRIGATION, GAS, TELECOM AND ELECTRIC.
6. THE CONTRACTOR SHALL MAINTAIN, ADJUST OR ABANDON EXISTING MONITORING WELLS IN ACCORDANCE WITH THE DIRECTION OF THE ENVIRONMENTAL CONSULTANT (TYP.)
7. WHERE THE LIMIT OF WORK COINCIDES WITH PROPERTY LINE, TREE LINE, PROPOSED SAWCUT OR COMBINATION THEREOF IT IS SHOWN ADJACENT TO THESE FEATURES FOR GRAPHICAL CLARITY.
8. EXISTING TREES TO REMAIN ARE TO BE PROTECTED DURING CONSTRUCTION UNLESS CLEARLY INDICATED OTHERWISE. REASONABLE CARE AND CAUTION SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT DAMAGE AND SELECTIVE PRUNING MAY BE REQUIRED TO ENSURE THAT TREES DO NOT CONFLICT WITH THE DEVELOPMENT.
9. CONTRACTOR SHALL REPAIR/REPLACE ANY TRAFFIC LOOP DETECTORS THAT ARE DAMAGED DURING CONSTRUCTION WITHIN EXISTING OR PROPOSED RIGHTS OF WAYS. ANY SUCH WORK SHALL BE PERFORMED BY A LICENSED / DOT APPROVED SIGNAL CONTRACTOR. ANY DAMAGED LOOPS OR OTHER SIGNAL EQUIPMENT SHALL BE REPAIRED IMMEDIATELY AFTER THE WORK IS COMPLETE. THE SIGNAL CONTRACTOR SHALL BE AVAILABLE TO MAKE ANY TEMPORARY SIGNAL CHANGES IF REQUESTED BY DOT AND/OR THE MUNICIPALITY.
10. THE CONTRACTOR MUST FIELD VERIFY THE LOCATIONS WHERE PROPOSED UTILITIES CROSS EXISTING UNDERGROUND UTILITIES BY USING A TEST PIT TO DETERMINE THE EXACT SIZE, DEPTH AND LOCATION, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. CONTRACTOR SHALL LOCATE ANY EXISTING UTILITY SERVICES THAT ARE TO BE TERMINATED AT THE EXISTING MAIN AND/OR PROPERTY LINE. THESE SERVICES ARE TO BE TERMINATED IN ACCORDANCE WITH MUNICIPAL / STATE TRANSPORTATION DEPARTMENT REQUIREMENTS.

DEMOLITION ABBREVIATIONS

ABBREVIATION	DESCRIPTION
(TBA)	TO BE ABANDONED
(TBR)	TO BE REMOVED
(TBV)	TO BE VACATED
(RELO)	TO BE RELOCATED

ALL VEGETATION WITHIN THE LOW TO REMAIN AND BE PROTECTED UNLESS NOTED

THIS PLAN TO BE UTILIZED FOR DEMOLITION PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
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CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

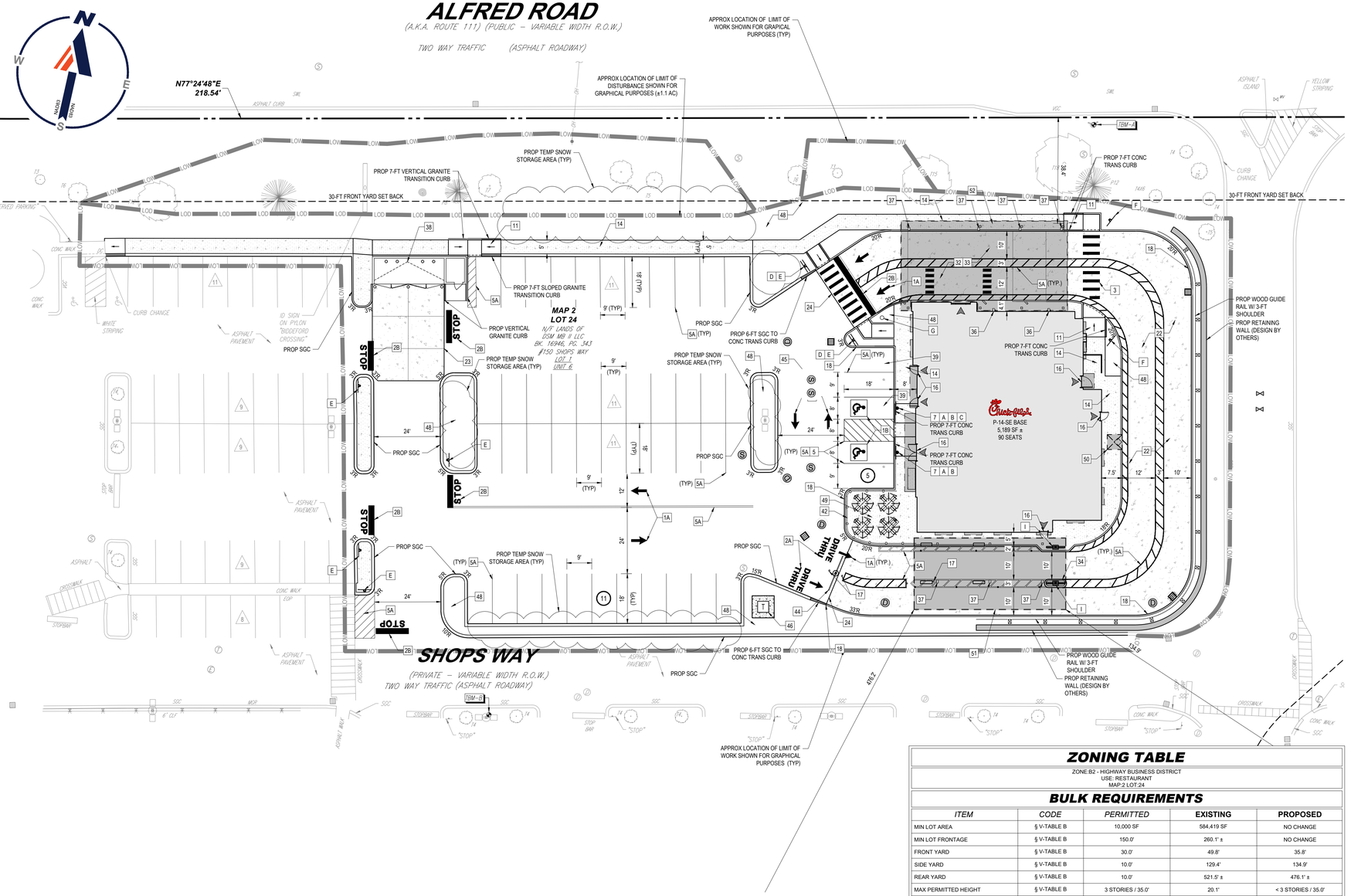
CONSULTANT PROJECT #	MAA230431.00
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DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
DEMOLITION PLAN

SHEET NUMBER
C-100

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-PROP-MAA230431.00-1B-----LAYOUT: C-100 - DEMOLITION PLAN



SITE PLAN DESIGN NOTES & KEY PLAN

1A	DIRECTIONAL ARROW	1A C-400
1B	PAINTED HANDICAP PARKING SYMBOL	1B C-400
2A	DRIVE-THRU GRAPHICS	2A C-400
2B	STOP BAR GRAPHIC	2B C-400
3	CROSSWALK MARKINGS	3 C-400
4	MULTI-LANE DIRECTIONAL GRAPHICS	4 C-400
5	STANDARD OR HANDICAP PARKING STALL PER CODE	5 C-400
5A	4" SOLID WHITE STRIPING	
(NOT USED) 5B	4" SOLID YELLOW STRIPING	
(NOT USED) 5C	4" SKIP DASH YELLOW STRIPING	
(NOT USED) 6	SOLID PLASTIC WHEEL STOP	6 C-400
7	BOLLARD MOUNTED SIGN	7 C-400
(NOT USED) 8	CURB RAMP w/ SHORT FLARED SIDES (GRASSED AREAS)	8 C-400
(NOT USED) 9	CURB RAMP w/ FLARED SIDES (IN SIDEWALK)	9 C-400
(NOT USED) 10	RETURNED CURB HANDICAP RAMP	10 C-400
11	SIDEWALK ACCESSIBLE RAMP	1 C-401
(NOT USED) 12	DETECTABLE WARNING DEVICE	2 C-401
(NOT USED) 13	TYPICAL ADA RAMP & HANDRAIL	3 C-401
14	CONCRETE SIDEWALK	4 C-401
(NOT USED) 15	CONCRETE SIDEWALK w/ CURB & GUTTER	5 C-401
16	ENTRY DOOR FROST SLAB DETAIL	6 C-401
17	CONCRETE BOLLARD	7 C-401
18	CONCRETE CURB & GUTTER	8 C-401
(NOT USED) 18A	SPILLING CURB & GUTTER	
(NOT USED) 18B	CATCHING CURB & GUTTER	
(NOT USED) 18C	DEPRESSED SPILLING CURB & GUTTER	
(NOT USED) 18D	DEPRESSED CATCHING CURB & GUTTER	
(NOT USED) 18E	SPILLING GUTTER SECTION AT ACCESSIBLE RAMP	
(NOT USED) 18F	CATCHING GUTTER SECTION AT ACCESSIBLE RAMP	
(NOT USED) 18G	MOUNTABLE CURB & GUTTER	
(NOT USED) 19	LANDSCAPE & IRRIGATION PROTECTOR	9 C-401
20	TYPICAL HMAC PAVEMENT SECTION	1 C-402
21	BUTT JOINT	2 C-402
22	CONCRETE PAVEMENT DRIVE-THRU LANE	3 C-402
23	CONCRETE APRON AT TRASH ENCLOSURE	4 C-402
24	PAVEMENT EDGE DETAIL (START & END OF DRIVE-THRU LANES)	5 C-402
25	CONCRETE PAVEMENT SECTIONS	6 C-402
26	TRANSVERSE & LONGITUDINAL CONTRACTION JOINT	7 C-402
27	TRANSVERSE & LONGITUDINAL DOWELED CONSTRUCTION JOINT	8 C-402
28	CONTRACTION JOINT	9 C-402
29	KEYED CONSTRUCTION JOINT	10 C-402
30	LONGITUDINAL BUTT JOINT	11 C-402
31	EXPANSION JOINT	12 C-402
32	DRIVE-THRU PLAN - FLUSH WITH FFE	1 C-403
33	DRIVE-THRU ISOMETRIC	2 C-403
34	DRIVE-THRU ORDER POINT ISLAND	3 C-403
35	MENU BOARD LOOP DETECTION SYSTEM	4 C-403
36	BUILDING DOWNSPOUT CONNECTION (TO SITE DRAINAGE SYSTEM)	5 C-403
37	CANOPY DOWNSPOUT CONNECTION (TO SITE DRAINAGE SYSTEM)	6 C-403
38	SCREENED REFUSE ENCLOSURE (REFER TO ARCH PLANS FOR ADDITIONAL DETAILS)	7 C-403
39	CLEAN-OUT (OUTSIDE OF BUILDING)	8 C-403
(NOT USED) 40	THICKENED PAVEMENT @ STRUCTURES	9 C-403
(NOT USED) 41	STORM STRUCTURE WEEP HOLE DETAILS	10 C-403
42	ALUMINUM HANDRAIL (REFER TO ARCH PLANS)	
(NOT USED) 43	BUILDING DOWNSPOUT CONNECTION	
44	DRIVE-THRU CLEARANCE BAR (REFER TO SIGNAGE PACKAGE)	
45	GREASE TRAP	
46	PROPOSED TRANSFORMER	
47	BIKE RACK	
48	LANDSCAPED AREA	
49	TYPICAL LOCATION FOR OUTDOOR TABLES (REFER TO ARCH PLANS)	
50	CONCRETE PAD FOR OPTIONAL CASH STATION	
51	FREE-STANDING ORDER POINT CANOPY	
52	FREE-STANDING OUTSIDE MEAL DELIVERY CANOPY	

ZONING TABLE

ZONE:B2 - HIGHWAY BUSINESS DISTRICT
USE: RESTAURANT
MAP:2 LOT:24

BULK REQUIREMENTS

ITEM	CODE	PERMITTED	EXISTING	PROPOSED
MIN LOT AREA	§ V-TABLE B	10,000 SF	584.419 SF	NO CHANGE
MIN LOT FRONTAGE	§ V-TABLE B	150.0'	260.1' ±	NO CHANGE
FRONT YARD	§ V-TABLE B	30.0'	49.8'	35.8'
SIDE YARD	§ V-TABLE B	10.0'	129.4'	134.9'
REAR YARD	§ V-TABLE B	10.0'	521.5' ±	476.1' ±
MAX PERMITTED HEIGHT	§ V-TABLE B	3 STORIES / 35.0'	20.1'	< 3 STORIES / 35.0'
FRONT YARD LANDSCAPE BUFFER	§ VI-43	25.0'	35.8'	N/A
			KEY =	VARIANCE REQUIRED

PARKING REQUIREMENTS

ITEM	CODE	PERMITTED	EXISTING	PROPOSED
MIN STALL SIZE	§ TABLE 6-49A	9.0' X 18.0'	-	9.0' X 18.0'
MIN NUMBER OF STALLS	§ TABLE 6-49B	26	146	101
RESTAURANT: REQUIRED FOR RESTAURANT USE = 1 SPACE PER 3 SEATS. 62 INTERIOR SEATS + 16 EXTERIOR SEATS = 78 TOTAL SEATS. 78 / 3 = 26 SPACES				
			KEY =	VARIANCE REQUIRED

SITE HATCH LEGEND

CONCRETE PAVEMENT	
CONCRETE WALK	
BUILDING	
CANOPY	

MAINE SITE NOTES

(REV. 5/2024)

1. WHEN APPLICABLE, OWNER/ OPERATOR MUST FILE THE NOI FOR NPDES PERMITS AT APPROPRIATE AND/OR REQUIRED TIME FRAMES BASED UPON THE DESIRED START OF CONSTRUCTION. LAND DISTURBING ACTIVITIES MUST NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED FROM GOVERNING AUTHORITIES (INCLUDING STORMWATER POLLUTION PREVENTION PLAN). THE CONTRACTOR MUST STRICTLY ADHERE TO THE APPROVED SWPPP PLAN DURING CONSTRUCTION OPERATIONS (IF PROVIDED).
2. ALL CONCRETE MUST BE AIR ENTRAINED AND INCLUDE THE MINIMUM COMPRESSIVE STRENGTH OF JURISDICTIONAL STANDARD PSI AT 28 DAYS (OR 4,000 PSI) UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLANS, DETAILS AND GEOTECHNICAL REPORT THEN THE GEOTECHNICAL REPORT SHALL GOVERN.
3. THE CONTRACTOR MUST FILE SITE SIGNAGE APPLICATION OR PERMIT UNDER SEPARATE APPLICATION UNLESS DONE SO AS PART OF JURISDICTIONAL PERMITTING PROCEDURES.
4. THE CONTRACTOR MUST REPAIR OR REPLACE, AT THE CONTRACTOR'S SOLE COST AND EXPENSE, ALL SIDEWALKS, CURBS, PAVEMENT MARKINGS, AND PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES WHETHER SPECIFIED ON THIS PLAN OR NOT.
5. WORK WITHIN THE RIGHT-OF-WAY MUST BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS AND STANDARDS OF THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DEPARTMENT, HIGHWAY DIVISION, AND/OR STATE DOT HIGHWAY DEPARTMENT.
6. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, TOP AND BOTTOM OF WALL WIDTHS DO NOT REPRESENT THE ACTUAL WIDTH OF THE PROPOSED WALL. RATHER THEY ARE AN ASSUMPTION BASED ON WALL TYPE AND WALL HEIGHT. WALL FOOTINGS AND /OR FOUNDATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR OR WALL DESIGNER, AND MUST BE SET BASED UPON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT AN APPROPRIATELY LICENSED PROFESSIONAL DESIGNS ALL WALLS SHOWN HEREON AND PRIOR TO CONSTRUCTION. REFER TO GRADING NOTES REGARDING RETAINING WALL DESIGN.
7. CONTRACTOR IS CAUTIONED OF EXISTING UTILITY SERVICES TO REMAIN IN PROXIMITY TO PROPOSED BOLLARDS AND SIGNS. CONTRACTOR SHALL PROVIDE FIELD MODIFICATION LOCATIONS OF BOLLARDS AND BOLLARDS WITH SIGNAGE AS NEEDED TO AVOID CONFLICTS WITH EXISTING UTILITY SERVICES TO REMAIN.

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

SIGN LEGEND

** CONTRACTOR TO REFER TO THE SIGNAGE PACKAGE FOR PLACEMENT AND SPECIFICATIONS OF ALL SIGNS **

A	HANDICAP PARKING SIGN (SEE SIGNAGE PACKAGE) R7-8; 12" X 18" (TYP.)
B	HANDICAP PARKING FINE SIGN (SEE SIGNAGE PACKAGE) 6" X 12" (TYP.)
C	"VAN ACCESSIBLE" SIGN (SEE SIGNAGE PACKAGE) R7-8P; 6" X 12" (TYP.)
D	"DO NOT ENTER" SIGN (SEE SIGNAGE PACKAGE) R5-1; 24" X 24" (TYP.)
E	STOP SIGN (SEE SIGNAGE PACKAGE) R1-1; 30" X 30" (TYP.)
F	CFA PEDESTRIAN CROSSING SIGN (SEE SIGNAGE PACKAGE)
G	FLAG POLE (SEE SIGNAGE PACKAGE)
H	CFA MONUMENT OR PYLON SIGN
I	DIGITAL DRIVE-THRU MENU BOARDS

APPROVAL BLOCK

CITY PLANNING BOARD APPROVAL
APPROVED BY THE PLANNING BOARD OF THE CITY OF BIDDEFORD, MAINE.

XXXX	DATE
XXXX	DATE
XXXX	DATE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
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No. 12553
LICENSED PROFESSIONAL ENGINEER

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

ISSUED FOR PERMIT

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

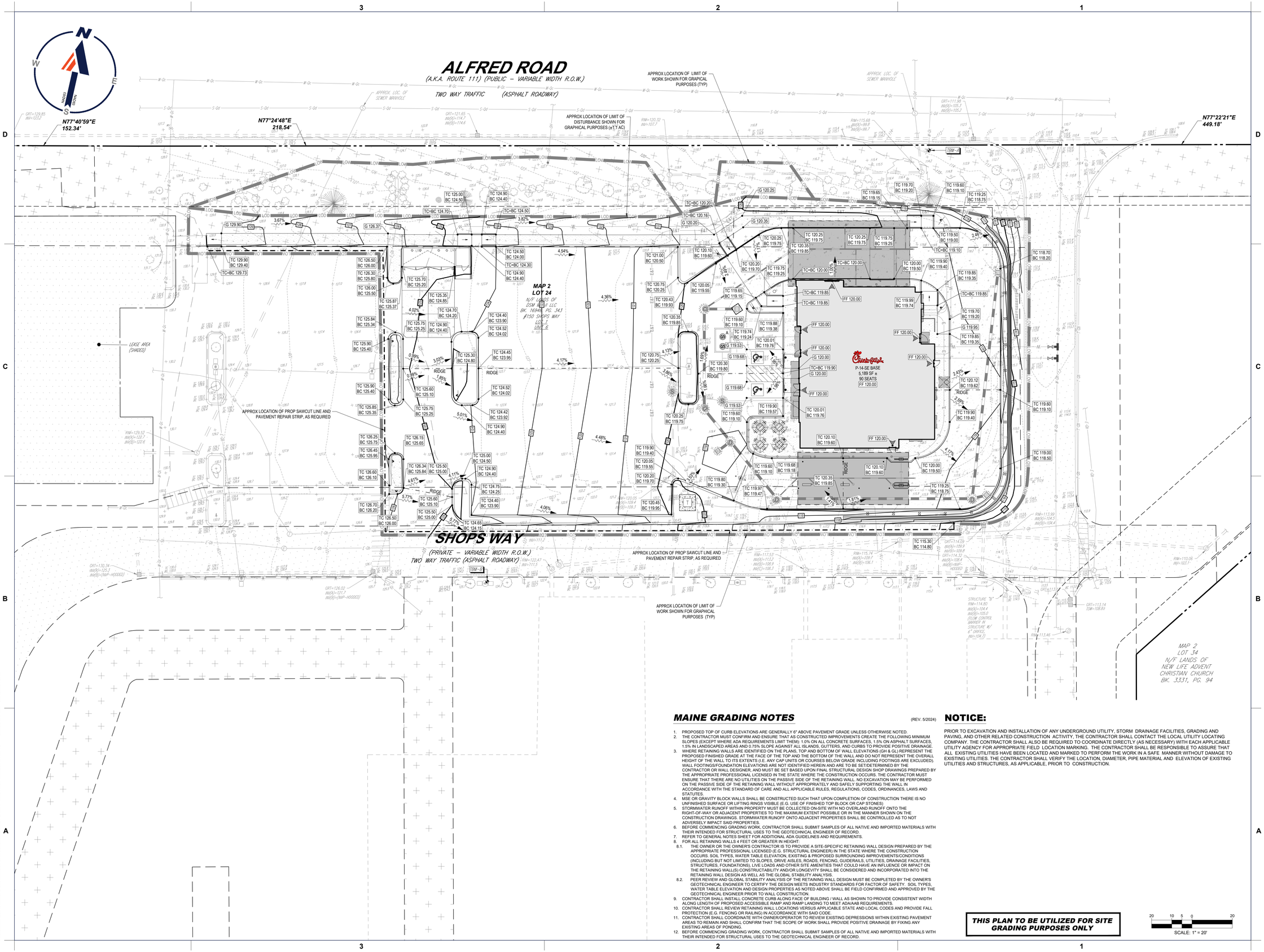
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SHEET
SITE PLAN

SHEET NUMBER
C-200

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MAINE GRADING NOTES

(REV. 5/2024)

1. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE PAVEMENT GRADE UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR MUST CONFIRM AND ENSURE THAT AS CONSTRUCTED IMPROVEMENTS CREATE THE FOLLOWING MINIMUM SLOPES (EXCEPT WHERE ADA REQUIREMENTS LIMIT THEM): 1.0% ON ALL CONCRETE SURFACES, 1.5% ON ASPHALT SURFACES, 1.5% IN LANDSCAPED AREAS AND 0.75% SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS TO PROVIDE POSITIVE DRAINAGE.
3. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, TOP AND BOTTOM OF WALL ELEVATIONS (GH & GL) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF THE TOP AND THE BOTTOM OF THE WALL AND DO NOT REPRESENT THE OVERALL HEIGHT OF THE WALL TO ITS EXTENTS (I.E. ANY CAP UNITS OR COURSES BELOW GRADE INCLUDING FOOTINGS ARE EXCLUDED). WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR OR WALL DESIGNER, AND MUST BE SET BASED UPON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT THERE ARE NO UTILITIES ON THE PASSIVE SIDE OF THE RETAINING WALL. NO EXCAVATION MAY BE PERFORMED ON THE PASSIVE SIDE OF THE RETAINING WALL WITHOUT APPROPRIATELY AND SAFELY SUPPORTING THE WALL IN ACCORDANCE WITH THE STANDARD OF CARE AND ALL APPLICABLE RULES, REGULATIONS, CODES, ORDINANCES, LAWS AND STATUTES.
4. MSE OR GRAVITY BLOCK WALLS SHALL BE CONSTRUCTED SUCH THAT UPON COMPLETION OF CONSTRUCTION THERE IS NO UNFINISHED SURFACE OR LIFTING RINGS VISIBLE (E.G. USE OF FINISHED TOP BLOCK OR CAP STONES)
5. STORMWATER RUNOFF WITHIN PROPERTY MUST BE COLLECTED ON-SITE WITH NO OVERLAND RUNOFF ONTO THE RIGHT-OF-WAY OR ADJACENT PROPERTIES TO THE MAXIMUM EXTENT POSSIBLE OR IN THE MANNER SHOWN ON THE CONSTRUCTION DRAWINGS. STORMWATER RUNOFF ONTO ADJACENT PROPERTIES SHALL BE CONTROLLED AS TO NOT ADVERSELY IMPACT SAID PROPERTIES.
6. BEFORE COMMENCING GRADING WORK, CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NATIVE AND IMPORTED MATERIALS WITH THEIR INTENDED FOR STRUCTURAL USES TO THE GEOTECHNICAL ENGINEER OF RECORD.
7. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL ADA GUIDELINES AND REQUIREMENTS.
8. FOR ALL RETAINING WALLS 4 FEET OR GREATER IN HEIGHT:
   - 8.1. THE OWNER OR THE OWNER'S CONTRACTOR IS TO PROVIDE A SITE-SPECIFIC RETAINING WALL DESIGN PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED (E.G. STRUCTURAL ENGINEER) IN THE STATE WHERE THE CONSTRUCTION OCCURS. SOIL TYPES, WATER TABLE ELEVATION, EXISTING & PROPOSED SURROUNDING IMPROVEMENTS/CONDITIONS (INCLUDING BUT NOT LIMITED TO SLOPES, DRIVE AISLES, ROADS, FENCING, GUIDERAILS, UTILITIES, DRAINAGE FACILITIES, STRUCTURES, FOUNDATIONS), LIVE LOADS AND OTHER SITE AMENITIES THAT COULD HAVE AN INFLUENCE OR IMPACT ON THE RETAINING WALL(S) CONSTRUCTABILITY AND/OR LONGEVITY SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN AS WELL AS THE GLOBAL STABILITY ANALYSIS.
   - 8.2. PEER REVIEW AND GLOBAL STABILITY ANALYSIS OF THE RETAINING WALL DESIGN MUST BE COMPLETED BY THE OWNER'S GEOTECHNICAL ENGINEER TO CERTIFY THE DESIGN MEETS INDUSTRY STANDARDS FOR FACTOR OF SAFETY. SOIL TYPES, WATER TABLE ELEVATION AND DESIGN PROPERTIES AS NOTED ABOVE SHALL BE FIELD CONFIRMED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO WALL CONSTRUCTION.
9. CONTRACTOR SHALL INSTALL CONCRETE CURB ALONG FACE OF BUILDING / WALL AS SHOWN TO PROVIDE CONSISTENT WIDTH ALONG LENGTH OF PROPOSED ACCESSIBLE RAMP AND RAMP LANDING TO MEET ADA/AAB REQUIREMENTS.
10. CONTRACTOR SHALL REVIEW RETAINING WALL LOCATIONS VERSUS APPLICABLE STATE AND LOCAL CODES AND PROVIDE FALL PROTECTION (E.G. FENCING OR RAILING) IN ACCORDANCE WITH SAID CODE.
11. CONTRACTOR SHALL COORDINATE WITH OWNER/OPERATOR TO REVIEW EXISTING DEPRESSIONS WITHIN EXISTING PAVEMENT AREAS TO REMAIN AND SHALL CONFIRM THAT THE SCOPE OF WORK SHALL PROVIDE POSITIVE DRAINAGE BY FIXING ANY EXISTING AREAS OF PONDING.
12. BEFORE COMMENCING GRADING WORK, CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NATIVE AND IMPORTED MATERIALS WITH THEIR INTENDED FOR STRUCTURAL USES TO THE GEOTECHNICAL ENGINEER OF RECORD.

NOTICE:

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY

SCALE: 1" = 20'

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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No. 12553
LICENSED PROFESSIONAL ENGINEER

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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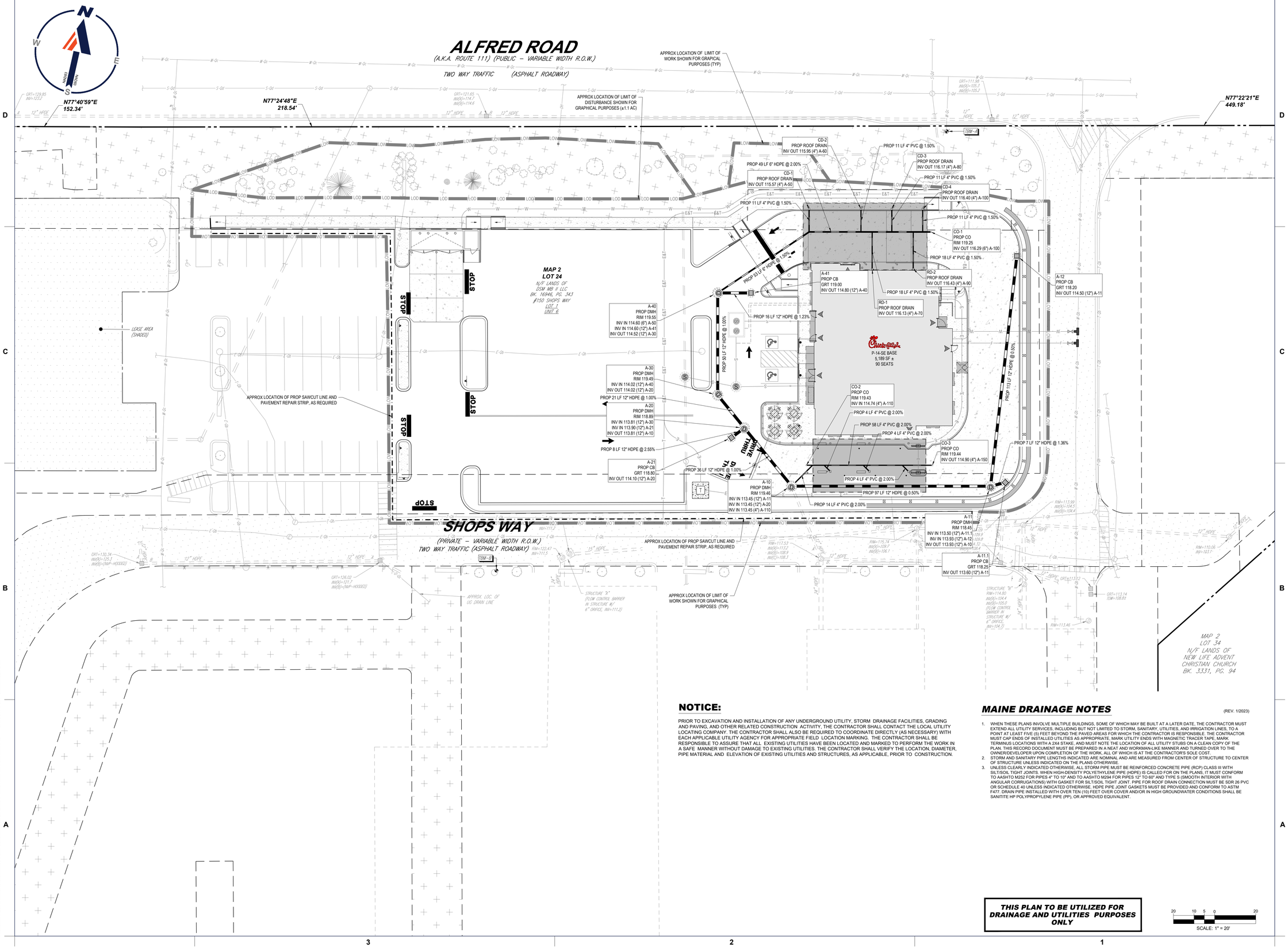
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SHEET
GRADING PLAN

SHEET NUMBER
C-300

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NOTICE:

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

MAINE DRAINAGE NOTES

(REV. 1/2023)

1. WHEN THESE PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL UTILITY SERVICES, INCLUDING BUT NOT LIMITED TO STORM, SANITARY, UTILITIES, AND IRRIGATION LINES, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. THE CONTRACTOR MUST CAP ENDS OF INSTALLED UTILITIES AS APPROPRIATE, MARK UTILITY ENDS WITH MAGNETIC TRACER TAPE, MARK TERMINUS LOCATIONS WITH A 2X4 STAKE, AND MUST NOTE THE LOCATION OF ALL UTILITY STUBS ON A CLEAN COPY OF THE PLAN. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE CONTRACTOR'S SOLE COST.
2. STORM AND SANITARY PIPE LENGTHS INDICATED ARE NOMINAL AND ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS INDICATED ON THE PLANS OTHERWISE.
3. UNLESS CLEARLY INDICATED OTHERWISE, ALL STORM PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILTSOIL TIGHT JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHTO M252 FOR PIPES 4" TO 10" AND TO AASHTO M294 FOR PIPES 12" TO 60" AND TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SILTSOIL TIGHT JOINT. PIPE FOR ROOF DRAIN CONNECTION MUST BE SDR 26 PVC OR SCHEDULE 40 UNLESS INDICATED OTHERWISE. HDPE PIPE JOINT GASKETS MUST BE PROVIDED AND CONFORM TO ASTM F477. DRAIN PIPE INSTALLED WITH OVER TEN (10) FEET OVER COVER AND/OR IN HIGH GROUNDWATER CONDITIONS SHALL BE SANITITE HP POLYPROPYLENE PIPE (PP), OR APPROVED EQUIVALENT.

THIS PLAN TO BE UTILIZED FOR DRAINAGE AND UTILITIES PURPOSES ONLY

SCALE: 1" = 20'

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVL-PROP-MAA230431.00-1B---3-LAYOUT- C-301 - DRAINAGE PLAN

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150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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SHEET
DRAINAGE PLAN

SHEET NUMBER
C-301

ALFRED ROAD

(A.K.A. ROUTE 111) (PUBLIC – VARIABLE WIDTH R.O.W.)

TWO WAY TRAFFIC (ASPHALT ROADWAY)

N77°40'59"E
152.34'

N77°24'48"E
218.54'

N77°22'21"E
449.18'

APPROX LOCATION OF LIMIT OF WORK SHOWN FOR GRAPICAL PURPOSES (TYP)

APPROX LOCATION OF LIMIT OF DISTURBANCE SHOWN FOR GRAPHICAL PURPOSES (±1.1 AC)

TBM–A

MAP 2
LOT 24
N/F LANDS OF
DSM ME II LLC
BK. 16940, PG. 343
#150 SHOPS WAY
LOT 1
UNIT 6

LEASE AREA
(SHADED)

APPROX LOCATION OF PROP SAWCUT LINE AND PAVEMENT REPAIR STRIP, AS REQUIRED

PROP EROSION CONTROL BARRIER (TYP)

PROP SILT FENCE

PROP TEMPORARY SOIL STOCKPILE

PROP CONSTRUCTION ENTRANCE

PROP INLET PROTECTION (TYP)

PROP CONCRETE WASHOUT AREA

P-14-SE BASE
5,189 SF ±
90 SEATS

SHOPS WAY

(PRIVATE – VARIABLE WIDTH R.O.W.)
TWO WAY TRAFFIC (ASPHALT ROADWAY)

TBM–B

APPROX LOCATION OF PROP SAWCUT LINE AND PAVEMENT REPAIR STRIP, AS REQUIRED

APPROX LOCATION OF LIMIT OF WORK SHOWN FOR GRAPHICAL PURPOSES (TYP)

MAP 2
LOT 34
N/F LANDS OF
NEW LIFE ADVENT
CHRISTIAN CHURCH
BK. 3331, PG. 94

S12°37'08"E
138.70'

THIS PLAN TO BE UTILIZED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-PROP-MAA230431.00-1B-----\LAYOUT: C-302 - ESC

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CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

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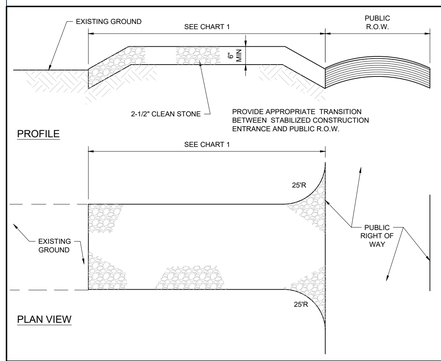
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SHEET
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER
C-302



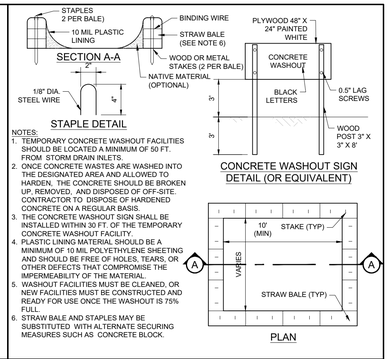
PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200FT
>5%	ENTIRE ENTRANCE STABILIZED WITH FABC BASE COURSE (1)	

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

CHART 1

STABILIZED CONSTRUCTION ENTRANCE

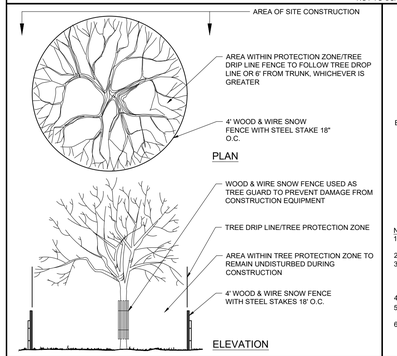
NOT TO SCALE (NE-O020101 - 09/2023)



NOTES:
1. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FT. FROM STORM DRAIN INLETS.
2. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF OFF-SITE. CONTRACTOR TO DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
4. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
6. STRAW BALE AND STAPLES MAY BE SUBSTITUTED WITH ALTERNATE SECURING MEASURES SUCH AS CONCRETE BLOCK.

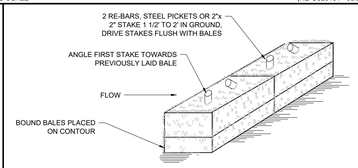
CONCRETE WASTE MANAGEMENT AREA

NOT TO SCALE (NE-O020201 - 09/2023)



TREE PROTECTION DURING SITE CONSTRUCTION

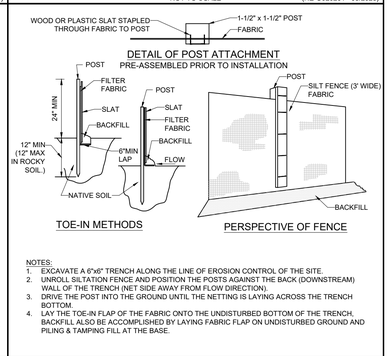
NOT TO SCALE (NE-O030201 - 09/2023)



NOTES:
1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
5. DRAINAGE AREA NO MORE THAN ½ AC. PER 100 FEEL OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.
6. BALES SHALL BE REMOVED WHEN THEIY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE BARRIER

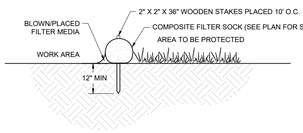
NOT TO SCALE (NE-O030302 - 09/2023)



NOTES:
1. EXCAVATE A 6"x6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMPING FILL AT THE BASE.

SILT FENCE

NOT TO SCALE (NE-O040101 - 09/2023)



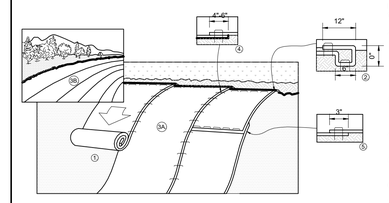
SECTION

NOTES:
1. ALL MATERIAL TO MEET MANUFACTURER SPECIFICATIONS
2. COMPOST FILTER SOCK FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE AT COMPLETION OF CONSTRUCTION OR AS DIRECTED BY OWNER AFTER STABILIZATION IS ACHIEVED.

OR APPROVED EQUIVALENT

COMPOST FILTER SOCK

NOT TO SCALE (NE-O040201 - 09/2023)

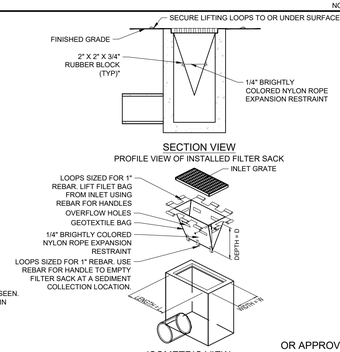


NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH AS SHOWN IN DETAIL 2. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.
7. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET STEEP SLOPE PROTECTION

NOT TO SCALE (NE-O049901 - 09/2023)

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC-1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

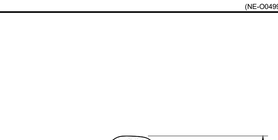


NOTES:
1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

OR APPROVED EQUIVALENT

INLET PROTECTION WITH MANUFACTURED INSERT

NOT TO SCALE (NE-O050101 - 09/2023)



TEMPORARY STOCK PILE WITH SILT FENCE AND FILTER SOCK

NOT TO SCALE (NE-O060102 - 09/2023)

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FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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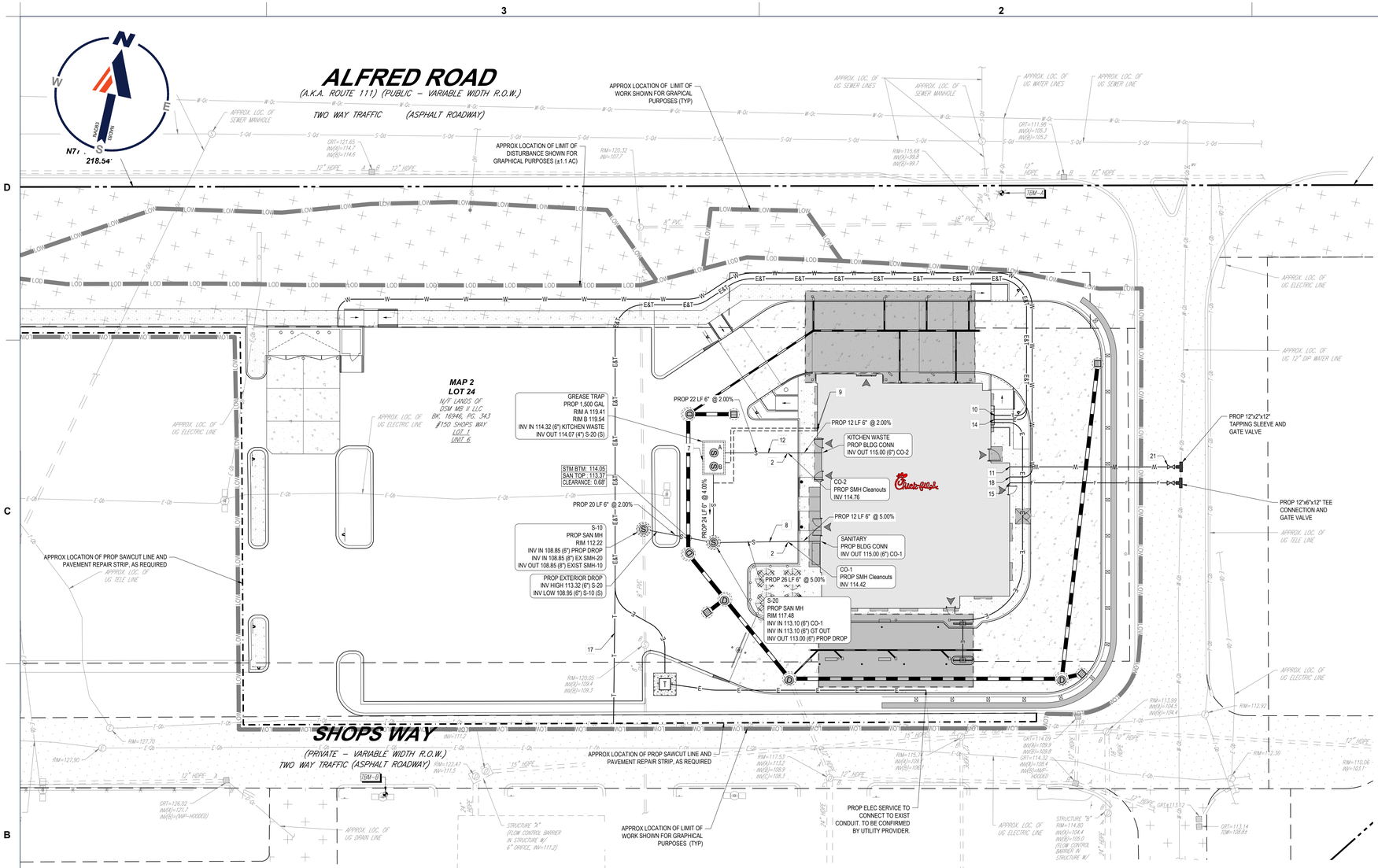
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SHEET
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SHEET NUMBER
C-303

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL_CND(5-MAA230431.00-1B-----).LAYOUT: C-303 - EROSION DETAILS



UTILITY PLAN DESIGN NOTES & KEY PLAN

1. THE CONTRACTOR SHALL PROVIDE THE NECESSARY FITTINGS TO CONNECT THE NEW SERVICE LINE EXTENSION TO THE EXISTING SEWER MANHOLE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, MATERIAL AND INVERT ELEVATION PRIOR TO INSTALLING ANY SEWER FACILITIES. MINOR ADJUSTMENTS TO THE NEW SERVICE LINE INVERT ELEVATION MAY BE NECESSARY DEPENDING UPON FIELD MEASUREMENTS.

CAUTION/WARNING

THE CONTRACTOR SHALL USE EXTREME CAUTION TO PROPERLY SHEET, SHORE, AND DEWATER EXCAVATION TO COMPLETE THE CONNECTION IN A SAFE MANNER, AND WITHOUT DAMAGE OR SETTLEMENT TO EXISTING FACILITIES ON SHOPPING CENTER DRIVE. PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES TO PREVENT TRAFFIC FROM DRIVING TO CLOSE TO THE EXCAVATIONS AND OTHER RELATED WORK AREAS.

2. INSTALL CLEANOUT. USE TRAFFIC RATED CLEANOUT IN ALL PAVEMENT AREAS AS REQUIRED.

3. 1" WATER METER FOR DOMESTIC WATER SUPPLY

   CONTRACTOR SHALL COORDINATE WITH MAINE WATER FOR INSTALLATION OF WATER SERVICE TAP, WATER METER, AND METER BOX. CONTRACTOR'S BID PRICE SHALL INCLUDE THE COST OF THE WORK PERFORMED BY THE CITY (INCLUDING TAP FEES). TAPS SHALL BE MADE INITIALLY IN CONTRACTOR'S NAME AND TRANSFERRED AT PROJECT COMPLETION.

   DOMESTIC WATER LINE SHALL BE TYPE K COPPER.

4. 1" WATER METER FOR IRRIGATION WATER SUPPLY. ON-SITE IRRIGATION LINES AND MATERIALS SHALL BE INSTALLED BY THE IRRIGATION CONTRACTOR AS INDICATED ON THE IRRIGATION PLAN.

5. 1" BACKFLOW PREVENTER FOR DOMESTIC WATER SERVICE.

   THE CONTRACTOR SHALL INSTALL A BACKFLOW PREVENTER (FEBCO, WATTS, OR APPROVED EQUAL) FOR EACH WATER SERVICE LINE AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL INCLUDE BOX OR VAULT, AS APPLICABLE. THE CONTRACTOR SHALL COORDINATE WITH MAINE WATER FOR INSPECTION, TESTING, AND CERTIFICATION OF ALL BACKFLOW PREVENTORS. ALL BACKFLOW DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE WATER STANDARDS/SPECIFICATIONS. CONTRACTORS BID PRICE SHALL INCLUDE ALL COSTS ASSOCIATED WITH DEVICE INSTALLATION, INSPECTION , TESTING, CERTIFICATION, ETC., TO INCLUDE ANY FEES REQUIRED BY MAINE WATER AND THE CITY OF BIDDEFORD.

6. 1" BACKFLOW PREVENTER FOR IRRIGATION WATER SERVICE. (SEE NOTE #5 ABOVE).

7. GREASE TRAP TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. CONNECT RESTROOM SERVICE LINE DOWNSTREAM OF GREASE TRAP OUTLET SIDE AT INVERT ELEVATION INDICATED. COORDINATE TOP ELEVATION OF GREASE TRAP WITH DRIVEWAY PAVEMENT ELEVATION.

8. 6" PVC SEWER SERVICE LINE AND CLEANOUT FROM RESTROOM FACILITIES TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. SERVICE LINE SHALL BY-PASS GREASE TRAP AND CONNECT BEYOND THE OUTLET SIDE.

9. 3" VENT LINE TO BE INSTALLED BY SITE UTILITY CONTRACTOR. SEE ARCHITECT PLUMBING PLANS.

10. TELEPHONE SERVICE CONNECTION LOCATION AT BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLANS.

11. 2" DOMESTIC WATER SERVICE LINE CONNECTION LOCATION AT BUILDING. SITE UTILITY CONTRACTOR SHALL INSTALL DOMESTIC WATER SERVICE LINE FROM THE EXISTING WATER MAIN TO THE MAIN BUILDING CUTOFF VALVE . (SEE ARCHITECT PLUMBING PLAN).

12. 6" PVC KITCHEN WASTE LINE. INSTALL CLEANOUT APPROXIMATELY 6' FROM FACE OF BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS.

13. GAS SERVICE LINE AND METER INSTALLATION LOCATION. SEE ARCHITECTS PLUMBING PLANS FOR SIZE REQUIREMENTS AND EXACT CONNECTION LOCATION. COORDINATE WITH GAS COMPANY FOR GAS SERVICE LINE INSTALLATION.

14. ELECTRICAL SERVICE LINE CONNECTION AT BUILDING. CONTRACTOR SHALL INSTALL 4" DIAMETER SCHD 40 PVC CONDUIT WITH PULL WIRE FROM EXISTING ELECTRICAL FACILITIES WITHIN THE RIGHT-OF-WAY TO THE TRANSFORMER & ELECTRICAL PULL BOX LOCATED BEHIND THE CHICK-FIL-A SERVICE AREA. COORDINATE CROSSING OF CONDUIT WITH OTHER UTILITIES. CONDUIT SHALL BE BURIED A MINIMUM OF 36" BELOW FINISHED GRADE. ABRUPT BENDS SHALL NOT BE ALLOWED, USE LONG SWEEP ELBOWS AND OTHER NECESSARY FITTINGS TO PROVIDE GRADUAL CHANGES IN DIRECTION. ELECTRIC SERVICE INSTALLATION TO BE COORDINATED WITH LOCAL ELECTRIC COMPANY.

15. 6" DIP WATER LINE FOR SPRINKLER SYSTEM.

16. 6" PVC SCH 40 SANITARY SERVICE LINE.

17. INSTALL 2" SCH 40 PVC CONDUIT WITH PULL WIRE AND PULL BOX FOR TELEPHONE SERVICE LINE INSTALLATION. USE LONG SWEEP RADIUS AT 90° AND 45° BENDS TO AVOID ABRUPT CHANGES IN DIRECTION. COORDINATE WITH TELEPHONE COMPANY FOR SPECIFIC LOCATION OF CONDUIT AT THE EXISTING PEDESTAL. INSTALL 3" SCH 40 PVC CONDUIT WITH PULL WIRE AND PULL BOX FOR INTERNET SERVICE PROVIDER.

18. 3/4" C.W. TO DUMPSTER POST HYDRANT.

19. 1 EACH - 4" DIAMETER, SCHEDULE 40 PVC CONDUIT, TYPICAL. SEE BLANK CONDUIT INSTALLATION NOTE.

20. PROPOSED TRANSFORMER.

21. 1-1/2" CORPORATION STOP.

22. 6" SPRINKLER LINE LOCATION AT BUILDING.

UTILITY NOTES:

1. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL HAND EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION TO THE CITY OF BIDDEFORD SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. OWNER/DEVELOPER AND ARCHITECT SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.

2. LOCATION OF ALL EXISTING AND PROPOSED UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICES CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR INFIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST POINTS. CROSSINGS WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

3. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES. DISCONNECTIONS SHALL NOT BE CONDUCTED BY CONTRACTOR. ALL STORM DRAIN, WATER, SEWER AND PRODUCT PIPING UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF BIDDEFORD STANDARDS AND SPECIFICATION FOR UTILITY CONSTRUCTION.

4. A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN SANITARY SEWER LINES AND STORM LINES OR WATER LINES. IF THIS MINIMUM CLEARANCE CANNOT BE MAINTAINED, A CONCRETE ENCASEMENT SHALL BE PROVIDED.

5. ANY SEDIMENT CONTROL MEASURES REMOVED FOR THE PURPOSE OF UTILITY CONSTRUCTION SHALL BE REPLACED AT THE END OF THE DAY BY THE UTILITY CONTRACTORS.

6. SANITARY CLEANOUT TOPS TO BE ADJUSTED TO MATCH CROSS-PITCH AND SLOPE OF PROPOSED GRADES. CLEANOUT TOPS TO BE IDENTIFIED AS SANITARY CLEANOUTS, THREADED AND CONTAIN COUNTERSUNK PLUGS.

7. WATER SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA AND BURIED A MINIMUM 48" BELOW GRADE.

8. WATER SERVICE SHALL BE A 1-1/2" INCH TYPE "K" COPPER TUBING. SANITARY SEWER PIPE SHALL BE A SIX (6) INCH PVC SCH 40 AT CONNECTION OF KITCHEN WASTE AND RESTROOM WASTE. SEWER SERVICES TO BE 4 (4) INCH PVC SCH 40 AT CONNECTIONS AT BUILDING. WATER AND SEWER SERVICES SHALL BE COORDINATED WITH THE BUILDING CONTRACTOR FOR HORIZONTAL AND VERTICAL ALIGNMENT AND CONNECTIONS.

9. ALL FILL, COMPACTION AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.

10. SEE ARCHITECTURAL PLANS FOR GREASE TRAP DETAILS.

11. ALL PIPES UNDER PRESSURE SHALL BE CONNECTED WITH WATER TIGHT JOINTS. INSPECTOR SHALL VERIFY MATERIALS AND INSPECT PRESSURE TREATED PIPE PRIOR TO COVERING UP OR PRESSURE TEST PIPE PER COUNTY STANDARDS.

FINISHED GRADING COORDINATION

THE SITE UTILITY CONTRACTOR SHALL COORDINATE THE INSTALLATION OF NEW UTILITIES WITH FINISHED GRADING AND DRAINAGE FACILITIES AS INDICATED ON THE SITE GRADING AND DRAINAGE PLAN. MINOR ADJUSTMENTS TO THE TOP ELEVATION OF NEW UTILITIES MAY BE NECESSARY.

NOTICE:

THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR THE EXACT LOCATION AND DIMENSIONS OF VESTIBULE, EXIT PORCHES, DOORS, RAMPS, SERVICE AREA, BUILDING DIMENSIONS AND THE EXACT LOCATION OF UTILITY CONNECTIONS.

NOTICE: INSTALLATION OF BLANK CONDUIT

BLANK CONDUIT SLEEVES SHALL BE FOUR (4) INCH SCH 40 PVC UNLESS NOTED OTHERWISE. SLEEVES SHALL BE BURIED A MINIMUM OF 24 INCHES BELOW FINISHED GRADE. DEPTH OF BURIAL SHALL BE SPECIFICALLY COORDINATED WITH ALL EXISTING OR PROPOSED UNDERGROUND UTILITIES AND DRAINAGE FACILITIES AT ALL CROSSINGS. CONDUITS SHALL BE PROVIDED WITH REMOVABLE PLUG AT EACH END. MARK EACH END WITH 2" X 4" POST AT EACH END (PAINTED YELLOW).

NOTICE: EXISTING UTILITY LOCATIONS

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES.

THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

THIS PLAN TO BE UTILIZED FOR UTILITIES PURPOSES ONLY

20 10 5 0 20

SCALE: 1" = 20'

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BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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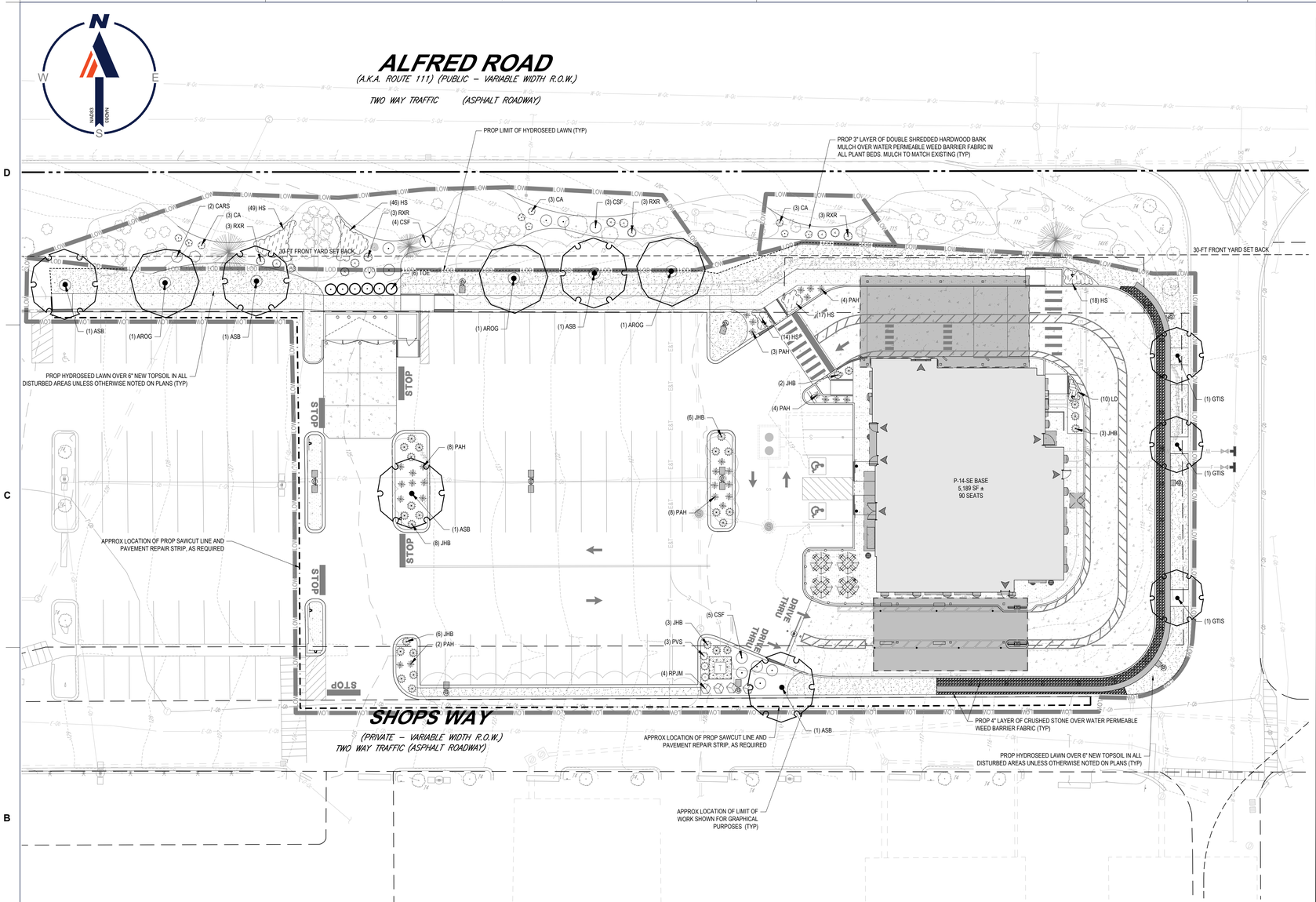
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SHEET
PLUMBING SITE PLAN

SHEET NUMBER
PS-100

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL_PROP-MAA230431.00-1B-----3-LAYOUT: PS-100 - PLUMBING SITE PLAN



CITY OF BIDDEFORD LANDSCAPE REQUIREMENTS

SECTION	REQUIREMENTS	CALCULATIONS/PROPOSED
ART VI SECTION 43	A. THE LANDSCAPE SHALL BE PRESERVED IN ITS NATURAL STATE INSOFAR AS PRACTICAL, BY MINIMIZING TREE REMOVAL AND GRADE CHANGES IN KEEPING WITH THE GENERAL APPEARANCE OF NEIGHBORING AREAS. LANDSCAPING SHALL BE DESIGNED TO SOFTEN, SCREEN, OR ENHANCE THE PHYSICAL DESIGN OF STRUCTURES AND PARKING AREAS TO AVOID THE ENCROACHMENT OF THE PROPOSED USE ON ABUTTING LAND USES.	PROVIDED
	B. COMMERCIAL AND INDUSTRIAL USES SHALL MAINTAIN THE FIRST 25 FEET FROM THE EDGE OF THE RIGHT-OF-WAY (EXCLUDING DRIVEWAYS) IN FRONT OF ALL BUILDINGS, STRUCTURES AND IMPERVIOUS AREAS AS A GREEN STRIP. THE GREEN STRIP SHALL CONSIST OF A MAINTAINED VEGETATED AREA WITH A TWO-AND-ONE-HALF-INCH DIAMETER OR LARGER DECIDUOUS SHADE TREE, SPACED EVERY 25 FEET, OR A SHRUB, TWO TO THREE FEET IN HEIGHT, MINIMUM, PLACED THE EQUIVALENT OF ONE PER 10 FEET, ALONG THE GREEN STRIP AND PARALLEL TO THE RIGHT-OF-WAY. IN ORDER TO ENSURE PROPER VISIBILITY FOR ENTERING AND DEPARTING VEHICLES, ALL DRIVEWAY ENTRANCES AND EXITS SHALL BE KEPT FREE FROM VISUAL OBSTRUCTIONS HIGHER THAN THREE FEET ABOVE STREET LEVEL FOR A DISTANCE OF 25 FEET MEASURED ALONG THE INTERSECTING DRIVEWAY AND STREET LINES	REQUIRED: 12 TREES PROVIDED: 12 TREES (6 EXISTING TREES TO REMAIN) CALCULATION: 300' OF FRONTAGE / 25' = 12 TREES
ART VI SECTION 49	5. OFF-STREET PARKING AND LOADING SPACES FOR NONRESIDENTIAL USES SHALL BE EFFECTIVELY SCREENED FROM VIEW BY A CONTINUOUS LANDSCAPED AREA NOT LESS THAN NINE FEET IN HEIGHT ALONG EXTERIOR LOT LINES ADJACENT TO RESIDENTIAL PROPERTIES AND ALL PUBLIC ROADS, EXCEPT THAT DRIVEWAYS SHALL BE KEPT OPEN TO PROVIDE VISIBILITY FOR ENTERING AND LEAVING. NO OFF-STREET PARKING AND LOADING SHALL BE PERMITTED WITHIN THE FRONT SETBACK OR ANY SETBACK ADJOINING A PUBLIC STREET, EXCEPT AS SPECIFICALLY AUTHORIZED IN THIS ORDINANCE	PROVIDED. SUPPLEMENTAL SHRUBBERY ADDED ALONG EXISTING LANDSCAPE BUFFER
	10. THE EXISTING LANDSCAPE SHALL BE PRESERVED IN ITS NATURAL STATE WHEREVER POSSIBLE. LARGE PARKING LOTS COVERING MORE THAN 1/4 ACRE SHALL BE PROVIDED WITH DECIDUOUS SHADE TREES DESIGNED TO REDUCE SOLAR HEATING IN THE SUMMER AND PROVIDE FOR WINDBREAKS. ALL PARKING OR OUTDOOR STORAGE AREAS SHALL BE SEPARATED FROM A PUBLIC ROAD BY A LANDSCAPED BUFFER STRIP AT LEAST 15 FEET WIDE, PLANTED WITH SHADE TREES A MINIMUM TWO INCHES DIAMETER AT BREAST HEIGHT AND DENSE MEDIUM HEIGHT SHRUBS TO SCREEN PARKED VEHICLES. ALL SUCH PLANTING SHALL BE MAINTAINED AS AN EFFECTIVE VISUAL SCREEN. SHRUBS OR TREES WHICH DIE SHALL BE REPLACED WITHIN ONE GROWING SEASON.	PROVIDED PROVIDED. SUPPLEMENTAL SHRUBBERY ADDED ALONG EXISTING LANDSCAPE BUFFER
ART VI SECTION 50	A. THE LANDSCAPE SHALL BE PRESERVED IN ITS NATURAL STATE, INSOFAR AS PRACTICABLE, BY MINIMIZING TREE REMOVAL; AND ANY GRADE CHANGES SHALL BE IN KEEPING WITH THE GENERAL APPEARANCE OF NEIGHBORING DEVELOPED AREAS. B. PLANS PRESENTED TO THE BOARD SHALL HAVE ANNOTATED IN THE NOTE SECTION SPECIFIC MEASURES TO BE TAKEN TO PRESERVE NATURAL VEGETATION.	PROVIDED
ART XI ART II SECTION 5 (B)	d. 1. ALL SITES MUST BE LANDSCAPED WITH VEGETATION THAT WILL ACT TO: (a) REDUCE THE IMPACT OF LIGHTING, VEHICULAR AND STRUCTURAL, ON ABUTTING PROPERTIES; (b) REDUCE THE IMPACT OF PROPOSED STRUCTURES ON THE PRIVACY OF ABUTTERS; (c) MAKE THE SITE MORE ATTRACTIVE TO THE AVERAGE VIEWER. 2. THE USE OF TREES AND SHRUBS FOR FENCING AND SHADING IS STRONGLY ENCOURAGED. CARE MUST BE TAKEN TO ENSURE THAT TREE, ETC., ARE PLACED IN SUCH A FASHION THAT IN TIME THEY WILL CAUSE MINIMUM IMPACT ON ABUTTING PROPERTIES AND PUBLIC ROADWAYS AND TRAVELWAYS, PARTICULARLY AS THEY GROW. 3. WHENEVER POSSIBLE EXISTING VEGETATION SHALL BE PRESERVED AND INCORPORATED INTO THE LANDSCAPING SCHEME OF THE PROJECT.	PROVIDED PROVIDED PROVIDED
	e. 1. ALL SERVICE, STORAGE AND UTILITY AREAS SHALL BE DESIGNED TO THE SIDE OR YEAR YARD OF A PROPOSED OR EXISTING BUILDING OR STRUCTURE, AND SUCH AREAS SHALL BE APPROPRIATELY SCREENED / BUFFERED BY WALLS, EARTH BERMS, OR VEGETATIONS	PROVIDED
	i. 6. ALL BUFFERED OR SCREENED AREAS SHALL BE DENSELY PLANTED WITH SHRUBS OR TREES WHICH ARE RESPECTIVELY AT LEAST TWO OR THREE FEET HIGH AT THE TIME OF PLANTING AND ARE OF A TYPE WHICH MAY BE EXPECTED TO FORM A YEAR-ROUND DENSE SCREEN OF AT LEAST FIVE FEET HIGH WITHIN THREE YEARS, PROVIDED THAT SUCH SCREENING SHALL NOT OBSTRUCT THE VIEW OF ONCOMING TRAFFIC WHEN ENTERING OR EXITING THE SITE.	PROVIDED

PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
CANOPY TREES					
AROG	3	ACER RUBRUM `OCTOBER GLORY`	OCTOBER GLORY RED MAPLE	2.5"-3" CAL.	B&B
ASB	5	ACER SACCHARUM 'BONFIRE'	BONFIRE SUGAR MAPLE	2.5"-3" CAL.	B&B
GTIS	3	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2.5"-3" CAL.	B&B
EVERGREEN TREES					
TOE	6	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6-8'	B&B
SHRUBS					
CA	9	CEANOTHUS AMERICANUS	NEW JERSEY TEA	24-30"	CONTAINER
CARS	2	CLETHRA ALNIFOLIA 'RUBY SPICE'	RUBY SPICE SUMMERSWEET	24-30"	CONTAINER
CSF	12	CORNUS STOLONIFERA 'FARROW'	ARCTIC FIRE RED TWIG DOGWOOD	24-36"	CONTAINER
RPJM	4	RHODODENDRON X `PJM`	`PJM` RHODODENDRON	24-30"	CONTAINER
RXR	12	ROSA X 'RADRAZZ'	KNOCK OUT SHRUB ROSE	18-24"	CONTAINER
GRASSES					
PAH	29	PENNISETUM ALOPECUROIDES `HAMELN`	HAMELN FOUNTAIN GRASS	1 GAL.	CONTAINER
PVS	3	PANICUM VIRGATUM `SHENANDOAH`	SHENANDOAH SWITCH GRASS	1 GAL.	CONTAINER
GROUNDCOVER					
JHB	28	JUNIPERUS HORIZONTALIS `BAR HARBOR`	BAR HARBOR CREEPING JUNIPER	15-18" SPRD	CONTAINER

OWNER MAINTENANCE RESPONSIBILITIES

UPON OWNER'S (OR OWNER CONTRACTOR'S) COMPLETION OF LANDSCAPING WORK, THE OWNER IS FULLY RESPONSIBLE FOR ALL FUTURE MAINTENANCE, CARE, UPKEEP, WATERING, AND TRIMMING OF ALL INSTALLED VEGETATION, PLANTS, TREE, BUSHES, SHRUBS, GRASSES, GRASS, ORNAMENTAL PLANTS AND FLOWERS, FLOWERS, GROUND COVER, AND LANDSCAPING, INCLUDING ALL LANDSCAPE ISLANDS AND AREAS ADJACENT OR PART OF THE LANDSCAPED AREAS. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- TREES ADJACENT TO WALKWAYS AND AREAS OF PEDESTRIAN TRAFFIC MUST BE MAINTAINED TO ASSURE THAT ANY BRANCHES MUST BE LIMBED UP TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PEDESTRIAN SURFACES) OR PRUNED BACK TO AVOID ANY INTERFERENCE WITH THE TYPICAL PATH OF TRAVEL.
- TREES WITHIN VEHICULAR SIGHT LINES, AS ILLUSTRATED ON THE LANDSCAPE PLAN, ARE TO BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PAVED, TRAVELED SURFACES), OR AS OTHERWISE INDICATED ON THE PLANS.
- VEGETATIVE GROUND COVER, SHRUBS AND ORNAMENTAL PLANTS AND GRASSES MUST BE TRIMMED SO THAT NO PORTION OF THE PLANT EXCEEDS 30 INCHES ABOVE GRADE (OF ALL PAVED, TRAVEL SURFACES) ALONG AND WITHIN THE SIGHT LINES OF PARKING LOTS AND INGRESS-EGRESS WAYS.
- FALLEN PLANT FLOWERS, FRUIT, SEEDS AND DEBRIS DROPPINGS ARE TO BE REMOVED IMMEDIATELY FROM VEHICULAR AND PEDESTRIAN TRAFFIC AREAS TO PREVENT TRIPPING, SLIPPING OR ANY OTHER HAZARDS.

THESE REQUIREMENTS DO NOT AFFECT THE PLANT LIFE GUARANTEES THE LANDSCAPE CONTRACTOR IS REQUIRED TO PROVIDE.

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

REFER LANDSCAPE NOTES & DETAILS SHEET FOR LANDSCAPE NOTES AND DETAILS

20 10 5 0 20
SCALE: 1" = 20'

Chick-fil-A
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MATTHEW Q. MOREY
MELA
No. 4248
STATE OF MAINE

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
LANDSCAPE PLAN

SHEET NUMBER
L-100

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-LSCP-MAA230431.00-1B----LAYOUT: L-100 - LANDSCAPE PLAN

LANDSCAPE SPECIFICATION

1. SCOPE OF WORK:
   a) THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS
   a) GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.
   b) TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.
   c) LAWN:
      c)a) ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 6" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON THE LANDSCAPE PLAN.
      c)b) LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.
      c)c) SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.
      c)d) MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR LANDSCAPE PLAN NOTES / DETAILS.
   d) FERTILIZER:
      d)a) FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
      d)b) FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.
   e) PLANT MATERIAL:
      e)a) ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN).
      e)b) IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.
      e)c) PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
      e)d) TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1¼" WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
      e)e) ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH· WELL-DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.
      e)f) CALIPER MEASUREMENT OF NURSERY-GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
      e)g) SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.
      e)h) TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES
   a) CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.
   b) WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS
   a) BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.
   b) ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.
   c) CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION
   a) CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.
   b) A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.
   c) WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.
   d) AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS
   a) CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.
   b) LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.
   c) THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
   d) TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
      d)a) TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.
      d)b) MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING
   a) UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.
   b) LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).
   c) ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.
   d) ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING
   a) CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
   b) ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.
   c) CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
   d) ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY [SEE SPECIFICATION 6.A.]):
      d)a) 20 POUNDS 'GRO-POWER' OR APPROVED SOIL CONDITIONER/FERTILIZER
      d)b) 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER
   e) THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING
   a) INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.
   b) PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.
   c) ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.
   d) ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.
   e) POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
   f) PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:
      f)a) PLANTS: MARCH 15 TO DECEMBER 15
      f)b) LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1
      f)c) PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.
   g) FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBAR STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

   h) PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
      h)a) 1 PART PEAT MOSS
      h)b) 1 PART COMPOSTED COW MANURE BY VOLUME
      h)c) 3 PARTS TOPSOIL BY VOLUME
      h)d) 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:
         h)d)a) 2 TABLETS PER 1 GALLON PLANT
         h)d)b) 3 TABLETS PER 5 GALLON PLANT
         h)d)c) 4 TABLETS PER 15 GALLON PLANT
         h)d)d) LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK
   i) FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.
   j) ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.
   k) ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.
   l) GROUND COVER AREAS SHALL RECEIVE A ¼" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.
   m) NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.
   n) ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.
   o) ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)
    a) ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.
    b) IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.
    c) PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.
    d) UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.
    e) TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.
    f) F TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING
    a) NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.
    b) SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.
    c) IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

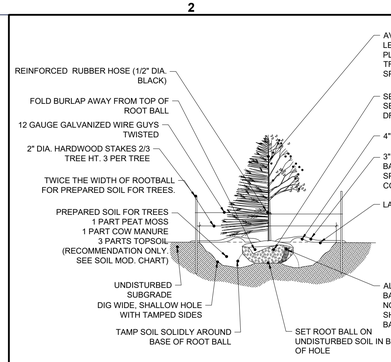
12. GUARANTEE
    a) THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.
    b) ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.
    c) TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.
    d) LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

13. CLEANUP
    a) UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.
    b) THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

14. MAINTENANCE (ALTERNATIVE BID):
    a) A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MANICURED TO THE APPROVAL OF THE OWNER/OPERATOR.

TREE PLANTING

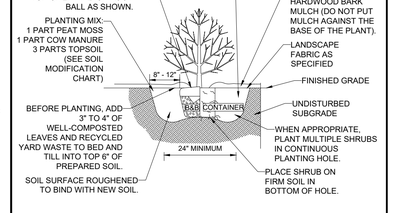
NOT TO SCALE



NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL FOLD BURLAP BACK 1/3 FROM ROOT BALL.
3. PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.

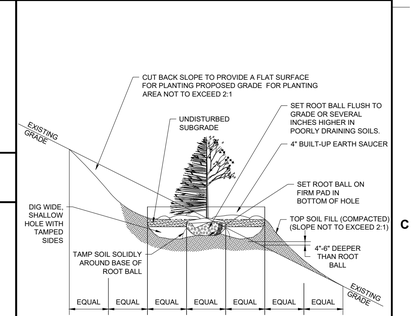
FOR CONTAINER-GROWN SHRUBS, PLANT SHALL BE TRANSPLANTED AT THE SAME GRADE AS IN THE CONTAINER. REMOVE THE CONTAINER, USE FINGER OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL. THEN CUT OR PULL APART ANY ROOTS THAT CIRCLE THE PERIMETER OF THE CONTAINER.

PLANT SHALL BE PLANTED SO THAT THE POINT AT WHICH THE ROOT FLARE BEGINS IS SET LEVEL WITH GRADE. CUT AND REMOVE BURLAP FROM TOP ONE-THIRD OF ROOT BALL AS SHOWN.



SHRUB PLANTING

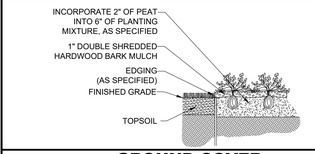
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REFER TO TREE PLANTING DETAIL FOR GENERAL PLANTING SPECIFICATIONS

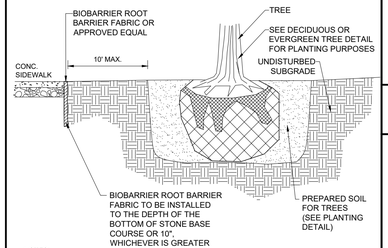
GROUND COVER PLANTING

NOT TO SCALE



BIOBARRIER ROOT BARRIER

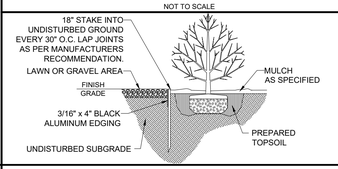
NOT TO SCALE



NOTES:
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN.
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.

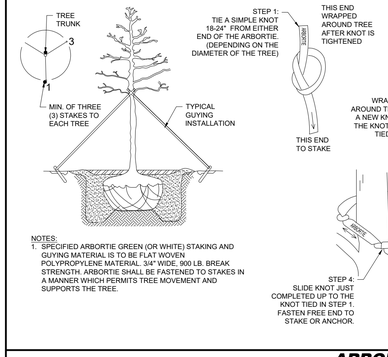
BLACK ALUMINUM EDGING

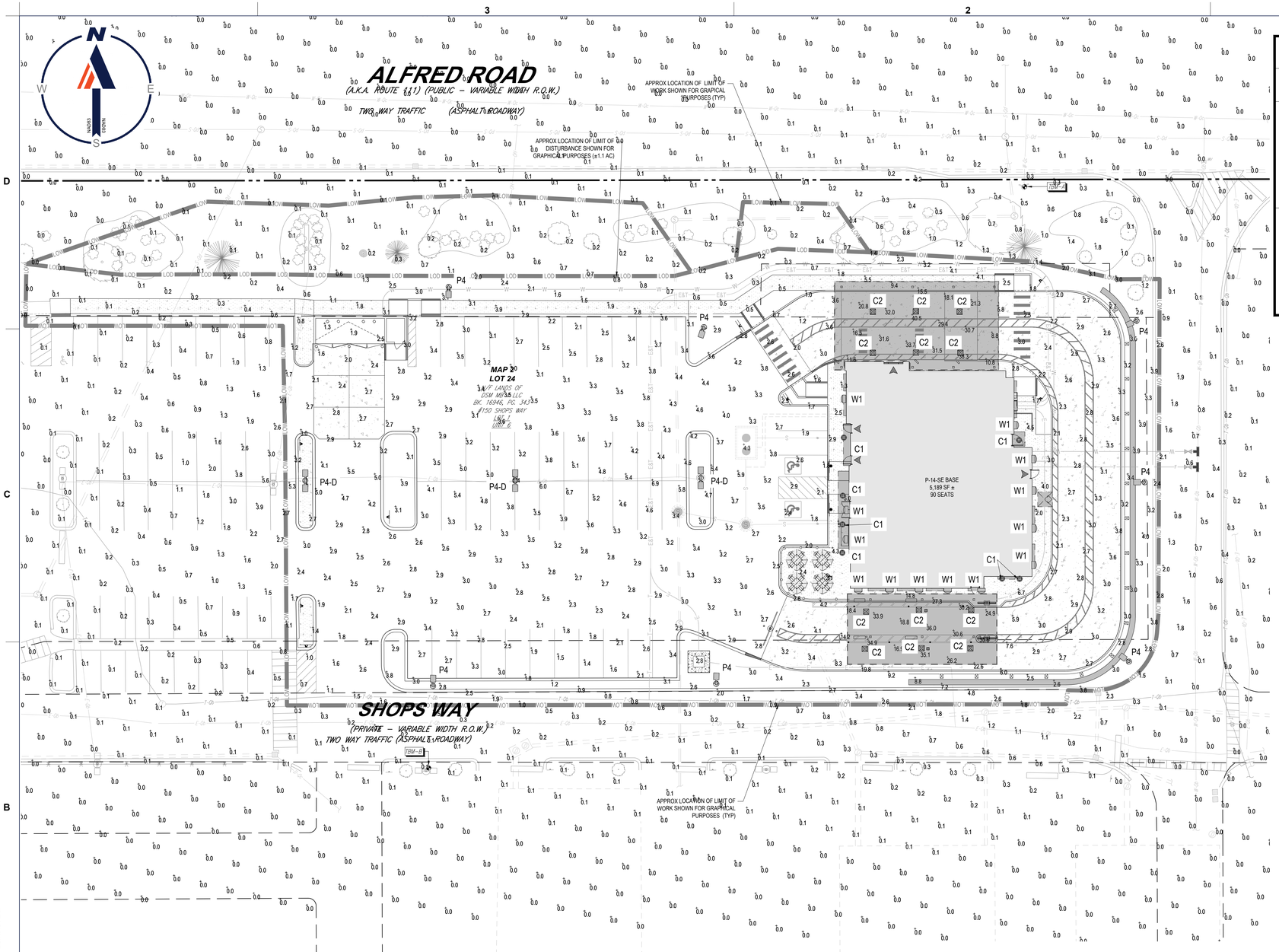
NOT TO SCALE



TREE PLANTING ON SLOPE

NOT TO SCALE


TREE TRUNK
MIN. OF THREE (3) STAKES TO EACH TREE
TYPICAL GUYING INSTALLATION
STEP 1: TIE A SIMPLE KNOT 18-24" FROM EITHER END OF THE ARBORTIE. (DEPENDING ON THE DIAMETER OF THE TREE)
THIS END WRAPPED AROUND TREE AFTER KNOT IS TIGHTENED
THIS END TO STAKE
STEP 2: WRAP THIS END AROUND TREE. BEGIN A NEW KNOT BELOW THE KNOT THAT WAS TIED IN STEP 1.
THIS END TO STAKE
STEP 3: FOLLOW MOTION OF ARBORTIE AS SHOWN, FINISHING THE KNOT BY PULLING TIGHTLY ON POINTS A AND B AT THE SAME TIME.
THIS END TO STAKE
STEP 4: SLIDE KNOT JUST COMPLETED UP TO THE KNOT TIED IN STEP 1. FASTEN FREE END T

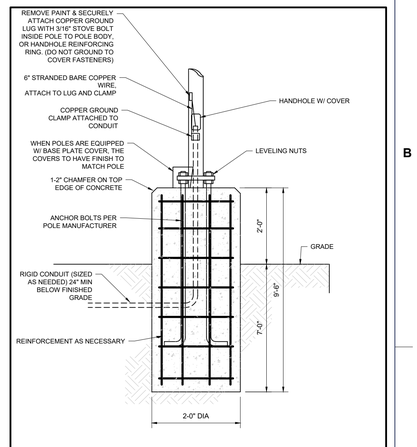


CITY OF BIDDEFORD LIGHTING REQUIREMENTS

SECTION	REQUIREMENTS	CALCULATIONS/PROPOSED
ART VI SECTION 37	LIGHTING, INCLUDING INTERNAL AND EXTERNAL ILLUMINATION, MAY BE USED WHICH SERVES SECURITY, SAFETY AND OPERATIONAL NEEDS BUT WHICH DOES NOT DIRECTLY OR INDIRECTLY PRODUCE DELETERIOUS EFFECTS ON ABUTTING PROPERTIES OR WHICH DOES NOT IMPAIR THE VISION OF A VEHICLE OPERATOR ON ADJACENT ROADWAYS. LIGHTING FIXTURES, NOT INCLUDING ILLUMINATION OF ELECTRONIC MESSAGE CENTERS (EMCS), SHALL BE SHIELDED OR HOODED SO THAT THE LIGHTING ELEMENTS ARE NOT EXPOSED TO NORMAL VIEW BY MOTORISTS OR PEDESTRIANS OR FROM ADJACENT DWELLINGS. DIRECT OR INDIRECT ILLUMINATION SHALL NOT EXCEED 0.5 FOOTCANDLE UPON ABUTTING RESIDENTIAL PROPERTIES.	PROVIDED
ART VI SECTION 49	A. 6. EXTERIOR LIGHTING SHALL NOT PRODUCE GLARE INTO ANY RESIDENTIAL USE OR STREET	PROVIDED
	C.3. (e) LIGHTING OF PARKING AREAS MAY BE REQUIRED AT THE DISCRETION OF THE GOVERNING BODY. ALL ARTIFICIAL LIGHTING USED TO ILLUMINATE ANY PARKING SPACE OR SPACES SHALL BE SO ARRANGED THAT NO DIRECT RAYS FROM SUCH LIGHTING SHALL FALL UPON ANY NEIGHBORING PROPERTY OR STREETS.	PROVIDED

LIGHTING NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
3. THE LIGHT LOSS FACTORS (LLF) DEPICTED IN THE LUMINAIRE SCHEDULE ON THIS PLAN ARE BASED ON DATA PROVIDED BY THE MANUFACTURER FOLLOWING IES LM-80-08 TESTING. THE LIGHT LEVELS DEPICTED ON THIS PLAN WERE CALCULATED BASED ON THE LLF LISTED IN THE LUMINAIRE SCHEDULE.
4. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOTCANDLES (FC).
5. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT IS NOT LIMITED TO, VISUAL OBSERVATION, CLEANING OF LENSES, AND RE-LAMPING (IF NECESSARY) ACCORDING TO MANUFACTURER RECOMMENDATIONS. FAILURE TO FOLLOW THE ABOVE STEPS COULD RESULT IN IMPROPER LIGHT DISTRIBUTION AND FAILURE TO COMPLY WITH THE APPROVED DESIGN. UPON COMPLETION AND OWNER'S ACCEPTANCE OF THE WORK, THE ABOVE RESPONSIBILITIES BECOMES SOLELY THE OWNER'S.
6. WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES. UNLESS ACTUAL FIELD MEASUREMENTS ARE TAKEN WITH A LIGHT METER AND ARE, CONSEQUENTLY, APPROXIMATIONS ONLY. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC, ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
7. THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. LIGHT POLE BASES ARE THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
8. CONTRACTOR MUST BRING TO DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
9. IT IS THE LIGHTING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OR OWNER REGARDING ANY AND ALL POWER SOURCE(S) , AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS.
10. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT SHIELDING AND OR ROTATED OPTICS ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE LIGHTING LEVELS THE REVIEWING AGENCY APPROVED.
11. THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
12. THE CONTRACTOR MUST VERIFY THAT INSTALLATION OF LIGHTING FIXTURES COMPLIES WITH THE REQUIREMENTS FOR SEPARATION FROM OVERHEAD ELECTRICAL WIRES PER STATE REGULATIONS.
13. WHEN A BAA IS INCLUDED IN THE PLAN, THE LIGHTING DESIGN REPRESENTS BOHLER'S UNDERSTANDING AND INTERPRETATION OF THE REGULATORY LIGHTING LEVELS INTENDED BY PUBLISHED STANDARDS.
14. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.



NOTES:
1. THIS DETAIL IS FOR BID AND BUDGETARY PURPOSES ONLY. CONTRACTOR SHALL ENSURE DESIGN IS PREPARED BY A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND LOADS, SITE SPECIFIC SOIL PARAMETERS.
   A. SOME SITE LOCATIONS AND/OR CONDITIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS DETERMINED BY A STRUCTURAL ENGINEER.
   B. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE INTENT TO MOUNT ANYTHING ASIDE FROM THE LIGHT FIXTURE INCLUDING (BUT NOT LIMITED TO) CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN.
2. ALL REBAR SHALL HAVE A YIELD STRENGTH OF 60ksi, AND MAINTAIN A 3" MIN CLEARANCE FROM SURFACES.

LIGHT POLE FOUNDATION

NOT TO SCALE (PA-I010101 - 11/2023)

CALCULATION SUMMARY

LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
ALL POINTS	ILLUMINANCE	FC	1.00	40.5	0.0	N.A.	N.A.
DRIVE THRU	ILLUMINANCE	FC	3.63	19.8	1.2	3.03	16.50
ORDER POINT CANOPY	ILLUMINANCE	FC	28.31	36.0	16.9	1.68	2.13
OUTSIDE MEAL DELIVERY CANOPY	ILLUMINANCE	FC	23.35	40.5	5.8	4.03	6.98
PARKING	ILLUMINANCE	FC	3.24	6.9	1.4	2.31	4.93

LUMINAIRE SCHEDULE

LABEL	QTY	MOUNTING HEIGHT	ARRANGEMENT	LUM. LUMENS	LLF	DESCRIPTION	POLE
C1	7	9'-8" AFF*	SINGLE	605	0.900	COOPER LIGHTING, HALO SLDSL4 SERIES 4" SURFACE LED DOWNLIGHT WALL MOUNT, SELECTABLE CCT, ZERO UP-LIGHT (SLDSL4-6-9S-IE-MW-R)	----
C2	12	9'-8" AFG	SINGLE	10457	0.900	LSI LIGHTING, SCOTTSDALE LEGACY CRUS LED CANOPY LUMINAIRE (CRUS), BRONZE, ZERO UP-LIGHT (CRUS-SC-LED-LW-30-UE-WHT)	----
W1	13	8'-0" AFF*	SINGLE	830	0.900	PROGRESS LIGHTING, UP/DOWN LED CYLINDER OUTDOOR LANTERN, BRONZE (P5675-3130K WITH P860038 TOP COVER LENSE)	----
P4	7	20'-0" AFG	SINGLE	11933	0.900	LUMARK, PREVAIL LED AREA / SITE LUMINAIRE, BRONZE (PRV-C25-D-UNV-T4-BZ-HSS)	COOPER LIGHTING SOLUTIONS, LUMARK ROUND TAPERED STEEL POLE, 20'-0" LENGTH, (RTS-8-A-20-S-x-x-M-1-x)
P4-D	3	20'-0" AFG	BACK-BACK	11933	0.900	LUMARK, PREVAIL LED AREA / SITE LUMINAIRE, BRONZE (PRV-C25-D-UNV-T4-BZ-HSS)	COOPER LIGHTING SOLUTIONS, LUMARK ROUND TAPERED STEEL POLE, 20'-0" LENGTH, (RTS-8-A-20-S-x-x-M-2-x)

*REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATION AND MOUNTING HEIGHT

THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
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LANDSCAPE ARCHITECT
Matthew Q. Morse
MRA
No. 4248
STATE OF MAINE

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
LIGHTING PLAN

SHEET NUMBER
L-200

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-LGHT-MAA230431.00-1B-----3-LAYOUT: L-200 - LIGHTING PLAN

PROGRESS LIGHTING

Project:

Fixture Type:

Location:

Contact:



P5675-31
Cylinder

5" up/down cylinder/ outdoor lantern in Black. with heavy duty aluminum construction and die cast wall bracket. Powder coated finish. Wet location listed when used with P860045 top cover lens.

- Black finish.
- Powder coat finish.
- Ideal for a wide variety of interior and exterior applications.
- Die-cast aluminum wall brackets and heavy duty aluminum framing.
- Wet location listed when used with P860045 top cover lens (sold separately)

Category: Outdoor
Finish: Black (powder coat paint)
Construction: cast aluminum Construction

Width: 5 in
Height: 14 in
Depth: 7-7/8 in
H/CTR: 7 in

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Wall mounted	Prewired	Quantity: two 75 W max. PAR-30 or BR-30 or LED equivalent	cCSAus Damp Location Listed
Mounting strap for outlet box included	6 inches of wire supplied		1-year Limited Warranty
back plate covers a standard 4" recessed outlet box: 4.5" W.,	120 V	E26 base porcelain sockets	

701 Millennium Blvd. Greenville, South Carolina 29607 | www.progresslighting.com | Rev. 07/20

PROGRESS LIGHTING P5675-31 CYLINDER LED WALL SCONCE

NOT TO SCALE (BE-S020201 - 08/2023)

Catalog # : Project : Type :

Prepared By : Date :

Scottsdale® Legacy (CRUS)
LED Canopy Luminaire



IP66

OVERVIEW	
Lumen Package (lm)	5,000 - 22,000
Wattage Range (W)	38 - 152
Efficacy Range (LPW)	114 -156
Weight lbs (kg)	23 (10.4)

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Features a ultra-slim 11/16" profile die-cast housing, with flat clear or diffused tempered glass lens. Unit is water-resistant, sealed and IP66 rated. Integral designed heat sink does not trap dirt and grime, ensuring cool running performance over the life of the fixture.
- Standard color is white and is finished with LSI's DuraGrip® polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.
- Luminaire assembly incorporates a pressure stabilizing vent breather to prevent seal fatigue and failure.

Optical System
- Features an array of select, mid-power, high brightness, high efficiency LED; 3000K, 4000K, 5000K color temperature, 80 CRI (nominal).
- Choice of Symmetric or Asymmetric distribution. Asymmetric provides a wider distribution pattern. Optional symmetric with diffused lens also available.
- Forward Throw distribution provides an industry leading unique distribution pattern that illuminates the area under the gas canopy and beyond. The forward through optic directs the light to the forecourt from the gas canopy eliminating the need for supplemental floodlights and extensive perimeter lighting.
- Diffuse lens available as an option to soften brightness of the luminaire.
- Six Lumen Packages: 5,000, 9,000, 10,000, 13,000, 18,000 and 22,000 Lumens.

Electrical
- High performance factory programmable driver features over-voltage, under voltage, short-circuit and over temperature protection with integral 6kV surge protection that meets IEEE C62.41.2 and ANSI C82.77-5 Location Category C Low standards. Additional field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/ IEEE C62.41.2). Custom lumen and wattage packages available.
- Driver components are fully encased in potting for moisture resistance. Complies with IEC and FCC standards. 0-10 V dimming supplied standard with all drive currents.
- Die-cast aluminum, wet location rated driver/electrical enclosure is elevated above canopy deck to prevent water entry, provide easy "knock-out" connection of primary wiring and acts as the primary heatsink ensuring cool operation of internal components for longer life. Seals to optical housing via one-piece molded silicone gasket.
- Universal voltage power supply, 120-277 VAC, 50/60 HZ and 347-480 VAC, 50/60 HZ input.
- -40°C to 55°C (-40°F to 131°F) ambient operating temperature. (Varies based on lumen package and mounting style see performance data for specifics.)
- Minimum 60,000 to 100,000 hours depending upon the ambient temperature of the installation location (see performance data for specifics.)

Hazardous Location
- Designed for lighter than air fuel applications. Product is suitable for Class 1 Divisions 2 only when properly installed per LSI installation instructions. See lsicorp.com for specific guidance. Not available on SLW.

Installation
- One-person installation.
- Installs in a 12" or 16" deck pan. Deck penetration consists of a 4" hole, simplifying installation and water sealing. Unit is designed to quickly retrofit into existing Scottsdale (4") hole as well as openings for Encore and Encore Top Access and to reconnect wiring for the SC/ECTA without having to relocate the conduit.
- Retro panels are available for existing Encores as well as kits for recessed and 2x2 installations (see separate spec sheets). Support brackets are provided standard, to prevent sagging of deck.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- UL and ETL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations.
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL, to confirm which versions are qualified.
- Meets Buy American Act requirements.
- IDA compliant with 3000K or lower color temperature.

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LSI SCOTTSDALE LEGACY (CRUS) LED CANOPY LUMINAIRE

NOT TO SCALE (BE-S020201 - 08/2023)

Project		Catalog #		Type	
Prepared by		Notes		Date	



HALO
SLDSL4 Series

4" Surface LED Downlight
SeleCCTable color temperature

Typical Applications
Residential

Interactive Menu

- Order Information page 2
- Product Specification page 4
- Photometric Data page 5
- Product Warranty

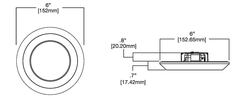
Product Certification

Refer to 2 AECT0011 5 CAMT Certified Products List.
Can be used to comply with California Title 24 High Efficacy requirements.
Certified to California Appliance Efficiency Database under JA8.

Product Features

Top Product Features
- Ultra-low profile surface luminaire with wide distribution
- Ceiling mounting in compatible junction boxes
- Retrofit 4" recessed downlights with screwbase adapter (sold separately)
- 2700K, 3000K, 3500K, 4000K and 5000K field selectable CCT; 90 CRI
- Dimmable with 120V dimmer

Dimensional and Mounting Details



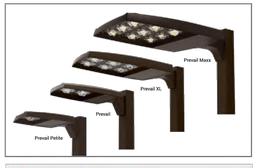
COOPER Lighting Solutions

PS518177EN page 1
March 28, 2023 3:09 PM

COOPER LIGHTING HALO SLDSL4 SERIES LED DOWNLIGHT

NOT TO SCALE (BE-S020201 - 08/2023)

Project		Catalog #		Type	
Prepared by		Notes		Date	

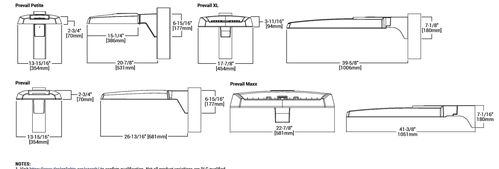


Interactive Menu

- Ordering Information page 2
- Mounting Details page 3, 4
- Optical Configurations page 5
- Product Specifications page 5
- Energy and Performance Data page 6, 7
- Control Options page 8

Quick Facts
- Lumen packages range from 4,800 - 84,000 lumens (35W - 588W)
- Replaces 70W up to 1,000W HID equivalents
- Efficacies up to 160 lumens per watt
- Energy and maintenance savings up to 85% versus HID solutions
- Standard universal quick mount arm with universal drill pattern

Dimensional Details



NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

Product Certifications

Connected Systems
- WaveLinx PRO Wireless
- WaveLinx LITE Wireless

COOPER Lighting Solutions

P55000001EN page 1
June 3, 2024 7:02 PM

PROGRESS LIGHTING P5675-31 CYLINDER LED WALL SCONCE

NOT TO SCALE (BE-S020201 - 08/2023)

Lumark | **Prevail LED**

Ordering Information

SAMPLE NUMBER: **PRV-XL-C75-D-UNV-T4-SA-BZ**

Product Family [1, 2]	Light Engine [3]	Color Temperature	Driver	Voltage	Distribution	Mounting	Color
PRV-P=Prevail Petite **BAA-PRV-P**=Prevail Petite BAA Compliant [4] **TAA-PRV-P**=Prevail Petite TAA Compliant [4]	**C10**=(1 LED) 4,900 Nominal Lumens **C15**=(1 LED) 6,900 Nominal Lumens **C20**=(1 LED) 9,800 Nominal Lumens **C25**=(1 LED) 11,800 Nominal Lumens	**740**=70CRI, 4000K **727**=70CRI, 2700K **730**=70CRI, 3000K **750**=70CRI, 5000K **8540**=85CRI, 4000K	**D**=Dimming (0-10V)	**UNV**=Universal (120-277V) **H**=High Voltage, 347-480V **8**=480V [5] **9**=347V **DV**=DuroVolt (277-480V) [6,8]	**T2**=Type II **T3**=Type III **T4**=Type IV **T5**=Type V	**SA**=QM Standard Versatile Arm Mount [9] **FMA**=Fixed Mast Arm [9] **WM**=QM Wall Mount Arm **ADJA-WM**=Adjustable Arm - Wall Mount [9] **ADJA**=Adjustable Arm - Pole Mount [9] **ADJS**=Adjustable Arm - Slipfitter, 3" vertical tenon [9] **SP2**=Adjustable Arm - Slipfitter, 2 3/8" vertical tenon [9, 24]	**BZ**=Bronze **AP**=Grey **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White
PRV=Prevail **BAA-PRV**=Prevail BAA Compliant [4] **TAA-PRV**=Prevail TAA Compliant [4]	**C15**=(1 LED) 7,100 Nominal Lumens **C25**=(2 LEDs) 13,100 Nominal Lumens **C40**=(2 LEDs) 17,100 Nominal Lumens **C60**=(2 LEDs) 20,000 Nominal Lumens						
PRV-XL=Prevail XL **BAA-PRV-XL**=Prevail XL BAA Compliant [4] **TAA-PRV-XL**=Prevail XL TAA Compliant [4]	**C75**=(4 LED) 26,100 Nominal Lumens **C10B**=(4 LED) 31,000 Nominal Lumens **C12S**=(4 LED) 36,000 Nominal Lumens **C15B**=(6 LED) 41,100 Nominal Lumens **C17S**=(6 LED) 48,600 Nominal Lumens						
PRV-M=Prevail Maxx **BAA-PRV-M**=Prevail Maxx BAA Compliant[4] **TAA-PRV-M**=Prevail MaxxTAA Compliant [4]	**C20**=(9 LED) 48,000 Nominal Lumens **C25**=(9 LED) 55,000 Nominal Lumens **C28**=(9 LED) 66,000 Nominal Lumens **C27S**=(9 LED) 73,000 Nominal Lumens						

Options (Add as Suffix)	Accessories (Order Separately) [10, 11]
7030=70 CRI / 3000K CCT [7] **7050**=70 CRI / 5000K CCT [7] **CC**=Coastal Construction finish [12] **DSCE**=Dark Sky Friendly **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **10K**=10kV/10kA UL 1449 Fused Surge Protective Device **20MSP**=20kV MOV Surge Protective Device **20K**=20kV UL 1449 Fused Surge Protective Device **HA**=50°C High Ambient Temperature **PE**=NEMA 7-PIN Photocontrol Receptacle [13] **PER**=NEMA 7-PIN Photocontrol Receptacle [13] **FADC**=Field Adjustable Dimming Controller [14] **MS/DIM-L08**=Dimming Motion and Daylight Sensor, IR Remote Programmable, < 8' Mounting Height [15, 16] **MS/DIM-L20**=Dimming Motion and Daylight Sensor, IR Remote Programmable, 8' - 20' Mounting Height [15, 16] **MS/DIM-L40**=Dimming Motion and Daylight Sensor, IR Remote Programmable, 21' - 40' Mounting [15, 16]	**SP01**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, < 8' Mounting Height [15, 16] **SP02**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 8' - 20' Mounting Height [15, 16] **SP04**=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 21' - 40' Mounting Height [15, 16, 17, 18] **WFEZXX**=WaveLinx Pro, SB Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [15, 16, 18, 19] **WFXAXX**=WaveLinx Pro, SB Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [15, 16, 18, 19] **WLEXXX**=WaveLinx Lite, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [15, 16, 18] **WLEAXX**=WaveLinx Lite, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [15, 16, 18] **(See Table Below)**=LumenSafe Integrated Network Security Camera [16, 18]	**PRVDA-XX**=Standard Arm Mounting Kit [19] **PRVMA-XX**=Mast Arm Mounting Kit [19] **PRVWM-XX**=Wall Mount Kit [19] **PRVADJ-XX**=Adjustable Arm - Pole Mount Kit [19] **PRV-ADJS-XX**=Adjustable Arm - Slipfitter Kit [19] **PRV-ADJA-WM-XX**=Adjustable Arm - Wall Mount Kit [19] **PRVXLSA-XX**=Standard Arm Mounting Kit [19] **PRVXLMA-XX**=Mast Arm Mounting Kit [19] **PRVXLWM-XX**=Wall Mount Kit [19] **PRV-XL-ADJA-XX**=Adjustable Arm - Pole Mount Kit [19] **PRV-XL-ADJS-XX**=Adjustable Arm - Slipfitter Kit [19] **PRV-XL-ADJA-WM-XX**=Adjustable Arm - Wall Mount Kit [19] **PRVM-AP-ADJA-XX**=Adjustable Arm - Pole Mount Kit [19] **PRVM-AP-ADJS-XX**=Adjustable Arm - Slipfitter Kit [19] **PRVM-AP-ADJA-WM-XX**=Adjustable Arm - Wall Mount Kit [19] **MA1010-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1011-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon	**MA1017-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1018-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **SRA238**=Tenon Adapter from 2" to 2-3/8" **PRVCOB-FDP**=Full Drop Visor [20] **PRVXLCOB-FDV**=Full Drop Visor [20] **HS/VERD**=House Side Shield Kit [4, 20] **VGS-F/B**=Vertical Glare Shield Kit, Front/Back [20] **VGS-SIDE**=Vertical Glare Shield Kit, Side [20] **GA/XA1013**=Photocontrol Shorting Cap **GA/RA1014**=NEMA Photocontrol - 120V **GA/XA1016**=NEMA Photocontrol - Multi Tap 105-285V **GA/RA1201**=NEMA Photocontrol - 347V **GA/RA1027**=NEMA Photocontrol - 480V **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [9] **WOLC-7P-10A**=WaveLinx Outdoor Control Module (7 PIN) [9]

NOTES:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to installation instructions for proper torque values for mounting bolts and associated hardware.
3. Only the product configurations and those the product prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may or may not be separately analyzed under domestic preference requirements.
4. Standard 4000K CCT and 70CRI.
5. 480V not to be used with ungrounded or impedance grounded systems.
6. DuroVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.sparkx.com/duravolt for more information.
7. Use dedicated ICS files on product website for non-standard CCTs.
8. Not available with PRV-C60 lumen package. Not available with PRV-C65 lumen package.
9. Not available with PRV-C65 lumen package. Not available with PRV-P C25 lumen package.
10. Coastal construction finish salt spray tested to over 3,000 hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
11. If DuroVolt (DV) is specified, use a photocontrol that matches the input voltage used.
12. Controls system is not available in combination with a photocontrol receptacle (PE & PER?) or another controls system (MS or SPR). Option not available with DuroVolt (DV) voltage option.
13. Utilizes the Wattstopper sensor FSP-211. Sensor color white unless specified otherwise via PSW. To field-configure, order FSIR-100 configuration tool.
14. Utilizes the Wattstopper sensor FSP-232 series. Sensor color determined by product finish. See Sensor Color Reference Table. Field-configures via mobile application. See Controls section for details.
15. Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F).
16. For the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more Wavelinx application information.
17. Replace Kit with sensor color (WH, BZ, or BK).
18. Only available in PRV-XL configurations C75, C10B, C12S, C15B, or C17S.
19. Not available with 347V, 480V, DV, or HA options. Consult LumenSafe system product pages for additional details and compatability information.
20. Replace Kit with paint color.
21. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Refer to DOMESTIC PREFERENCES.
22. Not for use with PRV-XL or PRV-M configurations.
23. Only for use with PRV. Not applicable to PRV-M, PRV-XL, or PRV-P.
24. Must order one per optic/LED when ordering as a field-installable accessory (1, 2, 4 or 9).
25. This tool enables adjustment to Motion Sensor (MS) parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information.
26. Requires 7-PIN NEMA twistlock photocontrol receptacle (PR & PER?) option. The WOLC-7 cannot be used in conjunction with other controls systems (MS or LMS). Operates on 120-347V input voltage.
27. Only for use with PRV-W configurations.
28. Only for use with PRV-XL configurations.
29. Fixed for PRV-M.
30. Cannot be used with PR7 or other motion response control options

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology	**H**=Dome Camera, High Res **Z**=Dome Camera, Remote PTZ	**C**=Cellular, Customer Installed-SIM Card **A**=Cellular, Factory Installed AT&T SIM Card **V**=Cellular, Factory Installed Verizon SIM Card **S**=Cellular, Factory Installed Sprint SIM Card **E**=Ethernet Networking

Stock Ordering Information

Product Family †	Light Engine	Voltage	Distribution
PRVS=Prevail	**C15**=(1 LED) 7,100 Nominal Lumens **C25**=(2 LEDs) 13,100 Nominal Lumens **C40**=(2 LEDs) 17,100 Nominal Lumens **C60**=(2 LEDs) 20,000 Nominal Lumens	**UNV**=Universal (120-277V) **347**=347V †	**T2**=Type II **T4**=Type IV
PRVS-XL=Prevail XL	**C75**=(4 LED) 26,100 Nominal Lumens **C10B**=(4 LED) 31,000 Nominal Lumens **C12S**=(4 LED) 36,000 Nominal Lumens **C15B**=(6 LED) 41,100 Nominal Lumens **C17S**=(6 LED) 48,600 Nominal Lumens		

NOTES:
1. All stock configurations are standard 4000K/70CRI, bronze finish, and include the standard versatile mounting arm.
2. Only available in PRVS configurations C15, C25, C40 or C60.

COOPER Lighting Solutions

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June 3, 2024 7:02 PM

LUMARK PREVAIL LED AREA SITE LUMINAIRE

NOT TO SCALE (BE-S020201 - 08/2023)

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

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LANDSCAPE ARCHITECT
Matthew O. Moyer
MASSACHUSETTS
No. 4248
STATE OF MAINE

CHICK-FIL-A
150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

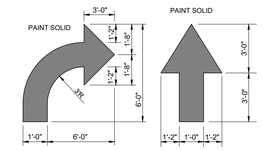
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PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from authorized project representatives.

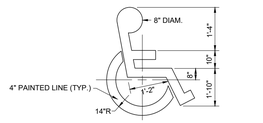
SHEET
LIGHTING NOTES AND DETAILS

SHEET NUMBER
L-201

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVL_LGHT-MAA230431.00.rtB———3LAYOUT: L-201 - LIGHT DETAILS



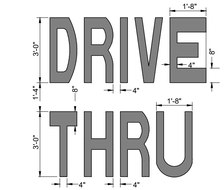
1A C-400 DIRECTIONAL ARROW
NOT TO SCALE



1B C-400 ACCESSIBILITY SYMBOL
NOT TO SCALE

NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS (SEE DETAIL 5/C-400).
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE, UNLESS UPON VERIFICATION BY THE GENERAL CONTRACTOR IT IS DETERMINED THAT LOCAL, STATE, OR ADA CODES DIFFER, IN WHICH CASE THESE CODES SHALL GOVERN.

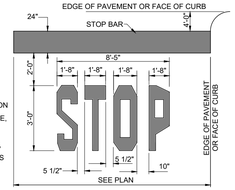
1 C-400 PAVEMENT MARKINGS - 1
NOT TO SCALE



2A C-400 DRIVE-THRU
NOT TO SCALE

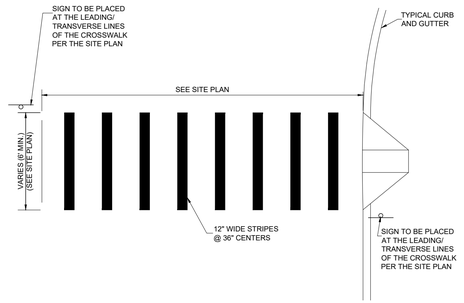
NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS.
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE, UNLESS UPON VERIFICATION BY THE GENERAL CONTRACTOR IT IS DETERMINED THAT LOCAL, STATE, OR ADA CODES DIFFER, IN WHICH CASE THESE CODES SHALL GOVERN.

NOTE:
IF STOP SIGN IS PROPOSED, "STOP" LETTERING GRAPHIC IS NOT REQUIRED.



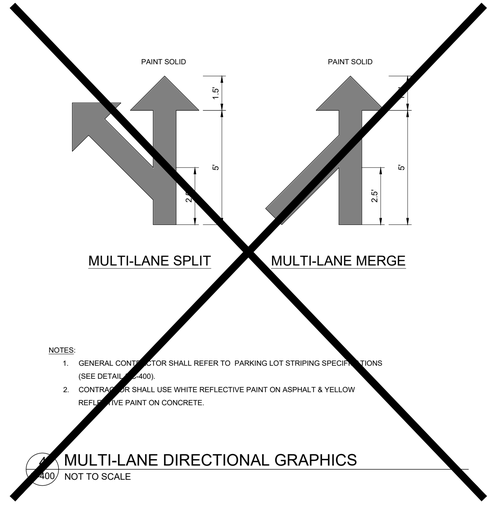
2B C-400 STOP BAR
NOT TO SCALE

2 C-400 PAVEMENT MARKINGS - 2
NOT TO SCALE



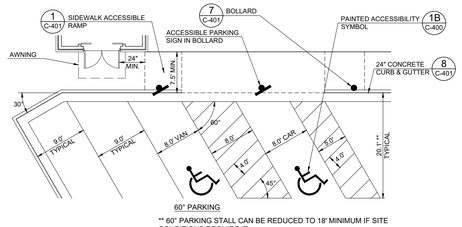
NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS (SEE DETAIL 5/C-400).
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT AND YELLOW REFLECTIVE PAINT ON CONCRETE.

3 C-400 CROSSWALK MARKINGS
NOT TO SCALE

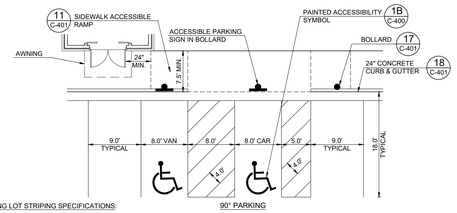


NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS (SEE DETAIL 5/C-400).
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE.

4 C-400 MULTI-LANE DIRECTIONAL GRAPHICS
NOT TO SCALE



** 60° PARKING STALL CAN BE REDUCED TO 18' MINIMUM IF SITE CONDITIONS REQUIRE IT.



NOTES

1. ACCESSIBLE PARKING AND ACCESSIBLE AISLES SHALL NOT EXCEED 1.5% IN SLOPE IN ANY DIRECTION. IF ONLY ONE ACCESS AISLE IS INSTALLED, IT IS TO BE A VAN SIZE.
2. PARKING STALL DIMENSIONING SHALL BE IN ACCORDANCE WITH APPLICABLE GOVERNING AUTHORITY'S AND ADA STANDARDS. SEE SITE PLAN FOR COMPLETE STRIPING LAYOUT.
3. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS, THIS DETAIL.
4. CONTRACTOR SHALL USE 4" WIDE WHITE REFLECTIVE PAINT FOR STRIPING ON ASPHALT PARKING LOTS.
5. CONTRACTOR SHALL USE 4" WIDE YELLOW REFLECTIVE PAINT FOR STRIPING ON CONCRETE PARKING LOTS.
6. ACCESSIBLE PARKING AND ACCESSIBLE AISLE STRIPING COLOR SHALL BE IN ACCORDANCE WITH APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
7. NO WHEEL STOPS TO BE INSTALLED WHEN PARKING IS ADJACENT TO SIDEWALK.
8. ADA SIGNS IN BOLLARDS AND BOLLARDS SHALL BE INSTALLED WHEN PARKING IS ADJACENT TO FLUSH CURB OR A RAMP.
9. ALL DIMENSIONS ARE TO CENTER OF STRIPE UNLESS OTHERWISE NOTED.
10. STRIPING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

5 C-400 PARKING STALL LAYOUT AND STRIPING
NOT TO SCALE

PARKING LOT STRIPING SPECIFICATIONS:

STANDARDS:
1. ALWAYS FOLLOW ALL APPLICABLE GOVERNING AUTHORITY'S STANDARDS.
2. SURFACES SHOULD BE CLEAN, DRY, AND FREE FROM LOOSE OR PEELING PAINT. REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. DO NOT APPLY WHEN AIR OR SURFACE TEMPERATURES ARE BELOW 40°F.
3. APPLY SHERWIN-WILLIAMS SETFAST PREMIUM ALKYD ZONE MARKING PAINT A300 WHITE OR A303 YELLOW USING EITHER AIRLESS OR CONVENTIONAL LINE STRIPING EQUIPMENT. USE THE FOLLOWING SETTINGS AS A GUIDE-ACTUAL SETTINGS DEPEND ON ATMOSPHERIC CONDITIONS AT THE TIME OF APPLICATION:

AIRLESS

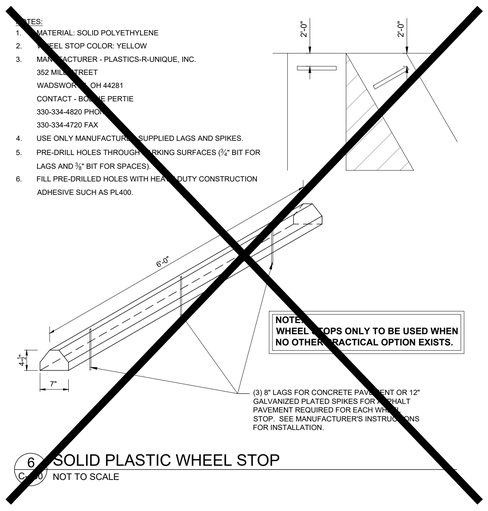
• PRESSURE	1800-2700 PSI
• HOSE	¼"-3/8" ID
• TIP	0.015"-0.017"
• FILTER	60 MESH
• REDUCTION	ONLY IF NECESSARY, UP TO 1PT/GAL VM&P NAPTHA R1K3

CONVENTIONAL

• GUN	BLINKS 21 (BLEEDER) OR EQUIVALENT
• FLUID NOZZLE	#68
• AIR NOZZLE	INTERNAL MIX, #709
• ATOMIZATION PRESSURE	45-80 PSI
• FLUID PRESSURE	40-70 PSI
• REDUCTION	ONLY IF NECESSARY, UP TO 1PT/GAL VM&P NAPTHA R1K3

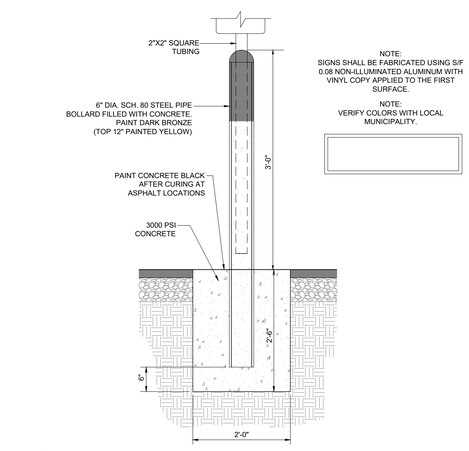
- SHERWIN WILLIAMS, H&C SHARK GRIP SLIP RESISTANT ADDITIVE TO BE MEASURED AND ADDED TO ALL PAINT PER MANUFACTURER'S WRITTEN SPECIFICATIONS. MIX THOROUGHLY PER MANUFACTURER'S RECOMMENDATIONS SO THAT NO CLUMPING IS APPARENT AND UNTIL EVEN DISTRIBUTION IS ACHIEVED. MAINTAIN EVEN DISTRIBUTION OF ADDITIVE IN PAINT THROUGHOUT THE APPLICATION PROCESS.
- MIX PAINT THOROUGHLY BY BOXING, STIRRING, OR POWER AGITATION BEFORE USE. APPLY AT 15 MILS WET TO ACHIEVE A SPREAD RATE OF 400-500 LINEAL FEET OF STANDARD 4" STRIPE PER GALLON. APPLIED AT THIS RATE AT 70 DEGREES F AND 50% RELATIVE HUMIDITY, PAINT WILL DRY WITH NO TRAFFIC PICKUP AFTER 20 MINUTES.
- GENERAL CONTRACTOR TO RE-STRIPE THE LOT 45 DAYS AFTER OPENING.

NOTES:
1. MATERIAL: SOLID POLYETHYLENE
2. WHEEL STOP COLOR: YELLOW
3. MANUFACTURER - PLASTICS-R-UNIQUE, INC.
   352 MILL STREET
   WADSWORTH, OH 44281
   CONTACT - BONNIE PERTIE
   330-334-4820 PHONE
   330-334-4720 FAX
4. USE ONLY MANUFACTURER SUPPLIED LAGS AND SPIKES.
5. PRE-DRILL HOLES THROUGH PARKING SURFACES (½" BIT FOR LAGS AND ⅜" BIT FOR SPACES).
6. FILL PRE-DRILLED HOLES WITH HEAVY DUTY CONSTRUCTION ADHESIVE SUCH AS PL400.



NOTE: WHEEL STOPS ONLY TO BE USED WHEN NO OTHER PRACTICAL OPTION EXISTS.

6 C-400 SOLID PLASTIC WHEEL STOP
NOT TO SCALE

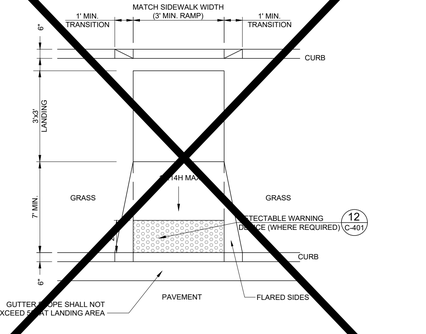


NOTE:
SIGNS SHALL BE FABRICATED USING S/F 0.08 NON-ILLUMINATED ALUMINUM WITH VINYL COPY APPLIED TO THE FIRST SURFACE.

NOTE:
VERIFY COLORS WITH LOCAL MUNICIPALITY.

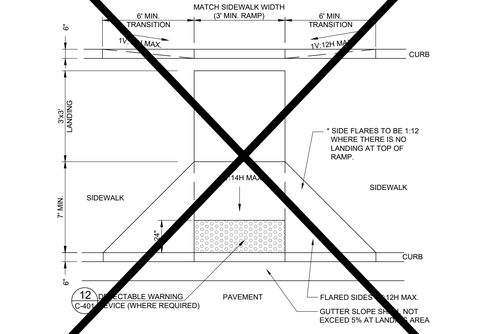
7 C-400 BOLLARD MOUNTED SIGN
NOT TO SCALE

CIVIL TO VERIFY RAMP REQUIREMENTS BY STATE.



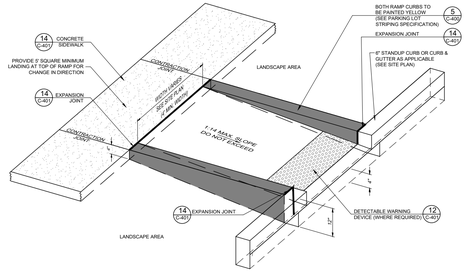
8 C-400 CURB RAMP w/ SHORT FLARED SIDES
NOT TO SCALE

CIVIL TO VERIFY RAMP REQUIREMENTS BY STATE.



9 C-400 CURB RAMP w/ FLARED SIDES
NOT TO SCALE

CIVIL TO VERIFY RAMP REQUIREMENTS BY STATE.



10 C-400 RETURNED CURB RAMP
NOT TO SCALE

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No. 12553
LICENSED PROFESSIONAL ENGINEER

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

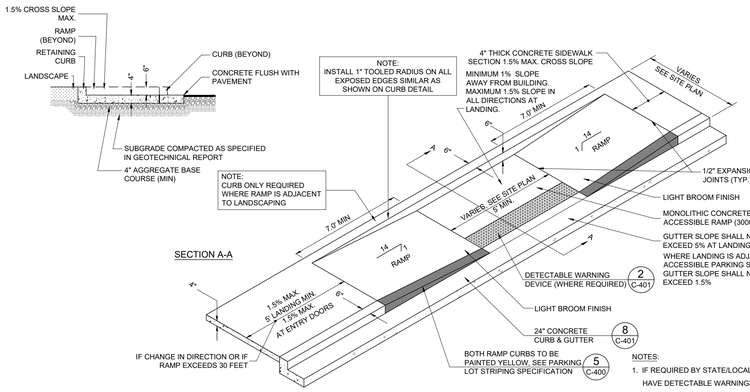
CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
SITE DETAILS

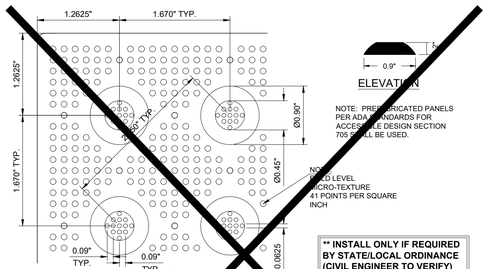
SHEET NUMBER
C-400

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVL-DETL-MAA230431.00-1B-----LAYOUT: C-400 - SITE DETAILS



1 C-401 SIDEWALK ACCESSIBLE RAMP
NOT TO SCALE

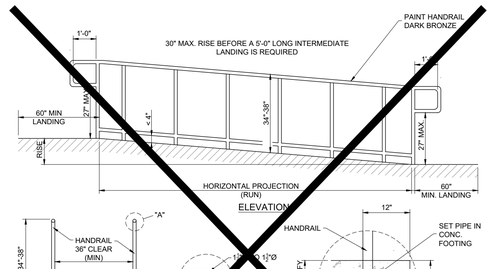
NOTES:
1. IF REQUIRED BY STATE/LOCAL ORDINANCE, THE SURFACE OF THE RAMP LANDING SHALL HAVE DETECTABLE WARNINGS AS SHOWN. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES. SEE DETECTABLE WARNINGS DETAIL.
2. CONSTRUCT PER A.D.A. STANDARDS.
3. REFER TO PLANS FOR ADJACENT SLOPES.
4. THE CROSS SLOPE OF THE RAMP SURFACE SHALL BE NO GREATER THAN 1.5%.
5. CONSTRUCTION OF THE RAMP SHALL MATCH ADJOINING SIDEWALK DETAIL.
6. CONCRETE SHALL BE P.C.C. 3000 PSI.



**** INSTALL ONLY IF REQUIRED BY STATE/LOCAL ORDINANCE (CIVIL ENGINEER TO VERIFY)**

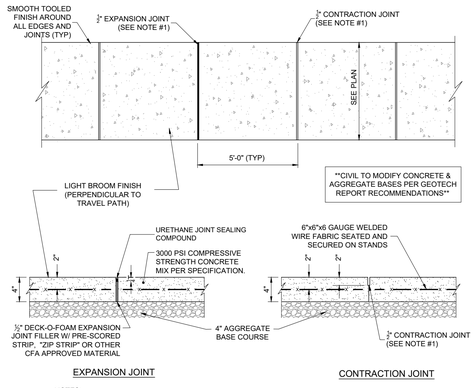
NOTES:
1. AT ADA CURB RAMPS, THE DETECTABLE WARNING DEVICE SHALL BE LOCATED ON THE SURFACE AT THE BOTTOM OF THE GRADE BREAK OR AT THE LOWER LANDING. FOR LANDINGS AND BLENDED TRANSITIONS, DETECTABLE WARNING DEVICES SHALL BE LOCATED ON THE LANDING OR BLENDED TRANSITION AT THE BACK OF CURB.
2. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE RAMP OR FLUSH SURFACE.
3. DETECTABLE WARNING SURFACES SHALL BE CONSTRUCTED BY TEXTURING PRODUCTS CONFORMING TO PROWAG R305. TRANSITION SLOPES ARE NOT TO HAVE DETECTABLE WARNINGS. CONTRACTOR SHALL CONFIRM LOCAL CODES ARE MET.
4. WHERE A CURB RAMP IS CONSTRUCTED WITHIN AN EXISTING CURB, CURB & GUTTER AND/OR SIDEWALK, THE EXISTING CURB & GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE CURB TRANSITIONS OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB & GUTTER IS LESS THAN 5' LONG. THE EXISTING SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE WALK AROUND OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5' LONG.
5. THE PLAN MUST PROVIDE FOR DETECTABLE WARNING SURFACE COLORS OR MATERIALS THAT PROVIDE THE NECESSARY CONTRAST, EITHER DARK-ON-LIGHT, OR LIGHT-ON-DARK. STANDARD DOME COLOR IS BRICK RED.
6. TRUNCATED DOMES TO BE INSTALLED USING ARMOR TILE CAST IN PLACE DOME TACTILE TILE. PART NUMBER ADA-2424 OR OTHER EQUIVALENT APPROVED MATERIAL. PREFERRED MANUFACTURER ARMOR TILE TACTILE SYSTEMS 800-ARMOR-TILE (800-922-4615 UNLESS PAVERS ARE REQUIRED, CONTRACTOR TO VERIFY THAT CURB RAMP MEET LOCAL CODES AND ADA REQUIREMENTS.

2 C-401 DETECTABLE WARNING DEVICE
NOT TO SCALE



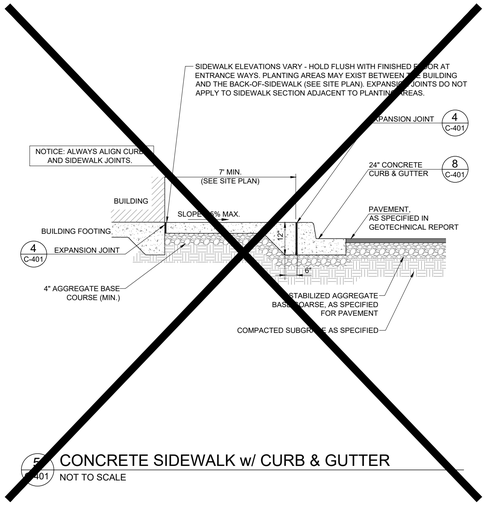
NOTES:
1. RAMPS & HANDRAILS TO BE IN COMPLIANCE WITH SECTIONS 405 & 505 OF THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. VERIFY ALL STATE & LOCAL REQUIREMENTS FOR RAMPS & HANDRAILS.
3. USE ONLY COMMERCIAL GRADE ALUMINUM FENCING WITH DARK BRONZE POWDER COAT FINISH.

3 C-401 TYPICAL ADA RAMP & HANDRAIL
NOT TO SCALE

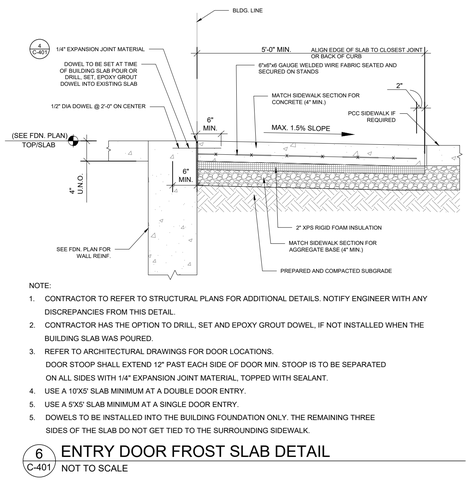


NOTES:
1. CONTRACTION JOINTS AT 5'-0" O.C. TOOLED ½" WIDE, 1" DEEP OR MAX. ¼ DEEP, WHICHEVER IS GREATER. EXPANSION JOINTS AT 20' MAX. & ALL P.C.s, UNLESS APPROVED OR INDICATED OTHERWISE ON PLAN VIEW JOINT PATTERN.

4 C-401 CONCRETE SIDEWALK
NOT TO SCALE

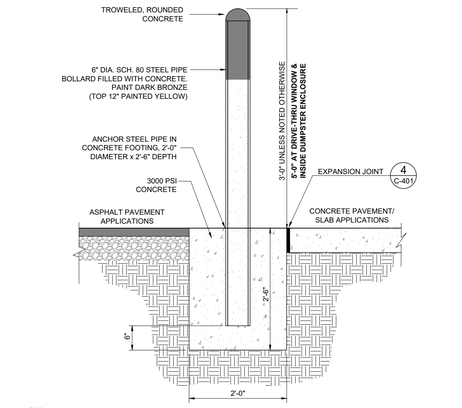


5 C-401 CONCRETE SIDEWALK w/ CURB & GUTTER
NOT TO SCALE



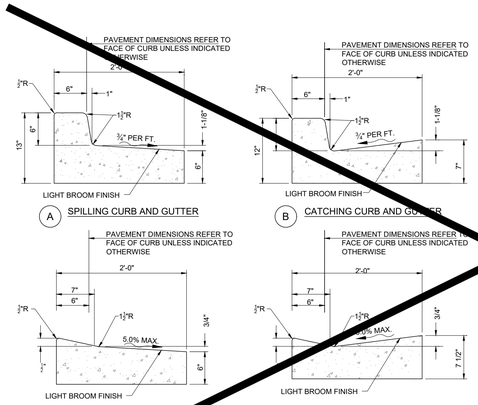
NOTE:
1. CONTRACTOR TO REFER TO STRUCTURAL PLANS FOR ADDITIONAL DETAILS. NOTIFY ENGINEER WITH ANY DISCREPANCIES FROM THIS DETAIL.
2. CONTRACTOR HAS THE OPTION TO DRILL, SET AND EPOXY GROUT DOWEL, IF NOT INSTALLED WHEN THE BUILDING SLAB WAS POURED.
3. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR LOCATIONS. DOOR STOOP SHALL EXTEND 12" PAST EACH SIDE OF DOOR MIN. STOOP IS TO BE SEPARATED ON ALL SIDES WITH 1/4" EXPANSION JOINT MATERIAL, TOPPED WITH SEALANT.
4. USE A 10'X5' SLAB MINIMUM AT A DOUBLE DOOR ENTRY.
5. USE A 5'X5' SLAB MINIMUM AT A SINGLE DOOR ENTRY.
5. DOWELS TO BE INSTALLED INTO THE BUILDING FOUNDATION ONLY. THE REMAINING THREE SIDES OF THE SLAB DO NOT GET TIED TO THE SURROUNDING SIDEWALK.

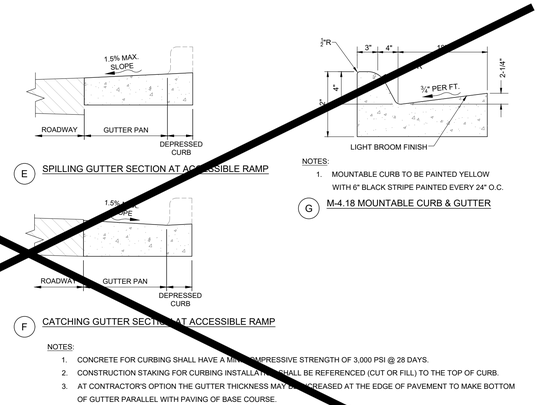
6 C-401 ENTRY DOOR FROST SLAB DETAIL
NOT TO SCALE



NOTE:
1. BOLLARD HEIGHT SHALL BE 5'-0" AT DRIVE-THRU WINDOW AND INSIDE DUMPSTER ENCLOSURE.

7 C-401 CONCRETE BOLLARD
NOT TO SCALE



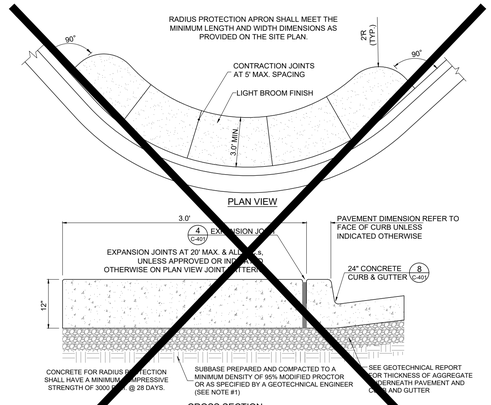


NOTES:
1. CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
2. CONSTRUCTION STAKING FOR CURBING INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
3. AT CONTRACTOR'S OPTION THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER PARALLEL WITH PAVING OF BASE COURSE.
4. CONTRACTION JOINTS @ 10'-0" O.C. TOOLED ½" (± 1/16", -0) WIDE, 1" OR MAX. ¼ DEPTH WHICHEVER IS GREATER. EXPANSION JOINTS @ 40'-0" MAX., AT ENDS OF RADIUS, AND A MINIMUM OF 5 FEET FROM INLET STRUCTURES, UNLESS APPROVED OR INDICATED OTHERWISE ON PLANS.
5. GUTTER SLOPE AT ACCESSIBLE SPACES TO MATCH ADJACENT PAVEMENT, TRAVERSE & LONGITUDINAL.
6. CONSTRUCTION STAKING FOR CURBING INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
7. LIGHT BROOM FINISH; PERPENDICULAR TO CURB.

8 C-401 CONCRETE CURB & GUTTER
NOT TO SCALE

NOTES:
1. MOUNTABLE CURB TO BE PAINTED YELLOW WITH 6" BLACK STRIPE PAINTED EVERY 24" O.C.

G M-4.18 MOUNTABLE CURB & GUTTER



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

9 C-401 LANDSCAPE & IRRIGATION PROTECTOR
NOT TO SCALE

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BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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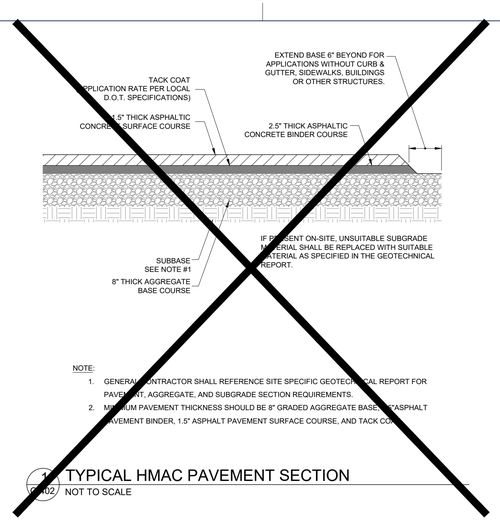
CONSULTANT PROJECT #	MAA230431.00
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DRAWN BY	AEH
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SHEET
SITE DETAILS

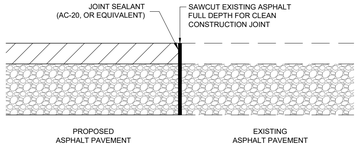
SHEET NUMBER
C-401

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-DETL-MAA230431.00-1B----3LAYOUT: C-401 - SITE DETAILS

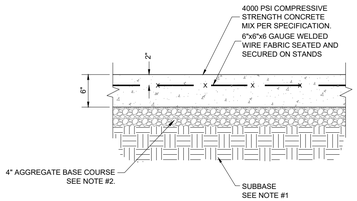


NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE SITE SPECIFIC GEOTECHNICAL REPORT FOR PAVEMENT, AGGREGATE, AND SUBGRADE SECTION REQUIREMENTS.
2. MINIMUM PAVEMENT THICKNESS SHOULD BE 8" GRADED AGGREGATE BASE, 2" ASPHALT PAVEMENT BINDER, 1.5" ASPHALT PAVEMENT SURFACE COURSE, AND TACK COAT.

4 C-402 TYPICAL HMAC PAVEMENT SECTION
NOT TO SCALE

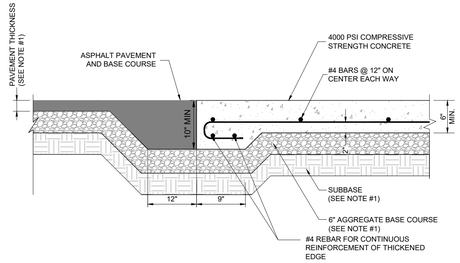


2 C-402 BUTT JOINT
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
2. MINIMUM PAVEMENT THICKNESS SHALL BE 6" CONCRETE, 4" AGGREGATE BASE.

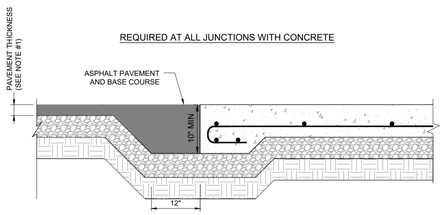
3 C-402 CONCRETE PAVEMENT DRIVE-THRU LANE
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

4 C-402 CONCRETE APRON AT TRASH ENCLOSURE
NOT TO SCALE

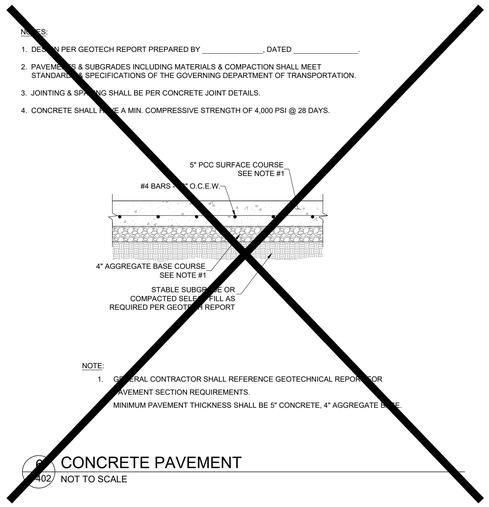
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NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

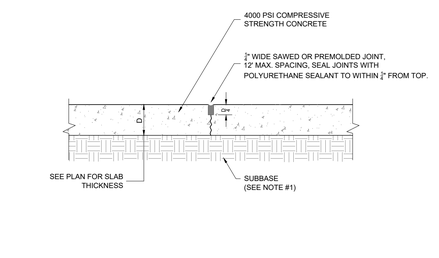
5 C-402 PAVEMENT EDGE DETAIL (START & END OF DRIVE-THRU LANES)
NOT TO SCALE

NOTES:
1. DESIGN PER GEOTECH REPORT PREPARED BY _____, DATED _____.
2. PAVEMENTS & SUBGRADES INCLUDING MATERIALS & COMPACTION SHALL MEET STANDARD SPECIFICATIONS OF THE GOVERNING DEPARTMENT OF TRANSPORTATION.
3. JOINTING & SPACING SHALL BE PER CONCRETE JOINT DETAILS.
4. CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI @ 28 DAYS.



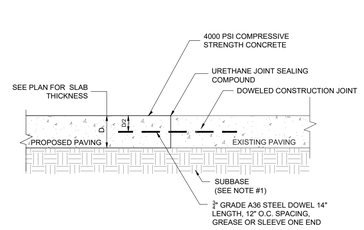
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
MINIMUM PAVEMENT THICKNESS SHALL BE 5" CONCRETE, 4" AGGREGATE BASE.

6 C-402 CONCRETE PAVEMENT
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

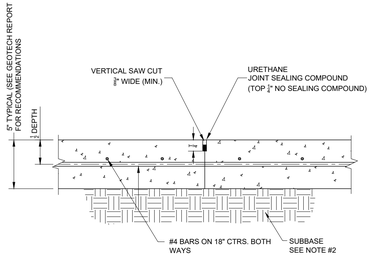
7 C-402 TRANSVERSE AND LONGITUDINAL CONTRACTION JOINT
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

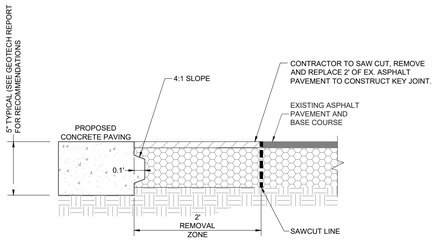
8 C-402 TRANSVERSE AND LONGITUDINAL DOWELED CONSTRUCTION JOINT
NOT TO SCALE

THESE DETAILS APPLY TO CONCRETE PAVED LOTS



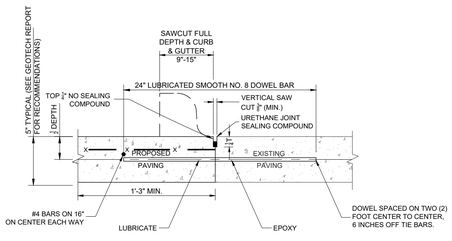
NOTES:
1. JOINT SPACING TO BE 12' x 12' WITH EVERY OTHER JOINT BEING AN EXPANSION JOINT.
2. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

9 C-402 CONTRACTION JOINT
NOT TO SCALE



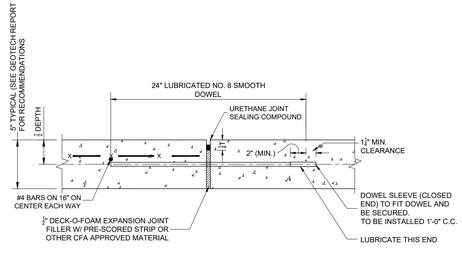
NOTES:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

10 C-402 KEYED CONSTRUCTION JOINT
NOT TO SCALE



NOTES:
1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS.
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
3. DOWEL BARS SHALL BE DRILLED & EPOXIED INTO PAVEMENT HORIZONTALLY BY USE OF MECHANICAL EQUIP.
4. PUSHING DOWEL BARS INTO WET CONCRETE NOT ACCEPTABLE.

11 C-402 LONGITUDINAL BUTT JOINT
NOT TO SCALE



NOTES:
1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS.
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL EQUIPMENT.
4. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO WET CONCRETE NOT ACCEPTABLE.
5. JOINT SPACING TO BE 24'X24' (EVERY OTHER JOINT).

12 C-402 EXPANSION JOINT
NOT TO SCALE

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FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

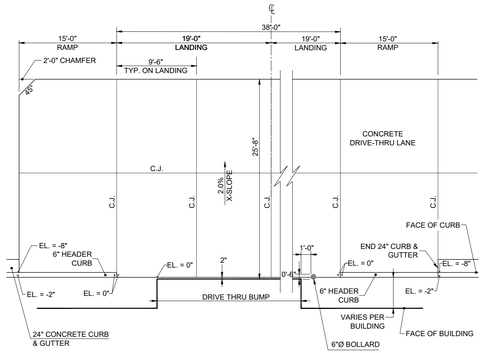
CONSULTANT PROJECT #	MAA230431.00
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DRAWN BY	AEH
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SHEET
SITE DETAILS

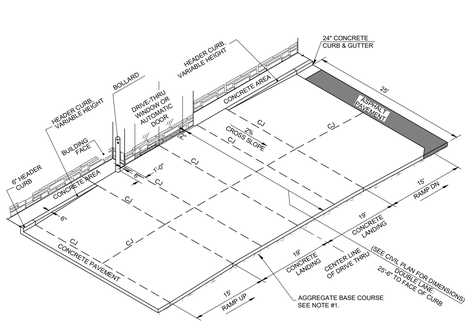
SHEET NUMBER
C-402

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLAN\PJP-CIVIL-DETL-MAA230431.00-1B------.LAYOUT: C-402 - SITE DETAILS



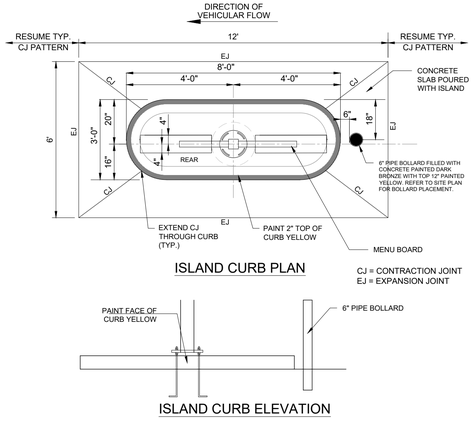
NOTE:
1. ALL ELEVATIONS ON THIS DETAIL ARE RELATIVE TO FFE = 0'.
2. FOR LC FOOTPRINT DECREASE LANDING FROM 38' TO 30'. LANDING SHOULD REMAIN CENTERED ON DRIVE-THRU WINDOW.

1 DRIVE-THRU PLAN - FLUSH WITH FFE
C-403 NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
2. FOR LC FOOTPRINT DECREASE LANDING FROM 38' TO 30'. LANDING SHOULD REMAIN CENTERED ON DRIVE-THRU WINDOW.

2 DRIVE-THRU ISOMETRIC
C-403 NOT TO SCALE

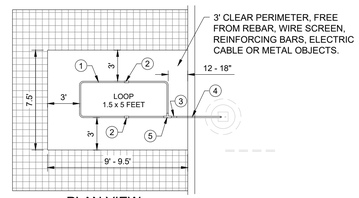


ISLAND CURB PLAN

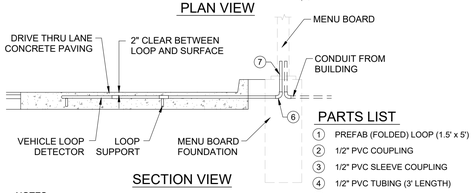
CJ = CONTRACTION JOINT
EJ = EXPANSION JOINT

ISLAND CURB ELEVATION

3 DRIVE-THRU ORDER POINT ISLAND
C-403 NOT TO SCALE



PLAN VIEW

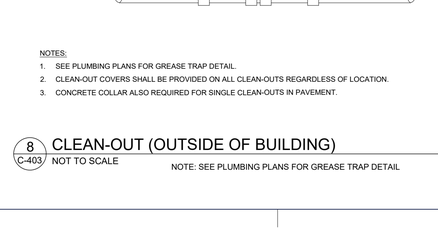


SECTION VIEW

NOTES:
1. LOOP DETECTOR IS PROVIDED BY HME.
2. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

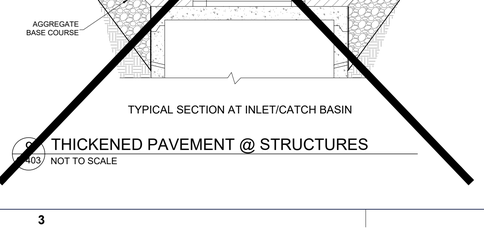
PARTS LIST
1. PREFAB (FOLDED) LOOP (1.5' x 5')
2. 1/2" PVC COUPLING
3. 1/2" PVC SLEEVE COUPLING
4. 1/2" PVC TUBING (3' LENGTH)
5. 1/2" PVC CORNER FITTING
6. 1/2" PVC 90° ELBOW
7. 1/2" PVC TUBING (2' LENGTH)

4 MENU BOARD LOOP DETECTION SYSTEM
C-403 NOT TO SCALE



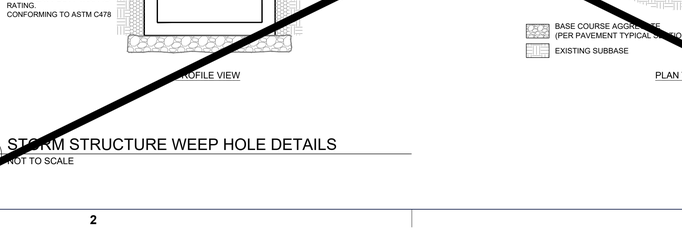
NOTES:
1. FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
2. A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
3. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING.
4. IF NECESSARY, ADJUST FOOTING TO ALLOW DOWNSPOUT TO BE INSTALLED TIGHT AGAINST BUILDING.

5 BUILDING DOWNSPOUT CONNECTION
C-403 NOT TO SCALE



NOTES:
1. CANOPY FOOTING SHALL BE A MINIMUM 2'-0" BELOW DRIVE-THRU LANE PAVEMENT SURFACE. REFER TO CIVIL PLANS FOR EXACT CANOPY FOOTING ELEVATIONS.
2. FLEXIBLE FITTING (NON-SHEAR FERNCO) TO BE UTILIZED BETWEEN PIPE TRANSITIONS AS NECESSARY.
3. CONTRACTOR TO COORDINATE COLUMN DOWNSPOUT ORIENTATION WITH CANOPY VENDOR. ADJUST DOWNSPOUT PIPING AS NECESSARY TO MAKE CONNECTION TO COLLECTOR PIPE.

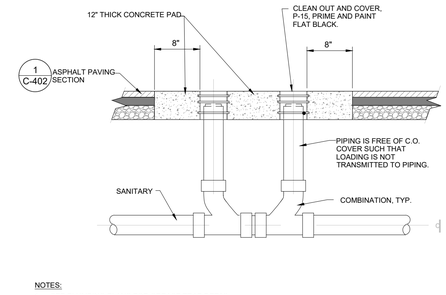
6 CANOPY DOWNSPOUT CONNECTION
C-403 NOT TO SCALE



REFUSE ENCLOSURE PLAN NOTES:
1. SEE SITE PLAN FOR LAYOUT OF CONCRETE APPROACH PAD.
2. SEE GRADING PLAN FOR ELEVATIONS ON DUMPSTER PAD & DRAINAGE OF INTERIOR TRASH ENCLOSURE.
3. PROVIDE POSITIVE DRAINAGE ON APPROACH PAD AWAY FROM DUMPSTER. (SEE GRADING PLAN)
4. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS & DETAILS ON ENCLOSURE; COORDINATE & VERIFY SIZE WITH ARCHITECT & STRUCTURAL ENGINEER.
5. GENERAL CONTRACTOR SHALL DRILL HOLES FOR GATE PINS IN BOTH THE OPEN & CLOSED POSITION.

CONTRACTOR TO REFER TO CIVIL PLANS FOR ORIENTATION & LOCATION OF STORAGE ROOM & RAMP.

7 SCREENED REFUSE ENCLOSURE
C-403 NOT TO SCALE



NOTES:
1. SEE PLUMBING PLANS FOR GREASE TRAP DETAIL.
2. CLEAN-OUT COVERS SHALL BE PROVIDED ON ALL CLEAN-OUTS REGARDLESS OF LOCATION.
3. CONCRETE COLLAR ALSO REQUIRED FOR SINGLE CLEAN-OUTS IN PAVEMENT.

8 CLEAN-OUT (OUTSIDE OF BUILDING)
C-403 NOT TO SCALE

NOTE: SEE PLUMBING PLANS FOR GREASE TRAP DETAIL

9 THICKENED PAVEMENT @ STRUCTURES
C-403 NOT TO SCALE

10 STORM STRUCTURE WEEP HOLE DETAILS
C-403 NOT TO SCALE

ALL DETAILS ON THIS SHEET WERE PROVIDED BY CHICK-FIL-A AND ARE FOR INFORMATIONAL PURPOSES, ONLY. BOHLER SHALL BE HELD HARMLESS IN THE EVENT OF ERRONEOUS INFORMATION CONTAINED WITHIN THESE DETAILS AND/OR STRUCTURAL FAILURE.

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CHICK-FIL-A
150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

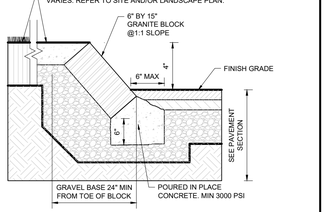
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SHEET
SITE DETAILS

SHEET NUMBER
C-403

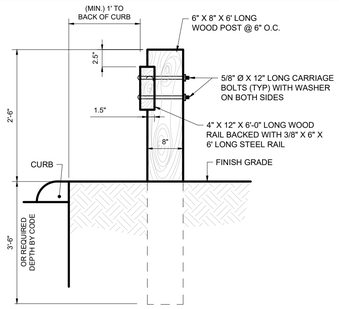
P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-DETL-MAA230431.00-1B.dwg —>LAYOUT: C-403 - SITE DETAILS



NOTES:
1. CURVED GRANITE CURB SHALL CONFORM TO THE STATE DOT SPECIFICATIONS.
2. PAVEMENT SECTION DEPTHS, MATERIAL AND SPECIFICATIONS PER PAVEMENT SECTION DETAIL.

SLOPED GRANITE CURBING

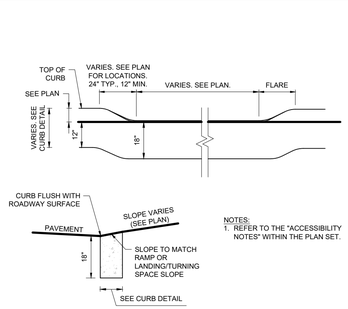
NOT TO SCALE (NE-S020302 - 07/2024)



NOTE: ALL CARRIAGE BOLTS, NUTS & WASHERS TO BE GALVANIZED & ALL WOOD POSTS & RAILS TO BE PRESSURE TREATED.

WOODEN GUIDE RAIL

NOT TO SCALE (BE-S090101 - 02/2024)

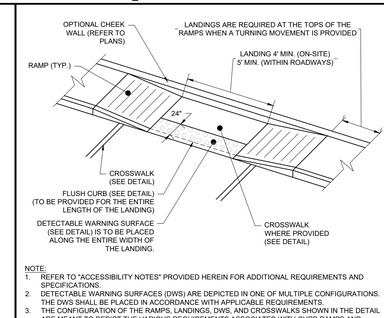


SECTION A-A

NOTES:
1. REFER TO THE "ACCESSIBILITY NOTES" WITHIN THE PLAN SET.

ADA FLUSH CURB

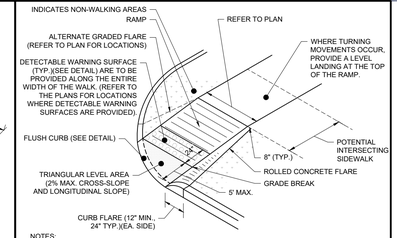
NOT TO SCALE (BE-S030501 - 08/2023)



NOTE:
1. REFER TO "ACCESSIBILITY NOTES" PROVIDED HEREIN FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
2. DETECTABLE WARNING SURFACES (DWS) ARE DEPICTED IN ONE OF MULTIPLE CONFIGURATIONS. THE DWS SHALL BE PLACED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.
3. THE CONFIGURATION OF THE RAMPS, LANDINGS, DWS, AND CROSSWALKS SHOWN IN THE DETAIL ARE MEANT TO DEPICT THE VARIOUS REQUIREMENTS ASSOCIATED WITH CURB RAMPS AND RELATED ELEMENTS. REFER TO THE PLANS HEREIN FOR SPECIFIC CONFIGURATIONS.
4. CURB RAMPS REQUIRE LANDINGS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS.

ADA CURB RAMP - PARALLEL

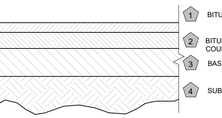
NOT TO SCALE (BE-S030503 - 04/2024)



NOTES:
1. REFER TO "ACCESSIBILITY NOTES" PROVIDED HEREIN FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
2. THE CONFIGURATION OF THE RAMP, LANDINGS, AND DWS SHOWN IN THE DETAIL ARE MEANT TO DEPICT THE VARIOUS REQUIREMENTS ASSOCIATED WITH CURB RAMPS AND RELATED ELEMENTS. REFER TO THE PLANS HEREIN FOR SPECIFIC CONFIGURATIONS.
3. THE RAMP IS TO BE COMPLETELY CONTAINED WITHIN THE LIMITS OF ANY CROSSWALK LINES.
4. CURB RAMPS REQUIRE LANDINGS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS.
5. AS DEPICTED IN THE DETAIL, IN ORDER TO TRANSITION THE GRADE BREAK, PROVIDE A LEVEL TRIANGULAR AREA WHEN DIRECTIONAL RAMPS ARE INSTALLED ON A CURBED RETURN.

ADA CURB RAMP - SINGLE PARALLEL AT CURB RETURN

NOT TO SCALE (BE-S030506 - 08/2023)

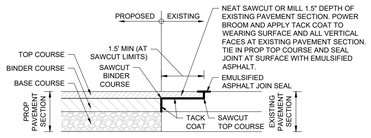


1. BITUMINOUS CONC TOP COURSE (LIGHT DUTY=1") (HEAVY DUTY=1.5")
2. BITUMINOUS CONC BINDER COURSE (LIGHT DUTY=2") (HEAVY DUTY=2.5")
3. DENSE GRADED CRUSHED STONE BASE COURSE (LIGHT DUTY=4") (HEAVY DUTY="6")
4. GRAVEL BORROW SUB-BASE COURSE (LIGHT DUTY=8") (HEAVY DUTY="8")

NOTES:
1. PAVEMENT BASE AND SUBBASE COURSES TO CONFORM TO STATE DEPARTMENT OF TRANSPORTATION
2. GC TO REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATIONS.

PAVEMENT SECTION

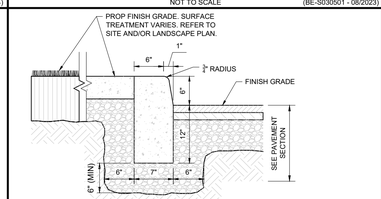
NOT TO SCALE (NE-S010101 - 10/2024)



NOTES:
1. REFER TO GEOTECHNICAL REPORT PREPARED BY GEOTECH AND DATED DATE

BITUMINOUS CONCRETE PAVEMENT TIE IN

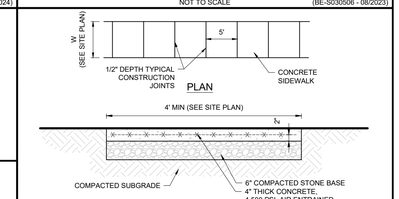
NOT TO SCALE (NE-S010501 - 08/2024)



NOTES:
1. CURB SHALL CONSIST OF 4,000 PSI AIR ENTRAINED CONCRETE, EXPOSED EDGES TO HAVE RUBBED FINISH, AND SURFACE SHALL BE TREATED WITH A CONCRETE PENETRANT/SEALER.
2. THE ENDS OF CURB SECTIONS SHALL BE CHAMFERED 1/4 INCH.
3. THE CORNERS OF CURB SECTIONS SHALL MATCH THE ADJACENT CURB IN SIZE, COLOR AND FINISH.
4. CURBS, CURB CORNERS OR EDGING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE.
5. EXPANSION JOINTS SHALL BE INSTALLED AT A MAXIMUM OF TWENTY FEET (20') ON CENTER USING PREFORMED EXPANSION JOINT FILLER HAVING A THICKNESS OF ½ INCH.
6. PAVEMENT SECTION DEPTHS, MATERIAL, AND SPECIFICATIONS PER PAVEMENT SECTION DETAIL.
7. STRAIGHT CURB SECTIONS CAN BE USED FOR RADII 25' OR GREATER. OTHERWISE, CURVED CURB LENGTHS SHALL BE INSTALLED AT THE SPECIFIED RADIUS PER THE SITE PLAN.

PRECAST CONCRETE CURB

NOT TO SCALE (NE-S020201 - 10/2024)



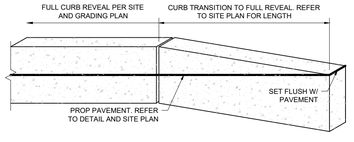
SIDEWALK CONSTRUCTION JOINT

NOT TO SCALE (BE-S030401 - 08/2023)

NOTE:
1. CROSS SLOPE 1/4" PER FOOT PITCHED TOWARD ROADWAY, DRIVEWAY, OR PARKING AREA IN NON ACCESSIBLE ROUTES.
2. FOR ACCESSIBLE ROUTES THE CROSS SLOPE, LONGITUDINAL (RUNNING) SLOPE AND WIDTH SHALL COMPLY WITH FEDERAL, LOCAL AND STATE ACCESSIBILITY REQUIREMENTS. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL ADA INSTRUCTIONS.
3. PROVIDE CONTROL JOINTS 5'-0" O.C. MIN. & EXPANSION JOINTS 20'-0" O.C. MIN. REFER TO SIDEWALK CONSTRUCTION JOINT DETAILS.
4. PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED ADJACENT TO AND AROUND EXISTING STRUCTURES.
5. MIN CROSS SLOPE 1/4" PER FOOT PITCHED AWAY FROM BUILDING.
6. PROVIDE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINT AT INTERFACE WITH BUILDING. REFER TO ARCH PLANS AT DOOR LOCATIONS.

CONCRETE SIDEWALK

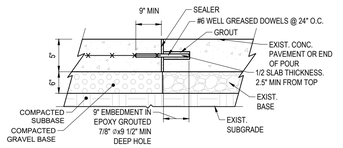
NOT TO SCALE (BE-S030202 - 06/2024)



NOTES:
1. SEE TYPICAL CURB DETAIL AND SITE PLAN FOR CURB TYPE AND TRANSITION CURB LOCATIONS

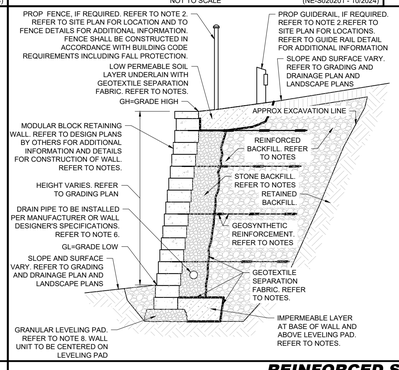
PRECAST CONCRETE TRANSITION CURB

NOT TO SCALE (NE-S020206 - 09/2023)



CONCRETE SIDEWALK TIE IN AND CONSTRUCTION JOINT

NOT TO SCALE (NE-S030202 - 09/2023)



NOTES:
1. THIS TYPICAL DETAIL IS NOT FOR CONSTRUCTION AND IS PRELIMINARY AND CONCEPTUAL IN NATURE. THIS DETAIL IS PROVIDED FOR GRAPHICAL REFERENCE PURPOSES ONLY. DESIGN OF THE PROPOSED RETAINING WALL(S) SHALL BE PREPARED BY THE APPROPRIATE PROFESSIONAL (E.G. STRUCTURAL ENGINEER) LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE PROFESSIONAL SHALL BE FAMILIAR WITH THE ACTUAL SITE CONDITIONS AND MATERIALS AS WELL AS APPLICABLE, LOCAL, STATE AND FEDERAL REGULATIONS.
2. RETAINING WALL & ANY ASSOCIATED REINFORCEMENT SHALL BE DESIGNED ACCOUNTING FOR SOIL TYPES, WATER TABLE ELEVATION, EXISTING & PROPOSED SURROUNDING IMPROVEMENTS/CONDITIONS (INCLUDING BUT NOT LIMITED TO SLOPES, DRIVE AISLES, ROADS, FENCING (INCLUDING WIND LOAD), GUIDERAILS (INCLUDING COLLISION LOADING), UTILITIES, DRAINAGE FACILITIES, STRUCTURES, FOUNDATIONS), LIVE LOADS AND OTHER SITE AMENITIES THAT COULD HAVE AN INFLUENCE OR IMPACT ON THE RETAINING WALL(S) CONSTRUCTABILITY AND/OR LONGEVITY SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN AS WELL AS THE GLOBAL STABILITY ANALYSIS.
3. RETAINING WALL DESIGNER SHALL ACCOUNT FOR MULTIPLE STORM STRUCTURES BEHIND WALL INCLUDING PARALLEL STORM PIPE THAT MAY INTERFERE WITH THE DESIGN OF THE WALL AND ANY ASSOCIATED REINFORCEMENT.
4. SEE GRADING AND DRAINAGE PLAN FOR PROPOSED ELEVATIONS AND SLOPES ASSOCIATED WITH SAME.
5. REFER TO GENERAL GRADING NOTES ON SHEET C-102 FOR ADDITIONAL NOTES REGARDING DESIGN AND CONSTRUCTION OF RETAINING WALLS.
6. DRAIN PIPE SHALL DISCHARGE TO CRUSHED STONE PAD AT GRADE (I.E. DAYLIGHT) OR CONNECT TO PROP. DRAINAGE SYSTEM IF UNABLE TO DAYLIGHT. A RODENT SCREEN SHALL BE PROVIDED AT PIPE END WHERE PIPE DAYLIGHTS.
7. THIS DETAIL IS NOT APPLICABLE FOR WALLS UTILIZED TO RETAIN WATER.
8. MATERIALS UTILIZED IN CONSTRUCTION OF THE RETAINING WALL SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S AND WALL DESIGNER'S SPECIFICATIONS INCLUDING ANY REQUIRED COMPACTION AND TESTING.
9. WALL DESIGNER SHALL ACCOUNT FOR PROXIMITY OF DRAINAGE SYSTEMS AND ANY ASSOCIATED STORMWATER INFILTRATION INCLUDING PREPARATION OF GLOBAL STABILITY AND MOUNDING ANALYSES.

REINFORCED SEGMENTAL BLOCK RETAINING WALL

NOT TO SCALE BE-S110501 - 08/2023

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

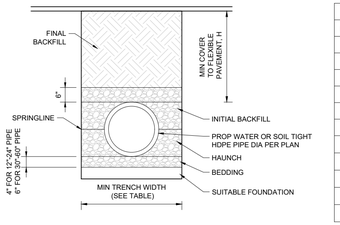
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DRAWN BY AEH
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SHEET
CONSTRUCTION DETAILS

SHEET NUMBER
C-500

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-CNDS-MAA230431.00-1B-----3-LAYOUT- C-500 - CONSTRUCTION DETAILS

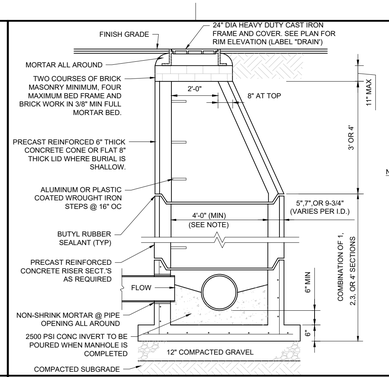


RECOMMENDED MINIMUM TRENCH WIDTH	
PIPE DIA	MIN TRENCH WIDTH
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
48"	80"
60"	96"

NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 , "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

HDPE STORM PIPE TRENCH

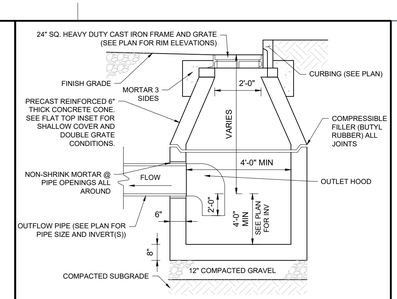
NOT TO SCALE (NE-U019812 - 11/2024)



NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. CONTRACTOR SHALL SIZE MANHOLE AS NECESSARY TO ACCOMMODATE THE PIPE SIZING AND ORIENTATION USING THE GEOMETRY SHOWN ON THE GRADING AND DRAINAGE PLANS.
3. CONCRETE SHALL BE 4,000 PSI AFTER 28 DAYS
4. REINFORCED STEEL CONFORMS TO ASTM A185 SPEC. 0.12 SQ IN/LINEAL FT AND 0.12 SQ IN (BOTH WAYS) BASE BOTTOM.
5. MANHOLE DESIGN SPECS CONFORM TO ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS"

PRECAST CONCRETE STORM DRAIN MANHOLE

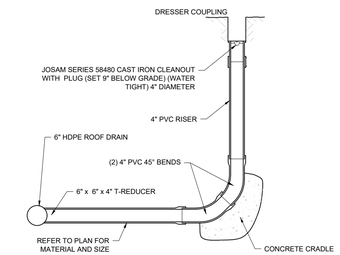
NOT TO SCALE (NE-U010101 - 11/2024)



NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. CONCRETE SHALL BE 4,000 PSI AFTER 28 DAYS.
3. BUTYL RESIN SECTION JOINT CONFORM TO ASTM C990.
4. NOTE ON CONTRACTOR TO PROVIDE WIDTH.
5. BUTYL RESIN SECTION JOINT CONFORM TO ASTM C990.
6. NOTE ON CONTRACTOR TO PROVIDE WIDTH.

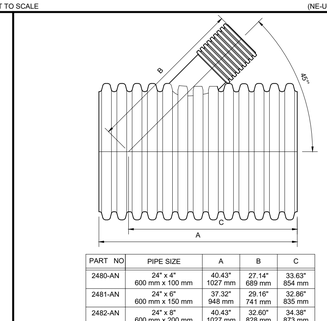
PRECAST CONCRETE DEEP SUMP CATCH BASIN

NOT TO SCALE (NE-U010201 - 10/2024)



CLEANOUT (TERMINAL)

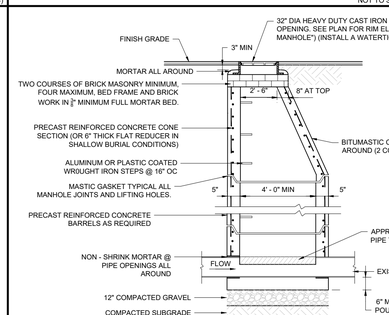
NOT TO SCALE (NE-U010301 - 11/2024)



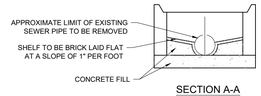
PART NO	PIPE SIZE	A	B	C
2480-AN	24" x 4" 600 mm x 100 mm	40.43" 1027 mm	27.14" 689 mm	33.63" 854 mm
2481-AN	24" x 6" 600 mm x 150 mm	37.32" 948 mm	29.16" 741 mm	32.86" 835 mm
2482-AN	24" x 8" 600 mm x 200 mm	40.43" 1027 mm	32.60" 828 mm	34.38" 873 mm
2483-AN	24" x 10" 600 mm x 250 mm	49.76" 1264 mm	32.58" 828 mm	38.84" 987 mm
2484-AN	24" x 12" 600 mm x 300 mm	55.98" 1422 mm	37.48" 952 mm	40.23" 1022 mm

N-12 FABRICATED REDUCING WYE

NOT TO SCALE (NE-U019805 - 09/2023)

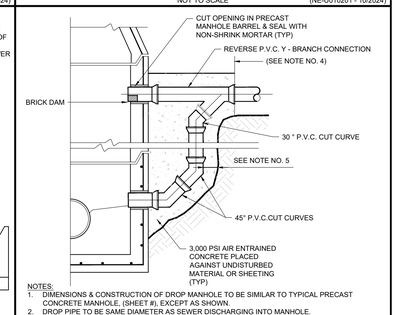


NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H - 20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. PROVIDE SUPPORT FOR EXISTING SANITARY SEWER PIPE WHEN POURING CONCRETE BASE



DOG HOUSE SANITARY MANHOLE

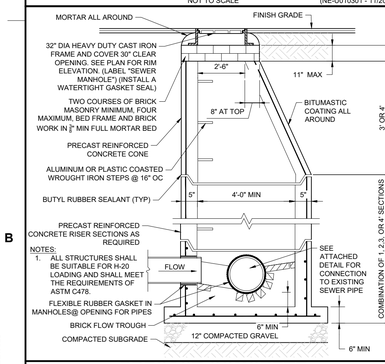
NOT TO SCALE (NE-U020102 - 11/2024)



NOTES:
1. DIMENSIONS & CONSTRUCTION OF DROP MANHOLE TO BE SIMILAR TO TYPICAL PRECAST CONCRETE MANHOLE, (SHEET #), EXCEPT AS SHOWN.
2. DROP PIPE TO BE SAME DIAMETER AS SEWER DISCHARGING INTO MANHOLE.
3. DEEPER DROP MAY BE CONSTRUCTED WITH STRAIGHT PIPE BETWEEN Y - BRANCH AND ELBOW.
4. EXTEND CONCRETE ENCASEMENT TO FIRST JOINT BEYOND EXCAVATION FOR DROP CONNECTION.
5. ALL DROP PIPING TO HAVE A MIN 6" CONCRETE ENCASEMENT, AS SHOWN.

EXTERNAL SANITARY DROP INLET

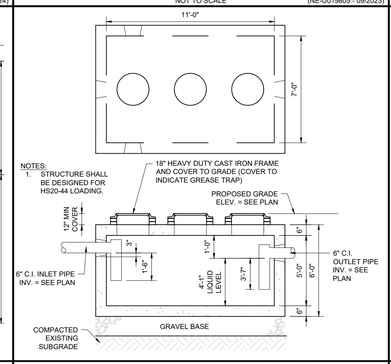
NOT TO SCALE (NE-U020103 - 09/2023)



NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.

PRECAST CONCRETE SANITARY MANHOLE

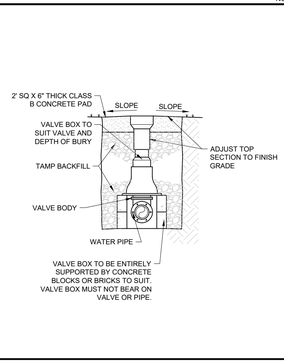
NOT TO SCALE (NE-U020101 - 11/2024)



NOTES:
1. STRUCTURE SHALL BE DESIGNED FOR HS20-44 LOADING.

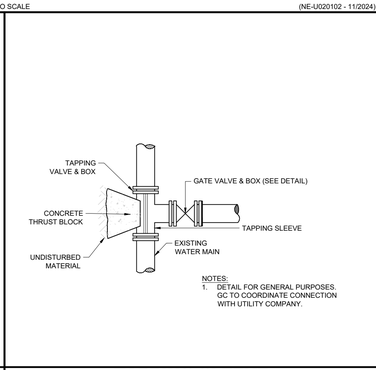
1,500 GALLON PRECAST CONCRETE GREASE TRAP

NOT TO SCALE (NE-U020302 - 05/2024)



GATE VALVE

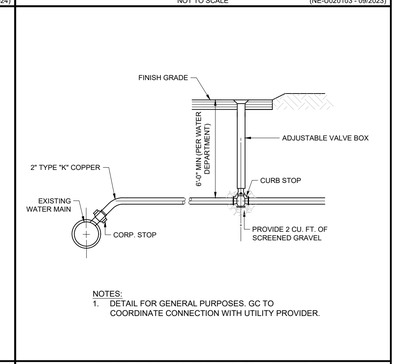
NOT TO SCALE (NE-U030201 - 09/2023)



NOTES:
1. DETAIL FOR GENERAL PURPOSES. GC TO COORDINATE CONNECTION WITH UTILITY COMPANY.

TAPPING SLEEVE AND GATE VALVE

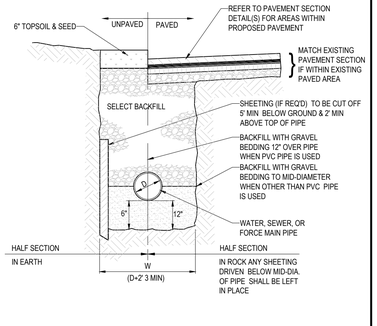
NOT TO SCALE (NE-U030401 - 11/2024)



NOTES:
1. DETAIL FOR GENERAL PURPOSES. GC TO COORDINATE CONNECTION WITH UTILITY PROVIDER.

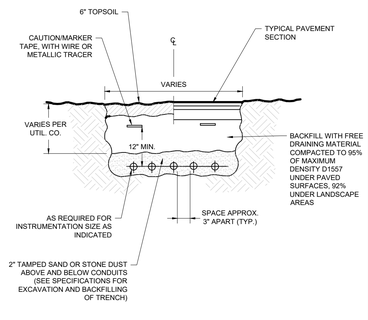
TYPE K COPPER WATER SERVICE CONNECTION

NOT TO SCALE (NE-U030402 - 09/2023)



TYPICAL UTILITY TRENCH

NOT TO SCALE (NE-U050201 - 09/2024)



UNDERGROUND UTILITY CONDUIT

NOT TO SCALE (NJ-U990105 - 08/2023)

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

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STATE OF MAINE — JOHN A. KUCICH — No. 12553 — LICENSED PROFESSIONAL ENGINEER

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
CONSTRUCTION DETAILS

SHEET NUMBER
C-501

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-CND3-MAA230431.00-1B------3LAYOUT: C-501 - CONSTRUCTION DETAILS



LOCUS MAP
© 2013 ESRI WORLD STREET MAPS
NOT TO SCALE

LEGEND

(S)	SURVEY DIMENSION
(D)	DEED DIMENSION
#	TITLE REPORT EXCEPTION

ALFRED ROAD (14, 29) (A.K.A. ROUTE 111) (PUBLIC - VARIABLE WIDTH R.O.W.)

MARINER WAY (PRIVATE - VARIABLE WIDTH R.O.W.)

SHOPS WAY (14) (PRIVATE - VARIABLE WIDTH R.O.W.)

AREA OF TOPOGRAPHIC DETAIL

N32°40'51"E 16.56'
N77°40'51"E 5.00'
(43) APPROX. LOC. OF SIDEWALK EASEMENT BK. 19279, PG. 69
N77°40'59"E 152.34'
(15)
N77°24'48"E 218.54'
(16) APPROX. LOC. OF FRONTAGE AREAS (CROSS-HATCHED) (PER REF. #4)
N77°22'21"E 449.18'
S35°46'13"W 14.95'
1,100'± ==> TO I-95 (AKA MAINE TURNPIKE)
N77°44'17"E 110.21'
IRON PIN FOUND
MATCHLINE A (SEE SHEET 3)
(32) APPROX. LOC. OF TRAFFIC SIGNAL EASEMENT (BK. 15206, PG. 214)
N12°17'10"W 178.76'
(16) APPROX. LOC. OF FRONTAGE AREA (HATCHED) (PER REF. #4)
(16) APPROX. LOC. OF BUILDING AREA (PER REF. #3)
LEASE AREA (SHADED) (20)
(19) (26) (33) ID SIGN ON PYLON "BIDDEFORD CROSSING"
(27) LEASE AREA (SHADED)
(14) (16) ACCESS EASEMENT "D" (PER REF. #3) (DASHED)
(16) (19) (26) (33) APPROX. LOC. OF PERPETUAL DRIVE (SHADED) (PER REF. #4)
(16) (19) (26) (33) APPROX. LOC. OF PERPETUAL DRIVE (SHADED) (PER REF. #4)
(24) APPROX. LOC. OF 30' x 30' EASEMENT W/ PARKING AND OTHER RIGHTS
(14) 50' SIDE/REAR BUILDING AND PAVEMENT SETBACK
S35°46'13"W 364.20'
(16) APPROX. LOC. OF BUILDING AREA (PER REF. #3)
(14) (16) ACCESS EASEMENT "A" (PER REF. #3 & 4)
(16) APPROX. LOC. OF SERVICE DRIVE (PER REF. #4) (CROSS-HATCHED)
(16) APPROX. LOC. OF SERVICE DRIVE (PER REF. #4) (CROSS-HATCHED)
MAP 2 LOT 24 N/F LANDS OF DSM MB II LLC BK. 16946, PG. 343
(14) #150 SHOPS WAY
(15) LOT 1 PER REF. #3 UNIT 6 PER REF. #4, 5 & 6) (16)
MAP 2 LOT 34 N/F LANDS OF NEW LIFE ADVENT CHRISTIAN CHURCH BK. 3331, PG. 94
(16) APPROX. LOC. OF OUTSIDE SALES AREA (PER REF. #3)
(16) APPROX. LOC. OF SUBSURFACE DETENTION AREAS (PER REF. #3)
(16) APPROX. LOC. OF BUILDING AREA (PER REF. #3)
(16) APPROX. LOC. OF OUTSIDE SALES AREA (PER REF. #3)
(14) 10' SIDE/REAR BUILDING AND PAVEMENT SETBACK
S12°37'28"E 138.70'
S62°28'32"E 53.39'
(14) (16) ACCESS EASEMENT "B" (PER REF. #3 & 4)
S12°34'18"E 281.19'
R=244.96'
Δ =044°03'13"
L=188.34'
CHB=N08° 39' 49"E
CHD=183.74'
(16) (19) (26) (33) RESTRICTED CURB CUT AREA (PER REF. #3) (DASHED)
R=251.45'
Δ =004°25'14"
L=19.40'
CHB=N33° 01' 16"E
CHD=19.40'
R=428.73'
Δ =022°08'39"
L=165.70'
CHB=N46° 18' 12"E
CHD=164.67'
N25°27'14"W 107.51'
(14) (15) APPROX. LOC. OF CONSERVATION RESTRICTION AREA (PER REF. #3)
IRON PINS FOUND
(16) APPROX. LOC. OF SERVICE DRIVE (PER REF. #4) (CROSS-HATCHED)
N59°25'13"W 93.15'
50' SIDE/REAR BUILDING AND PAVEMENT SETBACK
(14)
N70°05'31"W 211.98'
S62°28'32"W 184.90'
CAPPED IRON ROD FOUND
(14) (16) ACCESS EASEMENT "C" (PER REF. #3 & 4)
MAP 2 LOT 30 N/F LANDS OF DSM MB II LLC BK. 16946, PG. 343
N25°27'14"W 332.78'
S35°46'13"W 540.27'
10' SIDE/REAR BUILDING AND PAVEMENT SETBACK
(14)
IRON PIPE FOUND

MAINE STATE PLANE COORDINATE SYSTEM - WEST ZONE (NAD83)

NOTES:

1. PROPERTY KNOWN AS LOT 24 AS SHOWN ON THE CITY OF BIDDEFORD, YORK COUNTY, STATE OF MAINE, MAP NO. 2.
2. AREA = 584,419 SQUARE FEET OR 13.416 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.

   THE SOURCE OF UNDERGROUND UTILITIES ARE SHOWN UTILIZING A QUALITY LEVEL SYSTEM:

   QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY. NOT FIELD VERIFIED.

   QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING. INCLUDES MARKOUT BY OTHERS.

   QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND OR REFERENCE MAPPING. INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.

   QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY. LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.

   ALL FOUR TYPES MAY NOT APPEAR ON THE SURVEY.

4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY CLIENT, A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC., AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITH REFERENCE TO A COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, HAVING AN ISSUING OFFICE FILE NO. ME232032021, WITH A COMMITMENT DATE OF NOVEMBER 29, 2023, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B - SECTION 2:

   (SEE SHEET 3 OF 3)

6. EXISTING FIRM: BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE C (AREAS OF MINIMAL FLOODING), PER REF. #2.
7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
   TEMPORARY BENCH MARKS SET:

   TBM-A: BOLT OVER MAIN OUTLET OF HYDRANT, ELEVATION= 116.68'

   TBM-B: BOX CUT SET INC CONCRETE LIGHTPOLE BASE, ELEVATION= 126.56'

   PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
9. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
10. PARKING INFORMATION: REGULAR SPACES = 134 (FOR AREA OF TOPOGRAPHIC DETAIL ONLY)
    ACCESSIBLE SPACES = 6
    TOTAL SPACES =140

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL A
DSM MB II LLC
FIDELITY NATIONAL TITLE INSURANCE COMPANY

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	REVISED INVERT ELEVATIONS	B.S.B.	R.J.K.	C.E.L.	12-2-2024
1	REVISED PER CLIENT COMMENTS	-	E.G.F.	C.E.L.	4-29-2024

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5 (PARTIAL), 7(A), 7(B)(1), 7(C), 8, 9, 11(B), 13 & 14 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 15, 2024.

THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 AND PART 2 OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

STATE OF MAINE — CHARLES E. LENT — 2445 — PROFESSIONAL LAND SURVEYOR

12-2-2024
DATE

CHARLES E. LENT, PLS
MAINE PROFESSIONAL LAND SURVEYOR #2445

GRAPHIC SCALE
40' 0 20' 40' 80' 160'
(IN FEET)
1 inch = 40 ft.

SEE SHEET 2 OF 3 FOR AREA OF TOPOGRAPHIC DETAIL
SEE SHEET 3 OF 3 FOR REFERENCES & TITLE MATTERS

FIELD DATE	2-14-2024 2-15-2024 2-16-2024
FIELD BOOK NO.	SMC-MA
FIELD BOOK PG.	50, 51, 54, 55, 68-71
FIELD CREW.	S.M.C.
DRAWN:	E.G.F.
REVIEWED:	C.E.L.

ALTA/NSPS LAND TITLE SURVEY
CHICK-FIL-A
101 (150) SHOPS WAY
MAP 2, LOT 24
CITY OF BIDDEFORD, YORK COUNTY
STATE OF MAINE

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
ALBANY, NY 518-217-5010
CHALFONT, PA 215-712-9800
HAUPPAUGE, NY 631-580-2645
MANHATTAN, NY 646-780-0411
MT LAUREL, NJ 609-857-2099
WARREN, NJ 908-668-0099

APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
C.E.L.	3-25-2024	1"=40'	03-240044-00	1 OF 3

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811 DIG SAFE — CALL BEFORE YOU DIG

THE STATE OF MAINE REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

LEGEND

124 / 125	EXISTING CONTOUR	E	APPROX. LOC. OF UG ELECTRIC LINE	PVC	POLYVINYL CHLORIDE PIPE
× 123.45	EXISTING SPOT ELEVATION	T	APPROX. LOC. OF TELE LINE	HDPE	HIGH DENSITY POLYETHYLENE PIPE
× TC 123.45	EXIST. TOP OF CURB ELEVATION	U/-	UNDERGROUND QUALITY LEVEL D	INV	INVERT ELEVATION
× BC 122.95	EXIST. BOTTOM OF CURB ELEVATION	U/-	UNDERGROUND QUALITY LEVEL C	GRT	GRATE ELEVATION
× TW 123.45	EXIST. TOP OF WALL ELEVATION	U/-	UNDERGROUND QUALITY LEVEL B		PAINTED HANDICAPPED
× BW 122.95	EXIST. BOTTOM OF WALL ELEVATION	W	WATER VALVE		SIGN
× FF 123.45	EXIST. FINISHED FLOOR ELEVATION	IC	IRRIGATION CONTROL VALVE		MAIL BOX
	DEPRESSED CURB	S	SANITARY/SEWER MANHOLE		BOLLARD
OH	OVERHEAD WIRES	D	DRAINAGE/STORM MANHOLE		METAL GUIDE RAIL
S	APPROX. LOC. OF UG SEWER LINE	T	TELEPHONE MANHOLE		GATE POST
D	APPROX. LOC. OF UG DRAIN LINE		CATCH BASIN		AREA LIGHT
W	APPROX. LOC. OF UG WATER LINE	UP	UTILITY POLE		LAMP
G	APPROX. LOC. OF UG GAS LINE				TREE STUMP

	DECIDUOUS TREE & TRUNK SIZE	UG	UNDER GROUND
	CONIFEROUS TREE & TRUNK SIZE	AG	ABOVE GROUND
	SHRUBS	[25.0']	BUILDING DIMENSION AT GROUND LEVEL
10	PARKING SPACE COUNT	BLDG	BUILDING
SGC	SLOPED GRANITE CURB	HT	HEIGHT
VGC	VERTICAL GRANITE CURB	BFPA	BUILDING FOOTPRINT AREA
CLF	CHAIN LINK FENCE	TOW	TOP OF WATER
DC	DEPRESSED CURB	?	UNKNOWN TERMINUS
EOP	EDGE OF PAVEMENT	(S')	SURVEY DIMENSION
LSA	LANDSCAPED AREA	(D')	DEED DIMENSION
(TYP)	TYPICAL	#	TITLE REPORT EXCEPTION
NFV	NOT FIELD VERIFIED		
SWL	SOLID WHITE LINE		



LOCUS MAP
©2013 ESRI WORLD STREET MAPS
NOT TO SCALE

ALFRED ROAD (14) (29)

(A.K.A. ROUTE 111)

(PUBLIC - VARIABLE WIDTH R.O.W.)

TWO WAY TRAFFIC (ASPHALT ROADWAY)

SHOPS WAY

(PRIVATE - VARIABLE WIDTH R.O.W.)

TWO WAY TRAFFIC (ASPHALT ROADWAY)

MAP 2 LOT 24
N/F LANDS OF DSM MB II LLC
BK. 16946, PG. 343

#150 SHOPS WAY
LOT 1 PER REF. #3
UNIT 6 PER REF. #4, 5 & 6

MAP 2 LOT 34
N/F LANDS OF NEW LIFE ADVENT CHRISTIAN CHURCH
BK. 3331, PG. 94

SEE SHEET 1 OF 3 FOR NOTES & OVERALL BOUNDARY
SEE SHEET 3 OF 3 FOR REFERENCES & TITLE MATTERS

GRAPHIC SCALE
20' 0 10' 20' 40' 80'
(IN FEET)
1 inch = 20 ft.

MAINE STATE PLANE COORDINATE SYSTEM - WEST ZONE (NAD83)

50' SIDE/REAR BUILDING AND PAVEMENT SETBACK

10' SIDE/REAR BUILDING AND PAVEMENT SETBACK

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL A
DSM MB II LLC
FIDELITY NATIONAL TITLE INSURANCE COMPANY

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	REVISED INVERT ELEVATIONS	B.S.B.	R.J.K.	C.E.L.	12-2-2024
1	REVISED PER CLIENT COMMENTS	-	E.G.F.	C.E.L.	4-29-2024

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5 (PARTIAL), 7(A), 7(B)(1), 7(C), 8, 9, 11(B), 13 & 14 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 15, 2024.

THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 AND PART 2 OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

STATE OF MAINE · CHARLES E. LENT · 2445 · PROFESSIONAL LAND SURVEYOR

CHARLES E. LENT, PLS
MAINE PROFESSIONAL LAND SURVEYOR #2445

12-2-2024
DATE

FIELD DATE: 2-14-2024, 2-15-2024, 2-16-2024
FIELD BOOK NO.: SMC-MA
FIELD BOOK PG.: 50, 51, 54, 55, 68-71
FIELD CREW: S.M.C.
DRAWN: E.G.F.
REVIEWED: C.E.L.

ALTA/NSPS LAND TITLE SURVEY
CHICK-FIL-A
101 (150) SHOPS WAY
MAP 2, LOT 24
CITY OF BIDDEFORD, YORK COUNTY
STATE OF MAINE

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD, SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
ALBANY, NY 518-217-5010
CHALFONT, PA 215-712-9800
HAUPPAUGE, NY 631-580-2645
MANHATTAN, NY 646-780-0411
MT LAUREL, NJ 609-857-2099
WARREN, NJ 908-668-0099

APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
C.E.L.	3-25-2024	1"=20'	03-240044-00	2 OF 3

CONTROL POINT ASSOCIATES, INC. ALL RIGHTS RESERVED
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THE STATE OF MAINE REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

SCHEDULE B-II ITEMS:

THIS SURVEY WAS PREPARED WITH REFERENCE TO A COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, HAVING AN ISSUING OFFICE FILE NO. ME23032021, WITH A COMMITMENT DATE OF NOVEMBER 29, 2023, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B - SECTION 2:

GENERAL EXCEPTIONS 1 THRU 6 ARE NOT SURVEY RELATED AND HAVE NOT BEEN COMMENTED ON AS A PART OF THIS SURVEY.

(7) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "PLAN SHOWING REVISIONS MADE TO A "PLAN OF STANDARD BOUNDARY SURVEY FOR URBAIN COLLIN, BIDDEFORD AND ARUNDEL, MAINE" DATED JULY 18, 1985 AND RECORDED IN PLAN BOOK 133, PAGE 32, INCLUDING: I) NOTES THEREON RELATING TO RESIDENTIAL USE AND PROHIBITION AGAINST FURTHER SUBDIVISION WITHOUT PLANNING BOARD APPROVAL. **- NOT LOCUS**

(8) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "PLAN SHOWING A STANDARD BOUNDARY SURVEY FOR URBAIN COLLIN, BIDDEFORD AND ARUNDEL, MAINE" DATED MARCH 6, 1985, REVISED MAY 30, 1985, AND RECORDED IN PLAN BOOK 137, PAGE 20, INCLUDING: I) NOTES THEREON. **- NOT LOCUS**

(9) RIGHTS AND EASEMENTS GRANTED FROM JOSEPH M. LEGARE AND MADELEINE D. LEGARE TO RICHARD D. HEBERT AND DOROTHY M. HEBERT BY WARRANTY DEED DATED FEBRUARY 26, 1985 AND RECORDED IN BOOK 3473, PAGE 10. **- NOT LOCUS**

(10) RIGHTS AND EASEMENTS RESERVED BY JOSEPH M, LEGATE AND MADELEINE D. LEGARE IN WARRANTY DEED TO URBAIN COLLIN AND RENALD COLLIN DATED MARCH 1, 1985 AND RECORDED IN BOOK 3473, PAGE 12. **- EASEMENT LOCATION UNKNOWN, UNABLE TO COMMENT**

(11) RIGHTS AND EASEMENT GRANTED TO THE STATE OF MAINE IN DEEDS: (I) BOOK 1151, PAGE 16; (II) BOOK 1123, PAGE 391; (III) BOOK 1150, PAGE 110; (IV) BOOK 1150, PAGE 104; (V) BOOK 1150, PAGE 313; (VI) BOOK 1150, PAGE 310 AND CONDEMNATION DATED MAY 2, 1956 AND RECORDED IN BOOK 1326, PAGE 135. **- STATED RIGHTS AND EASEMENTS NO LONGER APPLY. BIDDEFORD CROSSING LLC CONVEYED LANDS, INCLUDING THE EASEMENT PARCELS, TO THE STATE OF MAINE BY DEED BOOK 15206 PAGE 195. SEE EXCEPTION 29 FOR FURTHER INFORMATION.**

(12) RIGHTS AND EASEMENTS RESERVED IN DEED FROM NEW LIFE CHRISTIAN FELLOWSHIP TO BIDDEFORD CROSSING LLC DATED SEPTEMBER 13, 2005 AND RECORDED IN BOOK 14602, PAGE 667. **- EASEMENT TERMINATED, NOTHING TO PLOT**

(13) RIGHTS AND EASEMENTS GRANTED TO MAINE TURNPIKE AUTHORITY DATED JUNE 27, 1995 AND RECORDED IN BOOK 7472, PAGE 329. **- NOT LOCUS**

(14) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH AUGUST 11, 2005, MADE BY TITCOMB ASSOCIATES AND RECORDED IN PLAN BOOK 304, PAGE 4, INCLUDING: I) NOTES THEREON; AS AFFECTED BY "AMENDED SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH SEPTEMBER 13, 2005, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN PLAN BOOK 304, PAGE 45, INCLUDING: I) NOTES THEREON; AS AFFECTED BY "AMENDED SUBDIVISION PLAN LOT THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH OCTOBER 6,2010, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN PLAN BOOK 348, PAGE 20, INCLUDING: I) NOTES THEREON; AND, II) CONDITIONS OF APPROVAL; AS AFFECTED BY "AMENDED SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH OCTOBER 7, 2010, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN PLAN BOOK 346, PAGE 24, INCLNUDING: I) NOTES THEREON. **- SOUTHERLY RIGHT OF WAY LINE OF ALFRED ROAD, ACCESS EASEMENTS, SIDE/REAR BUILDING & PAVEMENT SETBACKS, CONSERVATION RESTRICTION AREA, SHOPS WAY & LOT 1 SHOWN HEREON**

(15) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN" DATED AUGUST 25, 2005, AS REVISED THROUGH SEPTEMBER 13, 2005, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN CONDOMINIUM FILE 657, PAGES 1 AND 2, INCLUDING: I) NOTES THEREON. **- SOUTHERLY RIGHT OF WAY LINE OF ALFRED ROAD, LOT 1 & CONSERVATION RESTRICTION AREA SHOWN HEREON**

(16) STATE OF FACTS DEPICTED ON PLAN ENTITLED OPERATION AND EASEMENT AGREEMENT SITE PLAN, THE SHOPS AT BIDDEFORD CROSSING" DATED SEPTEMBER 22, 2005, MADE BY GORRILL-PALMER CONSULTING ENGINEERS, INC., CONSISTING OF FIVE SHEETS, RECORDED IN PLAN BOOK 304, PAGES 46, 47, 48, 49, 50. **- FRONTAGE AREAS, PERPETUAL DRIVE, BUILDING AREAS, RESTRICTED CURB CUT AREAS, INTERCONNECT ACCESS EASEMENTS, SERVICE DRIVE, SUBSURFACE DETENTION AREAS, OUTSIDE SALES AREAS AND UNIT 6 SHOWN HEREON.**

(17) TERMS AND CONDITIONS SET FORTH IN DECLARATION OF COVENANTS AND RESTRICTIONS BY BIDDEFORD CROSSING LLC PURSUANT TO STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION NATURAL RESOURCE PROTECTION ACT PROJECT L-22210-26-A-N/L-22210-TGB-N DATED SEPTEMBER 28, 2005 AND RECORDED IN BOOK 14616, PAGE 260. **- NOT LOCUS**

(18) RESTRICTIONS, COVENANTS, TERMS AND CONDITIONS SET FORTH IN DECLARATION OF THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM BY BIDDEFORD CROSSING LLC DATED SEPTEMBER 28, 2005 AND RECORDED IN BOOK 14616, PAGE 268; AS AFFECTED BY ASSIGNMENT AND ASSUMPTION OF CONDOMINIUM DEVELOPMENT RIGHTS AND SPECIAL DECLARANT RIGHTS BETWEEN BIDDEFORD CROSSING LLC AND BIDDEFORD II LLC DATED JULY 11, 2007 AND RECORDED IN BOOK 15206, PAGE 222; AS AFFECTED BY MEMORANDUM OF RELEASE OF BIDDEFORD CROSSING II LLC DATED JUNE 3, 3013 AND RECORDED IN BOOK 16614, PAGE 352. **- DOES NOT AFFECT LOCUS PROPERTY**

(19) TERMS AND CONDITIONS OF OPERATION AND EASEMENT AGREEMENT BETWEEN AND AMONG TARGET CORPORATION, LOWE'S HOME CENTERS, INC. AND BIDDEFORD CROSSING, LLC DATED SEPTEMBER 26, 2005 AND RECORDED IN BOOK 14616, PAGE 315; AS AFFECTED BY MEMORANDUM OF RELEASE BY BIDDEFORD CROSSING II LLC DATED JUNE 3, 2013 AND RECORDED IN BOOK 16614, PAGE 352. **- APPLIES TO UNITS 1 - 6; PERPETUAL DRIVE, RESTRICTED CURB CUT AREA AND PYLON SIGN SHOWN HEREON.**

(20) TERMS AND CONDITIONS OF LEASE AGREEMENT DATED JANUARY 6, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND BRINKER RESTAURANT CORPORATION (TENANT), AS EVIDENCED BY MEMORANDUM OF LEASE DATED JANUARY 6, 2006 AND RECORDED IN BOOK 14742, PAGE 863; AS AFFECTED BY NOTICE OF ASSIGNMENT OF LEASE FROM BRINKER RESTAURANT CORPORATION TO PEPPER DINING, INC. DATED JUNE 26, 2007 AND RECORDED IN BOOK 15419, PAGE 557 (PORTION OF LOT 1). **- APPLIES TO A PORTION OF LOT 1 AS SHOWN HEREON**

(21) TERMS AND CONDITIONS OF EASEMENT AGREEMENT BETWEEN BIDDEFORD CROSSING LLC AND NEW LIFE CHRISTIAN FELLOWSHIP DATED OCTOBER 27, 2005 AND RECORDED IN BOOK 14763, PAGE 77. **- EASEMENTS SHOWN AS ACCESS EASEMENTS A, B & C**

(22) TERMS AND CONDITIONS OF EASEMENT AGREEMENT BETWEEN NEW LIFE CHRISTIAN FELLOWSHIP AND BIDDEFORD CROSSING LLC DATED JANUARY 6, 2006 AND RECORDED IN BOOK 14819, PAGE 905. **- APPURTENANT EASEMENTS SHOWN HEREON**

(23) TERMS AND CONDITIONS OF LEASE DATED FEBRUARY 28, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND SACO & BIDDEFORD SAVING INSTITUTION (TENANT). **- NOT SURVEY RELATED/ NO DOCUMENT REFERENCED TO REVIEW**

(24) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC TO VERIZON NEW ENGLAND INC. BY EASEMENT DEED ACKNOWLEDGED MAY 2, 2006 AND RECORDED IN BOOK 14827, PAGE 567; AS AFFECTED BY AMENDED EASEMENT DEED ACKNOWLEDGED MAY 24, 2006 AND RECORDED IN BOOK 14854, PAGE 33. **- 30' X 30' EASEMENT WITH PARKING AND OTHER RIGHTS SHOWN HEREON**

SCHEDULE B-II ITEMS (CONTINUED):

(25) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC, THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM ASSOCIATION AND TARGET CORPORATION TO CENTRAL MAINE POWER COMPANY AND VERIZON NEW ENGLAND INC. BY GRANT OF EASEMENT DATED JUNE 20, 2006 AND RECORDED IN BOOK 14889, PAGE 512. **- ELECTRIC MANHOLES AND UNDERGROUND LINES SHOWN HEREON**

(26) TERMS AND CONDITIONS OF UNRECORDED LEASE DATED JULY 31, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND OLD NAVY LLC (TENANT), AS EVIDENCED BY MEMORANDUM OF LEASE DATED JULY 31, 2006 AND RECORDED IN BOOK 14932, PAGE 202 (LOT 1). **- PERMITS USE OF COMMON AREAS AND EASEMENTS**

(27) TERMS AND CONDITIONS OF A LEASE DATED JANUARY 31, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND GMRI, INC. (TENANT), AS EVIDENCED BY MEMORANDUM OF LEASE, BIDDEFORD, ME - OLIVE GARDEN, DATED MARCH 7, 2006 AND RECORDED IN BOOK 14940, PAGE 767. **- LEASE AREA SHOWN HEREON, MAY BE TERMINATED**

(28) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC TO VERIZON NEW ENGLAND INC. BY GRANT OF EASEMENT DATED AUGUST 14, 2006 AND RECORDED IN BOOK 14955, PAGE 853. **- NOT LOCUS**

(29) OUT CONVEYANCE FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY WARRANTY DEED DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 195. **- CURRENT ALFRED ROAD R.O.W.SHOWN HEREON**

(30) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY GRANT OF EASEMENT DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 199. **- NOT LOCUS**

(31) RIGHTS AND EASEMENTS GRANTED FOR FIRE HYDRANT FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY GRANT OF EASEMENT DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 203. **- NOT LOCUS**

(32) RIGHTS AND EASEMENTS GRANTED FOR TRAFFIC SIGNAL FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY GRANT OF EASEMENT DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 207. **- SHOWN HEREON**

(33) RESTRICTIONS, COVENANTS, EASEMENTS, TERMS AND CONDITIONS IN WARRANTY DEED FROM BIDDEFORD CROSSING LLC TO BIDDEFORD CROSSING II LLC DATED JULY 11, 2007 AND RECORDED IN BOOK 15206, PAGE 214. **- INCLUDES LOT 1 AND CONDO LOTS 1-5, ALL SAME RIGHTS, ETC. APPLY**

(34) TERMS AND CONDITIONS, RIGHTS AND EASEMENTS IN DEPOSIT AGREEMENT AND GRANT OF EASEMENT BETWEEN BIDDEFORD CROSSING LLC, THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM ASSOCIATION AND TARGET CORPORATION AND BIDDEFORD AND SACO WATER COMPANY DATED JUNE 20, 2006 AND RECORDED IN BOOK 15347, PAGE 152. **- FIRE HYDRANT, WATER VALVES & UNDERGROUND WATER LINES SHOWN HEREON.**

(35) TERMS AND CONDITIONS OF A LEASE DATED JUNE 12, 2006 BETWEEN BIDDEFORD CROSSING II LLC (LANDLORD) AND PR RESTAURANTS, LLC (TENANT), AS EVIDENCED BY NOTICE OF LEASE DATED APRIL 6, 2010 AND RECORDED IN BOOK 15869, PAGE 580; AS AFFECTED BY COLLATERAL ASSIGNMENT OF LESSEE'S INTEREST IN LEASE BETWEEN PR RESTAURANTS L.L.C. AND WELLS FARGO BANK, NATIONAL ASSOCIATION DATED JUNE 1, 2010 AND RECORDED IN BOOK 15885, PAGE 165; AS AFFECTED BY FIRST AMENDMENT COLLATERAL ASSIGNMENT OF LESSEE'S INTEREST IN LEASE BETWEEN PR RESTAURANTS L.L.C. AND WELLS FARGO BANK, NATIONAL ASSOCIATION DATED NOVEMBER 30, 2012 AND RECORDED IN BOOK 16478, PAGE 46 (CONDOMINIUM UNIT 6, LOT 1). **- LEASE AREA WITHIN LOT 1, SPECIFIC LOCATION UNKNOWN**

(36) TERMS AND CONDITIONS OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION OF DEVELOPMENT ACT, NATURAL RESOURCES PROTECTION ACT, FRESHWATER WETLAND ALTERATION,WATER QUALITY CERTIFICATION AMENDMENT FINDINGS OF FACT AND ORDER DATED MARCH 1, 2011 AND RECORDED IN BOOK 16072, PAGE 14. **- NOT SURVEY RELATED**

(37) TERMS AND CONDITIONS OF A LEASE DATED MAY 17, 2011 BETWEEN BIDDEFORD CROSSING II LLC (LANDLORD) AND MICHAELS STORES, INC. (TENANT), AS EVIDENCED BY NOTICE OF SHOPPING CENTER LEASE DATED MAY 17, 2011 AND RECORDED IN BOOK 16229, PAGE 886. **- NOT SURVEY RELATED**

(38) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MINOR AMENDMENT DATED AUGUST 22, 2012 AND RECORDED IN BOOK 16405, PAGE 713. **- NOT SURVEY RELATED**

(39) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION REVISION DATED MAY 29, 2013 AND RECORDED IN BOOK 16625, PAGE 747. **- NOT SURVEY RELATED**

(40) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION ORDER DATED AUGUST 5, 2005 AND RECORDED IN BOOK 14573, PAGE 262. **- NOT SURVEY RELATED**

(41) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION ORDER DATED NOVEMBER 20, 2006 AND RECORDED IN BOOK 15027, PAGE 292. **- NOT SURVEY RELATED**

(42) RIGHTS AND EASEMENTS GRANTED TO CENTRAL MAINE POWER COMPANY AND NORTHERN NEW ENGLAND TELEPHONE OPERATIONS, LLC DATED AUGUST 24, 2021 AND RECORDED IN BOOK 18791, PAGE 328. **- SPECIFIC LOCATION UNKNOWN, NOT SHOWN**

(43) RIGHTS AND EASEMENTS GRANTED TO THE CITY OF BIDDEFORD IN INSTRUMENT DATED MAY 17, 2011 AND RECORDED IN BOOK 19279, PAGE 69. **- SIDEWALK EASEMENT SHOWN HEREON**

(44) RIGHTS OF TENANT, HOMEGOODS, INC. AND TERMS AND CONDITIONS OF A LEASE BETWEEN DSM MB II, LLC AND HOMEGOODS, INC. DATED JANUARY 6, 2022, AS EVIDENCED BY A MEMORANDUM OF LEASE DATED MARCH 24, 2022 AND RECORDED IN BOOK 18986, PAGE 606. **- NOT SURVEY RELATED**

(45) MORTGAGE, ASSIGNMENT OF LEASES AND RENTS, SECURITY AGREEMENT AND FIXTURE FILING FROM DSM MB II LLC TO NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY, DATED DECEMBER 12, 2014 AND RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 350. **- NOT SURVEY RELATED**

(46) ASSIGNMENT OF LEASES AND RENTS FROM DSM MB II LLC TO NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY, DATED DECEMBER 12, 2014 AND RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 372. **- NOT SURVEY RELATED**

(47) ASSIGNMENT OF RIGHTS FROM DSM MB II LLC TO NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY, DATED DECEMBER 12, 2014 AND RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 382. **- NOT SURVEY RELATED**

(48) UCC FINANCING STATEMENT BETWEEN DSM MB II LLC (DEBTOR) AND NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY (SECURED PARTY) RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 392; AS AFFECTED BY CONTINUATION RECORDED SEPTEMBER 6, 2019 AND RECORDED IN BOOK 18038, PAGE 904. **- NOT SURVEY RELATED**

EXHIBIT A:

THE LAND REFERRED TO IN THIS COMMITMENT IS DESCRIBED AS FOLLOWS:

LEASEHOLD PARCEL TO BE INSURED IS A PORTION OF THE BELOW: LOT 1 -BIDDEFORD CROSSING

A CERTAIN LOT OR PARCEL OF LAND LOCATED ON THE SOUTHERLY SIDE OF ALFRED ROAD (ALSO KNOWN AS ROUTE 111) IN THE CITY OF BIDDEFORD, COUNTY OF YORK, STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHERLY SIDELINE OF ALFRED ROAD AT THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF GERARD W. BOILARD AND LILLIAN A. BOILARD AS DESCRIBED IN A DEED RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 1269, PAGE 208. THENCE:

A) N 77°35'56" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED THIRTY-NINE AND 03/100 (139.03) FEET TO A POINT.

B) N 85°11'12" E BY SAID ALFRED ROAD A DISTANCE OF SIXTY-NINE AND 98/100 (69.98) FEET TO A POINT.

C) N 84°41'17" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED FIFTY-FIVE AND 02/100 (155.02) FEET TO A POINT.

D) N 80°35'02" E BY SAID ALFRED ROAD A DISTANCE OF THREE HUNDRED EIGHTY-FOUR AND 94/100 (384.94) FEET TO A POINT OF CURVATURE.

E) EASTERLY BY SAID ALFRED ROAD FOLLOWING A CURVE TO THE LEFT HAVING A RADIUS OF FIVE HUNDRED TEN AND 00/100 (510.00) FEET, AN ARC DISTANCE OF TWENTY-FIVE AND 01/100 (25.01) FEET TO A POINT OF TANGENCY.

F) N 77°46'26" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED THIRTY-ONE AND 90/100 (131.90) FEET TO A POINT TO THE TRUE POINT OF BEGINNING.

FROM SAID TRUE POINT OF BEGINNING:

1) N 77°46'26" E BY SAID ALFRED ROAD A DISTANCE OF FIVE AND 00/100 (5.00) FEET TO A POINT.

2) N 32°46'26" E BY SAID ALFRED ROAD A DISTANCE OF SIXTEEN AND 56/100 (16.56) FEET TO A POINT.

3) N 77°46'34" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED FIFTY-TWO AND 34/100 (152.34) FEET TO A POINT.

4) N 77°30'23" E BY SAID ALFRED ROAD A DISTANCE OF TWO HUNDRED EIGHTEEN AND 54/100 (218.54) FEET TO A POINT.

5) N 77°27'56" E BY SAID ALFRED ROAD A DISTANCE OF FOUR HUNDRED FORTY-NINE AND 18/100 (449.18) FEET TO A POINT.

6) N 77°49'52" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED TEN AND 21/100 (110.21) FEET TO A POINT.

7) S 35°51'48" W BY SAID ALFRED ROAD A DISTANCE OF FOURTEEN AND 95/100 (14.95) FEET TO A POINT AND LAND NOW OR FORMERLY OF NEW LIFE CHRISTIAN FELLOWSHIP AS DESCRIBED IN A DEED RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 3331, PAGE 94.

8) S 35°51'48 W BY SAID LAND OF NEW LIFE CHRISTIAN FELLOWSHIP A DISTANCE OF THREE HUNDRED SIXTY-FOUR AND 20/100 (364.20) FEET TO A POINT.

9) S 12°32'03" E A DISTANCE OF ONE HUNDRED THIRTY-EIGHT AND 70/100 (138.70) FEET TO A POINT.

10) S 62°46'04" E A DISTANCE OF FIFTY-THREE AND 39/100 (53.39) FEET TO A POINT.

11) S 12°38'43" E A DISTANCE OF TWO HUNDRED EIGHTY-ONE AND 19/100 (281.19) FEET TO A POINT.

12) S 62°34'07" W A DISTANCE OF ONE HUNDRED EIGHTY-FOUR AND 90/100 (184.90) FEET TO A POINT.

13) N 79°48'56" W A DISTANCE OF TWO HUNDRED ELEVEN AND 98/100 (211.98) FEET TO A POINT.

14) N 50°46'40" W A DISTANCE OF NINETY-THREE AND 15/100 (93.15) FEET TO A POINT AND THE NORTHWESTERLY SIDELINE OF SAID LAND OF NEW LIFE CHRISTIAN FELLOWSHIP.

15) S 35°51'48" W BY SAID LAND OF NEW LIFE CHRISTIAN FELLOWSHIP A DISTANCE OF THREE HUNDRED FORTY AND 27/100 (340.27) FEET TO A POINT AND THE NORTHEASTERLY SIDELINE OF LOT 2 AS SHOWN ON A PLAN ENTITLED "SUBDIVISION PLAN OF THE SHOPS AT BIDDEFORD CROSSING" MADE BY TITCOMB ASSOCIATES FOR BIDDEFORD CROSSING LLC, DATED FEBRUARY 25, 2005 AND REVISED THROUGH AUGUST 11, 2005.

16) N 52°21'34" W BY SAID LOT 2 A DISTANCE OF THREE HUNDRED THIRTY-NINE AND 78/100(339.78) FEET TO A POINT.

17) N 25°21'39" W BY SAID LOT 2 A DISTANCE OF ONE HUNDRED SEVEN AND 51/100 (107.51) FEET TO A POINT.

18) NORTHEASTERLY BY SAID LOT 2 FOLLOWING A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF FOUR HUNDRED TWENTY- EIGHT AND 73/100 (428.73) FEET AN ARC DISTANCE OF ONE HUNDRED SIXTY-FIVE AND 70/100 (165.70) FEET TO A POINT OF COMPOUND CURVATURE, SAID POINT BEING LOCATED N 46°23'47" E A DISTANCE OF ONE HUNDRED SIXTY-FOUR AND 67/100 (164.67) FEET FROM THE LAST MENTIONED POINT.

19) NORTHEASTERLY BY SAID LOT 2 FOLLOWING A CURVE TO THE LEFT HAVING A RADIUS OF TWO HUNDRED FIFTY-ONE AND 45/100 (251.45) FEET, AN ARC DISTANCE OF NINETEEN AND 40/100 (19.40) FEET TO A POINT OF COMPOUND CURVATURE.

20) NORTHEASTERLY BY SAID LOT 2 FOLLOWING A CURVE TO THE LEFT HAVING A RADIUS OF TWO HUNDRED FORTY-FIVE AND 00/100 (245.00) FEET, AN ARC DISTANCE OF ONE HUNDRED EIGHTY-EIGHT AND 36/100 (188.36) FEET TO A POINT OF TANGENCY.

21) N 12°11'35" W BY SAID LOT 2 A DISTANCE OF ONE HUNDRED SEVENTY-EIGHT AND 76/100 (178.76) FEET TO THE TRUE POINT OF BEGINNING.

MEANING AND INTENDING TO DESCRIBE LOT 1 AS SHOWN ON A PLAN ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN" MADE BY TITCOMB ASSOCIATES FOR BIDDEFORD CROSSING LLC, DATED AUGUST 25, 2005 AND REVISED THROUGH SEPTEMBER 13, 2005.

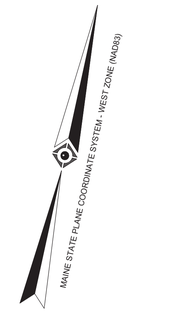
BEARINGS ARE BASED ON GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM NAD 1983, WEST ZONE. REFERENCE IS HEREIN MADE TO A PLAN ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN" MADE BY TITCOMB ASSOCIATES FOR BIDDEFORD CROSSING LLC, DATED AUGUST 25, 2005 AND REVISED THROUGH SEPTEMBER 13, 2005, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN CONDOMINIUM FILE NO. 657, PAGES 1 AND 2.

TOGETHER WITH THE RIGHTS, EASEMENTS AND RESTRICTIONS APPURTENANT TO THE INSURED PREMISES AS SET FORTH IN AN OPERATION AND EASEMENT AGREEMENT BETWEEN AND AMONG TARGET CORPORATION, LOWE'S HOME CENTERS, INC. AND BIDDEFORD CROSSING LLC FOR THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE, DATED SEPTEMBER 28, 2005, RECORDED IN BOOK 14616, PAGE 315.

TOGETHER WITH THE RIGHTS, EASEMENTS AND RESTRICTIONS APPURTENANT TO THE INSURED PREMISES AS SET FORTH IN EASEMENT AGREEMENT BETWEEN NEW LIFE CHRISTIAN FELLOWSHIP AND BIDDEFORD CROSSING LLC DATED JANUARY 6, 2006 AND RECORDED IN BOOK 14819, PAGE 905.

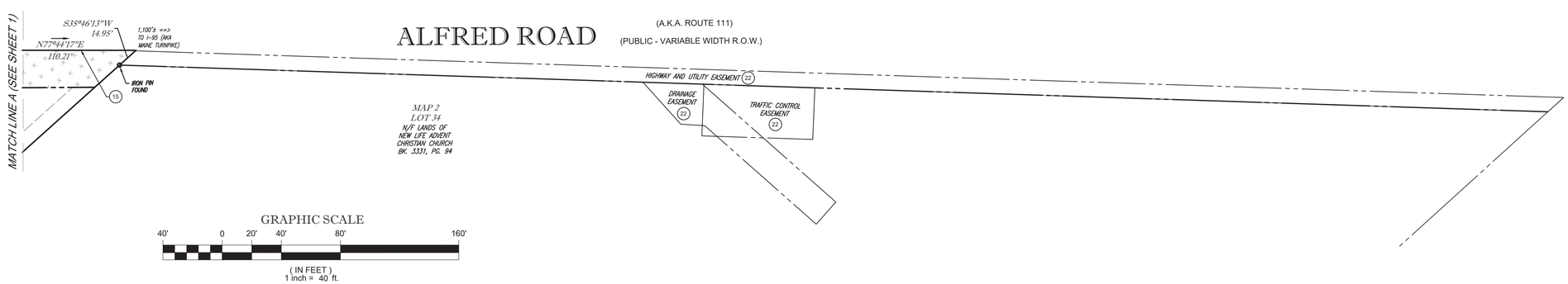
REFERENCES:

1. THE TAX ASSESSOR'S MAP OF BIDDEFORD, YORK COUNTY, MAP 2.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF BIDDEFORD, MAINE, YORK COUNTY, PANEL 8 OF 11," COMMUNITY-PANEL NUMBER 230145 0008 B, MAP EFFECTIVE: MAY 15, 1984.
3. MAP ENTITLED "AMENDED SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING," PREPARED BY TITCOMB ASSOCIATES, DATED FEBRUARY 25, 2005, LAST REVISED SEPTEMBER 13, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 45.
4. MAP ENTITLED "OPERATION AND EASEMENT AGREEMENT SITE PLAN, THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE," PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS, INC., DATED SEPTEMBER 19, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 46.
5. MAP ENTITLED "OPERATION AND EASEMENT AGREEMENT SITE PLAN (WATER & SEWER), THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE," PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS, INC., DATED SEPTEMBER 19, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 48.
6. MAP ENTITLED "OPERATION AND EASEMENT AGREEMENT SITE PLAN (ATM & KIOSK AREAS), THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE," PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS, INC., DATED SEPTEMBER 19, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 50.
7. MAP ENTITLED "FIELD SKETCH, 101 SHOPS WAY, BIDDEFORD ME, SUE PROJECT NO. 08-240091-00," PREPARED BY CONTROL POINT ASSOCIATES, INC., SUBSURFACE ENGINEERING (SUE) DIVISION), DATED FEBRUARY 27, 2024.
8. UNDERGROUND WATER MAPPING IN THE AREA PROVIDED BY MAINE WATER COMPANY.
9. UNDERGROUND SEWER MAPPING IN THE AREA PROVIDED BY THE TOWN OF BIDDEFORD.
10. MAP ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN, ALFRED ROAD, ROUTE 111, BIDDEFORD, MAINE," PREPARED BY TITCOMB ASSOCIATES, DATED AUGUST 25, 2005, LAST REVISED SEPTEMBER 13, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN CONDO FILE NO. 657, PAGES 1 & 2.



SEE SHEET 1 OF 3 FOR NOTES & OVERALL BOUNDARY

SEE SHEET 2 OF 3 FOR AREA OF TOPOGRAPHIC DETAIL



GRAPHIC SCALE

40' 0 20' 40' 80' 160'

(IN FEET)
1 inch = 40 ft.

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL A
DSM MB II LLC
FIDELITY NATIONAL TITLE INSURANCE COMPANY

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	REVISED INVERT ELEVATIONS	B.S.B.	R.J.K.	C.E.L.	12-2-2024
1	REVISED PER CLIENT COMMENTS	-	E.G.F.	C.E.L.	4-29-2024

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5 (PARTIAL), 7(A), 7(B)(1), 7(C), 8, 9, 11(B), 13 & 14 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 15, 2024.

THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 AND PART 2 OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

STATE OF MAINE · CHARLES E. LENT · 2445 · PROFESSIONAL LAND SURVEYOR

12-2-2024
DATE

CHARLES E. LENT, PLS
MAINE PROFESSIONAL LAND SURVEYOR #2445

FIELD DATE
2-14-2024
2-15-2024
2-16-2024

FIELD BOOK NO.
SMC-MA

FIELD BOOK PG.
50, 51, 54, 55, 68-71

FIELD CREW
S.M.C.

DRAWN:
E.G.F.

ALTA/NSPS LAND TITLE SURVEY
CHICK-FIL-A
101 (150) SHOPS WAY
MAP 2, LOT 24
CITY OF BIDDEFORD, YORK COUNTY
STATE OF MAINE

CONTROL POIN

PROPOSED SITE PLAN DOCUMENTS

FOR

PROPOSED

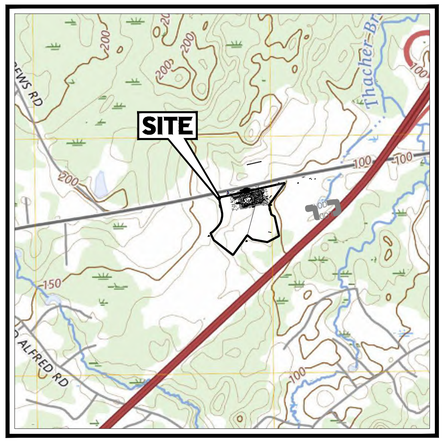
RESTAURANT W/ DRIVE-THRU

LOCATION OF SITE

150 SHOPS WAY, CITY OF BIDDEFORD

YORK COUNTY, MAINE

MAP 2, LOT 24



N

LOCATION MAP

SCALE: 1" = 1,000'
SOURCE: USGS

PREPARED BY

BOHLER

CONTACT: JOEY FONSECA

REFERENCES AND CONTACTS

REFERENCES
♦BOUNDARY & TOPOGRAPHIC SURVEY:
CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
DATED: 04/29/24 (REV 1)
SURVEY JOB #: 03-240044-00
ELEVATIONS: NAVD 1988

* THE ABOVE REFERENCED DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THESE PLANS, HOWEVER, BOHLER ENGINEERING DOES NOT CERTIFY THE ACCURACY OF THE WORK REFERENCED OR DERIVED FROM THESE DOCUMENTS, BY OTHERS.

CITY OF BIDDEFORD PLANNING BOARD #2025.07

ZONE: B2 - HIGHWAY BUSINESS DISTRICT
EXISTING USE - OLIVE GARDEN (RESTAURANT)
PROPOSED USE: CHICK-FIL-A (RESTAURANT W/ DRIVE-THRU)

BULK REQUIREMENTS

ITEM	PROPOSED
DRAINAGE WATERSHED	LOWER THACKER BROOK
WITHIN MS4 URBANIZED AREA?	YES
NATURAL RESOURCES ON SITE	NONE
WITHIN 100-YEAR FLOOD ZONE?	NO
PUBLIC ROAD PROPOSED	NO
PRIVATE ROAD PROPOSED	NO
PUBLIC SEWER CONNECTION	YES, EXISTING
PUBLIC STORM CONNECTION	NO
LIMIT OF DISTURBANCE AREA	1.1 AC
PERVIOUS LAND COVER	5,000 SF
IMPERVIOUS LAND COVER	41,500 SF
BUILDING ROOF COVER	5,189 SF
ESTIMATED CUT / FILL VOLUME	510 CU. YD. (FILL)

WAIVERS REQUESTED:
♦NONE

APPROXIMATE CUT/FILL (SURFACE TO SURFACE):
♦TOTAL FILL = ±825 CUBIC YARDS
♦TOTAL CUT = ±180 CUBIC YARDS

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT. WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-000
GENERAL NOTES AND LEGEND	C-001
DEMOLITION PLAN	C-100
SITE PLAN	C-200
GRADING PLAN	C-300
DRAINAGE PLAN	C-301
EROSION AND SEDIMENT CONTROL PLAN	C-302
EROSION AND SEDIMENT CONTROL DETAILS	C-303
PLUMBING SITE PLAN	PS-100
LANDSCAPE PLAN	L-100
LANDSCAPE NOTES AND DETAILS	L-101
LIGHTING PLAN	L-200
LIGHTING NOTES AND DETAILS	L-201
CFA STANDARD DETAILS	C-400 - C-403
CONSTRUCTION DETAILS	C-500 - C-501
ALTA SURVEY (BY OTHERS)	3 SHEETS
TOTAL SHEETS	18

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

811 Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT # MAA230431.00
PRINTED FOR ISSUED FOR PERMIT
DATE 11/08/2024
DRAWN BY AEH
CHECKED BY JNF

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SHEET
COVER SHEET

SHEET NUMBER
C-000

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL_CN05-MAA230431.00-1B-----LAYOUT: C-000 - COVER SHEET

GENERAL NOTES

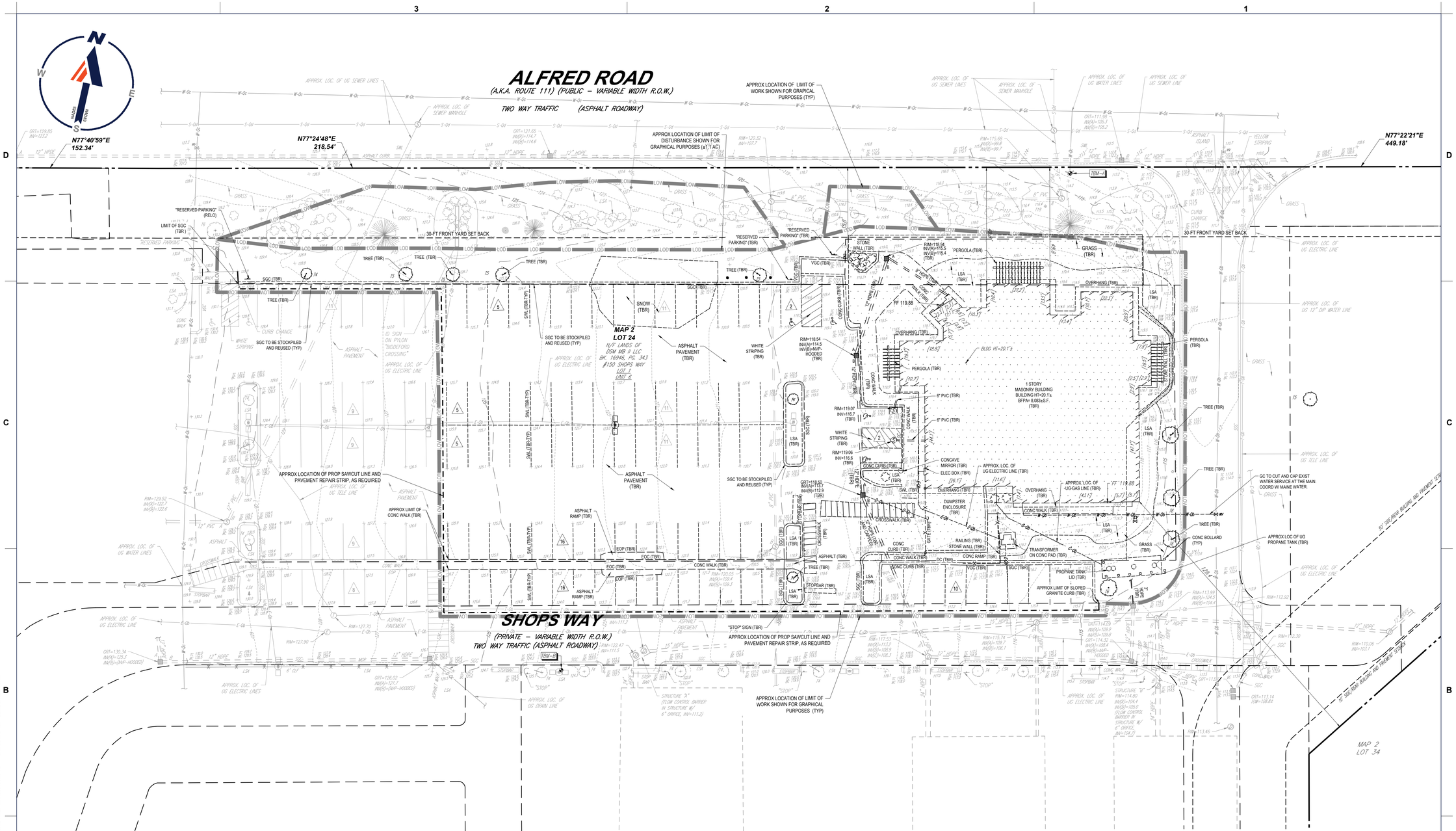
(Rev. 1/2023)

1. THESE PLANS ARE SOLELY BASED ON INFORMATION THE OWNER AND OTHERS PROVIDED TO BOHLER ENGINEERING MA, LLC (HEREIN "BOHLER") PRIOR TO THE DATE ON WHICH THE PROFESSIONAL OF RECORD AND BOHLER PREPARED THESE PLANS. THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS AND IMMEDIATELY NOTIFY BOHLER , IN WRITING, IF ANY ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THESE PLANS, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
2. THE CONTRACTOR MUST STRICTLY COMPLY WITH THESE NOTES AND ALL SPECIFICATIONS/REPORTS CONTAINED HEREIN. THE CONTRACTOR MUST ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS. THESE NOTES, AND THE REQUIREMENTS ARTICULATED IN THE NOTES CONTAINED IN ALL THE OTHER DRAWINGS THAT COMPRISE THE PLAN SET OF DRAWINGS. ADDITIONAL NOTES AND SPECIFIC PLAN NOTES MAY BE FOUND ON THE INDIVIDUAL PLANS. THESE GENERAL NOTES APPLY TO THIS ENTIRE DOCUMENT PACKAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE, PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION.
3. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST CONFIRM WITH THE PROFESSIONAL OF RECORD AND BOHLER THAT THE LATEST EDITION OF THE DOCUMENTS AND/OR REPORTS REFERENCED WITHIN THE PLAN REFERENCES ARE BEING USED FOR CONSTRUCTION. THIS IS THE CONTRACTOR'S SOLE AND COMPLETE RESPONSIBILITY.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION CAN BEGIN UNTIL THE CONTRACTOR HAS PERFORMED A THOROUGH, WRITTEN REVIEW OF THE CONDITIONS OF APPROVAL TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND HAS ALSO CONFIRMED THAT ALL NECESSARY AND REQUIRED PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
5. THE CONTRACTOR MUST ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS/REPORTS AND CONDITIONS OF APPROVAL AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT, AND ALL PROVISIONS IN AND CONDITIONS OF THE CONSTRUCTION CONTRACT WITH THE OWNER/DEVELOPER INCLUDING ALL EXHIBITS, ATTACHMENTS AND ADDENDA TO SAME.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFULLY REVIEWING THE MOST CURRENT ARCHITECTURAL, CIVIL AND STRUCTURAL CONSTRUCTION DOCUMENTS (INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). THE CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND PROFESSIONAL OF RECORD AND BOHLER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST BETWEEN THESE PLANS AND ANY OTHER PLANS THAT COMPRISE THE CONSTRUCTION DOCUMENTS.
7. CONTRACTOR MUST REFER TO AND ENSURE COMPLIANCE WITH APPROVED ARCHITECTURAL/BUILDING PLANS OF RECORD FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
8. THE CONTRACTOR MUST FIELD VERIFY ALL APPLICABLE DIMENSIONS AND MEASUREMENTS SHOWN ON THESE PLANS, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR MUST IMMEDIATELY NOTIFY PROFESSIONAL OF RECORD AND BOHLER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE RE-DONE WHICH COULD HAVE BEEN AVOIDED IF DIMENSIONS SHOWN DIRECTLY ON THESE PLANS PRIOR TO BOTH (A) THE CONTRACTOR GIVING PROFESSIONAL OF RECORD AND BOHLER WRITTEN NOTIFICATION OF SAME AND (B) PROFESSIONAL OF RECORD AND BOHLER, THEREAFTER, PROVIDING THE CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MEASUREMENTS INCLUDED ON DESIGN DOCUMENTS HEREIN AND MUST NOT SCALE OFF THE DRAWINGS DUE TO POTENTIAL PRINTING INACCURACIES. ALL DIMENSIONS AND MEASUREMENTS ARE TO BE CHECKED AND CONFIRMED BY THE GENERAL CONTRACTOR PRIOR TO PREPARATION OF SHOP DRAWINGS, FABRICATION/ORDERING OF PARTS AND MATERIALS AND COMMENCEMENT OF SITE WORK. SITE PLAN DRAWINGS ARE NOT INTENDED AS SURVEY DOCUMENTS. DIMENSIONS SUPERSEDE GRAPHICAL REPRESENTATIONS. THE CONTRACTOR MUST MAKE CONTRACTOR'S OWN MEASUREMENTS FOR LAYOUT OF IMPROVEMENTS.
10. THE OWNER AND CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
11. WHEN INCLUDED AS ONE OF THE REFERENCED DOCUMENTS, THE GEOTECHNICAL REPORT, SPECIFICATIONS AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIREMENTS FOR CONSTRUCTION DOCUMENTS AND IN THE CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN: (A) THE PLANS; AND (B) THE GEOTECHNICAL REPORT AND RECOMMENDATIONS, MUST TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE PROFESSIONAL OF RECORD AND BOHLER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORT AND PLANS AND SPECIFICATIONS, PRIOR TO PROCEEDING WITH ANY FURTHER WORK. IF A GEOTECHNICAL REPORT WAS NOT CREATED, THEN THE CONTRACTOR MUST FOLLOW AND COMPLY WITH ALL OF THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE SPECIFICATIONS WHICH HAVE JURISDICTION OVER THIS PROJECT.
12. PROFESSIONAL OF RECORD AND BOHLER ARE NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND FURTHER, HAS NO LIABILITY FOR ANY HAZARDOUS MATERIALS ON, ABOVE OR BENEATH THE SITE, OR ANY OTHER HAZARDS OR NUISANCES.
13. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN AND WHERE SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES. THIS WORK IS TO BE PERFORMED WITHOUT DISTURBING THE PROPERTIES OF ADJACENT CONTRACTOR'S SOLE COST AND EXPENSE.
14. THE CONTRACTOR MUST EXERCISE EXTREME CAUTION WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANY OTHERS INVOLVED WITH THE PROJECT.
15. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION AND CONSTRUCTION WASTES, UNSUITABLE EXCAVATED MATERIAL, EXCESS SOIL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER THE CONTRACTOR.
16. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN RECORDS TO DEMONSTRATE PROPER AND FULLY COMPLIANT DISPOSAL ACTIVITIES, TO BE PROMPTLY PROVIDED TO THE OWNER UPON REQUEST.
17. THE CONTRACTOR MUST REPAIR, AT CONTRACTOR'S SOLE COST, ALL DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST BE COMPLETED TO THE SATISFACTION AND APPROVAL/CONSENT OF THE OWNER OF SUCH PROPERTY, EQUAL TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. THE CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE CONTRACTOR MUST, PROMPTLY, DOCUMENT ALL EXISTING DAMAGE AND NOTIFY, IN WRITING, THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
18. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR AND HAVE NO CONTRACTUAL, LEGAL OR OTHER RESPONSIBILITIES FOR JOB SITE SAFETY JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME. THE PROFESSIONAL OF RECORD AND BOHLER HAVE NOT BEEN RETAINED TO PERFORM OR TO BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF PROFESSIONAL OF RECORD'S AND BOHLER SERVICES AS RELATED TO THE PROJECT. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES OR ANY JOB SITE CONDITIONS, AT ANY TIME.
19. THE CONTRACTOR MUST IMMEDIATELY IDENTIFY IN WRITING, TO THE PROFESSIONAL OF RECORD AND BOHLER , ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF THE CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER WRITTEN NOTIFICATION AS DESCRIBED ABOVE, IT WILL BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, THE CONTRACTOR MUST INDEMNIFY, DEFEND AND HOLD HARMLESS THE PROFESSIONAL OF RECORD AND BOHLER FOR ANY AND ALL DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM OR ARE IN ANY WAY RELATED TO SAME INCLUDING, BUT NOT LIMITED TO, ANY THIRD PARTY AND FIRST PARTY CLAIMS.
20. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM THE CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS, AND CURRENT CODES, RULES, STATUTES AND THE LIKE. IF THE CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, RULES, STATUTES, CODES AND THE LIKE, THE CONTRACTOR AND/OR OWNER AGREE TO AND MUST, JOINTLY, INDEPENDENTLY, SEPARATELY, AND SEVERALLY INDEMNIFY AND MUST HOLD THE PROFESSIONAL OF RECORD AND BOHLER HARMLESS FROM AND FROM ALL INJURIES, CLAIMS AND DAMAGES THAT PROFESSIONAL OF RECORD AND BOHLER SUFFER AND INCUR AS A RESULT OF SAID FAILURE THAT PROFESSIONAL OF RECORD AND BOHLER HAS RELATED TO SAME.
21. ALL CONTRACTORS MUST CARRY AT LEAST THE MINIMUM AMOUNT OF THE SPECIFIED AND COMMERCIALLY REASONABLE STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND COMMERCIAL GENERAL LIABILITY INSURANCE (CGL) INCLUDING ALSO ALL UMBRELLA COVERAGES. ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER , AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL INSUREDS WITH RESPECT TO WORK PERFORMED TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE (DEFEND, IF APPLICABLE) AND HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED AND AGREED TO BY THE CONTRACTOR HEREIN. ALL CONTRACTORS MUST FURNISH BOHLER WITH CERTIFICATIONS OF INSURANCE OR CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE COVERAGES PRIOR TO COMMENCING ANY WORK ON SITE AND SHALL PROVIDE NOTICE OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR TWO YEARS AFTER THE COMPLETION OF CONSTRUCTION AND AFTER ALL PERMITS ARE ISSUED, WHICHEVER DATE IS LATER. IN ADDITION, ALL CONTRACTORS AGREE THAT THEY WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS A CONDITION OF SUBCONTRACTOR'S SITE (HEREIN AND FOR THIRD PARTIES"), RELIEVES OR WILL RELIEVE THE CONTRACTOR OF AND FROM CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ALL HEALTH AND SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER PARTIES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER (OR ANY RESPONSIBILITY FOR) ANY CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES EMPLOYED BY ANY CONTRACTOR IN CONNECTION WITH SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR MUST INDEMNIFY, DEFEND, PROTECT AND HOLD HARMLESS BOHLER PARTIES FOR AND FROM ANY LIABILITY TO BOHLER PARTIES RESULTING FROM THE CONTRACTOR'S WORK, OMISSIONS AND/OR VIOLATIONS OF THESE PLANS' NOTES OR ANY RULES, LAWS AND REGULATIONS, AND, FURTHER, THE CONTRACTOR MUST NAME BOHLER AS AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE.
22. WHEN IT IS CLEAR AND SPECIFICALLY WITHIN BOHLER'S SCOPE OF SERVICES CONTRACT WITH THE OWNER/DEVELOPER, BOHLER WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF EVALUATING CONFORMITY WITH PROFESSIONAL OF RECORD'S AND BOHLER'S INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER SHALL HAVE NO RESPONSIBILITY FOR THE FOREGOING. BOHLER'S REVIEW OF SUBMITTALS AND SHOP DRAWING REVIEW WITH REASONABLE PROMPTNESS, AS CONDITIONS PERMIT. ANY DOCUMENT, DOCUMENTING BOHLER'S REVIEW OF A SPECIFIC ITEM OR LIMITED SCOPE, MUST NOT INDICATE THAT BOHLER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR MUST, IN WRITING, PROMPTLY AND IMMEDIATELY BRING ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS TO BOHLER'S ATTENTION. BOHLER IS NOT REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
23. IF THE CONTRACTOR DEVIATES FROM THESE PLANS AND/OR SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE PROFESSIONAL OF RECORD AND BOHLER FOR ALL DEVIATIONS WITHIN PROFESSIONAL OF RECORD'S SCOPE, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK PERFORMED WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, MUST DEFEND, INDEMNIFY, PROTECT AND HOLD HARMLESS THE PROFESSIONAL OF RECORD AND BOHLER PARTIES TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, CLAIMS, INJURIES, PENALTIES AND THE LIKE RELATED TO SAME.
24. THE CONTRACTOR IS RESPONSIBLE FOR A MAINTAINING AND PROTECTING THE TRAFFIC CONTROL PLAN AND ELEMENTS IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS, FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE RIGHT OF WAY OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE AND IS THE CONTRACTOR'S SOLE RESPONSIBILITY.
25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN, AND, FURTHER, THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD THE PROFESSIONAL OF RECORD AND BOHLER PARTIES, HARMLESS FOR ALL INJURIES, DAMAGES AND COSTS THAT PROFESSIONAL OF RECORD AND BOHLER INCUR AS A RESULT OF SAID FAILURE OR FAILURE TO PRESERVE.
26. THE CONTRACTOR OR SUB-CONTRACTOR SHALL UNDERTAKE ACTIVITIES AND MATERIALS COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL RULES AND REGULATIONS, LAWS, ORDINANCES, AND CODES, AND ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.) AS AMENDED, AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
27. THE CONTRACTOR MUST STRICTLY COMPLY WITH THE LATEST AND CURRENT OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION OVER EXCAVATION AND TRENCHING PROCEDURES. PROFESSIONAL OF RECORD AND BOHLER HAS NO RESPONSIBILITY FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES AND WORK.
28. THE CONTRACTOR AND THE OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND IN ACCORDANCE WITH MANUFACTURERS STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF THE CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY, INDEPENDENTLY, SEPARATELY, COLLECTIVELY, AND SEVERALLY INDEMNIFY, DEFEND, PROTECT AND HOLD PROFESSIONAL OF RECORD AND BOHLER PARTIES HARMLESS FROM AND FROM ALL INJURIES AND DAMAGES THAT PROFESSIONAL OF RECORD SUFFERS AND COSTS THAT PROFESSIONAL OF RECORD INCURS AS A RESULT OF SAID FAILURE.
29. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIREMENTS OR LOCAL GOVERNING AGENCY FOR SITES WHERE ONE (1) ACRE OR MORE IS DISTURBED BY CONSTRUCTION ACTIVITIES (UNLESS THE LOCAL JURISDICTION REQUIRES A DIFFERENT THRESHOLD). THE CONTRACTOR MUST ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF ALL SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE AND FURTHER, THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR FAILING TO DO SO.
30. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED DOCUMENTS PREPARED BY THE PROFESSIONAL OF RECORD AND BOHLER, THE USE OF THE WORDS 'CERTIFY' OR 'CERTIFICATION' CONSTITUTE(S) AN EXPRESSION ONLY OF PROFESSIONAL OPINION REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE PROFESSIONAL OF RECORD'S AND BOHLER KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON AND ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE OF ANY NATURE OR TYPE, EITHER EXPRESSED OR IMPLIED, UNDER ANY CIRCUMSTANCES.

DEMOLITION NOTES

(Rev. 1/2023)

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THE CONTRACTOR MUST CONDUCT DEMOLITION/REMOVALS ACTIVITIES IN SUCH A MANNER AS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND ALL OTHER ADJACENT FACILITIES. THE CONTRACTOR MUST OBTAIN ALL APPLICABLE PERMITS FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY(IES) PRIOR TO THE COMMENCEMENT OF ANY ROAD OPENING OR DEMOLITION ACTIVITIES IN OR ADJACENT TO THE RIGHT-OF-WAY.
3. WHEN DEMOLITION-RELATED ACTIVITIES IMPACT ROADWAYS AND/OR ROADWAY RIGHT-OF-WAY, THE CONTRACTOR MUST PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE CURRENT FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AND THE FEDERAL, STATE, AND LOCAL REGULATIONS.
4. THE DEMOLITION (AND/OR REMOVALS) PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION AND TO IDENTIFY ONLY CONDITIONS REGARDING ITEMS TO BE DEMOLISHED, REMOVED, AND/OR TO REMAIN.
   A. THE CONTRACTOR MUST ALSO REVIEW ALL CONSTRUCTION DOCUMENTS AND INCLUDE WITHIN THE DEMOLITION ACTIVITIES ALL INCIDENTAL OR ASSOCIATED ITEMS AS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE WORK.
   B. THIS PLAN IS NOT INTENDED TO AND DOES NOT PROVIDE DIRECTION REGARDING THE MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES TO BE EMPLOYED TO ACCOMPLISH THE WORK. ALL MEANS, METHODS, SEQUENCING, TECHNIQUES AND PROCEDURES MUST BE STRICT ACCORDANCE WITH ALL SAFETY RULES AND REGULATIONS, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR MUST COMPLY WITH ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE FOR THE CONTRACTORS AND THE PUBLIC.
5. THE CONTRACTOR MUST PROVIDE ALL "METHODS AND MEANS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR MUST, AT THE CONTRACTOR'S SOLE COST, REPAIR ALL DAMAGE TO ALL ITEMS AND FEATURES THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIRS MUST INCLUDE THE RESTORATION OF ALL ITEMS AND FEATURES DAMAGED TO THEIR PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR MUST PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.
6. THE PROFESSIONAL OF RECORD AND BOHLER ARE NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. THE CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER AND ALL APPLICABLE LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS BY THE JURISDICTION.
7. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY, WHICH MUST INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION AND MAINTENANCE OF BARRIERS, FENCING, OTHER APPROPRIATE AND/OR NECESSARY SAFETY FEATURES AND ITEMS NECESSARY TO PROTECT THE PUBLIC FROM ANY/ALL CONSTRUCTION AND DEMOLITION ACTIVITIES. THE CONTRACTOR MUST SAFEGUARD THE SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF ALL UNAUTHORIZED/UNPERMITTED PERSONS FROM THE DEMOLITION AREA.
8. PRIOR TO THE COMMENCEMENT OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY, THE CONTRACTOR MUST, IN WRITING, RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS AND/OR SPECIFICATIONS, ALL CONCERNS OR QUESTIONS REGARDING THE APPLICABLE SAFETY STANDARDS, AND/OR THE SAFETY OF THE CONTRACTOR AND/OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT. ANY SUCH CONCERNS MUST BE CONVEYED TO THE PROFESSIONAL OF RECORD AND BOHLER, IN WRITING AND WITH SUFFICIENT ADDRESS ALL ISSUES AND ITEMS RAISED BY THE PROFESSIONAL OF RECORD AND BY BOHLER, IN WRITING. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, LAWS AND ORDINANCES.
9. THE CONTRACTOR MUST BECOME FAMILIAR WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR COORDINATING WITH ALL UTILITY SERVICE PROVIDERS IN CONNECTION AND DISCONNECTION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED, REMOVED AND/OR ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS, PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION ACTIVITIES.
10. PRIOR TO COMMENCING ANY DEMOLITION, THE CONTRACTOR MUST:
    A. OBTAIN ALL REQUIRED PERMITS AND MAINTAIN THE SAME ON SITE FOR REVIEW BY THE PROFESSIONAL OF RECORD AND ALL PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK.



BIDDEFORD DEMOLITION NOTES

1. THE CONTRACTOR MUST PAVE ALL UTILITY TRENCHES WITHIN THE RIGHT OF WAY WITHIN THREE (3) DAYS OF EXCAVATION OR PRIOR TO ANY RAIN EVENT.

MAINE DEMOLITION NOTES

(REV. 1/2023)

1. THE CONTRACTOR MUST LOCATE AND CLEARLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
2. CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND IF REQUIRED, DIG EXPLORATORY TEST PITS TO CONFIRM EXACT LOCATION AND DEPTH OF UTILITIES. CONTRACTOR SHALL NOTIFY DESIGN ENGINEER WITH ANY CONFLICTS AS NEEDED TO COORDINATE FINAL LOCATION OF ALL PROPOSED IMPROVEMENTS.
3. CONTRACTOR SHALL INSPECT ALL EXISTING UTILITY STRUCTURES THAT ARE TO REMAIN FOR THE PROJECTS RE-USE TO VERIFY SUITABILITY FOR SAME. IF STRUCTURES CAN NOT BE REUSED THEN THE CONTRACTOR SHALL PROVIDE A NEW STRUCTURE. THE CONTRACTOR SHALL COORDINATE SUCH WORK WITH THE APPLICABLE UTILITY PROVIDER.
4. CONTRACTOR TO REMOVE ANY BUILDING FOUNDATION REMAINS OR ASSOCIATED IMPROVEMENTS, DELETERIOUS MATERIALS, AND/OR DEBRIS THAT IMPEDE THE WORK SHOWN ON THESE PLANS.
5. THE CONTRACTOR SHALL REVIEW THE PLANS VERSUS THE LOCATION OF EXISTING STRUCTURES, UTILITIES AND APPURTENANCES IN THE FIELD TO CONFIRM ACCURACY OF SAME AND VERIFY ITEMS TO BE REMOVED. THE CONTRACTOR SHALL CARRY COSTS FOR REMOVAL OF ANY EXISTING STRUCTURES, APPURTENANCES, AND UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO, DRAIN, WATER, SEWER, STEAM, IRRIGATION, GAS, TELECOM AND ELECTRIC.
6. THE CONTRACTOR SHALL MAINTAIN, ADJUST OR ABANDON EXISTING MONITORING WELLS IN ACCORDANCE WITH THE DIRECTION OF THE ENVIRONMENTAL CONSULTANT (TYP.)
7. WHERE THE LIMIT OF WORK COINCIDES WITH PROPERTY LINE, TREE LINE, PROPOSED SAWCUT OR COMBINATION THEREOF IT IS SHOWN ADJACENT TO THESE FEATURES FOR GRAPHICAL CLARITY.
8. EXISTING TREES TO REMAIN ARE TO BE PROTECTED DURING CONSTRUCTION UNLESS CLEARLY INDICATED OTHERWISE. REASONABLE CARE AND CAUTION SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT DAMAGE AND SELECTIVE PRUNING MAY BE REQUIRED TO ENSURE THAT TREES DO NOT CONFLICT WITH THE DEVELOPMENT.
9. CONTRACTOR SHALL REPAIR/REPLACE ANY TRAFFIC LOOP DETECTORS THAT ARE DAMAGED DURING CONSTRUCTION WITHIN EXISTING OR PROPOSED RIGHTS OF WAYS. ANY SUCH WORK SHALL BE PERFORMED BY A LICENSED / DOT APPROVED SIGNAL CONTRACTOR. ANY DAMAGED LOOPS OR OTHER SIGNAL EQUIPMENT SHALL BE REPAIRED IMMEDIATELY AFTER THE WORK IS COMPLETE. THE SIGNAL CONTRACTOR SHALL BE AVAILABLE TO MAKE ANY TEMPORARY SIGNAL CHANGES IF REQUESTED BY DOT AND/OR THE MUNICIPALITY.
10. THE CONTRACTOR MUST FIELD VERIFY THE LOCATIONS WHERE PROPOSED UTILITIES CROSS EXISTING UNDERGROUND UTILITIES BY USING A TEST PIT TO DETERMINE THE EXACT SIZE, DEPTH AND LOCATION, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. CONTRACTOR SHALL LOCATE ANY EXISTING UTILITY SERVICES THAT ARE TO BE TERMINATED AT THE EXISTING MAIN AND/OR PROPERTY LINE. THESE SERVICES ARE TO BE TERMINATED IN ACCORDANCE WITH MUNICIPAL / STATE TRANSPORTATION DEPARTMENT REQUIREMENTS.

DEMOLITION ABBREVIATIONS

ABBREVIATION	DESCRIPTION
(TBA)	TO BE ABANDONED
(TBR)	TO BE REMOVED
(TBV)	TO BE VACATED
(RELO)	TO BE RELOCATED

ALL VEGETATION WITHIN THE LOW TO REMAIN AND BE PROTECTED UNLESS NOTED

THIS PLAN TO BE UTILIZED FOR DEMOLITION PURPOSES ONLY

SCALE: 1" = 20'

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RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

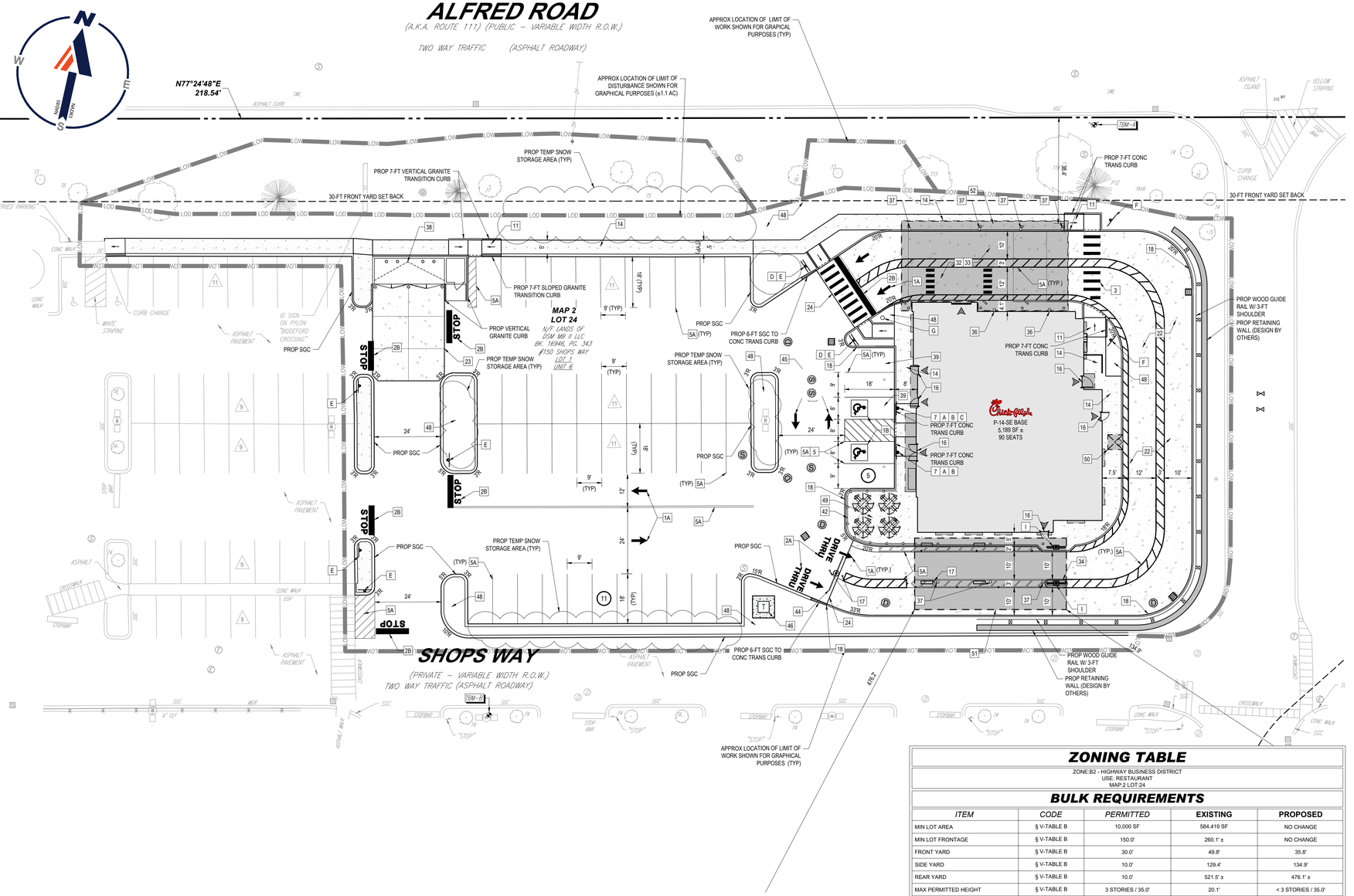
CONSULTANT PROJECT #	MAA230431.00
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DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
DEMOLITION PLAN

SHEET NUMBER
C-100

I:\BOHLER\ENG\NJ\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL -PROP-MAA230431.00-1B-----LAYOUT: C-100 - DEMOLITION PLAN



SITE PLAN DESIGN NOTES & KEY PLAN

	1A	DIRECTIONAL ARROW (1A C-400)
	1B	PAINTED HANDICAP PARKING SYMBOL (1B C-400)
	2A	DRIVE-THRU GRAPHICS (2A C-400)
	2B	STOP BAR GRAPHIC (2B C-400)
	3	CROSSWALK MARKINGS (3 C-400)
	4	MULTI-LANE DIRECTIONAL GRAPHICS (4 C-400)
	5	STANDARD OR HANDICAP PARKING STALL PER CODE (5 C-400)
	5A	4" SOLID WHITE STRIPING
(NOT USED)	5B	4" SOLID YELLOW STRIPING
(NOT USED)	5C	4" SKIP DASH YELLOW STRIPING
(NOT USED)	6	SOLID PLASTIC WHEEL STOP (6 C-406)
	7	BOLLARD MOUNTED SIGN (7 C-400)
(NOT USED)	8	CURB RAMP w/ SHORT FLARED SIDES (GRASSED AREAS) (8 C-400)
(NOT USED)	9	CURB RAMP w/ FLARED SIDES (IN SIDEWALK) (9 C-400)
(NOT USED)	10	RETURNED CURB HANDICAP RAMP (10 C-400)
	11	SIDEWALK ACCESSIBLE RAMP (1 C-401)
(NOT USED)	12	DETECTABLE WARNING DEVICE (2 C-401)
(NOT USED)	13	TYPICAL ADA RAMP & HANDRAIL (3 C-401)
	14	CONCRETE SIDEWALK (4 C-401)
(NOT USED)	15	CONCRETE SIDEWALK w/ CURB & GUTTER (5 C-401)
	16	ENTRY DOOR FROST SLAB DETAIL (6 C-401)
	17	CONCRETE BOLLARD (7 C-401)
	18	CONCRETE CURB & GUTTER (8 C-401)
(NOT USED)	18A	SPILLING CURB & GUTTER
(NOT USED)	18B	CATCHING CURB & GUTTER
(NOT USED)	18C	DEPRESSED SPILLING CURB & GUTTER
(NOT USED)	18D	DEPRESSED CATCHING CURB & GUTTER
(NOT USED)	18E	SPILLING GUTTER SECTION AT ACCESSIBLE RAMP
(NOT USED)	18F	CATCHING GUTTER SECTION AT ACCESSIBLE RAMP
(NOT USED)	18G	MOUNTABLE CURB & GUTTER
(NOT USED)	19	LANDSCAPE & IRRIGATION PROTECTOR (9 C-401)
	20	TYPICAL HMAC PAVEMENT SECTION (1 C-402)
	21	BUTT JOINT (2 C-402)
	22	CONCRETE PAVEMENT DRIVE-THRU LANE (3 C-402)
	23	CONCRETE APRON AT TRASH ENCLOSURE (4 C-402)
	24	PAVEMENT EDGE DETAIL (START & END OF DRIVE-THRU LANES) (5 C-402)
	25	CONCRETE PAVEMENT SECTIONS (6 C-402)
	26	TRANSVERSE & LONGITUDINAL CONTRACTION JOINT (7 C-402)
	27	TRANSVERSE & LONGITUDINAL DOWELED CONSTRUCTION JOINT (8 C-402)
	28	CONTRACTION JOINT (9 C-402)
	29	KEYED CONSTRUCTION JOINT (10 C-402)
	30	LONGITUDINAL BUTT JOINT (11 C-402)
	31	EXPANSION JOINT (12 C-402)
	32	DRIVE-THRU PLAN - FLUSH WITH FFE (1 C-403)
	33	DRIVE-THRU ISOMETRIC (2 C-403)
	34	DRIVE-THRU ORDER POINT ISLAND (3 C-403)
	35	MENU BOARD LOOP DETECTION SYSTEM (4 C-403)
	36	BUILDING DOWNSPOUT CONNECTION (TO SITE DRAINAGE SYSTEM) (5 C-403)
	37	CANOPY DOWNSPOUT CONNECTION (TO SITE DRAINAGE SYSTEM) (6 C-403)
	38	SCREENED REFUSE ENCLOSURE (REFER TO ARCH PLANS FOR ADDITIONAL DETAILS) (7 C-403)
	39	CLEAN-OUT (OUTSIDE OF BUILDING) (8 C-403)
(NOT USED)	40	THICKENED PAVEMENT @ STRUCTURES (9 C-403)
(NOT USED)	41	STORM STRUCTURE WEEP HOLE DETAILS (10 C-403)
	42	ALUMINUM HANDRAIL (REFER TO ARCH PLANS)
(NOT USED)	43	BUILDING DOWNSPOUT CONNECTION
	44	DRIVE-THRU CLEARANCE BAR (REFER TO SIGNAGE PACKAGE)
	45	GREASE TRAP
	46	PROPOSED TRANSFORMER
	47	BIKE RACK
	48	LANDSCAPED AREA
	49	TYPICAL LOCATION FOR OUTDOOR TABLES (REFER TO ARCH PLANS)
	50	CONCRETE PAD FOR OPTIONAL CASH STATION
	51	FREE-STANDING ORDER POINT CANOPY
	52	FREE-STANDING OUTSIDE MEAL DELIVERY CANOPY

ZONING TABLE

ZONE:B2 - HIGHWAY BUSINESS DISTRICT
USE: RESTAURANT
MAP:2 LOT:24

BULK REQUIREMENTS

ITEM	CODE	PERMITTED	EXISTING	PROPOSED
MIN LOT AREA	§ V-TABLE B	10,000 SF	584.419 SF	NO CHANGE
MIN LOT FRONTAGE	§ V-TABLE B	150.0'	260.1' ±	NO CHANGE
FRONT YARD	§ V-TABLE B	30.0'	49.8'	35.8'
SIDE YARD	§ V-TABLE B	10.0'	129.4'	134.9'
REAR YARD	§ V-TABLE B	10.0'	521.5' ±	476.1' ±
MAX PERMITTED HEIGHT	§ V-TABLE B	3 STORIES / 35.0'	20.1'	< 3 STORIES / 35.0'
FRONT YARD LANDSCAPE BUFFER	§ VI-43	25.0'	35.8'	N/A
			KEY =	VARIANCE REQUIRED

PARKING REQUIREMENTS

ITEM	CODE	PERMITTED	EXISTING	PROPOSED
MIN STALL SIZE	§ TABLE 6-49A	9.0' X 18.0'	-	9.0' X 18.0'
MIN NUMBER OF STALLS	§ TABLE 6-49B	36	146	101
RESTAURANT: REQUIRED FOR RESTAURANT USE = 1 SPACE PER 3 SEATS. 90 INTERIOR SEATS + 16 EXTERIOR SEATS = 106 TOTAL SEATS. 106 / 3 = 36 SPACES				
			KEY =	VARIANCE REQUIRED

SITE HATCH LEGEND

CONCRETE PAVEMENT	
CONCRETE WALK	
BUILDING	
CANOPY	

MAINE SITE NOTES

(REV. 5/2024)

1. WHEN APPLICABLE, OWNER/ OPERATOR MUST FILE THE NOI FOR NPDES PERMITS AT APPROPRIATE AND/OR REQUIRED TIME FRAMES BASED UPON THE DESIRED START OF CONSTRUCTION. LAND DISTURBING ACTIVITIES MUST NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED FROM GOVERNING AUTHORITIES (INCLUDING STORMWATER POLLUTION PREVENTION PLAN). THE CONTRACTOR MUST STRICTLY ADHERE TO THE APPROVED SWPPP PLAN DURING CONSTRUCTION OPERATIONS (IF PROVIDED).
2. ALL CONCRETE MUST BE AIR ENTRAINED AND INCLUDE THE MINIMUM COMPRESSIVE STRENGTH OF JURISDICTIONAL STANDARD PSI AT 28 DAYS (OR 4,000 PSI) UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLANS, DETAILS AND GEOTECHNICAL REPORT THEN THE GEOTECHNICAL REPORT SHALL GOVERN.
3. THE CONTRACTOR MUST FILE SITE SIGNAGE APPLICATION OR PERMIT UNDER SEPARATE APPLICATION UNLESS DONE SO AS PART OF JURISDICTIONAL PERMITTING PROCEDURES.
4. THE CONTRACTOR MUST REPAIR OR REPLACE, AT THE CONTRACTOR'S SOLE COST AND EXPENSE, ALL SIDEWALKS, CURBS, PAVEMENT MARKINGS, AND PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES WHETHER SPECIFIED ON THIS PLAN OR NOT.
5. WORK WITHIN THE RIGHT-OF-WAY MUST BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS AND STANDARDS OF THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DEPARTMENT, HIGHWAY DIVISION, AND/OR STATE DOT HIGHWAY DEPARTMENT.
6. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, TOP AND BOTTOM OF WALL WIDTHS DO NOT REPRESENT THE ACTUAL WIDTH OF THE PROPOSED WALL. RATHER THEY ARE AN ASSUMPTION BASED ON WALL TYPE AND WALL HEIGHT. WALL FOOTINGS AND /OR FOUNDATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR OR WALL DESIGNER, AND MUST BE SET BASED UPON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT AN APPROPRIATELY LICENSED PROFESSIONAL DESIGNS ALL WALLS SHOWN HEREON AND PRIOR TO CONSTRUCTION. REFER TO GRADING NOTES REGARDING RETAINING WALL DESIGN.
7. CONTRACTOR IS CAUTIONED OF EXISTING UTILITY SERVICES TO REMAIN IN PROXIMITY TO PROPOSED BOLLARDS AND SIGNS. CONTRACTOR SHALL PROVIDE FIELD MODIFICATION LOCATIONS OF BOLLARDS AND BOLLARDS WITH SIGNAGE AS NEEDED TO AVOID CONFLICTS WITH EXISTING UTILITY SERVICES TO REMAIN.

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

SIGN LEGEND

** CONTRACTOR TO REFER TO THE SIGNAGE PACKAGE FOR PLACEMENT AND SPECIFICATIONS OF ALL SIGNS **

A	HANDICAP PARKING SIGN (SEE SIGNAGE PACKAGE) R7-8; 12" X 18" (TYP.)
B	HANDICAP PARKING FINE SIGN (SEE SIGNAGE PACKAGE) 6" X 12" (TYP.)
C	"VAN ACCESSIBLE" SIGN (SEE SIGNAGE PACKAGE) R7-8P; 6" X 12" (TYP.)
D	"DO NOT ENTER" SIGN (SEE SIGNAGE PACKAGE) R5-1; 24" X 24" (TYP.)
E	STOP SIGN (SEE SIGNAGE PACKAGE) R1-1; 30" X 30" (TYP.)
F	CFA PEDESTRIAN CROSSING SIGN (SEE SIGNAGE PACKAGE)
G	FLAG POLE (SEE SIGNAGE PACKAGE)
H	CFA MONUMENT OR PYLON SIGN
I	DIGITAL DRIVE-THRU MENU BOARDS

APPROVAL BLOCK

CITY PLANNING BOARD APPROVAL
APPROVED BY THE PLANNING BOARD OF THE CITY OF BIDDEFORD, MAINE.

XXXX	DATE
XXXX	DATE
XXXX	DATE

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Atlanta, Georgia 30349-2998

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BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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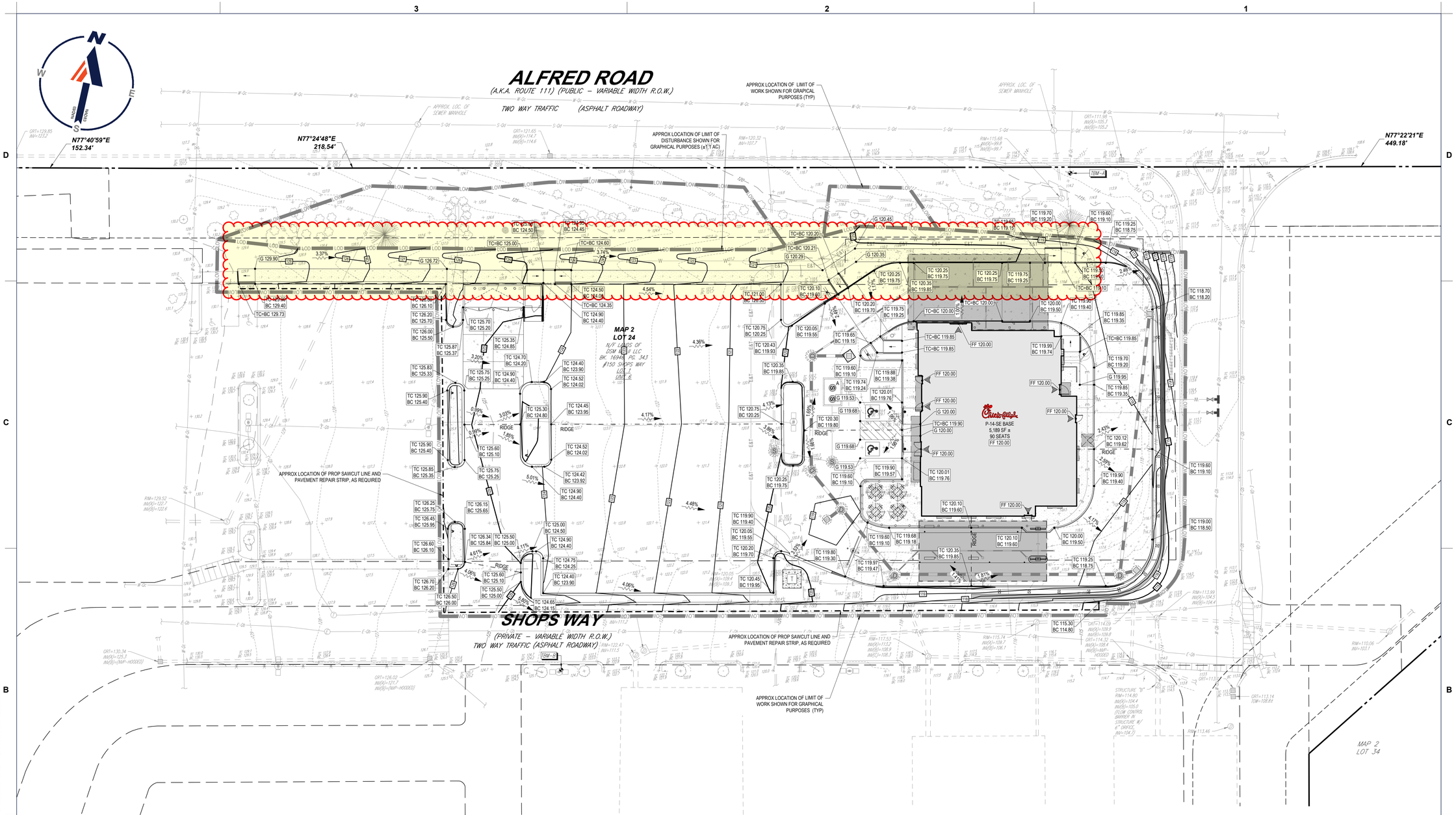
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SHEET
SITE PLAN

SHEET NUMBER
C-200

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MAINE GRADING NOTES

(REV. 5/2024)

1. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE PAVEMENT GRADE UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR MUST CONFIRM AND ENSURE THAT AS CONSTRUCTED IMPROVEMENTS CREATE THE FOLLOWING MINIMUM SLOPES (EXCEPT WHERE ADA REQUIREMENTS LIMIT THEM): 1.0% ON ALL CONCRETE SURFACES, 1.5% ON ASPHALT SURFACES, 1.5% IN LANDSCAPED AREAS AND 0.75% SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS TO PROVIDE POSITIVE DRAINAGE.
3. WHERE RETAINING WALLS ARE IDENTIFIED ON THE PLANS, TOP AND BOTTOM OF WALL ELEVATIONS (GH & GL) REPRESENT THE PROPOSED FINISHED GRADE AT THE FACE OF THE TOP AND THE BOTTOM OF THE WALL AND DO NOT REPRESENT THE OVERALL HEIGHT OF THE WALL TO ITS EXTENTS (I.E. ANY CAP UNITS OR COURSES BELOW GRADE INCLUDING FOOTINGS ARE EXCLUDED). WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR OR WALL DESIGNER, AND MUST BE SET BASED UPON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE CONTRACTOR MUST ENSURE THAT THERE ARE NO UTILITIES ON THE PASSIVE SIDE OF THE RETAINING WALL. NO EXCAVATION MAY BE PERFORMED ON THE PASSIVE SIDE OF THE RETAINING WALL WITHOUT APPROPRIATELY AND SAFELY SUPPORTING THE WALL IN ACCORDANCE WITH THE STANDARD OF CARE AND ALL APPLICABLE RULES, REGULATIONS, CODES, ORDINANCES, LAWS AND STATUTES.
4. MSE OR GRAVITY BLOCK WALLS SHALL BE CONSTRUCTED SUCH THAT UPON COMPLETION OF CONSTRUCTION THERE IS NO UNFINISHED SURFACE OR LIFTING RINGS VISIBLE (E.G. USE OF FINISHED TOP BLOCK OR CAP STONES)
5. STORMWATER RUNOFF WITHIN PROPERTY MUST BE COLLECTED ON-SITE WITH NO OVERLAND RUNOFF ONTO THE RIGHT-OF-WAY OR ADJACENT PROPERTIES TO THE MAXIMUM EXTENT POSSIBLE OR IN THE MANNER SHOWN ON THE CONSTRUCTION DRAWINGS. STORMWATER RUNOFF ONTO ADJACENT PROPERTIES SHALL BE CONTROLLED AS TO NOT ADVERSELY IMPACT SAID PROPERTIES.
6. BEFORE COMMENCING GRADING WORK, CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NATIVE AND IMPORTED MATERIALS WITH THEIR INTENDED FOR STRUCTURAL USES TO THE GEOTECHNICAL ENGINEER OF RECORD.
7. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL ADA GUIDELINES AND REQUIREMENTS.
8. FOR ALL RETAINING WALLS 4 FEET OR GREATER IN HEIGHT:
   - 8.1. THE OWNER OR THE OWNER'S CONTRACTOR IS TO PROVIDE A SITE-SPECIFIC RETAINING WALL DESIGN PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED (E.G. STRUCTURAL ENGINEER) IN THE STATE WHERE THE CONSTRUCTION OCCURS. SOIL TYPES, WATER TABLE ELEVATION, EXISTING & PROPOSED SURROUNDING IMPROVEMENTS/CONDITIONS (INCLUDING BUT NOT LIMITED TO SLOPES, DRIVE AISLES, ROADS, FENCING, GUIDERAILS, UTILITIES, DRAINAGE FACILITIES, STRUCTURES, FOUNDATIONS), LIVE LOADS AND OTHER SITE AMENITIES THAT COULD HAVE AN INFLUENCE OR IMPACT ON THE RETAINING WALL(S) CONSTRUCTABILITY AND/OR LONGEVITY SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN AS WELL AS THE GLOBAL STABILITY ANALYSIS.
   - 8.2. PEER REVIEW AND GLOBAL STABILITY ANALYSIS OF THE RETAINING WALL DESIGN MUST BE COMPLETED BY THE OWNER'S GEOTECHNICAL ENGINEER TO CERTIFY THE DESIGN MEETS INDUSTRY STANDARDS FOR FACTOR OF SAFETY. SOIL TYPES, WATER TABLE ELEVATION AND DESIGN PROPERTIES AS NOTED ABOVE SHALL BE FIELD CONFIRMED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO WALL CONSTRUCTION.
9. CONTRACTOR SHALL INSTALL CONCRETE CURB ALONG FACE OF BUILDING / WALL AS SHOWN TO PROVIDE CONSISTENT WIDTH ALONG LENGTH OF PROPOSED ACCESSIBLE RAMP AND RAMP LANDING TO MEET ADA/AAB REQUIREMENTS.
10. CONTRACTOR SHALL REVIEW RETAINING WALL LOCATIONS VERSUS APPLICABLE STATE AND LOCAL CODES AND PROVIDE FALL PROTECTION (E.G. FENCING OR RAILING) IN ACCORDANCE WITH SAID CODE.
11. CONTRACTOR SHALL COORDINATE WITH OWNER/OPERATOR TO REVIEW EXISTING DEPRESSIONS WITHIN EXISTING PAVEMENT AREAS TO REMAIN AND SHALL CONFIRM THAT THE SCOPE OF WORK SHALL PROVIDE POSITIVE DRAINAGE BY FIXING ANY EXISTING AREAS OF PONDING.
12. BEFORE COMMENCING GRADING WORK, CONTRACTOR SHALL SUBMIT SAMPLES OF ALL NATIVE AND IMPORTED MATERIALS WITH THEIR INTENDED FOR STRUCTURAL USES TO THE GEOTECHNICAL ENGINEER OF RECORD.

NOTICE:

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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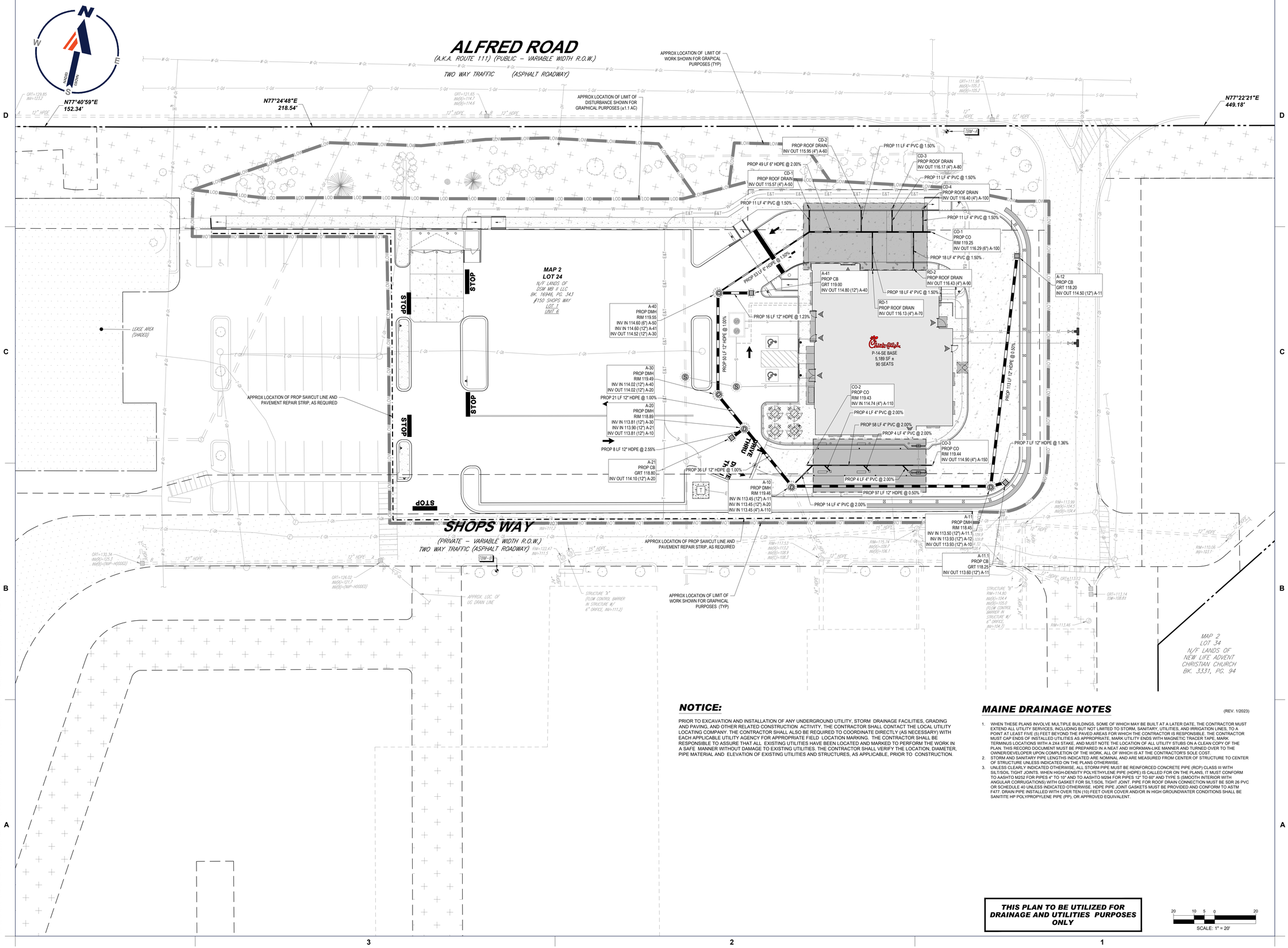
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SHEET
GRADING PLAN

SHEET NUMBER
C-300

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NOTICE:

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

MAINE DRAINAGE NOTES

(REV. 1/2023)

1. WHEN THESE PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL UTILITY SERVICES, INCLUDING BUT NOT LIMITED TO STORM, SANITARY, UTILITIES, AND IRRIGATION LINES, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. THE CONTRACTOR MUST CAP ENDS OF INSTALLED UTILITIES AS APPROPRIATE, MARK UTILITY ENDS WITH MAGNETIC TRACER TAPE, MARK TERMINUS LOCATIONS WITH A 2X4 STAKE, AND MUST NOTE THE LOCATION OF ALL UTILITY STUBS ON A CLEAN COPY OF THE PLAN. THIS RECORD DOCUMENT MUST BE PREPARED IN A NEAT AND WORKMAN-LIKE MANNER AND TURNED OVER TO THE OWNER/DEVELOPER UPON COMPLETION OF THE WORK, ALL OF WHICH IS AT THE CONTRACTOR'S SOLE COST.
2. STORM AND SANITARY PIPE LENGTHS INDICATED ARE NOMINAL AND ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS INDICATED ON THE PLANS OTHERWISE.
3. UNLESS CLEARLY INDICATED OTHERWISE, ALL STORM PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILT/SOIL TIGHT JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHTO M252 FOR PIPES 4" TO 10" AND TO AASHTO M294 FOR PIPES 12" TO 60" AND TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SILT/SOIL TIGHT JOINT. PIPE FOR ROOF DRAIN CONNECTION MUST BE SDR 26 PVC OR SCHEDULE 40 UNLESS INDICATED OTHERWISE. HDPE PIPE JOINT GASKETS MUST BE PROVIDED AND CONFORM TO ASTM F477. DRAIN PIPE INSTALLED WITH OVER TEN (10) FEET OVER COVER AND/OR IN HIGH GROUNDWATER CONDITIONS SHALL BE SANITITE HP POLYPROPYLENE PIPE (PP), OR APPROVED EQUIVALENT.

THIS PLAN TO BE UTILIZED FOR DRAINAGE AND UTILITIES PURPOSES ONLY

SCALE: 1" = 20'

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BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

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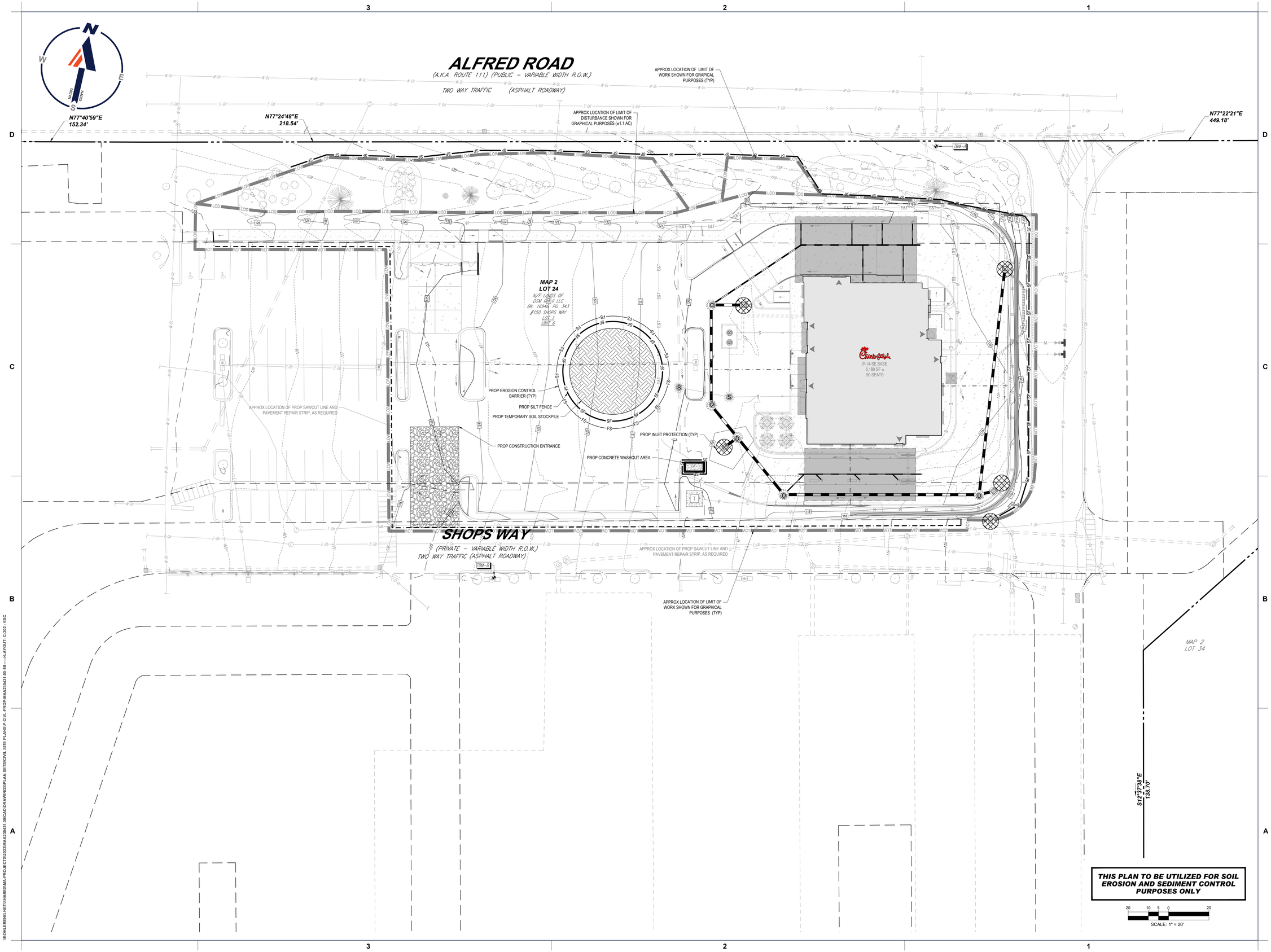
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SHEET
DRAINAGE PLAN

SHEET NUMBER
C-301

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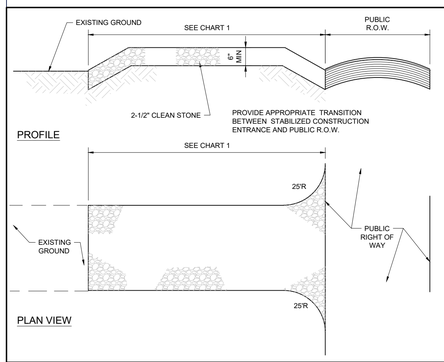
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SHEET
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER
C-302



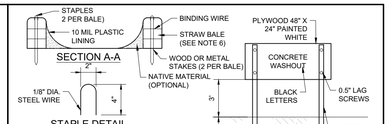
PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2% TO 5%	100 FT	200FT
>5%	ENTIRE ENTRANCE STABILIZED WITH FABC BASE COURSE (1)	

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

CHART 1

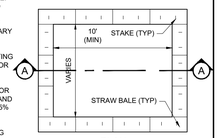
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE (NE-O020101 - 09/2023)



NOTES:
1. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FT. FROM STORM DRAIN INLETS.
2. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF OFF-SITE. CONTRACTOR TO DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.
3. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
4. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
5. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
6. STRAW BALE AND STAPLES MAY BE SUBSTITUTED WITH ALTERNATE SECURING MEASURES SUCH AS CONCRETE BLOCK.

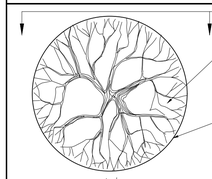
CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



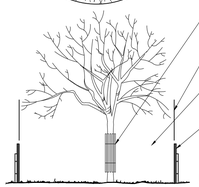
PLAN

CONCRETE WASTE MANAGEMENT AREA

NOT TO SCALE (NE-O020201 - 09/2023)



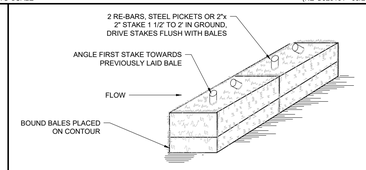
PLAN



ELEVATION

TREE PROTECTION DURING SITE CONSTRUCTION

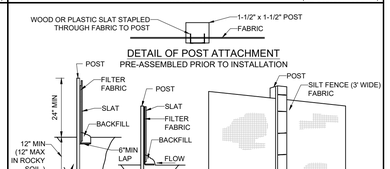
NOT TO SCALE (NE-O030201 - 09/2023)



NOTES:
1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
5. DRAINAGE AREA NO MORE THAN ½ AC. PER 100 FEEL OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.
6. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE BARRIER

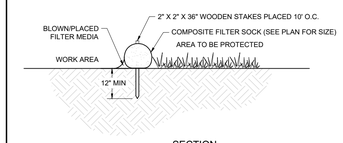
NOT TO SCALE (NE-O030302 - 09/2023)



NOTES:
1. EXCAVATE A 6"x6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH. BACKFILL ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMPING FILL AT THE BASE.

SILT FENCE

NOT TO SCALE (NE-O040101 - 09/2023)



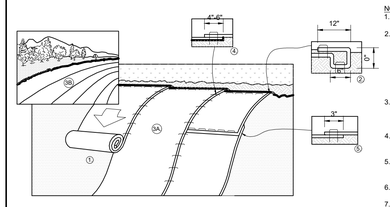
SECTION

NOTES:
1. ALL MATERIAL TO MEET MANUFACTURER SPECIFICATIONS
2. COMPOST FILTER SOCK FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE AT COMPLETION OF CONSTRUCTION OR AS DIRECTED BY OWNER AFTER STABILIZATION IS ACHIEVED.

OR APPROVED EQUIVALENT

COMPOST FILTER SOCK

NOT TO SCALE (NE-O040201 - 09/2023)



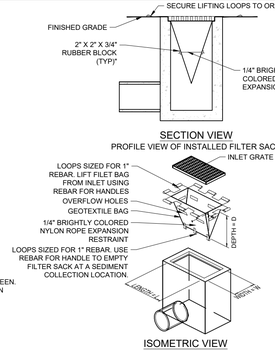
NOTES:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH AS SHOWN IN DETAIL 2. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.
7. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET STEEP SLOPE PROTECTION

NOT TO SCALE (NE-O049901 - 09/2023)

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC-1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	15%
PUNCTURE	ASTM D-4833	130 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC-1

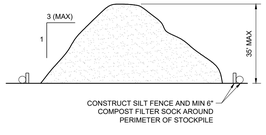
NOTES:
1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.



OR APPROVED EQUIVALENT

INLET PROTECTION WITH MANUFACTURED INSERT

NOT TO SCALE (NE-O050101 - 09/2023)



TEMPORARY STOCK PILE WITH SILT FENCE AND FILTER SOCK

NOT TO SCALE (NE-O060102 - 09/2023)

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FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

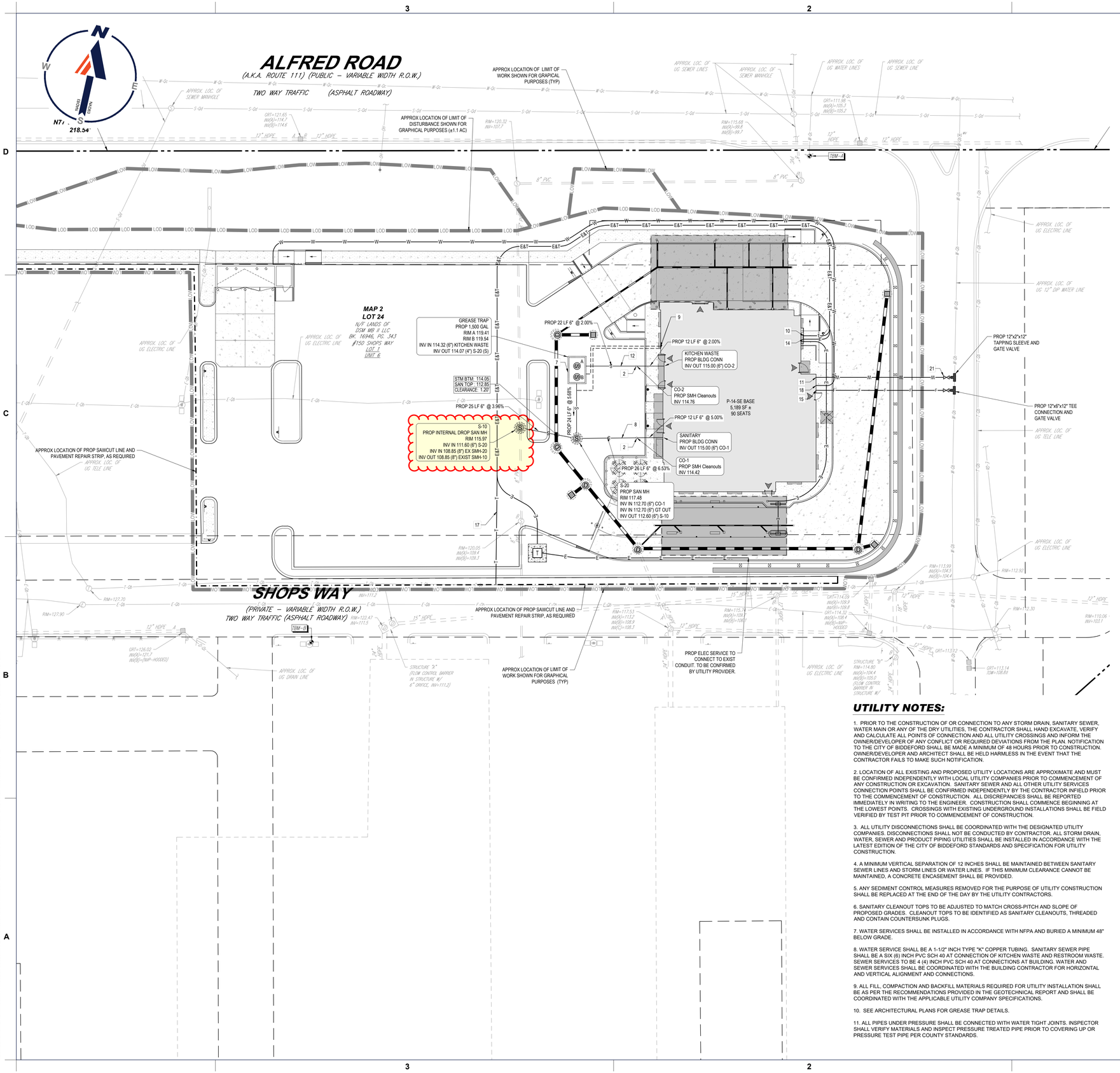
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SHEET
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SHEET NUMBER
C-303

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UTILITY NOTES:

1. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL HAND EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION TO THE CITY OF BIDDEFORD SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. OWNER/DEVELOPER AND ARCHITECT SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.

2. LOCATION OF ALL EXISTING AND PROPOSED UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICES CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR INFIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST POINTS. CROSSINGS WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

3. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES. DISCONNECTIONS SHALL NOT BE CONDUCTED BY CONTRACTOR. ALL STORM DRAIN, WATER, SEWER AND PRODUCT PIPING UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF BIDDEFORD STANDARDS AND SPECIFICATION FOR UTILITY CONSTRUCTION.

4. A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN SANITARY SEWER LINES AND STORM LINES OR WATER LINES. IF THIS MINIMUM CLEARANCE CANNOT BE MAINTAINED, A CONCRETE ENCASEMENT SHALL BE PROVIDED.

5. ANY SEDIMENT CONTROL MEASURES REMOVED FOR THE PURPOSE OF UTILITY CONSTRUCTION SHALL BE REPLACED AT THE END OF THE DAY BY THE UTILITY CONTRACTORS.

6. SANITARY CLEANOUT TOPS TO BE ADJUSTED TO MATCH CROSS-PITCH AND SLOPE OF PROPOSED GRADES. CLEANOUT TOPS TO BE IDENTIFIED AS SANITARY CLEANOUTS, THREADED AND CONTAIN COUNTERSUNK PLUGS.

7. WATER SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA AND BURIED A MINIMUM 48" BELOW GRADE.

8. WATER SERVICE SHALL BE A 1-1/2" INCH TYPE "K" COPPER TUBING. SANITARY SEWER PIPE SHALL BE A SIX (6) INCH PVC SCH 40 AT CONNECTION OF KITCHEN WASTE AND RESTROOM WASTE. SEWER SERVICES TO BE 4 (4) INCH PVC SCH 40 AT CONNECTIONS AT BUILDING. WATER AND SEWER SERVICES SHALL BE COORDINATED WITH THE BUILDING CONTRACTOR FOR HORIZONTAL AND VERTICAL ALIGNMENT AND CONNECTIONS.

9. ALL FILL, COMPACTION AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.

10. SEE ARCHITECTURAL PLANS FOR GREASE TRAP DETAILS.

11. ALL PIPES UNDER PRESSURE SHALL BE CONNECTED WITH WATER TIGHT JOINTS. INSPECTOR SHALL VERIFY MATERIALS AND INSPECT PRESSURE TREATED PIPE PRIOR TO COVERING UP OR PRESSURE TEST PIPE PER COUNTY STANDARDS.

UTILITY PLAN DESIGN NOTES & KEY PLAN

1. THE CONTRACTOR SHALL PROVIDE THE NECESSARY FITTINGS TO CONNECT THE NEW SERVICE LINE EXTENSION TO THE EXISTING SEWER MANHOLE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, MATERIAL AND INVERT ELEVATION PRIOR TO INSTALLING ANY SEWER FACILITIES. MINOR ADJUSTMENTS TO THE NEW SERVICE LINE INVERT ELEVATION MAY BE NECESSARY DEPENDING UPON FIELD MEASUREMENTS.

CAUTION/WARNING

THE CONTRACTOR SHALL USE EXTREME CAUTION TO PROPERLY SHEET, SHORE, AND DEWATER EXCAVATION TO COMPLETE THE CONNECTION IN A SAFE MANNER, AND WITHOUT DAMAGE OR SETTLEMENT TO EXISTING FACILITIES, ROAD OR SHOPPING CENTER DRIVE. PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES TO PREVENT TRAFFIC FROM DRIVING TO CLOSE TO THE EXCAVATIONS AND OTHER RELATED WORK AREAS.

2. INSTALL CLEANOUT. USE TRAFFIC RATED CLEANOUT IN ALL PAVEMENT AREAS AS REQUIRED.

3. 1" WATER METER FOR DOMESTIC WATER SUPPLY

   CONTRACTOR SHALL COORDINATE WITH MAINE WATER FOR INSTALLATION OF WATER SERVICE TAP, WATER METER, AND METER BOX. CONTRACTOR'S BID PRICE SHALL INCLUDE THE COST OF THE WORK PERFORMED BY THE CITY (INCLUDING TAP FEES). TAPS SHALL BE MADE INITIALLY IN CONTRACTOR'S NAME AND TRANSFERRED AT PROJECT COMPLETION.

   DOMESTIC WATER LINE SHALL BE TYPE K COPPER.

4. 1" WATER METER FOR IRRIGATION WATER SUPPLY. ON-SITE IRRIGATION LINES AND MATERIALS SHALL BE INSTALLED BY THE IRRIGATION CONTRACTOR AS INDICATED ON THE IRRIGATION PLAN.

5. 1" BACKFLOW PREVENTER FOR DOMESTIC WATER SERVICE.

   THE CONTRACTOR SHALL INSTALL A BACKFLOW PREVENTER (FEBCO, WATTS, OR APPROVED EQUAL) FOR EACH WATER SERVICE LINE AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL INCLUDE BOX OR VAULT, AS APPLICABLE. THE CONTRACTOR SHALL COORDINATE WITH MAINE WATER FOR INSPECTION, TESTING, AND CERTIFICATION OF ALL BACKFLOW PREVENTORS. ALL BACKFLOW DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE WATER STANDARDS/SPECIFICATIONS. CONTRACTORS BID PRICE SHALL INCLUDE ALL COSTS ASSOCIATED WITH DEVICE INSTALLATION, INSPECTION , TESTING, CERTIFICATION, ETC., TO INCLUDE ANY FEES REQUIRED BY MAINE WATER AND THE CITY OF BIDDEFORD.

6. 1" BACKFLOW PREVENTER FOR IRRIGATION WATER SERVICE. (SEE NOTE #5 ABOVE).

7. GREASE TRAP TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. CONNECT RESTROOM SERVICE LINE DOWNSTREAM OF GREASE TRAP OUTLET SIDE AT INVERT ELEVATION INDICATED. COORDINATE TOP ELEVATION OF GREASE TRAP WITH DRIVEWAY PAVEMENT ELEVATION.

8. 6" PVC SEWER SERVICE LINE AND CLEANOUT FROM RESTROOM FACILITIES TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. SERVICE LINE SHALL BY-PASS GREASE TRAP AND CONNECT BEYOND THE OUTLET SIDE.

9. 3" VENT LINE TO BE INSTALLED BY SITE UTILITY CONTRACTOR. SEE ARCHITECT PLUMBING PLANS.

10. TELEPHONE SERVICE CONNECTION LOCATION AT BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLANS.

11. 2" DOMESTIC WATER SERVICE LINE CONNECTION LOCATION AT BUILDING. SITE UTILITY CONTRACTOR SHALL INSTALL DOMESTIC WATER SERVICE LINE FROM THE EXISTING WATER MAIN TO THE MAIN BUILDING CUTOFF VALVE . (SEE ARCHITECT PLUMBING PLAN).

12. 6" PVC KITCHEN WASTE LINE. INSTALL CLEANOUT APPROXIMATELY 6' FROM FACE OF BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS.

13. GAS SERVICE LINE AND METER INSTALLATION LOCATION. SEE ARCHITECTS PLUMBING PLANS FOR SIZE REQUIREMENTS AND EXACT CONNECTION LOCATION. COORDINATE WITH GAS COMPANY FOR GAS SERVICE LINE INSTALLATION.

14. ELECTRICAL SERVICE LINE CONNECTION AT BUILDING. CONTRACTOR SHALL INSTALL 4" DIAMETER SCHD 40 PVC CONDUIT WITH PULL WIRE FROM EXISTING ELECTRICAL FACILITIES WITHIN THE RIGHT-OF-WAY TO THE TRANSFORMER & ELECTRICAL PULL BOX LOCATED BEHIND THE CHICK-FIL-A SERVICE AREA. COORDINATE CROSSING OF CONDUIT WITH OTHER UTILITIES. CONDUIT SHALL BE BURIED A MINIMUM OF 36" BELOW FINISHED GRADE. ABRUPT BENDS SHALL NOT BE ALLOWED, USE LONG SWEEP ELBOWS AND OTHER NECESSARY FITTINGS TO PROVIDE GRADUAL CHANGES IN DIRECTION. ELECTRIC SERVICE INSTALLATION TO BE COORDINATED WITH LOCAL ELECTRIC COMPANY.

15. 6" DIP WATER LINE FOR SPRINKLER SYSTEM.

16. 6" PVC SCH 40 SANITARY SERVICE LINE.

17. INSTALL 2" SCH 40 PVC CONDUIT WITH PULL WIRE AND PULL BOX FOR TELEPHONE SERVICE LINE INSTALLATION. USE LONG SWEEP RADIUS AT 90° AND 45° BENDS TO AVOID ABRUPT CHANGES IN DIRECTION. COORDINATE WITH TELEPHONE COMPANY FOR SPECIFIC LOCATION OF CONDUIT AT THE EXISTING PEDESTAL. INSTALL 3" SCH 40 PVC CONDUIT WITH PULL WIRE AND PULL BOX FOR INTERNET SERVICE PROVIDER.

18. 3/4" C.W. TO DUMPSTER POST HYDRANT.

19. 1 EACH - 4" DIAMETER, SCHEDULE 40 PVC CONDUIT, TYPICAL. SEE BLANK CONDUIT INSTALLATION NOTE.

20. PROPOSED TRANSFORMER.

21. 1-1/2" CORPORATION STOP.

22. 6" SPRINKLER LINE LOCATION AT BUILDING.

FINISHED GRADING COORDINATION

THE SITE UTILITY CONTRACTOR SHALL COORDINATE THE INSTALLATION OF NEW UTILITIES WITH FINISHED GRADING AND DRAINAGE FACILITIES AS INDICATED ON THE SITE GRADING AND DRAINAGE PLAN. MINOR ADJUSTMENTS TO THE TOP ELEVATION OF NEW UTILITIES MAY BE NECESSARY.

NOTICE:

THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR THE EXACT LOCATION AND DIMENSIONS OF VESTIBULE, EXIT PORCHES, DOORS, RAMPS, SERVICE AREA, BUILDING DIMENSIONS AND THE EXACT LOCATION OF UTILITY CONNECTIONS.

NOTICE: INSTALLATION OF BLANK CONDUIT

BLANK CONDUIT SLEEVES SHALL BE FOUR (4) INCH SCH 40 PVC UNLESS NOTED OTHERWISE. SLEEVES SHALL BE BURIED A MINIMUM OF 24 INCHES BELOW FINISHED GRADE. DEPTH OF BURIAL SHALL BE SPECIFICALLY COORDINATED WITH ALL EXISTING OR PROPOSED UNDERGROUND UTILITIES AND DRAINAGE FACILITIES AT ALL CROSSINGS. CONDUITS SHALL BE PROVIDED WITH REMOVABLE PLUG AT EACH END. MARK EACH END WITH 2" X 4" POST AT EACH END (PAINTED YELLOW).

NOTICE: EXISTING UTILITY LOCATIONS

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES.

THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

THIS PLAN TO BE UTILIZED FOR UTILITIES PURPOSES ONLY

20 10 5 0 20

SCALE: 1" = 20'

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FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

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1b	4/15/25	FINAL APPROVAL / IFP SET

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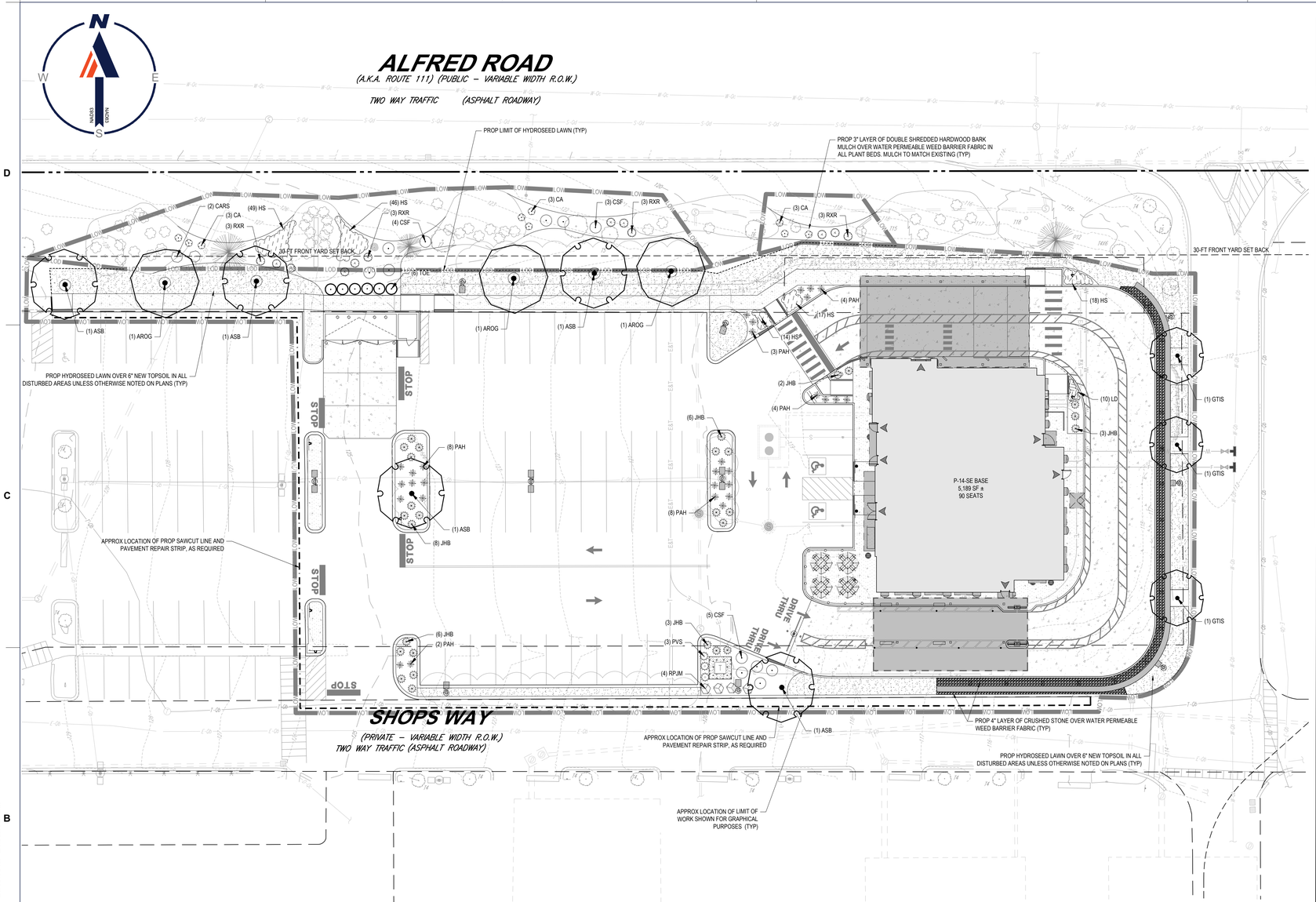
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SHEET
PLUMBING SITE PLAN

SHEET NUMBER
PS-100

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CITY OF BIDDEFORD LANDSCAPE REQUIREMENTS

SECTION	REQUIREMENTS	CALCULATIONS/PROPOSED
ART VI SECTION 43	A. THE LANDSCAPE SHALL BE PRESERVED IN ITS NATURAL STATE INSOFAR AS PRACTICAL, BY MINIMIZING TREE REMOVAL AND GRADE CHANGES IN KEEPING WITH THE GENERAL APPEARANCE OF NEIGHBORING AREAS. LANDSCAPING SHALL BE DESIGNED TO SOFTEN, SCREEN, OR ENHANCE THE PHYSICAL DESIGN OF STRUCTURES AND PARKING AREAS TO AVOID THE ENCROACHMENT OF THE PROPOSED USE ON ABUTTING LAND USES.	PROVIDED
	B. COMMERCIAL AND INDUSTRIAL USES SHALL MAINTAIN THE FIRST 25 FEET FROM THE EDGE OF THE RIGHT-OF-WAY (EXCLUDING DRIVEWAYS) IN FRONT OF ALL BUILDINGS, STRUCTURES AND IMPERVIOUS AREAS AS A GREEN STRIP. THE GREEN STRIP SHALL CONSIST OF A MAINTAINED VEGETATED AREA WITH A TWO-AND-ONE-HALF-INCH DIAMETER OR LARGER DECIDUOUS SHADE TREE, SPACED EVERY 25 FEET, OR A SHRUB, TWO TO THREE FEET IN HEIGHT, MINIMUM, PLACED THE EQUIVALENT OF ONE PER 10 FEET, ALONG THE GREEN STRIP AND PARALLEL TO THE RIGHT-OF-WAY. IN ORDER TO ENSURE PROPER VISIBILITY FOR ENTERING AND DEPARTING VEHICLES, ALL DRIVEWAY ENTRANCES AND EXITS SHALL BE KEPT FREE FROM VISUAL OBSTRUCTIONS HIGHER THAN THREE FEET ABOVE STREET LEVEL FOR A DISTANCE OF 25 FEET MEASURED ALONG THE INTERSECTING DRIVEWAY AND STREET LINES	REQUIRED: 12 TREES PROVIDED: 12 TREES (6 EXISTING TREES TO REMAIN) CALCULATION: 300' OF FRONTAGE / 25' = 12 TREES
ART VI SECTION 49	5. OFF-STREET PARKING AND LOADING SPACES FOR NONRESIDENTIAL USES SHALL BE EFFECTIVELY SCREENED FROM VIEW BY A CONTINUOUS LANDSCAPED AREA NOT LESS THAN NINE FEET IN HEIGHT ALONG EXTERIOR LOT LINES ADJACENT TO RESIDENTIAL PROPERTIES AND ALL PUBLIC ROADS, EXCEPT THAT DRIVEWAYS SHALL BE KEPT OPEN TO PROVIDE VISIBILITY FOR ENTERING AND LEAVING. NO OFF-STREET PARKING AND LOADING SHALL BE PERMITTED WITHIN THE FRONT SETBACK OR ANY SETBACK ADJOINING A PUBLIC STREET, EXCEPT AS SPECIFICALLY AUTHORIZED IN THIS ORDINANCE	PROVIDED. SUPPLEMENTAL SHRUBBERY ADDED ALONG EXISTING LANDSCAPE BUFFER
	10. THE EXISTING LANDSCAPE SHALL BE PRESERVED IN ITS NATURAL STATE WHEREVER POSSIBLE. LARGE PARKING LOTS COVERING MORE THAN 1/4 ACRE SHALL BE PROVIDED WITH DECIDUOUS SHADE TREES DESIGNED TO REDUCE SOLAR HEATING IN THE SUMMER AND PROVIDE FOR WINDBREAKS. ALL PARKING OR OUTDOOR STORAGE AREAS SHALL BE SEPARATED FROM A PUBLIC ROAD BY A LANDSCAPED BUFFER STRIP AT LEAST 15 FEET WIDE, PLANTED WITH SHADE TREES A MINIMUM TWO INCHES DIAMETER AT BREAST HEIGHT AND DENSE MEDIUM HEIGHT SHRUBS TO SCREEN PARKED VEHICLES. ALL SUCH PLANTING SHALL BE MAINTAINED AS AN EFFECTIVE VISUAL SCREEN. SHRUBS OR TREES WHICH DIE SHALL BE REPLACED WITHIN ONE GROWING SEASON.	PROVIDED PROVIDED. SUPPLEMENTAL SHRUBBERY ADDED ALONG EXISTING LANDSCAPE BUFFER
ART VI SECTION 50	A. THE LANDSCAPE SHALL BE PRESERVED IN ITS NATURAL STATE, INSOFAR AS PRACTICABLE, BY MINIMIZING TREE REMOVAL; AND ANY GRADE CHANGES SHALL BE IN KEEPING WITH THE GENERAL APPEARANCE OF NEIGHBORING DEVELOPED AREAS. B. PLANS PRESENTED TO THE BOARD SHALL HAVE ANNOTATED IN THE NOTE SECTION SPECIFIC MEASURES TO BE TAKEN TO PRESERVE NATURAL VEGETATION.	PROVIDED
ART XI ART II SECTION 5 (B)	d. 1. ALL SITES MUST BE LANDSCAPED WITH VEGETATION THAT WILL ACT TO: (a) REDUCE THE IMPACT OF LIGHTING, VEHICULAR AND STRUCTURAL, ON ABUTTING PROPERTIES; (b) REDUCE THE IMPACT OF PROPOSED STRUCTURES ON THE PRIVACY OF ABUTTERS; (c) MAKE THE SITE MORE ATTRACTIVE TO THE AVERAGE VIEWER. 2. THE USE OF TREES AND SHRUBS FOR FENCING AND SHADING IS STRONGLY ENCOURAGED. CARE MUST BE TAKEN TO ENSURE THAT TREE, ETC., ARE PLACED IN SUCH A FASHION THAT IN TIME THEY WILL CAUSE MINIMUM IMPACT ON ABUTTING PROPERTIES AND PUBLIC ROADWAYS AND TRAVELWAYS, PARTICULARLY AS THEY GROW. 3. WHENEVER POSSIBLE EXISTING VEGETATION SHALL BE PRESERVED AND INCORPORATED INTO THE LANDSCAPING SCHEME OF THE PROJECT. e. 1. ALL SERVICE, STORAGE AND UTILITY AREAS SHALL BE DESIGNED TO THE SIDE OR YEAR YARD OF A PROPOSED OR EXISTING BUILDING OR STRUCTURE, AND SUCH AREAS SHALL BE APPROPRIATELY SCREENED / BUFFERED BY WALLS, EARTH BERMS, OR VEGETATIONS i. 6. ALL BUFFERED OR SCREENED AREAS SHALL BE DENSELY PLANTED WITH SHRUBS OR TREES WHICH ARE RESPECTIVELY AT LEAST TWO OR THREE FEET HIGH AT THE TIME OF PLANTING AND ARE OF A TYPE WHICH MAY BE EXPECTED TO FORM A YEAR-ROUND DENSE SCREEN OF AT LEAST FIVE FEET HIGH WITHIN THREE YEARS, PROVIDED THAT SUCH SCREENING SHALL NOT OBSTRUCT THE VIEW OF ONCOMING TRAFFIC WHEN ENTERING OR EXITING THE SITE.	PROVIDED PROVIDED PROVIDED PROVIDED PROVIDED

PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
CANOPY TREES					
AROG	3	ACER RUBRUM `OCTOBER GLORY`	OCTOBER GLORY RED MAPLE	2.5"-3" CAL.	B&B
ASB	5	ACER SACCHARUM 'BONFIRE'	BONFIRE SUGAR MAPLE	2.5"-3" CAL.	B&B
GTIS	3	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2.5"-3" CAL.	B&B
EVERGREEN TREES					
TOE	6	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	6-8'	B&B
SHRUBS					
CA	9	CEANOTHUS AMERICANUS	NEW JERSEY TEA	24-30"	CONTAINER
CARS	2	CLETHRA ALNIFOLIA 'RUBY SPICE'	RUBY SPICE SUMMERSWEET	24-30"	CONTAINER
CSF	12	CORNUS STOLONIFERA 'FARROW'	ARCTIC FIRE RED TWIG DOGWOOD	24-36"	CONTAINER
RPJM	4	RHODODENDRON X `PJM`	`PJM` RHODODENDRON	24-30"	CONTAINER
RXR	12	ROSA X 'RADRAZZ'	KNOCK OUT SHRUB ROSE	18-24"	CONTAINER
GRASSES					
PAH	29	PENNISETUM ALOPECUROIDES `HAMELN`	HAMELN FOUNTAIN GRASS	1 GAL.	CONTAINER
PVS	3	PANICUM VIRGATUM `SHENANDOAH`	SHENANDOAH SWITCH GRASS	1 GAL.	CONTAINER
GROUNDCOVER					
JHB	28	JUNIPERUS HORIZONTALIS `BAR HARBOR`	BAR HARBOR CREEPING JUNIPER	15-18" SPRD	CONTAINER

OWNER MAINTENANCE RESPONSIBILITIES

UPON OWNER'S (OR OWNER CONTRACTOR'S) COMPLETION OF LANDSCAPING WORK, THE OWNER IS FULLY RESPONSIBLE FOR ALL FUTURE MAINTENANCE, CARE, UPKEEP, WATERING, AND TRIMMING OF ALL INSTALLED VEGETATION, PLANTS, TREE, BUSHES, SHRUBS, GRASSES, GRASS, ORNAMENTAL PLANTS AND FLOWERS, FLOWERS, GROUND COVER, AND LANDSCAPING, INCLUDING ALL LANDSCAPE ISLANDS AND AREAS ADJACENT OR PART OF THE LANDSCAPED AREAS. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- TREES ADJACENT TO WALKWAYS AND AREAS OF PEDESTRIAN TRAFFIC MUST BE MAINTAINED TO ASSURE THAT ANY BRANCHES MUST BE LIMBED UP TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PEDESTRIAN SURFACES) OR PRUNED BACK TO AVOID ANY INTERFERENCE WITH THE TYPICAL PATH OF TRAVEL.
- TREES WITHIN VEHICULAR SIGHT LINES, AS ILLUSTRATED ON THE LANDSCAPE PLAN, ARE TO BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PAVED, TRAVELED SURFACES), OR AS OTHERWISE INDICATED ON THE PLANS.
- VEGETATIVE GROUND COVER, SHRUBS AND ORNAMENTAL PLANTS AND GRASSES MUST BE TRIMMED SO THAT NO PORTION OF THE PLANT EXCEEDS 30 INCHES ABOVE GRADE (OF ALL PAVED, TRAVEL SURFACES) ALONG AND WITHIN THE SIGHT LINES OF PARKING LOTS AND INGRESS-EGRESS WAYS.
- FALLEN PLANT FLOWERS, FRUIT, SEEDS AND DEBRIS DROPPINGS ARE TO BE REMOVED IMMEDIATELY FROM VEHICULAR AND PEDESTRIAN TRAFFIC AREAS TO PREVENT TRIPPING, SLIPPING OR ANY OTHER HAZARDS.

THESE REQUIREMENTS DO NOT AFFECT THE PLANT LIFE GUARANTEES THE LANDSCAPE CONTRACTOR IS REQUIRED TO PROVIDE.

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

REFER LANDSCAPE NOTES & DETAILS SHEET FOR LANDSCAPE NOTES AND DETAILS

20 10 5 0 20
SCALE: 1" = 20'

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BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	ISSUE FOR PERMIT

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
LANDSCAPE PLAN

SHEET NUMBER
L-100

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-LSCP-MAA230431.00-1B------3-LAYOUT L-100 - LANDSCAPE PLAN

LANDSCAPE SPECIFICATION

1. SCOPE OF WORK:
 a) THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS
 a) GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.
 b) TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.
 c) LAWN:
  c)a) ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 6" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON THE LANDSCAPE PLAN.
  c)b) LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.
  c)c) SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.
  c)d) MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR LANDSCAPE PLAN NOTES / DETAILS.
 d) FERTILIZER:
  d)a) FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
  d)b) FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.
 e) PLANT MATERIAL:
  e)a) ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN).
  e)b) IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.
  e)c) PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
  e)d) TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1¼" WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
  e)e) ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH. WELL-DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.
  e)f) CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
  e)g) SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.
  e)h) TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES
 a) CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.
 b) WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS
 a) BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.
 b) ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.
 c) CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION
 a) CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.
 b) A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.
 c) WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.
 d) AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS
 a) CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.
 b) LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.
 c) THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
 d) TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
  d)a) TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.
  d)b) MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING
 a) UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.
 b) LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).
 c) ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.
 d) ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING
 a) CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
 b) ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.
 c) CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
 d) ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY [SEE SPECIFICATION 6.A.]):
  d)a) 20 POUNDS 'GRO-POWER' OR APPROVED SOIL CONDITIONER/FERTILIZER
  d)b) 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER
 e) THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING
 a) INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.
 b) PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.
 c) ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.
 d) ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.
 e) POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
 f) PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:
  f)a) PLANTS: MARCH 15 TO DECEMBER 15
  f)b) LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1
  f)c) PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.
 g) FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBAR STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

 h) PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
  h)a) 1 PART PEAT MOSS
  h)b) 1 PART COMPOSTED COW MANURE BY VOLUME
  h)c) 3 PARTS TOPSOIL BY VOLUME
  h)d) 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:
   h)d)a) 2 TABLETS PER 1 GALLON PLANT
   h)d)b) 3 TABLETS PER 5 GALLON PLANT
   h)d)c) 4 TABLETS PER 15 GALLON PLANT
   h)d)d) LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK
 i) FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.
 j) ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.
 k) ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.
 l) GROUND COVER AREAS SHALL RECEIVE A ¼" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.
 m) NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.
 n) ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.
 o) ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

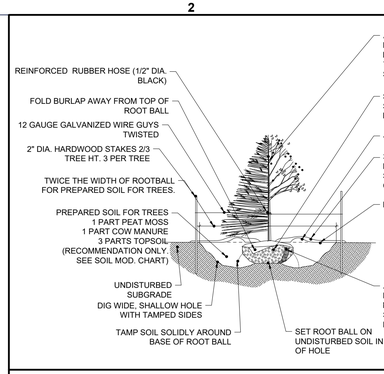
10. TRANSPLANTING (WHEN REQUIRED)
 a) ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.
 b) IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.
 c) PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.
 d) UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.
 e) TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.
 f) F TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING
 a) NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.
 b) SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.
 c) IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

12. GUARANTEE
 a) THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.
 b) ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.
 c) TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.
 d) LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

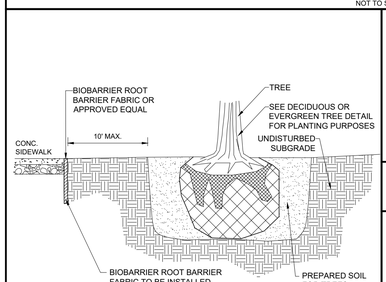
13. CLEANUP
 a) UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.
 b) THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

14. MAINTENANCE (ALTERNATIVE BID):
 a) A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MANICURED TO THE APPROVAL OF THE OWNER/OPERATOR.



TREE PLANTING

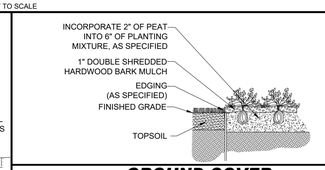
NOT TO SCALE



NOTES:
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN.
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.

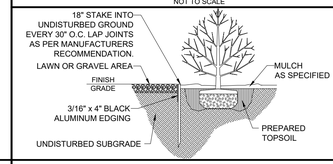
BIOBARRIER ROOT BARRIER

NOT TO SCALE



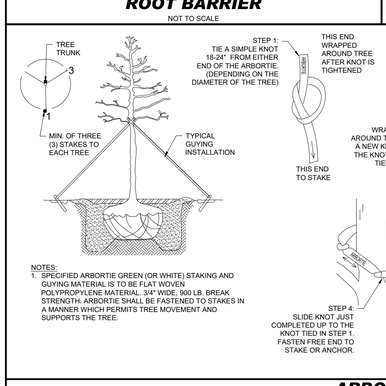
GROUND COVER PLANTING

NOT TO SCALE



BLACK ALUMINUM EDGING

NOT TO SCALE

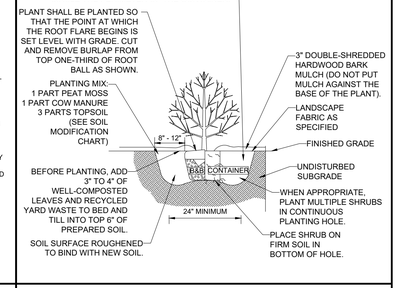


NOTES:
1. SPECIFIED ARBORTIE GREEN (OR WHITE) STAKING AND GUYING MATERIAL IS TO BE FLEX WOVEN POLYPROPYLENE MATERIAL, 3/4" WIDE, 900 LB. BREAK STRENGTH. ARBORTIE SHALL BE FASTENED TO STAKES IN A MANNER WHICH PERMITS TREE MOVEMENT AND SUPPORTS THE TREE.

ARBORTIE STAKING

NOT TO SCALE

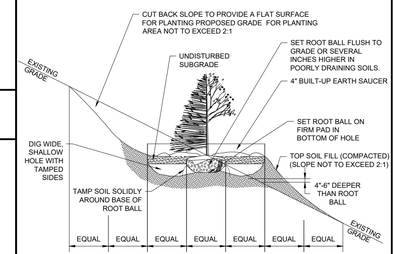
FOR CONTAINER-GROWN SHRUBS, PLANT SHALL BE TRANSPLANTED AT THE SAME GRADE AS IN THE CONTAINER. REMOVE THE CONTAINER, USE FINGER OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL. THEN CUT OR PULL APART ANY ROOTS THAT CIRCLE THE PERIMETER OF THE CONTAINER.

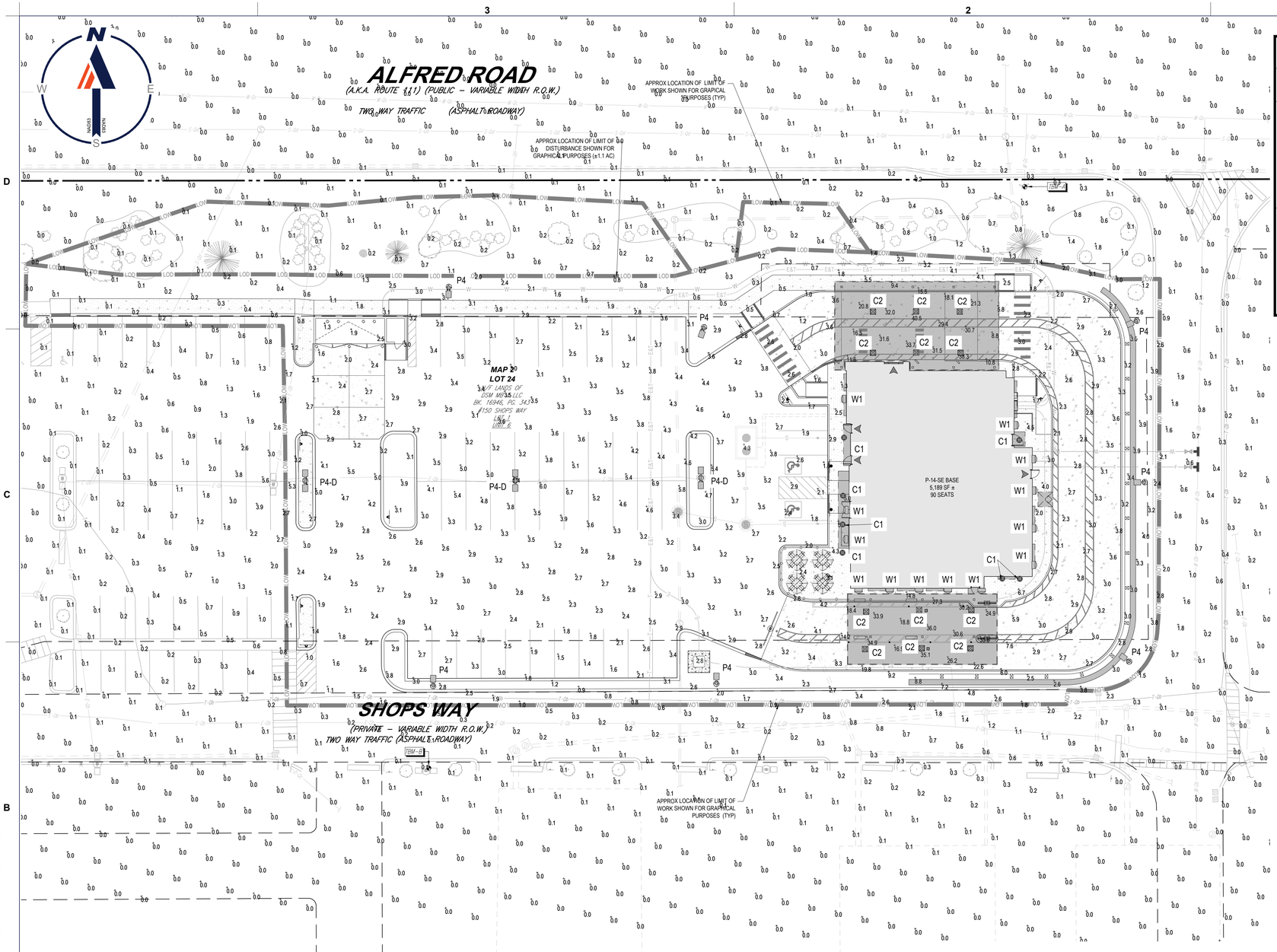


NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL FOLD BURLAP BACK 1/3 FROM ROOT BALL.
3. PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH. AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.

SHRUB PLANTING

NOT TO SCALE


CUT BACK SLOPE TO PROVIDE A FLAT SURFACE FOR PLANTING PROPOSED GRADE FOR PLANTING AREA NOT TO EXCEED 2:1
EXISTING GRADE
UNDISTURBED SUBGRADE
SET ROOT BALL FLUSH TO GRADE OR SEVER

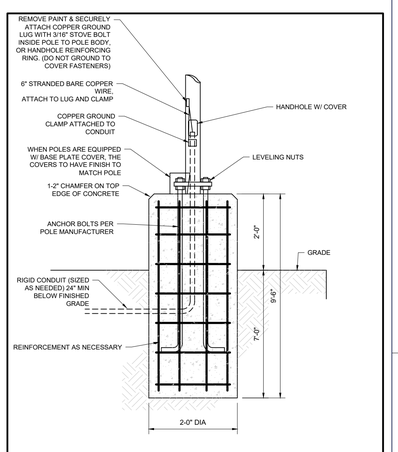


CITY OF BIDDEFORD LIGHTING REQUIREMENTS

SECTION	REQUIREMENTS	CALCULATIONS/PROPOSED
ART VI SECTION 37	LIGHTING, INCLUDING INTERNAL AND EXTERNAL ILLUMINATION, MAY BE USED WHICH SERVES SECURITY, SAFETY AND OPERATIONAL NEEDS BUT WHICH DOES NOT DIRECTLY OR INDIRECTLY PRODUCE DELETERIOUS EFFECTS ON ABUTTING PROPERTIES OR WHICH DOES NOT IMPAIR THE VISION OF A VEHICLE OPERATOR ON ADJACENT ROADWAYS. LIGHTING FIXTURES, NOT INCLUDING ILLUMINATION OF ELECTRONIC MESSAGE CENTERS (EMCS), SHALL BE SHIELDED OR HOODED SO THAT THE LIGHTING ELEMENTS ARE NOT EXPOSED TO NORMAL VIEW BY MOTORISTS OR PEDESTRIANS OR FROM ADJACENT DWELLINGS. DIRECT OR INDIRECT ILLUMINATION SHALL NOT EXCEED 0.5 FOOTCANDLE UPON ABUTTING RESIDENTIAL PROPERTIES.	PROVIDED
ART VI SECTION 49	A. 6. EXTERIOR LIGHTING SHALL NOT PRODUCE GLARE INTO ANY RESIDENTIAL USE OR STREET	PROVIDED
	C.3. (e) LIGHTING OF PARKING AREAS MAY BE REQUIRED AT THE DISCRETION OF THE GOVERNING BODY. ALL ARTIFICIAL LIGHTING USED TO ILLUMINATE ANY PARKING SPACE OR SPACES SHALL BE SO ARRANGED THAT NO DIRECT RAYS FROM SUCH LIGHTING SHALL FALL UPON ANY NEIGHBORING PROPERTY OR STREETS.	PROVIDED

LIGHTING NOTES

1. THE GENERAL NOTES MUST BE INCLUDED AS PART OF THIS ENTIRE DOCUMENT PACKAGE AND ARE PART OF THE CONTRACT DOCUMENTS. THE GENERAL NOTES ARE REFERENCED HEREIN, AND THE CONTRACTOR MUST REFER TO THEM AND FULLY COMPLY WITH THESE NOTES, IN THEIR ENTIRETY. THE CONTRACTOR MUST BE FAMILIAR WITH AND ACKNOWLEDGE FAMILIARITY WITH ALL OF THE GENERAL NOTES AND ALL OF THE PLANS' SPECIFIC NOTES.
2. THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER(S). ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
3. THE LIGHT LOSS FACTORS (LLF) DEPICTED IN THE LUMINAIRE SCHEDULE ON THIS PLAN ARE BASED ON DATA PROVIDED BY THE MANUFACTURER FOLLOWING IES LM-80-08 TESTING. THE LIGHT LEVELS DEPICTED ON THIS PLAN WERE CALCULATED BASED ON THE LLF LISTED IN THE LUMINAIRE SCHEDULE.
4. THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL) UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOTCANDLES (FC).
5. THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT IS NOT LIMITED TO, VISUAL OBSERVATION, CLEANING OF LENSES, AND RE-LAMPING (IF NECESSARY) ACCORDING TO MANUFACTURER RECOMMENDATIONS. FAILURE TO FOLLOW THE ABOVE STEPS COULD RESULT IN IMPROPER LIGHT DISTRIBUTION AND FAILURE TO COMPLY WITH THE APPROVED DESIGN. UPON COMPLETION AND OWNER'S ACCEPTANCE OF THE WORK, THE ABOVE RESPONSIBILITIES BECOMES SOLELY THE OWNERS.
6. WHERE APPLICABLE, THE EXISTING CONDITION LIGHT LEVELS ILLUSTRATED ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES. UNLESS ACTUAL FIELD MEASUREMENTS ARE TAKEN WITH A LIGHT METER AND ARE, CONSEQUENTLY, APPROXIMATIONS ONLY. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC, ACTUAL LIGHT LEVELS MAY DIFFER. EXISTING LIGHT LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED APPROXIMATE.
7. THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES, ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. LIGHT POLE BASES ARE THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
8. CONTRACTOR MUST BRING TO DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
9. IT IS THE LIGHTING CONTRACTORS RESPONSIBILITY TO COORDINATE WITH THE PROJECT ARCHITECT OR OWNER REGARDING ANY AND ALL POWER SOURCE(S) , AND TIMING DEVICES NECESSARY TO MEET THE DESIGN INTENT. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS.
10. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT SHIELDING AND OR ROTATED OPTICS ARE INSTALLED AS INDICATED ON THE PLAN IN ORDER TO ACHIEVE THE LIGHTING LEVELS THE REVIEWING AGENCY APPROVED.
11. THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
12. THE CONTRACTOR MUST VERIFY THAT INSTALLATION OF LIGHTING FIXTURES COMPLIES WITH THE REQUIREMENTS FOR SEPARATION FROM OVERHEAD ELECTRICAL WIRES PER STATE REGULATIONS.
13. WHEN A BASE IS INCLUDED IN THE PLAN, THE LIGHTING DESIGN REPRESENTS BOHLER'S UNDERSTANDING AND INTERPRETATION OF THE REGULATORY LIGHTING LEVELS INTENDED BY PUBLISHED STANDARDS.
14. UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.



NOTES:
1. THIS DETAIL IS FOR BID AND BUDGETARY PURPOSES ONLY. CONTRACTOR SHALL ENSURE DESIGN IS PREPARED BY A QUALIFIED STRUCTURAL ENGINEER CONSIDERING LIGHTING MANUFACTURER REQUIREMENTS, LOCAL WIND LOADS, SITE SPECIFIC SOIL PARAMETERS.
   A. SOME SITE LOCATIONS AND/OR CONDITIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS DETERMINED BY A STRUCTURAL ENGINEER.
   B. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE INTENT TO MOUNT ANYTHING ASIDE FROM THE LIGHT FIXTURE INCLUDING (BUT NOT LIMITED TO) CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN.
2. ALL REBAR SHALL HAVE A YIELD STRENGTH OF 60ksi, AND MAINTAIN A 3" MIN CLEARANCE FROM SURFACES.

LIGHT POLE FOUNDATION
NOT TO SCALE (PA-I010101 - 11/2023)

CALCULATION SUMMARY

LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
ALL POINTS	ILLUMINANCE	FC	1.00	40.5	0.0	N.A.	N.A.
DRIVE THRU	ILLUMINANCE	FC	3.63	19.8	1.2	3.03	16.50
ORDER POINT CANOPY	ILLUMINANCE	FC	28.31	36.0	16.9	1.68	2.13
OUTSIDE MEAL DELIVERY CANOPY	ILLUMINANCE	FC	23.35	40.5	5.8	4.03	6.98
PARKING	ILLUMINANCE	FC	3.24	6.9	1.4	2.31	4.93

LUMINAIRE SCHEDULE

LABEL	QTY	MOUNTING HEIGHT	ARRANGEMENT	LUM. LUMENS	LLF	DESCRIPTION	POLE
C1	7	9'-8" AFF*	SINGLE	605	0.900	COOPER LIGHTING, HALO SLDSL4 SERIES 4" SURFACE LED DOWNLIGHT WALL MOUNT, SELECTABLE CCT, ZERO UP-LIGHT (SLDSL4-6-9S-IE-MW-R)	----
C2	12	9'-8" AFG	SINGLE	10457	0.900	LSI LIGHTING, SCOTTSDALE LEGACY CRUS LED CANOPY LUMINAIRE (CRUS), BRONZE, ZERO UP-LIGHT (CRUS-SC-LED-LW-30-UE-WHT)	----
W1	13	8'-0" AFF*	SINGLE	830	0.900	PROGRESS LIGHTING, UP/DOWN LED CYLINDER OUTDOOR LANTERN, BRONZE (P5675-3130K WITH P860038 TOP COVER LENSE)	----
P4	7	20'-0" AFG	SINGLE	11933	0.900	LUMARK, PREVAIL LED AREA / SITE LUMINAIRE, BRONZE (PRV-C25-D-UNV-T4-BZ-HSS)	COOPER LIGHTING SOLUTIONS, LUMARK ROUND TAPERED STEEL POLE, 20'-0" LENGTH, (RTS-8-A-20-S-x-x-M-1-x)
P4-D	3	20'-0" AFG	BACK-BACK	11933	0.900	LUMARK, PREVAIL LED AREA / SITE LUMINAIRE, BRONZE (PRV-C25-D-UNV-T4-BZ-HSS)	COOPER LIGHTING SOLUTIONS, LUMARK ROUND TAPERED STEEL POLE, 20'-0" LENGTH, (RTS-8-A-20-S-x-x-M-2-x)

*REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATION AND MOUNTING HEIGHT

THIS PLAN TO BE UTILIZED FOR LIGHTING PURPOSES ONLY

20 10 5 0 20
SCALE: 1" = 20'

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
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It's fast. It's free. It's the law.

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	ISSUE FOR PERMIT

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
LIGHTING PLAN

SHEET NUMBER
L-200

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-LIGHT-MAA230431.00.-IB-----LAYOUT: L-200 - LIGHTING PLAN

PROGRESS LIGHTING

Project:

Fixture Type:

Location:

Contact:



P5675-31
Cylinder

5" up/down cylinder/ outdoor lantern in Black. with heavy duty aluminum construction and die cast wall bracket. Powder coated finish. Wet location listed when used with P860045 top cover lens.

- Black finish.
- Powder coat finish.
- Ideal for a wide variety of interior and exterior applications.
- Die-cast aluminum wall brackets and heavy duty aluminum framing.
- Wet location listed when used with P860045 top cover lens (sold separately)

Category: Outdoor
Finish: Black (powder coat paint)
Construction: cast aluminum Construction

Width: 5 in
Height: 14 in
Depth: 7-7/8 in
H/CTR: 7 in

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Wall mounted	Prewired	Quantity: two 75 W max. PAR-30 or BR-30 or LED equivalent	cCSAus Damp Location Listed
Mounting strap for outlet box included	6 inches of wire supplied		1-year Limited Warranty
back plate covers a standard 4" recessed outlet box: 4.5" W.,	120 V	E26 base porcelain sockets	

701 Millennium Blvd. Greenville, South Carolina 29607 www.progresslighting.com Rev. 07/20

PROGRESS LIGHTING P5675-31 CYLINDER LED WALL SCONCE

NOT TO SCALE (BE-S020201 - 08/2023)

Catalog # : Project : Type :

Prepared By : Date :

Scottsdale® Legacy (CRUS)
LED Canopy Luminaire



OVERVIEW	
Lumen Package (lm)	5,000 - 22,000
Wattage Range (W)	38 - 152
Efficacy Range (LPW)	114 -156
Weight lbs (kg)	23 (10.4)

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Features a ultra-slim 11/16" profile die-cast housing, with flat clear or diffused tempered glass lens. Unit is water-resistant, sealed and IP66 rated. Integral designed heat sink does not trap dirt and grime, ensuring cool running performance over the life of the fixture.
- Standard color is white and is finished with LSI's DuraGrip® polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.
- Luminaire assembly incorporates a pressure stabilizing vent breather to prevent seal fatigue and failure.

Optical System
- Features an array of select, mid-power, high brightness, high efficiency LED; 3000K, 4000K, 5000K color temperature, 80 CRI (nominal).
- Choice of Symmetric or Asymmetric distribution. Asymmetric provides a wider distribution pattern. Optional symmetric with diffused lens also available.
- Forward Throw distribution provides an industry leading unique distribution pattern that illuminates the area under the gas canopy and beyond. The forward through optic directs the light to the forecourt from the gas canopy eliminating the need for supplemental floodlights and extensive perimeter lighting.
- Diffuse lens available as an option to soften brightness of the luminaire.
- Six Lumen Packages: 5,000, 9,000, 10,000, 13,000, 18,000 and 22,000 Lumens.

Electrical
- High performance factory programmable driver features over-voltage, under voltage, short-circuit and over temperature protection with integral 6kV surge protection that meets IEEE C62.41.2 and ANSI C82.77-5 Location Category C Low standards. Additional field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/ IEEE C62.41.2). Custom lumen and wattage packages available.
- Driver components are fully encased in potting for moisture resistance. Complies with IEC and FCC standards. 0-10 V dimming supplied standard with all drive currents.
- Die-cast aluminum, wet location rated driver/electrical enclosure is elevated above canopy deck to prevent water entry, provide easy "knock-out" connection of primary wiring and acts as the primary heatsink ensuring cool operation of internal components for longer life. Seals to optical housing via one-piece molded silicone gasket.
- Universal voltage power supply, 120-277 VAC, 50/60 HZ and 347-480 VAC, 50/60 HZ input.
- -40°C to 55°C (-40°F to 131°F) ambient operating temperature. (Varies based on lumen package and mounting style see performance data for specifics.)
- Minimum 60,000 to 100,000 hours depending upon the ambient temperature of the installation location (see performance data for specifics.)

Hazardous Location
- Designed for lighter than air fuel applications. Product is suitable for Class 1 Divisions 2 only when properly installed per LSI installation instructions. See lsicorp.com for specific guidance. Not available on SLW.

Installation
- One-person installation.
- Installs in a 12" or 16" deck pan. Deck penetration consists of a 4" hole, simplifying installation and water sealing. Unit is designed to quickly retrofit into existing Scottsdale (4") hole as well as openings for Encore and Encore Top Access and to reconnect wiring for the SC/ECTA without having to relocate the conduit.
- Retro panels are available for existing Encores as well as kits for recessed and 2x2 installations (see separate spec sheets). Support brackets are provided standard, to prevent sagging of deck.

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- UL and ETL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations.
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Meets Buy American Act requirements.
- IDA compliant with 3000K or lower color temperature.

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LSI SCOTTSDALE LEGACY (CRUS) LED CANOPY LUMINAIRE

NOT TO SCALE (BE-S020201 - 08/2023)

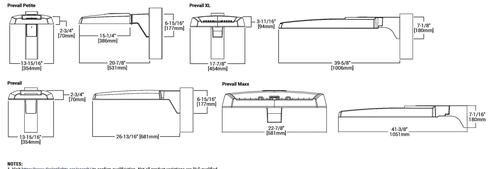
Project		Catalog #		Type	
Prepared by		Notes		Date	



Interactive Menu
- Ordering Information page 2
- Mounting Details page 3, 4
- Optical Configurations page 5
- Product Specifications page 5
- Energy and Performance Data page 6, 7
- Control Options page 8

Quick Facts
- Lumen packages range from 4,800 - 84,000 lumens (35W - 588W)
- Replaces 70W up to 1,000W HID equivalents
- Efficacies up to 160 lumens per watt
- Energy and maintenance savings up to 85% versus HID solutions
- Standard universal quick mount arm with universal drill pattern

Dimensional Details



NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

COOPER Lighting Solutions

PS5000031EN page 1
June 3, 2024 7:32 PM

PROGRESS LIGHTING P5675-31 CYLINDER LED WALL SCONCE

NOT TO SCALE (BE-S020201 - 08/2023)

Lumark **Prevail LED**

Ordering Information

SAMPLE NUMBER: **PRV-XL-C75-D-UNV-T4-SA-BZ**

Product Family [1, 2]	Light Engine [3]	Color Temperature	Driver	Voltage	Distribution	Mounting	Color
PRV-P=Prevail Petite **BAA-PRV-P**=Prevail Petite BAA Compliant [3] **TAA-PRV-P**=Prevail Petite TAA Compliant [3]	**C10**=(1 LED) 4,900 Nominal Lumens **C15**=(1 LED) 6,900 Nominal Lumens **C20**=(1 LED) 9,800 Nominal Lumens **C25**=(1 LED) 11,800 Nominal Lumens	**740**=70CRI, 4000K **727**=70CRI, 2700K **730**=70CRI, 3000K **750**=70CRI, 5000K **8540**=85CRI, 4000K	**D**=Dimming (0-10V)	**UNV**=Universal (120-277V) **H**=High Voltage, 347-480V **8**=480V [4] **9**=347V **DV**=DuroVolt (277-480V) [4, 5]	**T2**=Type II **T3**=Type III **T4**=Type IV **T5**=Type V	**SA**=QM Standard Arm Mount Arm **MA**=QM Mast Arm **FMA**=Fixed Mast Arm [6] **WM**=QM Wall Mount Arm **AJA-WM**=Adjustable Arm- Wall Mount [6] **AJA**=Adjustable Arm- Pole Mount [6] **AJ-S**=Adjustable Arm– Slipfitter, 3" vertical tenon [6] **SP2**=Adjustable Arm– Slipfitter, 2 5/8" vertical tenon [6, 24]	**BZ**=Bronze **AP**=Grey **BK**=Black **SP**=Silver Platinum **GM**=Graphite Metallic **WH**=White
PRV-XL=Prevail XL **BAA-PRV-XL**=Prevail XL BAA Compliant [3] **TAA-PRV-XL**=Prevail XL TAA Compliant [3]	**C75**=(4 LED) 26,100 Nominal Lumens **C10B**=(4 LED) 31,000 Nominal Lumens **C12S**=(4 LED) 36,000 Nominal Lumens **C15B**=(6 LED) 41,100 Nominal Lumens **C17S**=(6 LED) 48,600 Nominal Lumens						
PRV-M=Prevail Maxx **BAA-PRV-M**=Prevail Maxx BAA Compliant[3] **TAA-PRV-M**=Prevail MaxxTAA Compliant [3]	**C20D**=(9 LED) 48,000 Nominal Lumens **C25D**=(9 LED) 54,000 Nominal Lumens **C30D**=(9 LED) 65,000 Nominal Lumens **C27S**=(9 LED) 73,000 Nominal Lumens						

Options (Add as Suffix)

7030=70 CRI / 3000K CCT [7]
7050=70 CRI / 5000K CCT [7]
CC=Coastal Construction finish [8]
DF=Diffused Lens [9]
L90=Optics Rotated 90° Left
R90=Optics Rotated 90° Right
10K=10kV/10kA UL 1449 Fused Surge Protective Device
20MSP=20kV MOV Surge Protective Device
20K=20kV UL 1449 Fused Surge Protective Device
HA=50°C High Ambient Temperature
PE=Button Type Photocontrol Receptacle [10]
PER7=NEMA 7 PIN Twistlock Photocontrol Receptacle [10]
FADC=Field Adjustable Dimming Controller [11]
MS/DIM-LSB=Dimming Motion and Daylight Sensor, IR Remote Programmable, 8' - 15' Mounting Height [12, 13]
MS/DIM-LSO=Dimming Motion and Daylight Sensor, IR Remote Programmable, 8' - 20' Mounting Height [12, 13]
MS/DIM-L40=Dimming Motion and Daylight Sensor, IR Remote Programmable, 21' - 40' Mounting [12, 13]
SP01=Dimming Motion and Daylight Sensor, Bluetooth Programmable, < 8' Mounting Height [12, 13]
SP02=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 8' - 20' Mounting Height [12, 13]
SP04=Dimming Motion and Daylight Sensor, Bluetooth Programmable, 21' - 40' Mounting Height [12, 13, 22, 23]
WPEZXX=WaveLinx Pro, SB Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [12, 13, 14, 15, 16, 21]
WPTAXX=WaveLinx Pro, SB Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [12, 13, 14, 15, 16, 21]
WLS2XX=WaveLinx Lite, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [12, 13, 14, 15, 16]
WL54XX=WaveLinx Lite, SB Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [12, 13, 14, 15, 16]
(See Table Below)=LumenSafe Integrated Network Security Camera [16, 18]

Accessories (Order Separately) [19, 21]

PRVSA-XX=Standard Arm Mounting Kit [20]
PRVMA-XX=Mast Arm Mounting Kit [20]
PRVWM-XX=Wall Mount Kit [20]
PRVAJA-XX=Adjustable Arm - Pole Mount Kit [20]
PRV-AJ2S-XX=Adjustable Arm - Slipfitter Kit [20]
PRVJUMM-XX=Wall Mount Kit [20]
PRV-XL-AJA-XX=Adjustable Arm - Pole Mount Kit [20]
PRV-XL-AJ2S-XX=Adjustable Arm - Slipfitter Kit [20]
PRV-XL-AJA-WM-XX=Adjustable Arm - Wall Mount Kit [20]
PRV-M-AJA-XX=Adjustable Arm - Pole Mount Kit [20]
PRV-M-AJ2S-XX=Adjustable Arm - Slipfitter Kit [20]
PRV-M-AJA-WM-XX=Adjustable Arm - Wall Mount Kit [20]
MA1010-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon
MA1011-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon
MA1017-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon
MA1018-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon
SMA238=Tenon Adapter from 3" to 2-3/8"
PRVCOB-FDP=Full Drop Visor [6]
PRVXLCOB-FDV=Full Drop Visor [6]
HS/VERD=House Side Shield Kit [6, 24]
VGS-F/B=Vertical Glare Shield Kit, Front/Back [6]
VGS-SIDE=Vertical Glare Shield Kit, Side [6]
GA/RA1013=Photocontrol Shorting Cap
GA/RA1014=NEMA Photocontrol - 120V
GA/RA1016=NEMA Photocontrol - Multi Tap 105-285V
GA/RA1201=NEMA Photocontrol - 347V
GA/RA1027=NEMA Photocontrol - 480V
FSIR-100=Wireless Configuration Tool for Occupancy Sensor [9]
WOLC-7P-10A=WireLinx Outdoor Control Module (7 PIN) [9]

NOTES:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to installation instructions for proper mounting. Structural calculations are available upon request.
3. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
4. Standard 4000K CCT and 70CRI.
5. 480V not to be used with ungrounded or impedance grounded systems.
6. DuroVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.sparkcreates.com/duravolt for more information.
7. Use dedicated IES files on product website for non-standard CCTs.
8. Coastal construction finish is powder coat primer with topcoat finish with PRV C65 lumen package.
9. Not available with PRV C65 lumen package. Not available with PRV-P C25 lumen package.
10. Coastal construction finish salt spray tested to over 3,000 hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
11. If DuroVolt (DV) is specified, use a photocontrol that matches the input voltage used.
12. Controls system is not available in combination with a photocontrol receptacle (PE & PER7) or another controls system (MS or SPR). Option not available with DuroVolt (DV) voltage option.
13. Utilizes the Wattstopper sensor FSP-211. Sensor color white unless specified otherwise via PSW. To field-configure, order FSIR-100 configuration tool.
14. Utilizes the Wattstopper sensor FSP-312 series. Sensor color determined by product finish. See Sensor Color Reference Table. Field-configures via mobile application. See Controls section for details.
15. Sensor passive infrared (PIR) may be overly sensitive when operating below -20°C (-4°F).
16. For the device to be field-configurable, requires WAC Gateway components WAC-PoE and WPOE-120 in appropriate quantities. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more Wavelinx application information.
17. Replace XX with sensor color (WH, BZ, or BK).
18. Only available in PRV-XL configurations C75, C10D, C12S, C15B, or C17S.
19. Not available with 347V, 480V, DV, or HA options. Consult LumenSafe system product pages for additional details and compatability information.
20. Replace XX with paint color.
21. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for more information.
22. Not for use with PRV-XL or PRV-M configurations.
23. Only for use with PRV. Not applicable to PRV-M, PRV-XL, or PRV-P.
24. Must order one per optic/LED when ordering as a field-installable accessory (1, 2, 3, 4 or 9).
25. This tool enables adjustment to Motion Sensor (MS) parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative for more information.
26. Requires 7-PIN NEMA twistlock photocontrol receptacle (PE & PER7) option. The WOLC-7 cannot be used in conjunction with other controls systems (MS or LMS). Operates on 105-347V input voltage.
27. Only for use with PRV-M configurations.
28. Only for use with PRV-XL configurations.
29. Fixed for PRV-M.
30. Cannot be used with PR7 or other motion response control options

LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul
L=LumenSafe Technology	**H**=Dome Camera, High Res **Z**=Dome Camera, Remote PTZ	**C**=Cellular, Customer Installed-SIM Card **A**=Cellular, Factory Installed AT&T SIM Card **V**=Cellular, Factory Installed Verizon SIM Card **S**=Cellular, Factory Installed Sprint SIM Card **E**=Ethernet Networking

Stock Ordering Information

Product Family [1]	Light Engine	Voltage	Distribution
PRVS=Prevail	**C15**=(1 LED) 7,100 Nominal Lumens **C25**=(2 LEDs) 13,100 Nominal Lumens **C40**=(2 LEDs) 17,100 Nominal Lumens **C60**=(2 LEDs) 20,000 Nominal Lumens	**UNV**=Universal (120-277V) **347**=347V [4]	**T2**=Type II **T4**=Type IV
PRVS-XL=Prevail XL	**C75**=(4 LED) 26,100 Nominal Lumens **C10B**=(4 LED) 31,000 Nominal Lumens **C12S**=(4 LED) 36,000 Nominal Lumens **C15B**=(6 LED) 41,100 Nominal Lumens **C17S**=(6 LED) 48,600 Nominal Lumens		

NOTES:
1. All stock configurations are standard 4000K/70CRI, bronze finish, and include the standard versatile mounting arm.
2. Only available in PRVS configurations C15, C25, C40 or C60.

COOPER Lighting Solutions

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June 3, 2024 7:32 PM

LUMARK PREVAIL LED AREA SITE LUMINAIRE

NOT TO SCALE (BE-S020201 - 08/2023)

Project		Catalog #		Type	
Prepared by		Notes		Date	



HALO
SLDSL4 Series

4" Surface LED Downlight
SeleCCTable color temperature

Typical Applications
Residential

Interactive Menu
- Order Information page 2
- Product Specification page 4
- Photometric Data page 5
- Product Warranty

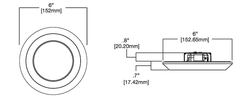
Product Certification

Refer to CHECKIT ID HALO Certified Products List.
Can be used to comply with California Title 24 High-Efficacy requirements.
Certified to California Appliance Efficiency Database under JA8.

Product Features

Top Product Features
- Ultra-low profile surface luminaire with wide distribution
- Ceiling mounting in compatible junction boxes
- Retrofit 4" recessed downlights with screwbase adapter (sold separately)
- 2700K, 3000K, 3500K, 4000K and 5000K field selectable CCT; 90 CRI
- Dimmable with 120V dimmer

Dimensional and Mounting Details



COOPER Lighting Solutions

PS5181177EN page 1
March 28, 2023 3:09 PM

COOPER LIGHTING HALO SLDSL4 SERIES LED DOWNLIGHT

NOT TO SCALE (BE-S020201 - 08/2023)

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

811 Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

CHICK-FIL-A
150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	ISSUE FOR PERMIT

ISSUED FOR PERMIT

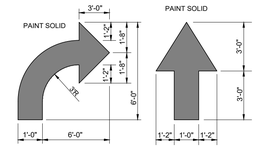
CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from authorized project representatives.

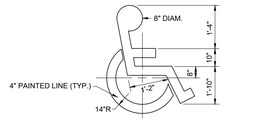
SHEET
LIGHTING NOTES AND DETAILS

SHEET NUMBER
L-100

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-LIGHT-MAA230431.00.RB-----3LAYOUT- L-201 - LIGHT DETAILS



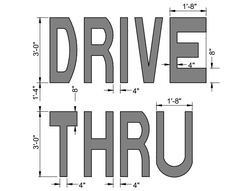
1A C-400 DIRECTIONAL ARROW
NOT TO SCALE



1B C-400 ACCESSIBILITY SYMBOL
NOT TO SCALE

NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS (SEE DETAIL 5/C-400).
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE, UNLESS UPON VERIFICATION BY THE GENERAL CONTRACTOR IT IS DETERMINED THAT LOCAL, STATE, OR ADA CODES DIFFER, IN WHICH CASE THESE CODES SHALL GOVERN.

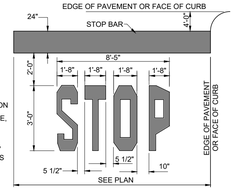
1 C-400 PAVEMENT MARKINGS - 1
NOT TO SCALE



2A C-400 DRIVE-THRU
NOT TO SCALE

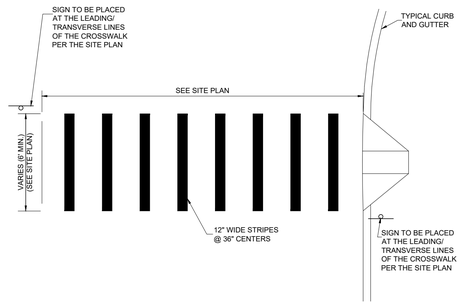
NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS.
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE, UNLESS UPON VERIFICATION BY THE GENERAL CONTRACTOR IT IS DETERMINED THAT LOCAL, STATE, OR ADA CODES DIFFER, IN WHICH CASE THESE CODES SHALL GOVERN.

NOTE:
IF STOP SIGN IS PROPOSED, "STOP" LETTERING GRAPHIC IS NOT REQUIRED.



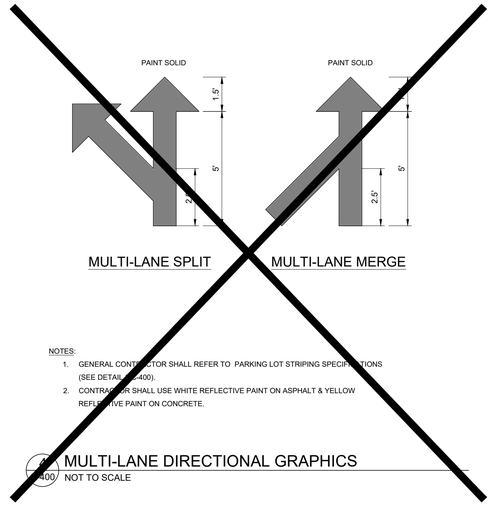
2B C-400 STOP BAR
NOT TO SCALE

2 C-400 PAVEMENT MARKINGS - 2
NOT TO SCALE



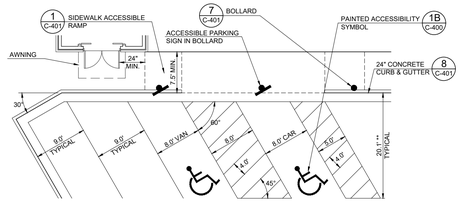
NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS (SEE DETAIL 5/C-400).
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT AND YELLOW REFLECTIVE PAINT ON CONCRETE.

3 C-400 CROSSWALK MARKINGS
NOT TO SCALE



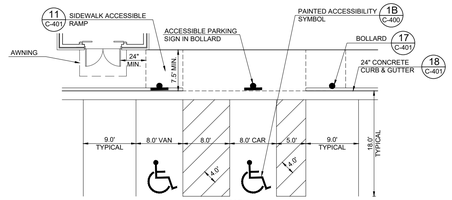
NOTES:
1. GENERAL CONTRACTOR SHALL REFER TO PARKING LOT STRIPING SPECIFICATIONS (SEE DETAIL 5/C-400).
2. CONTRACTOR SHALL USE WHITE REFLECTIVE PAINT ON ASPHALT & YELLOW REFLECTIVE PAINT ON CONCRETE.

4 C-400 MULTI-LANE DIRECTIONAL GRAPHICS
NOT TO SCALE



60° PARKING

** 60° PARKING STALL CAN BE REDUCED TO 18' MINIMUM IF SITE CONDITIONS REQUIRE IT.



90° PARKING

PARKING LOT STRIPING SPECIFICATIONS:

STANDARDS:
1. ALWAYS FOLLOW ALL APPLICABLE GOVERNING AUTHORITY'S STANDARDS.
2. SURFACES SHOULD BE CLEAN, DRY, AND FREE FROM LOOSE OR PEELING PAINT. REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. DO NOT APPLY WHEN AIR OR SURFACE TEMPERATURES ARE BELOW 40°F.
3. APPLY SHERWIN-WILLIAMS SETFAST PREMIUM ALKYD ZONE MARKING PAINT A300 WHITE OR A303 YELLOW USING EITHER AIRLESS OR CONVENTIONAL LINE STRIPING EQUIPMENT. USE THE FOLLOWING SETTINGS AS A GUIDE-ACTUAL SETTINGS DEPEND ON ATMOSPHERIC CONDITIONS AT THE TIME OF APPLICATION:

AIRLESS

• PRESSURE	1800-2700 PSI
• HOSE	½"-3" ID
• TIP	0.015"-0.017"
• FILTER	60 MESH
• REDUCTION	ONLY IF NECESSARY, UP TO 1PT/GAL VM&P NAPTHA R1K3

CONVENTIONAL

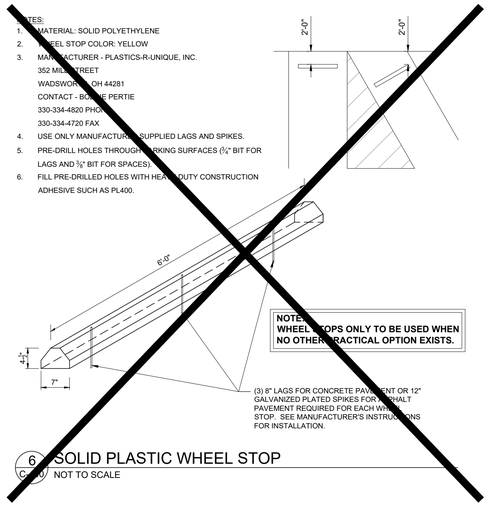
• GUN	BLINKS 21 (BLEEDER) OR EQUIVALENT
• FLUID NOZZLE	#68
• AIR NOZZLE	INTERNAL MIX, #709
• ATOMIZATION PRESSURE	45-80 PSI
• FLUID PRESSURE	40-70 PSI
• REDUCTION	ONLY IF NECESSARY, UP TO 1PT/GAL VM&P NAPTHA R1K3

- SHERWIN WILLIAMS, H&C SHARK GRIP SLIP RESISTANT ADDITIVE TO BE MEASURED AND ADDED TO ALL PAINT PER MANUFACTURER'S WRITTEN SPECIFICATIONS. MIX THOROUGHLY PER MANUFACTURERR'S RECOMMENDATIONS SO THAT NO CLUMPING IS APPARENT AND UNTIL EVEN DISTRIBUTION IS ACHIEVED. MAINTAIN EVEN DISTRIBUTION OF ADDITIVE IN PAINT THROUGHOUT THE APPLICATION PROCESS.
- MIX PAINT THOROUGHLY BY BOXING, STIRRING, OR POWER AGITATION BEFORE USE. APPLY AT 15 MILS WET TO ACHIEVE A SPREAD RATE OF 400-500 LINEAL FEET OF STANDARD 4" STRIPE PER GALLON. APPLIED AT THIS RATE AT 70 DEGREES F AND 50% RELATIVE HUMIDITY, PAINT WILL DRY WITH NO TRAFFIC PICKUP AFTER 20 MINUTES.
- GENERAL CONTRACTOR TO RE-STRIPE THE LOT 45 DAYS AFTER OPENING.

NOTES
1. ACCESSIBLE PARKING AND ACCESSIBLE AISLES SHALL NOT EXCEED 1.5% IN SLOPE IN ANY DIRECTION. IF ONLY ONE ACCESS AISLE IS INSTALLED, IT IS TO BE A VAN SIZE.
2. PARKING STALL DIMENSIONING SHALL BE IN ACCORDANCE WITH APPLICABLE GOVERNING AUTHORITY'S AND ADA STANDARDS. SEE SITE PLAN FOR COMPLETE STRIPING LAYOUT.
3. GENERAL CONTRACTOR SHALL REFER TO CHICK-FIL-A PARKING LOT STRIPING SPECIFICATIONS, THIS DETAIL.
4. CONTRACTOR SHALL USE 4" WIDE WHITE REFLECTIVE PAINT FOR STRIPING ON ASPHALT PARKING LOTS.
5. CONTRACTOR SHALL USE 4" WIDE YELLOW REFLECTIVE PAINT FOR STRIPING ON CONCRETE PARKING LOTS.
6. ACCESSIBLE PARKING AND ACCESSIBLE AISLE STRIPING COLOR SHALL BE IN ACCORDANCE WITH APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
7. NO WHEEL STOPS TO BE INSTALLED WHEN PARKING IS ADJACENT TO SIDEWALK.
8. ADA SIGNS IN BOLLARDS AND BOLLARDS SHALL BE INSTALLED WHEN PARKING IS ADJACENT TO FLUSH CURB OR A RAMP.
9. ALL DIMENSIONS ARE TO CENTER OF STRIPE UNLESS OTHERWISE NOTED.
10. STRIPING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

5 C-400 PARKING STALL LAYOUT AND STRIPING
NOT TO SCALE

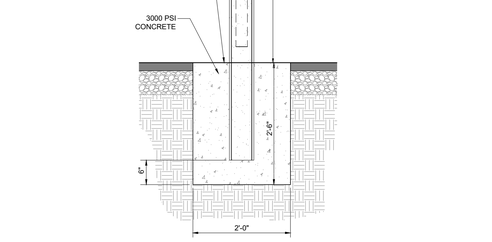
NOTES:
1. MATERIAL: SOLID POLYETHYLENE
2. WHEEL STOP COLOR: YELLOW
3. MANUFACTURER - PLASTICS-R-UNIQUE, INC.
   352 MILL STREET
   WADSWORTH, OH 44281
   CONTACT - BONNIE PERTIE
   330-334-4820 PHONE
   330-334-4720 FAX
4. USE ONLY MANUFACTURER SUPPLIED LAGS AND SPIKES.
5. PRE-DRILL HOLES THROUGH PARKING SURFACES (¾" BIT FOR LAGS AND ½" BIT FOR SPACES).
6. FILL PRE-DRILLED HOLES WITH HEAVY DUTY CONSTRUCTION ADHESIVE SUCH AS PL400.



NOTE:
WHEEL STOPS ONLY TO BE USED WHEN NO OTHER PRACTICAL OPTION EXISTS.

(3) 8" LAGS FOR CONCRETE PAVEMENT OR 12" GALVANIZED PLATED SPIKES FOR ASPHALT PAVEMENT REQUIRED FOR EACH WHEEL STOP. SEE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

6 C-400 SOLID PLASTIC WHEEL STOP
NOT TO SCALE

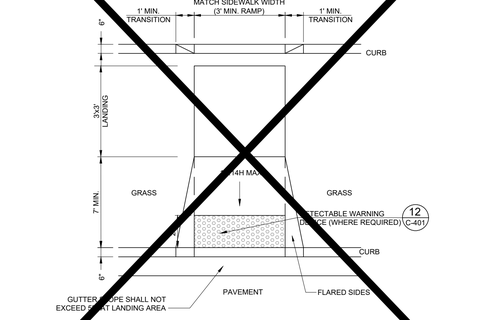


NOTE:
SIGNS SHALL BE FABRICATED USING S/F 0.08 NON-ILLUMINATED ALUMINUM WITH VINYL COPY APPLIED TO THE FIRST SURFACE.

NOTE:
VERIFY COLORS WITH LOCAL MUNICIPALITY.

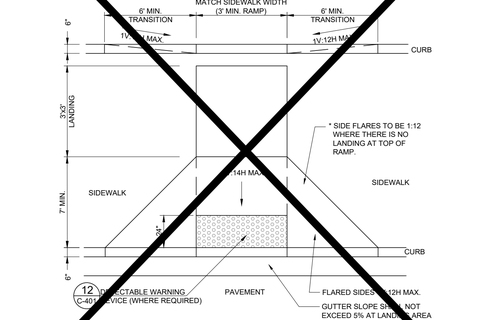
7 C-400 BOLLARD MOUNTED SIGN
NOT TO SCALE

CIVIL TO VERIFY RAMP REQUIREMENTS BY STATE.



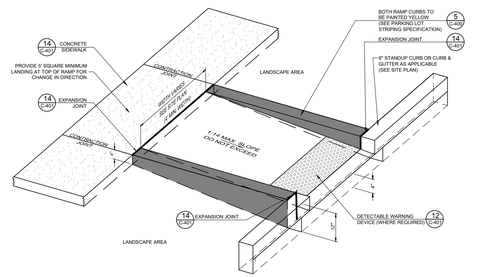
8 C-400 CURB RAMP w/ SHORT FLARED SIDES
NOT TO SCALE

CIVIL TO VERIFY RAMP REQUIREMENTS BY STATE.



9 C-400 CURB RAMP w/ FLARED SIDES
NOT TO SCALE

CIVIL TO VERIFY RAMP REQUIREMENTS BY STATE.



10 C-400 RETURNED CURB RAMP
NOT TO SCALE

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FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	ISSUE FOR PERMIT

ISSUED FOR PERMIT

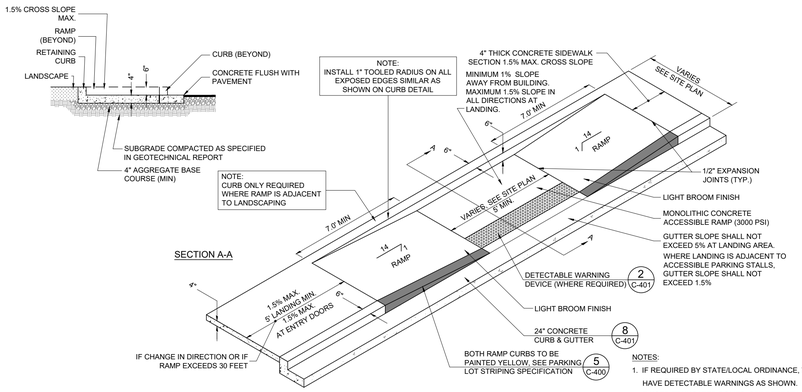
CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
SITE DETAILS

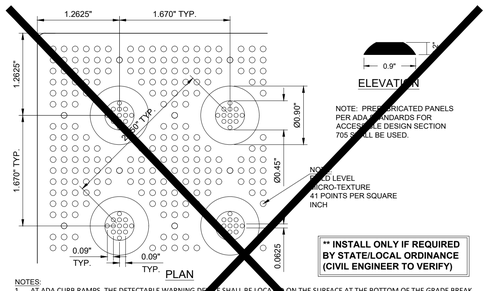
SHEET NUMBER
C-400

\\BOHLERENG.NET\SHARE$\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVL-DETL-MAA230431.00-1B------3-LAYOUT: C-400 - SITE DETAILS



NOTES:
1. IF REQUIRED BY STATE/LOCAL ORDINANCE, THE SURFACE OF THE RAMP LANDING SHALL HAVE DETECTABLE WARNINGS AS SHOWN. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES. SEE DETECTABLE WARNINGS DETAIL.
2. CONSTRUCT PER A.D.A. STANDARDS.
3. REFER TO PLANS FOR ADJACENT SLOPES.
4. THE CROSS SLOPE OF THE RAMP SURFACE SHALL BE NO GREATER THAN 1.5%.
5. CONSTRUCTION OF THE RAMP SHALL MATCH ADJOINING SIDEWALK DETAIL.
6. CONCRETE SHALL BE P.C.C. 3000 PSI.

1 C-401 SIDEWALK ACCESSIBLE RAMP
NOT TO SCALE



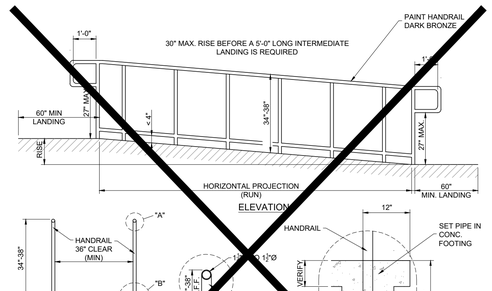
NOTE: PREFABRICATED PANELS PER ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 705 SHALL BE USED.

NOTE: RAISED LEVEL TRUNCATED MICRO-TEXTURE WITH 41 POINTS PER SQUARE INCH

**** INSTALL ONLY IF REQUIRED BY STATE/LOCAL ORDINANCE (CIVIL ENGINEER TO VERIFY)**

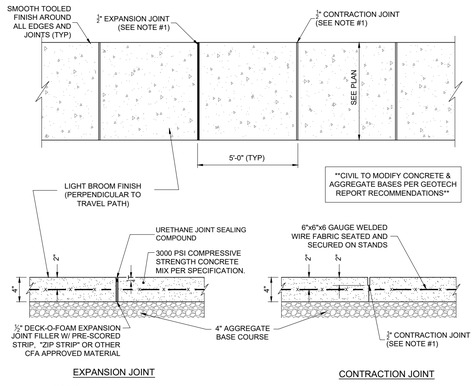
NOTES:
1. AT ADA CURB RAMPS, THE DETECTABLE WARNING DEVICE SHALL BE LOCATED ON THE SURFACE AT THE BOTTOM OF THE GRADE BREAK OR AT THE LOWER LANDING. FOR LANDINGS AND BLENDED TRANSITIONS, DETECTABLE WARNING DEVICES SHALL BE LOCATED ON THE LANDING OR BLENDED TRANSITION AT THE BACK OF CURB.
2. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE RAMP OR FLUSH SURFACE.
3. DETECTABLE WARNING SURFACES SHALL BE CONSTRUCTED BY TEXTURING PRODUCTS CONFORMING TO PROVAQ R305. TRANSITION SLOPES ARE NOT TO HAVE DETECTABLE WARNINGS. CONTRACTOR SHALL CONFIRM LOCAL CODES ARE MET.
4. WHERE A CURB RAMP IS CONSTRUCTED WITHIN AN EXISTING CURB, CURB & GUTTER AND/OR SIDEWALK, THE EXISTING CURB & GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE CURB TRANSITIONS OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB & GUTTER IS LESS THAN 5' LONG. THE EXISTING SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE WALK AROUND OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5' LONG.
5. THE PLAN MUST PROVIDE FOR DETECTABLE WARNING SURFACE COLORS OR MATERIALS THAT PROVIDE THE NECESSARY CONTRAST, EITHER DARK-ON-LIGHT, OR LIGHT-ON-DARK. STANDARD DOME COLOR IS BRICK RED.
6. TRUNCATED DOMES TO BE INSTALLED USING ARMOR TILE CAST IN PLACE DOME TACTILE TILE. PART NUMBER ADA-2424 OR OTHER EQUIVALENT APPROVED MATERIAL. PREFERRED MANUFACTURER ARMOR TILE TACTILE SYSTEMS 800-ACE MITCHELL (922-4615 UNLESS PAVERS ARE REQUIRED, CONTRACTOR TO VERIFY THAT CURB RAMP MEET LOCAL CODES AND ADA REQUIREMENTS.

2 C-401 DETECTABLE WARNING DEVICE
NOT TO SCALE



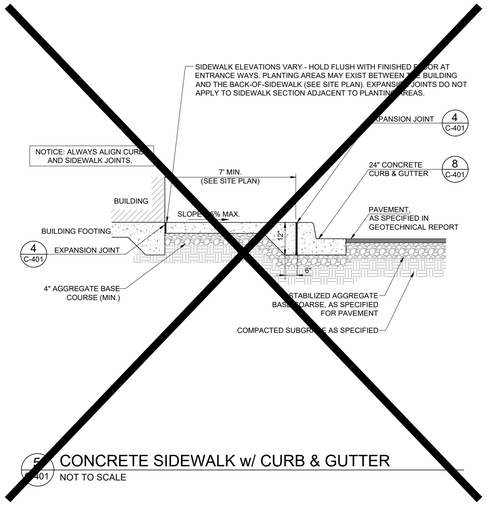
NOTES:
1. RAMPS & HANDRAILS TO BE IN COMPLIANCE WITH SECTIONS 405 & 505 OF THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.
2. VERIFY ALL STATE & LOCAL REQUIREMENTS FOR RAMPS & HANDRAILS.
3. USE ONLY COMMERCIAL GRADE ALUMINUM FENCING WITH DARK BRONZE POWDER COAT FINISH.

3 C-401 TYPICAL ADA RAMP & HANDRAIL
NOT TO SCALE

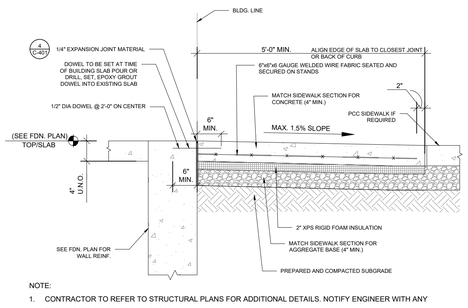


NOTES:
1. CONTRACTION JOINTS AT 5'-0" O.C. TOOLED ½" WIDE, 1" DEEP OR MAX. ¼ DEEP, WHICHEVER IS GREATER. EXPANSION JOINTS AT 20' MAX. & ALL P.C.s, UNLESS APPROVED OR INDICATED OTHERWISE ON PLAN VIEW JOINT PATTERN.

4 C-401 CONCRETE SIDEWALK
NOT TO SCALE

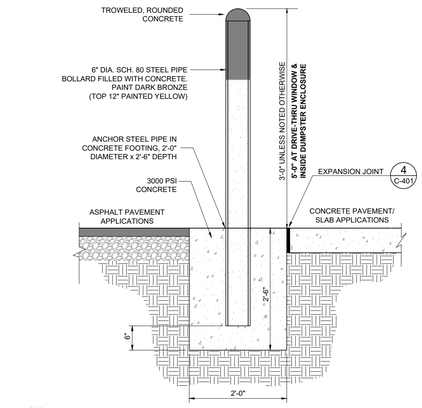


5 C-401 CONCRETE SIDEWALK w/ CURB & GUTTER
NOT TO SCALE



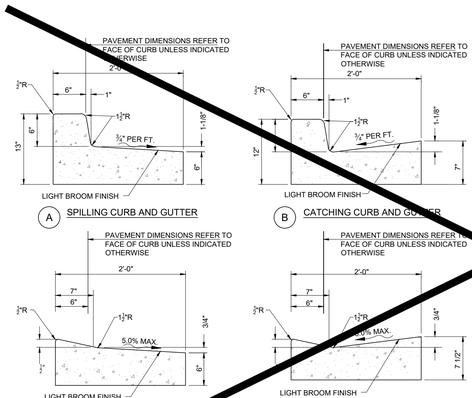
NOTE:
1. CONTRACTOR TO REFER TO STRUCTURAL PLANS FOR ADDITIONAL DETAILS. NOTIFY ENGINEER WITH ANY DISCREPANCIES FROM THIS DETAIL.
2. CONTRACTOR HAS THE OPTION TO DRILL, SET AND EPOXY GROUT DOWEL, IF NOT INSTALLED WHEN THE BUILDING SLAB WAS POURED.
3. REFER TO ARCHITECTURAL DRAWINGS FOR DOOR LOCATIONS. DOOR STOOP SHALL EXTEND 12" PAST EACH SIDE OF DOOR MIN. STOOP IS TO BE SEPARATED ON ALL SIDES WITH 1/4" EXPANSION JOINT MATERIAL, TOPPED WITH SEALANT.
4. USE A 10'X5' SLAB MINIMUM AT A DOUBLE DOOR ENTRY.
5. USE A 5'X5' SLAB MINIMUM AT A SINGLE DOOR ENTRY.
5. DOWELS TO BE INSTALLED INTO THE BUILDING FOUNDATION ONLY. THE REMAINING THREE SIDES OF THE SLAB DO NOT GET TIED TO THE SURROUNDING SIDEWALK.

6 C-401 ENTRY DOOR FROST SLAB DETAIL
NOT TO SCALE

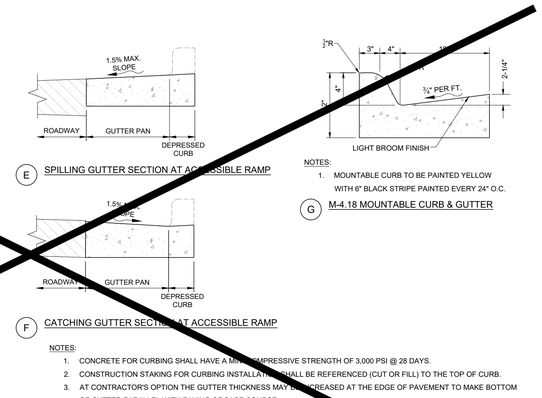


NOTE:
1. BOLLARD HEIGHT SHALL BE 5'-0" AT DRIVE-THRU WINDOW AND INSIDE DUMPSTER ENCLOSURE.

7 C-401 CONCRETE BOLLARD
NOT TO SCALE

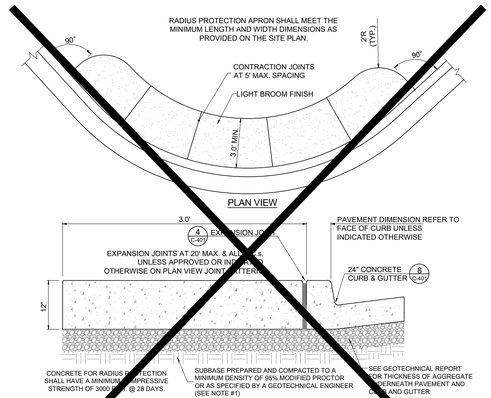


8 C-401 CONCRETE CURB & GUTTER
NOT TO SCALE



NOTES:
1. CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
2. CONSTRUCTION STAKING FOR CURBING INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
3. AT CONTRACTOR'S OPTION THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER PARALLEL WITH PAVING OF BASE COURSE.
4. CONTRACTION JOINTS @ 10'-0" O.C. TOOLED ½" (±⅛", -0) WIDE, 1" OR MAX. ¼ DEPTH WHICHEVER IS GREATER. EXPANSION JOINTS @ 40'-0" MAX., AT ENDS OF RADIUS, AND A MINIMUM OF 5 FEET FROM INLET STRUCTURES, UNLESS APPROVED OR INDICATED OTHERWISE ON PLANS.
5. GUTTER SLOPE AT ACCESSIBLE SPACES TO MATCH ADJACENT PAVEMENT, TRAVERSE & LONGITUDINAL.
6. CONSTRUCTION STAKING FOR CURBING INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
7. LIGHT BROOM FINISH; PERPENDICULAR TO CURB.

NOTES:
1. MOUNTABLE CURB TO BE PAINTED YELLOW WITH 6" BLACK STRIPE PAINTED EVERY 24" O.C.



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

9 C-401 LANDSCAPE & IRRIGATION PROTECTOR
NOT TO SCALE

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FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	ISSUE FOR PERMIT

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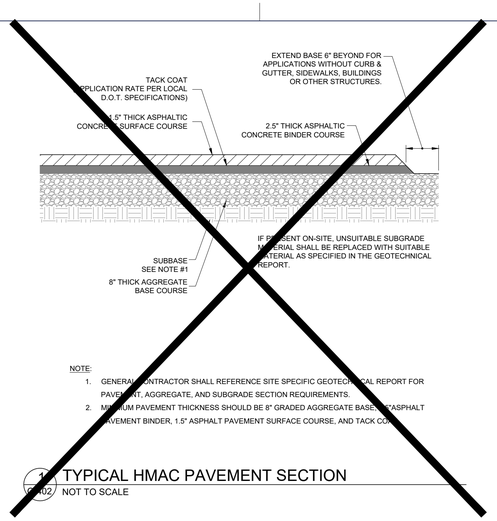
CONSULTANT PROJECT #	MAA230431.00
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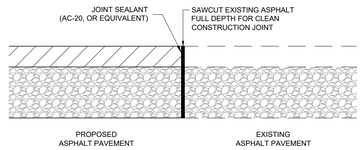
SHEET NUMBER
C-401

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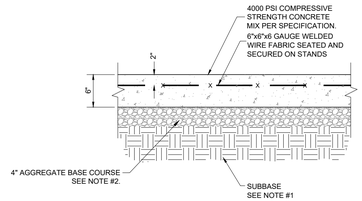


NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE SITE SPECIFIC GEOTECHNICAL REPORT FOR PAVEMENT, AGGREGATE, AND SUBGRADE SECTION REQUIREMENTS.
2. MINIMUM PAVEMENT THICKNESS SHOULD BE 8" GRADED AGGREGATE BASE, 2" ASPHALT PAVEMENT BINDER, 1.5" ASPHALT PAVEMENT SURFACE COURSE, AND TACK COAT.

1 C-402 TYPICAL HMAC PAVEMENT SECTION
NOT TO SCALE

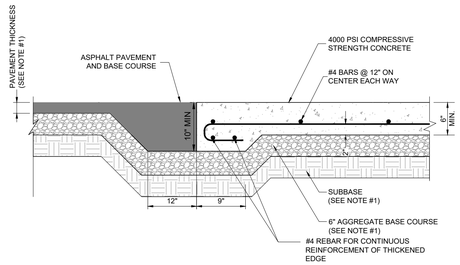


2 C-402 BUTT JOINT
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
2. MINIMUM PAVEMENT THICKNESS SHALL BE 6" CONCRETE, 4" AGGREGATE BASE.

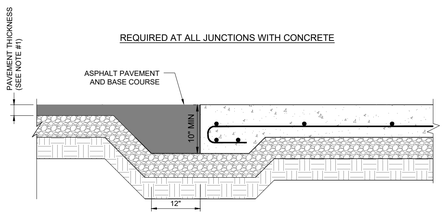
3 C-402 CONCRETE PAVEMENT DRIVE-THRU LANE
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

4 C-402 CONCRETE APRON AT TRASH ENCLOSURE
NOT TO SCALE

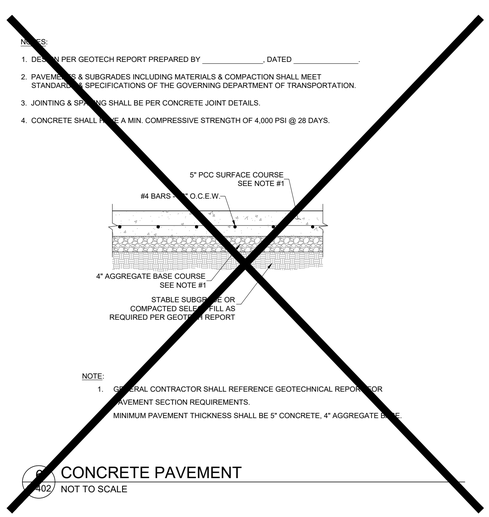
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NOTE:
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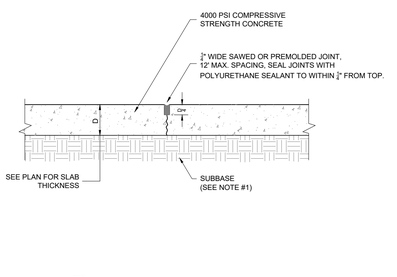
5 C-402 PAVEMENT EDGE DETAIL (START & END OF DRIVE-THRU LANES)
NOT TO SCALE

NOTES:
1. DESIGN PER GEOTECH REPORT PREPARED BY _____, DATED _____.
2. PAVEMENT & SUBGRADES INCLUDING MATERIALS & COMPACTION SHALL MEET STANDARD SPECIFICATIONS OF THE GOVERNING DEPARTMENT OF TRANSPORTATION.
3. JOINTING & SPACING SHALL BE PER CONCRETE JOINT DETAILS.
4. CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI @ 28 DAYS.



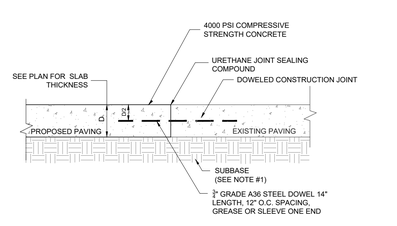
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
2. MINIMUM PAVEMENT THICKNESS SHALL BE 5" CONCRETE, 4" AGGREGATE BASE.

6 C-402 CONCRETE PAVEMENT
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

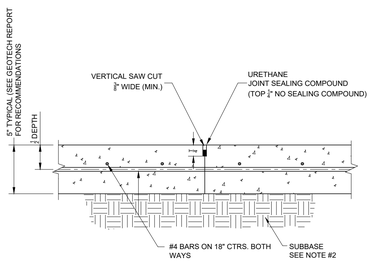
7 C-402 TRANSVERSE AND LONGITUDINAL CONTRACTION JOINT
NOT TO SCALE



NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

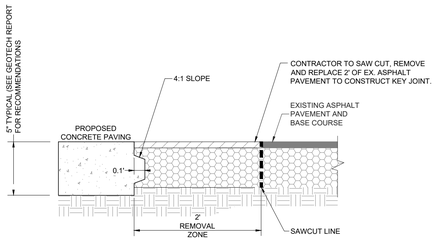
8 C-402 TRANSVERSE AND LONGITUDINAL DOWELED CONSTRUCTION JOINT
NOT TO SCALE

THESE DETAILS APPLY TO CONCRETE PAVED LOTS



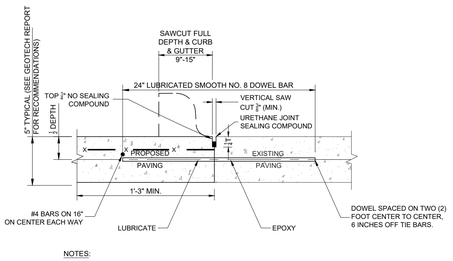
NOTES:
1. JOINT SPACING TO BE 12' x 12' WITH EVERY OTHER JOINT BEING AN EXPANSION JOINT.
2. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

9 C-402 CONTRACTION JOINT
NOT TO SCALE



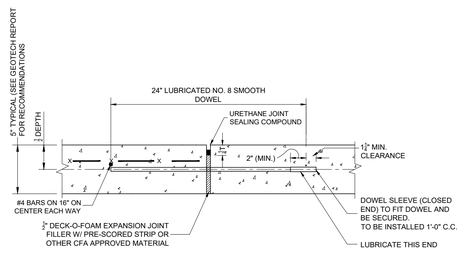
NOTES:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.

10 C-402 KEYED CONSTRUCTION JOINT
NOT TO SCALE



NOTES:
1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS.
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
3. DOWEL BARS SHALL BE DRILLED & EPOXIED INTO PAVEMENT HORIZONTALLY BY USE OF MECHANICAL EQUIP.
4. PUSHING DOWEL BARS INTO WET CONCRETE NOT ACCEPTABLE.

11 C-402 LONGITUDINAL BUTT JOINT
NOT TO SCALE



NOTES:
1. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS.
2. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
3. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL EQUIPMENT.
4. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO WET CONCRETE NOT ACCEPTABLE.
5. JOINT SPACING TO BE 24'X24' (EVERY OTHER JOINT).

12 C-402 EXPANSION JOINT
NOT TO SCALE

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FSR#05752

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RELEASE: 24.08

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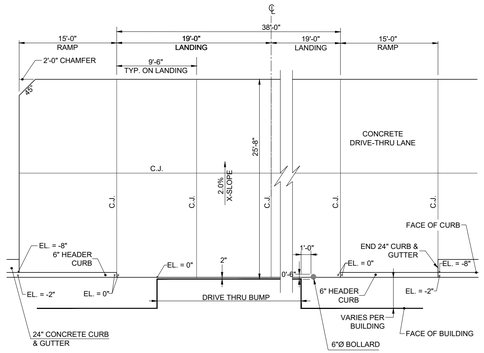
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SHEET
SITE DETAILS

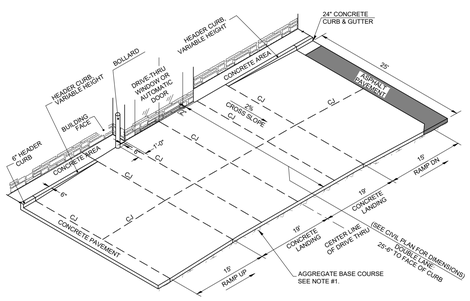
SHEET NUMBER
C-402

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-DETL-MAA230431.00.-1B-----3-LAYOUT- C-402 - SITE DETAILS



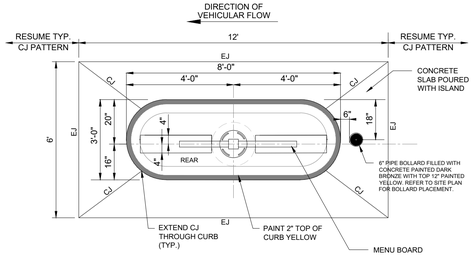
NOTE:
1. ALL ELEVATIONS ON THIS DETAIL ARE RELATIVE TO FFE = 0'.
2. FOR LC FOOTPRINT DECREASE LANDING FROM 38' TO 30'. LANDING SHOULD REMAIN CENTERED ON DRIVE-THRU WINDOW.

1 DRIVE-THRU PLAN - FLUSH WITH FFE
C-403 NOT TO SCALE



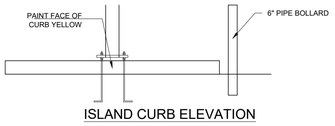
NOTE:
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
2. FOR LC FOOTPRINT DECREASE LANDING FROM 38' TO 30'. LANDING SHOULD REMAIN CENTERED ON DRIVE-THRU WINDOW.

2 DRIVE-THRU ISOMETRIC
C-403 NOT TO SCALE



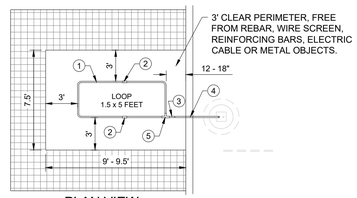
ISLAND CURB PLAN

CJ = CONTRACTION JOINT
EJ = EXPANSION JOINT

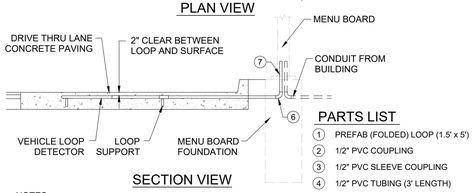


ISLAND CURB ELEVATION

3 DRIVE-THRU ORDER POINT ISLAND
C-403 NOT TO SCALE



PLAN VIEW



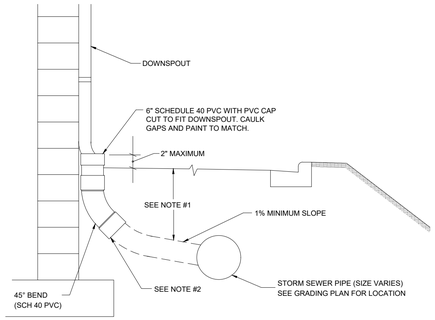
SECTION VIEW

NOTES:
1. LOOP DETECTOR IS PROVIDED BY HME.
2. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

PARTS LIST

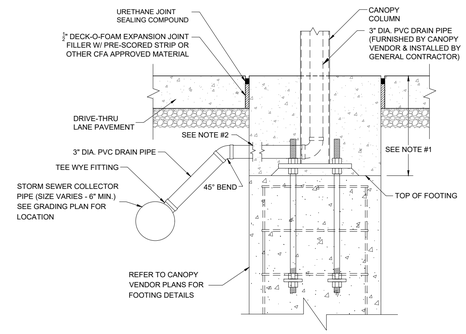
1	PREFAB (FOLDED) LOOP (1.5' x 5')
2	1/2" PVC COUPLING
3	1/2" PVC SLEEVE COUPLING
4	1/2" PVC TUBING (3' LENGTH)
5	1/2" PVC CORNER FITTING
6	1/2" PVC 90° ELBOW
7	1/2" PVC TUBING (2' LENGTH)

4 MENU BOARD LOOP DETECTION SYSTEM
C-403 NOT TO SCALE



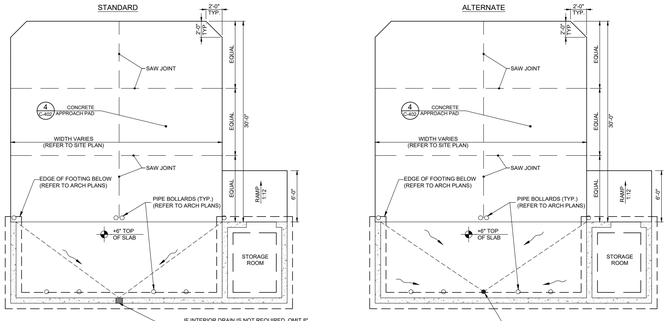
NOTES:
1. FOR ALL DEPTHS OF COVER LESS THAN TWO (2) FEET, PIPE MUST BE SCHEDULE 40 PVC. FOR DEPTHS OF COVER GREATER THAN TWO (2) FEET, FLEXIBLE PIPE MAY BE USED. REFER TO SPECIFICATIONS FOR ALLOWABLE PIPE TYPES.
2. A WATERTIGHT CONNECTION SHALL BE MAINTAINED WITH ANY TRANSITION FROM SCHEDULE 40 PVC PIPE TO ANY OTHER PIPE TYPE.
3. THE DOWNSPOUT COLLECTOR DRAIN SHALL BE INSTALLED BEFORE THE DOWNSPOUTS ARE INSTALLED ON THE BUILDING.
4. IF NECESSARY, ADJUST FOOTING TO ALLOW DOWNSPOUT TO BE INSTALLED TIGHT AGAINST BUILDING.

5 BUILDING DOWNSPOUT CONNECTION
C-403 NOT TO SCALE



NOTES:
1. CANOPY FOOTING SHALL BE A MINIMUM 2'-0" BELOW DRIVE-THRU LANE PAVEMENT SURFACE. REFER TO CIVIL PLANS FOR EXACT CANOPY FOOTING ELEVATIONS.
2. FLEXIBLE FITTING (NON-SHEAR FERNCO) TO BE UTILIZED BETWEEN PIPE TRANSITIONS AS NECESSARY.
3. CONTRACTOR TO COORDINATE COLUMN DOWNSPOUT ORIENTATION WITH CANOPY VENDOR. ADJUST DOWNSPOUT PIPING AS NECESSARY TO MAKE CONNECTION TO COLLECTOR PIPE.

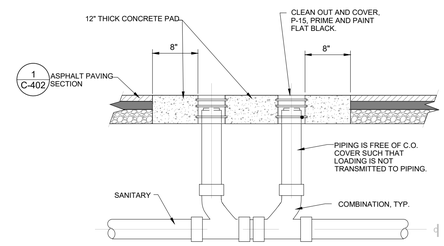
6 CANOPY DOWNSPOUT CONNECTION
C-403 NOT TO SCALE



REFUSE ENCLOSURE PLAN NOTES:
1. SEE SITE PLAN FOR LAYOUT OF CONCRETE APPROACH PAD.
2. SEE GRADING PLAN FOR ELEVATIONS ON DUMPSTER PAD & DRAINAGE OF INTERIOR TRASH ENCLOSURE.
3. PROVIDE POSITIVE DRAINAGE ON APPROACH PAD AWAY FROM DUMPSTER. (SEE GRADING PLAN)
4. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DIMENSIONS & DETAILS ON ENCLOSURE; COORDINATE & VERIFY SIZE WITH ARCHITECT & STRUCTURAL ENGINEER.
5. GENERAL CONTRACTOR SHALL DRILL HOLES FOR GATE PINS IN BOTH THE OPEN & CLOSED POSITION.

CONTRACTOR TO REFER TO CIVIL PLANS FOR ORIENTATION & LOCATION OF STORAGE ROOM & RAMP.

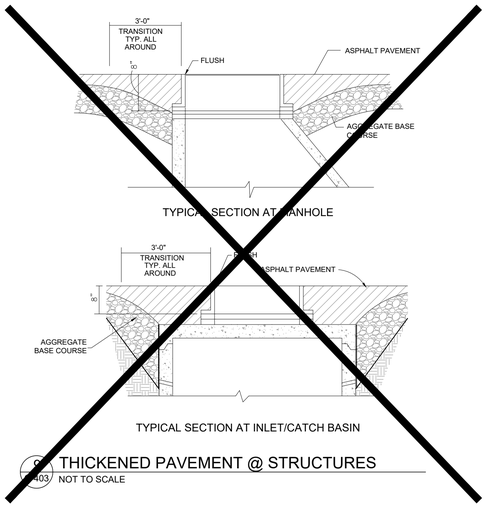
7 SCREENED REFUSE ENCLOSURE
C-403 NOT TO SCALE



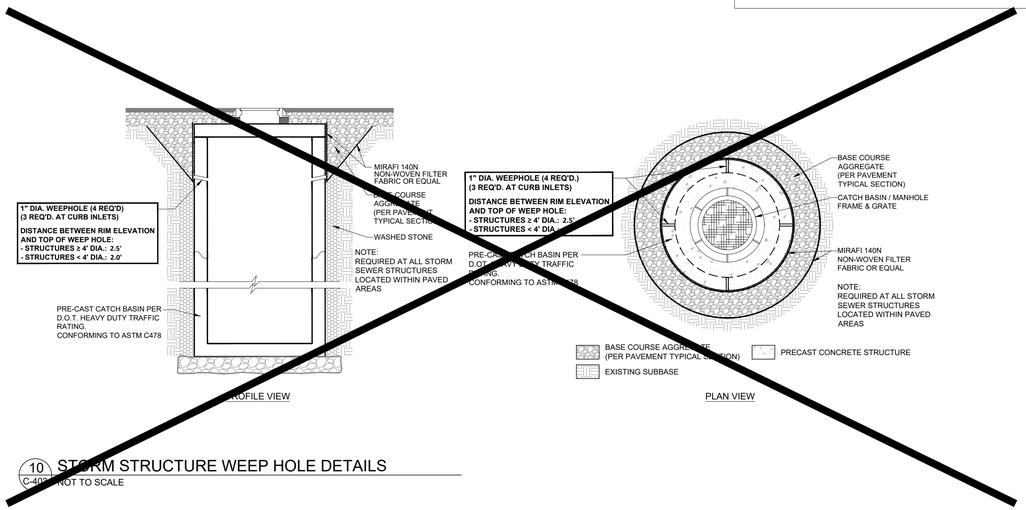
NOTES:
1. SEE PLUMBING PLANS FOR GREASE TRAP DETAIL.
2. CLEAN-OUT COVERS SHALL BE PROVIDED ON ALL CLEAN-OUTS REGARDLESS OF LOCATION.
3. CONCRETE COLLAR ALSO REQUIRED FOR SINGLE CLEAN-OUTS IN PAVEMENT.

8 CLEAN-OUT (OUTSIDE OF BUILDING)
C-403 NOT TO SCALE

NOTE: SEE PLUMBING PLANS FOR GREASE TRAP DETAIL



9 THICKENED PAVEMENT @ STRUCTURES
C-403 NOT TO SCALE



10 STORM STRUCTURE WEEP HOLE DETAILS
C-403 NOT TO SCALE

ALL DETAILS ON THIS SHEET WERE PROVIDED BY CHICK-FIL-A AND ARE FOR INFORMATIONAL PURPOSES, ONLY. BOHLER SHALL BE HELD HARMLESS IN THE EVENT OF ERRONEOUS INFORMATION CONTAINED WITHIN THESE DETAILS AND/OR STRUCTURAL FAILURE.

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	ISSUE FOR PERMIT

ISSUED FOR PERMIT

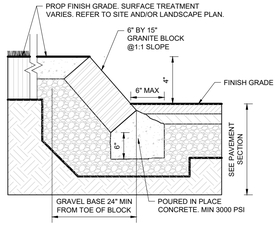
CONSULTANT PROJECT # MAA230431.00
PRINTED FOR ISSUED FOR PERMIT
DATE 11/08/2024
DRAWN BY AEH
CHECKED BY JNF

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SHEET
SITE DETAILS

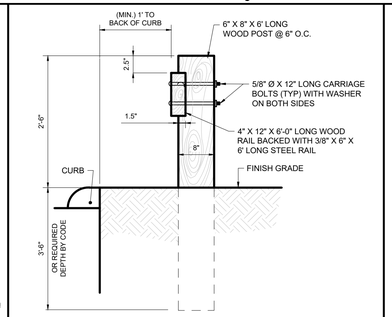
SHEET NUMBER
C-403

\\BOHLERENG.NET\SHARES\MA_PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-DETL-MAA230431.00-1B.----LAYOUT: C-403 - SITE DETAILS



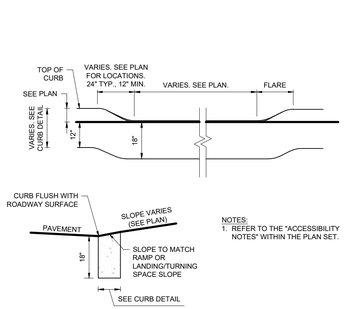
NOTES:
1. CURVED GRANITE CURB SHALL CONFORM TO THE STATE DOT SPECIFICATIONS.
2. PAVEMENT SECTION DEPTHS, MATERIAL AND SPECIFICATIONS PER PAVEMENT SECTION DETAIL.

SLOPED GRANITE CURBING
NOT TO SCALE (NE-S020302 - 07/2024)



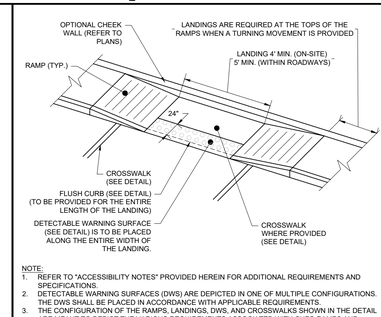
NOTE: ALL CARRIAGE BOLTS, NUTS & WASHERS TO BE GALVANIZED & ALL WOOD POSTS & RAILS TO BE PRESSURE TREATED.

WOODEN GUIDE RAIL
NOT TO SCALE (BE-S090101 - 02/2024)



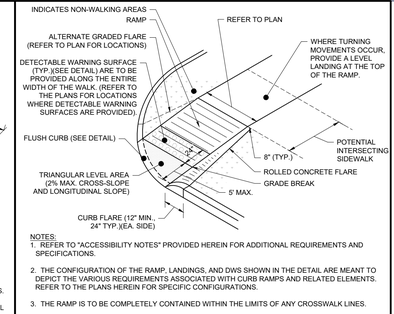
NOTES:
1. REFER TO THE "ACCESSIBILITY NOTES" WITHIN THE PLAN SET.

ADA FLUSH CURB
NOT TO SCALE (BE-S030501 - 08/2023)



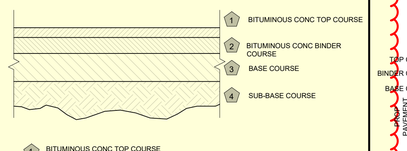
NOTE:
1. REFER TO "ACCESSIBILITY NOTES" PROVIDED HEREIN FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
2. DETECTABLE WARNING SURFACES (DWS) ARE DEPICTED IN ONE OF MULTIPLE CONFIGURATIONS. THE DWS SHALL BE PLACED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.
3. THE CONFIGURATION OF THE RAMPS, LANDINGS, DWS, AND CROSSWALKS SHOWN IN THE DETAIL ARE MEANT TO DEPICT THE VARIOUS REQUIREMENTS ASSOCIATED WITH CURB RAMPS AND RELATED ELEMENTS. REFER TO THE PLANS HEREIN FOR SPECIFIC CONFIGURATIONS.
4. CURB RAMPS REQUIRE LANDINGS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS.

ADA CURB RAMP - PARALLEL
NOT TO SCALE (BE-S030503 - 04/2024)



NOTES:
1. REFER TO "ACCESSIBILITY NOTES" PROVIDED HEREIN FOR ADDITIONAL REQUIREMENTS AND SPECIFICATIONS.
2. THE CONFIGURATION OF THE RAMP, LANDINGS, AND DWS SHOWN IN THE DETAIL ARE MEANT TO DEPICT THE VARIOUS REQUIREMENTS ASSOCIATED WITH CURB RAMPS AND RELATED ELEMENTS. REFER TO THE PLANS HEREIN FOR SPECIFIC CONFIGURATIONS.
3. THE RAMP IS TO BE COMPLETELY CONTAINED WITHIN THE LIMITS OF ANY CROSSWALK LINES.
4. CURB RAMPS REQUIRE LANDINGS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS.
5. AS DEPICTED IN THE DETAIL, IN ORDER TO TRANSITION THE GRADE BREAK, PROVIDE A LEVEL TRIANGULAR AREA WHEN DIRECTIONAL RAMPS ARE INSTALLED ON A CURBED RETURN.

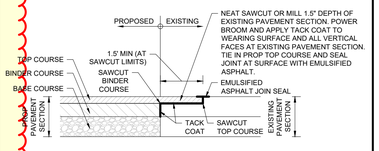
ADA CURB RAMP - SINGLE PARALLEL AT CURB RETURN
NOT TO SCALE (BE-S030506 - 08/2023)



1. BITUMINOUS CONC TOP COURSE (LIGHT DUTY=1")
2. BITUMINOUS CONC BINDER COURSE (LIGHT DUTY=2")
3. DENSE GRADED CRUSHED STONE BASE COURSE (LIGHT DUTY=4")
4. GRAVEL BORROW SUB-BASE COURSE (LIGHT DUTY=8")

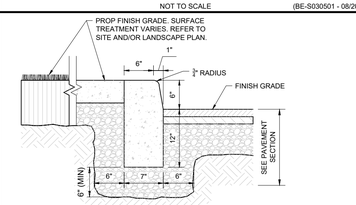
NOTES:
1. PAVEMENT BASE AND SUBBASE COURSES TO CONFORM TO STATE DEPARTMENT OF TRANSPORTATION
2. GC TO REFER TO GEOTECHNICAL REPORT FOR PAVEMENT SPECIFICATIONS.

PAVEMENT SECTION
NOT TO SCALE (NE-S010101 - 10/2024)



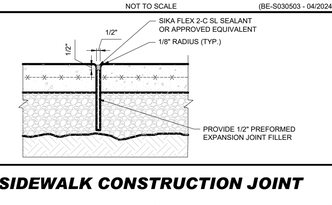
NOTES:
1. REFER TO GEOTECHNICAL REPORT PREPARED BY GEOTECH AND DATED DATE

BITUMINOUS CONCRETE PAVEMENT TIE IN
NOT TO SCALE (NE-S010501 - 08/2024)

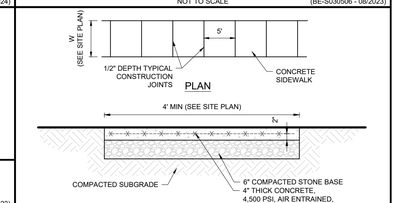


NOTES:
1. CURB SHALL CONSIST OF 4,000 PSI AIR ENTRAINED CONCRETE, EXPOSED EDGES TO HAVE RUBBED FINISH, AND SURFACE SHALL BE TREATED WITH A CONCRETE PENETRANT/SEALER.
2. THE ENDS OF CURB SECTIONS SHALL BE CHAMFERED 1/4 INCH.
3. THE CORNERS OF CURB SECTIONS SHALL MATCH THE ADJACENT CURB IN SIZE, COLOR AND FINISH.
4. CURBS, CURB CORNERS OR EDGING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE.
5. EXPANSION JOINTS SHALL BE INSTALLED AT A MAXIMUM OF TWENTY FEET (20') ON CENTER USING PREFORMED EXPANSION JOINT FILLER HAVING A THICKNESS OF ½ INCH.
6. PAVEMENT SECTION DEPTHS, MATERIAL, AND SPECIFICATIONS PER PAVEMENT SECTION DETAIL.
7. STRAIGHT CURB SECTIONS CAN BE USED FOR RADII 25' OR GREATER. OTHERWISE, CURVED CURB LENGTHS SHALL BE INSTALLED AT THE SPECIFIED RADIUS PER THE SITE PLAN.

PRECAST CONCRETE CURB
NOT TO SCALE (NE-S020201 - 10/2024)

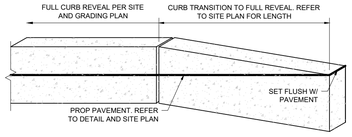


SIDEWALK CONSTRUCTION JOINT
NOT TO SCALE (BE-S030401 - 08/2023)



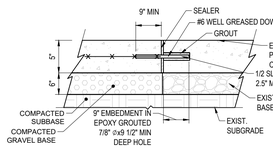
NOTE:
1. CROSS SLOPE 1/4" PER FOOT PITCHED TOWARD ROADWAY, DRIVEWAY, OR PARKING AREA IN NON ACCESSIBLE ROUTES.
2. FOR ACCESSIBLE ROUTES THE CROSS SLOPE, LONGITUDINAL (RUNNING) SLOPE AND WIDTH SHALL COMPLY WITH FEDERAL, LOCAL AND STATE ACCESSIBILITY REQUIREMENTS. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL ADA INSTRUCTIONS.
3. PROVIDE CONTROL JOINTS 5'-0" O.C. MIN. & EXPANSION JOINTS 20'-0" O.C. MIN. REFER TO SIDEWALK CONSTRUCTION JOINT DETAILS.
4. PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED ADJACENT TO AND AROUND EXISTING STRUCTURES.
5. MIN CROSS SLOPE 1/4" PER FOOT PITCHED AWAY FROM BUILDING.
6. PROVIDE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINT AT INTERFACE WITH BUILDING. REFER TO ARCH PLANS AT DOOR LOCATIONS.

CONCRETE SIDEWALK
NOT TO SCALE (BE-S030202 - 06/2024)

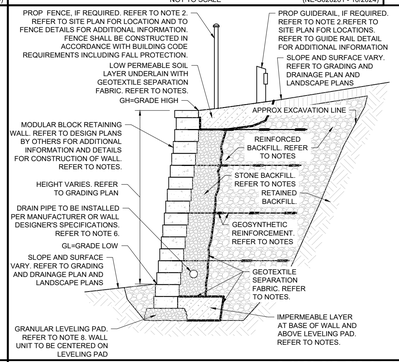


NOTES:
1. SEE TYPICAL CURB DETAIL AND SITE PLAN FOR CURB TYPE AND TRANSITION CURB LOCATIONS

PRECAST CONCRETE TRANSITION CURB
NOT TO SCALE (NE-S020206 - 09/2023)



CONCRETE SIDEWALK TIE IN AND CONSTRUCTION JOINT
NOT TO SCALE (NE-S030202 - 09/2023)



NOTES:
1. THIS TYPICAL DETAIL IS NOT FOR CONSTRUCTION AND IS PRELIMINARY AND CONCEPTUAL IN NATURE. THIS DETAIL IS PROVIDED FOR GRAPHICAL REFERENCE PURPOSES ONLY. DESIGN OF THE PROPOSED RETAINING WALL(S) SHALL BE PREPARED BY THE APPROPRIATE PROFESSIONAL (E.G. STRUCTURAL ENGINEER) LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS. THE PROFESSIONAL SHALL BE FAMILIAR WITH THE ACTUAL SITE CONDITIONS AND MATERIALS AS WELL AS APPLICABLE, LOCAL, STATE AND FEDERAL REGULATIONS.
2. RETAINING WALL & ANY ASSOCIATED REINFORCEMENT SHALL BE DESIGNED ACCOUNTING FOR SOIL TYPES, WATER TABLE ELEVATION, EXISTING & PROPOSED SURROUNDING IMPROVEMENTS/CONDITIONS (INCLUDING BUT NOT LIMITED TO SLOPES, DRIVE AISLES, ROADS, FENCING (INCLUDING WIND LOAD), GUIDERAILS (INCLUDING COLLISION LOADING), UTILITIES, DRAINAGE FACILITIES, STRUCTURES, FOUNDATIONS), LIVE LOADS AND OTHER SITE AMENITIES THAT COULD HAVE AN INFLUENCE OR IMPACT ON THE RETAINING WALL(S) CONSTRUCTABILITY AND/OR LONGEVITY SHALL BE CONSIDERED AND INCORPORATED INTO THE RETAINING WALL DESIGN AS WELL AS THE GLOBAL STABILITY ANALYSIS.
3. RETAINING WALL DESIGNER SHALL ACCOUNT FOR MULTIPLE STORM STRUCTURES BEHIND WALL INCLUDING PARALLEL STORM PIPE THAT MAY INTERFERE WITH THE DESIGN OF THE WALL AND ANY ASSOCIATED REINFORCEMENT.
4. SEE GRADING AND DRAINAGE PLAN FOR PROPOSED ELEVATIONS AND SLOPES ASSOCIATED WITH SAME.
5. REFER TO GENERAL GRADING NOTES ON SHEET C-102 FOR ADDITIONAL NOTES REGARDING DESIGN AND CONSTRUCTION OF RETAINING WALLS.
6. DRAIN PIPE SHALL DISCHARGE TO CRUSHED STONE PAD AT GRADE (I.E. DAYLIGHT) OR CONNECT TO PROP. DRAINAGE SYSTEM IF UNABLE TO DAYLIGHT. A RODENT SCREEN SHALL BE PROVIDED AT PIPE END WHERE PIPE DAYLIGHTS.
7. THIS DETAIL IS NOT APPLICABLE FOR WALLS UTILIZED TO RETAIN WATER.
8. MATERIALS UTILIZED IN CONSTRUCTION OF THE RETAINING WALL SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S AND WALL DESIGNER'S SPECIFICATIONS INCLUDING ANY REQUIRED COMPACTION AND TESTING.
9. WALL DESIGNER SHALL ACCOUNT FOR PROXIMITY OF DRAINAGE SYSTEMS AND ANY ASSOCIATED STORMWATER INFILTRATION INCLUDING PREPARATION OF GLOBAL STABILITY AND MOUNDING ANALYSES.

REINFORCED SEGMENTAL BLOCK RETAINING WALL
NOT TO SCALE BE-S110501 - 08/2023

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

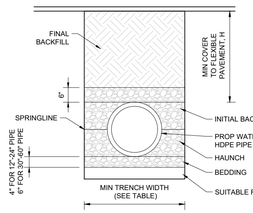
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DATE 11/08/2024
DRAWN BY AEH
CHECKED BY JNF

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SHEET
CONSTRUCTION DETAILS

SHEET NUMBER
C-500

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVL-CNDS-MAA230431.00-1B-----LAYOUT: C-500 - CONSTRUCTION DETAILS

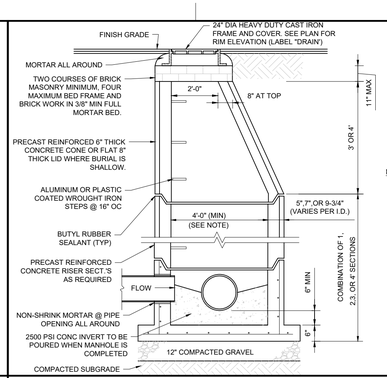


RECOMMENDED MINIMUM TRENCH WIDTH	
PIPE DIA	MIN TRENCH WIDTH
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
48"	80"
60"	96"

NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 , "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

HDPE STORM PIPE TRENCH

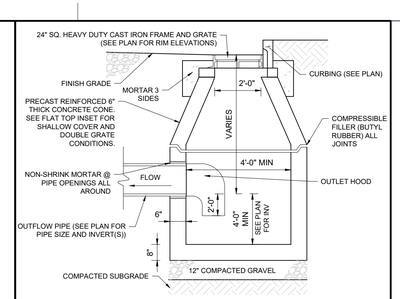
NOT TO SCALE (NE-U019812 - 11/2024)



NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. CONTRACTOR SHALL SIZE MANHOLE AS NECESSARY TO ACCOMMODATE THE PIPE SIZING AND ORIENTATION USING THE GEOMETRY SHOWN ON THE GRADING AND DRAINAGE PLANS.
3. CONCRETE SHALL BE 4,000 PSI AFTER 28 DAYS
4. REINFORCED STEEL CONFORMS TO ASTM A185 SPEC. 0.12 SQ IN/LINEAL FT AND 0.12 SQ IN (BOTH WAYS) BASE BOTTOM.
5. MANHOLE DESIGN SPECS CONFORM TO ASTM C478 SPEC FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS"

PRECAST CONCRETE STORM DRAIN MANHOLE

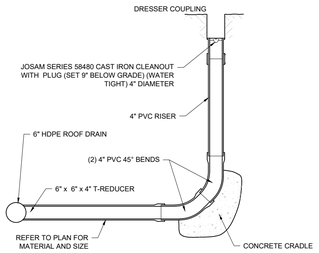
NOT TO SCALE (NE-U010101 - 11/2024)



NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H-20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. CONCRETE SHALL BE 4,000 PSI AFTER 28 DAYS.
3. BUTYL RESIN SECTION JOINT CONFORM TO ASTM C990.
4. NOTE ON CONTRACTOR TO PROVIDE WIDTH.
5. BUTYL RESIN SECTION JOINT CONFORM TO ASTM C990.
6. NOTE ON CONTRACTOR TO PROVIDE WIDTH.

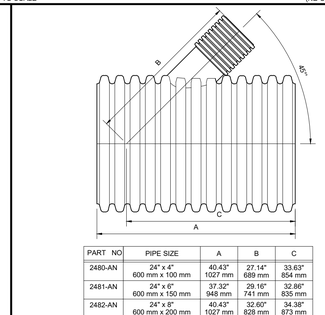
PRECAST CONCRETE DEEP SUMP CATCH BASIN

NOT TO SCALE (NE-U010201 - 10/2024)



CLEANOUT (TERMINAL)

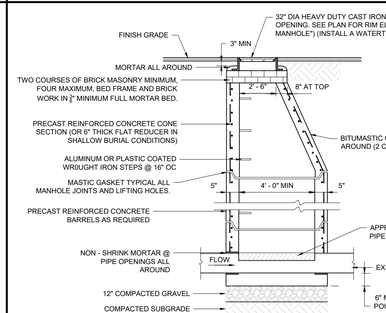
NOT TO SCALE (NE-U010301 - 11/2024)



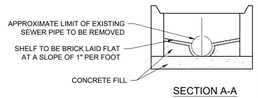
PART NO	PIPE SIZE	A	B	C
2480-AN	24" x 4" 600 mm x 100 mm	40.43" 1027 mm	27.14" 689 mm	33.63" 854 mm
2481-AN	24" x 6" 600 mm x 150 mm	37.32" 948 mm	29.16" 741 mm	32.86" 835 mm
2482-AN	24" x 8" 600 mm x 200 mm	40.43" 1027 mm	32.60" 828 mm	34.38" 873 mm
2483-AN	24" x 10" 600 mm x 250 mm	49.76" 1264 mm	32.58" 828 mm	38.84" 987 mm
2484-AN	24" x 12" 600 mm x 300 mm	55.98" 1422 mm	37.48" 952 mm	40.23" 1022 mm

N-12 FABRICATED REDUCING WYE

NOT TO SCALE (NE-U019805 - 09/2023)



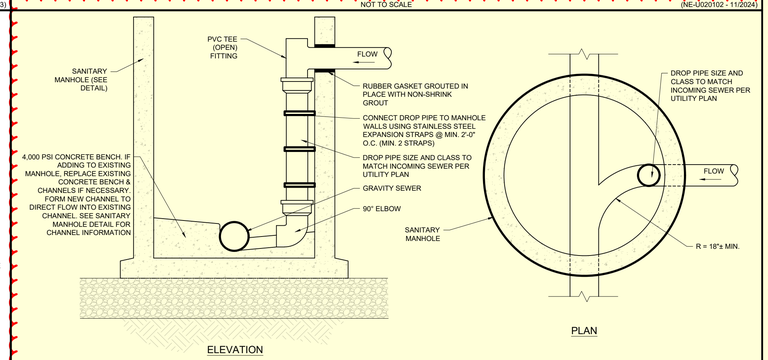
NOTES:
1. ALL STRUCTURES SHALL BE SUITABLE FOR H - 20 LOADING AND SHALL MEET THE REQUIREMENTS OF ASTM C478.
2. PROVIDE SUPPORT FOR EXISTING SANITARY SEWER PIPE WHEN POURING CONCRETE BASE



SECTION A-A

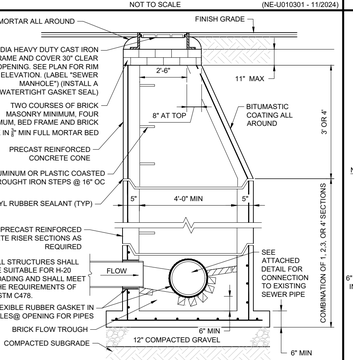
DOG HOUSE SANITARY MANHOLE

NOT TO SCALE (NE-U020102 - 11/2024)



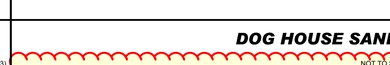
INTERNAL SANITARY DROP MANHOLE

NOT TO SCALE (BE-U020105 - 08/2023)



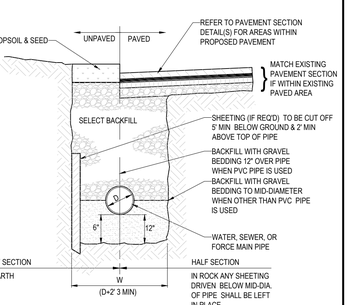
PRECAST CONCRETE SANITARY MANHOLE

NOT TO SCALE (NE-U020101 - 11/2024)



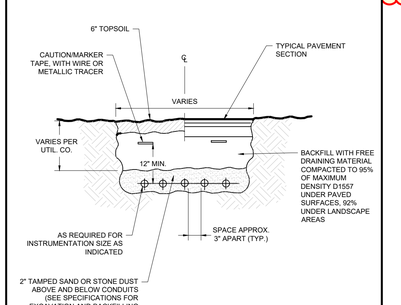
1,500 GALLON PRECAST CONCRETE GREASE TRAP

NOT TO SCALE (NE-U020302 - 05/2024)



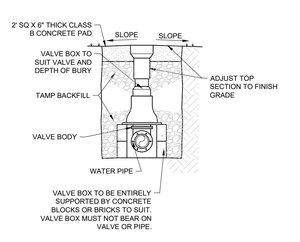
TYPICAL UTILITY TRENCH

NOT TO SCALE (NE-U050201 - 09/2024)



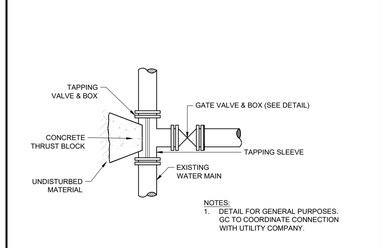
UNDERGROUND UTILITY CONDUIT

NOT TO SCALE (NJ-U990105 - 08/2023)



GATE VALVE

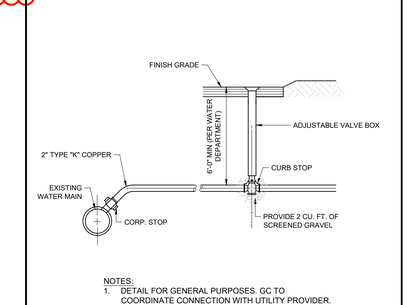
NOT TO SCALE (NE-U030201 - 09/2023)



NOTES:
1. DETAIL FOR GENERAL PURPOSES. GC TO COORDINATE CONNECTION WITH UTILITY COMPANY.

TAPPING SLEEVE AND GATE VALVE

NOT TO SCALE (NE-U030401 - 11/2024)



NOTES:
1. DETAIL FOR GENERAL PURPOSES. GC TO COORDINATE CONNECTION WITH UTILITY PROVIDER.

TYPE K COPPER WATER SERVICE CONNECTION

NOT TO SCALE (NE-U030402 - 09/2023)

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

811 Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
CONSTRUCTION DETAILS

SHEET NUMBER
C-501

\\BOHLERENG.NET\SHARES\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVL-CNDS-MAA230431.00-1B ----LAYOUT: C-501 - CONSTRUCTION DETAILS



LOCUS MAP
©2013 ESRI WORLD STREET MAPS
NOT TO SCALE

LEGEND

(S)	SURVEY DIMENSION
(D)	DEED DIMENSION
#	TITLE REPORT EXCEPTION

ALFRED ROAD (14, 29) (A.K.A. ROUTE 111) (PUBLIC - VARIABLE WIDTH R.O.W.)

MARINER WAY (PRIVATE - VARIABLE WIDTH R.O.W.)

SHOPS WAY (14) (PRIVATE - VARIABLE WIDTH R.O.W.)

AREA OF TOPOGRAPHIC DETAIL

N32°40'51"E 16.56'
N77°40'51"E 5.00'
(43) APPROX. LOC. OF SIDEWALK EASEMENT BK. 19279, PG. 69
N77°40'59"E 152.34'
(15)
N77°24'48"E 218.54'
(16) APPROX. LOC. OF FRONTAGE AREAS (CROSS-HATCHED) (PER REF. #4)
N77°22'21"E 449.18'
S35°46'13"W 14.95'
1,100'± ==> TO I-95 (AKA MAINE TURNPIKE)
N77°44'17"E 110.21'
IRON PIN FOUND
MATCHLINE A (SEE SHEET 3)
(32) APPROX. LOC. OF TRAFFIC SIGNAL EASEMENT (BK. 15206, PG. 214)
N12°17'10"W 178.76'
(16) APPROX. LOC. OF FRONTAGE AREA (HATCHED) (PER REF. #4)
(16) APPROX. LOC. OF BUILDING AREA (PER REF. #3)
LEASE AREA (SHADED) (20)
(19) (26) (33) ID SIGN ON PYLON "BIDDEFORD CROSSING"
(27) LEASE AREA (SHADED)
(14) (16) ACCESS EASEMENT "D" (PER REF. #3) (DASHED)
(16) APPROX. LOC. OF PERPETUAL DRIVE (SHADED) (PER REF. #4) (19) (26) (33)
(16) (20) (33) APPROX. LOC. OF PERPETUAL DRIVE (SHADED) (PER REF. #4)
(24) APPROX. LOC. OF 30' x 30' EASEMENT W/ PARKING AND OTHER RIGHTS
(14) 50' SIDE/REAR BUILDING AND PAVEMENT SETBACK
S35°46'13"W 364.20'
(16) APPROX. LOC. OF BUILDING AREA (PER REF. #3)
(16) APPROX. LOC. OF SERVICE DRIVE (PER REF. #4) (CROSS-HATCHED)
(16) APPROX. LOC. OF SERVICE DRIVE (PER REF. #4) (CROSS-HATCHED)
MAP 2 LOT 24 N/F LANDS OF DSM MB II LLC BK. 16946, PG. 343
(14) #150 SHOPS WAY
(15) LOT 1 PER REF. #3 UNIT 6 PER REF. #4, 5 & 6) (16)
(16) APPROX. LOC. OF OUTSIDE SALES AREA (PER REF. #3)
(16) APPROX. LOC. OF SUBSURFACE DETENTION AREAS (PER REF. #3)
(16) APPROX. LOC. OF BUILDING AREA (PER REF. #3)
(16) APPROX. LOC. OF OUTSIDE SALES AREA (PER REF. #3)
MAP 2 LOT 34 N/F LANDS OF NEW LIFE ADVENT CHRISTIAN CHURCH BK. 3331, PG. 94
(14) 10' SIDE/REAR BUILDING AND PAVEMENT SETBACK
S12°37'58"E 138.70'
S62°28'32"E 53.39'
S12°34'18"E 281.19'
(14) (16) ACCESS EASEMENT "A" (PER REF. #3 & 4)
(14) (16) ACCESS EASEMENT "B" (PER REF. #3 & 4)
(14) (16) ACCESS EASEMENT "C" (PER REF. #3 & 4)
R=244.96'
Δ =044°03'13"
L=188.34'
CHB=N08° 39' 49"E
CHD=183.74'
(16) (19) (26) (33) RESTRICTED CURB CUT AREA (PER REF. #3) (DASHED)
R=251.45'
Δ =004°25'14"
L=19.40'
CHB=N33° 01' 16"E
CHD=19.40'
R=428.73'
Δ =022°08'39"
L=165.70'
CHB=N46° 18' 12"E
CHD=164.67'
N25°27'14"W 107.51'
(14) (15) APPROX. LOC. OF CONSERVATION RESTRICTION AREA (PER REF. #3)
IRON PINS FOUND
(16) APPROX. LOC. OF SERVICE DRIVE (PER REF. #4) (CROSS-HATCHED)
N59°25'13"W 93.15'
50' SIDE/REAR BUILDING AND PAVEMENT SETBACK (14)
N70°55'31"W 211.98'
S62°28'32"W 184.90'
CAPPED IRON ROD FOUND
MAP 2 LOT 30 N/F LANDS OF DSM MB II LLC BK. 16946, PG. 343
N5°27'10"W 332.78'
S35°46'13"W 540.27'
10' SIDE/REAR BUILDING AND PAVEMENT SETBACK (14)
IRON PIPE FOUND

MAINE STATE PLANE COORDINATE SYSTEM - WEST ZONE (NAD83)

NOTES:

1. PROPERTY KNOWN AS LOT 24 AS SHOWN ON THE CITY OF BIDDEFORD, YORK COUNTY, STATE OF MAINE, MAP NO. 2.
2. AREA = 584,419 SQUARE FEET OR 13.416 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.

   THE SOURCE OF UNDERGROUND UTILITIES ARE SHOWN UTILIZING A QUALITY LEVEL SYSTEM:

   QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY. NOT FIELD VERIFIED.

   QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING. INCLUDES MARKOUT BY OTHERS.

   QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND OR REFERENCE MAPPING. INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.

   QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY. LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.

   ALL FOUR TYPES MAY NOT APPEAR ON THE SURVEY.

4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY CLIENT, A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC., AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITH REFERENCE TO A COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, HAVING AN ISSUING OFFICE FILE NO. ME232032021, WITH A COMMITMENT DATE OF NOVEMBER 29, 2023, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B - SECTION 2:

   (SEE SHEET 3 OF 3)

6. EXISTING FIRM: BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE C (AREAS OF MINIMAL FLOODING), PER REF. #2.
7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
   TEMPORARY BENCH MARKS SET:

   TBM-A: BOLT OVER MAIN OUTLET OF HYDRANT, ELEVATION= 116.68'

   TBM-B: BOX CUT SET INC CONCRETE LIGHTPOLE BASE, ELEVATION= 126.56'

   PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
9. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
10. PARKING INFORMATION: REGULAR SPACES = 134 (FOR AREA OF TOPOGRAPHIC DETAIL ONLY)
    ACCESSIBLE SPACES = 6
    TOTAL SPACES =140

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL A
DSM MB II LLC
FIDELITY NATIONAL TITLE INSURANCE COMPANY

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	REVISED INVERT ELEVATIONS	B.S.B.	R.J.K.	C.E.L.	12-2-2024
1	REVISED PER CLIENT COMMENTS	-	E.G.F.	C.E.L.	4-29-2024

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5 (PARTIAL), 7(A), 7(B)(1), 7(C), 8, 9, 11(B), 13 & 14 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 15, 2024.

THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 AND PART 2 OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

STATE OF MAINE — CHARLES E. LENT — 2445 — PROFESSIONAL LAND SURVEYOR

12-2-2024
DATE

CHARLES E. LENT, PLS
MAINE PROFESSIONAL LAND SURVEYOR #2445

GRAPHIC SCALE
40' 0 20' 40' 80' 160'
(IN FEET)
1 inch = 40 ft.

SEE SHEET 2 OF 3 FOR AREA OF TOPOGRAPHIC DETAIL
SEE SHEET 3 OF 3 FOR REFERENCES & TITLE MATTERS

FIELD DATE	2-14-2024 2-15-2024 2-16-2024
FIELD BOOK NO.	SMC-MA
FIELD BOOK PG.	50, 51, 54, 55, 68-71
FIELD CREW.	S.M.C.
DRAWN:	E.G.F.
REVIEWED:	C.E.L.

ALTA/NSPS LAND TITLE SURVEY
CHICK-FIL-A
101 (150) SHOPS WAY
MAP 2, LOT 24
CITY OF BIDDEFORD, YORK COUNTY
STATE OF MAINE

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
ALBANY, NY 518-217-5010
CHALFONT, PA 215-712-9800
HAUPPAUGE, NY 631-580-2645
MANHATTAN, NY 646-780-0411
MT LAUREL, NJ 609-857-2099
WARREN, NJ 908-668-0099

APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
C.E.L.	3-25-2024	1"=40'	03-240044-00	1 OF 3

CONTROL POINT ASSOCIATES, INC. ALL RIGHTS RESERVED
THE CONTENTS OF THIS PLAN ARE COPYRIGHTED AND PROPRIETARY TO CONTROL POINT ASSOCIATES, INC. AND THE ORIGINAL PROJECT OR PURPOSE ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF CONTROL POINT ASSOCIATES, INC. IS PROHIBITED.

811 DIG SAFE 1-888-344-7233 STOP CALL BEFORE YOU DIG

THE STATE OF MAINE REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

LEGEND

124 / 125	EXISTING CONTOUR	E	APPROX. LOC. OF UG ELECTRIC LINE	PVC	POLYVINYL CHLORIDE PIPE
× 123.45	EXISTING SPOT ELEVATION	T	APPROX. LOC. OF TELE LINE	HDPE	HIGH DENSITY POLYETHYLENE PIPE
× TC 123.45	EXIST. TOP OF CURB ELEVATION	U/-	UNDERGROUND QUALITY LEVEL D	INV	INVERT ELEVATION
× BC 122.95	EXIST. BOTTOM OF CURB ELEVATION	U/-	UNDERGROUND QUALITY LEVEL C	GRT	GRATE ELEVATION
× TW 123.45	EXIST. TOP OF WALL ELEVATION	U/-	UNDERGROUND QUALITY LEVEL B		PAINTED HANDICAPPED
× BW 122.95	EXIST. BOTTOM OF WALL ELEVATION	W	HYDRANT		SIGN
× FF 123.45	EXIST. FINISHED FLOOR ELEVATION	W	WATER VALVE		MAIL BOX
	DEPRESSED CURB	IC	IRRIGATION CONTROL VALVE		BOLLARD
OH	OVERHEAD WIRES	S	SANITARY/SEWER MANHOLE		METAL GUIDE RAIL
S	APPROX. LOC. OF UG SEWER LINE	D	DRAINAGE/STORM MANHOLE		GATE POST
D	APPROX. LOC. OF UG DRAIN LINE	T	TELEPHONE MANHOLE		AREA LIGHT
W	APPROX. LOC. OF UG WATER LINE		CATCH BASIN		LAMP
G	APPROX. LOC. OF UG GAS LINE	UP	UTILITY POLE		TREE STUMP

	DECIDUOUS TREE & TRUNK SIZE	UG	UNDER GROUND
	CONIFEROUS TREE & TRUNK SIZE	AG	ABOVE GROUND
	SHRUBS	[25.0']	BUILDING DIMENSION AT GROUND LEVEL
10	PARKING SPACE COUNT	BLDG	BUILDING
SGC	SLOPED GRANITE CURB	HT	HEIGHT
VGC	VERTICAL GRANITE CURB	BFPA	BUILDING FOOTPRINT AREA
CLF	CHAIN LINK FENCE	TOW	TOP OF WATER
DC	DEPRESSED CURB	?	UNKNOWN TERMINUS
EOP	EDGE OF PAVEMENT	(S')	SURVEY DIMENSION
LSA	LANDSCAPED AREA	(D')	DEED DIMENSION
(TYP)	TYPICAL	#	TITLE REPORT EXCEPTION
NFV	NOT FIELD VERIFIED		
SWL	SOLID WHITE LINE		



LOCUS MAP
©2013 ESRI WORLD STREET MAPS
NOT TO SCALE

ALFRED ROAD (A.K.A. ROUTE 111)

(PUBLIC - VARIABLE WIDTH R.O.W.)
TWO WAY TRAFFIC (ASPHALT ROADWAY)

SHOPS WAY

(PRIVATE - VARIABLE WIDTH R.O.W.)
TWO WAY TRAFFIC (ASPHALT ROADWAY)

MAINE STATE PLANE COORDINATE SYSTEM - WEST ZONE (NAD83)

50' SIDE/REAR BUILDING AND PAVEMENT SETBACK

10' SIDE/REAR BUILDING AND PAVEMENT SETBACK

MAP 2 LOT 24
N/F LANDS OF DSM MB II LLC
BK. 16946, PG. 343

#150 SHOPS WAY
LOT 1 PER REF. #3
UNIT 6 PER REF. #4, 5 & 6

MAP 2 LOT 34
N/F LANDS OF NEW LIFE ADVENT CHRISTIAN CHURCH
BK. 3331, PG. 94

SEE SHEET 1 OF 3 FOR NOTES & OVERALL BOUNDARY

SEE SHEET 3 OF 3 FOR REFERENCES & TITLE MATTERS

GRAPHIC SCALE
20' 0 10' 20' 40' 80'
(IN FEET)
1 inch = 20 ft.

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL A
DSM MB II LLC
FIDELITY NATIONAL TITLE INSURANCE COMPANY

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	REVISED INVERT ELEVATIONS	B.S.B.	R.J.K.	C.E.L.	12-2-2024
1	REVISED PER CLIENT COMMENTS	-	E.G.F.	C.E.L.	4-29-2024

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5 (PARTIAL), 7(A), 7(B)(1), 7(C), 8, 9, 11(B), 13 & 14 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 15, 2024.

THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 AND PART 2 OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

STATE OF MAINE · CHARLES E. LENT · 2445 · PROFESSIONAL LAND SURVEYOR

CHARLES E. LENT, PLS
MAINE PROFESSIONAL LAND SURVEYOR #2445

12-2-2024
DATE

FIELD DATE	2-14-2024 2-15-2024 2-16-2024
FIELD BOOK NO.	SMC-MA
FIELD BOOK PG.	50, 51, 54, 55, 68-71
FIELD CREW	S.M.C.
DRAWN:	E.G.F.
REVIEWED:	C.E.L.

ALTA/NSPS LAND TITLE SURVEY
CHICK-FIL-A
101 (150) SHOPS WAY
MAP 2, LOT 24
CITY OF BIDDEFORD, YORK COUNTY
STATE OF MAINE

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
ALBANY, NY 518-217-5010
CHALFONT, PA 215-712-9800
HAUPPAUGE, NY 631-580-2645
MANHATTAN, NY 646-780-0411
MT LAUREL, NJ 609-857-2099
WARREN, NJ 908-668-0099

APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
C.E.L.	3-25-2024	1"=20'	03-240044-00	2 OF 3

CONTROL POINT ASSOCIATES, INC. ALL RIGHTS RESERVED
THE CONTROL POINT ASSOCIATES, INC. PLAN IS AN INSTRUMENT OF SERVICE AND SHALL REMAIN THE ORIGINAL PROJECT OR THE PROPERTY OF CONTROL POINT ASSOCIATES, INC. AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT OR PURPOSE. THE PLAN IS NOT TO BE CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CONTROL POINT ASSOCIATES, INC. AND WITHOUT THE ADAPTATION BY CONTROL POINT ASSOCIATES, INC. OF THE APPROPRIATE SPECIFIC DIMENSIONS AND OTHER DATA WITH RESPECT TO THE SPECIFIC PROJECT FOR WHICH IT IS INTENDED. ANY REUSE WITHOUT SUCH WRITTEN VERIFICATION OR ADAPTATION BY CONTROL POINT ASSOCIATES, INC. FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO CONTROL POINT ASSOCIATES, INC. TO OBTAIN SUCH VERIFICATION OR ADAPTATION FOR A SPECIFIC PURPOSE CONTACT CONTROL POINT ASSOCIATES, INC. AT 352 TURNPIKE ROAD, SOUTHBOROUGH, MA 01772 (508) 948-3000.

THE STATE OF MAINE REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

DIG SAFE (1-888-344-7233) STATE CALL BEFORE YOU DIG!

SCHEDULE B-II ITEMS:

THIS SURVEY WAS PREPARED WITH REFERENCE TO A COMMITMENT FOR TITLE INSURANCE PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, HAVING AN ISSUING OFFICE FILE NO. ME232032021, WITH A COMMITMENT DATE OF NOVEMBER 29, 2023, WHERE THE FOLLOWING SURVEY RELATED EXCEPTIONS APPEAR IN SCHEDULE B - SECTION 2:

GENERAL EXCEPTIONS 1 THRU 6 ARE NOT SURVEY RELATED AND HAVE NOT BEEN COMMENTED ON AS A PART OF THIS SURVEY.

(7) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "PLAN SHOWING REVISIONS MADE TO A "PLAN OF STANDARD BOUNDARY SURVEY FOR URBAIN COLLIN, BIDDEFORD AND ARUNDEL, MAINE" DATED JULY 18, 1985 AND RECORDED IN PLAN BOOK 133, PAGE 32, INCLUDING: I) NOTES THEREON RELATING TO RESIDENTIAL USE AND PROHIBITION AGAINST FURTHER SUBDIVISION WITHOUT PLANNING BOARD APPROVAL. **- NOT LOCUS**

(8) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "PLAN SHOWING A STANDARD BOUNDARY SURVEY FOR URBAIN COLLIN, BIDDEFORD AND ARUNDEL, MAINE" DATED MARCH 6, 1985, REVISED MAY 30, 1985, AND RECORDED IN PLAN BOOK 137, PAGE 20, INCLUDING: I) NOTES THEREON. **- NOT LOCUS**

(9) RIGHTS AND EASEMENTS GRANTED FROM JOSEPH M. LEGARE AND MADELEINE D. LEGARE TO RICHARD D. HEBERT AND DOROTHY M. HEBERT BY WARRANTY DEED DATED FEBRUARY 26, 1985 AND RECORDED IN BOOK 3473, PAGE 10. **- NOT LOCUS**

(10) RIGHTS AND EASEMENTS RESERVED BY JOSEPH M, LEGATE AND MADELEINE D. LEGARE IN WARRANTY DEED TO URBAIN COLLIN AND RENALD COLLIN DATED MARCH 1, 1985 AND RECORDED IN BOOK 3473, PAGE 12. **- EASEMENT LOCATION UNKNOWN, UNABLE TO COMMENT**

(11) RIGHTS AND EASEMENT GRANTED TO THE STATE OF MAINE IN DEEDS: (I) BOOK 1151, PAGE 16; (II) BOOK 1123, PAGE 391; (III) BOOK 1150, PAGE 110; (IV) BOOK 1150, PAGE 104; (V) BOOK 1150, PAGE 313; (VI) BOOK 1150, PAGE 310 AND CONDEMNATION DATED MAY 2, 1956 AND RECORDED IN BOOK 1326, PAGE 135. **- STATED RIGHTS AND EASEMENTS NO LONGER APPLY. BIDDEFORD CROSSING LLC CONVEYED LANDS, INCLUDING THE EASEMENT PARCELS, TO THE STATE OF MAINE BY DEED BOOK 15206 PAGE 195. SEE EXCEPTION 29 FOR FURTHER INFORMATION.**

(12) RIGHTS AND EASEMENTS RESERVED IN DEED FROM NEW LIFE CHRISTIAN FELLOWSHIP TO BIDDEFORD CROSSING LLC DATED SEPTEMBER 13, 2005 AND RECORDED IN BOOK 14602, PAGE 667. **- EASEMENT TERMINATED, NOTHING TO PLOT**

(13) RIGHTS AND EASEMENTS GRANTED TO MAINE TURNPIKE AUTHORITY DATED JUNE 27, 1995 AND RECORDED IN BOOK 7472, PAGE 329. **- NOT LOCUS**

(14) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH AUGUST 11, 2005, MADE BY TITCOMB ASSOCIATES AND RECORDED IN PLAN BOOK 304, PAGE 4, INCLUDING: I) NOTES THEREON; AS AFFECTED BY "AMENDED SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH SEPTEMBER 13, 2005, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN PLAN BOOK 304, PAGE 45, INCLUDING: I) NOTES THEREON; AS AFFECTED BY "AMENDED SUBDIVISION PLAN LOT THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH OCTOBER 6,2010, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN PLAN BOOK 348, PAGE 20, INCLUDING: I) NOTES THEREON; AND, II) CONDITIONS OF APPROVAL; AS AFFECTED BY "AMENDED SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING" DATED FEBRUARY 25, 2005, AS REVISED THROUGH OCTOBER 7, 2010, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN PLAN BOOK 346, PAGE 24, INCLNUDING: I) NOTES THEREON. **- SOUTHERLY RIGHT OF WAY LINE OF ALFRED ROAD, ACCESS EASEMENTS, SIDE/REAR BUILDING & PAVEMENT SETBACKS, CONSERVATION RESTRICTION AREA, SHOPS WAY & LOT 1 SHOWN HEREON**

(15) STATE OF FACTS DEPICTED ON PLAN OF SURVEY ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN" DATED AUGUST 25, 2005, AS REVISED THROUGH SEPTEMBER 13, 2005, MADE BY TITCOMB ASSOCIATES, AND RECORDED IN CONDOMINIUM FILE 657, PAGES 1 AND 2, INCLUDING: I) NOTES THEREON. **- SOUTHERLY RIGHT OF WAY LINE OF ALFRED ROAD, LOT 1 & CONSERVATION RESTRICTION AREA SHOWN HEREON**

(16) STATE OF FACTS DEPICTED ON PLAN ENTITLED OPERATION AND EASEMENT AGREEMENT SITE PLAN, THE SHOPS AT BIDDEFORD CROSSING" DATED SEPTEMBER 22, 2005, MADE BY GORRILL-PALMER CONSULTING ENGINEERS, INC., CONSISTING OF FIVE SHEETS, RECORDED IN PLAN BOOK 304, PAGES 46, 47, 48, 49, 50. **- FRONTAGE AREAS, PERPETUAL DRIVE, BUILDING AREAS, RESTRICTED CURB CUT AREAS, INTERCONNECT ACCESS EASEMENTS, SERVICE DRIVE, SUBSURFACE DETENTION AREAS, OUTSIDE SALES AREAS AND UNIT 6 SHOWN HEREON.**

(17) TERMS AND CONDITIONS SET FORTH IN DECLARATION OF COVENANTS AND RESTRICTIONS BY BIDDEFORD CROSSING LLC PURSUANT TO STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION NATURAL RESOURCE PROTECTION ACT PROJECT L-22210-26-A-N/L-22210-TGB-N DATED SEPTEMBER 28, 2005 AND RECORDED IN BOOK 14616, PAGE 260. **- NOT LOCUS**

(18) RESTRICTIONS, COVENANTS, TERMS AND CONDITIONS SET FORTH IN DECLARATION OF THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM BY BIDDEFORD CROSSING LLC DATED SEPTEMBER 28, 2005 AND RECORDED IN BOOK 14616, PAGE 268; AS AFFECTED BY ASSIGNMENT AND ASSUMPTION OF CONDOMINIUM DEVELOPMENT RIGHTS AND SPECIAL DECLARANT RIGHTS BETWEEN BIDDEFORD CROSSING LLC AND BIDDEFORD II LLC DATED JULY 11, 2007 AND RECORDED IN BOOK 15206, PAGE 222; AS AFFECTED BY MEMORANDUM OF RELEASE OF BIDDEFORD CROSSING II LLC DATED JUNE 3, 3013 AND RECORDED IN BOOK 16614, PAGE 352. **- DOES NOT AFFECT LOCUS PROPERTY**

(19) TERMS AND CONDITIONS OF OPERATION AND EASEMENT AGREEMENT BETWEEN AND AMONG TARGET CORPORATION, LOWE'S HOME CENTERS, INC. AND BIDDEFORD CROSSING, LLC DATED SEPTEMBER 26, 2005 AND RECORDED IN BOOK 14616, PAGE 315; AS AFFECTED BY MEMORANDUM OF RELEASE BY BIDDEFORD CROSSING II LLC DATED JUNE 3, 2013 AND RECORDED IN BOOK 16614, PAGE 352. **- APPLIES TO UNITS 1 - 6; PERPETUAL DRIVE, RESTRICTED CURB CUT AREA AND PYLON SIGN SHOWN HEREON.**

(20) TERMS AND CONDITIONS OF LEASE AGREEMENT DATED JANUARY 6, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND BRINKER RESTAURANT CORPORATION (TENANT), AS EVIDENCED BY MEMORANDUM OF LEASE DATED JANUARY 6, 2006 AND RECORDED IN BOOK 14742, PAGE 863; AS AFFECTED BY NOTICE OF ASSIGNMENT OF LEASE FROM BRINKER RESTAURANT CORPORATION TO PEPPER DINING, INC. DATED JUNE 26, 2007 AND RECORDED IN BOOK 15419, PAGE 557 (PORTION OF LOT 1). **- APPLIES TO A PORTION OF LOT 1 AS SHOWN HEREON**

(21) TERMS AND CONDITIONS OF EASEMENT AGREEMENT BETWEEN BIDDEFORD CROSSING LLC AND NEW LIFE CHRISTIAN FELLOWSHIP DATED OCTOBER 27, 2005 AND RECORDED IN BOOK 14763, PAGE 77. **- EASEMENTS SHOWN AS ACCESS EASEMENTS A, B & C**

(22) TERMS AND CONDITIONS OF EASEMENT AGREEMENT BETWEEN NEW LIFE CHRISTIAN FELLOWSHIP AND BIDDEFORD CROSSING LLC DATED JANUARY 6, 2006 AND RECORDED IN BOOK 14819, PAGE 905. **- APPURTENANT EASEMENTS SHOWN HEREON**

(23) TERMS AND CONDITIONS OF LEASE DATED FEBRUARY 28, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND SACO & BIDDEFORD SAVING INSTITUTION (TENANT). **- NOT SURVEY RELATED/ NO DOCUMENT REFERENCED TO REVIEW**

(24) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC TO VERIZON NEW ENGLAND INC. BY EASEMENT DEED ACKNOWLEDGED MAY 2, 2006 AND RECORDED IN BOOK 14827, PAGE 567; AS AFFECTED BY AMENDED EASEMENT DEED ACKNOWLEDGED MAY 24, 2006 AND RECORDED IN BOOK 14854, PAGE 33. **- 30' X 30' EASEMENT WITH PARKING AND OTHER RIGHTS SHOWN HEREON**

SCHEDULE B-II ITEMS (CONTINUED):

(25) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC, THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM ASSOCIATION AND TARGET CORPORATION TO CENTRAL MAINE POWER COMPANY AND VERIZON NEW ENGLAND INC. BY GRANT OF EASEMENT DATED JUNE 20, 2006 AND RECORDED IN BOOK 14889, PAGE 512. **- ELECTRIC MANHOLES AND UNDERGROUND LINES SHOWN HEREON**

(26) TERMS AND CONDITIONS OF UNRECORDED LEASE DATED JULY 31, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND OLD NAVY LLC (TENANT), AS EVIDENCED BY MEMORANDUM OF LEASE DATED JULY 31, 2006 AND RECORDED IN BOOK 14932, PAGE 202 (LOT 1). **- PERMITS USE OF COMMON AREAS AND EASEMENTS**

(27) TERMS AND CONDITIONS OF A LEASE DATED JANUARY 31, 2006 BETWEEN BIDDEFORD CROSSING LLC (LANDLORD) AND GMRI, INC. (TENANT), AS EVIDENCED BY MEMORANDUM OF LEASE, BIDDEFORD, ME - OLIVE GARDEN, DATED MARCH 7, 2006 AND RECORDED IN BOOK 14940, PAGE 767. **- LEASE AREA SHOWN HEREON, MAY BE TERMINATED**

(28) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC TO VERIZON NEW ENGLAND INC. BY GRANT OF EASEMENT DATED AUGUST 14, 2006 AND RECORDED IN BOOK 14955, PAGE 853. **- NOT LOCUS**

(29) OUT CONVEYANCE FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY WARRANTY DEED DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 195. **- CURRENT ALFRED ROAD R.O.W.SHOWN HEREON**

(30) RIGHTS AND EASEMENTS GRANTED FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY GRANT OF EASEMENT DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 199. **- NOT LOCUS**

(31) RIGHTS AND EASEMENTS GRANTED FOR FIRE HYDRANT FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY GRANT OF EASEMENT DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 203. **- NOT LOCUS**

(32) RIGHTS AND EASEMENTS GRANTED FOR TRAFFIC SIGNAL FROM BIDDEFORD CROSSING LLC TO STATE OF MAINE DEPARTMENT OF TRANSPORTATION BY GRANT OF EASEMENT DATED JULY 9, 2007 AND RECORDED IN BOOK 15206, PAGE 207. **- SHOWN HEREON**

(33) RESTRICTIONS, COVENANTS, EASEMENTS, TERMS AND CONDITIONS IN WARRANTY DEED FROM BIDDEFORD CROSSING LLC TO BIDDEFORD CROSSING II LLC DATED JULY 11, 2007 AND RECORDED IN BOOK 15206, PAGE 214. **- INCLUDES LOT 1 AND CONDO LOTS 1-5, ALL SAME RIGHTS, ETC. APPLY**

(34) TERMS AND CONDITIONS, RIGHTS AND EASEMENTS IN DEPOSIT AGREEMENT AND GRANT OF EASEMENT BETWEEN BIDDEFORD CROSSING LLC, THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM ASSOCIATION AND TARGET CORPORATION AND BIDDEFORD AND SACO WATER COMPANY DATED JUNE 20, 2006 AND RECORDED IN BOOK 15347, PAGE 152. **- FIRE HYDRANT, WATER VALVES & UNDERGROUND WATER LINES SHOWN HEREON.**

(35) TERMS AND CONDITIONS OF A LEASE DATED JUNE 12, 2006 BETWEEN BIDDEFORD CROSSING II LLC (LANDLORD) AND PR RESTAURANTS, LLC (TENANT), AS EVIDENCED BY NOTICE OF LEASE DATED APRIL 6, 2010 AND RECORDED IN BOOK 15869, PAGE 580; AS AFFECTED BY COLLATERAL ASSIGNMENT OF LESSEE'S INTEREST IN LEASE BETWEEN PR RESTAURANTS L.L.C. AND WELLS FARGO BANK, NATIONAL ASSOCIATION DATED JUNE 1, 2010 AND RECORDED IN BOOK 15885, PAGE 165; AS AFFECTED BY FIRST AMENDMENT COLLATERAL ASSIGNMENT OF LESSEE'S INTEREST IN LEASE BETWEEN PR RESTAURANTS L.L.C. AND WELLS FARGO BANK, NATIONAL ASSOCIATION DATED NOVEMBER 30, 2012 AND RECORDED IN BOOK 16478, PAGE 46 (CONDOMINIUM UNIT 6, LOT 1). **- LEASE AREA WITHIN LOT 1, SPECIFIC LOCATION UNKNOWN**

(36) TERMS AND CONDITIONS OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION OF DEVELOPMENT ACT, NATURAL RESOURCES PROTECTION ACT, FRESHWATER WETLAND ALTERATION, WATER QUALITY CERTIFICATION AMENDMENT FINDINGS OF FACT AND ORDER DATED MARCH 1, 2011 AND RECORDED IN BOOK 16072, PAGE 14. **- NOT SURVEY RELATED**

(37) TERMS AND CONDITIONS OF A LEASE DATED MAY 17, 2011 BETWEEN BIDDEFORD CROSSING II LLC (LANDLORD) AND MICHAELS STORES, INC. (TENANT), AS EVIDENCED BY NOTICE OF SHOPPING CENTER LEASE DATED MAY 17, 2011 AND RECORDED IN BOOK 16229, PAGE 886. **- NOT SURVEY RELATED**

(38) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION MINOR AMENDMENT DATED AUGUST 22, 2012 AND RECORDED IN BOOK 16405, PAGE 713. **- NOT SURVEY RELATED**

(39) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION REVISION DATED MAY 29, 2013 AND RECORDED IN BOOK 16625, PAGE 747. **- NOT SURVEY RELATED**

(40) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION ORDER DATED AUGUST 5, 2005 AND RECORDED IN BOOK 14573, PAGE 262. **- NOT SURVEY RELATED**

(41) TERMS AND CONDITIONS OF A STATE OF MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION SITE LOCATION ORDER DATED NOVEMBER 20, 2006 AND RECORDED IN BOOK 15027, PAGE 292. **- NOT SURVEY RELATED**

(42) RIGHTS AND EASEMENTS GRANTED TO CENTRAL MAINE POWER COMPANY AND NORTHERN NEW ENGLAND TELEPHONE OPERATIONS, LLC DATED AUGUST 24, 2021 AND RECORDED IN BOOK 18791, PAGE 328. **- SPECIFIC LOCATION UNKNOWN, NOT SHOWN**

(43) RIGHTS AND EASEMENTS GRANTED TO THE CITY OF BIDDEFORD IN INSTRUMENT DATED MAY 17, 2011 AND RECORDED IN BOOK 19279, PAGE 69. **- SIDEWALK EASEMENT SHOWN HEREON**

(44) RIGHTS OF TENANT, HOMEGOODS, INC. AND TERMS AND CONDITIONS OF A LEASE BETWEEN DSM MB II, LLC AND HOMEGOODS, INC. DATED JANUARY 6, 2022, AS EVIDENCED BY A MEMORANDUM OF LEASE DATED MARCH 24, 2022 AND RECORDED IN BOOK 18986, PAGE 606. **- NOT SURVEY RELATED**

(45) MORTGAGE, ASSIGNMENT OF LEASES AND RENTS, SECURITY AGREEMENT AND FIXTURE FILING FROM DSM MB II LLC TO NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY, DATED DECEMBER 12, 2014 AND RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 350. **- NOT SURVEY RELATED**

(46) ASSIGNMENT OF LEASES AND RENTS FROM DSM MB II LLC TO NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY, DATED DECEMBER 12, 2014 AND RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 372. **- NOT SURVEY RELATED**

(47) ASSIGNMENT OF RIGHTS FROM DSM MB II LLC TO NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY, DATED DECEMBER 12, 2014 AND RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 382. **- NOT SURVEY RELATED**

(48) UCC FINANCING STATEMENT BETWEEN DSM MB II LLC (DEBTOR) AND NEW YORK LIFE INSURANCE COMPANY, A NEW YORK MUTUAL INSURANCE COMPANY (SECURED PARTY) RECORDED DECEMBER 26, 2014 IN BOOK 16946, PAGE 392; AS AFFECTED BY CONTINUATION RECORDED SEPTEMBER 6, 2019 AND RECORDED IN BOOK 18038, PAGE 904. **- NOT SURVEY RELATED**

EXHIBIT A:

THE LAND REFERRED TO IN THIS COMMITMENT IS DESCRIBED AS FOLLOWS:

LEASEHOLD PARCEL TO BE INSURED IS A PORTION OF THE BELOW: LOT 1 -BIDDEFORD CROSSING

A CERTAIN LOT OR PARCEL OF LAND LOCATED ON THE SOUTHERLY SIDE OF ALFRED ROAD (ALSO KNOWN AS ROUTE 111) IN THE CITY OF BIDDEFORD, COUNTY OF YORK, STATE OF MAINE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHERLY SIDELINE OF ALFRED ROAD AT THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF GERARD W. BOILARD AND LILLIAN A. BOILARD AS DESCRIBED IN A DEED RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 1269, PAGE 208. THENCE:

A) N 77°35'56" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED THIRTY-NINE AND 03/100 (139.03) FEET TO A POINT.

B) N 85°11'12" E BY SAID ALFRED ROAD A DISTANCE OF SIXTY-NINE AND 98/100 (69.98) FEET TO A POINT.

C) N 84°41'17" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED FIFTY-FIVE AND 02/100 (155.02) FEET TO A POINT.

D) N 80°35'02" E BY SAID ALFRED ROAD A DISTANCE OF THREE HUNDRED EIGHTY-FOUR AND 94/100 (384.94) FEET TO A POINT OF CURVATURE.

E) EASTERLY BY SAID ALFRED ROAD FOLLOWING A CURVE TO THE LEFT HAVING A RADIUS OF FIVE HUNDRED TEN AND 00/100 (510.00) FEET, AN ARC DISTANCE OF TWENTY-FIVE AND 01/100 (25.01) FEET TO A POINT OF TANGENCY.

F) N 77°46'26" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED THIRTY-ONE AND 90/100 (131.90) FEET TO A POINT TO THE TRUE POINT OF BEGINNING.

FROM SAID TRUE POINT OF BEGINNING:

1) N 77°46'26" E BY SAID ALFRED ROAD A DISTANCE OF FIVE AND 00/100 (5.00) FEET TO A POINT.

2) N 32°46'26" E BY SAID ALFRED ROAD A DISTANCE OF SIXTEEN AND 56/100 (16.56) FEET TO A POINT.

3) N 77°46'34" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED FIFTY-TWO AND 34/100 (152.34) FEET TO A POINT.

4) N 77°30'23" E BY SAID ALFRED ROAD A DISTANCE OF TWO HUNDRED EIGHTEEN AND 54/100 (218.54) FEET TO A POINT.

5) N 77°27'56" E BY SAID ALFRED ROAD A DISTANCE OF FOUR HUNDRED FORTY-NINE AND 18/100 (449.18) FEET TO A POINT.

6) N 77°49'52" E BY SAID ALFRED ROAD A DISTANCE OF ONE HUNDRED TEN AND 21/100 (110.21) FEET TO A POINT.

7) S 35°51'48" W BY SAID ALFRED ROAD A DISTANCE OF FOURTEEN AND 95/100 (14.95) FEET TO A POINT AND LAND NOW OR FORMERLY OF NEW LIFE CHRISTIAN FELLOWSHIP AS DESCRIBED IN A DEED RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 3331, PAGE 94.

8) S 35°51'48 W BY SAID LAND OF NEW LIFE CHRISTIAN FELLOWSHIP A DISTANCE OF THREE HUNDRED SIXTY-FOUR AND 20/100 (364.20) FEET TO A POINT.

9) S 12°32'03" E A DISTANCE OF ONE HUNDRED THIRTY-EIGHT AND 70/100 (138.70) FEET TO A POINT.

10) S 62°46'04" E A DISTANCE OF FIFTY-THREE AND 39/100 (53.39) FEET TO A POINT.

11) S 12°38'43" E A DISTANCE OF TWO HUNDRED EIGHTY-ONE AND 19/100 (281.19) FEET TO A POINT.

12) S 62°34'07" W A DISTANCE OF ONE HUNDRED EIGHTY-FOUR AND 90/100 (184.90) FEET TO A POINT.

13) N 79°48'56" W A DISTANCE OF TWO HUNDRED ELEVEN AND 98/100 (211.98) FEET TO A POINT.

14) N 50°46'40" W A DISTANCE OF NINETY-THREE AND 15/100 (93.15) FEET TO A POINT AND THE NORTHWESTERLY SIDELINE OF SAID LAND OF NEW LIFE CHRISTIAN FELLOWSHIP.

15) S 35°51'48" W BY SAID LAND OF NEW LIFE CHRISTIAN FELLOWSHIP A DISTANCE OF THREE HUNDRED FORTY AND 27/100 (340.27) FEET TO A POINT AND THE NORTHEASTERLY SIDELINE OF LOT 2 AS SHOWN ON A PLAN ENTITLED "SUBDIVISION PLAN OF THE SHOPS AT BIDDEFORD CROSSING" MADE BY TITCOMB ASSOCIATES FOR BIDDEFORD CROSSING LLC, DATED FEBRUARY 25, 2005 AND REVISED THROUGH AUGUST 11, 2005.

16) N 52°21'34" W BY SAID LOT 2 A DISTANCE OF THREE HUNDRED THIRTY-NINE AND 78/100(339.78) FEET TO A POINT.

17) N 25°21'39" W BY SAID LOT 2 A DISTANCE OF ONE HUNDRED SEVEN AND 51/100 (107.51) FEET TO A POINT.

18) NORTHEASTERLY BY SAID LOT 2 FOLLOWING A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF FOUR HUNDRED TWENTY- EIGHT AND 73/100 (428.73) FEET AN ARC DISTANCE OF ONE HUNDRED SIXTY-FIVE AND 70/100 (165.70) FEET TO A POINT OF COMPOUND CURVATURE, SAID POINT BEING LOCATED N 46°23'47" E A DISTANCE OF ONE HUNDRED SIXTY-FOUR AND 67/100 (164.67) FEET FROM THE LAST MENTIONED POINT.

19) NORTHEASTERLY BY SAID LOT 2 FOLLOWING A CURVE TO THE LEFT HAVING A RADIUS OF TWO HUNDRED FIFTY-ONE AND 45/100 (251.45) FEET, AN ARC DISTANCE OF NINETEEN AND 40/100 (19.40) FEET TO A POINT OF COMPOUND CURVATURE.

20) NORTHEASTERLY BY SAID LOT 2 FOLLOWING A CURVE TO THE LEFT HAVING A RADIUS OF TWO HUNDRED FORTY-FIVE AND 00/100 (245.00) FEET, AN ARC DISTANCE OF ONE HUNDRED EIGHTY-EIGHT AND 36/100 (188.36) FEET TO A POINT OF TANGENCY.

21) N 12°11'35" W BY SAID LOT 2 A DISTANCE OF ONE HUNDRED SEVENTY-EIGHT AND 76/100 (178.76) FEET TO THE TRUE POINT OF BEGINNING.

MEANING AND INTENDING TO DESCRIBE LOT 1 AS SHOWN ON A PLAN ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN" MADE BY TITCOMB ASSOCIATES FOR BIDDEFORD CROSSING LLC, DATED AUGUST 25, 2005 AND REVISED THROUGH SEPTEMBER 13, 2005.

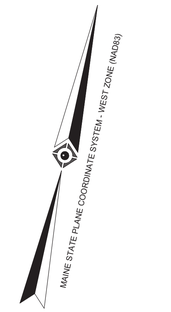
BEARINGS ARE BASED ON GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM NAD 1983, WEST ZONE. REFERENCE IS HEREIN MADE TO A PLAN ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN" MADE BY TITCOMB ASSOCIATES FOR BIDDEFORD CROSSING LLC, DATED AUGUST 25, 2005 AND REVISED THROUGH SEPTEMBER 13, 2005, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN CONDOMINIUM FILE NO. 657, PAGES 1 AND 2.

TOGETHER WITH THE RIGHTS, EASEMENTS AND RESTRICTIONS APPURTENANT TO THE INSURED PREMISES AS SET FORTH IN AN OPERATION AND EASEMENT AGREEMENT BETWEEN AND AMONG TARGET CORPORATION, LOWE'S HOME CENTERS, INC. AND BIDDEFORD CROSSING LLC FOR THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE, DATED SEPTEMBER 28, 2005, RECORDED IN BOOK 14616, PAGE 315.

TOGETHER WITH THE RIGHTS, EASEMENTS AND RESTRICTIONS APPURTENANT TO THE INSURED PREMISES AS SET FORTH IN EASEMENT AGREEMENT BETWEEN NEW LIFE CHRISTIAN FELLOWSHIP AND BIDDEFORD CROSSING LLC DATED JANUARY 6, 2006 AND RECORDED IN BOOK 14819, PAGE 905.

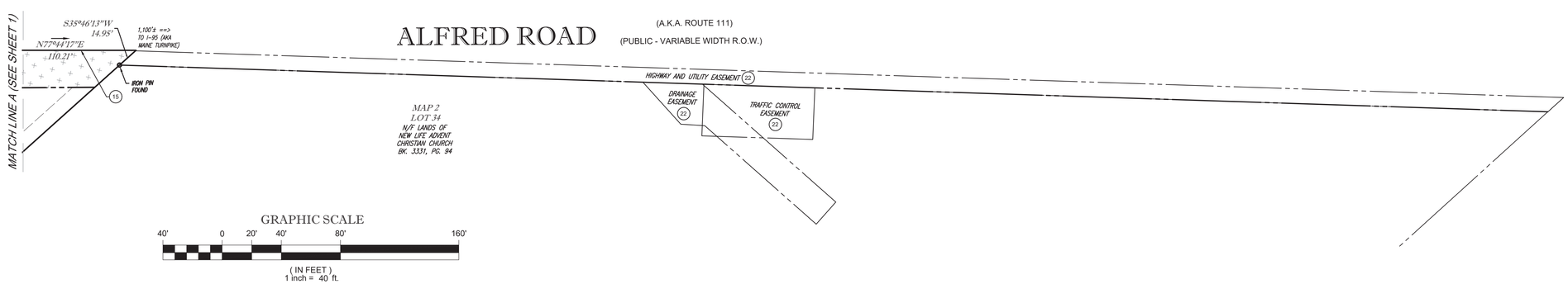
REFERENCES:

1. THE TAX ASSESSOR'S MAP OF BIDDEFORD, YORK COUNTY, MAP 2.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, CITY OF BIDDEFORD, MAINE, YORK COUNTY, PANEL 8 OF 11," COMMUNITY-PANEL NUMBER 230145 0008 B, MAP EFFECTIVE: MAY 15, 1984.
3. MAP ENTITLED "AMENDED SUBDIVISION PLAN FOR THE SHOPS AT BIDDEFORD CROSSING," PREPARED BY TITCOMB ASSOCIATES, DATED FEBRUARY 25, 2005, LAST REVISED SEPTEMBER 13, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 45.
4. MAP ENTITLED "OPERATION AND EASEMENT AGREEMENT SITE PLAN, THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE," PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS, INC., DATED SEPTEMBER 19, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 46.
5. MAP ENTITLED "OPERATION AND EASEMENT AGREEMENT SITE PLAN (WATER & SEWER), THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE," PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS, INC., DATED SEPTEMBER 19, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 48.
6. MAP ENTITLED "OPERATION AND EASEMENT AGREEMENT SITE PLAN (ATM & KIOSK AREAS), THE SHOPS AT BIDDEFORD CROSSING, BIDDEFORD, MAINE," PREPARED BY GORRILL-PALMER CONSULTING ENGINEERS, INC., DATED SEPTEMBER 19, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BK. 304, PG. 50.
7. MAP ENTITLED "FIELD SKETCH, 101 SHOPS WAY, BIDDEFORD ME, SUE PROJECT NO. 08-240091-00," PREPARED BY CONTROL POINT ASSOCIATES, INC., SUBSURFACE ENGINEERING (SUE) DIVISION), DATED FEBRUARY 27, 2024.
8. UNDERGROUND WATER MAPPING IN THE AREA PROVIDED BY MAINE WATER COMPANY.
9. UNDERGROUND SEWER MAPPING IN THE AREA PROVIDED BY THE TOWN OF BIDDEFORD.
10. MAP ENTITLED "THE SHOPS AT BIDDEFORD CROSSING CONDOMINIUM SITE PLAN, ALFRED ROAD, ROUTE 111, BIDDEFORD, MAINE," PREPARED BY TITCOMB ASSOCIATES, DATED AUGUST 25, 2005, LAST REVISED SEPTEMBER 13, 2005, RECORDED WITH THE YORK COUNTY REGISTRY OF DEEDS IN CONDO FILE NO. 657, PAGES 1 & 2.



SEE SHEET 1 OF 3 FOR NOTES & OVERALL BOUNDARY

SEE SHEET 2 OF 3 FOR AREA OF TOPOGRAPHIC DETAIL



GRAPHIC SCALE

40' 0 20' 40' 80' 160'

(IN FEET)
1 inch = 40 ft.

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	REVISED INVERT ELEVATIONS	B.S.B.	R.J.K.	C.E.L.	12-2-2024
1	REVISED PER CLIENT COMMENTS	-	E.G.F.	C.E.L.	4-29-2024

THIS SURVEY IS CERTIFIED TO:
CHICK-FIL A
DSM MB II LLC
FIDELITY NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS BASED WERE MADE IN ACCORDANCE WITH THE "2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5 (PARTIAL), 7(A), 7(B)(1), 7(C), 8, 9, 11(B), 13 & 14 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 15, 2024.

THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 AND PART 2 OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL.

STATE OF MAINE
CHARLES E. LENT
2445
PROFESSIONAL LAND SURVEYOR

12-2-2024
DATE

CHARLES E. LENT, PLS
MAINE PROFESSIONAL LAND SURVEYOR #2445

FIELD DATE
2-14-2024
2-15-2024
2-16-2024

FIELD BOOK NO.
SMC-MA

FIELD BOOK PG.
50, 51, 54, 55, 68-71

FIELD CREW
S.M.C.

DRAWN:
E.G.F.

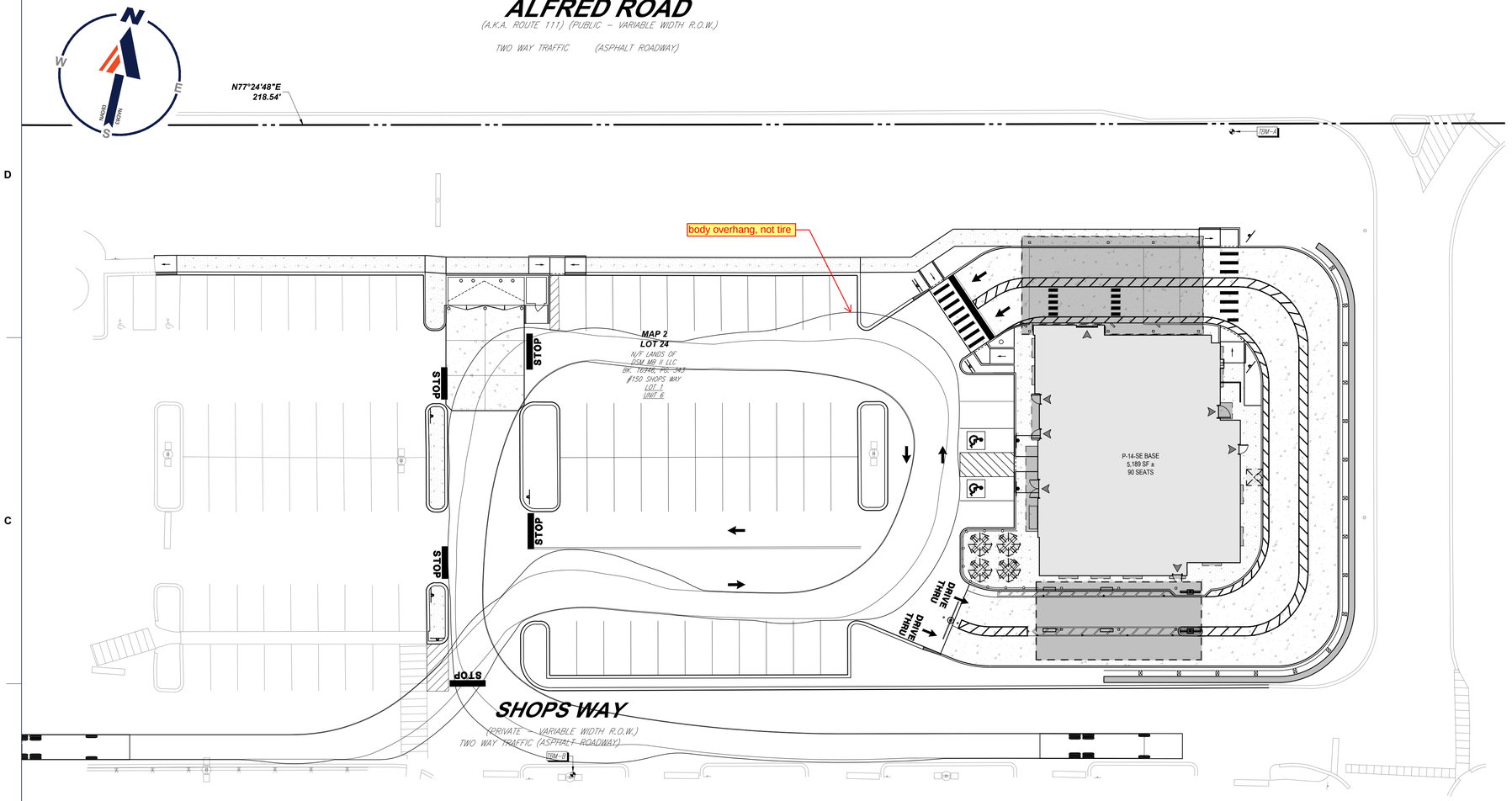
REVIEWED:
C.E.L.

ALTA/NSPS LAND TITLE SURVEY

CHICK-FIL-A

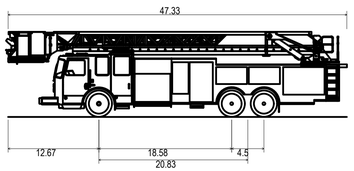
101 (150) SHOPS WAY
MAP 2, LOT 24
CITY OF BIDDEFORD, YORK COUNTY
STATE OF MAINE

20 10 5 0 20

SCALE: 1" = 20'



CITY OF BIDDEFORD FIRE TRUCK	
Overall Length	47.330ft
Overall Width	8.331ft
Overall Body Height	11.917ft
Min Body Ground Clearance	0.681ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	35.100ft

PROPOSED ANALYSIS VEHICLE PROFILE

CITY OF BIDDEFORD FIRE TRUCK
SOURCE: CIVIL3D VEHICLE TRACKING

APPROVAL BLOCK

CITY PLANNING BOARD APPROVAL
APPROVED BY THE PLANNING BOARD OF THE CITY OF BIDDEFORD, MAINE.

XXXX	DATE
XXXX	DATE
XXXX	DATE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER
352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

811 Know what's below. Call before you dig.
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CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
FIRE TRUCK TURN EXHIBIT

SHEET NUMBER
EX-100

\\BOHLERENG.NET\SHARE$\MA-PROJECTS\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL-PROP-MAA230431.00-1B-----LAYOUT: EX-100 - FIRE TRUCK TURN EXHIBIT

DRAINAGE MEMORANDUM

For

222 Mariner Way
City of Biddeford, Maine
York County

Prepared by:

BOHLER
352 Turnpike Road
Southborough, MA 01772
(508) 480-9900 TEL.

January 3, 2025
(revised April 4, 2025)

#MAA230431.00

This memorandum examines the changes in drainage that can be expected as the result of the redevelopment of the project site located at through at 222 Mariner Way in the City of Biddeford, Maine. The site is currently improved with a former Olive Garden restaurant with associated parking, utilities and landscaping. The parcel sits within an existing commercial development of approximately 13.4 acres, of which the proposed project would redevelop about 1.34 acres of land surrounding a former Olive Garden restaurant, paved parking lot, and associated landscaped areas.

Under the existing condition, the shared parking with Kobe Japanese Grill currently drains toward the Olive Garden where it is collected via catch-basins and conveyed to the existing drainage system within the plaza. Our office is in receipt of the proposed drainage system design for the plaza as shown on plans entitled "Drainage Plan – 1, The Shops at Biddeford Crossing" prepared by Gorrill-Palmer Engineers, Inc and dated 3/2/05. Upon reviewing the proposed design, stormwater generated from this portion of the site is conveyed a series of large subsurface drainage detention basins located in the parking lot between the subject site and the large retail building south of the site.

The proposed redevelopment will include demolition of the existing Olive Garden and construction of a new Chick-fil-a quick-serve restaurant with drive-through, associated parking areas, landscaping, utilities and stormwater management components. While the redevelopment does alter a portion of the parking layout, the stormwater approach is similar to the existing condition along with the construction of new landscaped areas. Additional catch-basins with four-foot sumps will be installed within the parking area as well as the drive-thru which will improve the overall water quality of the stormwater being conveyed to the existing stormwater detention system.

While the redevelopment does result in an increase over the prior Olive Garden development, it does not exceed the impervious coverage under the prior design based on the Gorrill-Palmer plans. The prior stormwater design for this portion of the plaza inclusive of the Kobe Grill and Olive Garden buildings with associated parking contained approximately ±74,200 square feet of impervious coverage. Based on the redevelopment area of the Chick-fil-A and existing conditions of the Kobe Grill, the total impervious coverage is approximately 72,600 square feet.

Proposed Chick-Fil-A
150 Shops Way
Biddeford, ME
Bohler Job Number: MAA230431.00

Rational Pipe and Grate Sizing Calculations

Design Period Storm:		**25**	**Year**	**Design Period Intensity***			**6.29**	**in/hr**									
LOCATION		IMPERVIOUS			OTHER			SUM CA	Tc (min)	I (in/hr)	Q (cfs)	D (in)	S (ft/ft)	Matieral	n	Q Full (cfs)	V Full (fps)
FROM	TO	A	C	CA	A	C	CA										
A-12	A-11	0.07	0.95	0.07	0.00	0.30	0.00	0.07	6	6.29	0.42	12	0.010	HDPE	0.012	3.86	4.91
A-11.1	A-11	0.06	0.95	0.06	0.00	0.30	0.00	0.06	6	6.29	0.36	12	0.014	HDPE	0.012	4.50	5.73
A-11	A-10	0.13	0.95	0.12	0.00	0.30	0.00	0.12	6	6.29	0.78	12	0.010	HDPE	0.012	3.86	4.91
A-41	A-40	0.42	0.95	0.40	0.01	0.30	0.00	0.40	6	6.29	2.54	12	0.010	HDPE	0.012	3.86	4.91
A-40	A-30	0.46	0.95	0.44	0.01	0.30	0.00	0.44	6	6.29	2.78	12	0.010	HDPE	0.012	3.86	4.91
A-30	A-20	0.46	0.95	0.44	0.01	0.30	0.00	0.44	6	6.29	2.78	12	0.010	HDPE	0.012	3.86	4.91
A-21	A-20	0.45	0.95	0.43	0.01	0.30	0.00	0.43	6	6.29	2.72	12	0.015	HDPE	0.012	4.73	6.02
A-20	A-10	0.91	0.95	0.86	0.03	0.30	0.01	0.87	6	6.29	5.49	12	0.030	HDPE	0.012	6.69	8.51

*Rainfall intesity provided by TR55 Exhibit X-XX or Cornell University's NRCC Atlas of Precipitation Extremes for the North Eastern United States and Canada or NOAA Atlas 14, Volume 10, Version 2 on DATE

Inlet	Flow To CB (cfs)**	Grate Type	Grate Inlet Area (36) 2"x2"	Head (ft)***	Head (in)***	Single Grate Capacity (cfs)	Double Grate Capacity (cfs)	Grate Size
A-12	0.42	Standard	1.00	0.5	6	2.38	4.77	Single
A-11.1	0.36	Standard	1.00	0.5	6	2.38	4.77	Single
A-41	2.54	Standard	1.00	0.75	9	2.92	5.84	Single
A-21	2.72	Standard	1.00	0.8	9.6	3.01	6.03	Single

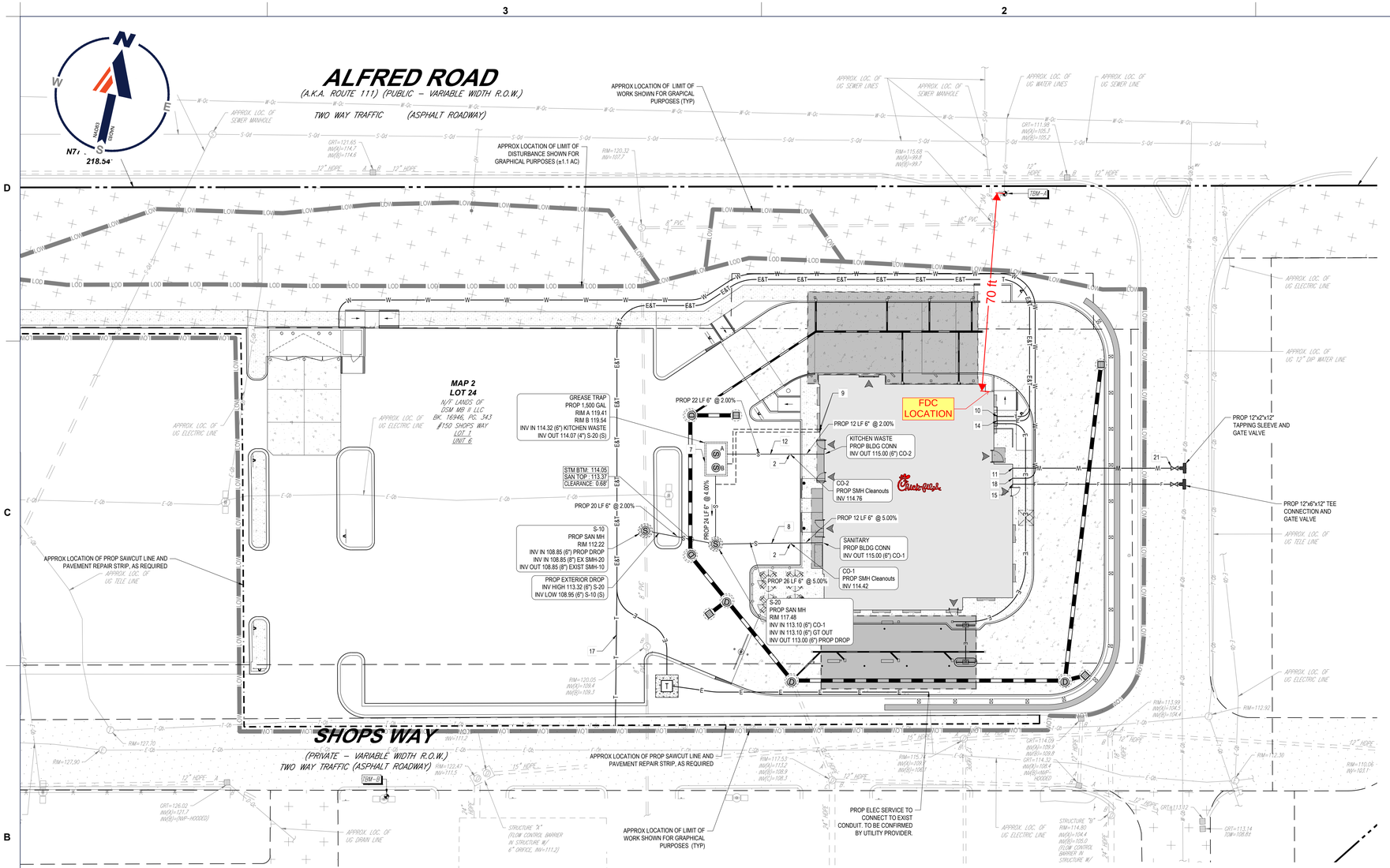
Orifice Equation used to calculate Grate Inlet Capacity

$$Q=C \times A \times (2gh)^{(1/2)} \times f$$

where:
- Q = Grate Capacity in cfs
- C = Orifice Coefficient = 0.6
- A = Free open area of grate in sf
- h = Head over grate in ft
- g = Gravity = 32.2 ft/s2
- f = Clogging Factor = 0.7 (30% clogged)

**Flow to inlet structure from Rational pipe sizing calculations
***Available head is the largest depth that an inlet can be submerged before runoff overtops and flows to another inlet or catchment area

Prepared By:
Bohler Engineering
352 Turnpike Road
Southborough, MA 01772
(508) 480-9900



UTILITY NOTES:

1. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL HAND EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION TO THE CITY OF BIDDEFORD SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. OWNER/DEVELOPER AND ARCHITECT SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.

2. LOCATION OF ALL EXISTING AND PROPOSED UTILITY LOCATIONS ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICES CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR INFIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST POINTS. CROSSINGS WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

3. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES. DISCONNECTIONS SHALL NOT BE CONDUCTED BY CONTRACTOR. ALL STORM DRAIN, WATER, SEWER AND PRODUCT PIPING UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF BIDDEFORD STANDARDS AND SPECIFICATION FOR UTILITY CONSTRUCTION.

4. A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN SANITARY SEWER LINES AND STORM LINES OR WATER LINES. IF THIS MINIMUM CLEARANCE CANNOT BE MAINTAINED, A CONCRETE ENCASEMENT SHALL BE PROVIDED.

5. ANY SEDIMENT CONTROL MEASURES REMOVED FOR THE PURPOSE OF UTILITY CONSTRUCTION SHALL BE REPLACED AT THE END OF THE DAY BY THE UTILITY CONTRACTORS.

6. SANITARY CLEANOUT TOPS TO BE ADJUSTED TO MATCH CROSS-PITCH AND SLOPE OF PROPOSED GRADES. CLEANOUT TOPS TO BE IDENTIFIED AS SANITARY CLEANOUTS, THREADED AND CONTAIN COUNTERSUNK PLUGS.

7. WATER SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA AND BURIED A MINIMUM 48" BELOW GRADE.

8. WATER SERVICE SHALL BE A 1-1/2" INCH TYPE "K" COPPER TUBING. SANITARY SEWER PIPE SHALL BE A SIX (6) INCH PVC SCH 40 AT CONNECTION OF KITCHEN WASTE AND RESTROOM WASTE. SEWER SERVICES TO BE 4 (4) INCH PVC SCH 40 AT CONNECTIONS AT BUILDING. WATER AND SEWER SERVICES SHALL BE COORDINATED WITH THE BUILDING CONTRACTOR FOR HORIZONTAL AND VERTICAL ALIGNMENT AND CONNECTIONS.

9. ALL FILL, COMPACTION AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.

10. SEE ARCHITECTURAL PLANS FOR GREASE TRAP DETAILS.

11. ALL PIPES UNDER PRESSURE SHALL BE CONNECTED WITH WATER TIGHT JOINTS. INSPECTOR SHALL VERIFY MATERIALS AND INSPECT PRESSURE TREATED PIPE PRIOR TO COVERING UP OR PRESSURE TEST PIPE PER COUNTY STANDARDS.

UTILITY PLAN DESIGN NOTES & KEY PLAN

1. THE CONTRACTOR SHALL PROVIDE THE NECESSARY FITTINGS TO CONNECT THE NEW SERVICE LINE EXTENSION TO THE EXISTING SEWER MANHOLE. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION, MATERIAL AND INVERT ELEVATION PRIOR TO INSTALLING ANY SEWER FACILITIES. MINOR ADJUSTMENTS TO THE NEW SERVICE LINE INVERT ELEVATION MAY BE NECESSARY DEPENDING UPON FIELD MEASUREMENTS.

CAUTION/WARNING

THE CONTRACTOR SHALL USE EXTREME CAUTION TO PROPERLY SHEET, SHORE, AND DEWATER EXCAVATION TO COMPLETE THE CONNECTION IN A SAFE MANNER, AND WITHOUT DAMAGE OR SETTLEMENT TO EXISTING FACILITIES ON SHOPPING CENTER DRIVE. PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES TO PREVENT TRAFFIC FROM DRIVING TO CLOSE TO THE EXCAVATIONS AND OTHER RELATED WORK AREAS.

2. INSTALL CLEANOUT. USE TRAFFIC RATED CLEANOUT IN ALL PAVEMENT AREAS AS REQUIRED.

3. 1" WATER METER FOR DOMESTIC WATER SUPPLY

   CONTRACTOR SHALL COORDINATE WITH MAINE WATER FOR INSTALLATION OF WATER SERVICE TAP, WATER METER, AND METER BOX. CONTRACTOR'S BID PRICE SHALL INCLUDE THE COST OF THE WORK PERFORMED BY THE CITY (INCLUDING TAP FEES). TAPS SHALL BE MADE INITIALLY IN CONTRACTOR'S NAME AND TRANSFERRED AT PROJECT COMPLETION.

   DOMESTIC WATER LINE SHALL BE TYPE K COPPER.

4. 1" WATER METER FOR IRRIGATION WATER SUPPLY. ON-SITE IRRIGATION LINES AND MATERIALS SHALL BE INSTALLED BY THE IRRIGATION CONTRACTOR AS INDICATED ON THE IRRIGATION PLAN.

5. 1" BACKFLOW PREVENTER FOR DOMESTIC WATER SERVICE.

   THE CONTRACTOR SHALL INSTALL A BACKFLOW PREVENTER (FEBCO, WATTS, OR APPROVED EQUAL) FOR EACH WATER SERVICE LINE AS INDICATED ON THE DRAWINGS. INSTALLATION SHALL INCLUDE BOX OR VAULT, AS APPLICABLE. THE CONTRACTOR SHALL COORDINATE WITH MAINE WATER FOR INSPECTION, TESTING, AND CERTIFICATION OF ALL BACKFLOW PREVENTORS. ALL BACKFLOW DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE WATER STANDARDS/SPECIFICATIONS. CONTRACTORS BID PRICE SHALL INCLUDE ALL COSTS ASSOCIATED WITH DEVICE INSTALLATION, INSPECTION , TESTING, CERTIFICATION, ETC., TO INCLUDE ANY FEES REQUIRED BY MAINE WATER AND THE CITY OF BIDDEFORD.

6. 1" BACKFLOW PREVENTER FOR IRRIGATION WATER SERVICE. (SEE NOTE #5 ABOVE).

7. GREASE TRAP TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. CONNECT RESTROOM SERVICE LINE DOWNSTREAM OF GREASE TRAP OUTLET SIDE AT INVERT ELEVATION INDICATED. COORDINATE TOP ELEVATION OF GREASE TRAP WITH DRIVEWAY PAVEMENT ELEVATION.

8. 6" PVC SEWER SERVICE LINE AND CLEANOUT FROM RESTROOM FACILITIES TO BE INSTALLED BY SITE UTILITY CONTRACTOR. COORDINATE INSTALLATION WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS. SERVICE LINE SHALL BY-PASS GREASE TRAP AND CONNECT BEYOND THE OUTLET SIDE.

9. 3" VENT LINE TO BE INSTALLED BY SITE UTILITY CONTRACTOR. SEE ARCHITECT PLUMBING PLANS.

10. TELEPHONE SERVICE CONNECTION LOCATION AT BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLANS.

11. 2" DOMESTIC WATER SERVICE LINE CONNECTION LOCATION AT BUILDING. SITE UTILITY CONTRACTOR SHALL INSTALL DOMESTIC WATER SERVICE LINE FROM THE EXISTING WATER MAIN TO THE MAIN BUILDING CUTOFF VALVE . (SEE ARCHITECT PLUMBING PLAN).

12. 6" PVC KITCHEN WASTE LINE. INSTALL CLEANOUT APPROXIMATELY 6' FROM FACE OF BUILDING. COORDINATE WITH BUILDING CONTRACTOR AND ARCHITECTURAL PLUMBING PLANS.

13. GAS SERVICE LINE AND METER INSTALLATION LOCATION. SEE ARCHITECTS PLUMBING PLANS FOR SIZE REQUIREMENTS AND EXACT CONNECTION LOCATION. COORDINATE WITH GAS COMPANY FOR GAS SERVICE LINE INSTALLATION.

14. ELECTRICAL SERVICE LINE CONNECTION AT BUILDING. CONTRACTOR SHALL INSTALL 4" DIAMETER SCHD 40 PVC CONDUIT WITH PULL WIRE FROM EXISTING ELECTRICAL FACILITIES WITHIN THE RIGHT-OF-WAY TO THE TRANSFORMER & ELECTRICAL PULL BOX LOCATED BEHIND THE CHICK-FIL-A SERVICE AREA. COORDINATE CROSSING OF CONDUIT WITH OTHER UTILITIES. CONDUIT SHALL BE BURIED A MINIMUM OF 36" BELOW FINISHED GRADE. ABRUPT BENDS SHALL NOT BE ALLOWED, USE LONG SWEEP ELBOWS AND OTHER NECESSARY FITTINGS TO PROVIDE GRADUAL CHANGES IN DIRECTION. ELECTRIC SERVICE INSTALLATION TO BE COORDINATED WITH LOCAL ELECTRIC COMPANY.

15. 6" DIP WATER LINE FOR SPRINKLER SYSTEM.

16. 6" PVC SCH 40 SANITARY SERVICE LINE.

17. INSTALL 2" SCH 40 PVC CONDUIT WITH PULL WIRE AND PULL BOX FOR TELEPHONE SERVICE LINE INSTALLATION. USE LONG SWEEP RADIUS AT 90° AND 45° BENDS TO AVOID ABRUPT CHANGES IN DIRECTION. COORDINATE WITH TELEPHONE COMPANY FOR SPECIFIC LOCATION OF CONDUIT AT THE EXISTING PEDESTAL. INSTALL 3" SCH 40 PVC CONDUIT WITH PULL WIRE AND PULL BOX FOR INTERNET SERVICE PROVIDER.

18. 3/4" C.W. TO DUMPSTER POST HYDRANT.

19. 1 EACH - 4" DIAMETER, SCHEDULE 40 PVC CONDUIT, TYPICAL. SEE BLANK CONDUIT INSTALLATION NOTE.

20. PROPOSED TRANSFORMER.

21. 1-1/2" CORPORATION STOP.

22. 6" SPRINKLER LINE LOCATION AT BUILDING.

FINISHED GRADING COORDINATION

THE SITE UTILITY CONTRACTOR SHALL COORDINATE THE INSTALLATION OF NEW UTILITIES WITH FINISHED GRADING AND DRAINAGE FACILITIES AS INDICATED ON THE SITE GRADING AND DRAINAGE PLAN. MINOR ADJUSTMENTS TO THE TOP ELEVATION OF NEW UTILITIES MAY BE NECESSARY.

NOTICE:

THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR THE EXACT LOCATION AND DIMENSIONS OF VESTIBULE, EXIT PORCHES, DOORS, RAMPS, SERVICE AREA, BUILDING DIMENSIONS AND THE EXACT LOCATION OF UTILITY CONNECTIONS.

NOTICE: INSTALLATION OF BLANK CONDUIT

BLANK CONDUIT SLEEVES SHALL BE FOUR (4) INCH SCH 40 PVC UNLESS NOTED OTHERWISE. SLEEVES SHALL BE BURIED A MINIMUM OF 24 INCHES BELOW FINISHED GRADE. DEPTH OF BURIAL SHALL BE SPECIFICALLY COORDINATED WITH ALL EXISTING OR PROPOSED UNDERGROUND UTILITIES AND DRAINAGE FACILITIES AT ALL CROSSINGS. CONDUITS SHALL BE PROVIDED WITH REMOVABLE PLUG AT EACH END. MARK EACH END WITH 2" X 4" POST AT EACH END (PAINTED YELLOW).

NOTICE: EXISTING UTILITY LOCATIONS

PRIOR TO EXCAVATION AND INSTALLATION OF ANY UNDERGROUND UTILITY, STORM DRAINAGE FACILITIES, GRADING AND PAVING, AND OTHER RELATED CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITY LOCATING COMPANY. THE CONTRACTOR SHALL ALSO BE REQUIRED TO COORDINATE DIRECTLY (AS NECESSARY) WITH EACH APPLICABLE UTILITY AGENCY FOR APPROPRIATE FIELD LOCATION MARKING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED TO PERFORM THE WORK IN A SAFE MANNER WITHOUT DAMAGE TO EXISTING UTILITIES.

THE CONTRACTOR SHALL VERIFY THE LOCATION, DIAMETER, PIPE MATERIAL AND ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS APPLICABLE, PRIOR TO CONSTRUCTION.

THIS PLAN TO BE UTILIZED FOR UTILITIES PURPOSES ONLY

20 10 5 0 20

SCALE: 1" = 20'

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

BOHLER

352 TURNPIKE ROAD, 3rd FLOOR
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900

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STATE OF MAINE
JOHN F. KUCICH
No. 12553
LICENSED PROFESSIONAL ENGINEER

CHICK-FIL-A

150 SHOPS WAY
BIDDEFORD, ME

FSR#05752

BUILDING TYPE / SIZE: P14-LE_LRG
RELEASE: 24.08

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1a	1/22/25	UPDATED ARCH FOOTPRINT
1b	4/15/25	FINAL APPROVAL / IFP SET

ISSUED FOR PERMIT

CONSULTANT PROJECT #	MAA230431.00
PRINTED FOR	ISSUED FOR PERMIT
DATE	11/08/2024
DRAWN BY	AEH
CHECKED BY	JNF

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SHEET
PLUMBING SITE PLAN

SHEET NUMBER
PS-100

P:\2023\MAA230431.00\CAD\DRAWINGS\PLAN SETS\CIVIL SITE PLANS\P-CIVIL_PROP-MAA230431.00-1B-----3-LAYOUT: PS-100 - PLUMBING SITE PLAN

Outlook

FW: TMP Application - Chick-fil-A Biddeford, ME

From Galbraith, David <David.Galbraith@biddefordmaine.org>

Date Mon 5/19/2025 8:07 AM

To Iriqat, Adi <adi.iriqat@biddefordmaine.org>; Whitten, Nan <Nan.Whitten@Biddefordmaine.org>

FYI

From: Illian, Randy <Randy.Illian@maine.gov>
Sent: Friday, May 16, 2025 1:15 PM
To: jadams <jadams@bowman.com>
Cc: Stephen Siragusa <stephen.siragusa@bowman.com>; Laura Young <lyoung@bowman.com>; Galbraith, David <David.Galbraith@biddefordmaine.org>; Barnes, Eric R. <EBarnes@maineturnpike.com>; Norwood IV, Ralph C. <rnorwood@maineturnpike.com>

Subject: RE: TMP Application - Chick-fil-A Biddeford, ME

Caution:This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

Jason,

We have reviewed the Chick-Fil-A (Biddeford) application materials and have found them incomplete. Please revise the application with the following items and resubmit:

General: Please include the City of Biddeford and the Maine Turnpike in all application submissions and discussions.

Application: The permit level is based upon the peak trip generation for each Peak Hour the Generator, before reductions or credits. Please note that this is a 200+ application

and modify any other application items accordingly.

Notice of Intent to File: The Peak Hour of the Generator for each Peak Hour, before reductions or credits, must be communicated in the Notice of Intent to File.

Site Plan: Include a Site Plan that details the queueing storage to the order board.

Section 1:

B. Include any proposed sidewalk plans, pedestrian mitigation, and the construction status in the submittal (The City of Biddeford should be able to supply the existing concepts, plan, and/or status of these items).

E. Revise Internal Capture reductions to align with the TMP Guidelines: https://www.maine.gov/mdot/t

raffic/ (Internal Capture Guidelines)

Detail ADA compliant pedestrian connections

Include spreadsheets for calculations

Include ADA compliant walking distances between locations

Note: Estimates for internal capture between a proposed development and a qualifying pre-existing development, at a minimum, shall be divided by 2.

E. Include support of Pass-By percentages (for all Peak Hours)

F. Include details for trip distribution assumptions (for all Peak Hours)

G. Include Pass-By trips on the Assignment Diagrams (for all Peak Hours) – at all entrances and exits

Section 4: Applicate must supply documentation showing Title, Right or Interest. This includes a copy of the Lease.

Section 6: Provide the current schedule for the Project

Feel free to reach out via email or phone if you have any questions.

Sincerely,

Randy Illian, P.E.
Southern Region Traffic Engineer
Maine Department of Transportation
Scarborough, ME
Office: (207)885-7041
he / him

From: Jason Adams <jadams@bowman.com>
Sent: Thursday, April 17, 2025 3:21 PM
To: Illian, Randy <Randy.Illian@maine.gov>
Cc: Stephen Siragusa <stephen.siragusa@bowman.com>; Laura Young <lyoung@bowman.com>

Subject: TMP Application - Chick-fil-A Biddeford, ME

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Randy – on behalf of Chick-fil-A, Bowman is submitting the attached Permit Application for a Traffic Movement Permit for a proposed Chick-fil-A restaurant to be located at 150 Shops Way in Biddeford, ME. We met with you in October 2024 to discuss the scope of the Traffic Impact Study completed as part of the project and the project has received approval from the City of Biddeford.

Attached to this email we have provided the TMP Application, a signed Agent Letter, a signed Notice of Intent to File, and a Memo containing our narrative, Traffic Impact Study, Site Plan and other requested attachments.

Could you please let us know if you would like us to mail two hard copies at this time or if you

can look over the electronic version attached here to determine if there is anything additional needed from our project team?

Should you have any questions or need anything else please do not hesitate to contact us.

Thanks,

JASON ADAMS, PE, PTOE (he/him)

New England Regional Manager | **BOWMAN**

20 Winthrop Square, 3rd Floor, Boston, MA 02110

O: 617.556.0020 | D: 857.990.6206

jadams@bowman.com | bowman.com



CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant and included on all preliminary and fin
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have ac
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal informati
4. Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval.
5. Items in **BLUE** are only required for 'Final' approval.

SUBMITTAL REQUIREMENT	
ITEM NUMBER	**DESCRIPTION**
1	**GENERAL PLAN REQUIREMENTS**
A	Drawing specific legends (linetypes, hatches, etc.)
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)
C	North arrows, standard engineering scale viewports, scale bars, dated revision blocks
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)
2	**COVER SHEET**
A	Project Name & Property Address
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)
C	Site Location Map
D	Sheet Set List of Drawings
E	Tax Map and Lot ID
F	Zoning & Shoreland Zone Information
G	Existing Use Description
H	Proposed Use Description
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting
J	Name of Drainage Watershed
K	Within the MS4 Urbanized Area (Yes/No)
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)
M	Within the 100-year Flood Zone (Yes/No)
N	Public Road Proposed (Yes/No)
O	Private Road Proposed (Yes/No)
P	Public Sewer Connection (Yes/No)
Q	Public Storm Drain Connection (Yes/No)
R	Limits of Disturbance in square feet and acres
S	Pervious Land Cover square footage, existing and proposed
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed
U	Building Roof square footage, existing and proposed
V	Assigned Planning Board Number
W	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)
3	**EXISTING CONDITIONS PLAN**
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)
B	Property & Right-of-Way Lines

C	Boundary line information (bearings, distances, etc.)
D	Property pin and monumentation locations
E	Existing easements with proper ownership identified
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)
H	100-year Flood Zone Limits & Elevation
I	Existing contours with adequate contour labelling; minimum 1' contour interval
J	Existing building FFEs annotated
K	Spot elevations for all tie-in locations (curb cuts, property line)
L	Existing buildings & structures
M	Existing pavement areas & number of parking spaces
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)
P	Existing signage and striping
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)
S	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation
U	Location of any borings, drinking wells, and monitoring wells
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**
A	Limits-of-disturbance outlined and acreage annotated
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)
C	100-year Flood Zone Limits
D	Callout existing site features to be demolished/removed/replaced
E	Callout existing utilities to be demolished/removed/abandoned-in-place
F	Hatch existing buildings and pavement to be removed
G	Construction Entrance location(s)
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)
I	Stockpile and staging area(s) identified (with proper perimeter control)
J	Inlet protection location(s)
K	Note requiring contractor to implement dust control measures throughout construction
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing
N	If large development is proposed with an extensive underground stormwater conveyance network, identify how SWM infrastructure and BMPs will be protected during construction and if sediment traps/basins are needed
5	**SITE PLAN/SUBDIVISION PLAN**
A	Partial Site Plans needed for any viewport scale greater than 1"=20'
B	Existing property and right-of-way lines
C	Proposed subdivision lot lines and labels
D	Required Zoning Setbacks shown with dimensions and annotation
E	Bulk requirement summary table (zoning/parking calculations)
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)
G	100-year Flood Zone Limits
H	Proposed building outlines, door entrances and loading docks
I	Proposed building labels
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private
K	Proposed parking and accessible parking locations; annotate parking space counts

L	Proposed signage, parking striping, and traffic striping
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)
O	Proposed landscaping; detailed landscaping design should be shown on separate plans
P	Designated snow storage areas
Q	Proposed dumpster locations and trash removal access
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks
S	Radial dimensions for all curbs, landscaped islands, sidewalks
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data
U	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance
V	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads
W	Planning Board signature block for final recording
6	**GRADING PLAN**
A	Partial Grading Plans needed for any viewport greater than 1"=20'
B	Limits-of-disturbance outlined and acreage annotated
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval
E	Proposed contours with adequate contour labelling; minimum 1' contour interval
F	Detailed grading for all ditches, swales, outfalls, and riprap
G	All proposed contours tie-into existing contours at limits-of-disturbance outline
H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)
J	100-year Flood Zone Limits
K	Proposed spot elevations for all important roadway geometric points (including but not limited to: parking/drive aisles, building corners/entrances, retaining walls, loading docks, EOP/curblines)
L	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points
M	Proposed % slope arrows for all ADA parking spaces and sidewalks
N	Proposed longitudinal % slope arrows for drainage ditch centerlines
O	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas
P	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)
7	**ROAD PROFILES (if public/private road proposed)**
A	Existing surface; dashed and screened
B	Proposed surface; continuous and bold
C	Road design speed must be clearly identified
D	Corresponding centerline stationing and curve data annotation
E	All vertical curves must identify the proposed 'K' values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-35 & 3-37
F	Clear annotation if proposed road will be public or private
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads
8	**UTILITY PLAN**
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)

C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)
F	Proposed storm culverts, outfalls, and riprap locations and sizes
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope
I	Flow directional arrows for storm & sewer pipes
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)
K	All storm drains must be sized to convey the 25-year storm
L	Sewer force main sizes and invert elevations
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W); additional details and hydraulic calculations required for any Public pump station proposed.
N	Locations, sizes, and elevations of any: grease traps, oil-water separators, septic systems, drinking wells
O	Proposed water sizes labelled
9	**UTILITY PROFILES**
A	Utility profiles required for **all** gravity storm drain and sewer pipes proposed: within the right-of-way, within private or public roads, for non-driveway culverts, and for any public infrastructure tie-ins
B	Existing surface; dashed and screened
C	Proposed surface; continuous and bold
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated
10	**DETAILS**
A	Road section detail, including pavement/gravel depths & cross slopes
B	Sidewalk, paver, crosswalk, and any other pavement section details
C	Pavement sawcut & shiplap details
D	Utility trench/backfill detail
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.
F	Signage, striping, and ADA details
G	E&S notes and details
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)
I	Storm outfall & riprap details
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes
K	Pump station, grease trap, oil-water separator, septic, drinking well details
L	Conduit section details
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**
A	As required by ordinance; at a minimum: locations, counts, lighting models, and landscaping species must be identified
B	Landscaping & lighting details
12	**DOCUMENTS/REPORTS/CALCULATIONS**

A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Punchlist/As-Built Inspections post-construction
B	Stormwater Management Report, including: 1. Predevelopment & Post-development Drainage Area Maps, including: a. Subdrainage areas delineated and labeled b. Points of Interest/Analysis shown and labeled c. Hatching for different land cover areas (impervious, pervious, gravel) within each applicable USDA soil boundary d. Time of concentration (Tc) paths & durations e. Four City-standardized stormwater summary tables 2. If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies 3. Sizing calculations for any SWM water quality BMP or detention facility 4. A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: a. Annual maintenance requirements b. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed c. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)
D	A Performance Guarantee Cost Estimate utilizing Planning's template
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified
K	Public sewer pump station sizing calculations and maintenance plan
M	Grease trap sizing calculations
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals

LAST REVISED: 11/26/2024

ıal Site Plan & Subdivision submittals. No checklist is required for sketch submittals.
dequate reasoning to justify their absence.
ion with non-acceptable reasoning will be rejected and required to resubmit.

APPLICANT RESPONSE		
INFORMATION PROVIDED (YES/NO)	**LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED**	**REASON NOT PROVIDED/COMMENT**
Yes	C-200	Sheet C-200 updated to provide hatch legend.
Yes		
Yes	C-200	North Arrow Updated
Yes		
Yes		
Yes	C-000	
Yes	C-000	
Yes	C-000	
Yes	C-000	
Yes	C-000	
Yes	C-200	
Yes	Survey	Updated on sheet C-000
Yes	C-200	Updated on sheet C-000 and sheet C-200 in the zoning table
No	C-000	Updated on sheet C-000
Yes	C-000	Lower Thacker Brook
Yes	C-000	Updated on sheet C-000
Yes	C-000	Adjacent to the property but not within the proposed work area.
No	C-000	Updated on sheet C-000
No	C-200	Updated on sheet C-000
No	C-200	Updated on sheet C-000
Yes	PS-100	Updated on sheet C-000
No	C-301	Updated on sheet C-000
46,500 sf (1.1ac)	C-000	Updated on sheet C-000
5000 sf	C-000	Only within project scope area
41,500 sf	C-000	Only within project scope area
5,189 sf	C-000	Updated on sheet C-000
#2025.07	C-000	Updated on sheet C-000
Yes	Survey	
Yes	Survey	
Yes	Survey	

Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
No		Not shown near project scope area
No		Not shown near project scope area
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	PS-100	Completed. 12" DIP
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	Survey	
Yes	C-302	
No		Not shown near project scope area
No		Not shown near project scope area
Yes	C-100	
Yes	C-100	
Yes	C-100	
Yes	C-302	
Yes	C-302	
Yes	C-302	
Yes	C-302	
Yes	C-302	
No	C-100	Note added to Sheet C-100
Yes	n/a	Not anticipating dewatering activities.
Yes	C-200	
No		Not applicable
No		Not applicable
Yes	C-200	Added to Sheet C-200
Yes	C-200	
No		Not shown near project scope area
No		Not shown near project scope area
Yes	C-200	
Yes	C-200	
Yes	C-200	
Yes	C-200	

Yes	C-200	
Yes	C-200	
Yes	C-200	
Yes	L-100	
No	C-200	Privately managed within the plaza, added to sheet C-200
Yes	C-200	
Yes	C-200	Added to Sheet C-200
Yes	C-200	Added to Sheet C-200
Yes	Survey	
No		Not applicable
No		Not applicable
No	C-200	Added to Sheet C-200
Yes		
Yes	C-300	
Yes	C-300	
Yes	C-300	
Yes	C-300	
Yes	C-300	
Yes	C-300	
Yes	C-300	
No		Not shown near project scope area
No		Not shown near project scope area
	C-300	Added to Sheet C-300
	C-300	Added to Sheet C-300
No		Not applicable
No		Not applicable
No		Not applicable
No		Not applicable
No		Not applicable
No		Not applicable
No		Not applicable
Yes	Survey	
Yes	Survey	

Yes	Survey	
Yes	PS-100	Conduit size in keynote 14 on PS-100
Yes	PS-100	
Yes	PS-100	
Yes	PS-100	Cardinal directions to invert outlets added on PS-100
Yes	C-300/301	
Yes	C-300/301, PS-100	
Yes	PS-100	
	Attachment	Refer to Drainage Memo provided with final
No		Not applicable
Yes	C-500/501	
Yes	C-500/501	
Yes	C-500/501	
Yes	C-500/501	
Yes	C-400	
Yes	C-303	
Yes	C-500/501	
No		Not applicable
No		Not applicable
	C-501	Added to sheet C-501

Yes		
Yes	Attachment	Refer to drainage memo provied.
No		Currently Coordinating with Tom Milligan. Site currently has a sewer connection. The proposed restaurant will have few seats that the former and will decrease flow.
No		To be coordinated
		Existing SLODA #L-22210-26-G-B and #L-22210-26-H-M. A Revision will be required and currently in process.
	Attachment	Refer to Drainage Memo provided with final
		Currently Coordinating with Brian Phinney
		MDOT permit under review

Project Name:
Planning Board # (if available):
Applicant Name/Info:
Submittal #/Type (Prelim/Final):
Submittal Date:

ACCEPTABLE (YES/NO-REVISE & RESUBMIT)
No
Yes
No
Yes
Yes
Yes
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Yes
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Yes
Yes
Yes
No
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Provide at final
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Provide at final
Yes
Provide at final

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT
Chick-fil-A
2025.07
Chick-fil-A
Prelim
1/22/2025

WP REVIEW RESPONSE
2/20/2025 COMMENT
Include all hatches in legend. For example, legend is missing concrete, pavement, building hatch, etc.
North arrow direction on C-200 appears to be slightly off.
Should be stated on cover sheet.
Proposed use description could not be located on C-200 as stated. Should be included on cover sheet.
No waivers requested. This should be stated on cover sheet.
Not in plans or drainage memo. Should be stated on cover sheet.
No response provided. Not in plans or drainage memo. Should be stated on cover sheet.
Should be stated on cover sheet.
Should be stated on cover sheet.
Should be stated on cover sheet.
Should be stated on cover sheet.
Not on cover; contained elsewhere in plan set. Should be stated on cover sheet.
Should be stated on cover sheet.
LOD perimeter is shown on C-302, but acreage not noted on plan. Should be stated on cover sheet.
Should be stated on cover sheet.
Should be stated on cover sheet.
Should be stated on cover sheet.
Assigned Planning Board Number is 2025.07. Should be stated on cover sheet.
Not shown. Should be stated on cover sheet.

N/A
N/A
Label existing water main size, which proposed water is tapping into.
N/A
Acreage not noted
N/A
N/A
Add to plans
Not shown
N/A
N/A
N/A
C-200 appears to show a setback dashed line but it is difficult to see and should be annotated.
N/A
N/A

Show potential snow storage areas to show snow can be sufficiently managed and allow for emergency vehicle access throughout the site
Parking space typical length shown but not width
One of the curbed islands does not show curb radii
N/A
N/A
N/A
Provide at final
Acreage not noted
N/A
N/A
Arrows/slopes not shown
Arrows/slopes not shown
N/A
N/A
N/A
N/A
N/A
N/A
N/A
N/A

Missing S-10 invert in/out for existing pipe connections. Missing electric/telecomm conduit sizes.
Missing cardinal direction
Flow direction clear based on inverts
Storm drains have not been modeled
N/A
N/A
N/A
N/A
N/A
N/A
Provide at final

Additional information needed. See comments in review memo.
Provide in next submittal.
Provide in a later submittal
Confirm whether this is applicable. Provide comment on what prior approvals exist and what permits you are seeking for the redevelopment.
N/A
N/A

PLANNING BOARD STAFF REPORT

TO: Chair Plotkin and Members of the Biddeford Planning Board

FROM: David C.M. Galbraith, Deputy Director/City Planner

DATE: February 8, 2023

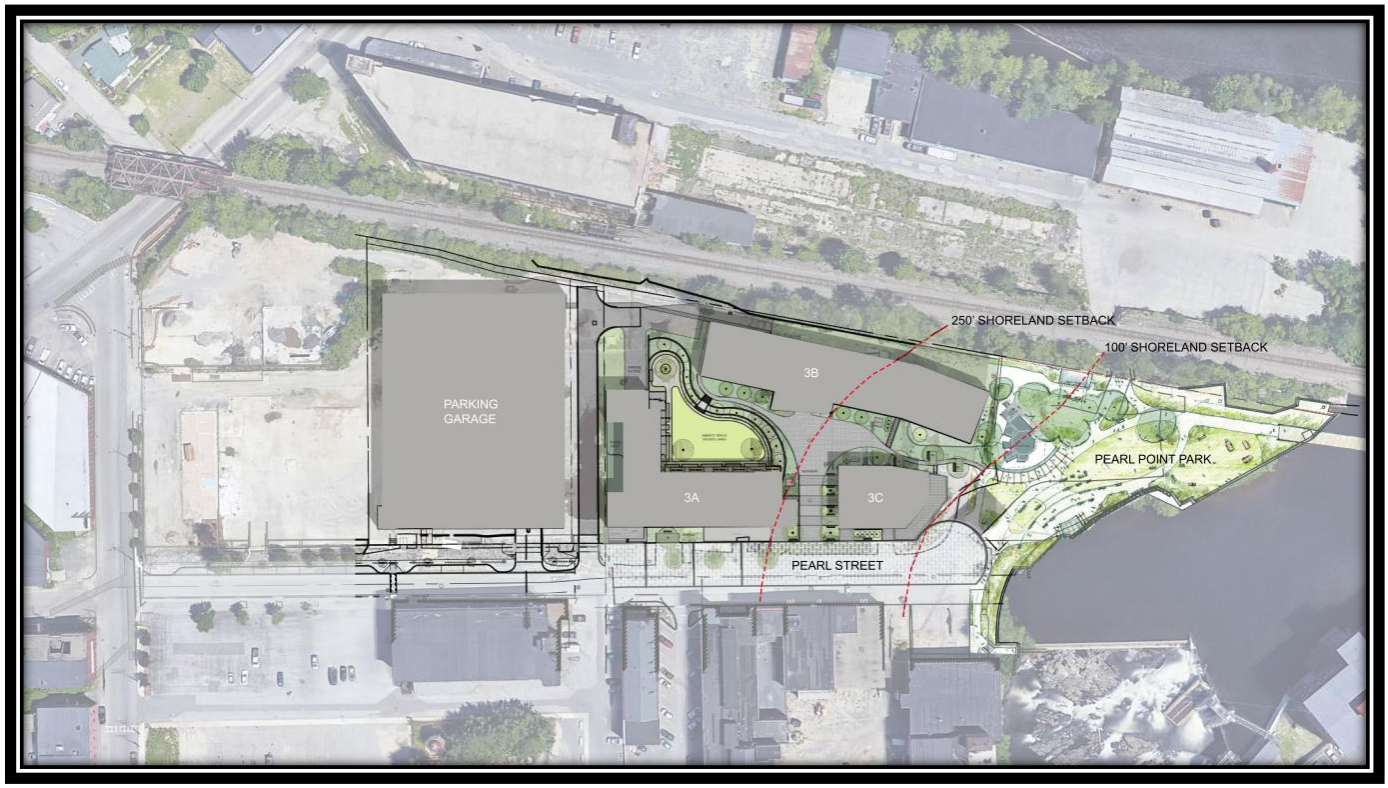
RE: 2024.55 Preliminary Site Plan, and Shoreland Zoning Review for 3 Lincoln, LLC to redevelop the former MERC site at 3 Lincoln Street (Tax Map 71, Lot 2) in the MSRD-3 zone and GD-1 Shoreland Overlay zone.

MEETING DATE: July 16, 2025, at 6:00 PM

---

1. INTRODUCTION

As the Board may recall, on February 15, 2023, the Planning Board granted approval of Case # 2022.02 Final Subdivision, Site Plan, and Shoreland Zoning Review for 3 Lincoln, LLC to redevelop the former MERC site at 3 Lincoln Street (Tax Map 71, Lot 2) in the MSRD-3 zone and GD-1 Shoreland Overlay zone; the subdivision and redevelopment of Lot #3 of the former MERC site. That application proposed to subdivide the former MERC site located at 3 Lincoln Street into four (4) separate lots. Lot 1 is to be located along the corner of Lincoln Street and Pearl Street and will remain undeveloped at this stage. The existing parking garage stands on the new Lot 2. Lot 3, across Pearl Street from The Lofts at Saco Falls, was going to have three (3) buildings constructed on it. Lot 4 is then closest to the Saco River and is being converted to a riverfront park by the City. Below is the approved site plan for the site.

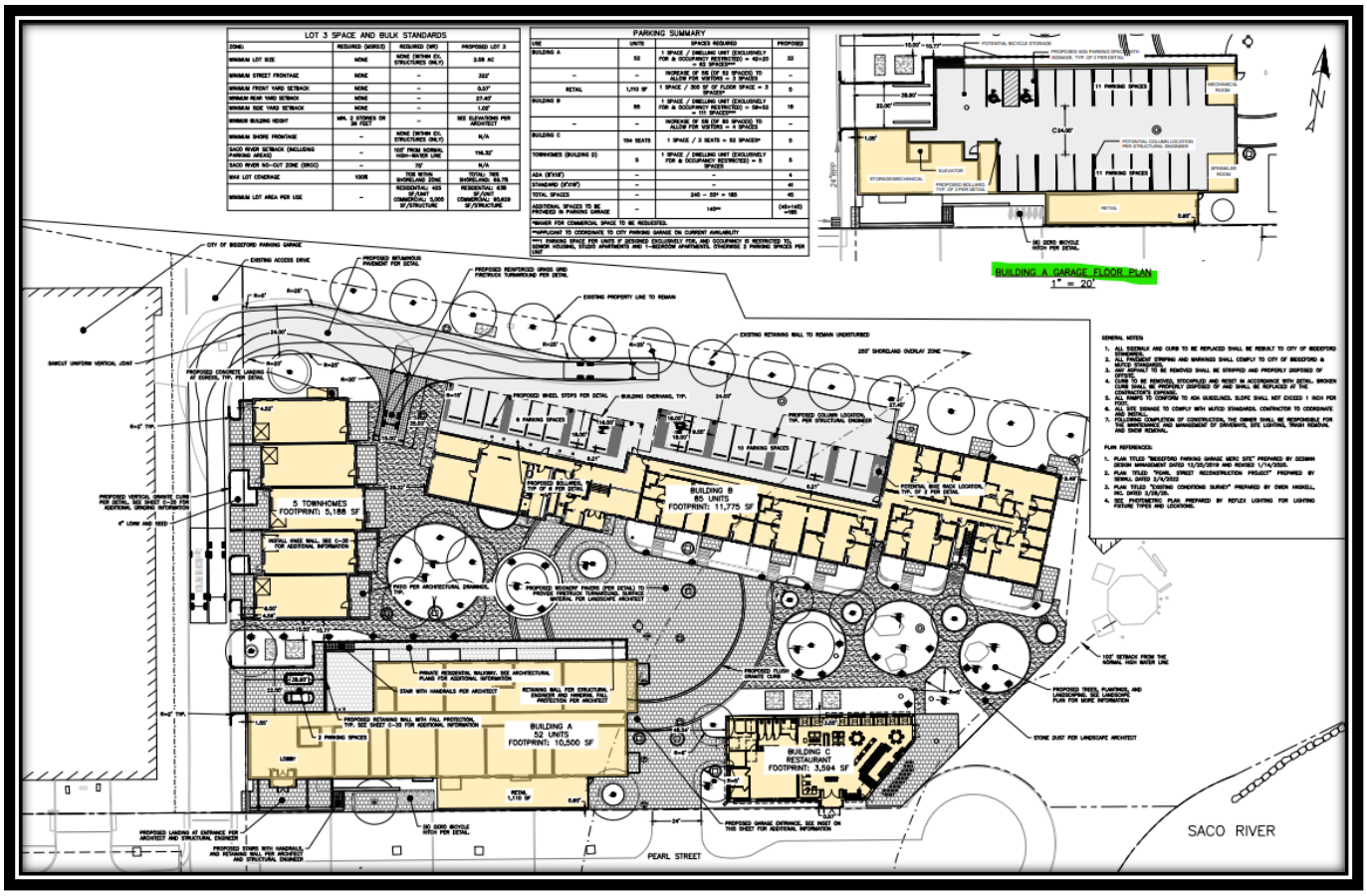


Approved Case # 2022.02 - 3 Lincoln Street redevelopment – Lot 3 - Pearl Street

At that time the proposal included the following:

- Building A, an 85-unit mixed commercial and residential building;
- Building B, a 129-unit residential development, and;
- Building C, a commercial development with proposed restaurant use, totaling approximately 298 seats.

Although the project received Planning Board approval, it was never constructed as the developer (Fathom Properties) modified the development plan, which was reviewed by the City Council. Although the revised plans are similar to the previously approved plans, it was determined by the Staff Review Committee (SRC) that the changes were significant enough to require re-review by Staff and the Planning Board. The project was assigned a new case # (2024.55) and plans were distributed to City Staff and Peer Reviewers. The new application requests Preliminary and Final approval of the project at one hearing, but staff determined that separate reviews for preliminary and final are required. This two part review is being recommended due to the need for Staff comments to be addressed prior to final review.



Case # 2024.55 PROPOSED / REVISED SITE PLAN

This project proposes to amend the previous Major Site Plan and Subdivision Approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes:

- The addition of five (5) townhomes and revises the original programming of Building A from 85 residential units to up to 52 units;

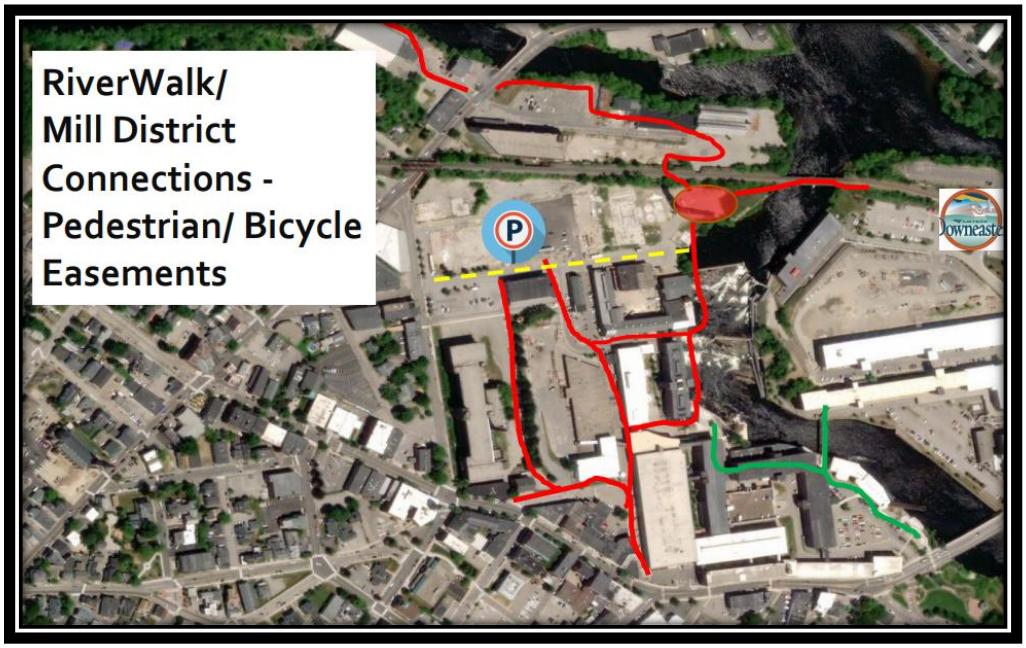
- Building B from 129 residential units to up to 85 units, and;
- Building C will remain as a restaurant with approximately 154 total seats (previously 298 seats permitted).

This application is considered a major subdivision and is also being reviewed as a major site plan, and is subject to local shore land zoning review, as the development site falls within 250 feet of the normal high water line of the Saco River. Aside from the City of Biddeford's local regulatory review, the project is also subject to a Maine DEP Stormwater Permit, and a Maine DOT Traffic Movement Permit (TMP).The development triggers Maine Site Law Review, for which the City of Biddeford has Municipal Capacity Authority.

This project, similar to others in the area, had been on hold until the City was able to adopt the necessary amendments to the Shoreland Zoning Ordinance which have been reviewed and approved by the Saco River Corridor Commission (SRCC) and has now also been adopted by the City. The site is located outside of the 100-year flood zone and the project is consistent in the MSRD 3 zone and triggers permits from the Saco River Corridor Commission, DEP, & MDOT. There is a 3 party review for the traffic movement permit (TMP).

The Lincoln Street subdivision, which runs from Lincoln Street east to the Saco River, is proposed to be divided into four (4) lots. As the Board may recall, Lot 1 was recently subdivided into Lot 1A and Lot 1B. Lot B was further subdivided into Lots B and 1C to accommodate the two (2) 45-unit senior low/moderate income (LMI) housing for Westbrook Development Corporation. Lot 1A will remain vacant at this time but is planned for future mixed use commercial / residential development. Lot 2 contains the City's 640 stall parking garage is located; Lot 3 is seeking approval of the revised development plans.

The central courtyard is being designed to accommodate emergency vehicle access / maneuvering, and the site has travel ways existing on the south (Pearl Street) and west (former Smith Street) which can also be utilized for emergency vehicle access. All of the utilities serving the development of Lot 3 will be placed underground. The project will also include associated parking and landscaped areas which include the integration of internal sidewalks which also connect to the Riverwalk.



Development Area Located East of the City parking Garage Connecting Riverwalk Linkages

2. PROJECT DATA/INFORMATION:

1.	Applicant:	3 Lincoln, LLC 80 Exchange Street, Suite 400 Portland, ME 04101
2.	Owner of Property:	City of Biddeford
.	Agent:	Peter Heil, P.E. Acorn Engineering 500 Washington Ave, Suite #202 Portland, ME 04103
4.	Surveyor:	Owen Haskell
5.	Project Location:	3 Pearl Street
6.	Project Tax Map #/Lot #:	Tax Map 71, Lot 2
7.	Lot Size:	2.08 acres (Lot 3)
8.	Base Zoning:	MSRD-3
9.	Overlay Zoning:	GD-1 Shoreland
10.	Existing Use:	Former MERC Site
11.	Proposed Use:	Mixed-use Residential and Commercial
12.	Approvals Required:	Major Subdivision, Major Site Plan, Shoreland Zone, Site Location (Capacity Review)
13.	Uses in the Vicinity:	City of Biddeford Downtown and Mill District, Mixed-Use
14.	Waivers Needed:	a. Commercial Space Parking Requirements b. Open Space Requirements
18.	Waivers Granted:	a. None
22.	Other Non-City Permits Required:	Maine DEP Stormwater, Maine DOT Traffic Movement Permit (TMP)
23.	LDR Attachment A: Fees Paid:	Yes
25.	**Planning Board Review History - Case # 2022.02:** Sketch Plan Review - February 2, 2022 Preliminary Review Approval – November 2, 2022 Final Plan February 15, 2023 **Planning Board Review History - Case #2024.55** Preliminary Review: July 16, 2025	

3. REVIEW PROCESS:

Per City ordinance, this application is subject to Site Plan Review (Land Development Regulations, Article XI) and Subdivision review and approval (Code of Ordinances, Chapter 66). Subdivision requires a 2-tier approval process beginning with a preliminary plan review and approval and final plan approval. The Planning Board is now considering the preliminary plan submission.

4. STAFF REVIEW:

a. **APPLICATION COMPLETENESS:** The applicant has submitted a complete application, featuring all required elements as specified under Section 66-35 (Required Information for Preliminary Plan Submissions). Staff comments are included within the Board's development packet.

b. **ZONING:** The proposed uses, Commercial, Residential, and Restaurant, are permitted uses within the MSRD-3 Zone, and the proposed Waterfront Renaissance shoreland zone overlay district. Similarly, with respect to applicable dimensional requirements, the project would comply with all applicable requirements, including building height, building setback, frontage, and lot coverage requirements.

c. **REVIEW STANDARDS:** In general, staff found the application to satisfy City subdivision and site plan requirements, though as mentioned above, the City Engineer and our third party civil engineer identified a number of technical plan elements to be addressed prior to the scheduling of a pre-construction meeting.

i. Utility Capacity: The application includes a letter confirming adequate capacity from Maine Water Company, and the City has confirmed the development has adequate sewer capacity. Pearl Street is in the process of being redeveloped by the City of Biddeford, and will include as part of that work, upgrades to subsurface water, sewer, gas, electric and telephone/cable infrastructure to support development in this location.

ii. Maine DEP Stormwater Permit: As part of the permitting for the Pearl Street Garage, the City of Biddeford submitted for and had approved a Maine DEP stormwater permit, due to the amount of new impervious surface. The applicant is seeking to amend this permit to account for new development proposed on Lot 3.

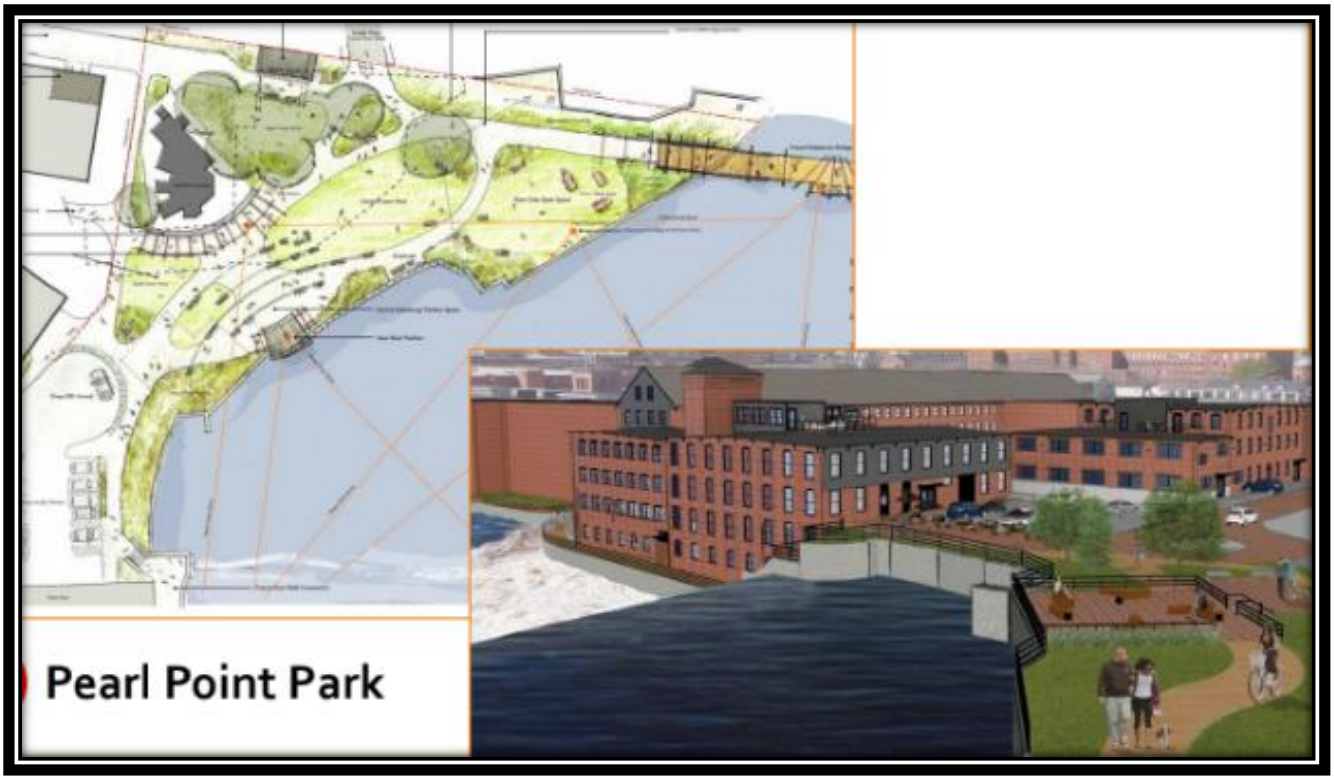
iii. Maine Site Law Review: The City of Biddeford is classified as having capacity to review projects triggering the Maine Site Location of Development Act (SLODA) in areas of the City designated for priority growth as part of the Comprehensive Plan. As clarified in a recent email by Maine DEP, capacity review authority, permits certain municipalities to review projects triggering site location reviews under their local land use regulations (i.e. site plan, subdivision, shoreland zone, etc.), without formal review by the DEP. Noting this, staff and the Planning Board will proceed in its review of this project under applicable local review standards.

iv. Traffic Movement Permit: The applicant has initiated the traffic movement permit (TMP) process with Maine DOT and has held the required Scoping Meeting for the project, which is detailed in the submitted application. Once the Section 7 report is finalized for DOT's consideration, staff have a third party traffic engineer review the report and provide feedback to Maine DOT to be included in the TMP.

v. Off-Street Parking Requirements: The applicant is seeking a parking waiver for the commercial space parking requirements. No justification was provided within the application.

vi. Private Open Space: The site plan ordinance requires that 1,000 square feet of open space be set aside for each residential unit being proposed, which would amount to almost 5 acres. Staff would note that this is an urban development in the heart of downtown

Biddeford, redeveloping a geographically constrained site. As part of the joint development agreement between the City and the applicant, the applicant has agreed to the establishment of a public access easement, which would allow the Riverwalk to traverse the property. Further, the development site will be proximate to the newly proposed Pearl Point Park, proposed at the end of Pearl Street, which will be directly connected to the Riverwalk Trail. Noting this, staff would be supportive of the Planning Board granting a waiver of the open space requirement**.**



Pearl Point Park / Riverwalk Connection to and Through Project Site

5. SAMPLE MOTIONS

A. *Motion to Approve: I motion to APPROVE Case # 2024.55 Preliminary Site Plan, Subdivision and Shoreland Zoning Review for 3 Lincoln, LLC to redevelop the former MERC site at 3 Lincoln Street (Tax Map 71, Lot 2) in the MSRD-3 zone and GD-1 Shoreland Overlay zone as presented.*

B. *Motion to Deny I motion to DENY Case # 2024.55 Preliminary Site Plan, Subdivision and Shoreland Zoning Review for 3 Lincoln, LLC to redevelop the former MERC site at 3 Lincoln Street (Tax Map 71, Lot 2) in the MSRD-3 zone and GD-1 Shoreland Overlay zone, for the following reasons:*

1) _____.
2) _____.
3) _____.

C. *Motion to Table: I motion to TABLE the Case # 2024.55 Preliminary Site Plan, Subdivision and Shoreland Zoning Review for 3 Lincoln, LLC to redevelop the former MERC site at 3 Lincoln Street (Tax Map 71, Lot 2) in the MSRD-3 zone and GD-1 Shoreland Overlay zone, for the following reasons:*

1) _____.
2) _____.
3) _____.

David C.M. Galbraith
Deputy Director/City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
David.Galbraith@biddefordmaine.org

ACORN ENGINEERING, INC

FINAL SITE PLAN & SUBDIVISION / SITE LOCATION OF DEVELOPMENT AMENDMENT

PEARL STREET (LOT 3) REDEVELOPMENT

CITY OF BIDDEFORD, ME





Prepared By:

ACORN ENGINEERING, INC.

For:

3 LINCOLN, LLC.

JUNE, 2025

A C O R N Engineering, Inc. • www.acorn-engineering.com
207-775-2655 • PO Box 3372 • Portland • Maine • 04104

ACORN ENGINEERING, INC.

Planning Board & Planning Department
Attn: Mr. David Galbraith
City of Biddeford, Maine
205 Main Street
Biddeford, ME 04005

June 11, 2025

Subject: Subdivision, Site Plan, and MDEP Site Law Amendment
Redevelopment of Pearl Street Lot 3, Biddeford Maine

Members of the Board & Mr. Galbraith:

On behalf of 3 Lincoln, LLC, we are pleased to submit the accompanying package of Final Subdivision, Site Plan, and Site Location of Development Amendment submission materials related to the proposed redevelopment 3 Lincoln Street, (Pearl Street, Lot 3) in Biddeford, Maine. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), and the Waterfront Renaissance (WR) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision Approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of Building A from 85 residential units to up to 52 units, Building B from 129 residential units to up to 85 units, and Building C will remain as a restaurant with approximately 154 total seats (previously 298 seats permitted). Additionally, under the City's Municipal Capacity Authority to review Site Location of Development permit applications, the applicant requests review of the previously issued Site Law permit for the proposed amendments.

Overall, this project aims to provide housing to a much-needed housing stock and build on the developing culture of Pearl Street through the addition of mixed-use developments, including residential and commercial use. The site will be enhanced by continuing the redevelopment of the old MERC facility, increasing green space and providing a connectivity to the future river front park. The team's vision for this site is to foster a community-based space for living adjacent to the scenic river. One of many redevelopments within the Mill district, this project will further increase the activity within the City's flourishing downtown.

We would respectively request the Final Site Plan/Subdivision/Site Law Application be placed on a July Planning Board meeting. If you have any questions regarding these materials or the completeness of the application materials, please do not hesitate to contact us.

Sincerely,

Peter Heil P.E.
Senior Project Manager
Acorn Engineering, Inc.

Table of Contents

Site Location of Development Application Materials

Section 1: Development Description
Section 2: Right, Title or Interest
Section 3: Financial Capacity
Section 4: Technical Capacity
Section 5: Noise
Section 6: Visual Quality and Scenic Character
Section 7: Wildlife and Fisheries
Section 8: Historic Sites
Section 9: Unusual Natural Areas
Section 10: Buffers
Section 11: Soils
Section 12: Stormwater Management
Section 13: Urban Impaired Stream Submissions
Section 14: Basic Standards Submissions
Section 15: Groundwater
Section 16: Water Supply
Section 17: Wastewater Disposal
Section 18: Solid Waste
Section 19: Flooding
Section 20: Blasting
Section 21: Air Emissions
Section 22: Odors
Section 23: Water Vapor
Section 24: Sunlight
Section 25: Notices

Supplemental Requirements for Wind Energy Developments are not applicable for the Redevelopment of 3 Lincoln Street (Lot 3) in Biddeford, Maine.

City Final Site Plan Amendment Materials

Section 26: Maine Tribe/Nations Correspondence
Section 27: Declaration of Easements, Covenants, And Restrictions
Section 28: Traffic Overview
Section 29: Utility Summary
Section 30: Safety Letter of Approval Requests
Section 31: Lighting
Section 32: Photographs
Section 33: Waivers

Attachment A: Civil Site Plan Set – By Acorn Engineering
Attachment B: Photometric Plan – By Reflex Lighting
Attachment C: Architectural Plans for Building A, B, C, and D.
Attachment D: Landscape Plans by Soren DeNiord Design Studio

Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-3901

FOR DEP USE **FORM A PAGE 1**
ATS # _____
L-_____
Total Fees: _____
Date: Received _____

****

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.SA. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)	☐ **20 acre development** ☐ **Planning Permit** ☐ **Metallic Mining**	☐ **Marine Oil Terminal** ☐ **Structure** ☐ **Subdivision**	■ **Major Amendment** ☐ **Minor Amendment**

1. Name of Applicant:	3 Lincoln, LLC Marieke Thorman	**6. Name of Agent (if applicable):**	Acorn Engineering, Inc Peter F. Heil, PE
2. Applicant's Mailing Address:	80 Exchange Street, Suite 400, Portland, ME	**7. Agent's Mailing Address:**	PO Box 3372, Portland, Maine 04104
3. Applicant's Daytime Phone #:	207-317-2818	**8. Agent's Daytime Phone # :**	207-775-2655
4. Applicant's Fax # (if available):		**9. Agent's Fax # (if available):**	
5. Applicant's *e-mail address* (REQUIRED -license will be sent via: e-mail):	Mthromann@fathomcompanies.com	**10. Agent's *e-mail address* (REQUIRED - license will be sent via e-mail):**	Pheil@acorn-engineering.com

PROJECT INFORMATION

11. Name of Development:	3 Lincoln Street, Lot 3, Biddeford, ME						
12. Map and Lot #'s:	**Map #:** 71	**Lot #:** 2	**13. Deed Reference #'s:**		**Book #:**		**Page #:**
14. Location of Project City/Town:	Biddeford		**15. County:**	York	**16. UTM Northing**	43.49612	**17. UTM Easting**	-70.454125
18. Brief Description of Project including total parcel size:	The project proposes to subdivide the larger 3 Lincoln Street parcel into four (4) separate lots and construct four (4) buildings on Lot 3 covering a total of 2.08 acres						

19. Type of Direct Watershed: (Check all that apply)

☐ Lake not most at risk ■ River, stream or brook ☐ Coastal wetland
☐ Lake most at risk ☐ Urban impaired stream ☐ Wellhead or public water
☐ Lake most at risk, severely blooming ☐ Freshwater wetland

20. Name of Waterbody Project Site drains to:	Saco River		
21. Amount of Developed Area:	Total acres: 2.08	Existing Developed area: ~~2.08~~ acres	New Developed area: ___acres
22. Amount of Impervious Area:	Total acres: 1.58	Existing Impervious areas ~~1.95~~ acres	New Impervious area: ___acres

23. Development started prior to obtaining a license?:	☐ **Yes** ■ **No**	
24. .Development or any portion of the site subject to enforcement action?	☐ **Yes** ■ **No**	**If yes**, name of enforcement staff involved?
25. Common scheme of development?:	☐ **Yes** ■ **No**	**26. Title, Right or Interest:** ☐ **own** ☐ **lease** ■ **purchase option** ☐ **written agreement**
27. Natural Resources Protection Act permit required?:	☐ **Yes** ■ **No**	**If yes:** ☐ **PBR** ☐ **Tier 1** ☐ **Tier 2** ☐ **Full Permit**
28. Existing DEP Permit number (if applicable):	L-10282-NJ-A-N, L-10282-05-A-N	
29. Names of DEP staff person(s) present at the pre-application meeting:	Christine Woodruff	
30. Does agent have an interest in project? If yes, what is the interest?	☐ **Yes** ■ **No**	

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

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

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

CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the electronic address located on the front page of this application (see #5 for the applicant and #10 for the agent)"..

Signed: _____ **Title** VP of Development **Date:** 6/9/25

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** _____ **Date:** 6/9/25

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

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

Signature: _____

Name (print): Peter F. Heil, PE

Date: 5/24/25

Re/Cert/Lic No.: _____

Engineer 15318

Geologist _____

Soil Scientist _____

Land Surveyor _____

Site Evaluator _____

Active Member of the Maine Bar _____

Professional Landscape Architect _____

Other _____

FORM D

SUBMISSIONS CHECKLIST

If a provision is not applicable, put "NA"

Section 1. Development description

A. Narrative

x 1. Objectives and details

x 2. Existing facilities (with dates of construction)

B. Topographic map

x 1. Location of development boundaries

x 2. Quadrangle name

C. Construction plan

x 1. Outline of construction sequence (major aspects)

x 2. Dates

D. Drawings

x 1. Development facilities

x a. Location, function and ground area

n/a b. Length/cross-sections for roads

x 2. Site work (nature and extent)

x 3. Existing facilities (location, function ground area and floor area)

4. Topography

x a. Pre- and post-development (contours 2 ft or less)

x b. Previous construction, facilities and lot lines

x **Section 2. Title, right or interest** (copy of document)

Section 3. Financial capacity

x A. Estimated costs

B. Financing

x 1. Letter of commitment to fund

2. Self-financing

____ a. Annual report

____ b. Bank statement

3. Other

____ a. Cash equity commitment

____ b. Financial plan

____ c. Letter

____ 4. Affordable housing information

Section 4. Technical ability (description)

x A. Prior experience (statement)

x B. Personnel (documents)

Section 5. Noise

x A. Developments producing a minor noise impact (statement)

x 1. Residential developments

____ 2. Certain non-residential subdivisions

____ 3. Schools and hospitals

x 4. Other developments

x a. Type, source and location of noise

x b. Uses, zoning and plans

x c. Protected locations

x d. Minor nature of impact

x e. Demonstration
n/a B. Developments producing a major noise impact (full noise study)
1. Baseline
a. Uses, zoning and plans
b. Protected locations
c. Quiet area
2. Noise generated by the development
a. Type, source and location of noise
b. Sound levels
c. Control measures
d. Comparison with regulatory limits
e. Comparison with local limits

x **Section 6. Visual quality and scenic character**(narrative, description, visual impact analysis)

x **Section 7. Wildlife and fisheries** (narrative)

x **Section 8. Historic sites** (narrative)

x **Section 9. Unusual natural areas** (narrative)

Section 10. Buffers
x A. Site plan and narrative

Section 11. Soils
A. Soil survey map and report
1. Soil investigation narrative
2. Soil survey map
x B. Soil survey intensity level by development type
1. Class A (High Intensity) Soil Survey
2. Class B (High Intensity) Soil Survey
3. Class C (Medium High-Intensity) Soil Survey
x 4. Class D (Medium Intensity) Soil Survey
x C. Geotechnical Investigation
D. Hydric soils mapping

Section 12. Stormwater management
A. Narrative
x 1. Development location
x 2. Surface water on or abutting the site
x 3. Downstream ponds and lakes
x 4. General topography
n/a 5. Flooding
n/a 6. Alterations to natural drainage ways
x 7. Alterations to land cover
x 8. Modeling assumptions
9. Basic standard
x 10. Flooding standard
x 11. General standard
x 12. Parcel size
x 13. Developed area
x 14. Disturbed area
x 15. Impervious area
B. Maps
x 1. U.S.G.S. map with site boundaries
x 2. S.C.S. soils map with site boundaries
C. Drainage Plans (a pre-development plan and a post-development plan)

x 1. Contours
x 2. Plan elements
x 3. Land cover types and boundaries
x 4. Soil group boundaries
___ 5. Stormwater quantity subwatershed boundaries
___ 6. Stormwater quality subwatershed boundaries
___ 7. Watershed analysis points
___ 8. Hydrologic flow lines (w/flow types and flow lengths labeled)
___ 9. Runoff storage areas
x 10. Roads and drives
x 11. Buildings, parking lots, and other facilities
x 12. Drainage system layout for storm drains, catch basins, and culverts
___ 13. Natural and man-made open drainage channels
n/a 14. Wetlands
n/a 15. Flooded areas
n/a 16. Benchmark
x 17. Stormwater detention, retention, and infiltration facilities
x 18. Stormwater treatment facilities
x 19. Drainage easements
n/a 20. Identify reaches, ponds, and subwatersheds matching stormwater model
n/a 21. Buffers

n/a D. Runoff analysis (pre-development and post development)
___ 1. Curve number computations
___ 2. Time of concentration calculations
___ 3. Travel time calculations
___ 4. Peak discharge calculations
___ 5. Reservoir routing calculations

n/a E. Flooding Standard
___ 1. Variance submissions (if applicable)
___ a. Submissions for discharge to the ocean, great pond, or major river
___ i. Map
___ ii. Drainage plan
___ iii. Drainage system design
___ iv. Outfall design
___ v. Easements
___ b. Insignificant increase
___ i. Downstream impacts
___
___ c. Submissions for discharge to a public stormwater system
___ i. Letter of permission
___ ii. Proof of capacity
___ ii. Outfall analysis and design (pictures)
___ 2. Sizing of storm drains and culverts
___ 3. Stormwater ponds and basins
___ a. Impoundment sizing calculations
___ b. Inlet calculations
___ c. Outlet calculations
___ d. Emergency spillway calculations
___ e. Subsurface investigation report
___ f. Embankment specifications
___ g. Embankment seepage controls
___ h. Outlet seepage controls
___ i. Detail sheet
___ j. Basin cross sections
___ k. Basin plan sheet
___ 4. Infiltration systems
___ a. Well locations map
___ b. Sand and gravel aquifer map
___ c. Subsurface investigation report with test pit or boring logs

d. Permeability analysis
e. Infiltration structure design
f. Pollutant generation and transport analysis
g. Monitoring and operations plan
i. Locations of storage points of potential contaminants
ii. Locations of observation wells and infiltration monitoring plan
iii. Groundwater quality monitoring plan

5. Drainage easement declarations.

n/a F. Stormwater quality treatment plan peak discharge calculations

1. Basic stabilization plan
a. Ditches, swales, and other open channel stabilization
b. Culvert and storm-drain outfall stabilization
c. Earthen slope and embankment stabilization
d. Disturbed area stabilization
e. Gravel roads and drives stabilization

x 2. General Standard
a. Calculations for sizing BMP
b. Impervious area calculation
c. Developed area calculation
d. Summary spreadsheet of calculations

n/a 3. Phosphorus control plan
a. Calculations for the site's allowable phosphorus export
b. Calculations for determining the developed site's phosphorus export
c. Calculations for determining any phosphorus compensation fees

n/a 4. Offset Credits
a. Urban impaired stream
Offset credit calculation
b. Phosphorus credit determination
i. Location map
ii. Scaled plan
iii. Title and right
iv. Demolition plan
v. Vegetation plan
vi. Offset credit calculation
vii. Calculation for the new allowable export

n/a 5. Runoff treatment measures
a. structural measures
i. Design drawings and specifications
ii. Design calculations
iii. Maintenance plan
iv. TSS removal or phosphorus treatment factor determinations
v. Stabilization plan
b. Vegetated buffers
i. Soil survey
ii. Buffer plan
iii. Turnout and level spreader designs
iv. Deed restrictions

n/a 6. Control plan for thermal impacts to coldwater fisheries

n/a 7. Control plan for other pollutants

x 8. Engineering inspection of stormwater management facilities

x G. Maintenance of common facilities or property

1. Components of the maintenance plan
A. Maintenance of facilities by owner or operator
1. Site owner or operator (name legally responsible party)
2. Contact person responsible for maintenance
3. Transfer mechanism

4. List of facilities to be maintained
5. List of inspection and maintenance tasks for each facility
6. Identifications of any deed covenants, easements, or restrictions
7. Sample maintenance log
8. Copies of any third-party maintenance contracts

B. Maintenance of facilities by homeowner's association
1. Incorporation documents for the association
2. Membership criteria
3. Association officer responsible for maintenance
4. Establishment of fee assessment for maintenance work
5. Establishment of lien system
6. Reference to department order(s) in association charter
7. Transfer mechanism from developer to association
8. List of facilities to be maintained
9. Identification of any deed covenants, easements, or restrictions
10. Renewal of covenants and leases
11. List of inspection and maintenance tasks for each facility
12. Sample maintenance log
13. Copies of any third-party maintenance contracts

C. Maintenance of facilities by municipality or municipal district
1. Identification of the municipal department or utility district
2. Contact person responsible for maintenance
3. Evidence of acceptance of maintenance responsibility
4. Transfer mechanism from developer
5. List of facilities to be maintained
6. List of inspection and maintenance tasks for each facility
7. Identifications of any deed covenants, easements, or restrictions
8. Sample maintenance log

x 2. General inspection and maintenance requirements

a. Drainage easements

x b. Ditches, culverts, and catch-basin systems

x c. Roadways and parking surfaces

d. Stormwater detention and retention facilities
1. Embankment inspection and maintenance
2. Outlet inspection and clean-out
3. Spillway maintenance
4. Sediment removal and disposal

e. Stormwater infiltration facilities
1. Sediment protection plan
2. Infiltration rehabilitation plan
3. Sediment removal and disposal
4. Groundwater monitoring plan

f. Proprietary treatment devices

g. Buffers

h. Other practices and measures

Section 13. Urban Impaired Stream Submissions

n/a 1. Off-site credits

n/a 2. Compensation fees (Urban Impaired Stream/Phosphorus)

n/a 3. Development impacts

Section 14. Basic Standards

x A. Narrative

x 1. Soil types

x 2. Existing erosion problems

x 3. Critical areas

x 4. Protected natural resources

x 5. Erosion control measures

x 6. Site stabilization
x B. Implementation schedule
x C. Erosion and sediment control plan
x 1. Pre-development and post-development contours
x 2. Plan scale and elements
x 3. Land cover types and boundaries
x 4. Existing erosion problems
x 5. Critical areas
x 6. Protected natural resources
x 7. Locations (general)
x 8. Locations of controls
x 9. Disturbed areas
x 10. Stabilized construction entrance
x D. Details and specifications (for both temporary and permanent measures)
_____ E. Design calculations
x F. Stabilization plan
x 1. Temporary seeding
x 2. Permanent seeding
x 3. Sodding
x 4. Temporary mulching
x 5. Permanent mulching
x G. Winter construction plan
x 1. Dormant seeding
x 2. Winter mulching
x H. Third-party inspections
x 1. Inspector's name, address, and telephone number
x 2. Inspector's qualifications
_____ 3. Inspection schedule
_____ 4. Contractor contact
_____ 5. Reporting protocol

Section 15. Groundwater

x A. Narrative
_____ 1. Location and maps
_____ 2. Quantity
_____ 3. Sources
_____ 4. Measures to prevent degradation
x B. Groundwater protection plan
n/a C. Monitoring plan
_____ 1. Monitoring points
_____ 2. Monitoring frequency
_____ 3. Background conditions
_____ 4. Monitoring parameters
_____ 5. Personnel qualifications
_____ 6. Proof of training
_____ 7. Equipment and methods
_____ 8. Quality assurance/quality control
_____ 9. Reporting requirements
_____ 10. Remedial action plan
n/a D. Monitoring well installation report
_____ 1. Well location map
_____ 2. Elevation data
_____ 3. Well installation data
_____ 4. Well construction details
_____ 5. Borehole logs
_____ 6. Summary of depth measurements
_____ 7. Characteristics of subsurface strata
_____ 8. Well installation contract

____ 9. Schematic cross-sections
____ 10. Monitoring point summary table
____ 11. Protective casing
____ 12. On-site well identification

Section 16. Water supply

x A. Water supply method
____ 1. Individual wells (evidence of sufficient/healthful supply)
____ a. Support of findings by well drillers
____ b. Support of findings by geologist
____ 2. Common well(s) (reports)
____ a. Hydrogeology report
____ b. Engineering report
____ c. Well installation report
____ d. Long-term safe yield and zone of influence determination
____ e. Public water supply
____ i. Proposed well or wells
____ ii. Existing well or wells
____ iii. Water quality analysis
____ 3. Well construction in shallow-to-bedrock areas
____ 4. Additional information
x 5. Off-site utility company or public agency
____ 6. Other sources
n/a B. Subsurface wastewater disposal systems (locations of systems and wells)
x C. Total usage (statement re: total anticipated water usage)

Section 17. Wastewater disposal

n/a A. On-site subsurface wastewater disposal systems (investigation results)
____ 1. Site plan
2. Soil conditions summary table
____ 3. Logs of subsurface explorations
4. Additional test pits, borings or probes
____ a. Soil conditions A
____ b. Soils with Profiles 8 and 9 parent material
____ c. Soil conditions D
____ d. Disposal field length 60 feet or greater
____ 5. 3-bedroom design
____ 6. Larger disposal systems
a. System design details
____ b. Plan view
____ c. Cross sections
____ d. Test pit data
____ e. Mounding analysis
n/a B. Nitrate-nitrogen impact assessment
____ 1. When required
____ a. Exempted____
i. Conventional systems meeting certain setbacks
____ ii. Denitrification systems
____ b. Special conditions and other exemptions
____ 2. Assumptions
____ a. Initial concentration
____ b. Background concentration
____ c. Contribution from development
____ d. Mixing and dilution
____ e. Severe-drought scenario
____ f. Wastewater flow to subsurface wastewater disposal fields

n/a 3. Assessment report minimum requirements
_____ a. Narrative and calculations
_____ b. Site plan
_____ i. Well locations
_____ ii. 10 mg/l and 8 mg/l isocons
_____ iii. Groundwater contours and groundwater flow divides
_____ c. References
n/a 4. Denitrification systems
_____ a. Design plans and specifications
_____ b. Installation information
_____ c. Monitoring plan
_____ d. Maintenance
_____ e. Backup system
x D. Municipal facility or utility company letter
n/a E. Storage or treatment lagoons

_____ **Section 18. Solid waste** (list: type, quantity, method of collection and location)
x A. Commercial solid waste facility (final disposal location)
n/a B. Off-site disposal of construction/demolition debris (final disposal location)
C. On-site disposal of woodwaste/land clearing debris
_____ 1. Applicability of rules (evidence re: applicability of rules)
2. Burning of wood wastes
_____ a. Delineation on site plan
_____ b. Plans for handling unburned woodwaste and woodash
_____ c. Evidence of capacity to accept waste (approved facility)
_____ d. Usage of materials
_____ e. Data on mixing ratios and application rates
n/a D. Special or Hazardous Waste

Section 19. Flooding
x A. Explanation of flooding impact
x B. Site plan showing 100-year flood elevation
n/a C. Hydrology analysis
x D. FEMA flood zone map with site boundaries

Section 20. Blasting
n/a A. Site Plan or map
n/a B. Report
1. Assessment
2. Blasting plan

Section 21. Air emissions (narrative and summary)
n/a A. Point and non-point sources identified
n/a B. Emission components (point sources)

Section 22. Odors
x A. Identification of nature/source
x B. Estimate of areas affected
n/a C. Methods of control)

x **Section 23. Water vapor** (narrative)

x **Section 24. Sunlight** (statement and drawing, if required)

Section 25. Notices
x A. Evidence that notice sent
x B. List of abutters for purposes of notice

Supplemental requirements for Wind Energy Developments only:

Section 26. Shadow flicker

n/a A. A copy of the Windpro Analysis and associated narrative

Section 27. Public Safety

n/a A. Design safety certifications or other documents attesting to the safety of the wind turbine equipment.
n/a B. Evidence pertaining to overspeed controls
n/a C. Site plan documenting safety setbacks zones for each wind turbine
n/a D. Other documents as necessary to demonstrate safety considerations

Section 28. Tangible Benefits

n/a A. Narrative demonstration of tangible benefits

Section 29. Decommissioning

n/a A. Description of implementation trigger for decommissioning
n/a B. Description of extent of decommissioning
n/a C. Itemization of total cost to complete decommissioning
n/a D. Demonstration of financial assurance for completeness of decommissioning plan

Section 30. Generating Facility-visual Quality and Scenic Character

n/a A. (narrative, description, visual impact analysis)

City of Biddeford – Planning Department
Planning Board Application
P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

Type of Application:

▪ Shoreland Zoning Permit ▪ Site Plan Review ☐ Extraction
☐ Conditional Use Permit ▪ Subdivision ☐ Private Way
☐ Other: _____

Applicant Information:

Name: 3 Lincoln, LLC - Marieke Thormann
Mailing Address: 80 Exchange Street, Suite 400, Portland, ME 04101
Telephone: 207-317-2818
Email: mthormann@fathomcompanies.com

What is your legal interest in the property?

☐ Owner ▪ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: City of Biddeford
Mailing Address: 205 Main Street, Biddeford, Maine 04005
Telephone: 207-571-0700
Email: _____

Agent's Information:

Name: Acorn Engineering, Inc - Peter F. Heil, PE, CPESC
Mailing Address: 16 Middle Street Suite #302, Portland, ME, 04101
Telephone: 207 - 775 - 2655
Email: Pheil@acorn-engineering.com

Engineer/Surveyor's Information:

Name: Acorn Engineering / Owen Haskell
Mailing Address: See above / 390 U.S. Rt 1. Unit #10 Falmouth, ME, 04105
Telephone: See above/ 207-774-0424
Email: See above / rloubier@owenhaskell.com

Project Location and Lot Information:

Street Address: Pearl Street, Biddeford, ME Drainage Watershed: Saco River
Tax Map: 71 Lot: 2
Current Zoning: MSRD3 Shoreland Zoning: Yes
Size of Lot: 2.03 (lot 3) (▪)acres (☐)s.f. Lot Frontage: 324' (Pearl Street)
Existing Use of Property: The existing lot is the location of the former MERC facility, which has been demolished. The existing lot is currently vacant.

Property currently serviced by:

▪ City Road ▪ Public Sewer ▪ Public Water ☐ Public Trash
☐ Private Road ☐ Septic System ☐ Private Well ☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

▪ Flat (0-3% slope) ☐ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? ☐ (Yes) ▪ (No) if yes attach information
Is the project within the 100-year floodplain? ☐ (Yes) ▪ (No) if yes attach information
Do you plan to bring fill onto the lot? ☐ (Yes) ▪ (No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

The project proposes to amend the previous major site plan and subdivision approval (2022.02) programming from three total buidlings on lot 3 to four total buildings. The amendment includes the addition of five townhomes and revises the original programming of building A from 85 to 52 units, building B from 129 to 85 units, building C is proposed to be a restaurant with 154 seats.

Property to be Serviced by:

▪ City Road ▪ Public Sewer ▪ Public Water ☐ Public Trash
☐ Private Road ☐ Septic System ☐ Private Well ▪ Private Hauler

Limits of Disturbance: 90,329 SF (☐)acres (☐)s.f.
Net change in impervious cover: - 15,990 SF (☐)acres (☐)s.f.
Is this project part of a larger project? ☐(Yes) ▪(No)
Is the project proposing a new Private or Public Road? ☐(Yes, Private) ☐(Yes, Public) ▪(No)
Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) ▪(Yes) ☐(No)
Is the project proposing any Stormwater facilities/BMPs? ☐(Yes) ▪(No)
Will a Traffic Movement Permit (TMP) be required?: ▪(Yes) ☐(No)

▪ **If in a Shoreland Zone:**
Percent of residential lot coverage (Max 20%): N/A
Percent of structure expansion (Max 30%): _____

▪ **If Subdivision Review, number of lots proposed:** 4 Lots previously approved (Approval ID: 2022.02)

☐ **If a Private Way is proposed, number of lots served:** _____

If Site Plan Review, you must provide the following information:

Total new square feet footprint of structure: 31,056 SF
Total new square feet paving/parking: 13,275 SF

Waiver Requests (attach details):

1. See Section 33. Waivers
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval
   - ☐ Fire Department – Contact Chief or Deputy Chief – 282-9986
   - ☐ Ability to Serve for Water Service – Maine Water – 282-1543
   - ☐ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118
   - ☐ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127

B. Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.
C. Photographs of Site.
D. Architectural renderings/drawings of proposed buildings, as required.
E. Engineering Plans, as required.
F. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- $75 Nonrefundable Administration Fee is required for every application.
- Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance?: X (Yes) __(No)

- **If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.**

Signature of Applicant: _____ **Date** 6/9/2025

Signature of Property Owner: _____ **Date** 6/9/2025

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

A) PDF OF SIGNED APPLICATION

B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)

- Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVDUAL DRAWING NAME.pdf'

B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.

C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)

- All drawings & CAD reference files must be to-scale and within the following coordinate systems:

- MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIUDAL DRAWINGS REQUIRING BOARD SIGNATURE

B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST *LAST REVISED: 11/26/2024*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant and included on all preliminary and final Site Plan & Subdivision submittals. No checklist is required for sketch submittals.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal information with non-acceptable reasoning will be rejected and required to resubmit.
4. Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval.
5. Items in **BLUE** are only required for 'Final' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	3 Lincoln Street, Lot 3, Redevelopment
Planning Board # (if available):	2022.02
Applicant Name/Info:	3 Lincoln, LLC
Submittal #/Type (Prelim/Final):	Amendment
Submittal Date:	6/11/2025

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE			WP REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	
1	**GENERAL PLAN REQUIREMENTS**					
A	Drawing specific legends (linetypes, hatches, etc.)	YES	C-01			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	YES				
C	North arrows, standard engineering scale viewports, scale bars, dated revision blocks	YES				
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	YES	EX			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	YES				
2	**COVER SHEET**					
A	Project Name & Property Address	YES	C-01			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	C-01			
C	Site Location Map	YES	C-01			
D	Sheet Set List of Drawings	YES	C-01			
E	Tax Map and Lot ID	YES	C-01			
F	Zoning & Shoreland Zone Information	N/A	C-01			
G	Existing Use Description	YES	C-01			
H	Proposed Use Description	YES	C-01			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES	C-01			
J	Name of Drainage Watershed	YES	C-01			
K	Within the MS4 Urbanized Area (Yes/No)	YES	C-01			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	C-01			
M	Within the 100-year Flood Zone (Yes/No)	NO	C-01			
N	Public Road Proposed (Yes/No)	NO	C-01			
O	Private Road Proposed (Yes/No)	NO	C-01			
P	Public Sewer Connection (Yes/No)	YES	C-01			
Q	Public Storm Drain Connection (Yes/No)	YES	C-01			
R	Limits of Disturbance in square feet and acres	YES	C-01			
S	Pervious Land Cover square footage, existing and proposed	YES	C-01			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	C-01			
U	Building Roof square footage, existing and proposed	YES	C-01			
V	Assigned Planning Board Number	YES	C-01	2022.02		
W	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)	NO		N/A		
3	**EXISTING CONDITIONS PLAN**					
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	YES	C-02			
B	Property & Right-of-Way Lines	YES	EX			
C	Boundary line information (bearings, distances, etc.)	YES	EX			
D	Property pin and monumentation locations	YES	EX			
E	Existing easements with proper ownership identified	YES				
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	EX			
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
H	100-year Flood Zone Limits & Elevation	YES		Provided in FEMA map		
I	Existing contours with adequate contour labelling; minimum 1' contour interval	YES	EX			
J	Existing building FFEs annotated	YES	C-30			
K	Spot elevations for all tie-in locations (curb cuts, property line)	YES	C-30			
L	Existing buildings & structures	YES	EX			
M	Existing pavement areas & number of parking spaces	YES	EX			
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	YES	EX			
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	EX			
P	Existing signage and striping	YES	EX			
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	EX			
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	EX			
S	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	NO	EX			
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	NO		There are no existing trees 12" or larger located on the subject parcel		
U	Location of any borings, drinking wells, and monitoring wells	YES	Section 11			
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**					
A	Limits-of-disturbance outlined and acreage annotated	YES	C-03			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
C	100-year Flood Zone Limits	NO		N/A		
D	Callout existing site features to be demolished/removed/replaced	YES	C-03			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES	C-03			
F	Hatch existing buildings and pavement to be removed	YES	C-03			
G	Construction Entrance location(s)	YES	C-03			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	C-03			
I	Stockpile and staging area(s) identified (with proper perimeter control)	YES	C-03			
J	Inlet protection location(s)	YES	C-03			
K	Note requiring contractor to implement dust control measures throughout construction	YES	C-03			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	NO	N/A			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing	NO				
N	If large development is proposed with an extensive underground stormwater conveyance network, identify how SWM infrastructure and BMPs will be protected during construction and if sediment traps/basins are needed	NO		N/A		
5	**SITE PLAN/SUBDIVISION PLAN**					
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	NO		N/A		
B	Existing property and right-of-way lines	YES	C-03			
C	Proposed subdivision lot lines and labels	YES	PLAT			
D	Required Zoning Setbacks shown with dimensions and annotation	YES	C-10			
E	Bulk requirement summary table (zoning/parking calculations)	YES	C-10			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
G	100-year Flood Zone Limits	NO		N/A		
H	Proposed building outlines, door entrances and loading docks	YES	C-10			
I	Proposed building labels	YES	C-10			
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C-10			
K	Proposed parking and accessible parking locations; annotate parking space counts	YES	C-10			
L	Proposed signage, parking striping, and traffic striping	YES	C-10			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	YES	C-10			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C-10			
O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	C-10			
P	Designated snow storage areas	YES	C-10	See General Note 7.		
Q	Proposed dumpster locations and trash removal access	YES	C-10			
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	C-10			
S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	C-10			
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	N/A				
U	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	N/A				

	V	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	N/A				
	W	Planning Board signature block for final recording	YES	PLAT			
6		**GRADING PLAN**					
	A	Partial Grading Plans needed for any viewport greater than 1"=20'	NO		N/A		
	B	Limits-of-disturbance outlined and acreage annotated	YES	C-30			
	C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	YES	C-30			
	D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	C-30			
	E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	C-30			
	F	Detailed grading for all ditches, swales, outfalls, and riprap	NO		N/A		
	G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	C-30			
	H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	C-30			
	I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
	J	100-year Flood Zone Limits	NO		N/A		
	K	Proposed spot elevations for all important roadway geometric points (including but not limited to: parking/drive aisles, building corners/entrances, retaining walls, loading docks, EOP/curblines)	YES	C-30			
	L	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points	YES	C-30			
	M	Proposed % slope arrows for all ADA parking spaces and sidewalks	YES	C-30			
	N	Proposed longitudinal % slope arrows for drainage ditch centerlines	NO		There are no existing or proposed drainage ditches		
	O	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas	YES	C-30			
	P	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)	NO				
7		**ROAD PROFILES (if public/private road proposed)**					
	A	Existing surface; dashed and screened	NO		N/A		
	B	Proposed surface; continuous and bold	NO		N/A		
	C	Road design speed must be clearly identified	NO		N/A		
	D	Corresponding centerline stationing and curve data annotation	NO		N/A		
	E	All vertical curves must identify the proposed 'K' values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-35 & 3-37	NO		N/A		
	F	Clear annotation if proposed road will be public or private	NO		N/A		
	G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	NO		N/A		
	H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	NO		N/A		
8		**UTILITY PLAN**					
	A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C-20			
	B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C-20			
	C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	YES	C-20,C-30			
	D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	C-20			
	E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C-20			
	F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	C-20			
	G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C-20, C-30			
	H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C-20			
	I	Flow directional arrows for storm & sewer pipes	YES	C-20			
	J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	C-10			
	K	All storm drains must be sized to convey the 25-year storm	NO				
	L	Sewer force main sizes and invert elevations	YES	C-20			
	M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W); additional details and hydraulic calculations required for any Public pump station proposed.	YES	C-20			
	N	Locations, sizes, and elevations of any: grease traps, oil-water separators, septic systems, drinking wells	YES				
	O	Proposed water sizes labelled	YES	C-20			
9		**UTILITY PROFILES**					
	A	Utility profiles required for all gravity storm drain and sewer pipes proposed: within the right-of-way, within private or public roads, for non-driveway culverts, and for any public infrastructure tie-ins	NO		No gravity storm drain or sewer pipes are proposed within the right-of-way		
	B	Existing surface; dashed and screened	NO				
	C	Proposed surface; continuous and bold	NO				
	D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C-30 & C-20			
	E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C-30 & C-21			
	F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated	NO				
	G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated	NO	N/A	See typical utility trench details for depths of private utilities		
10		**DETAILS**					
	A	Road section detail, including pavement/gravel depths & cross slopes	YES	C-41			
	B	Sidewalk, paver, crosswalk, and any other pavement section details	YES	C-40, C-41			
	C	Pavement sawcut & shiplap details	YES	C-40			
	D	Utility trench/backfill detail	YES	C-42, C-43, C-44			
	E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	C-40, C-41			
	F	Signage, striping, and ADA details	YES	C-40			
	G	E&S notes and details	YES	C-48, C-49			
	H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	C-42, C-43, C-44, C-45, C-46, C-47			
	I	Storm outfall & riprap details	NO		N/A		
	J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	NO		N/A		
	K	Pump station, grease trap, oil-water separator, septic, drinking well details	NO	C-43, C-44, C-45, C-46			
	L	Conduit section details	YES	C-42			
11		**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**					
	A	As required by ordinance; at a minimum: locations, counts, lighting models, and landscaping species must be identified	YES	SEE PHOTOMETRIC PLAN			
	B	Landscaping & lighting details	YES	SEE PHOTOMETRIC PLAN CUT SHEETS			
12		**DOCUMENTS/REPORTS/CALCULATIONS**					
	A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction	YES	N/A			

B	Stormwater Management Report, including: 1. Predevelopment & Post-development Drainage Area Maps, including: a. Subdrainage areas delineated and labeled b. Points of Interest/Analysis shown and labeled c. Hatching for different land cover areas (impervious, pervious, gravel) within each applicable USDA soil boundary d. Time of concentration (Tc) paths & durations e. Four City-standardized stormwater summary tables 2. If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies 3. Sizing calculations for any SWM water quality BMP or detention facility 4. A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: a. Annual maintenance requirements b. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed c. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	Yes		The Stormwater Management Report includes calculations as required by the existing Stormwater Management Law Permit (L-10282-NJ-A-N). The Treatment BMP is currently located on Pearl Street (Lot 4) and has been designed as a plug and play system for Lots 1, 2, and 3 to tie into.		
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	YES	N/A	See Section 17 - We would like to note that the proposed sewer flows have decreased from our previouly approved Lot 3 Project (2022.02)		
D	A Performance Guarantee Cost Estimate utilizing Planning's template	NO	N/A	Understood PG required prior to issuance of Building Permits		
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	YES	N/A			
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified	NO	N/A			
K	Public sewer pump station sizing calculations and maintenance plan	Yes				
M	Grease trap sizing calculations	NO		We are currently assuming a grease trap will be located within Building C and designed by the MEP prior to Building C's building permit		
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more	NO		N/A		
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals	NO		SRCC AND DEP STORMWATER MANAGEMENT LAW AMENDMENTS WILL BE PROVIDED UPON RECIEPT.		

CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST *LAST REVISED: 11/26/2024*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant and included on all preliminary and final Site Plan & Subdivision submittals. No checklist is required for sketch submittals.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal information with non-acceptable reasoning will be rejected and required to resubmit.
4. Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval.
5. Items in BLUE are only required for 'Final' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	3 Lincoln Street, Lot 3, Redevelopment
Planning Board # (if available):	2022.02
Applicant Name/Info:	3 Lincoln, LLC
Submittal #/Type (Prelim/Final):	Amendment
Submittal Date:	6/11/2025

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE			WP REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	
1	**GENERAL PLAN REQUIREMENTS**					
A	Drawing specific legends (linetypes, hatches, etc.)	YES	C-01			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	YES				
C	North arrows, standard engineering scale viewports, scale bars, dated revision blocks	YES				
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	YES	EX			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	YES				
2	**COVER SHEET**					
A	Project Name & Property Address	YES	C-01			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	C-01			
C	Site Location Map	YES	C-01			
D	Sheet Set List of Drawings	YES	C-01			
E	Tax Map and Lot ID	YES	C-01			
F	Zoning & Shoreland Zone Information	N/A	C-01			
G	Existing Use Description	YES	C-01			
H	Proposed Use Description	YES	C-01			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES	C-01			
J	Name of Drainage Watershed	YES	C-01			
K	Within the MS4 Urbanized Area (Yes/No)	YES	C-01			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	C-01			
M	Within the 100-year Flood Zone (Yes/No)	NO	C-01			
N	Public Road Proposed (Yes/No)	NO	C-01			
O	Private Road Proposed (Yes/No)	NO	C-01			
P	Public Sewer Connection (Yes/No)	YES	C-01			
Q	Public Storm Drain Connection (Yes/No)	YES	C-01			
R	Limits of Disturbance in square feet and acres	YES	C-01			
S	Pervious Land Cover square footage, existing and proposed	YES	C-01			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	C-01			
U	Building Roof square footage, existing and proposed	YES	C-01			
V	Assigned Planning Board Number	YES	C-01	2022.02		
W	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)	NO		N/A		
3	**EXISTING CONDITIONS PLAN**					
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	YES	C-02			
B	Property & Right-of-Way Lines	YES	EX			
C	Boundary line information (bearings, distances, etc.)	YES	EX			
D	Property pin and monumentation locations	YES	EX			
E	Existing easements with proper ownership identified	YES				
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	EX			
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
H	100-year Flood Zone Limits & Elevation	YES		Provided in FEMA map		
I	Existing contours with adequate contour labelling; minimum 1' contour interval	YES	EX			
J	Existing building FFEs annotated	YES	C-30			
K	Spot elevations for all tie-in locations (curb cuts, property line)	YES	C-30			
L	Existing buildings & structures	YES	EX			
M	Existing pavement areas & number of parking spaces	YES	EX			
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	YES	EX			
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	EX			
P	Existing signage and striping	YES	EX			
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	EX			
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	EX			
S	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	NO	EX			
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	NO		There are no existing trees 12" or larger located on the subject parcel		
U	Location of any borings, drinking wells, and monitoring wells	YES	Section 11			
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**					
A	Limits-of-disturbance outlined and acreage annotated	YES	C-03			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
C	100-year Flood Zone Limits	NO		N/A		
D	Callout existing site features to be demolished/removed/replaced	YES	C-03			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES	C-03			
F	Hatch existing buildings and pavement to be removed	YES	C-03			
G	Construction Entrance location(s)	YES	C-03			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	C-03			
I	Stockpile and staging area(s) identified (with proper perimeter control)	YES	C-03			
J	Inlet protection location(s)	YES	C-03			
K	Note requiring contractor to implement dust control measures throughout construction	YES	C-03			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	NO	N/A			
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing	NO				
N	If large development is proposed with an extensive underground stormwater conveyance network, identify how SWM infrastructure and BMPs will be protected during construction and if sediment traps/basins are needed	NO		N/A		
5	**SITE PLAN/SUBDIVISION PLAN**					
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	NO		N/A		
B	Existing property and right-of-way lines	YES	C-03			
C	Proposed subdivision lot lines and labels	YES	PLAT			
D	Required Zoning Setbacks shown with dimensions and annotation	YES	C-10			
E	Bulk requirement summary table (zoning/parking calculations)	YES	C-10			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
G	100-year Flood Zone Limits	NO		N/A		
H	Proposed building outlines, door entrances and loading docks	YES	C-10			
I	Proposed building labels	YES	C-10			
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C-10			
K	Proposed parking and accessible parking locations; annotate parking space counts	YES	C-10			
L	Proposed signage, parking striping, and traffic striping	YES	C-10			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	YES	C-10			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C-10			
O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	C-10			
P	Designated snow storage areas	YES	C-10	See General Note 7.		

Q	Proposed dumpster locations and trash removal access	YES	C-10			
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	C-10			
S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	C-10			
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	N/A				
U	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	N/A				
V	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	N/A				
W	Planning Board signature block for final recording	YES	PLAT			
6	**GRADING PLAN**					
A	Partial Grading Plans needed for any viewport greater than 1"=20'	NO		N/A		
B	Limits-of-disturbance outlined and acreage annotated	YES	C-30			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	YES	C-30			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	C-30			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	C-30			
F	Detailed grading for all ditches, swales, outfalls, and riprap	NO		N/A		
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	C-30			
H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	C-30			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-10			
J	100-year Flood Zone Limits	NO		N/A		
K	Proposed spot elevations for all important roadway geometric points (including but not limited to: parking/drive aisles, building corners/entrances, retaining walls, loading docks, EOP/curblines)	YES	C-30			
L	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points	YES	C-30			
M	Proposed % slope arrows for all ADA parking spaces and sidewalks	YES	C-30			
N	Proposed longitudinal % slope arrows for drainage ditch centerlines	NO		There are no existing or proposed drainage ditches		
O	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas	YES	C-30			
P	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)	NO				
7	**ROAD PROFILES (if public/private road proposed)**					
A	Existing surface; dashed and screened	NO		N/A		
B	Proposed surface; continuous and bold	NO		N/A		
C	Road design speed must be clearly identified	NO		N/A		
D	Corresponding centerline stationing and curve data annotation	NO		N/A		
E	All vertical curves must identify the proposed 'K' values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-35 & 3-37	NO		N/A		
F	Clear annotation if proposed road will be public or private	NO		N/A		
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	NO		N/A		
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	NO		N/A		
8	**UTILITY PLAN**					
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C-20			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C-20			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	YES	C-20,C-30			
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	C-20			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C-20			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	C-20			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C-20, C-30			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C-20			
I	Flow directional arrows for storm & sewer pipes	YES	C-20			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	C-10			
K	All storm drains must be sized to convey the 25-year storm	NO				
L	Sewer force main sizes and invert elevations	YES	C-20			
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W); additional details and hydraulic calculations required for any Public pump station proposed.	YES	C-20			
N	Locations, sizes, and elevations of any: grease traps, oil-water separators, septic systems, drinking wells	YES				
O	Proposed water sizes labelled	YES	C-20			
9	**UTILITY PROFILES**					
A	Utility profiles required for **all** gravity storm drain and sewer pipes proposed: within the right-of-way, within private or public roads, for non-driveway culverts, and for any public infrastructure tie-ins	NO		No gravity storm drain or sewer pipes are proposed within the right-of-way		
B	Existing surface; dashed and screened	NO				
C	Proposed surface; continuous and bold	NO				
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C-30 & C-20			
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C-30 & C-21			
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated	NO				
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated	NO	N/A	See typical utility trench details for depths of private utilties		
10	**DETAILS**					
A	Road section detail, including pavement/gravel depths & cross slopes	YES	C-41			
B	Sidewalk, paver, crosswalk, and any other pavement section details	YES	C-40, C-41			
C	Pavement sawcut & shiplap details	YES	C-40			
D	Utility trench/backfill detail	YES	C-42, C-43, C-44			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	C-40, C-41			
F	Signage, striping, and ADA details	YES	C-40			
G	E&S notes and details	YES	C-48, C-49			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	C-42, C-43, C-44, C-45, C-46, C-47			
I	Storm outfall & riprap details	NO		N/A		
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	NO		N/A		
K	Pump station, grease trap, oil-water separator, septic, drinking well details	NO	C-43, C-44, C-45, C-46			
L	Conduit section details	YES	C-42			
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**					
A	As required by ordinance; at a minimum: locations, counts, lighting models, and landscaping species must be identified	YES	SEE PHOTOMETRIC PLAN			
B	Landscaping & lighting details	YES	SEE PHOTOMETRIC PLAN CUT SHEETS			
12	**DOCUMENTS/REPORTS/CALCULATIONS**					
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Punchlist/As-Built Inspections post-construction	YES	N/A			

B	Stormwater Management Report, including: 1. Predevelopment & Post-development Drainage Area Maps, including: a. Subdrainage areas delineated and labeled b. Points of Interest/Analysis shown and labeled c. Hatching for different land cover areas (impervious, pervious, gravel) within each applicable USDA soil boundary d. Time of concentration (Tc) paths & durations e. Four City-standardized stormwater summary tables 2. If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies 3. Sizing calculations for any SWM water quality BMP or detention facility 4. A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: a. Annual maintenance requirements b. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed c. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	Yes		The Stormwater Management Report includes calculations as required by the existing Stormwater Management Law Permit (L-10282-NJ-A-N). The Treatment BMP is currently located on Pearl Street (Lot 4) and has been designed as a plug and play system for Lots 1, 2, and 3 to tie into.		
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	YES	N/A	See Section 17 - We would like to note that the proposed sewer flows have decreased from our previouly approved Lot 3 Project (2022.02)		
D	A Performance Guarantee Cost Estimate utilizing Planning's template	NO	N/A	Understood PG required prior to issuance of Building Permits		
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	YES	N/A			
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified	NO	N/A			
K	Public sewer pump station sizing calculations and maintenance plan	Yes				
M	Grease trap sizing calculations	NO		We are currently assuming a grease trap will be located within Building C and designed by the MEP prior to Building C's building permit		
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more	NO		N/A		
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals	NO		SRCC AND DEP STORMWATER MANAGEMENT LAW AMENDMENTS WILL BE PROVIDED UPON RECIEPT.		

Section 1

Development Description

Section 1. Development Description

Site Information

- Parcel Size (Lot 3): 2.08 Acres
- Impervious Area
    - 3 Lincoln Street – Lot 3
        - Existing: 1.95 acres(94%)
        - Proposed: 1.58 acres (76%)

The City of Biddeford has municipal capacity to review the Site Location of Development application but does not have stormwater capacity, therefore the project anticipates submitting the Stormwater Management Law amendment application to MaineDEP for review and approval in the coming weeks.

The proposed project will also be subject to the City of Biddeford Site Plan & Subdivision approval and a Saco River Corridor Commission (SRCC) permit application due to the proximity to the Saco River.

A. Narrative

On behalf of 3 Lincoln, LLC, we are pleased to submit the accompanying package of Final Subdivision and Site Plan amendment submission materials related to the proposed redevelopment 3 Lincoln Street, (Pearl Street, Lot 3) in Biddeford, Maine. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to up to 52 units, building B from 129 residential units to up to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

The proposed project is subject to a Saco River Corridor Commission (SRCC) permit application due to the proximity to the Saco River.

B. Topographic Map

Included as part of this section.

C. Construction Plan

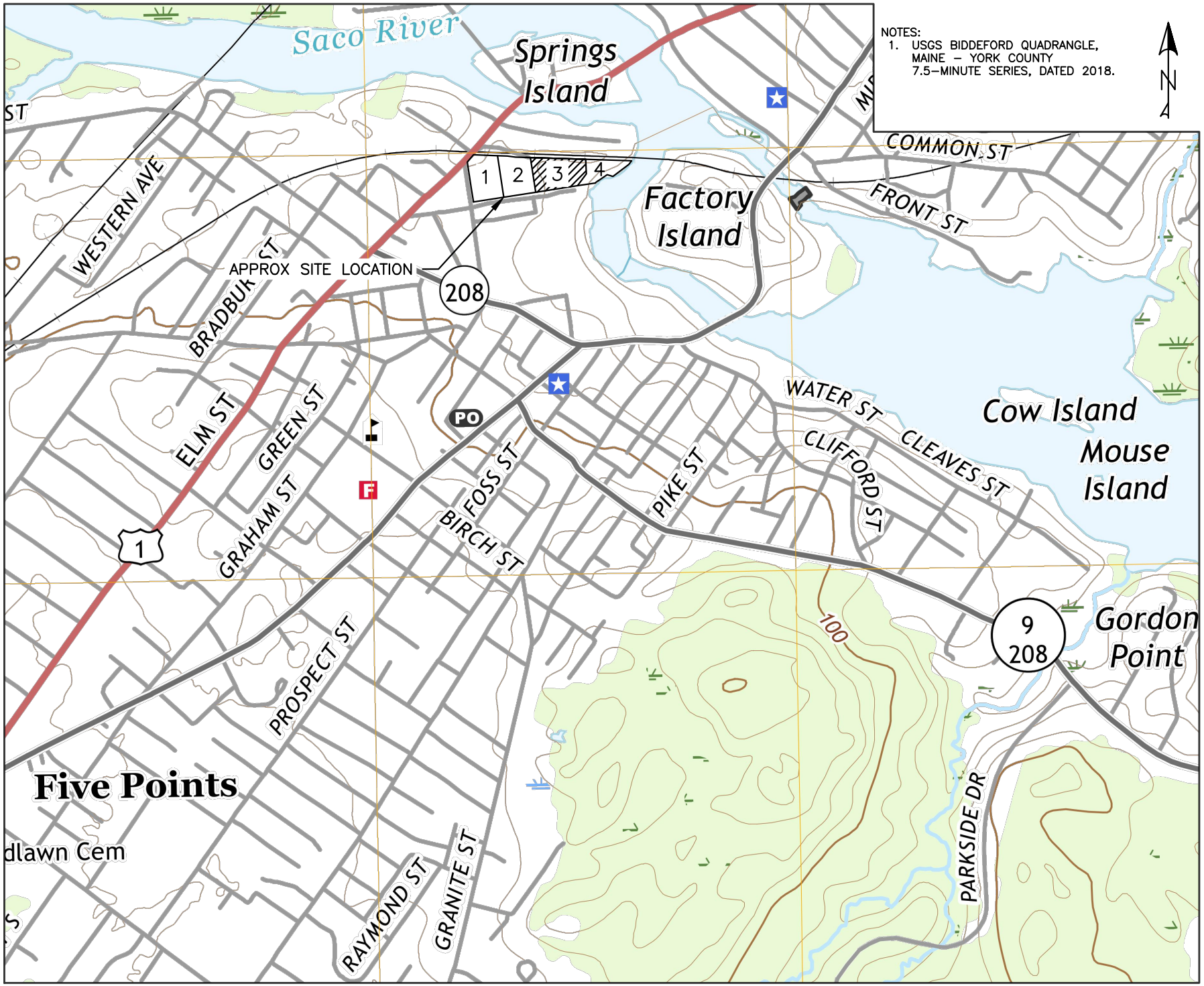
Please refer to Section 14 Erosion and Sediment Control Report & Civil Plan Set Sheet C-03 for information regarding construction.

Anticipated Construction Start date: Summer 2026
Anticipated Construction End date: Fall 2027

D. Drawings

All appropriate site drawings are attached. Individual plans are listed below.

Sheet Number	Sheet Title
C-01	COVER SHEET & LEGEND
C-02	GENERAL NOTES
EX	EXISTING CONDITIONS SURVEY – BY OWEN HASKELL, INC.
C-03	CONSTRUCTION MANAGEMENT & REMOVALS PLAN
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	UTILITY DETAILS – 2
C-44	UTILITY DETAILS – 3
C-45	PUMP STATION DETAILS – 1
C-46	PUMP STATION DETAILS – 2
C-47	DRAINAGE DETAILS – 1
C-48	DRAINAGE DETAILS – 2
C-49	EROSION & SEDIMENTATION CONTROL NOTES
C-50	EROSION & SEDIMENTATION CONTROL DETAILS



NOTES:
1. USGS BIDDEFORD QUADRANGLE, MAINE – YORK COUNTY 7.5–MINUTE SERIES, DATED 2018.

N

ISSUED FOR	BY	DATE

DRAWING NAME: VICINITY MAP

PROJECT NAME: PEARL STREET REDEVELOPMENT BIDDEFORD

CLIENT: 3 LINCOLN, LLC

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372 PORTLAND, MAINE 04104 (207) 775–2655

FILE:	1124 CIVIL
DATE:	10/12/2022
JN:	1124
SCALE:	1" : 1000'
DESIGN BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.
VICINITY

Section 2

Right, Title, or Interest

Section 2: Right Title Interest

Please see attached for the Master Plan Development Agreement between 3 Lincoln, LLC and the City of Biddeford.

Master Plan Development Agreement

This Master Plan Development Agreement (this "Agreement") dated November 17, 2020 ("Effective Date"), is executed between 3 Lincoln, LLC, a Maine limited liability company (the "Developer"), having an address at P.O. Box 7486, Portland, Maine 04112 and the City of Biddeford, Maine, a Maine municipal corporation and body politic with offices at 205 Main Street, Biddeford, Maine (the "City"). The Developer and the City are collectively referred to as the "Parties."

RECITALS

WHEREAS, the City owns the parcel of land in Biddeford, Maine commonly known as the "MERC" site located at 3 Lincoln Street, a plan of which is attached hereto as Exhibit A and a legal description of which is attached as Exhibit B (the "Site"). The Site is an irregularly shaped parcel containing approximately 8.4 acres of land bound to the west by Lincoln Street, the east by the Saco River, to the north by the Boston & Maine Railroad, Gooch Street, and to the south by Pearl Street and several commercial/industrial buildings.

WHEREAS, the City, working with a team established by the City Council, developed the 3 Lincoln Street Redevelopment Market and Feasibility Study in conjunction with Camoin Associates (the "Camoin Study"), to establish a blueprint for the redevelopment of the Site (the "Project").

WHEREAS, the City has selected the Developer to serve as the master developer for the Project.

WHEREAS, the goals of the Project are to develop up to 400,000 square feet of new, mixed use commercial space, create between 800 and 1,800 new jobs, and increase the City's base property value by up to $63,000,000.

WHEREAS, the Project is expected to become an anchor within the City's so-called "Mill District," with the goal that the Project will support activities in the existing surrounding buildings, the RiverWalk and its amenities, and associated business development in the surrounding area.

AGREEMENT

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein and other consideration, the receipt and adequacy of which is hereby acknowledged, and intending to be bound hereby, the Parties agree as follows:

ARTICLE I
GENERAL TERMS & COMMITMENTS

1.1 Purpose. This Agreement sets forth the major terms and conditions under which the Parties intend to pursue the Project. The Parties recognize that, as the Project progresses, further definitions and agreements expanding the terms of this Agreement may be warranted and/or necessitated. The Parties have sought in this Agreement to (i) provide a sufficient degree of definition to facilitate planning, design and implementation within a broad scope and (ii) make certain commitments that are necessary to achieve the successful realization of the Project.

1.2 Description of the Project. The Project consists of the planning, permitting, and development of the Site, including coordination of the development by the City of a municipal parking garage (the "Municipal Parking Garage") on the portion of the Site shown on Exhibit A as the site for those improvements ("Garage Site") and the development of buildings adjacent to the Municipal Parking Garage generally located on the east and west sides of that structure on the development sites shown on Exhibit A (collectively the "Development Sites") as commercial, residential, academic, hospitality, retail or other uses (collectively the "Adjacent Buildings"). The Parties shall progress through each stage of the Project, consistent with Section 1.3 below, giving due consideration to Site conditions, financial feasibility, and other commercially reasonable development considerations. The Parties expressly acknowledge the need to provide reasonable flexibility to the Developer to enable the Developer to respond to changing market conditions and intend that the scope of the Project be interpreted and adjusted by the City and the Developer in a manner that will promote, and not hinder, a commercially reasonable and economically viable redevelopment of the Site. Without limitation of the foregoing, as of the date of the Agreement, the Project and its various elements are envisioned to be generally consistent with the Camoin Study. In the course of modifying and refining these initial plans throughout the development process, the Developer will seek to incorporate a mixture of residential, retail, office, hospitality, education and service uses with the adjacent Municipal Parking Garage, park area, street system, the RiverWalk and other amenities intended to foster the creation of an economically vibrant, urban style mixed use destination, generally as contemplated by the Camoin Study and in accordance with the principles enumerated in Section 3.1 of this Agreement.

1.3 Project Schedule. The Project shall proceed in accordance with the following schedule (the "Project Development Schedule"):

As of the Effective Date, the City shall deliver to Developer a garage concept plan deemed suitable by the Developer (as set forth in Section 3.2 below) including, without limitation, all four elevations, a section plan, parking space count, structural plan, and other AIA standard elements ("Garage Concept Plan") (the date of delivery referred to as the "Start Date").

1.3.2 Within three (3) months following the Start Date, the Developer shall prepare (or have prepared) and present to the City a concept plan for the development of each of the Development Sites (the "Preliminary Concept Plan"). In the event that the City determines that the Preliminary Concept Plan is not suitable, and the City and the Developer are unable to

agree to revisions to the Preliminary Concept Plan that make such plan suitable to the City, the City shall be permitted to terminate this Agreement in accordance with Article VI; provided, that in the event that the City terminates this Agreement pursuant to this Section 1.3.2, the City shall reimburse the Developer for all costs and expenses incurred prior to the date of termination, plus twenty percent (20%) to partially compensate the Developer for its time and effort.

1.3.3 Within the six (6) month period following written notice of acceptance of the Preliminary Concept Plan by the City, the Parties shall agree to a financial plan and, utilizing design plans associated with the Municipal Parking Garage, shall work together to create concept plans depicting the layout and design of the Development Sites and the Site as a whole, including site design concepts, internal layout, and building use scenarios (the "Site Concept Plans"). The Site Concepts Plans also shall set forth a timetable by which Developer shall complete the improvements described in the Site Concept Plans with agreed upon financial penalties if such timetables are not reasonably accomplished. In the event that the City or the Developer determines that the proposed Site Concept Plans are not suitable, and the City and the Developer are unable to agree to revisions to the Site Concept Plans that make such plans suitable to the City or the Developer, the City or Developer shall be permitted to terminate this Agreement in accordance with Article VI; provided, that in the event that the City terminates this Agreement pursuant to this Section 1.3.3, the City shall reimburse the Developer for all costs and expenses incurred prior to the date of termination, plus twenty percent (20%) to partially compensate the Developer for its time and effort.

1.3.4 During the six (6) month period following the approval by the City and Developer of the Site Concept Plans, each of the City and the Developer shall use commercially reasonable efforts to obtain all federal, state and municipal permits and approvals ("Governmental Approvals") necessary to proceed with the development and improvements described in the Site Concept Plans. The City shall have primary responsibility for the Governmental Approvals required for the Municipal Parking Garage and related improvements and the Developer shall have primary responsibility for the Governmental Approvals required for the buildings and related improvements to be located on the Development Sites; provided that the Parties acknowledge that as an integrated master development the Governmental Approvals are likely to be highly integrated and interdependent, and therefore agree to work cooperatively and on a coordinated basis to obtain the Governmental Approvals.

1.3.5 Throughout the period specified in Sections 1.3.2-1.3.4 above, the Parties shall work together to identify candidates as potential tenants, joint venture participants, co-developers, or other users for the Development Sites.

1.3.6 The milestone dates set forth in Sections 1.3.2, 1.3.3 and 1.3.4 shall be extended in the event the Municipal Parking Garage has not achieved the same milestone as specified in each Section for the Project. The extension of the applicable milestone shall be coterminous with the date the Municipal Parking Garage achieves its corresponding milestone, in order to assure that the pace of development of the Project does not proceed at a substantially

more rapid rate than the development of the Municipal Parking Garage, which is an critical element in the Developer's ability to successfully develop the Project.

1.4 Exclusive Development. The Parties shall work exclusively with each other, in good faith, to develop the Project. This Agreement shall not extend to any other activities, transactions or relationships other than with respect to the Project and the transactions contemplated by this Agreement. Nothing in this Agreement shall preclude or restrict either Party from conducting its business as it determines in its sole and absolute discretion other than in connection with the Project, and neither Party shall have any rights or obligations in and to the other Party's independent ventures or the income or profits derived therefrom, including any ventures located proximate to the site.

1.5 Personnel and Resources. Each Party shall make available, at all reasonable times and location, the personnel and resources reasonably necessary to complete such Party's responsibilities with respect to the development of the Project.

1.6 Manner of Development. The Parties acknowledge and agree that the development of the Adjacent Buildings may be undertaken by the Developer through whatever means or transaction structure the Developer determines appropriate, including through direct ownership and development by Developer, leasing or re-sale to third parties, co-development with joint venture partners, subdivision and sale for development of all or portions of the Development Sites or Adjacent Buildings, declaration of one or more condominiums or through use of any other means or transaction structures as Developer determines appropriate, with the overall goal of developing the Development Sites on the basis described herein (the foregoing being referred to herein as "Development Relationships"). Developer agrees that in the event the development of the Adjacent Buildings is undertaken by anyone other than Developer or its related entities, Developer shall first obtain the written consent of the City to the involvement of any third party individuals or entities, which consent shall not be unreasonably withheld.

ARTICLE II
PURCHASE OPTION

2.1 Purchase Option. The City hereby grants to the Developer an exclusive option (the "Option") to purchase either or both of the Development Sites, including all rights, privileges, easements and appurtenances thereto existing or as necessary or convenient for the construction, development and operation of the Adjacent Buildings and other improvements identified and defined in the Site Concept Plans, but specifically excluding the cell tower site (the "Subject Property"). This Option applies to the Subject Property both in its current state and in the event it is further developed. The Subject Property shall be conveyed together with all improvements thereon, all easements and rights of way relating thereto, all appurtenances thereto, as well as any common element interests therein, and subject to the terms and conditions set forth in this Agreement.

2.2 Terms of the Option. The Option granted hereby shall have the following terms and conditions:

2.2.1 Term: The Option shall have a term beginning on the Effective Date and expiring eighteen (18) months following receipt of all Governmental Approvals pursuant to Section 1.3.5 hereof, unless the same shall sooner be exercised or terminated in accordance with the terms hereof ("Option Term").

2.2.2 Purchase Price: The total purchase price for the Subject Properties if they are purchased together shall be One Million Two Hundred Thousand Dollars ($1,200,000) (the "Purchase Price").

2.2.3 Exercise of Option: Upon satisfaction of the Condition of Exercise described in Section 2.2.4 below, the Option may be exercised by the Developer by the transmittal of a signed written notice of the Developer's exercise of the Option ("Notice of Exercise"), and specifying the date, time and place for closing on the purchase of the Subject Property, which shall not be later than ninety (90) days following the date of the Notice of Exercise ("Closing Date"). The Developer shall have the right to exercise the Option with respect to either or both Subject Properties, and if exercised for one of the Subject Properties the Option shall continue in force for the other Subject Property for the remainder of the Option Term. If the Developer exercises the Option separately, the purchase price for the first property shall be Seven Hundred Thousand Dollars ($700,000) and the purchase price for the second property shall be Seven Hundred Thousand Dollars ($700,000) for a combined purchase price of One Million Four Hundred Thousand Dollars ($1,400,000).

2.2.4 Condition of Exercise: It shall be a condition of exercise of the Option that the Site Concept Plans shall have been completed pursuant to Section 1.3.3 above.

2.2.5 Closing: The closing of the purchase of each Subject Property hereunder shall be conducted in accordance with the following provisions:

(a) The City shall sell, assign, convey, transfer and deliver title to the Subject Property together with all easements, licenses, rights of way and appurtenant rights reasonably required in order to develop the Subject Property in accordance with the Site Concept Plan, and together therewith all surveys, plans, specifications, title commitments or policies and other records, files or information related to the development of the Subject Property in accordance with the Site Concept Plan, free and clear of any liens, encumbrances or restrictions of any nature, except for the Permitted Real Property Liens. "Permitted Real Property Liens" means: (i) real property taxes for the current tax year that are not due and payable as of the Closing date, (ii) any liens, encumbrances or other title exception or nonconformity accepted by, or not expressly objected to in writing by, the Developer at or before Closing, and (iii) local, state and federal laws, ordinances or governmental regulations, including but not limited to, building and zoning laws, ordinances and regulations.

(b) The Developer shall pay the Purchase Price by wire transfer to an account specified by the City, as increased or decreased by applicable prorations and adjustments, including (i) all real and personal property taxes and similar ad valorem obligations levied with respect to the Subject Property for a taxable period that includes (but does not end on) the Closing Date based on the number of days of such taxable period included in the period ending with and including the Closing Date, (ii) any and all other income and expenses items that relate to the Subject Property that are incurred during a period beginning before the Closing Date and ending after the Closing Date, including but not limited to (i) water, sewer, electricity, gas, oil, telephone and other utility expenses, and (ii) payments under any contracts or agreements related to the Subject Property that Developer agrees to accept an assignment (collectively, the "Prorations"). The Prorations shall be apportioned as of the Closing Date such that the City shall be liable for that portion of such Prorations relating to, or arising in respect of, periods through and including the Closing Date and Developer shall be liable for (and shall reimburse the City to the extent City shall have paid) that portion of such expense items relating to, or arising in respect to, periods after the Closing Date.

2.3 Memorandum of Option. The Parties agree that upon request of either Party, a Memorandum of Option incorporating the terms hereof may be filed in the York County Registry of Deeds in lieu of the filing of the whole of this Agreement.

ARTICLE III
RESPONSIBILITIES OF PARTIES

The Developer and the City have agreed to implement the vision and objectives embodied in the Camoin Study by agreeing to complete the responsibilities of each Party enumerated in this Agreement. The Parties acknowledge that this is a joint public and private enterprise in which the Parties will work closely together to further the completion of the Project. The following responsibilities are hereby assigned to the Parties:

3.1 Developer Responsibilities. The Developer shall use commercially reasonable efforts to:

3.1.1 Perform its obligations pursuant to Article I hereof.

3.1.2 Design, develop and construct the Adjacent Buildings in accordance with the Site Concept Plans, or arrange for their design, development and construction through one or more Development Relationships. The Parties agree that the development of the Adjacent Buildings may be phased.

3.1.3 In designing and developing the Adjacent Buildings, the Developer shall consider the following factors:

a. Site use plans that incorporate urban mixed use principles;

b. Transit and pedestrian orientation with existing or future facilities in the Mill District;

c. Connection to surrounding properties, including cross track connections to the Saco-Lowell Building, potential use of buildings and building sites on Elm Street and the potentially re-aligned Lincoln and Pearl Streets; and

d. Coordination with mill owners in the Mill District, particularly as it relates to energy self-sufficiency.

3.2 City Responsibilities. Perform its obligations pursuant to Article I hereof.

3.2.2 The City shall continue to move forward with and make progress on the development of the Municipal Parking Garage and shall use best efforts to keep the Developer apprised of all design plans and changes. The Developer's responsibilities under this Agreement shall be conditional upon the Developer's deeming suitable the Garage Concept Plan, which shall include the Developer having sufficient time and opportunity to review the Garage Concept Plan and to exercise the Developer's judgment, at its sole discretion, regarding the suitability of such Garage Concept Plan. In the event that the Developer determines that the Garage Concept Plan is not suitable, and the City and the Developer are unable to agree to revisions to the Garage Concept Plan that make such plan suitable to the Developer, the Developer shall be permitted to terminate this Agreement with no further obligation and without penalty, as specified in Article VI.

3.2.3 The City shall continue to move forward on the planning, design and construction of the next phase of the RiverWalk.

3.2.4 The City shall pursue the planning and design of smart infrastructure for the benefit of 3 Lincoln Street and downtown Biddeford, including without limitation, gigabit internet service, wireless broadband mesh network, LED lighting, video and sensor technology, and the software required to store, analyze and secure data transmitted through this smart infrastructure.

3.2.5 The City and Maine Energy Recovery Company, LP, the former owner of the Site, pursuant to a Voluntary Response Action Plan ("VRAP"), completed environmental remedial actions on the Site resulting in a Maine Department of Environmental Protection Certification of Completion of a Voluntary Response Action Plan. The Certification of Completion is recorded in the York County Registry of Deeds in Book 17072, Page 169. Developer recognizes and agrees that the Certification of Completion and the Declaration of Environmental Covenant recorded in the York County Registry of Deeds in Book 17098, Page 898 imposes certain covenants, conditions and restrictions on the Site that are binding upon Developer and its successors and assigns. Developer agrees that the Certification of Completion is satisfactory evidence that all required environmental remediation on the Site was completed as of the date of the Certification of Remediation and that the City's obligations to complete any additional environmental remediation at the Site required in order to allow for the development of the Site contemplated hereby, including the financing of such development with financial institutions, is limited to environmental conditions occurring after the date of the Certification of

Completion. In the event that any such remediation is necessary, the City will provide to Developer, on or before the Closing Date for each Subject Property, evidence of the required remediation in form reasonably acceptable to Developer and any financial institutions financing the Municipal Parking Garage and Adjacent Buildings, including the environmental clearances listed on Exhibit C hereto.

3.2.6 The City shall provide the Developer with all environmental site assessments (phase 1 and 2 together with any additional test results), geotech studies, the results from test borings, soil samples, monitoring wells, and all other background information in the City's possession, or under its control, pertaining to the Site.

3.2.7 The City will assist the Developer in any local or state reviews necessary for the development of the Site.

3.2.8 The City shall exercise best efforts to assure that the Developer is not required to bear the cost of all offsite improvements necessary to support the contemplated development of the Project, including any costs necessary to ensure that utilities adequate to support the contemplated development are delivered to the Subject Property.

3.2.9 The City will work with the Developer to identify a full range of financial, tax, and development incentives for the redevelopment of the Site; provided, that the City's obligations under this Section 3.2.9 are subject to the Developer's cooperation in providing reasonably requested financial and project-level information. Any such financial information provided by the Developer shall be treated as confidential information pursuant to this Agreement and as confidential business information to the extent allowed by law and protected as such.

3.2.10 The City shall promptly provide to the Developer all information it has related to potential Development Relationships.

3.3 Joint Party Responsibilities.

3.3.1 Performance: Time is of the essence and a material provision of this Agreement. The Developer and the City shall exercise commercially reasonable efforts to coordinate their development efforts and recognize that meeting the timelines contained herein are, in part, contingent upon the overall success of developing their respective portions of the Projects and market trends. The Parties may agree to mutually extend the timeframes specified herein as appropriate based on overall development progress; provided, however, that if one or more of the Parties does not meet a timeframe specified in this Agreement and the Parties cannot mutually agree upon an extension of such timeframe, such failure to meet the original timeframe shall be treated as an Event of Default, as defined below.

3.3.2 Access to Information: Upon reasonable request, each Party shall provide the other Party with full and complete access to data, documents, and any other information pertinent to the Project in order to permit each Party to perform an adequate due diligence review of matters related to the Project at each stage of development.

3.3.3 Cooperation: In addition to the actions recited herein and contemplated to be performed, executed and delivered by each Party, each Party shall perform, execute and deliver or cause to be performed, executed and delivered hereafter any and all further acts, deeds and assurances as the other Party may reasonably require to consummate or evidence the consummation of the transaction and/or the discharge of the obligations contemplated herein. The City and the Developer shall use reasonable efforts to coordinate the timing and installation/construction of all offsite improvements, if any, required in connection with the development of the Project.

3.3.4 Confidentiality: Neither Party, nor any permitted affiliate, agent or advisor of either Party shall: (a) disclose to any third party any information concerning the Project, the Site, prospective or actual Developer Relationships, the other Party, its affiliates or this Agreement; or (b) use any such information in any manner which may directly or indirectly negatively impact the Project, the other Party, or its affiliates, except that such information may be disclosed by such Party if required by law or, following written notice to the Party whose information is to be disclosed, to any lender or prospective lender or other entity necessary to develop or finance each portion of the Project. This confidentiality requirement shall not restrict the release of information which: (i) is or becomes generally available to the public other than as a result of disclosure by the other Party or its representatives, (ii) was or becomes available to the receiving Party on a non-confidential basis from a source other than the disclosing Party or its representatives; provided, that, to the receiving Party's knowledge and after due inquiry, such source is not prohibited from disclosing such information to the receiving Party by a contractual, legal or fiduciary obligation to the disclosing Party or its representatives, or (iii) is independently developed by the receiving Party without violating its obligations hereunder. In the event that this Agreement terminates prior to the purchase of the Subject Property by the Developer pursuant to Article 2 herein, then all such data, plans, proposals, and other materials furnished hereunder shall be returned to the Party from whom received, with an appropriate assurance that all copies thereof have been destroyed, except for those materials that were presented to the Developer, the Biddeford City Council or other governing body of the Parties. The obligations established pursuant to this section shall survive any termination of this Agreement and the withdrawal of a Party for a period of three (3) years.

ARTICLE IV
LIMIT OF LIABILITY

Notwithstanding any other provision of this Agreement, in no event shall the Parties or any of their Affiliates, by reason of any of their respective acts or omissions relating to the development, negotiation, design, financing, ownership, construction, operation or maintenance of the Project, or relation to any of their obligations under this Agreement, be liable whether in contract, tort, misrepresentation, warranty, negligence, strict liability, or otherwise for any special, indirect, or consequential damages arising out of or in connection with this Agreement, or the performance, non-performance or breach thereof.

ARTICLE V
INDEMNIFICATION

Each Party shall indemnify, defend, and hold harmless the other Party and its agents, servants, officers, directors, employees and Affiliates from and against any loss, cost, liability, claim, damage, expense (including, without limitation, all out-of-pocket expenses, reasonable attorneys' and paralegal fees, disbursements and costs), penalty or fine incurred in connection with any claim or cause of action arising from or in connection with any claim or cause of action arising from or in connection with the Project or this Agreement to the extent caused by the negligence, misrepresentation, fraud, fault or misconduct of the indemnifying Party or any of its Affiliates.

The City's duty to indemnify shall not waive any defense, immunity or limitations of liability, which may be available to the City, its officers, agents, or employees, under the Maine Tort Claims Act, 14 M.R.S. §8101, et seq., or any other privileges or immunities as may be provided by law.

The Developer shall maintain commercial general liability insurance with coverage for personal injury liability and/or property damage liability with minimum limits of not less than $1,000,000 per occurrence, and shall name the City as an additional insured on such policies.

ARTICLE VI
DEFAULT AND REMEDIES

6.1 Events of Default. The following shall each constitute an event of default under this Agreement (each, an "Event of Default"),

6.1.1 The Developer's failure to observe or perform any covenant, agreement, or obligation of the Developer set forth in this Agreement, whether or not specifically identified in this Agreement as an Event of Default.

6.1.2 The City's failure to observe or perform any covenant, agreement, or obligation of the Developer set forth in this Agreement, whether or not specifically identified in this Agreement as an Event of Default.

6.1.3 The filing by the Developer of any petition or the initiation of any proceedings under the United States Bankruptcy Code or under any act or acts, state or federal, dealing with, or relating to the subject or subjects of bankruptcy or insolvency, or under any amendment of such act or acts, either as a bankrupt or as an insolvent, or as a debtor, or in any similar capacity, by the Developer; or any involuntary petition in bankruptcy is filed against the Developer and the same is not stayed or discharged within sixty (60) days from such filing; or any other petition or any other proceedings of the foregoing or similar kind or character is filed or instituted or taken against the Developer, or a receiver of the business or of the property or assets

of the Developer, is appointed by any court, except a receiver appointed at the insistence or request of the City; or the Developer makes any assignment for the benefit of its creditors;

6.2 Opportunity to Cure. If an Event of Default occurs, the non-breaching Party shall give the breaching Party written notice of the Event of Default and an opportunity to cure of not less than thirty (30) days, and if the default is, of its nature, not curable within 30 days, then a reasonable period to effect a cure given the nature of the default.

6.3 Remedies. In the event that the breaching Party fails to cure an Event of Default within the cure period set forth in Section 6.2, then the non-breaching Party shall be entitled to pursue any and all legal or equitable remedies available to it under the circumstances.

ARTICLE VII
REPRESENTATIONS AND WARRANTIES

7.1 Representations and Warranties. Each Party represents and warrants to the other that:

7.1.1 it is duly qualified to do business and is in good standing in the State of Maine;

7.1.2 it has full power and authority to execute, deliver and perform its obligations under this Agreement;

7.1.3 the execution, delivery and performance of this Agreement has been duly and validly authorized by all necessary action by such Party; and

7.1.4 the execution and delivery of this Agreement by such Party and the performance of the terms, covenants and conditions contained herein will not violate the articles of incorporation or by-laws of such Party, or any order of a court or arbitrator, and will not conflict with and will not constitute a material breach of, or default under, the provisions of any material contract by which either Party is bound.

ARTICLE VIII
FORCE MAJEURE

The timeframes and deadlines for performance of the obligations of the Parties shall be specified herein shall be extended during the period of any force majeure. For the purposes of this Agreement, "force majeure" shall mean and include all factors, circumstances, transactions, occurrences and other actions beyond the direct control of the Party, including without limiting the generality of the foregoing, labor disputes, civil disturbance, war, war-like operations, invasions, rebellion, hostilities, military or usurped power, sabotage, fires or other casualty, or acts of God that have the effect of rendering practically unavailable materials or labor or other resources necessary to perform the obligation or responsibility in a timely manner.

ARTICLE IX
MISCELLANEOUS

9.1 Right to Require Performance. The failure of either Party at any time to require performance by the other Party of any provisions hereof shall in no way affect the right of such Party thereafter to enforce same. Nor shall waiver by either Party of any breach of any provisions hereof be taken or held to be a waiver of any succeeding breach of such provisions or as a waiver of any provision itself.

9.2 City Agencies and Regulators. This Agreement is not intended to supersede the authority granted by law to any regulatory board or agency of the City. Such regulatory boards and agencies must perform their responsibilities in accordance with the law governing that performance. Therefore, nothing in this Agreement shall be construed or implied to require the City's planning, zoning, land use or other regulatory boards or agencies (however designated) to approve the plans for any aspect of the Project or other action required under this Agreement. Such boards and agencies are not obligated in any way by this Agreement

9.3 Relationship of Parties This Agreement shall not be interpreted or construed to independently create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent of representative of, or to otherwise bind, the other Party.

9.4 Affiliates. The Developer may form or employ related Affiliates for purposes of participating in the Project. It is expressly recognized that the Developer contemplates use of one or more special purpose entities to develop the Adjacent Buildings.

9.5 Definition of Terms. It is agreed by the Parties hereto that reference in this Agreement to the City and the Developer, and all expressions referring thereto, shall mean the party, person, or persons named above as the City and the Developer, as the case may be, their successors and assigns, or any person, persons, or parties claiming by, through or under them.

9.6 Integration. This Agreement encompasses the entire Agreement of the Parties, and supersedes all previous understandings and agreements between the Parties, whether oral or written. The Parties hereby acknowledge and represent, by affixing their hands and seals hereto, that the Parties have not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set out in this Agreement, made by or on behalf of any other Party or any other person or entity whatsoever, prior to the execution of this Agreement. The Parties hereby waive all rights and remedies, at law or in equity, arising or which may arise as the result of a Party's reliance on such representation, assertion, guarantee, warranty, collateral contract or other assurance, provided that nothing herein contained shall be construed as a restriction or limitation of the Party's right to remedies associated with the gross negligence, willful misconduct or fraud of

any person or party taking place prior to, or contemporaneously with, the execution of this Agreement.

9.7 No Oral Modifications. This Agreement may not be amended or terminated orally. This Agreement and all the covenants, terms and provisions contained herein shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns. Except for an affiliated single purpose entity organized by the Developer to construct and operate the Project, neither this Agreement nor any of the rights, interests or obligations under this Agreement may be assigned or delegated by any Party, without the prior written consent of the other Party. This Agreement is not intended to confer any rights or benefits to any entity other than to the City and to the Developer, its affiliate entity organized to construct and operate the Project, and its affiliates.

9.8 Mutual Cooperation and Further Agreements. The Parties acknowledge that the obligations set further herein may be further described in other agreements as agreed to by the Parties. The City and the Developer agree to cooperate in good faith with regard to each and every aspect required for the completion of all operations contemplated by this Agreement. The Parties further agree to negotiate in good faith and to enter such other and further agreements as may be necessary to implement any aspect of design, engineering, construction or facility operation contemplated under this Agreement.

9.9 Expenses. Each Party shall pay all charges and fees in connection with employment of its respective attorneys relating to the negotiation of this Agreement, the Option, and the Definitive Agreement.

9.10 Notice. All notices required to be given to the City or the Developer under this Agreement shall be in writing and deemed given upon the earlier of actual receipt by personal delivery or two (2) days after being mailed by U.S. priority, registered or certified mail, return receipt requested, or a reputable overnight courier as follows:

City	City of Biddeford c/o James A. Bennett, (or the then current) City Manager P.O. Box 586 205 Main Street Biddeford, Maine 04005
With a copy to	Keith R. Jacques, Esq. Woodman Edmands Danylik Austin Smith & Jacques, P.A. P.O. Box 468 234 Main Street Biddeford, Maine 04005
Developer	3 Lincoln LLC

c/o James H. Brady, manager
P.O. Box 7486
Portland, ME 04112-7486

With a copy to Christopher E. Howard
Pierce Atwood LLP
254 Commercial Street
Portland, Maine 04101

9.11 Governing Law. This Agreement is and shall constitute a contract under and is to be construed in accordance with the laws of the State of Maine. Any dispute resulting in legal action and not resolved by arbitration, mediation, or such other method as may be mutually agreed to by the Parties shall be adjudicated within the jurisdiction of the State of Maine.

9.12 Severability. Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the Parties, who agree that the Agreement shall be reformed to replace such stricken provisions or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provisions.

9.13 Survival. All express representations, warranties, indemnifications or limitations of liability made in or given in this Agreement shall survive the expiration or the termination of this Agreement for any reason.

9.14 Mediation/Arbitration. The Parties hereto agree that prior to filing litigation they will consider alternative dispute resolution techniques such as mediation and arbitration to resolve all claims, counterclaims, disputes and other matters in question between the Parties arising out of this Agreement.

[*Remainder of page intentionally blank*]

IN WITNESS WHEREOF, the Parties hereto have set their hands and seals as of this 17 day of Nov, 2020.

DEVELOPER:
3 Lincoln, LLC

Witness Jonathan Benoit

By: _____
Its: manager

CITY OF BIDDEFORD

Witness

By: _____
Name: James A. Bennett
Title: City Manager

City of Biddeford, Maine

The Office of
City Manager
James A. Bennett
Email: jbennett@biddefordmaine.org

MEMORANDUM

TO:	**BE Fitler LLC**
FROM:	James A. Bennett, City Manager
DATE:	December 19, 2019
RE:	**Clarification to Master Plan Development Agreement**

This memo issued to clarify .section 1.3.6 of the Master Plan Development agreement. That section contemplates that milestone dates within the agreement shall be extended if the parking garage was unable to meet its milestone. This section shall be broadly interpreted to include any delays that might occur that are a result of any infrastructure design, approval or construction required to serve the parking garage, including, but not limited to:

- Pearl Street Road Design and Construction;
- Pearl Street Utilities Design and Construction, including water and sewer improvements; or
- Pearl Street Pedestrian and Landscape design and construction, including direct links to the Riverwalk.

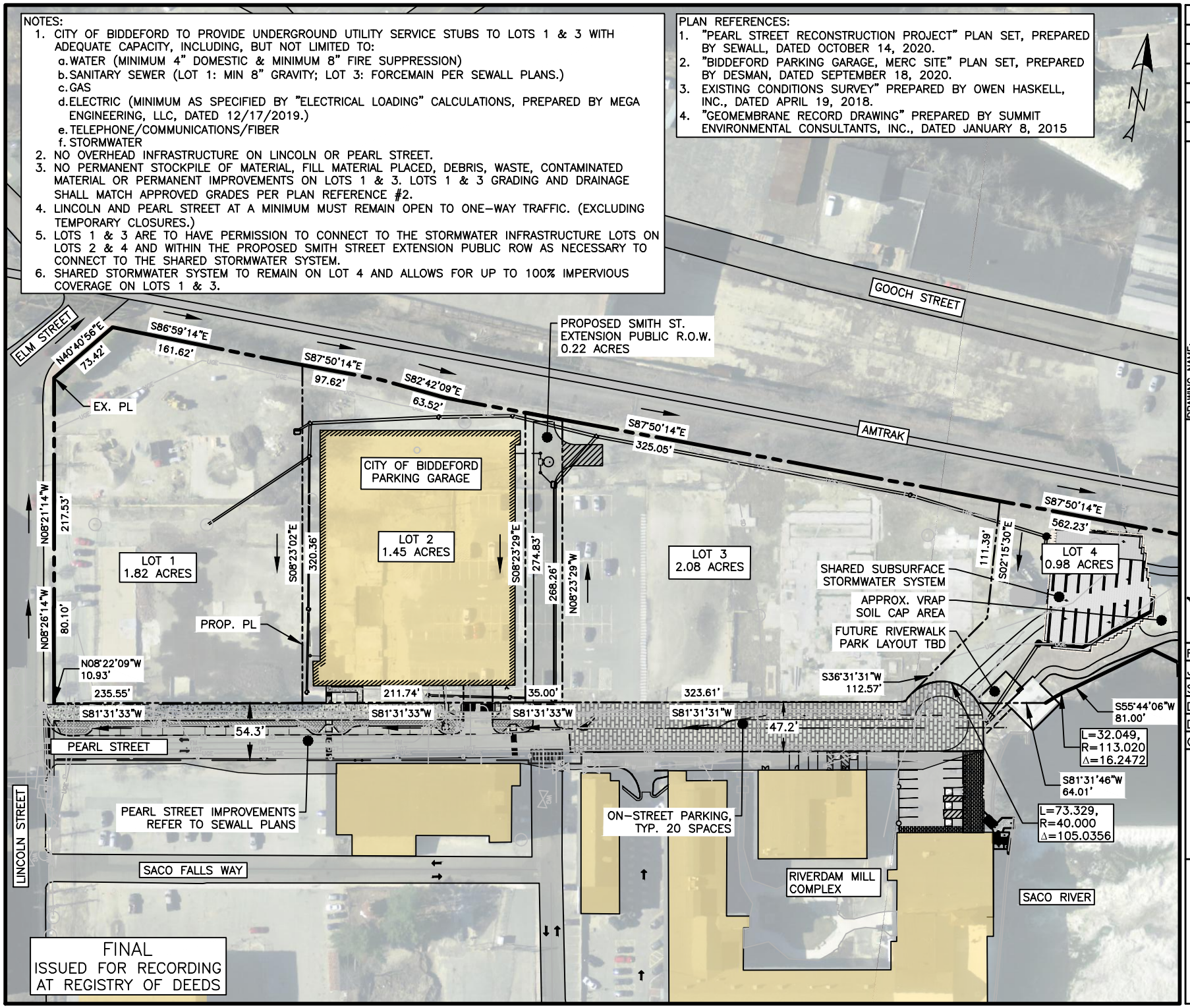
Finally, nothing within the agreement, nor within this memo prohibits the parties to mutually extend any deadline contained within the agreement. Any extension shall be done in writing.

Exhibit A
Site Plan

[insert Site Plan]

NOTES:
1. CITY OF BIDDEFORD TO PROVIDE UNDERGROUND UTILITY SERVICE STUBS TO LOTS 1 & 3 WITH ADEQUATE CAPACITY, INCLUDING, BUT NOT LIMITED TO:
   a. WATER (MINIMUM 4" DOMESTIC & MINIMUM 8" FIRE SUPPRESSION)
   b. SANITARY SEWER (LOT 1: MIN 8" GRAVITY; LOT 3: FORCEMAIN PER SEWALL PLANS.)
   c. GAS
   d. ELECTRIC (MINIMUM AS SPECIFIED BY "ELECTRICAL LOADING" CALCULATIONS, PREPARED BY MEGA ENGINEERING, LLC, DATED 12/17/2019.)
   e. TELEPHONE/COMMUNICATIONS/FIBER
   f. STORMWATER
2. NO OVERHEAD INFRASTRUCTURE ON LINCOLN OR PEARL STREET.
3. NO PERMANENT STOCKPILE OF MATERIAL, FILL MATERIAL PLACED, DEBRIS, WASTE, CONTAMINATED MATERIAL OR PERMANENT IMPROVEMENTS ON LOTS 1 & 3. LOTS 1 & 3 GRADING AND DRAINAGE SHALL MATCH APPROVED GRADES PER PLAN REFERENCE #2.
4. LINCOLN AND PEARL STREET AT A MINIMUM MUST REMAIN OPEN TO ONE-WAY TRAFFIC. (EXCLUDING TEMPORARY CLOSURES.)
5. LOTS 1 & 3 ARE TO HAVE PERMISSION TO CONNECT TO THE STORMWATER INFRASTRUCTURE LOTS ON LOTS 2 & 4 AND WITHIN THE PROPOSED SMITH STREET EXTENSION PUBLIC ROW AS NECESSARY TO CONNECT TO THE SHARED STORMWATER SYSTEM.
6. SHARED STORMWATER SYSTEM TO REMAIN ON LOT 4 AND ALLOWS FOR UP TO 100% IMPERVIOUS COVERAGE ON LOTS 1 & 3.

PLAN REFERENCES:
1. "PEARL STREET RECONSTRUCTION PROJECT" PLAN SET, PREPARED BY SEWALL, DATED OCTOBER 14, 2020.
2. "BIDDEFORD PARKING GARAGE, MERC SITE" PLAN SET, PREPARED BY DESMAN, DATED SEPTEMBER 18, 2020.
3. EXISTING CONDITIONS SURVEY" PREPARED BY OWEN HASKELL, INC., DATED APRIL 19, 2018.
4. "GEOMEMBRANE RECORD DRAWING" PREPARED BY SUMMIT ENVIRONMENTAL CONSULTANTS, INC., DATED JANUARY 8, 2015



FINAL
ISSUED FOR RECORDING AT REGISTRY OF DEEDS

ISSUED FOR	BY DATE
JDA EXHIBIT	PFH 11/12/20

DRAWING NAME: OVERALL SITE EXHIBIT
PROJECT NAME: PEARL STREET & MERC REDEVELOPMENT
CLIENT: FATHOM/BE FITLER, LLC BIDDEFORD, MAINE

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. 65 HANOVER ST. PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	1" = 120'
DESIGN BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

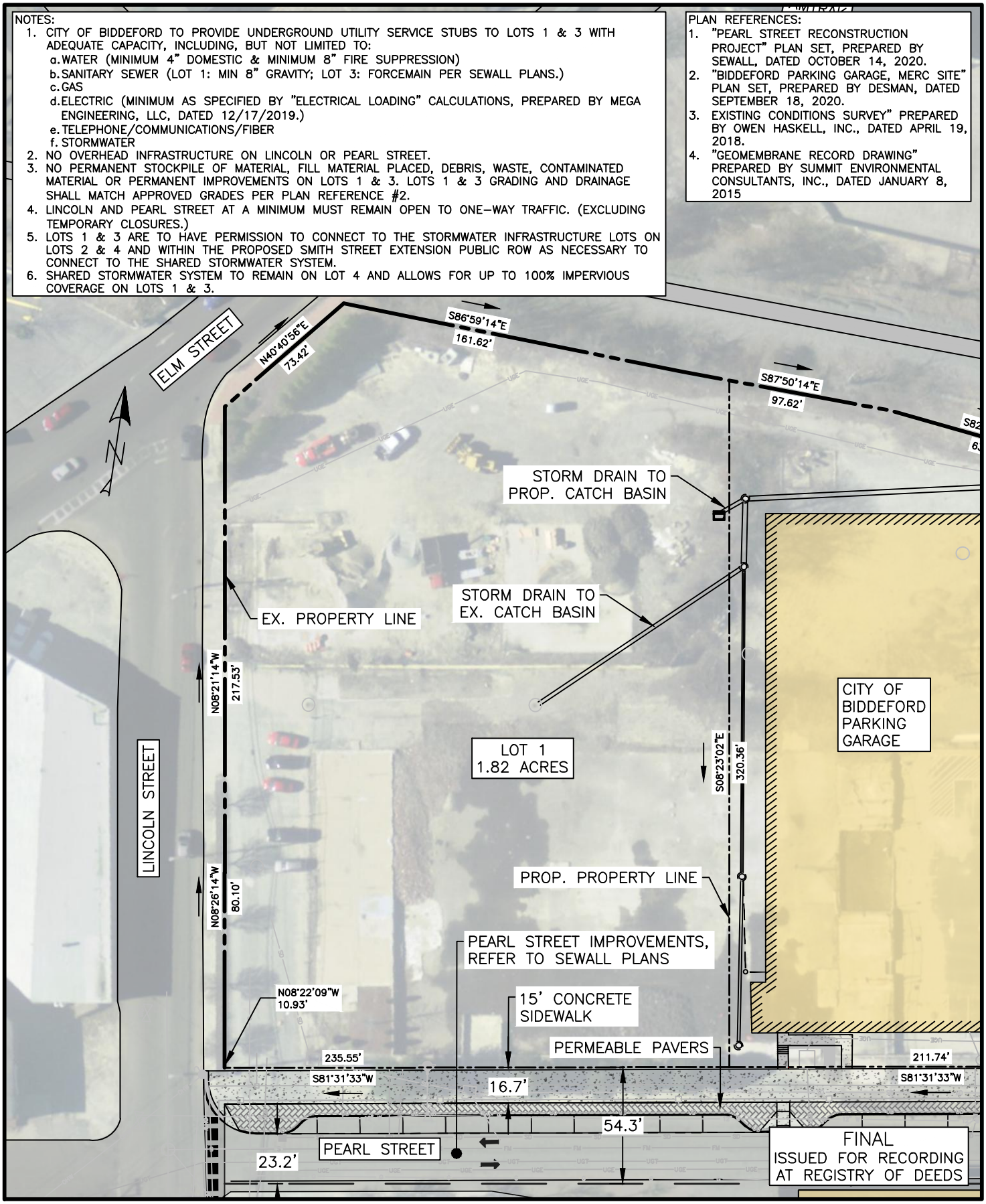
DRAWING NO.

EX-A

ALSO REFER TO EX-A1 & EX-A2

NOTES:
1. CITY OF BIDDEFORD TO PROVIDE UNDERGROUND UTILITY SERVICE STUBS TO LOTS 1 & 3 WITH ADEQUATE CAPACITY, INCLUDING, BUT NOT LIMITED TO:
   a. WATER (MINIMUM 4" DOMESTIC & MINIMUM 8" FIRE SUPPRESSION)
   b. SANITARY SEWER (LOT 1: MIN 8" GRAVITY; LOT 3: FORCEMAIN PER SEWALL PLANS.)
   c. GAS
   d. ELECTRIC (MINIMUM AS SPECIFIED BY "ELECTRICAL LOADING" CALCULATIONS, PREPARED BY MEGA ENGINEERING, LLC, DATED 12/17/2019.)
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DRAWING NO.
EX-A1
ALSO REFER TO EX-A & EX-A2

FILE:	1124_CIVIL
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SCALE:	1" = 60'
DESIGN BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

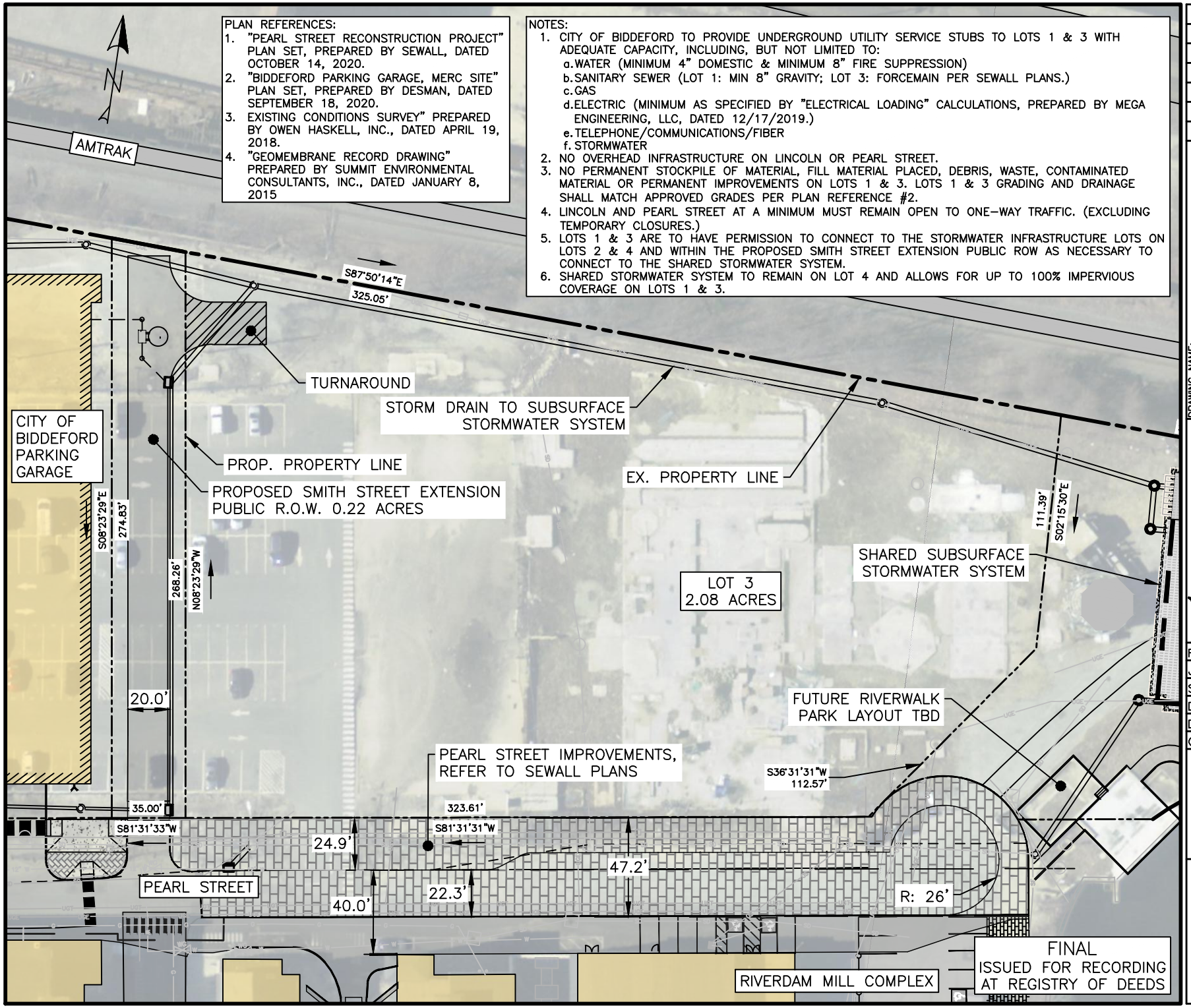
ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372
PORTLAND, MAINE 04104 (207) 775-2655

DRAWING NAME:
LOT 1 EXHIBIT

PROJECT NAME:
PEARL STREET & MERC REDEVELOPMENT

CLIENT:
FATHOM/BE FITLER, LLC
BIDDEFORD, MAINE

ISSUED FOR	BY	DATE
JDA EXHIBIT	PFH	11/12/20



ISSUED FOR	BY	DATE
JDA EXHIBIT	PFH	11/12/20

DRAWING NAME: LOT 3 EXHIBIT

PROJECT NAME: PEARL STREET & MERC REDEVELOPMENT

CLIENT: FATHOM/BE FITLER, LLC BIDDEFORD, MAINE

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. 65 HANOVER ST. PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	1" = 60'
DESIGN BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.

EX-A2

ALSO REFER TO EX-A & EX-A1

Exhibit B
Legal Description

[insert legal description of Site]

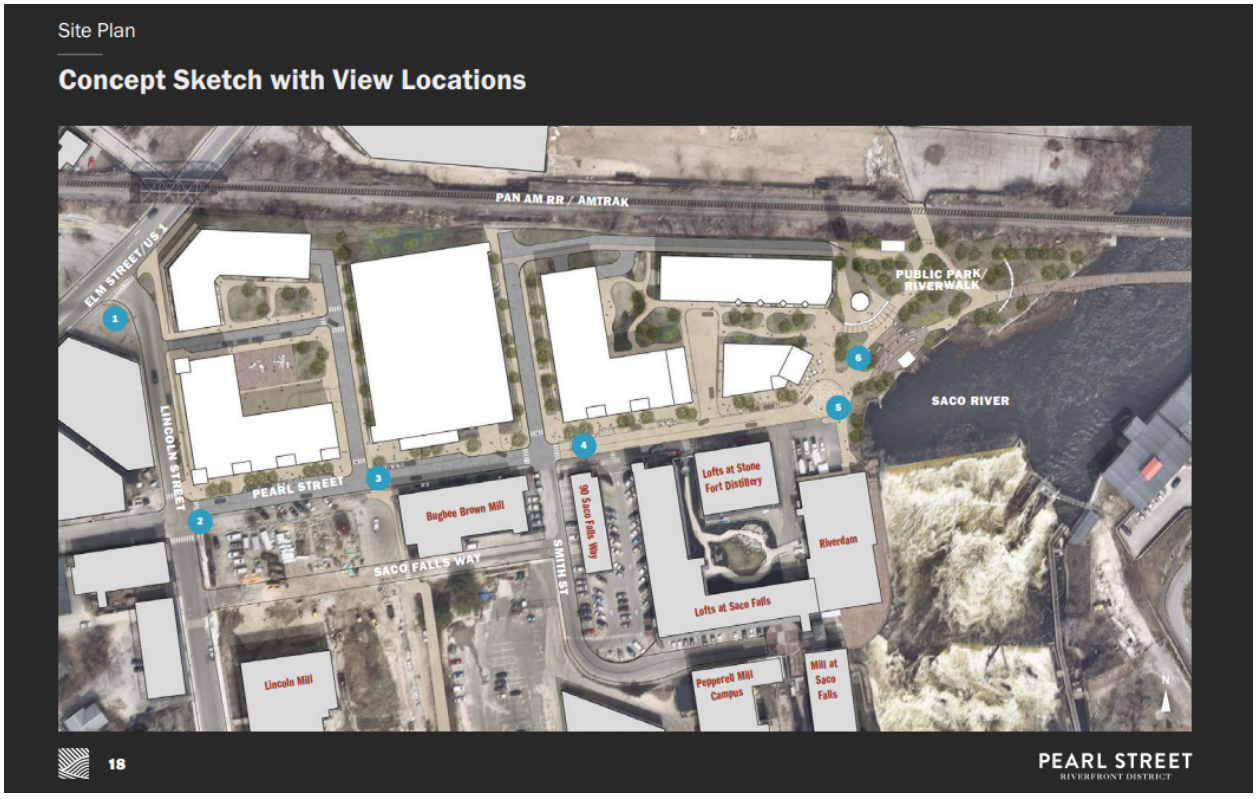
Exhibit C
Environmental Clearances

2021.134 IN BOARD OF CITY COUNCIL..DECEMBER 21, 2021

BE IT ORDERED, that the City Council approves the Preliminary Concept Plan submitted by 3-Lincoln LLC (the Fathom Company and partners) for the redevelopment of the so-called "MERC site" at 3 Lincoln Street, substantially in the form represented in the attached concept plan and consistent with the Master Plan Development Agreement, signed on November 13, 2020 and subject to the following conditions:

1. *The City of Biddeford will coordinate the DEP Shoreland Zoning amendment to allow the density proposed for the Pearl Street Riverfront District. This approval will allow the Site Plan Application for Lot 3 to be submitted and avoid further delays to the permitting process due to the existing amendment.*
2. *The timeline outlined in the Master Plan Development Agreement (Section 1.3 Project Schedule) will not start until the DEP Shoreland Zoning amendment is approved to allow the density proposed for the Pearl Street Riverfront District in the Preliminary Concept Plan and Lot 3 Site Plan Application.*

Preliminary Concept Plan:



City of Biddeford

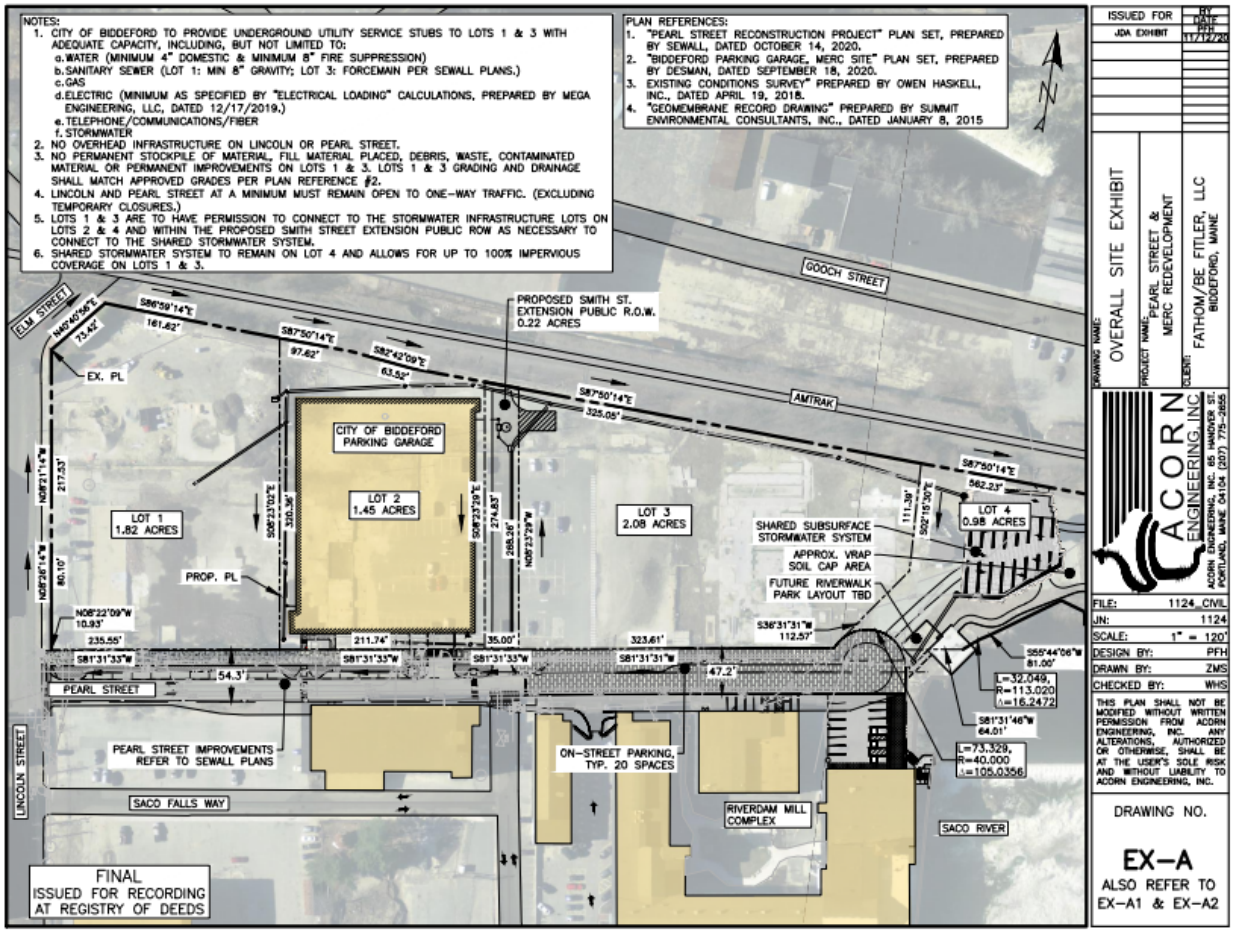
Site Plan

Potential Development Program

- **1A** **Building 1A**
  Floorplate 21,000SF; 3-5 stories; 60,000-100,000SF gross
- **1B** **Building 1B**
  Floorplate 14,500SF; 3-5 stories; 43,500-72,500SF gross
- **P** **Public Parking Structure & Transportation Hub**
  Retail, bike parking; 1 story; 1,000-1,500SF gross
- **3A** **Building 3A**
  Floorplate 22,500SF; 3-5 stories; 67,000-112,500SF gross
- **3B** **Building 3B**
  Floorplate 12,500SF; 3-5 stories; 37,000-62,500SF gross
- **3C** **Building 3C**
  Retail/Dining Floorplate 6,500SF; 1-2 stories; 6,500-13,000SF gross



Survey of Property



December 21, 2021

Motion by Councilor Clearwater, seconded by Councilor Lessard to grant the order.
Vote: Unanimous.

Attest by:_____
Carmen J. Morris, City Clerk

Section 3

Financial Capacity

Section 3. Financial Capacity

Please refer to the attached Certificate of Good Standing and letter from the Applicant's bank confirming financial capacity for the project.

Mascoma Bank

October 1 , 2022

To: City of Biddeford, Maine

The purpose of this letter is to express Mascoma Bank's support and interest in providing financing for The Fathom Companies' subsidiary 3 Lincoln, LLC and its Pearl Street Lofts (Lots 3A, 3B & 3C) mixed-use project. It is our understanding the project is for the construction of 85 residential apartment units on Lot 3A, 129 residential apartment units on Lot 3B, and a two-story commercial building on Lot 3C located in downtown of Biddeford, Maine with a maximum project budget of approximately $50 million.

Mascoma Bank has provided financing for a number of Jim Brady's and The Fathom Companies' projects in the State of Maine. All of these projects have been successful in every aspect, and just as important, each project has been a credit to the community. Mascoma has been fortunate to work with many successful builders and developers, but none who are more devoted than Jim and The Fathom Companies to ensuring that their developments provide positive, transformative impacts to the communities where their developments are located. Jim and The Fathom Companies' projects in Southern Maine are exceptional examples of such devotion.

Please know that this letter is an expression of support and interest, and is not a commitment. A commitment would require further review of appropriate information by the Bank.

I hope you find this letter helpful, and if you have any questions, please do not hesitate to contact me.

Sincerely,

Tad S. Atwell
Senior Vice President, Commercial Lending
48 Free Street, Portland, Maine 04101
(207) 613-0142
Tad.Atwell@MascomaBank.com



Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Jun 09 2025 09:27:06. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
3 LINCOLN, LLC	20200610DC	LIMITED LIABILITY COMPANY	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
07/31/2019	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Principal Home Office Address

Physical	Mailing
80 EXCHANGE STREET SUITE 400 PORTLAND, ME 04101	80 EXCHANGE STREET SUITE 400 PORTLAND, ME 04101

Clerk/Registered Agent

Physical	Mailing
JAMES BRADY 80 EXCHANGE STREET, SUITE 400 PORTLAND, ME 04101	JAMES BRADY 80 EXCHANGE STREET, SUITE 400 PORTLAND, ME 04101

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
Certificate of Existence (Good Standing) (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

Certificate of Legal Existence (more info)	Short Form without amendments ($30.00)	Long Form with amendments ($30.00)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the troubleshooting page.



If you encounter technical difficulties while using these services, please contact the Webmaster. If you are unable to find the information you need through the resources provided on this web site, please contact the Division of Corporations, UCC & Commissions Reporting and Information Section at 207-624-7752 or e-mail.

© Department of the Secretary of State

Section 4

Technical Capacity

Section 4. Technical Capacity

Fathom Development provides planning and development advisory services that put vision, strategy, and budget at the forefront. Through diligent project management and consultation, we maintain a focus on hitting milestones and achieving quality throughout design and construction while always watching the bottom line. We work to serve our clients with clear communication, organized project facilitation, and experience based on design, engineering, and constructability. With proven mixed use, hospitality, and historical rehabilitation experience, our expertise supports the project from planning, to groundbreaking, to opening and beyond. Our development portfolio includes many projects in southern Maine including The Press Hotel, 80 Exchange Street office building, and The Canopy Portland Waterfront Hotel all located in Portland, ME.

Acorn Engineering specializes in providing urban redevelopment, civil/site design, environmental services, municipal consulting, and construction administration. Acorn Engineering, Inc has successfully designed and permitted more than 20 Minor/Major projects in Portland & Biddeford during the past 5-10 years, including the Upper Falls Road Redevelopment, Riverdam, Munjoy Heights, East Bayside Lofts, and The Hiawatha.

Kaplan Thompson Architects combines the practicality of sustainable design with the artistry of architecture to deliver high-quality, low-impact buildings. Their portfolio includes multi-family projects of varying scales with both affordable housing and market rate developers across New England, including Dakota Partners and Avesta Housing. With national recognition for their achievements in high-performance construction and innovative design, Kaplan Thompson's multifamily projects have been the recipients of awards from AIA Maine and AIA New England, PHIUS, and Maine Smart Growth.

Soren DeNiord Design Studio (SDDS) is a professional landscape design firm located in Portland, Maine. Their portfolio includes award winning projects ranging in scale from residential to mixed use, commercial and institutional. As stewards of the environment and our clients' resources, we engage in projects with a commitment to sustainability and the intention of artfully responding to each site's unique challenges.

Section 5

Noise

Section 5. Noise

The proposed project is classified as a development producing a minor noise impact under (4) Other Developments

a. Type, source, and location of noise

   The noise generated by the residential and commercial buildings will be relatively minor for the urban zone. The source of the noise will be produced by vehicles circulating through the site.

b. Uses, zoning and plans

   The land use is described as mixed-use. There are residential and commercial uses within proximity to the site that generate similar noise than is expected from proposed project. Please find attached the zoning map with the subject parcel outlined. Note, the City's GIS map has not been updated to reflect the recently adopted Waterfront Renaissance Shoreland Zoning Overlay, and still shows the previous GD-1 shoreland overlay.

   The development is not anticipated to produce more than 55 db(A) and 67 db(C) of noise between the hours of 7:00 am and 10:00 pm as well as no more than 45 db(A) and 57 db(C) of noise between the hours of 10:00 pm and 7:00 am per the City of Biddeford Municipal Code of Ordinances Article III – Noise. Furthermore, Article III Section 34-56-Exceptions (4) provides an exemption from Article III for construction or demolition activity permitted and duly authorized during daytime hours. Construction is anticipated to occur during daylight hours.

c. Protected locations

   The development is adjacent to the Saco River.

d. Minor nature of impact

   The nature of vehicle circulation and materials handling on site will not produce significant noise levels.

e. Demonstration

   The site is adjacent to the Saco River to the east, Pearl Street with existing commercial and residential uses to the south, an existing parking garage to the west, and the Amtrack railroad to the north. The western property line of the development is approximately 650 feet from Lincoln Street. The noise generated by the vehicle circulation within the site is anticipated to be negligible. The commercial/restaurant and residential uses are not anticipated to generate high noise levels.

   There is a similar mixed-use residential development located directly across Pearl Street from the project site.

Home ▾ Biddeford Online Tax Map - Current

Details | Add | Basemap | Save | Share | Print | Measure | Bookmarks

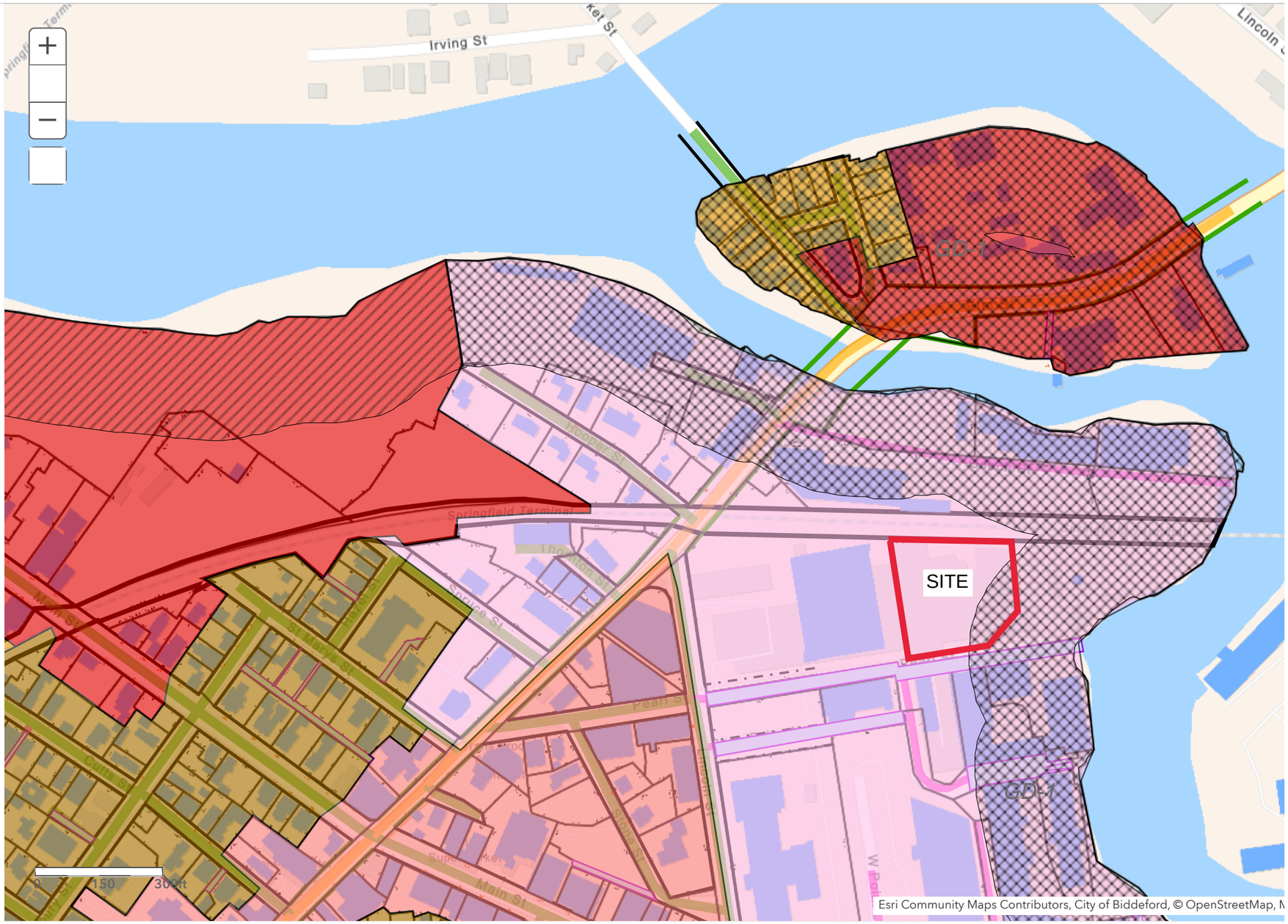
About | Content | Legend

Legend

General Zoning

- SR1: Suburban Residential
- LRF: Limited Rural Farm
- R1A: Single Family Residential 1A
- R1B: Single Family Residential 1B
- RF: Rural Farm
- MSRD2: Residential Conservation
- R2: Multi-Family
- R3: Mixed Residential
- CR: Coastal Residential
- B1: General Business
- B2: Highway Business
- MSRD1: Commercial Core
- OR: Office Residential
- I1: General Industrial
- I2: Airport Industrial
- I3: Comercial Industrial
- MSRD3: High Density / Mixed Use
- IN: Institutional
- M: Medical
- W1: Mixed Waterfront
- W2: Commercial Waterfront
- W3: Pool Village Waterfront

Help . Trust Center . Legal . Contact Esri . Report Abuse . Contact Us



Section 6

Visual Quality & Scenic Character

6. Visual Quality and Scenic Character

The proposed project is not directly adjacent to the Saco River and as such will not disturb any land within 100' from the Saco River. An application was submitted to the Saco River Corridor Commission (SRCC) and granted approval in February 2023 (Permit #20-469) as part of the original permit approvals and an amendment application to the SRCC will be submitted in the upcoming weeks. The project proposes to redevelop the previous MERC facility site and greatly improve the previous character of the neighborhood.

Section 7

Wildlife & Fisheries

Section 7. Wildlife and Fisheries

See attached letter to Maine Wildlife and Fisheries.

ACORN ENGINEERING, INC.

Mr. John Perry
Maine Department of Inland Fisheries & Wildlife
41 State House Station
Augusta, Maine 04333

December 14th, 2022

Subject: Wildlife and Fisheries
3 Lincoln Street (Lot 3) Redevelopment
Biddeford, Maine

Dear Mr. Perry:

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford, Maine.

As part of the Site Location of Development application process, Acorn requests information from your department regarding potential fisheries and wildlife habitat impacts that could result from the proposed redevelopment.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:

EX-1 Vicinity Map
EX-2 Site Plan
EX-3 Survey

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

March 3, 2023

Zachary Stevens
Acorn Engineering, Inc.
PO Box 3372
Portland, ME 04104

RE: Information Request – 3 Lincoln Street Redevelopment Project, Biddeford

Dear Zachary:

Per your request received on January 11, 2023, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *3 Lincoln Street Redevelopment* project in Biddeford. For purposes of this review we are assuming tree clearing will not be part of your project.

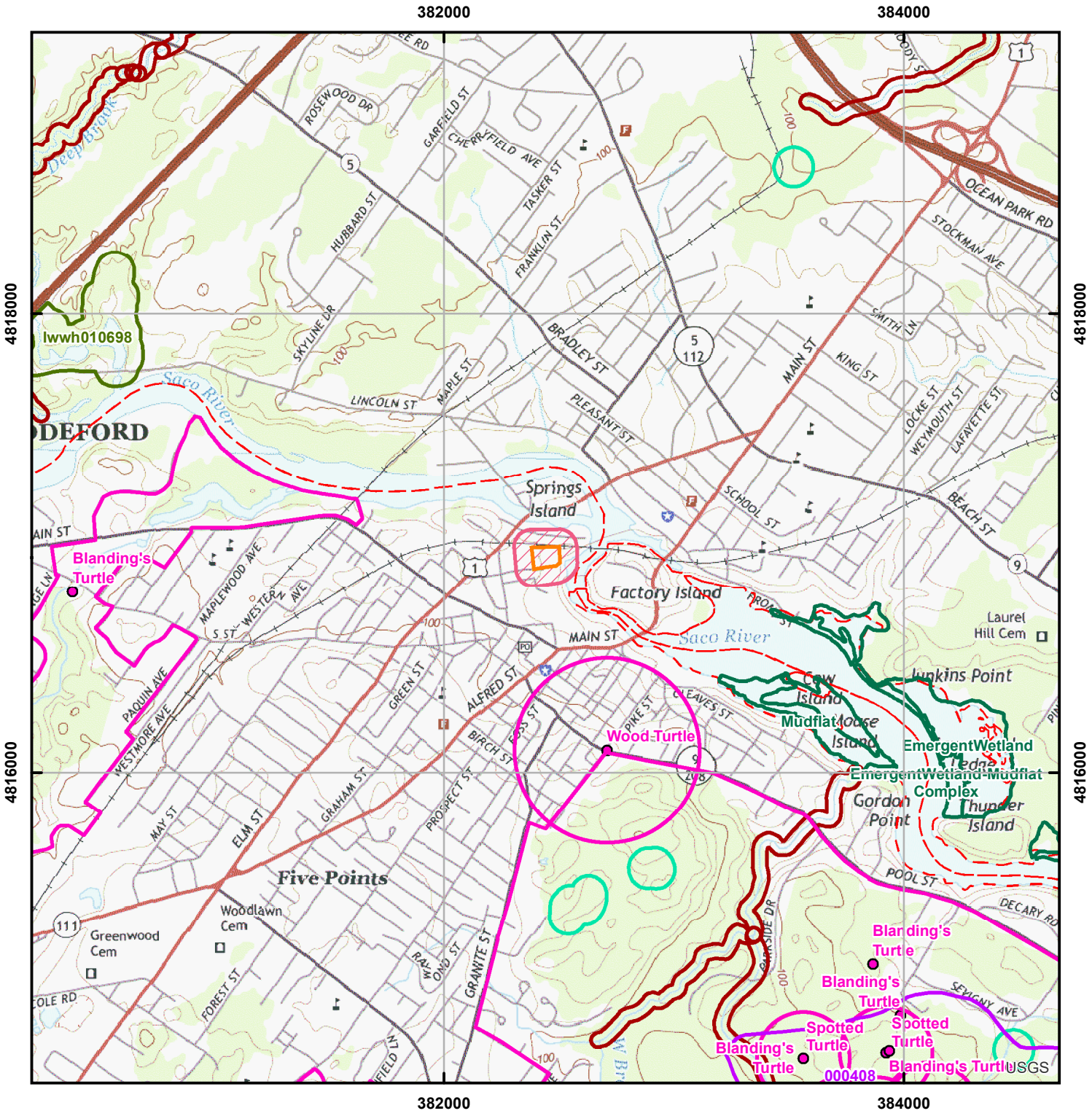
Our information indicates no locations of State-listed Endangered, Threatened, or Special Concern species within the project area that would be affected by your project. Additionally, our Department has not mapped any Essential or Significant Wildlife Habitats or inland fisheries habitats that would be directly affected by your project.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: 3 Lincoln Street Redevelopment, Biddeford (Version 1)

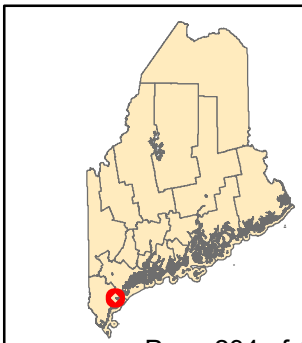
Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

Date: 1/11/2023

- ProjectSearchAreas - All Versions
- Maine Cliff and Talus Areas
- Deer Winter Area
- LUPC p-fw
- Cooperative DWAs
- Seabird Nesting Islands
- Shorebird Areas
- Inland Waterfowl and Wading Bird
- 2008 lwwh - Shoreland Zoning
- Tidal Waterfowl and Wading Bird
- Significant Vernal Pools
- Environmental Review Polygons
- Roseate Tern
- Piping Plover and Least Tern
- Aquatic ETSc - 2.5 mi review
- Rare Mussels - 5 mi review
- Maine Heritage Fish Waters
- Arctic Charr Habitat
- Redfin Pickerel and Swamp Darter Habitats - buffer100ft
- Special Concern occupied habitats - 100ft buffer
- Wild Lake Trout Habitats



Section 8

Historic Sites

Section 8. Historic Sites

See attached letter to Maine Historic Preservation Commission and their corresponding response.

ACORN ENGINEERING, INC.

Mr. Kirk F. Mohney
Maine Historic Preservation Commission
55 Capitol Street, State House Station 65
Augusta, Maine 04333

December 14th, 2022

Subject: Presence of Historic Areas
3 Lincoln St*reet (Lot 3) Redevelopment*
Biddeford, Maine

Dear Mr. Mohney:

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford Maine.

As part of the Site Location of Development Application process, Acorn requests information from your department in regard to the presence of any nearby structure or area with historical, architectural or archeological significance as defined by the National Historic Preservation Act.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:

EX-1 Vicinity Map
EX-2 Site Plan
EX-3 Survey

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

December 21, 2022

Mr. Zachary Stevens
Acorn Engineering
PO Box 3372
Portland, ME 04104

Project: MHPC #2210-22 3 Lincoln St
Proposed Redevelopment

Town: Biddeford, ME

Dear Mr. Stevens:

In response to your recent request, I have reviewed the information received December 14, 2022 to initiate consultation on the above referenced project in accordance with the requirements of the Maine Department of Environmental Protection.

In order to continue our review, please provide elevation drawings and renderings of the proposed new construction.

In addition, a historic archaeological survey is recommended. The proposed project area was part of an active industrial district throughout the 19th century with a number of properties and a canal and early river shore within the project area. Two images attached or the parcel due to the potential presence of two historic homestead sites of Morrill and R. Mosher present in 1857. Please see enclosed map.

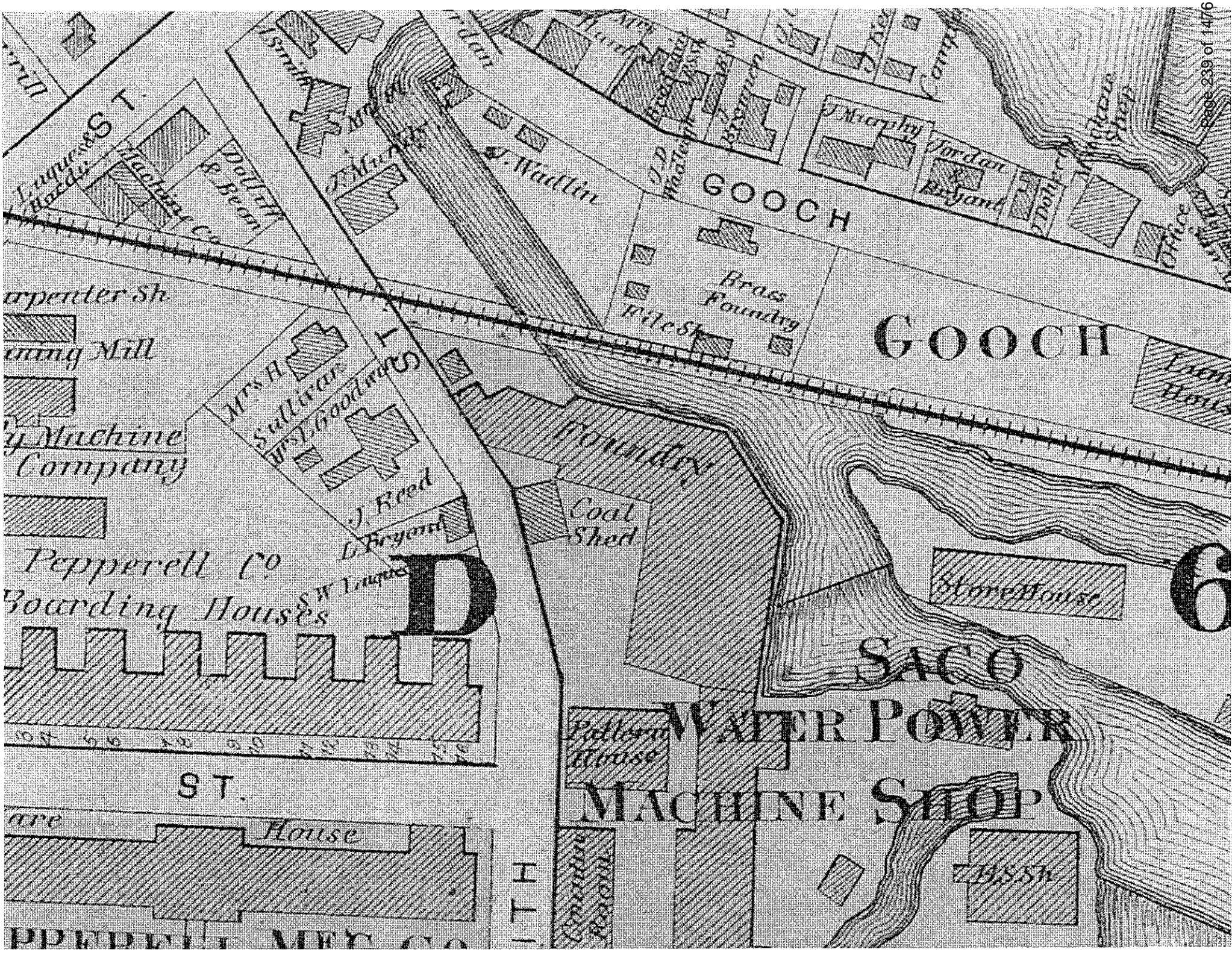
A list of qualified historic archaeologists can be found on our website:
https://www.maine.gov/mhpc/programs/survey/approved-consultants/historic

If you have any questions regarding archaeology, please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov

If you have any questions regarding above ground properties, please contact Megan Rideout of this office at megan.m.rideout@maine.gov.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer


GOOCH
GOOCH
SACO
WATER POWER
MACHINE SHOP
Brass Foundry
Coal Shed
Storehouse
Pattern House
Boarding Houses
Pepperell Co
Company
Machine
Mill
House
ST.
ST.
HIGH
Mrs. H. Sullivan
Mrs. L. Goodwin
J. Reed
D. Bryant
F. Murphy
J. Waldin
Dolloff & Bean
Machine Co
Office
Boarding House

Hemlock
Pine
Spruce
Hardwood
Hemlock
Pine
Spruce
Hardwood

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

January 25, 2023

Mr. Zachary Stevens
Acorn Engineering
PO Box 3372
Portland, ME 04104

Project: MHPC #2210-22 — 3 Lincoln St
Proposed Redevelopment

Town: Biddeford, ME

Dear Mr. Stevens:

In response to your recent request, I have reviewed the information received January 4, 2023 to initiate consultation on the above referenced project in accordance with the requirements of the Maine Department of Environmental Protection.

In order to continue our review, please provide provide a visual simulation of the view from Pearl Street looking north between the parking garage and building 3A.

In addition, a historic archaeological survey is recommended. The proposed project area was part of an active industrial district throughout the 19th century with a number of properties and a canal and early river shore within the project area. Two images attached or the parcel due to the potential presence of two historic homestead sites of Morrill and R. Mosher present in 1857. Please see enclosed map.

A list of qualified historic archaeologists can be found on our website:
https://www.maine.gov/mhpc/programs/survey/approved-consultants/historic

If you have any questions regarding archaeology, please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov

If you have any questions regarding above ground properties, please contact Megan Rideout of this office at megan.m.rideout@maine.gov.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

March 6, 2023

Mr. Zachary Stevens
Acorn Engineering
PO Box 3372
Portland, ME 04104

Project: MHPC #2210-22 3 Lincoln St
Proposed Redevelopment

Town: Biddeford, ME

Dear Mr. Stevens:

In response to your recent request, I have reviewed the information received February 15, 2023 to continue consultation on the above referenced project in accordance with the requirements of the Maine Department of Environmental Protection.

Based on the information provided, I have concluded that the proposed undertaking will have **no adverse effect** upon historic architectural (above ground) properties, as defined by Section 106.

A historic archaeological survey is still recommended for the proposed project. The proposed project area was part of an active industrial district throughout the 19th century with a number of properties and a canal and early river shore within the project area. Two images attached or the parcel due to the potential presence of two historic homestead sites of Morrill and R. Mosher present in 1857.

A list of qualified historic archaeologists can be found on our website:
https://www.maine.gov/mhpc/programs/survey/approved-consultants/historic

If you have any questions regarding archaeology, please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov

If you have any questions regarding above ground properties, please contact Megan Rideout of this office at megan.m.rideout@maine.gov.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

Section 9

Unusual Natural Areas

Section 9. Unusual Natural Areas

See attached letter to Maine Natural Areas Program and their corresponding response confirming the proposed project does not disturb rare botanical features.

ATTACHMENT 9-1: MNAP RESPONSE

ACORN ENGINEERING, INC.

Ms. Lisa St. Hilaire
Maine Natural Areas Program
93 State House Station
Augusta, Maine 04333

December 14th, 2022

Subject: Maine Natural Areas
3 Lincoln Street (Lot 3) Redevelopment
Biddeford, Maine

Dear Ms. St. Hilaire,

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford Maine.

As part of the Site Location of Development Application process, Acorn requests confirmation from your department that the proposed redevelopment will not adversely affect any federally listed endangered or threatened species.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:
EX-1 Vicinity Map
EX-2 Site Plan
EX-3 Survey

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

December 15, 2022

Zachary Stevens
Acorn Engineering
PO Box 3372
Portland, ME 04104

Via email: zstevens@acorn-engineering.com

Re: Rare and exemplary botanical features in proximity to: #1124, 3 Lincoln Street Redevelopment (Lot 3), Biddeford, Maine

Dear Mr. Stevens:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received December 14, 2022 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Biddeford, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. Based on the information in our files and the landscape context of this project, there is a low probability that rare or significant botanical features occur at this project location.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Section 10

Buffers

Section 10. Buffers

The existing lot is the former location of the old MERC facility, as such there is minimal vegetation onsite. The project anticipates incorporating trees, shrubs, and groundcover as part of the proposed programming. Please refer to the Landscape Plans prepared by Soren DeNoird for additional information.

Section 11

Soils

Section 11. Soils

The existing redevelopment project consists of approximately 2.08 acres of the existing 3 Lincoln Street parcel in Biddeford. The soils contain primarily urban fill, glacial till, and probable bedrock. Please see the attached geotechnical report including subsurface soil explorations by Summit Geoengineering Services for additional information.

Attachments:

1.) Medium Intensity Web Soil Survey for 3 Lincoln Street (Lot 3) in Biddeford.

2.) Geotechnical Report by Summit Geoengineering Services, Inc.

United States Department of Agriculture

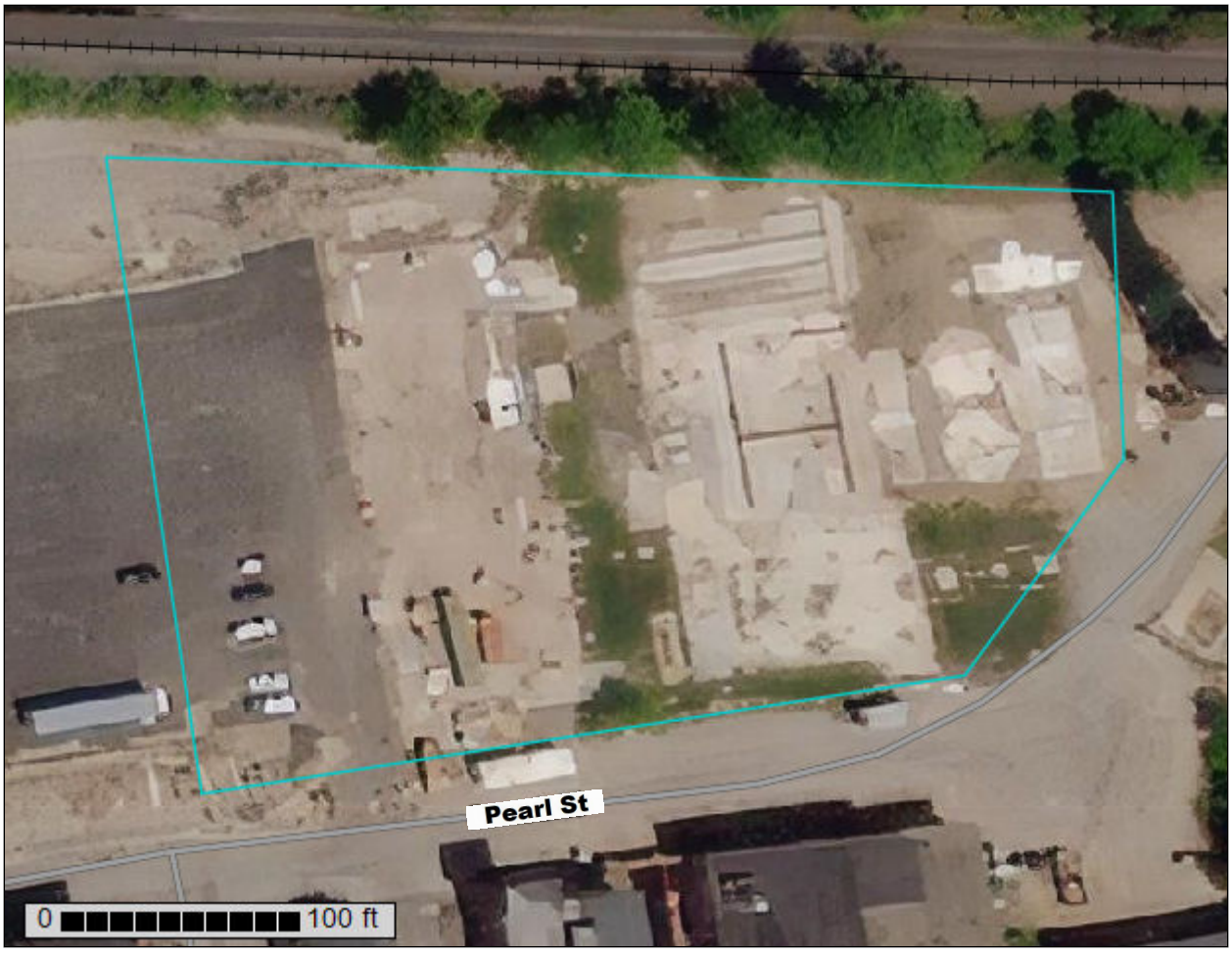
NRCS

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 York County, Maine

PL



Pearl St

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
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Ur—Urban land.....13
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map



Map Scale: 1:713 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: York County, Maine
Survey Area Data: Version 19, May 29, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ur	Urban land	2.1	100.0%
Totals for Area of Interest		**2.1**	**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.

York County, Maine

Ur—Urban land

Map Unit Setting

National map unit symbol: 9k6x
Elevation: 10 to 2,200 feet
Mean annual precipitation: 30 to 50 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 70 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

H1 - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent
Drainage class: Moderately well drained
Depth to water table: About 24 to 72 inches
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Scantic

Percent of map unit: 2 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sulfihemists

Percent of map unit: 2 percent
Landform: Salt marshes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear

Across-slope shape: Linear
Hydric soil rating: Yes

Adams

Percent of map unit: 2 percent
Landform: Outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Buxton

Percent of map unit: 2 percent
Landform: Coastal plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Croghan

Percent of map unit: 2 percent
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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The key to success starts with a solid foundation.
ENGINEERING | EXPLORATION | EXPERIENCE

Geotechnical Report

Proposed Buildings (Lot 3)
Pearl Street, Biddeford, ME



Client

Fathom Companies
80 Exchange Street, Suite 400
Portland, ME 04101

Project #: 22120
Date: 6/14/2022

SUMMIT
GEOENGINEERING SERVICES

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Appendix A – Exploration Location Plan
Appendix B – Exploration Logs
Appendix C – Laboratory Results
Appendix D – Bedrock Recommendations

June 14, 2022
SGS Project #: 22120

Fathom Companies
80 Exchange Street, Suite 400
Portland, ME 04101
Attn: Robyn Payne, CMIT

Reference: Geotechnical Report – Proposed Buildings (Lot 3)
Pearl Street, Biddeford, ME

Dear Robyn;

Summit Geoengineering Services, Inc. (SGS) has completed a geotechnical investigation for the construction of the proposed buildings at the site referenced above. Our scope of services included the observation of ten test borings, eight probes, laboratory testing, and the preparation of this geotechnical report summarizing our findings and providing geotechnical recommendations.

Our scope of services for this project did not include an environmental site assessment or further investigation for the presence or absence of hazardous or toxic material on, below, or around the site. Any statements in this report, or on the exploration logs, regarding odors or unusual and suspicious conditions observed are for informational purposes and are not intended to constitute an environmental assessment.

1.0 Project Description

The project consists of the construction of three new buildings at Lot 3 at the site referenced above. The proposed conditions for the buildings are as follows:

- Building 3A
  - Approximate footprint area of 18,000 square feet
  - 7-stories; At-grade parking garage (Garage FFE = 57.00 feet)
  - 2 to 6 feet of cut
  - Large terraced area appending structure with cast-in-place and segmental block retaining walls. About 7 feet of fill will be necessary near the frost wall and above the footings to bring the terrace to grade.
- Building 3B
  - Approximate footprint area of 18,100 square feet
  - 7-stories; FFE = 62.00 feet; Lobby FFE = 57.50 feet
  - 0 to 5 feet of fill

- Building 3C
  - Approximate footprint area of 5,800 square feet
  - 1 to 2 stories; FFE = 56.90 feet
  - 0 to 1 foot of cut

A common area with paths, retaining walls, staircases, grassed areas, and access roads will append the new buildings. Retaining walls across the site will have heights ranging from 0.5 feet to 7.5 feet. The existing site is an open lot with a large stockpile of fill soil and a large smokestack to the east. The stockpile will be removed before the construction of the proposed buildings.

Structural loading provided by Thronton Tomasetti in an email dated June 2, 2022 is anticipated to approach a maximum interior column load of 250 kips. The maximum exterior columns are anticipated to be around 100 to 150 kips.

Existing and proposed conditions were referenced from a plan entitled *Grading Plan – Pearl Street Lot 3 Redevelopment Biddeford* by Acorn Engineering, Inc dated June 1, 2022.

2.0 Explorations

Summit Geoengineering Services (SGS) observed the subsurface conditions on May 3, 2022 and May 4, 2022 with the drilling of 10 test borings and 8 probes. The explorations were completed by SGS using a truck mounted AMS PowerProbe 9630 Pro-D drill rig.

The borings were drilled to depths ranging from 2.8 feet (auger refusal, elevation 54.2 feet) to 22 feet (no refusal, elevation 35 feet). The borings were completed using 2 ¼-inch hollow stem augers. Standard Penetration Tests (SPT) were performed in increments of 5 feet. Soils were visually classified (*ASTM D2488*) using SPT split spoon sampling (*ASTM D1586*).

The probes were drilled to depths ranging from 3.1 feet (elevation 53.9 feet) to 18.5 feet (elevation 42.5 feet), all to refusal. The probes were completed using solid stem augers and 2 ¼-inch hollow stem augers. Refusal was determined when the auger would grind on a dense stratum for an extended period. Changes in stratum were noted when ease or lack of ease of auguring occurred.

The exploration locations were determined by SGS and marked out by SGS prior to drilling. An exploration location plan and the exploration logs are included in *Appendix A* and *Appendix B*, respectively.

3.0 Laboratory Testing

A grain size analysis was performed in a composite sample of sand in B-3 and B-4 at a depth of 5 to 7 feet. This test was performed to determine the potential for reuse of this material on-site and to further classify the site soils.

Detailed results of the laboratory testing can be found in *Appendix C*.

4.0 Subsurface Conditions

4.1 Soil

From the explorations, the soil at this site generally consists of the following:

- **Topsoil**
- **Fill**
- **Glacial Marine**
- **Glacial Till**
- **Bedrock**

According to the *Surficial Geology Map* from the Maine Geological Survey, the surficial soil deposit at the site is classified as an artificial fill deposit over bedrock. The findings from the explorations are consistent with the geologic mapping with the addition of layers of glacial till and glacial marine.

The **topsoil** generally consists of dark brown fine sandy silt with trace gravel, clay, and roots. It is generally firm and damp to moist. It is 0.5 feet to 1.5 feet thick and is visually classified as ML, in accordance with the Unified Soil Classification System (USCS). The SPT N-values range from 2 blows per foot (bpf) to 7 bpf and average 4 bpf.

The **fill** generally consists of brown fine-coarse sand with little gravel and trace silt. The fill had occasional layers of sandy silt. Some portions of the fill had trace to little clay and occasional brick, metal, and asphalt pieces. Existing building rubble was encountered in some of the sampling and augering. Strong petroleum odors were encountered in B-5, B-6, and B-10 at depths ranging from 15 feet to 22 feet. The fill is generally very loose to very dense and damp to saturated. It is 3 feet to 21.5 feet thick and is visually classified as either SP, SW, SM, or ML, in accordance with the USCS. The SPT N-values range from 3 bpf to 55 bpf and average 20 bpf.

A 4-foot-thick concrete element was encountered at the surface in B-6. Broken pieces of plastic liners were seen in the auger cuttings for B-9 and B-10.

A grain size analysis was performed on a composite sample from B-3 and B-4 at a depth of 5 feet to 7 feet. The test indicated that the existing fill towards the southern portion of Building 3A consists of 10% gravel, 84% sand, and 6% fines. The sample had a moisture content of 5.9%. It is classified as SP-SM, in accordance with the USCS.

No organics or other undesirable materials were observed in the borings. We recommend SGS be contacted to observe the subgrade conditions across the site to ensure the fill is suitable for construction purposes.

FILL SUMMARY TABLE			
Exploration Location	**Fill Thickness (ft)**	**SPT N-Values**	**Description**
B-1	6.5	36, 7	SAND, trace Clay balls and brick
B-2	9.5	22, 17	SAND
B-3	8.5	24, 14	SAND
B-4	14	28, 35, 17	SAND, trace brick; SILT, little Clay, trace brick
B-5	22	11, 54, 18, 17	4 ft of an existing concrete element; SAND and SILT; Brick and metal piece at 12 ft Strong petroleum odor at 20 ft
B-6	20.5	5, 15, 6, 3	SAND, trace brick; Strong petroleum odor and sheen at 15 ft
B-7	5.5	12	SAND
B-8	2.8	26	SAND, trace brick
B-9	21.5	13, 8, 5, 4, 18	SAND; Re-worked CLAY; Melted rock piece at 11 ft; Plastic liner in auger cuttings at 14 ft; Trace ash at 20 ft
B-10	21	35, 6, 25, 36, 31	SAND, trace asphalt and metal pieces; Plastic liner in auger cuttings at 14 ft; Petroleum odor and sheen from 15 ft to 21 ft

The **glacial marine**, encountered in B-3 at a depth of 10 feet, generally consists of olive silty clay with little fine sand. It is generally firm and moist. It is 4.5 feet thick and is visually classified as CL, in accordance with the USCS. The SPT N-value is 7 bpf.

The **glacial till** generally consists of brown silty fine-medium sand with little clay and gravel and occasional cobbles and/or boulders. It is generally loose to very dense and moist to saturated. It is 1 foot to 5 feet thick and extended to bedrock, when encountered. It is visually classified as SM, in accordance with the USCS. The SPT N-values range from 7 bpf to 55 bpf and average 30 bpf.

Detailed descriptions of the soil can be found in the exploration logs in *Appendix B*.

4.2 Groundwater

Groundwater was encountered at the following depths and approximate elevations:

GROUNDWATER DEPTHS AND ELEVATIONS			
Location	**Depth (ft)**	**Approximate Elevation (ft +/-)**	**Reference**
B-1	11.0	50.0	Estimated in spoon samples
B-2	13.2	47.8	Measured with 15 ft augers
B-3	13.3	47.7	Measured with 15 ft augers
B-4	9.5	51.5	Estimated in spoon samples
B-5	15.7	41.3	Estimated in spoon samples
B-6	15.4	41.6	Measured with 20 ft augers
B-7	NE	NE	NE
B-8	NE	NE	NE
B-9	11.7	49.3	Measured with 20 ft augers
B-10	10.2	50.8	Measured with 20 ft augers

Note: NE = None Encountered
Elevations are approximated and based on the site plan referenced in *Section 1.0*

The groundwater elevations generally flow from west to east across the site towards the Saco River to the east of the site and generally follow the existing ground contours. Groundwater will fluctuate seasonally and with precipitation levels.

4.3 Bedrock

Refusal, considered to be probable bedrock, was encountered at the following depths and approximate elevations:

PROBABLE BEDROCK DEPTHS AND ELEVATIONS			
Location	**Depth (ft)**	**Approximate Elevation (ft +/-)**	**Reference/Notes**
B-1	12.2	48.8	Auger refusal
B-2	13.7	47.3	Auger refusal
B-3	15.3	45.7	Spoon refusal
B-4	15.7	45.3	Spoon refusal
B-5	> 22	< 35	No refusal
B-6	21.8	35.2	Spoon refusal
B-7	6.7	51.3	Spoon refusal
B-8	2.8	54.2	Auger refusal
B-9	> 22	< 39	No refusal
B-10	21.2	39.8	Spoon refusal
P-1	6.6	54.4	Used 2 ¼" HSA; Hard at 6.5 ft
P-1A	6.2	54.8	Hard at 6 ft
P-1B	6.2	54.8	Auger refusal
P-2	18.5	42.5	Easy drilling 7 - 15 ft; Hard drilling 17.5 - 18.5 ft
P-3	15.5	45.5	Hard at 1-3 ft; 7.5 ft; 11.5 ft; 13.5 ft
P-4	3.1	53.9	Auger refusal
P-4A	4.1	52.9	Used 2 ¼" HSA; Hard at 2.5 ft; 3.5 ft
P-5	6.3	50.7	Hard at 5.8 ft; plastic/blue fibers in cuttings

Note: Exploration locations were not survey located. Elevations are approximated and based on the site plan referenced in *Section 1.0*
All probes were completed using 1 ½" Solid Stem Augers, unless otherwise noted

Weathered bedrock was encountered in our explorations. The weathered regions were estimated through boring sampling, augering, and probing. These weathered regions are generally 2 inches to 5 inches thick and overly a harder bedrock surface.

Samples of the bedrock were not obtained for examination. According to the *Bedrock Geology Map* from the Maine Geological Survey, the bedrock around Pearl Street in Biddeford, ME is classified as a Kittery Formation. This formation consists of feldspathic and calcarous metawacke.

5.0 Geotechnical Evaluations

Based on the data collected during the field explorations, results of the laboratory testing, and subsequent analyses using the information provided to us, foundations at the site can be supported on conventional spread or continuous footings. Some of the potentially challenging geotechnical considerations for the proposed buildings are:

- The potential bedrock interference for footing construction to the north of Building 3A and the middle of Building 3B.
- The potential for differential settlement between footings bearing on bedrock and footings bearing on soil.

- The potential for many unconformities (rubble, cobbles, boulders, etc.) to be present in the footing and slab subgrade.
- The desire to retain a majority of the cut materials on-site to avoid excessive hauling from the site.

Bedrock will likely be encountered for the footing subgrade at the north side of Building 3A and near the proposed lobby section of Building 3B. We anticipate minimal removal of bedrock to be necessary. We will provide recommendations for footings bearing on bedrock and footings bearing on both bedrock and soil.

SGS performed settlement computations for the proposed loading conditions. Based on our analysis, we estimate less than 0.75 inches of settlement will occur at any given building. Differential settlement between footings bearing on soil and footings bearing on bedrock will be within tolerable limits.

Many unconformities were encountered in our explorations. Cobbles, boulders, and existing foundation and rubble elements may be encountered in the footing and slab subgrades. To mitigate the effects of these large elements, we recommend they be removed, when encountered, in their entirety to a competent material and replaced with either ¾-inch crushed stone (CS) or Structural Fill (SF).

We understand that a majority of the cut materials on-site are desired to be reused. We will provide recommendations for different fill areas on-site including fill in the terraced areas, backfill for retaining walls, foundation backfill, and landscaped areas.

The existing fill at a depth of 5 feet to 7 feet, towards the south end of the proposed Building 3A, will meet the requirements for Granular Borrow (GB). If this material is desired to be reused within frost susceptible areas on-site, frequent testing and inspections should take place to ensure only clean (< 7% fines) and viable materials are used.

6.0 Geotechnical Recommendations

The sections below provide design and construction recommendations for the geotechnical aspects of the proposed buildings. If the building loads, proposed grades, or any other significant component of the project change from the time of submission of this report, Summit Geoengineering Services (SGS) should be notified so we can evaluate the impacts on the recommendations below to determine if changes are needed.

6.1 Subgrade Preparation

Based on the results of our subsurface explorations, we recommend that the bottom of the footings for the proposed buildings be constructed on a minimum of 6 inches of ¾-inch crushed stone (CS) placed over glacial till, existing fill, proposed fill, or bedrock.

6.1.1 Footings on Soil

Assuming that the recommendations below are followed, the footings bearing on 6 inches of CS over soil can be proportioned using a maximum allowable bearing pressure of **3,000 pounds per square foot (psf)**. Total settlement is expected to be 0.75 inches or less and differential settlement is expected to remain within tolerable limits. The allowable bearing pressure is based on the following construction sequences across the site:

- After grubbing the entire building footprint, proofroll the exposed soil within the building footprint by making a minimum of 4 passes in each of two perpendicular directions using a vibratory compactor with a minimum operating weight of 8 tons.

- Excavate to 6 inches below the proposed bottom of footing elevation. Remove any unconformities in the subgrade and replace with ¾-inch crushed stone (CS) or Structural Fill (SF). Proofroll the exposed soil by making a minimum of 4 passes using a plate compactor. Soft, wet, or unstable areas should be removed and replaced with CS or SF. A layer of woven geotextile may be necessary if the subgrade is excessively wet, soft, or unstable.

- Place and compact a minimum of 6 inches of CS. CS should be compacted to lock the particles together.

- SGS should observe the footing subgrade conditions after proofrolling and prior to the placement of the CS.

- The footings can be constructed directly on the compacted CS.

- In no case shall footings be constructed in standing water or frozen soil.

6.1.2 Footings on Bedrock

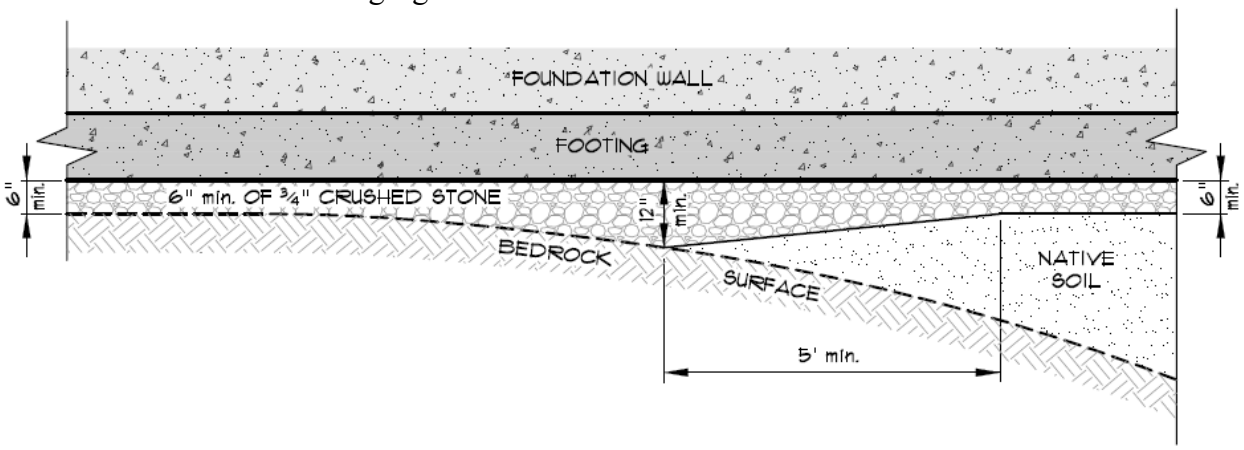
If bedrock is encountered in the footing subgrade, we recommend they be constructed on a minimum of 6 inches of CS. Footings on 6 inches of CS over bedrock can be proportioned using a maximum allowable bearing pressure of **10,000 psf**. The allowable bearing pressure is based on the following construction sequence:

- When bedrock is encountered, footings should bear on a minimum of 6 inches of compacted CS placed above proofrolled weathered, fractured bedrock or placed above hard, intact bedrock. Any large gaps or voids created by removing loose pieces of bedrock should be filled with CS.

- Footings bearing on CS over bedrock do not need the full frost protection, since intact bedrock is non-frost susceptible. We recommend that any footings bearing on CS over bedrock, not extended to the full frost depth, be backfilled with CS. We recommend that footings bearing on CS over bedrock be a minimum of 2 feet below the exterior finished

grade or the slab-on-grade. Where bedrock is cut, it should be sloped, if possible, to prevent ponding of water.

- If footings are bearing on both soil bedrock, we recommend a CS transition zone be constructed with the CS becoming a uniform bearing surface between the bedrock and the soil. The following figure shows the CS transition zone:



If footings need to be dowelled into bedrock to provide lateral sliding resistance, we recommend the 6-inch CS layer be removed in these areas and the footing be cast directly on a hard, intact bedrock surface with dowels already installed.

Construction techniques for bedrock interference can be found in *Section 7.1*. The gradation requirements for both CS and SF can be found in *Section 7.2*.

6.2 Design Parameters

SGS recommends the following design parameters be used for foundation and exterior retaining walls across the site:

DESIGN PARAMETERS FOR SOILS ACROSS THE SITE			
Parameter	**Structural Fill (SF)**	**Granular Borrow (GB)**	**Existing Fill**
Total Natural Unit Weight (Υ_t)	135 pcf	125 pcf	120 pcf
Buoyant Unit Weight (Υ_b)	73 pcf	63 pcf	58 pcf
Friction Coefficient (f)*	0.55	0.5	0.45
Passive Earth Pressure Coefficient (K_p)	3.54	3.25	3.00
Active Earth Pressure Coefficient (K_a)	0.28	0.31	0.33
At Rest Pressure Coefficient (K_o)	0.44	0.47	0.5
Effective Friction Angle ($\varphi°$)	34°	32°	30°
Undrained Shear Strength (S_u)	0 psf	0 psf	0 psf

Note: The equivalent fluid pressure for computing retaining wall lateral loads can be taken as the product $\gamma_t \cdot$ (K_a, K_0, or K_p)

*The friction coefficient is assumed to be the interface between cast-in-place footings and the soil

Live loading, to account for construction equipment, transportation, and pedestrian loads, should be included in the design of the segmental block, cast-in-place, and foundation walls.

Active earth pressure coefficients assume structures are free to rotate at the top. At-rest earth pressure coefficients assume the top of structures are braced and no lateral movement occurs. All walls across the site should have an underdrain system installed at the base of the wall to prevent the build-up of hydrostatic pressure behind the wall.

6.3 Frost Protection

The design air freezing index for the Biddeford, Maine area is approximately 1,190-degree F days (10-year, 90% probability). Based on this, exterior footings and other footings exposed to freezing temperatures should be placed at a minimum depth of **4 feet** in order to provide adequate frost protection. We recommend that all foundations exposed to freezing temperatures be backfilled with Granular Borrow (GB). The existing fill towards the south portion of Building 3A may meet the requirements for GB, see *Section 7.2* for gradation requirements.

Interior footings in continuously heated areas can be constructed at a minimum depth of 24 inches below the finished floor elevation.

6.4 Seismic Design

Based on the discovered soils and their properties, this site can be classified as **Seismic Site Class C** in accordance with ASCE 7-10. The following seismic design coefficients should be used:

SUBGRADE SITE SEISMIC DESIGN COEFFICIENTS – ASCE 7-10	
Seismic Coefficient	**ASCE 7-10 (Class C)**
Short period spectral response (S_S)	0.251
1 second spectral response (S_1)	0.079
Maximum short period spectral response (S_{MS})	0.301
Maximum 1 second spectral response (S_{M1})	0.135
Design short period spectral response (S_{DS})	0.201
Design 1 second spectral response (S_{D1})	0.090

No liquefiable soils were encountered in our explorations.

6.5 Groundwater Control

Based on observed groundwater levels, groundwater is anticipated to be below the proposed bottom of footing elevation for the buildings. Based on these conditions, underdrains are not strictly necessary, however, it is generally good practice to install underdrains along the exterior and interior foundations of the building to account for any local and regional changes in the hydrogeology and to control infiltration of rainfall adjacent to the foundation walls.

Underdrains, if used, should consist of 4-inch rigid PVC or flexible ADS pipe surrounded by 6 inches of ¾-inch crushed stone (CS) which is then surrounded by Mirafi 140N or equivalent. Underdrains should be outlet to a free draining location. Where exposed at the ground surface, a screen or other device should be placed over the outlet to prevent the migration of animals into the underdrain system.

In addition, we recommend all exterior grades slope away from the building footprint to reduce runoff water from infiltrating the foundation backfill soils.

Cast-in-place and segmental block retaining walls will require underdrains to prevent the hydrostatic loading on the walls, see *Section 6.8*.

6.6 Slabs-on-Grade

All fill should be compacted to a minimum of 95% of *ASTM D1557*. The gradation requirements for Granular Borrow (GB), ¾-inch crushed stone (CS), and Structural Fill (SF) can be found in *Section 7.2*.

6.6.1 Interior Slabs

To provide a uniform support condition for slabs-on-grade, we recommend the following steps be taken for construction:

- After grubbing the entire building footprint, proofroll the exposed soil, by making a minimum of 4 passes in each of two perpendicular directions using a vibratory compactor.

- Soft or wet pockets should be removed and replaced with SF or CS. Geotextile may be required in excessively wet and soft areas.

- Fill and/or cut the entire building footprint, if necessary, to 8 or 12 inches below the proposed finished slab-on-grade elevation, depending on the material being used as the slab subbase (CS or SF). Fill required to raise the grade to the bottom of the slab subbase soil should consist of GB or SF. The maximum particle size for these materials should be limited to 6 inches. GB, and SF should be compacted to a minimum of 95% of *ASTM D1557*.

- Place either 8 inches of CS or 12 inches of SF. The CS should be compacted to lock the particles together. The SF should be compacted to a minimum of 95% of *ASTM D1557*. The slab can be constructed directly on the compacted SF or CS.

6.6.2 Exterior Slabs

For slabs in unheated areas, the following options should be considered for frost protection:

- **6-inch slab** over **2 inches of rigid insulation** over **12 inches CS or SF (compacted)**
- **6-inch slab** over **36 inches CS or SF (compacted)**

We recommend that insulation, if used, be extended 2 feet beyond the edge of the slabs and that it consist of a rigid polystyrene product.

6.7 Pavement Section Recommendations

The mean annual freezing index for the Biddeford, Maine area is estimated at 890-degree F days (2-year, 50% probability). Based on the subgrade and mean annual freezing index, the anticipated mean annual frost penetration depth is 36 inches.

For the parking lots and access roads, we recommend a minimum total section thickness of **18 inches**. We further recommend that the pavement section consist of the following materials:

PAVEMENT SECTION MATERIALS AND THICKNESSES		
Material	**Thickness (in)**	**Specifications**
Asphalt Surface Course	1 1/4	MDOT 703.09 Type 9.5 mm or 12.5 mm
Asphalt Binder Course	1 3/4	MDOT 703.09 Type 19 mm
Base Soil	3	MDOT 703.06 Type A
Subbase Soil	12	MDOT 703.06 Type D

Reference: *MDOT Standard Specifications, 2014*

The following specifications are for MDOT base and subbase gravel:

BASE SOIL – TYPE A	
Sieve Size	**Percent finer**
1 inch	95 to 100
¾ inch	90 to 100
No. 4	40 to 65
No. 10	10 to 45
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type A (2020)

SUBBASE SOIL – TYPE D	
Sieve Size	**Percent finer**
3 inch	100
½ inch	35 to 80
¼ inch	25 to 65
No. 40	0 to 30
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type D (2014)

Fill beneath the subbase soil can consist of the existing fill (free from rubble, organics, or other

unsuitable materials), glacial till, SF, or GB, placed and compacted to a minimum of 95% of *ASTM D1557*.

Underdrains are not necessary beneath paved areas. Paved areas should be side sloped to prevent water ponding on the surface.

If paved areas are heated (not allowed to be below freezing temperatures), the base and subbase soils can be reduced in thickness to 1.5 inches and 6 inches, respectively.

6.8 Proposed Retaining Walls

The following recommendations are for both segmental block and cast-in-place retaining walls. Retaining walls across the site will have heights ranging from 0.5 feet to 7.5 feet.

6.8.1 Cast-in-Place Retaining Walls

We recommend that all cast-in-place retaining walls be backfilled with Structural Fill (SF) or Granular Borrow (GB). We further recommend that the soil properties and earth pressures summarized in *Section 6.2* be used for the structural design of the foundation walls. An underdrain system should be installed at the base of the wall (*Section 6.5*).

We recommend the footings for the cast-in-place retaining walls bear on a minimum of 6 inches of CS and be proportioned using an allowable bearing pressure of 3,000 psf. The friction coefficient between the concrete and the CS should be taken as 0.60.

When on bedrock, cast-in-place retaining walls should be constructed on a minimum of 6 inches of CS and may need to be dowelled into the bedrock. The allowable bearing pressure for footings on bedrock can be designed using 10,000 psf.

6.8.2 Segmental Block Retaining Walls

We recommend that all proposed segmental block retaining walls on-site be designed by a Maine Licensed Professional Engineer.

For all walls on site, we recommend that a ¾-inch crushed stone (CS) column with a minimum thickness of 12 inches be installed behind the entire wall, between the back of the blocks and the wall backfill, to prevent infiltrated water behind the wall from creating a hydrostatic load on the wall. An underdrain system should be provided continuously behind the retaining wall near its base to prevent the buildup of hydrostatic pressures.

Underdrains for the wall should consist of a 4-inch rigid perforated PVC surrounded by a minimum of 6 inches of ¾-inch crushed stone (CS) and filter fabric to prevent clogging from the migration of the fine soil particles in the foundation backfill soils. Underdrains should outlet at the ends of the wall or through the face at a maximum spacing of 50 feet.

We anticipate that the walls on site will be constructed on the existing fill or glacial till. We recommend that the walls be constructed on a leveling pad consisting of a minimum 9-inch-thick layer of CS. A geotextile fabric (such as Mirafi 180N) should be placed on the existing soil beneath the wall leveling pad. We recommend that all topsoil is removed and the exposed soil beneath the leveling pad, if granular and not containing clay, be proofrolled prior to placing the geotextile and CS. All rubble and/or other unconformities should be removed before proofrolling.

The walls should be designed in accordance with the *National Concrete Masonry Association (NCMA), 3rd Edition*, design manual. Retaining wall backfill for gravity retaining walls and reinforced soil for geogrid reinforced retaining walls should consist of GB or SF, compacted to a minimum of 95% of its maximum dry density in accordance with *ASTM D1557*. The maximum particle size should be limited to 4 inches, when used as a reinforced soil behind walls.

The walls can be designed with the wall backfill properties stated in *Section 6.2* using an allowable bearing pressure of 3,000 psf.

Since modular blocks are tolerable to some shifting, the blocks do not need to be placed to full frost depth. We recommend the following minimum embedment depths:

MINIMUM SEGMENTAL RETAINING WALL EMBEDMENT DEPTH	
Slope in Front of Wall	**Minimum Embedment to Top of Leveling Pad**
Horizontal	H/20
3H:1V	H/10
2H:1V	H/7
Minimum Embedment	0.5 feet

Note: H is the exposed height of the wall in (ft). The minimum embedment depth will also be in feet.

Passive resistance of embedded portions of the wall should be ignored.

7.0 Earthwork Considerations

7.1 Earthwork for Construction

SF, CS, GB and the existing native soil on-site are classified as an OSHA Type C classification. Based on this, any excavation deeper than 5 feet in these materials should have temporary side slopes which do not exceed 1.5H:1V.

If seepage occurs in any excavation deeper than 5 feet, de-watering techniques should be considered and side slopes shall not exceed 1.5H:1V.

Adequate proof rolling of the subgrade soil is important to the success of any fill as a uniform bearing material, especially if the subgrade soil is loose in isolated areas.

To the extent possible, construction should occur during periods of dry weather to minimize disturbance to excavated subgrade areas. If excavations and construction occur during wet periods, the contractor should employ the necessary measures to eliminate disturbance to the subgrade from heavy rainfall, surface water runoff, freeze/thaw softening, or any other potential weather-related cause of subgrade disturbance.

Cuts into bedrock may be required for bottom of footing elevations. If bedrock prevents the desired elevation, excavation of the bedrock, mechanically or by controlled blasting, may be necessary. If controlled blasting is necessary, we recommend it be performed in general accordance with the guidelines presented in *Appendix D*. We recommend a pre-construction survey be completed prior to blasting.

Once excavation for the footings is initiated, SGS should be contacted to observe the subgrade conditions after proofrolling and prior to the placement of any fill.

7.2 Materials

The gradation requirements reflect the portion of soil passing the 3-inch sieve size. The following table presents the recommended grain sizes for the materials to be used at the site:

GRADATION REQUIREMENTS FOR SITE MATERIALS			
Sieve Size	**[1] Structural Fill (SF)**	**[2] Crushed Stone (CS)**	**[3] Granular Borrow (GB)**
4 Inch	---	---	---
3 Inch	100	---	100
2 Inch	---	---	---
1 Inch	---	100	---
¾ Inch	---	90 – 100	---
½ Inch	35 – 80	20 – 55	---
⅜ Inch	---	0 – 15	---
¼ Inch	25 – 65	---	---
No. 4	---	0 – 5	---
No. 40	0 – 30	---	0 – 70
No. 200	0 – 7	---	0 – 7
Maximum Particle Size	6”	1”	6”
[4] Minimum Compaction Requirement	95%	---	[5] 95%

[1]Maine DOT Specification 703.06, 2014, Type D
[2]Maine DOT Specification 703.13, 2020, Crushed Stone ¾-Inch
[3]Maine DOT Specification 703.19, 2020, Granular Borrow
[4]Per ASTM D1557
[5]Compaction requirement for GB can be reduced to 90%, when in landscaping areas.

CS should be placed in 12-inch maximum lifts and compacted with a minimum of 4 passes with a vibratory compactor.

GB should consist of a free draining, granular soil.

The existing fill at a depth of 5 feet to 7 feet, towards the south end of the proposed Building 3A, will meet the requirements for Granular Borrow (GB). If this material is desired to be reused within frost susceptible areas on-site, frequent testing and inspections should take place to ensure only clean (< 7% fines) and viable materials are used.

7.3 Fill Recommendations Across the Site

7.3.1 Terraced Area and Landscaping Areas

We recommend the terraced area and any other landscaping area be filled with Common Borrow (CB). CB used at the site should consist of earth, suitable for embankment construction. It shall be free from frozen material, perishable rubbish, peat, and other unsuitable material including material currently or previously contaminated by chemical, radiological, or biological agents and should be able to be placed and compacted to a stable state. The existing fill soil at the site will meet or can be made suitable to meet the specifications of CB.

When in the terraced area, the CB should be compacted to a minimum of 90% of *ASTM D1557*. It is the responsibility of the wall designers across the site to determine the minimum distance of retaining wall backfill needed behind the site walls. We recommend a filter fabric be installed between the interface of the CB and the retaining wall backfill across the site to minimize the infiltration of fine particles into the retaining wall backfill.

7.3.2 Foundation and Retaining Wall Backfill

Foundation and retaining wall backfill across the site should consist of GB or SF.

7.3.3 Other Uses of Fill

Non-frost-susceptible areas within the building footprint (not including slabs-on-grade) and underneath the pavement sections may be filled with CB. CB in these areas should be compacted to a minimum of 95% of *ASTM D1557*.

8.0 Closure

Our recommendations are based on professional judgment, generally accepted principles of geotechnical engineering and project information provided by others. Some changes in subsurface conditions from those presented in this report may occur. Should the subsurface conditions, finish grades, or foundation loadings differ materially from those described in this report, SGS should be notified so that we can re-evaluate our recommendations.

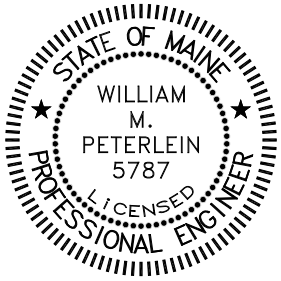
We recommend that a qualified third-party testing agency be retained to provide QA/QC services during construction.

SGS should be contacted to provide subgrade inspections prior to placement of the foundations to observe the subgrade conditions.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or if additional information is required, please do not hesitate to call.

Sincerely,
Summit Geoengineering Services, Inc.

Colin M. Plante, E.I.
Geotechnical Engineer



William M. Peterlein, P.E.
President & Principal Engineer

Appendix A

Exploration Location Plan

SCALE: 1" = 40'

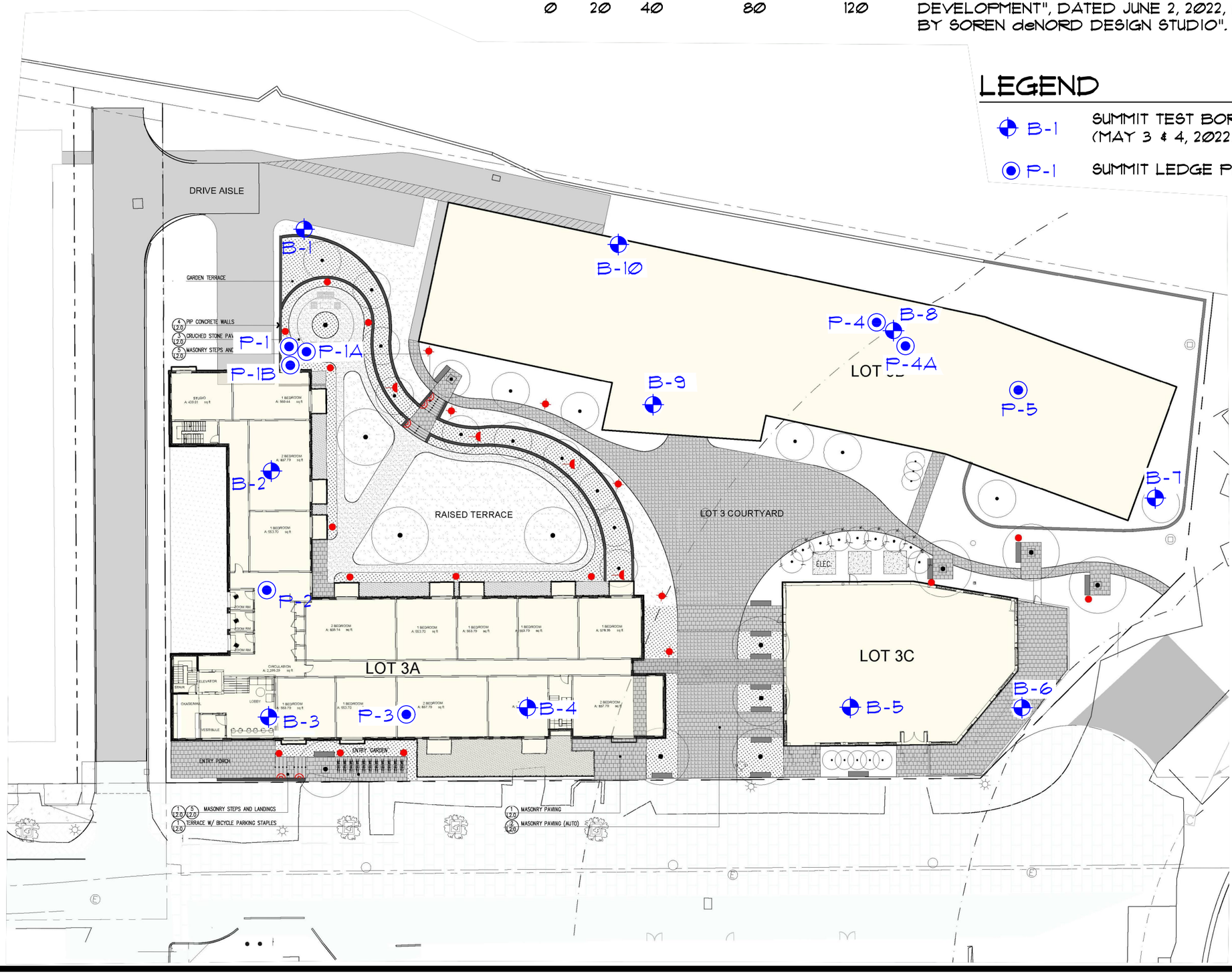
0 20 40 80 120

PLAN REFERENCE

"LANDSCAPE PLAN, PEARL STREET: LOT 3 DEVELOPMENT", DATED JUNE 2, 2022, PREPARED BY SOREN deNORD DESIGN STUDIO".

LEGEND

- B-1 — SUMMIT TEST BORING (MAY 3 & 4, 2022)
- P-1 — SUMMIT LEDGE PROBE



PROJECT: LOT 3 REVELOPMENT
PEARL STREET - BIDDEFORD, MAINE

CLIENT: FATHOM COMPANIES

TITLE: EXPLORATION LOCATION PLAN

SCALE: 1" = 40' | DRAWN BY: KRF

DATE: JUNE 8, 2022 | APPR. BY: WMP

SUMMIT GEOENGINEERING SERVICES
145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel: (207) 576-3313
113 PLEASANT STREET
ROCKLAND, ME 04841
Tel: (207) 318-7761

PROJ.#: 22120

FIGURE: 1

Appendix B

Exploration Logs

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-1**

Project:	Proposed Buildings (Lot 3)	Project #:	22120
Location:	Pearl Street	Sheet:	1 of 1
City, State:	Biddeford, ME	Chkd by:	

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation	61 ft +/-
Driller:	S. Floyd	Reference:	Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Summit Staff:	C. Plante, EI	Date started: 5/3/2022	Date Completed: 5/3/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/3/2022	11 ft	50.0 ft +/-	Estimated in spoon samples

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/23	0-2	2	60.5	Dk brn f Sandy SILT, tr Gravel/roots/Clay, firm, moist, ML		TOPSOIL
1				15		Brown fine-medium SAND, some Gravel, little Silt, trace		
				21		brick, dense, damp, SP		FILL
2				31				
3								
4								
5								
	S-2	24/15	5-7	3		Brown medium-coarse SAND, little Gravel, trace Silty		
6				3		Clay balls and brick streaks, loose, damp, SW		
				4				
7				2	54			
						Hard drilling at 7 ft		
8								GLACIAL TILL
9								
10								
	S-3	24/17	10-12	18		Gray/black weathered rock with fine-medium SAND		
11				7	▽	Reddish brown Silty fine-medium SAND, little Gravel,		
				7		compact, wet, SM		
12				50 for 5"	48.8	Gray weathered rock in spoon tip		WEATHERED ROCK
						End of Boring at 12.2 ft - Auger refusal		(PROBABLE) BEDROCK
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-2**

Project:	Proposed Buildings (Lot 3)	Project #:	22120
Location:	Pearl Street	Sheet:	1 of 1
City, State:	Biddeford, ME	Chkd by:	

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation	61 ft +/-
Driller:	S. Floyd	Reference:	Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Summit Staff:	C. Plante, EI	Date started: 5/3/2022	Date Completed: 5/3/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/3/2022	13.2 ft	47.8 ft +/-	Measured with 15 ft augers

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/18	0-2	3	60.5	Dk brn f Sandy SILT, little Clay, tr Gravel/roots, firm, damp, ML		TOPSOIL
1				10		Brown medium-coarse SAND, little Gravel, trace Silt,		
				12		compact, damp, SW		FILL
2				20				
3								
4								
5								
	S-2	24/11	5-7	3		Brown medium-coarse SAND, trace Gravel and Silt,		
6				7		compact, moist, SW		
				10				
7				17				
8								
9								
10					51			
	S-3	24/17	10-12	3		Olive fine SAND, some Silt, trace Gravel, slightly mottled,		
11				7		compact, wet, SM		GLACIAL TILL
				17				
12				21				
						Frequent Cobbles/Boulders in augering		
13					▽			
					47.3			
14						End of Boring at 13.7 ft - Auger refusal		(PROBABLE) BEDROCK
15								
16								
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-3**

Project: Proposed Buildings (Lot 3) | Project #: 22120
Location: Pearl Street | Sheet: 1 of 1
City, State: Biddeford, ME | Chkd by:

Drilling Co: Summit Geoengineering Services, Inc.
Driller: S. Floyd
Summit Staff: C. Plante, EI

Boring Elevation 61 ft +/-
Reference: Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Date started: 5/3/2022 Date Completed: 5/3/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/3/2022	13.3 ft	47.7 ft +/-	Measured with 15 ft augers

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/24	0-2	2		Dark brown fine SAND, some Silt, trace Gravel and roots,		
1				5		compact, damp, SM		TOPSOIL
				10	59.5			
2				14		Brown medium-coarse SAND, some Gravel, trace Silt,		
						compact, damp, SW		FILL
3								
4								
5								
	S-2	24/18	5-7	3		Brown medium-coarse SAND, little Gravel, trace Silt,	10% GRAVEL	
6				6		compact, damp, SW	84% SAND	
				8			6% FINES	
7				14		Black weathered rock in spoon tip	MC = 5.9%	
8								
9								
10					51			
	S-3	24/24	10-12	1		Olive Silty CLAY, little fine Sand, slightly mottled, firm,	PP = 1.8 - 2.5 tsf	
11				3		moist, CL		GLACIAL MARINE
				4				
12				5				
13					▽			
14								
					46.5			
15					46	Hard drilling at 14.5 ft		GLACIAL TILL
	S-4	24/10	15-17	50 for 3"	45.7	Dark gray weathered rock		WEATHERED ROCK
16						End of Boring at 15.3 ft - Spoon refusal		(PROBABLE) BEDROCK
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-4**

Project: Proposed Buildings (Lot 3) | Project #: 22120
Location: Pearl Street | Sheet: 1 of 1
City, State: Biddeford, ME | Chkd by:

Drilling Co: Summit Geoengineering Services, Inc.
Driller: S. Floyd
Summit Staff: C. Plante, EI

Boring Elevation 61 ft +/-
Reference: Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Date started: 5/3/2022 Date Completed: 5/3/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/3/2022	9.5 ft	51.5 ft +/-	Estimated in spoon samples

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/18	0-2	3	60.6	4" Topsoil		TOPSOIL
1				14		Brown medium-coarse SAND, little Gravel, trace Silt		
				14		and brick, compact, damp, SW		FILL
2				18				
3								
4								
5								
	S-2	24/20	5-7	9		Brown medium-coarse SAND, little Gravel, trace Silt,	10% GRAVEL	
6				16		dense, damp, SW	84% SAND	
				19			6% FINES	
7				22			MC = 5.9%	
8								
9								
					▽			
10								
	S-3	24/17	10-12	9		Brown medium-coarse SAND, little Gravel, trace Silt,		
11				11		compact, saturated, SW		
				6		Black fine Sandy SILT, little Clay, trace brick, stiff, wet,		
12				5		ML		
13								
14								
					46.5			
15						Hard at 14.5 ft		
	S-4	24/8	15-17	7		Olive gray Silty f SAND, little Clay, loose, wet, SM		GLACIAL TILL
16				25 for 2"	45.3	Some Silt, trace Gravel in spoon tip		
						End of Boring at 15.7 ft - Spoon refusal		(PROBABLE) BEDROCK
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-5**

Project:	Proposed Buildings (Lot 3)	Project #:	22120
Location:	Pearl Street	Sheet:	1 of 1
City, State:	Biddeford, ME	Chkd by:	

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation	57 ft +/-
Driller:	S. Floyd	Reference:	Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Summit Staff:	C. Plante, EI	Date started: 5/4/2022	Date Completed: 5/4/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	1 1/2" SSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/4/2022	15.7 ft	41.3 ft +/-	Estimated in spoon samples

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
1						4 ft of Concrete		EXISTING CONCRETE ELEMENT
2								
3								
4					53			
	S-1	24/24	4-6	5		Concrete/cement cuttings		
5				5		Brown medium-coarse SAND, little Gravel, trace Silt,		FILL
				6		compact, damp, SW		
6				4				
7								
8								
9								
10								
	S-2	24/24	10-12	23		Blackish olive fine Sandy SILT, trace to little Gravel,		
11				20		very dense, moist, ML		
				34				
12				35		Brick and metal nail in spoon tip		
13								
14								
15								
	S-3	24/24	15-17	3	▽	Black Silty f SAND, tr Gravel, compact, moist, SM		
16				6		Olive brown medium-coarse SAND, little Silt and Gravel,		
				12		compact, saturated, SW		
17				22				
18								
19								
20						Strong petroleum odor in spoon sample		
	S-4	24/24	20-22	3		Brown fine-medium SAND, little Silt, trace Gravel, loose,		
21				5		saturated, SP		
				12		Black Silty fine SAND, trace Gravel, compact, saturated,		
22				19	35	SM		
						End of Boring at 22 ft - No refusal		

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-6**

Project:	Proposed Buildings (Lot 3)	Project #:	22120
Location:	Pearl Street	Sheet:	1 of 1
City, State:	Biddeford, ME	Chkd by:	

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation	57 ft +/-
Driller:	S. Floyd	Reference:	Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Summit Staff:	C. Plante, EI	Date started: 5/4/2022	Date Completed: 5/4/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/4/2022	15.4 ft	41.6 ft +/-	Measured with 20 ft augers

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/16	0-2	3		Brown fine-medium SAND, little Silt and Gravel, trace		
1				3		brick, loose, damp, SP		FILL
				2		Light brown medium-coarse SAND, trace Gravel, loose,		
2				5		damp, SW		
3								
4								
5						Hard drilling at 4.5 ft		
	S-2	24/11	5-7	6		Dark brown Silty fine SAND, trace Gravel, compact,		
6				9		moist, SM		
				6				
7				7				
8								
9								
10								
	S-3	24/13	10-12	5		Reddish brown fine SAND, some Silt, little Gravel, loose,		
11				4		moist, SM		
				2				
12				1				
13								
14								
15								
	S-4	24/17	15-17	1	▽	Black Silty fine SAND, very loose, saturated, SM		
16				3		Trace Gravel 1st 4"		
				WH		Strong petroleum odor and sheen in spoon		
17				3				
18								
19								
20								
	S-5	24/17	20-22	15	36.5	Black Silty fine SAND, compact, saturated, SM		
21				20		Black fine-medium SAND, with weathered rock, very		
				35		dense, saturated, SP		GLACIAL TILL
22				50 for 3"	35.2			
						End of Boring at 21.8 ft - Spoon refusal		(PROBABLE) BEDROCK

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-7**

Project: Proposed Buildings (Lot 3) | Project #: 22120
Location: Pearl Street | Sheet: 1 of 1
City, State: Biddeford, ME | Chkd by:

Drilling Co: Summit Geoengineering Services, Inc.
Driller: S. Floyd
Summit Staff: C. Plante, EI

Boring Elevation 58 ft +/-
Reference: Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Date started: 5/4/2022 Date Completed: 5/4/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/4/2022			None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/14	0-2	5		Brown fine-medium SAND, little Gravel, trace Silt,		
1				6		compact, damp, SP		FILL
				6				
2				6				
3								
4								
5								
	S-2	24/11	5-7	4	52.5	Brn f-med SAND, tr Gravel/Silt, compact, moist, SP		
6				12	52	Black Silty fine SAND, little Gravel, dense, moist, SM		GLACIAL TILL
				40	51.3	Black weathered rock in spoon tip		WEATHERED ROCK
7				50 for 2"		End of Boring at 6.7 ft - Spoon refusal		(PROBABLE) BEDROCK
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Buildings (Lot 3)	Boring #:	**B-8**
Location:	Pearl Street	Project #:	22120
City, State:	Biddeford, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation	57 ft +/-
Driller:	S. Floyd	Reference:	Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Summit Staff:	C. Plante, EI	Date started: 5/4/2022	Date Completed: 5/4/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH			
Date	Depth	Elevation	Reference
5/4/2022			None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	**SAMPLE DESCRIPTION**	Geological/ Test Data	Geological Stratum
	S-1	24/18	0-2	18		Brown fine SAND, little Silt, trace Gravel, compact,		
1				12		moist, SP		FILL
				14		Weathered rock and brick streaks throughout		
2				30				
3					54.2			
						End of Boring at 2.8 ft - Auger refusal		(PROBABLE) BEDROCK
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-9**

Project: Proposed Buildings (Lot 3) | Project #: 22120
Location: Pearl Street | Sheet: 1 of 1
City, State: Biddeford, ME | Chkd by:

Drilling Co: Summit Geoengineering Services, Inc.
Driller: S. Floyd
Summit Staff: C. Plante, EI

Boring Elevation 61 ft +/-
Reference: Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Date started: 5/3/2022 Date Completed: 5/3/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/3/2022	11.7 ft	49.3 ft +/-	Measured with 20 ft augers

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/18	0-2	3	60.6	4" Topsoil		TOPSOIL
1				5		Brown medium-coarse SAND, little Gravel, trace Silt,		
				8		compact, damp, SW		FILL
2				7				
3								
4								
5								
	S-2	24/11	5-7	2		Brown fine-medium SAND, trace Gravel, loose, damp,		
6				2		SP		
				6				
7				3				
8								
9								
10								
	S-3	24/13	10-12	1		Brown medium-coarse SAND, little Silt, trace Gravel,		
11				2		loose, wet, SW		
				3	▽	Melted rock piece (igneous rock) in spoon		
12				2				
13								
14								
						Plastic liner in auger cuttings		
15								
	S-4	24/9	15-17	1		Gray Silty CLAY, little fine Sand, trace Gravel, soft, wet,	PP = 1.0 - 4.0 tsf	
16				2		CL		
				2		Sample appears re-worked		
17				5				
18								
19								
20								
	S-5	24/12	20-22	6		Grayish black Gravelly SAND, some Silt and Clay, trace		
21				7		ash, compact, saturated, SM		
				11				
22				10	39			
						End of Boring at 22 ft - No refusal		

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-10**

Project:	Proposed Buildings (Lot 3)	Project #:	22120
Location:	Pearl Street	Sheet:	1 of 1
City, State:	Biddeford, ME	Chkd by:	

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation	61 ft +/-
Driller:	S. Floyd	Reference:	Grading Plan, Pearl Street Lot 3, Acorn Engineering, 1/17/2022
Summit Staff:	C. Plante, EI	Date started: 5/3/2022	Date Completed: 5/3/2022

DRILLING METHOD		SAMPLER	
Vehicle:	AMS PP	Length:	24" SS
Model:	9630 Pro-D	Diameter:	2"OD/1.5"ID
Method:	2 1/4" HSA	Hammer:	140 lb
Hammer Style:	Automatic	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
5/3/2022	10.2 ft	50.8 ft +/-	Measured with 20 ft augers

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/19	0-2	3	60.6	4" Topsoil		TOPSOIL
1				14		Brown fine-medium SAND, some Gravel, little Silt, dense,		
				21		damp, SP		FILL
2				20		Metal piece in spoon tip		
3						Hard drilling to 5 ft		
4								
5								
	S-2	24/10	5-7	3		Brown fine-medium SAND, little Gravel, trace Silt, loose,		
6				3		damp, SP		
				3				
7				4				
8								
9								
10					▽			
	S-3	24/18	10-12	3		Dark brown fine-medium SAND, some Gravel and Silt,		
11				5		trace asphalt, compact, saturated, SP		
				20				
12				13				
13								
						Hard driling 13 ft to 15 ft		
14								
						Plastic liner in auger cuttings		
15								
	S-4	24/15	15-17	31		Black medium-coarse SAND, some Silt, trace Gravel,		
16				26		dense, saturated, SW		
				10		Black fine-coarse SAND, some Silt and Gravel, trace		
17				3		Clay, dense, saturated, SM		
						Petroleum odor in spoon		
18								
19								
						Petroleum odor and sheen in spoon		
20						Black fine-medium SAND, some Silt, trace Gravel,		
	S-5	24/24	20-22	8		compact, saturated, SM		
21				23	40	Black fine-coarse SAND, some Silt and Gravel, SM		
				50 for 2"	39.8	Black weathered rock		WEATHERED ROCK
22						End of Boring at 21.2 ft - Spoon refusal		(PROBABLE) BEDROCK

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
Bedrock Joints Su = Undrained Shear Strength, Su(r) = Remolded Shear Strength
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

22120 PROBE REFUSAL			
Location	**Depth (ft)**	**Elevation (ft +/-)**	**Notes**
P-1	6.6	54.4	Used 2 ¼" HSA; Hard at 6.5 ft
P-1 A	6.2	54.8	Hard at 6 ft
P-1 B	6.2	54.8	---
P-2	18.5	42.5	Easy drilling 7 - 15 ft; Hard drilling 17.5 - 18.5 ft
P-3	15.5	45.5	Hard at 1-3 ft; 7.5 ft; 11.5 ft; 13.5 ft
P-4	3.1	53.9	---
P-4 A	4.1	52.9	Used 2 ¼" HSA; Hard at 2.5 ft; 3.5 ft
P-5	6.3	50.7	Hard at 5.8 ft; plastic/blue fibers in cuttings

Note: All probes were completed using 1 ½" Solid Stem Augers, unless otherwise noted

Appendix C

Laboratory Testing

SUMMIT
GEOENGINEERING SERVICES

GRAIN SIZE ANALYSIS - ASTM D6913

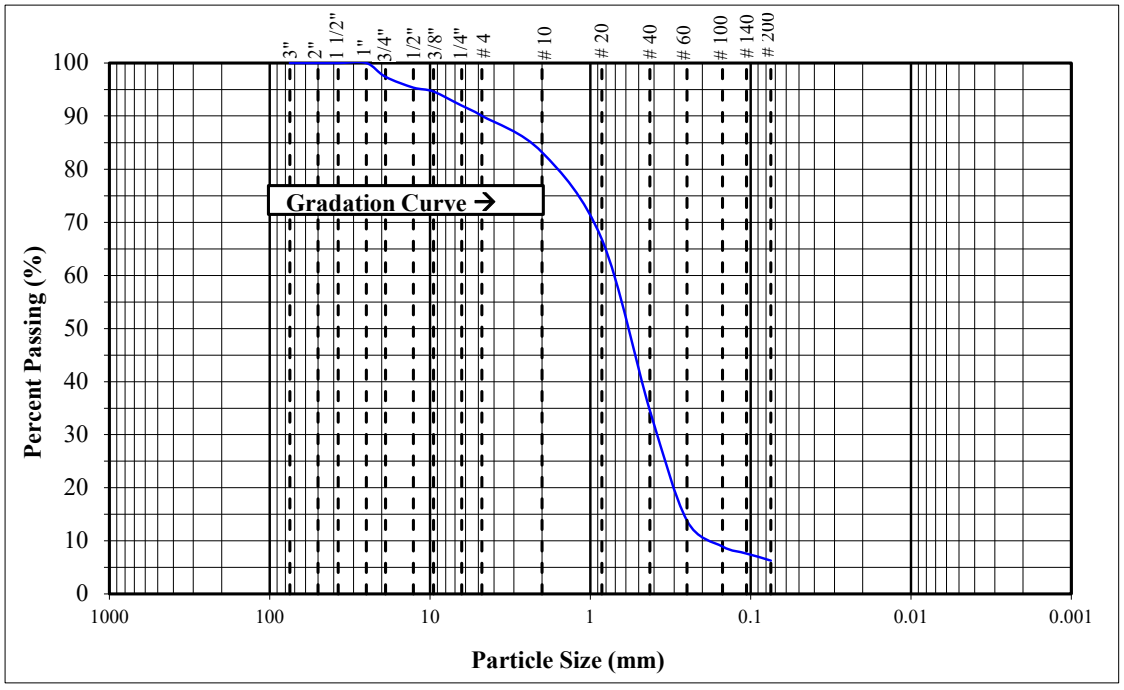
PROJECT NAME:	Proposed Buildings Lot 3	PROJECT #:	22120
PROJECT LOCATION:	Pearl Street, Biddeford, Maine	EXPLORATION #:	B-3 & B-4 (Composite)
CLIENT:	Fathom Companies	SAMPLE #:	S-2
TECHNICIAN:	Colleen Sullivan, E.I.	SAMPLE DEPTH:	5' - 7'
SOIL DESCRIPTION:	Med-fine SAND, little Gravel & Silt, SP-SM	TEST DATE:	5/9/2022

TEST PROCEDURE

Sample Source: Split Spoon	**Sieve Stack:** Composite	**Specimen Procedure:** Air Dry
Test Method: Method A	**Separating Sieve(s):** 3/8 Inch	**Dispersion Type:** Tap Water

DATA

STANDARD SIEVE DESIGNATION (mm)	ALTERNATIVE SIEVE DESIGNATION (in)	PERCENT PASSING (%)
75	(3 in)	100
50	(2 in)	100
37.5	(1-1/2 in)	100
25.0	(1 in)	100
19.0	(3/4 in)	97
12.7	(1/2 in)	95
9.5	(3/8 in)	95
6.35	(1/4 in)	92
4.75	(No. 4)	90
2.00	(No. 10)	83
0.850	(No. 20)	67
0.425	(No. 40)	35
0.250	(No. 60)	14
0.150	(No. 100)	9
0.106	(No. 140)	8
0.075	(No. 200)	6



REMARKS: Moisture Content = 5.9%. Composite sample at 5' - 7' from B-3 & B-4.

Appendix D

Bedrock Recommendations

GENERAL BLASTING RECOMMENDATIONS

Introduction

Blasting operations will be performed in general accordance with the applicable Maine Revised Statute Title 125 and Title 38, U.S. Department of the Interior Rules, the recommendations provided below, and a normal standard of care.

Blast Design

The blasting contractor shall submit a blasting plan to the Owner for approval prior to blasting operations. The blasting plan shall include a schedule, sketches of the drill patterns (hole spacing and depth), type and amount of explosives, number and sequence of delays, methods for minimizing flyrock, and any other information pertinent to demonstrating compliance with the applicable U.S. Department of the Interior Rules and the requirements of the applicable Statute requirements of 38 MRSA.

Notification

Oral notification to the abutters within one-half mile of the blast area shall be provided prior to blasting. Warning and all clear signals of different character or pattern that are audible within one-half mile from the point of the blast shall be given. The meaning of the signals shall be conveyed to the abutters at the time they are notified.

Pre-blast Surveys

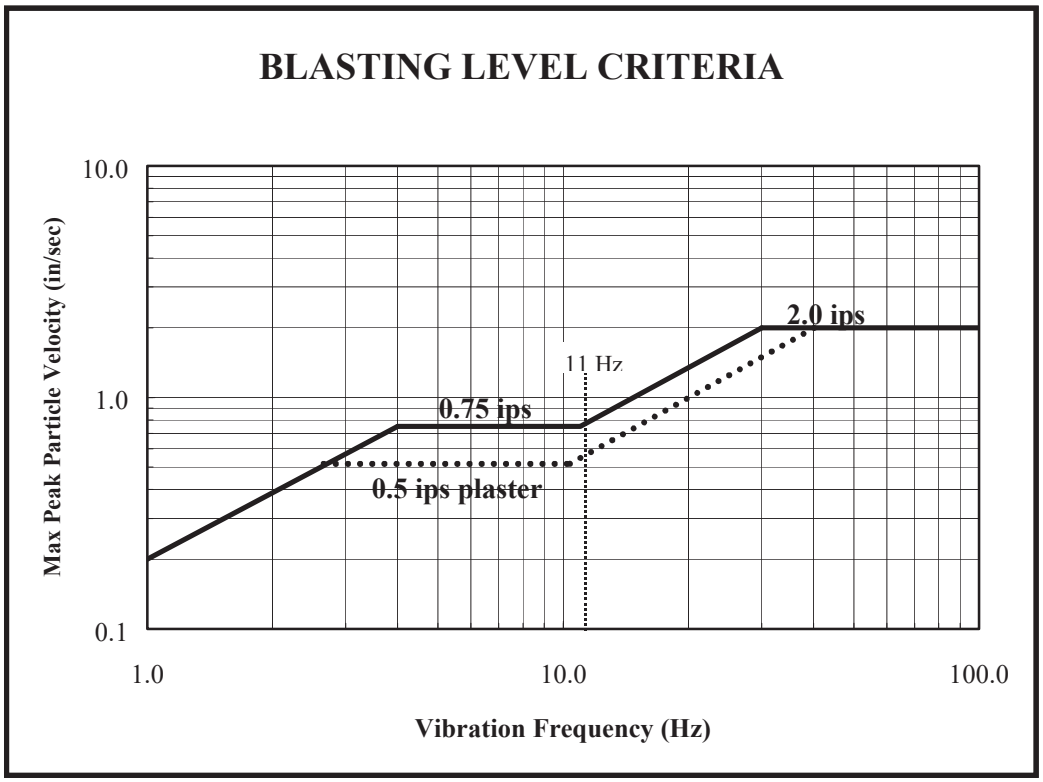
All blasting operations are the direct responsibility of the Blasting Contractor. Reports of damage to structures caused by blasting operations are the sole responsibility of the Blasting Contractor. Therefore, it is incumbent upon the Blasting Contractor to perform pre-blast surveys as they deem necessary.

Airblast Limits

Airblast overpressure shall not exceed the limits stipulated in 38 MRSA 490-Z(14)(H) at the nearest structure. This currently requires sound from blasting to not exceed 129 decibels peak at inhabited structures and 140 decibels peak at uninhabited structures.

Ground Vibration Limits

The maximum ground vibration at any structure shall not exceed the limits presented in the following chart:



REFERENCE: OSM alternative blasting criteria (Modified from figure B-1, Bureau of Mines, RI 8507)

The Blasting Contractor shall provide a seismographic record to the Owner for each blast event at the nearest off-site structure. The record shall include the date and time of the blast, peak and resultant particle velocities and associated frequencies, and the airblast overpressure.

Flyrock

Sufficient stemming, matting, or natural protective cover shall be provided to prevent flyrock from leaving property owned or under control of the operator or from entering protected natural resources or natural buffer strips.

Records

Records of blasts shall be recorded in accordance with Maine Statute 38 MRSA 490-Z(14)(L). The current requirements are as follows.

- Name of blasting company or blasting contractor
- Location, date and time of blast
- Name, signature and social security number of blaster
- Type of material blasted
- Number and spacing of holes and depth of burden or stemming
- Diameter and depth of holes
- Type of explosives used
- Total amount of explosives used
- Maximum amount of explosives used per delay period of 8 milliseconds or greater
- Maximum number of holes per delay period of 8 milliseconds or greater
- Method of firing and type of circuit
- Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controlled by the developer
- Weather conditions, including factors such as wind direction and cloud cover
- Height or length of stemming
- Amount of mats or other protection used
- Type of detonators used and delay periods used
- The exact location of each seismograph and the distance of each seismograph from the blast
- Seismographic readings
- Name and signature of the person operating each seismograph
- Names of the person and the firm analyzing the seismographic data

MAXIMUM PARTICLE VELOCITY/DISTANCE CRITERIA
FOR BLASTING NEAR UNCURED CONCRETE

Time From Batching (hr)	Non-Structural Concrete	Structural Concrete
0 – 4	4D	2D
4 – 24	1D	0.25D
24 – 72	1.5D	1D
72 – 168	3D	2D
168 – 240	8D	5D
Over 240	15D	10D

Distance (ft)	D (in/sec)
0 to 50	1.0
50 to 150	0.8
150 to 250	0.7
Over 250	0.6

NOTE: Allowable vibration levels are reduced with increasing distance since concrete can withstand higher vibration levels at higher frequencies. Vibration frequencies decrease as the distance from the blast increases because there is an attenuation of frequency with distance.

Reference: Wyllie, Duncan C. Foundations on Rock, 1st Ed, Chapman & Hall, London, 1992

ACORN ENGINEERING, INC.

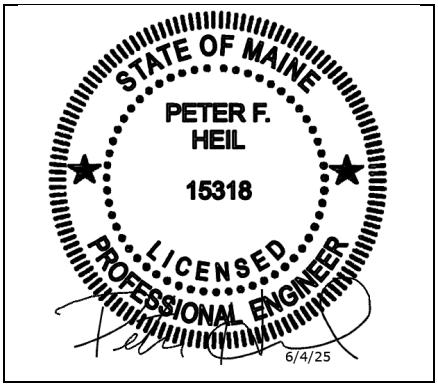
STORMWATER MANAGEMENT REPORT

Prepared For:

3 Lincoln, LLC
80 Exchange Street, Suite 400
Portland Maine 04101

Prepared By:

Acorn Engineering, Inc.
16 Middle Street, Suite 302
Portland, Maine 04101



June 2025

INTRODUCTION

This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

EXISTING CONDITIONS

The existing site address is 15 Pearl Street, with frontage on Pearl Street. The existing lot sizes total approximately 6.95 acres, and a section of the site is located within the 250' shoreland overlay zone due to the proximity from the Saco River. An Existing Conditions Survey has been prepared by Owen Haskell Inc. dated February 28, 2025.

The proposed Lot 3 site is currently vacant and has recently been stabilized with grass coverage associated with the recent City parking garage project. The existing grades on site are relatively flat ranging from 0 to 5 percent west to east toward the Saco River.

The project team is not aware of the presence of any existing significant natural features located on the site. Furthermore, the project is not within an urban impaired stream.

PROPOSED DEVELOPMENT

The project includes subdividing the existing lot into a total of 4 separate parcels. The limit of work for the proposed project will be contained within Lot 3 which is proposed to be approximately 2.08 acres.

As part of the redevelopment of the overall MERC parcel, and construction of the municipal Pearl Street garage on Lot 2, a DEP Stormwater permit was issued (L-10282-NJ-A-N), which included the installation of the subsurface stormwater system located primarily on Lot 4 (with a small section installed on Lot 3). As part of the stormwater system design, each lot was allocated a conservative impervious coverage / redevelopment pollutant ranking threshold for the individual lots to remain under once actual designs progress. The DEP Stormwater Permit includes a condition of approval that all "future development on other sections of the overall parcel, the applicants must submit a Stormwater Management application that shows the proposed project, a grading plan that includes the stormwater drainage system connections, the weighted average pollutant impacting rating with supporting information for the portion of the parcel proposed to be developed, and other material to demonstrate that the proposed development will not change the percentage of developed area that must be treated."

As part of the proposed project, the Lot 3 programming including building layouts, impervious coverages, and drainage patterns are proposed to be amended from the previous approval (L-10282-NJ-C-A). Catch basins, foundation drains, and roof drains are proposed on site and will be directed to a network of storm drains and tie into the existing stormwater treatment system located primarily on Lot 4. Stormwater and Erosion Control Best Management Practices will be implemented during construction.

BASIC STANDARDS – EROSION & SEDIMENT CONTROL

The project proposes measures to meet the basic standards requirements as outlined in Chapter 500. Please refer to Section 14: Basic Standards Submission

GENERAL STANDARDS - WATER QUALITY

The existing subsurface stormwater system previously installed as part of the overall DEP Stormwater Permit L-10282-NJ-A-N will be utilized to provide the water quality treatment for the runoff from the site. As part of the stormwater system design, each lot was allocated a conservative impervious coverage / redevelopment pollutant ranking threshold for the individual lots to remain under once actual designs progress.

The previously approved (permitting) post-development land use rankings are as follows:

Table 1 – Land Use and Pollutant Summary Table: Previously Approved (Permitted) Condition			
Land use	**Pollutant Ranking**	**Existing Area**	**Weighed Impact**
Roads where idling may occur; high use parking lots	5	0.00 ac.	0.00
Other roads; medium use parking lots	4	2.03 ac.	8.10
Other parking lots and driveways; flat roof asphalt rooftops	3	0.00 ac.	0.00
Other rooftops; grassed areas mowed > twice per year; walkways / foot-traffic-only pavement	2	0.30ac.	0.60
Non-grass landscaped areas; Stormwater treatment / storage systems	1	0.06 ac.	0.06
TOTAL		2.38 ac.	8.76

The corresponding previously approved stormwater permit, and previously approved (existing) pollutant rankings can be viewed in Attachments 1 & 2 of this report.

The area of this lot in the previously-approved (permitted) calculations in Attachment 2 included 0.3 acre that is no longer included as part of the redevelopment. It is assumed the 0.3 acres accounts for the drive aisle between the City Parking Garage and Lot 3, which is not included as part of this project. See the adjusted table below that shows an adjusted Pollutant Summary Table

Table 2 – Land Use and Pollutant Summary Table: Previously Approved (Adjusted) Condition			
Land use	**Pollutant Ranking**	**Existing Area**	**Weighed Impact**
Roads where idling may occur; high use parking lots	5	0.00 ac.	0.00
Other roads; medium use parking lots	4	1.73 ac.	6.92

Other parking lots and driveways; flat roof asphalt rooftops	3	0.00 ac.	0.00
Other rooftops; grassed areas mowed > twice per year; walkways / foot-traffic-only pavement	2	0.30ac.	0.60
Non-grass landscaped areas; Stormwater treatment / storage systems	1	0.06 ac.	0.06
TOTAL		2.08 ac.	7.58

The pollutant ranking for the existing site condition is 7.58 divided by 2.08 acres, or 3.64.

The proposed post development land use rankings are as follows:

Table 3 – Land Use and Pollutant Summary Table: Proposed Condition			
Land use	**Pollutant Ranking**	**Existing Area**	**Weighed Impact**
Roads where idling may occur; high use parking lots	5	0.00 ac.	0.00
Other roads; medium use parking lots	4	0.00 ac.	0.00
Other parking lots and driveways; flat roof asphalt rooftops	3	1.02ac.	3.06
Other rooftops; grassed areas mowed > twice per year; walkways / foot-traffic-only pavement	2	0.80 ac.	1.60
Non-grass landscaped areas; Stormwater treatment / storage systems	1	0.26 ac.	0.26
TOTAL		2.08 ac.	4.92

The corresponding post-redevelopment map can be viewed in Attachment 3 of this report. The pollutant ranking for the proposed site condition is 4.92 divided by 2.08 acres, or 2.37.

From Tables 1 & 2 above, the difference between the proposed pollutant ranking (2.37) and the previously approved (permitted) pollutant ranking (3.64) is -1.27. Per Table 3 in Chapter 500, a negative difference means that no additional treatment is required beyond what was already approved for a site subject to Stormwater Law, which had been conservatively designed.

Therefore, the proposed development is in compliance with the requirements set forth in the previously approved stormwater permit. This pollutant breakdown will also be submitted to DEP as part of the Stormwater Law amendment application in the upcoming weeks.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for York County
- Geotechnical Report by Summit Geoengineering

The area within and surrounding the project includes soils 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 4 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Urban Land (Ur)	0.27	0.27

The soil "K" values for the soils, listed above, show a low to moderate susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although soil "K" values for the soils show a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance, given the proximity to the Saco River.

Please refer to Section 11. for the Soils Section.

PHOSPHOROUS STANDARD

As the project is not located in a watershed of a lake most-at-risk, or a proposing development of any other lake watershed, the Phosphorous Standard does not apply to this project.

URBAN IMPAIRED STREAM STANDARD

As the project is not located in an urban impaired stream watershed, the Urban Impaired Stream Standard does not apply to this project.

FLOODING STANDARD

As part of the overall MERC parcel development stormwater design and DEP Stormwater Permit, the site requested and was granted a waiver from the Flooding Standard as the project stormwater runoff discharges directly to a major river segment (Saco River), and request that the waiver be extended. The plans are designed to be in accordance with the City's Land Development Regulations, Article IV: Performance Standards, Section 61: Stormwater Management.

CONCLUSION

With the previously approved conservative design of the existing subsurface stormwater treatment system, and proposed redevelopment pollutant rankings associated with the Lot 3 development, adequate treatment will be provided to the proposed site conditions. The project does not anticipate creating erosion, drainage, or runoff problems for the development, the City, or abutting properties. Please let me know if you have any questions or comments.

ATTACHMENTS

Attachment 1: Previously Approved DEP Stormwater Permit (L-10282-NJ-A-N & L-10282-NJ-C-A)
Attachment 2: Previously Approved Pollutant Rankings
Attachment 3: Post Redevelopment Map
Attachment 4: Post Watershed Map
Attachment 5: Stormwater Inspection & Maintenance Plan

Sincerely,



Peter Heil, P.E.
Senior Project Manager
Acorn Engineering, Inc.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF BIDDEFORD &	) STORMWATER MANAGEMENT LAW
BIDDEFORD RIVERWALK	)
COMMUNITY 1, LLC	)
Biddeford, York County	)
PARKING GARAGE	)
L-10282-NJ-A-N (Approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. § 420-D, and Chapter 500 (06-096 C.M.R. Chapter 500, last amended August 12, 2015) of the Department's Regulations, the Department of Environmental Protection has considered the application of CITY OF BIDDEFORD and BIDDEFORD RIVERWALK COMMUNITY 1, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History: In Department Order #L-10282-05-A-N, dated December 19, 1984, the Department issued a permit to the City of Biddeford and the Maine Energy Recovery Company which approved the construction and operation of a refuse derived fuel solid waste disposal facility. The Department subsequently issued numerous solid waste permits including Department Order #S-10282-WG-AN-A, dated September 30, 2013, which was an amendment for the closure of the facility. The facility was subsequently demolished with the exception that the building foundation slabs were left in place; some of the building slabs have subsequently been used for parking. The property has a Department issued Commissioner's Certification of Completion of Remedial Actions Under A Voluntary Response Action Plan (VRAP). There are buried and capped PCB contaminated soils in the area adjacent to the river and the railroad. The parcel is located on the northeast corner of the intersection of Lincoln Street and Pearl Street in the City of Biddeford

B. Summary: The applicants propose to remove existing building foundation slabs, divide the parcel into two lots and construct a 44,895 square foot parking garage and a fire lane on Lot 2, which is a 1.63 acre lot in the approximate middle of the 7.28 acre parcel. The project also includes the construction of another fire lane and areas to be converted to lawn on Lot 1, which is 5.32 acres in size. Plan C-102 of the plan set shows an approximately 1.29 acre parking lot to the east of the proposed parking garage; most of this parking lot exists on old building foundation slabs. The applicants propose to reconstruct that parking lot to provide 114 parking spaces for use during construction of the parking garage.

When the parking garage construction is complete this parking lot will be removed and replaced with lawn, as shown on plan number C-102B titled "Biddeford Parking Garage, MERC Site, Biddeford, Maine, Site Plan Layout Phase B," prepared by Desman Design Management dated March 27, 2020. Any changes to this plan will require a modification of this permit. The project is shown on a set of plans submitted with the application and plan number C-104 is titled "Biddeford Parking Garage, MERC Site, Biddeford, ME, Site Plan-Grading and Utilities," prepared by Desman Design Management and dated March 9, 2020 with a most recent revision date on any of the plans of March 27, 2020.

The first 500 feet of Pearl Street, from the intersection with Lincoln Street, is proposed to be reconstructed as a 24-foot wide street with on street parking on the north side and eight-foot wide concrete sidewalks on both sides. The reconstruction of Pearl Street is considered to be a maintenance activity as defined by Chapter 500, § 3(R) and does not require approval from the Department.

The Department accepted a Natural Resources Protection Act (NRPA) Permit by Rule Notification Form (PBR #69437) on March 18, 2020, for activities associated with the proposed stormwater management system, shown on Plan C-102B, adjacent to the Saco River. The project will be constructed in accordance with Chapter 305, Section 2 of the Permit by Rule Standards.

C. Current Use of the Site: The site is bound by Lincoln Street to the west, Pearl Street to the south, the Saco River to the east and the Boston & Maine Railroad to the north. The site is partially occupied by the building foundation slabs that remain from the Maine Energy Recovery Company that are currently used as parking lots, gravel areas, surface parking areas, and a smoke stack with cell tower equipment.

2. STORMWATER STANDARDS:

The stormwater management system for the project has been designed to meet the stormwater management requirements for the proposed parking garage and fire lane on the 1.63 acre parcel identified as Lot 2 on Plan C-102, plus additional development on the remaining 5.65 acres. The City of Biddeford anticipates additional redevelopment on the parcel and has based the post development pollutant impact ranking calculations, the treatment level for the redevelopment project, and the sizing of the subsurface sand filter and R-Tanks to accommodate the development shown on Lots 1-4 on drawing number C-10 titled "Master Site Plan, Pearl Street & MERC Redevelopment for Fathom/BE Filter, LLC," prepared by Acorn Engineering and dated November 19, 2019. The design of the stormwater management system for the theoretical buildout of the entire parcel shown on Plan C-10 includes 6.94 acres of developed area of which 5.66 acres is impervious area. It lies within the watershed of the Saco River. The applicants submitted a stormwater management plan based on the Basic, General and Flooding Standards contained in Department Rules, Chapter 500. The proposed stormwater management system consists of a subsurface sand filter with R-Tanks™.

This Order approves the stormwater management system, the proposed parking garage, the fire lanes and Pearl Street extended to the eastern fire lane.

Future development on other sections of the overall parcel, the applicants must submit a Stormwater Management application that shows the proposed project, a grading plan that includes the stormwater drainage system connections, the weighted average pollutant impact rating with supporting information for the portion of the parcel proposed to be developed, and other material to demonstrate that the proposed development will not change the percentage of developed area that must be treated.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicants submitted an Erosion and Sedimentation Control Plan that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. This plan and plan sheets containing erosion control details were reviewed by, and revised in response to the comments of, the Cumberland County Soil and Water Conservation District (CCSWCD).

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicants submitted a maintenance plan that addresses both short and long-term maintenance requirements. The maintenance plan is based on the standards contained in Appendix B of Chapter 500. This plan was reviewed by and revised in response to the comments of the CCSWCD. The applicants will be responsible for the maintenance of the stormwater management system.

Prior to use of the proposed parking garage, the applicants must submit a copy of an executed long-term maintenance contract (minimum of 5 years and renewable) for the on-going maintenance of the subsurface sand filter and R-Tanks™ to the BLR.

Grit, sediment and other materials removed from the stormwater structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on BLR's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500, § (4)(B) provided that grit, sediment and other materials removed from the stormwater structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules and the applicants must submit a copy of an executed long-term maintenance contract (minimum of 5 years and renewable) for the on-going maintenance of the subsurface sand filter and R-Tanks™ to the BLR prior to the use of the parking garage.

B. General Standards:

The applicants' stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential thermal impacts. The applicants are using treatment requirements for a redevelopment project as allowed under Chapter 500, § 4(C)(2)(d). The applicants calculated the existing and proposed pollutant impact rating using Table 2 in Chapter 500 and based on these calculations determined using Table 3 in Chapter 500 that 50 percent of development must be treated. The applicants propose to treat runoff from 70.8% of the proposed developed area on both lots.

The stormwater management system proposed by the applicants was reviewed by the CCSWCD and revised in response to comments from the CCSWCD. After a final review, the CCSWCD commented that the proposed stormwater management system is designed in accordance with the Chapter 500 General Standards.

Based on the stormwater system's design and CCSWCD's review, the Department finds that the applicants have made adequate provision to ensure that the proposed project will meet the General Standards in Chapter 500, § 4(C)(2)(d).

C. Flooding Standard:

The applicants are proposing to utilize a stormwater management system based on estimates of pre- and post-development stormwater runoff flows obtained by using Hydrocad, a stormwater modeling software that utilizes the methodologies outlined in Technical Releases #55 and #20 from the U.S.D.A. Soil Conservation Service and detains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency. The post-development peak flow from the site will not exceed the pre-development peak flow from the site and the peak flow of the receiving waters will not be increased as a result of stormwater runoff from the development site. The subsurface sand filter and R-Tank™ system will be connected to an existing storm drain in the east end of Pearl Street that discharges into the Saco River.

The CCSWCD commented that the proposed system is designed in accordance with the Flooding Standard contained in Chapter 500, § 4(F).

Based on the system's design and BLR's review, the Department finds that the applicants have made adequate provision to ensure that the proposed project will meet the Flooding Standard contained in Chapter 500, § 4(F) for peak flow from the project site.

The Department further finds that the proposed project will meet the Chapter 500 standards for discharges to public storm sewer systems.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. § 420-D, and Chapter 500 of the Department's Regulations:

A. The applicants have made adequate provision to ensure that the proposed project will meet the Chapter 500 Basic Standards for: (1) erosion and sediment control; (2) inspection and maintenance; (3) housekeeping; and (4) grading and construction activity provided that grit, sediment and other materials removed from the stormwater structures during maintenance activities must be disposed of in compliance with the Maine Solid Waste Management Rules and that the applicants must submit a copy of an executed long-term maintenance contract (minimum of 5 years and renewable) for the on-going maintenance of the subsurface sand filter and R-Tanks™ to the BLR prior to the use of the parking garage.

B. The applicants have made adequate provision to ensure that the proposed project will meet the Chapter 500 General Standards.

C. The applicants have made adequate provision to ensure that the proposed project will meet the Chapter 500 Flooding Standard.

D. The applicants have made adequate provision to ensure that the proposed project will meet the Chapter 500 standards for discharges to public storm sewer systems.

THEREFORE, the Department APPROVES the above noted application of the CITY OF BIDDEFORD and BIDDEFORD RIVERWALK COMMUNITY 1, LLC to construct a stormwater management system for a parking garage and other development as described above in Biddeford, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this order, the applicants shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. The applicants shall include in all conveyances of subdivision lots deed restrictions making the conveyance subject to all terms and conditions of this Department Order, particularly those conditions related to maintenance of the stormwater management system. These terms and conditions may be incorporated by specific and prominent reference to the permit in the deed. All conveyances required by this approval to contain

restrictions shall include in the restrictions the requirement that any subsequent conveyance shall specifically include the same restrictions.

5. Grit, sediment and other materials removed from stormwater structures during maintenance activities shall be disposed of in compliance with the Maine Solid Waste Management Rules.

6. The applicants shall submit a copy of an executed long-term maintenance contract for the on-going maintenance of the subsurface sand filter and R-Tanks™ to the BLR prior to the use of the parking garage.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 8TH DAY OF APRIL, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Gerald D. Reid, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

CGW/L10282AN/ATS#85869

FILED
April 8, 2020
State of Maine
Board of Environmental Protection

STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the permittee. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S. §420-D(8) and is subject to penalties under 38 M.R.S. §349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

(6) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the permittee, and the permittee and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

(7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the Department. If maintenance responsibility is to be transferred from the permittee to another entity, a transfer request must be filed with the Department which includes the name and contact information for the person or entity responsible for this maintenance. The form must be signed by the responsible person or agent of the responsible entity.

(8) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.

(c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.

(d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning and general maintenance.

(e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.

(9) Transfer of property subject to the license. If any portion of the property subject to the license containing areas of flow or areas that are flooded are transferred to a new property owner, restrictive covenants protecting these areas must be included in any deeds or leases, and recorded at the appropriate county registry of deeds. Also, in all transfers of such areas and areas containing parts of the stormwater management system, deed restrictions must be included making the property transfer subject to all applicable terms and conditions of the permit. These terms and conditions must be incorporated by specific and prominent reference to the permit in the deed. All transfers must include in the restrictions the requirement that any subsequent transfer must specifically include the same restrictions unless their removal or modification is approved by the Department. These restrictions must be written to be enforceable by the Department, and must reference the permit number.

(10) Severability. The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions. This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: November 2018 **Contact: (207) 287-2452**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S. §§ 341-D(4) & 346; the *Maine Administrative Procedure Act*, 5 M.R.S. § 11001; and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed more than 30 calendar days after the date on which the Commissioner's decision was filed with the Board will be dismissed unless notice of the Commissioner's license decision was required to be given to the person filing an appeal (appellant) and the notice was not given as required.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017. An appeal may be submitted by fax or e-mail if it contains a scanned original signature. It is recommended that a faxed or e-mailed appeal be followed by the submittal of mailed original paper documents. The complete appeal, including any attachments, must be received at DEP's offices in Augusta on or before 5:00 PM on the due date; materials received after 5:00 pm are not considered received until the following day. The risk of material not being received in a timely manner is on the sender, regardless of the method used. The appellant must also send a copy of the appeal documents to the Commissioner of the DEP; the applicant (if the appellant is not the applicant in the license proceeding at issue); and if a hearing was held on the application, any intervenor in that hearing process. All of the information listed in the next section of this information sheet must be submitted at the time the appeal is filed.

INFORMATION APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time the appeal is submitted:

1. *Aggrieved Status*. The appeal must explain how the appellant has standing to maintain an appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error*. The appeal must identify the specific findings of fact, conclusions regarding compliance with the law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing requirements that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for public hearing must be filed as part of the notice of appeal, and must include an offer of proof in accordance with Chapter 2. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed evidence must be submitted with the appeal. The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered in an appeal only under very limited circumstances. The proposed evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Specific requirements for supplemental evidence are found in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made easily accessible by the DEP. Upon request, the DEP will make application materials available during normal working hours, provide space to review the file, and provide an opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a license holder may proceed with a project pending the outcome of an appeal, but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

3 LINCOLN, LLC	) STORMWATER MANAGEMENT LAW
Biddeford, York County	)
3 LINCOLN STREET REDEVELOPMENT	) AMENDMENT
L-10282-NJ-C-A (Approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. § 420-D, and Chapter 500 (06-096 C.M.R. ch.500, last amended August 12, 2015) of the Department's Regulations, the Department of Environmental Protection (Department) has considered the application of 3 LINCOLN, LLC (applicant) with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History: In Department Order #L-10282-05-A-N, dated December 19, 1984, the Department issued a permit to the City of Biddeford and the Maine Energy Recovery Company (MERC) which approved the construction and operation of a refuse derived fuel solid waste disposal facility. The Department subsequently issued numerous solid waste permits including Department Order #S-10282-WG-AN-A, dated September 30, 2013, which was an amendment for the closure of the facility. The facility was subsequently demolished except that some of the building foundation slabs were left in place and used for parking. The property has a Department issued Commissioner's Certification of Completion of Remedial Actions Under A Voluntary Response Action Plan. There are buried and capped contaminated soils in the area adjacent to the Saco River and the existing rail line.

The City of Biddeford, as part of its redevelopment master plan, split the 7.28-acre parcel into two lots. The proposed redevelopment was subject to review pursuant to 38 M.R.S. §§ 481 – 490, the Site Location of Development Law (Site Law), because the redeveloped site resulted in greater than three acres of stripped, graded and non-revegetated area. The City of Biddeford has municipal capacity to review Site Law applications pursuant to 38 M.R.S. § 488 (19); therefore, the proposed redevelopment project was exempt from Department review under the Site Law.

In Department Order #L-10282-NJ-A-N, dated April 8, 2020, the Department approved a stormwater management system for a redevelopment project consisting of a 44,895-square foot parking garage and a fire lane on Lot 2, and another fire lane and areas to be converted to lawn on Lot 1. The approved stormwater management system consisted of a subsurface sand filter with R-Tanks™ located at the base of the smokestack with the attached cellular tower equipment that was to remain at the site. The project is located on

the northeast corner of the intersection of Lincoln Street and Pearl Street in the City of Biddeford.

In Department Order #L-10282-NJ-B-M, dated January 5, 2021, the Department approved the relocation of portions of the subsurface sand filter and R-Tanks due to conflicts with subsurface communication lines, communication manholes, and subsurface concrete encased electric lines where the subsurface sand filter and R-Tanks were previously designed to be located.

B. Summary: The applicant proposes to subdivide the original 7.28-acre parcel into four lots and to redevelop Lot #3. Lot #3, which encompasses 2.08 acres, will be redeveloped with three buildings: Building A, an 85-unit, 17,802-square foot, residential/mixed use structure to be built over a new parking area; Building B, a 129-unit 17,337-square foot, residential building; and Building C, a 5,520-square foot commercial/restaurant building. Together with access drives and sidewalks, the overall development on Lot #3 will result in 2.08 acres of new redeveloped area, of which 1.44 acres will be new impervious area. Stormwater runoff from the redevelopment will be directed to the existing stormwater management system that serves the overall parcel. The project is shown on a set of plans, the first of which is titled "Pearl Street Redevelopment," prepared by Acorn Engineering, Inc., dated January 17, 2022, with the most recent revision date of November 7, 2022.

C. Current Use of the Site: The project site has been redeveloped. The MERC facility has been demolished and a parking garage has been built on Lot #2. Portions of the site have been stabilized as lawn until redevelopment plans receive Department and City approvals.

D. Title, Right, or Interest: An application must demonstrate that the applicant has title, right, or interest in the property proposed to be developed or used for the project sufficient for the nature and duration of the proposed development or use. The applicant submitted a Master Plan Development Agreement signed by the applicant and the City of Biddeford, dated November 17, 2020, that includes, in part, joint party responsibilities, limits of liability, and purchase options.

2. FINDING:

The proposed redevelopment project includes approximately 2.08 acres of new developed area, of which 1.44 acres are new impervious area. The applicant provided a revised Land Use and Pollutant Summary Table, in accordance with the General Standards contained in Chapter 500(4)(C)(2)(d) of the Department's *Stormwater Management* rules (06-096 C.M.R. ch. 500, effective August 12, 2015), and compared the results with the table used to calculate the conceptual redevelopment of the site as approved in Department Order #L-10282-NJ-A-N. The proposed project will result in less impervious area because of a reduction in the area to be used for parking and roads. The applicant determined that the proposed project will not require additional treatment beyond that which was approved in in Department Order #L-10282-NJ-A-N.

The applicant noted that the proposed project would still be eligible for the exemption to the Flooding Standard in Chapter 500(4)(F)(3) because runoff from the project site discharges directly to the Saco River, a major river segment.

Based on its review of the application, the Department finds the requested amendment to be in accordance with all relevant Departmental standards. All other findings of fact, conclusions, and conditions remain as approved in in Department Order #L-10282-NJ-A-N, and subsequent Orders.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. § 420-D, and Chapter 500 of the Department's Regulations:

A. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 Basic Standards for: (1) erosion and sediment control; (2) inspection and maintenance; (3) housekeeping; and (4) grading and construction activity.

B. The applicant has made adequate provision to ensure that the proposed project will meet the Chapter 500 General Standards.

THEREFORE, the Department APPROVES the above noted application of 3 LINCOLN, LLC to construct a stormwater management system as described above in Biddeford, Maine, SUBJECT TO THE FOLLOWING CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this order, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 28th DAY OF MARCH 2023.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

RLG/L10282CA/ATS90291

FILED
March 29th, 2023
State of Maine
Board of Environmental Protection

STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the permittee. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S. §420-D(8) and is subject to penalties under 38 M.R.S. §349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

(6) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the permittee, and the permittee and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

(7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the Department. If maintenance responsibility is to be transferred from the permittee to another entity, a transfer request must be filed with the Department which includes the name and contact information for the person or entity responsible for this maintenance. The form must be signed by the responsible person or agent of the responsible entity.

(8) Recertification requirement. Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the department.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.

(c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.

(d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning and general maintenance.

(e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.

(9) Transfer of property subject to the license. If any portion of the property subject to the license containing areas of flow or areas that are flooded are transferred to a new property owner, restrictive covenants protecting these areas must be included in any deeds or leases, and recorded at the appropriate county registry of deeds. Also, in all transfers of such areas and areas containing parts of the stormwater management system, deed restrictions must be included making the property transfer subject to all applicable terms and conditions of the permit. These terms and conditions must be incorporated by specific and prominent reference to the permit in the deed. All transfers must include in the restrictions the requirement that any subsequent transfer must specifically include the same restrictions unless their removal or modification is approved by the Department. These restrictions must be written to be enforceable by the Department and must reference the permit number.

(10) Severability. The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions. This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

November 16, 2005 (revised August 15, 2015)

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: August 2021 **Contact: (207) 314-1458**

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner.

Except as provided below, there are two methods available to an aggrieved person seeking to appeal a licensing decision made by the DEP Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review Organization and Powers, 38 M.R.S. §§ 341-D(4) and 346; the Maine Administrative Procedure Act, 5 M.R.S. § 11001; and the DEP's *Rule Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Not more than 30 days following the filing of a license decision by the Commissioner with the Board, an aggrieved person may appeal to the Board for review of the Commissioner's decision. The filing of an appeal with the Board, in care of the Board Clerk, is complete when the Board receives the submission by the close of business on the due date (5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board, as determined by the received time stamp on the document or electronic mail). Appeals filed after 5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board will be dismissed as untimely, absent a showing of good cause.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
ruth.a.burke@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee; and if a hearing was held on the application, (3) any intervenors in that hearing proceeding. **Please contact the DEP at 207-287-7688 with questions or for contact information regarding a specific licensing decision.**

REQUIRED APPEAL CONTENTS

A complete appeal must contain the following information at the time the appeal is submitted.

1. *Aggrieved status*. The appeal must explain how the appellant has standing to bring the appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions of law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing criteria that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license to changes in specific license conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for hearing must be filed as part of the notice of appeal, and it must include an offer of proof regarding the testimony and other evidence that would be presented at the hearing. The offer of proof must consist of a statement of the substance of the evidence, its relevance to the issues on appeal, and whether any witnesses would testify. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed supplemental evidence must be submitted with the appeal. The Board may allow new or additional evidence to be considered in an appeal only under limited circumstances. The proposed supplemental evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Requirements for supplemental evidence are set forth in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made accessible by the DEP. Upon request, the DEP will make application materials available to review and photocopy during normal working hours. There may be a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing the appeal.* DEP staff will provide this information upon request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a licensee may proceed with a project pending the outcome of an appeal, but the licensee runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of an appeal, and it will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials admitted by the Board as supplementary evidence, any materials admitted in response to the appeal, relevant excerpts from the DEP's administrative record for the application, and the DEP staff's recommendation, in the form of a proposed Board Order, will be provided to Board members. The appellant, the licensee, and parties of record are notified in advance of the date set for the Board's consideration of an appeal or request for a hearing. The appellant and the licensee will have an opportunity to address the Board at the Board meeting. The Board will decide whether to hold a hearing on appeal when one is requested before deciding the merits of the appeal. The Board's decision on appeal may be to affirm all or part, affirm with conditions, order a hearing to be held as expeditiously as possible, reverse all or part of the decision of the Commissioner, or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the licensee, and parties of record of its decision on appeal.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board Clerk at 207-287-2811 or the Board Executive Analyst at 207-314-1458 bill.hinkel@maine.gov, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal. The DEP provides this information sheet for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

REDEVELOPMENT POLLUTANT RANKING - BREAKDOWN OF SITE

Project: Biddeford Parking Garage
ATS:

Notes:
1. Lots 1-4 delineations are based loosely on the Lots shown on the Master Site Plan prepared by Acorn Engineering dated 11/19/19
2. The sum of the proposed areas calculated in Lots 1-4 can be found on the Redevelopment Pollutant Ranking worksheet dated 1/7/20 under 'Proposed Area & Use'

PROPOSED AREA & USE - LOT 1 (ASSUMED BASED ON MASTERPLAN)

Area	Proposed Area (sf)	Proposed Area (sf)	Proposed Pollutant Ranking	Weighed Impact	Comment
High Use Parking Lots	0	0.00	5	0.00	
Medium Use Parking Lots	68,971	1.58	4	6.33	85% assumed
Other Use Parking Lots/Driveways	0	0.00	3	0.00	
Rooftops	4,045	0.09	2	0.19	5% assumed
Walkways/Grassed Areas	6,086	0.14	2	0.28	7.5% assumed
Non-Grassed Landscaped Areas	2,040	0.05	1	0.05	2.5% assumed
	81,142	1.86		6.85	
	Verify that Existing Area = Proposed Area				

PROPOSED AREA & USE - LOT 2 (DESIGNED COVERAGE)

Area	Proposed Area (sf)	Proposed Area (sf)	Proposed Pollutant Ranking	Weighed Impact	Comment
High Use Parking Lots	45,380	1.04	5	5.21	parking garage top level and entry drive
Medium Use Parking Lots	0	0.00	4	0.00	
Other Use Parking Lots/Driveways	5,820	0.13	3	0.40	fire lane to east of garage
Rooftops	0	0.00	2	0.00	
Walkways/Grassed Areas	17,858	0.41	2	0.82	sidewalks and grass
Non-Grassed Landscaped Areas	1,870	0.04	1	0.04	landscape beds
	70,928	1.63		6.47	
	Verify that Existing Area = Proposed Area				

PROPOSED AREA & USE - LOT 3 (ASSUMED BASED ON MASTERPLAN)

Area	Proposed Area (sf)	Proposed Area (sf)	Proposed Pollutant Ranking	Weighed Impact	Comment
High Use Parking Lots	0	0.00	5	0.00	
Medium Use Parking Lots	88,247	2.03	4	8.10	85% assumed
Other Use Parking Lots/Driveways	0	0.00	3	0.00	
Rooftops	5,185	0.12	2	0.24	5% assumed
Walkways/Grassed Areas	7,787	0.18	2	0.36	7.5% assumed
Non-Grassed Landscaped Areas	2,601	0.06	1	0.06	2.5% assumed
	103,820	2.38		8.76	
	Verify that Existing Area = Proposed Area				

PROPOSED AREA & USE - LOT 4 (ASSUMED BASED ON MASTERPLAN)

Area	Proposed Area (sf)	Proposed Area (sf)	Proposed Pollutant Ranking	Weighed Impact	Comment
High Use Parking Lots	0	0.00	5	0.00	
Medium Use Parking Lots	3,907	0.09	4	0.36	8% assumed roundabout
Other Use Parking Lots/Driveways	5,780	0.13	3	0.40	12% assumed paved surfaces/cell tower
Rooftops	0	0.00	2	0.00	
Walkways/Grassed Areas	32,244	0.74	2	1.48	70% assumed grass and walkways
Non-Grassed Landscaped Areas	4,689	0.11	1	0.11	10% Landscape Beds
	46,620	1.07		2.34	
	Verify that Existing Area = Proposed Area				

PEARL STREET LOT 3 LAND USE AND POLLUTANT SUMMARY TABLE

LAND USE	COLOR	POLLUTANT RANKING	EXISTING AREA	WEIGHTED AVE. RANKING
ROADS WHERE IDLING MAY OCCUR PERIODICALLY DUE TO TRAFFIC AND INTERSECTIONS; HIGH USE PARKING LOTS		5	0.00 AC	0.00
OTHER ROADS; MEDIUM USE PARKING LOTS		4	0.00 AC	0.00
OTHER PARKING LOTS AND DRIVEWAYS; FLAT ASPHALT ROOFTOPS; ROOFS ON AN INDUSTRIAL FACILITY		3	1.02 AC	3.06
OTHER ROOFTOPS; BIKEWAYS; GRASSED AREAS MOWED MORE THAN TWICE PER YEAR; WALKWAYS / FOOT TRAFFIC-ONLY PAVEMENT		2	0.80 AC	1.60
NON-GRASS LANDSCAPED AREAS; STORMWATER TREATMENT / STORAGE SYSTEMS (EXCEPT BUFFERS)		1	0.26 AC	0.26
TOTAL			2.08 AC	4.92



PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: **POST REDEVELOPMENT MAP**

PROJECT NAME/ADDRESS: **PEARL STREET (LOT 3) REDEVELOPMENT**
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT PERMISSION FROM ACORN ENGINEERING, INC. AND IF MODIFIED, ANY AND ALL REUSE OF THIS PLAN SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

DRAWING NO.
EX-3

NOTE:

1. REFER TO STORMWATER REPORT AND SHEET C-30 FOR MORE INFORMATION.

FLOW LINE

SUBCATCHMENT WITH TREATMENT EXTENTS

BUILDING A

BUILDING B

BUILDING C

BUILDING D

HIGH SPOT: 56.70'

EXISTING SUBSURFACE STORMWATER SYSTEM TO REMAIN

20 0 20 40

SCALE: 1" = 20'

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: **POST WATERSHED MAP**

PROJECT NAME/ADDRESS: **PEARL STREET (LOT 3) REDEVELOPMENT**
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED IN ANY WAY WITHOUT PERMISSION FROM ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED MODIFICATIONS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
P.O. BOX 3427, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

EX-1

ACORN
ENGINEERING, INC.

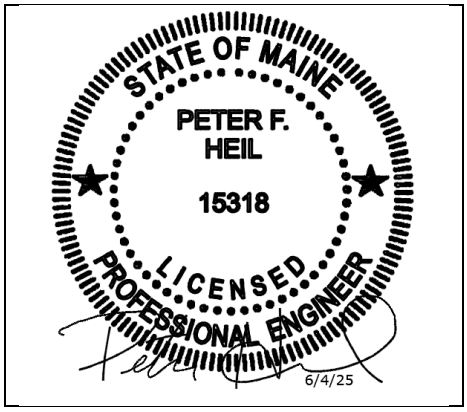
POST CONSTRUCTION - STORMWATER INSPECTION & MAINTENANCE PLAN

Prepared For:

3 Lincoln, LLC
80 Exchange Street, Suite 400
Portland Maine 04101

Prepared By:

Acorn Engineering, Inc.
16 Middle Street, Suite 302
Portland, Maine 04101



June 2025

ACORN ENGINEERING, INC.

RESPONSIBLE PARTY

The owner, 3 Lincoln, 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 Services prior to the City's deadline.

The following is an example of a qualified stormwater professional that the owner may contract through.

Organization: Acorn Engineering, Inc.
Attn: Peter F. Heil, PE, CPESC
Portland, Maine

Phone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #15318
- Maine DEP - Certified Third-Party Inspector
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #7071

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.

The applicant shall be responsible for retaining post construction and maintenance documents for at least 5 years. The Department of Environmental Protection's 5-year recertification will apply to this permit.

OPERATION AND MAINTENANCE ACTIVITY

A storm size of 1-inch or greater rainfall in 24 hours is considered a storm event that triggers a post-construction inspection of the below BMP's.

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.

Catch Basins/Field Inlets:

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.
- If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).
- Appropriately dispose of all collected material.

Landscaped and Vegetated Areas:

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 contract documents.

INSPECTION AND MAINTENANCE TABLE

Inspection and Maintenance Frequency	Spring or Yearly	Summer	Fall	As Necessary
Sweeping	X			X
Catch Basins/Field Inlets			X	X
Landscaped/Vegetated Areas		X		

Stormwater Control BMP Inspection Log

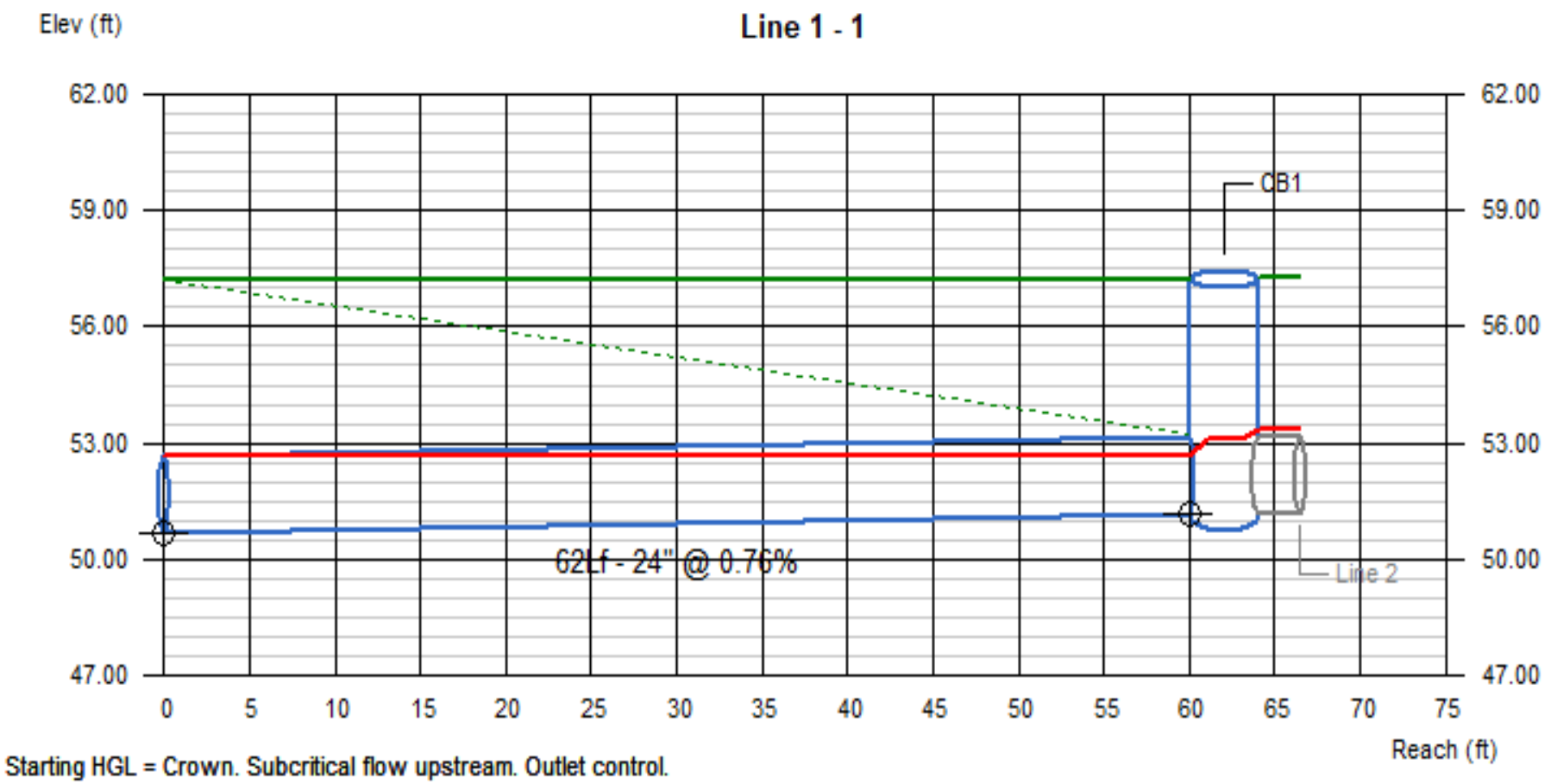
CATCH BASINS & FIELD INLETS			
Location: There are catch basins and field inlets located in various locations through out the site.		**Latitude:**	43.496106
		Longitude:	-70.454292
Description of Located Point:		**Inspector:**	
		Date of Inspection:	
		Weather Conditions:	
DOT Region:			
MATS Asset Number:	**WIN:**	**Design Drawings:**	

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Catch Basins							
Catch basin/Field inlet is working properly and is free of debris and sediment	☐	☑	☐	☑ Yes ☐ No ☐ N/A			
Basin outlet hood (if any) is working properly.	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Inter-basin storm drain is functioning properly and free of sediment and debris.	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Sediment sacks and hydrocarbon absorptive pads are working properly.	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
General							
Access to facility is adequate	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Photographs of most recent site inspection are included	☐	☑	☐				Photographs are attached.
Additional Comments:							

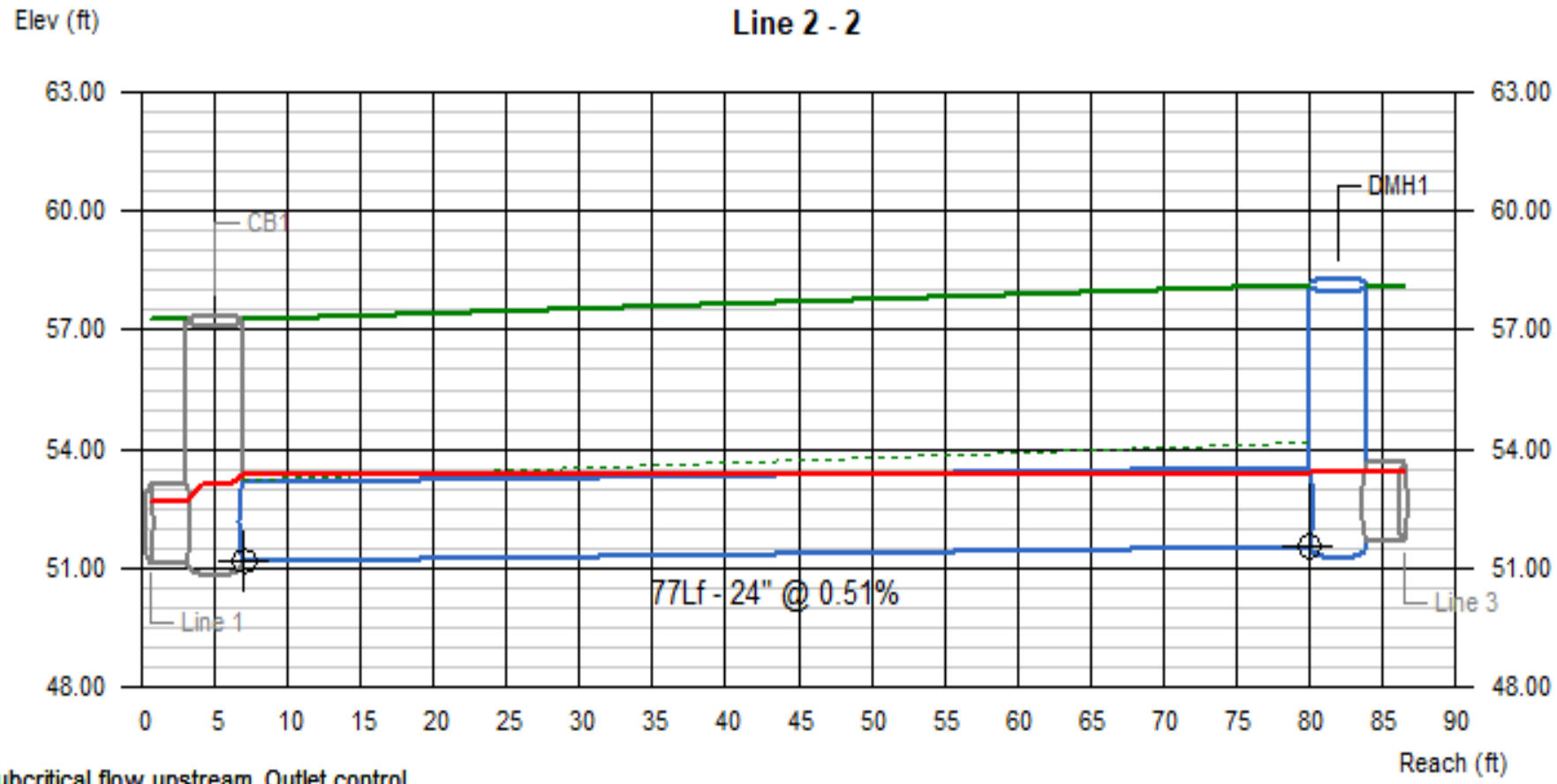
Stormwater Control BMP Inspection Log

VEGETATED AREAS:							
Location: Various areas within the site					**Latitude:**		43.496106
					Longitude:		-70.454292
Description of Located Point:					**Inspector:**		
					Date of Inspection:		
					Weather Conditions:		
DOT Region:							
MATS Asset Number:		**WIN:**			**Design Drawings:**		

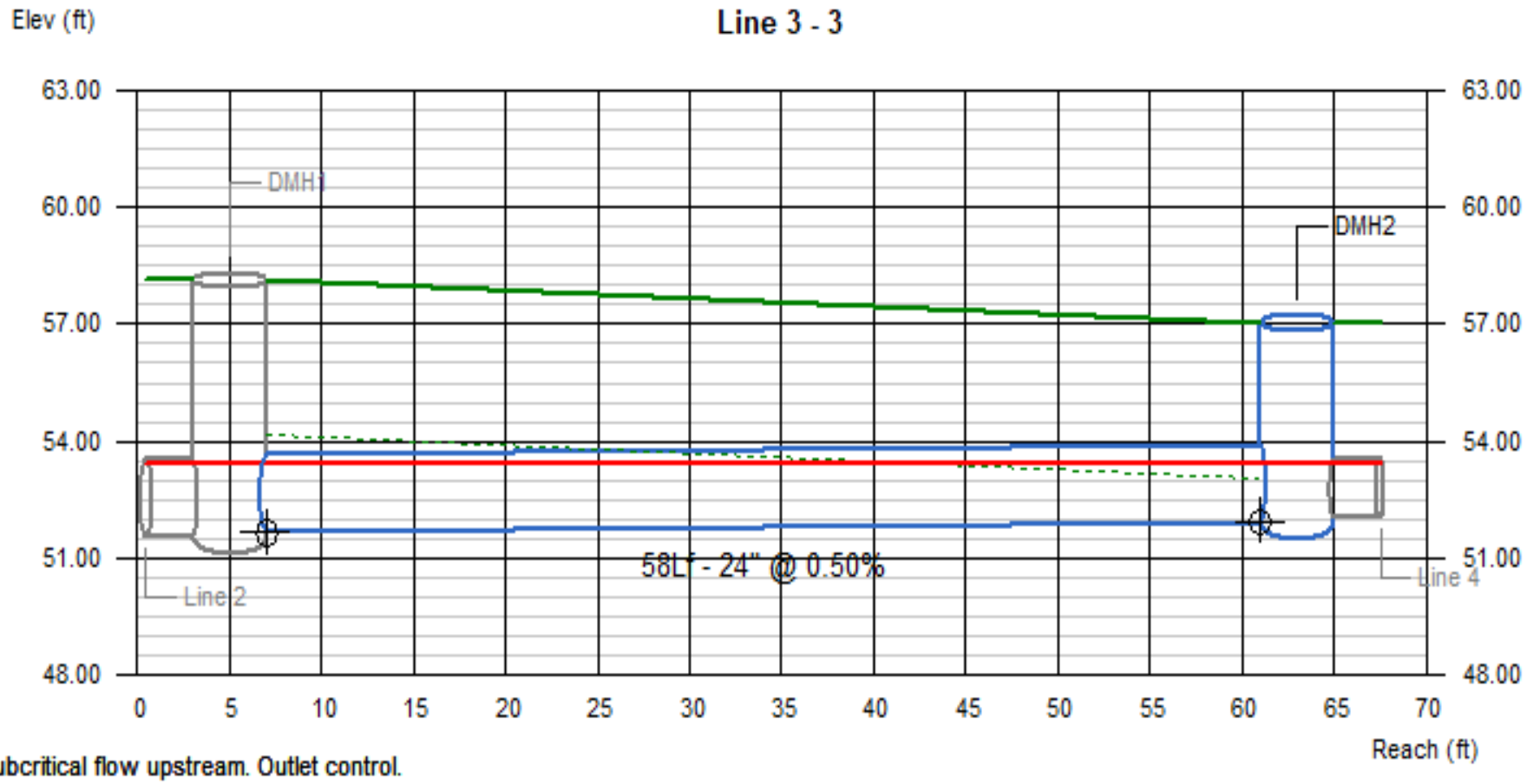
Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Embankments							
Slopes and embankments are in good condition.	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
Site is free of rill erosion	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
General							
Site is free of locations with less than 90% vegetative cover	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
Plantings are capable of withstanding concentrated flows	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
Access to facility is adequate	☑	☐	☐	☐ Yes ☐ No ☐ N/A			
Photographs of most recent site inspection are included	☑	☐	☐				Photographs are attached.
Additional Comments:							



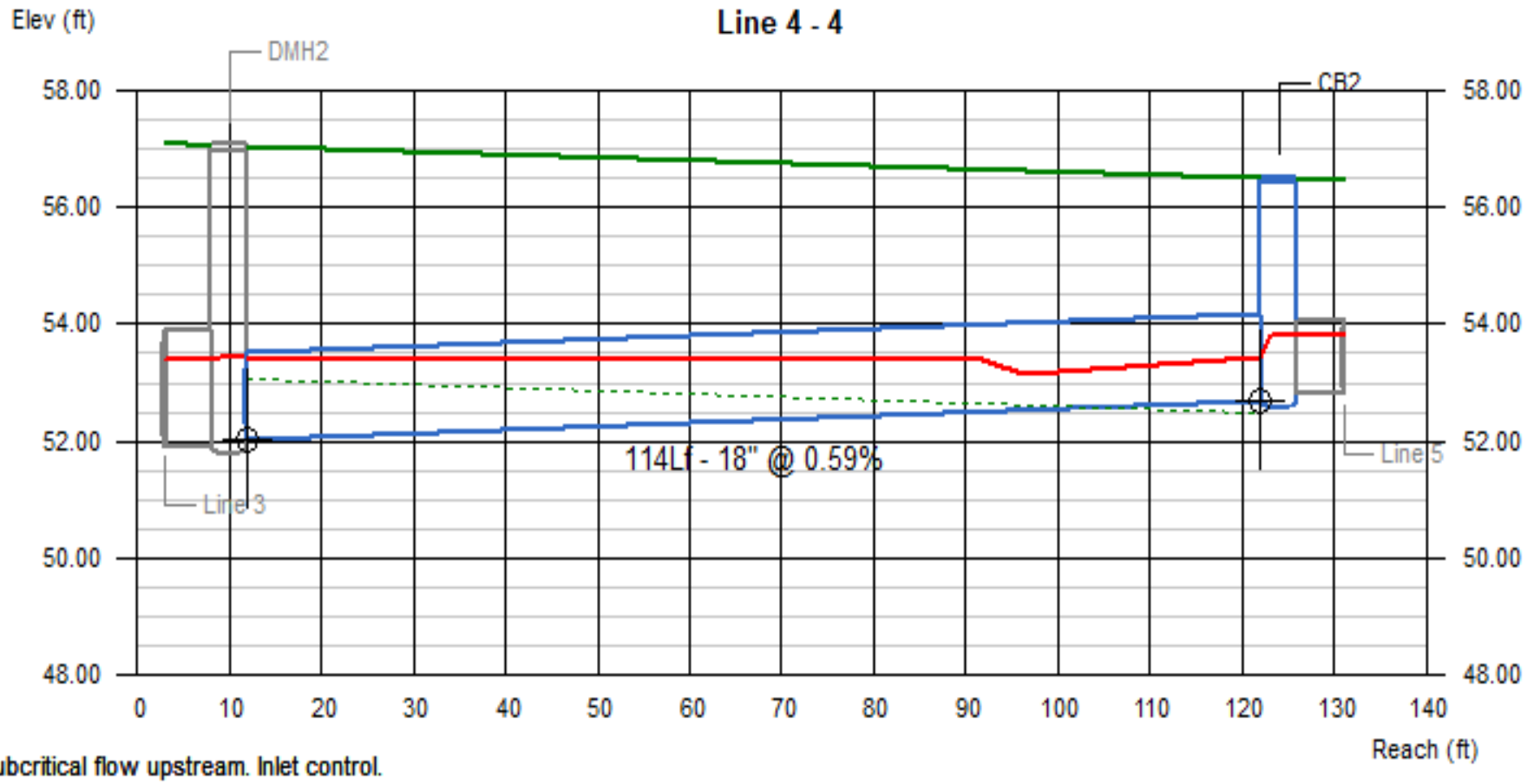
Starting HGL = Crown. Subcritical flow upstream. Outlet control.



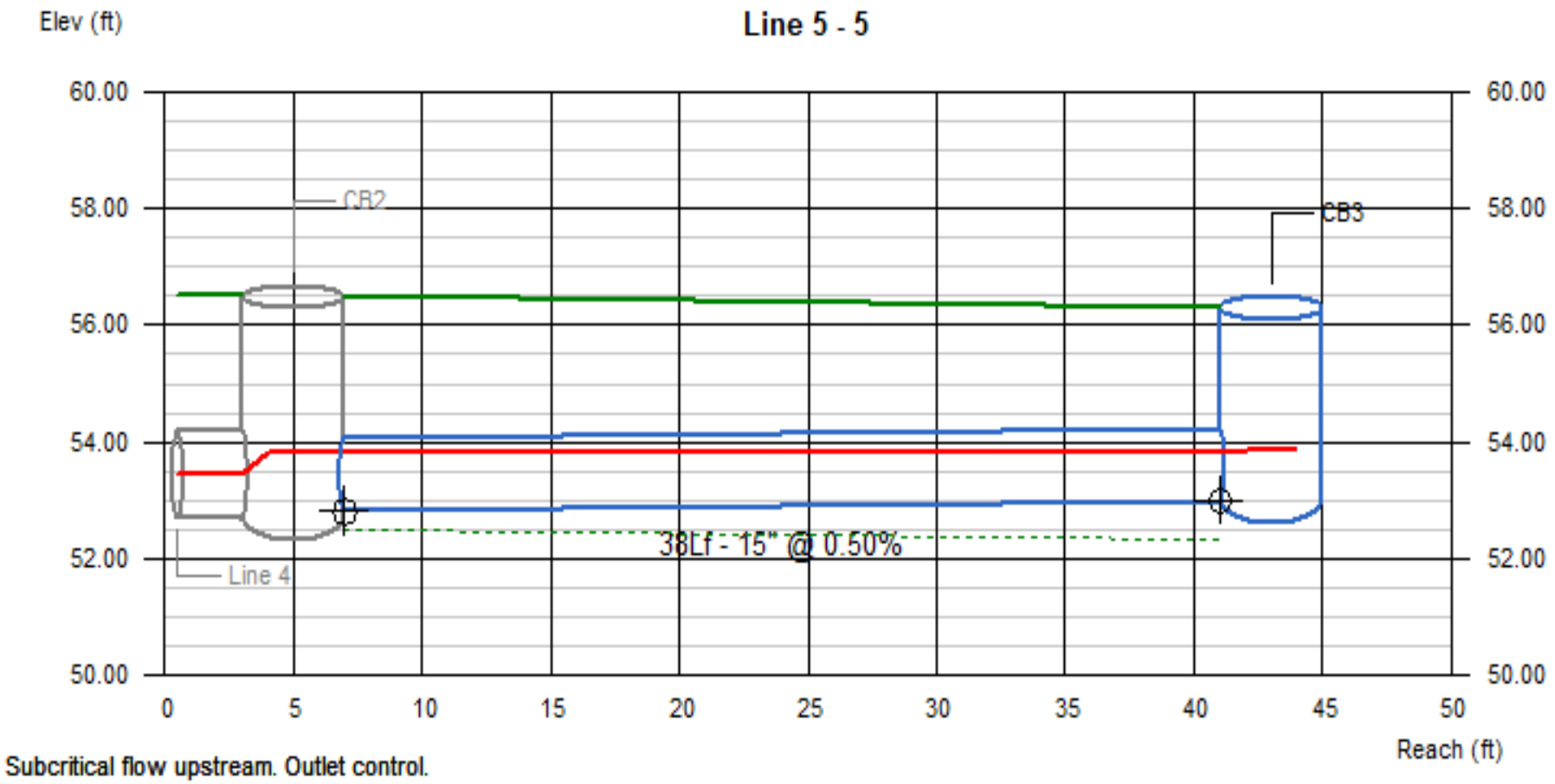
Subcritical flow upstream. Outlet control.



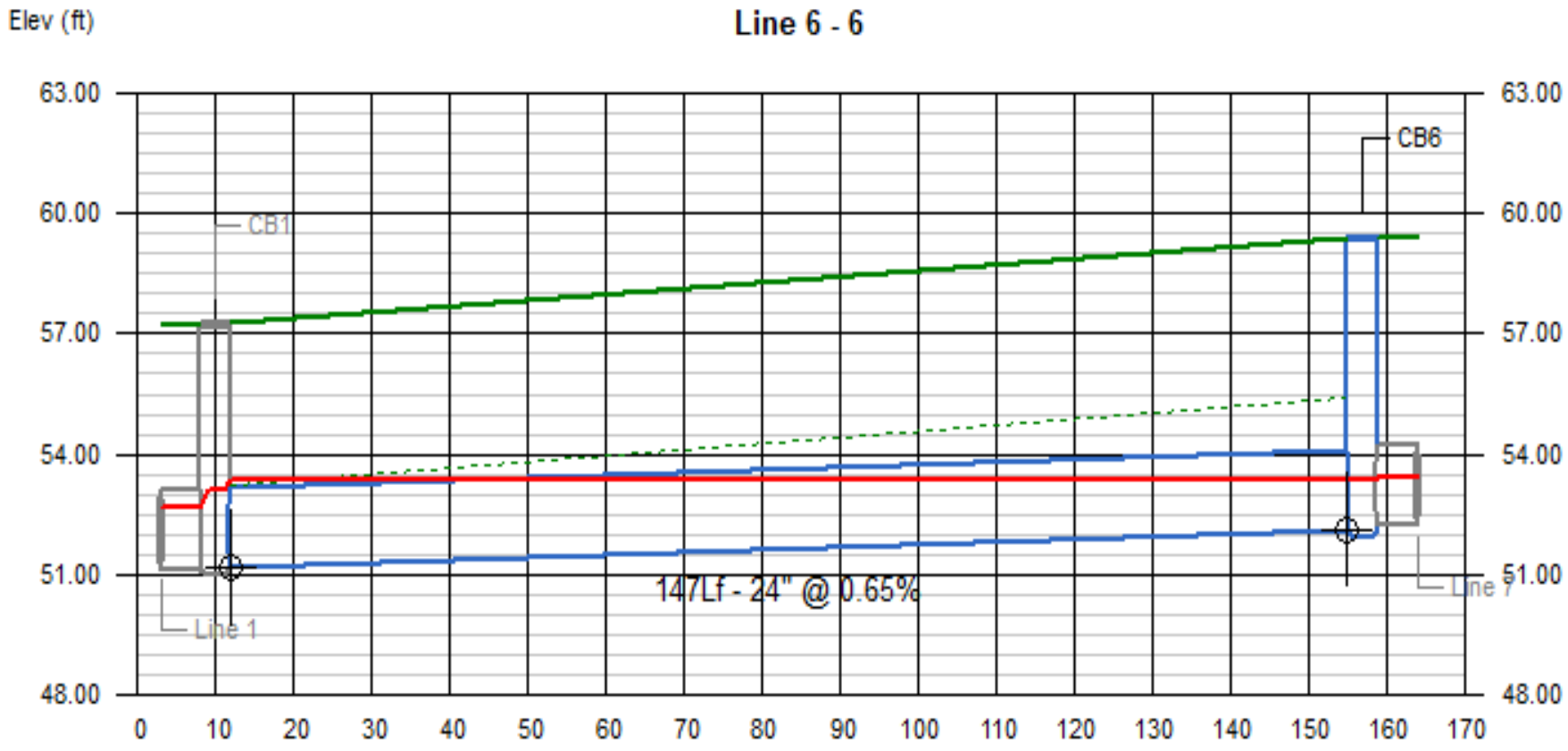
Subcritical flow upstream. Outlet control.



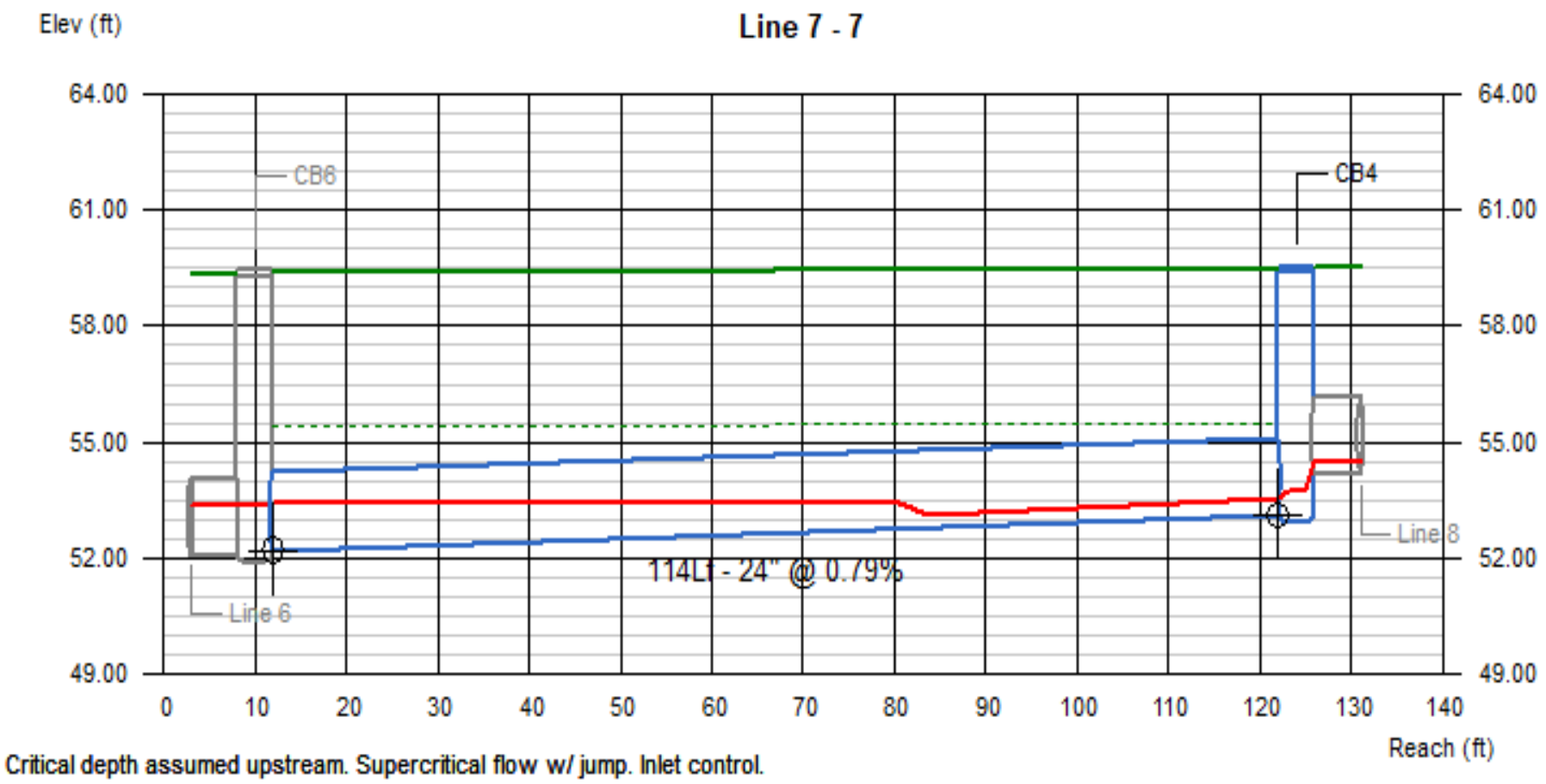
Subcritical flow upstream. Inlet control.



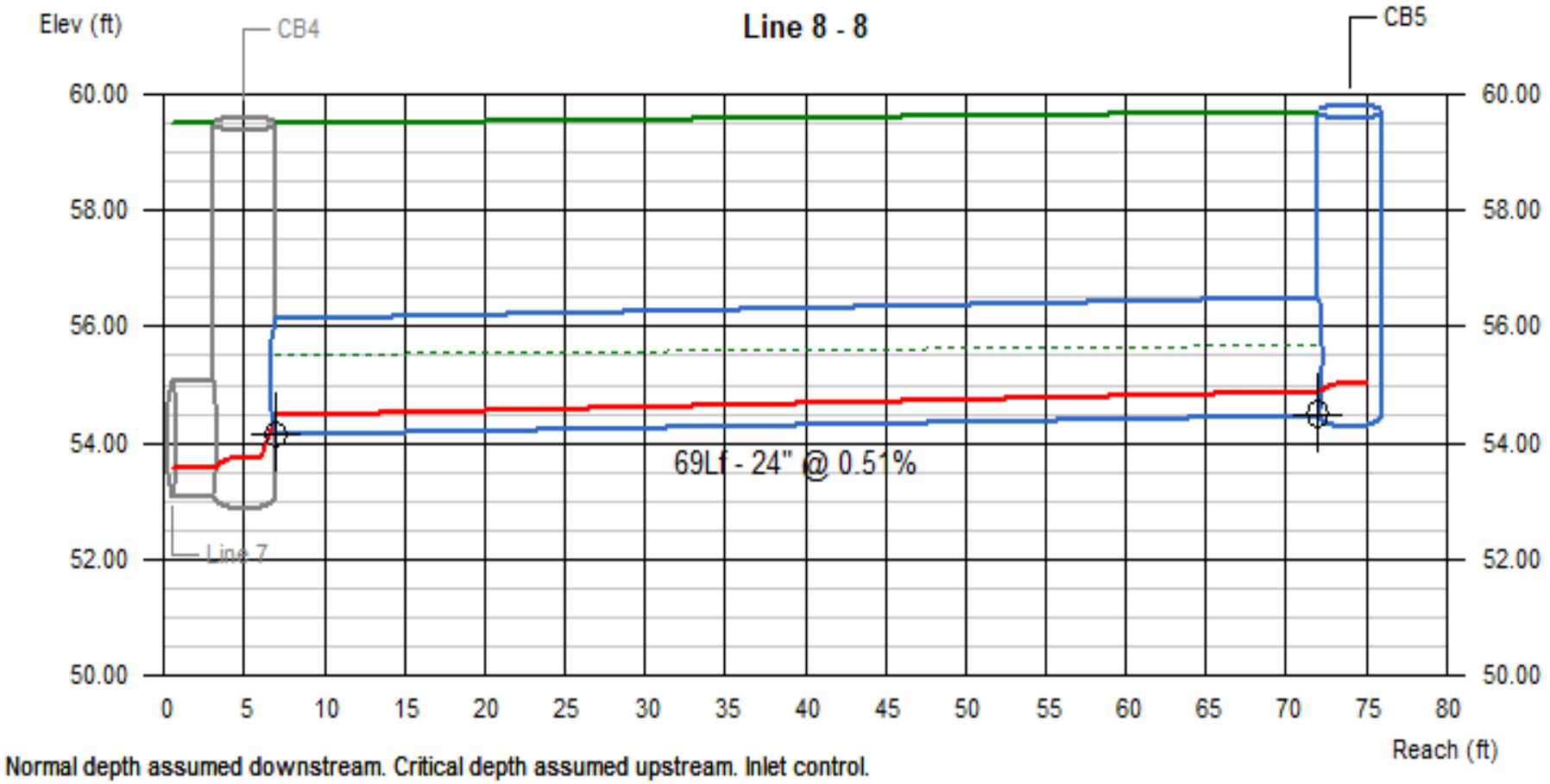
Subcritical flow upstream. Outlet control.



Subcritical flow upstream. Outlet control.



Critical depth assumed upstream. Supercritical flow w/ jump. Inlet control.



Normal depth assumed downstream. Critical depth assumed upstream. Inlet control.

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert El Dn (ft)	Line slope (%)	Invert El Up (ft)	Line size (in)	Line shape	N value (n)	J-loss coeff (K)	Inlet/ Rim El (ft)	
1	End	62	-175	DrGrt	0.00	0.24	0.75	6.0	50.68	0.76	51.15	24	Cir	0.010	1.50	57.25	1
2	1	77	-92	MH	0.00	0.00	0.00	0.0	51.15	0.51	51.54	24	Cir	0.010	1.00	58.15	2
3	2	58	84	MH	0.00	0.31	0.75	6.0	51.64	0.50	51.93	24	Cir	0.010	0.15	57.05	3
4	3	114	1	DrGrt	0.00	0.60	0.75	6.0	52.03	0.59	52.70	18	Cir	0.010	1.50	56.50	4
5	4	38	-87	DrGrt	0.00	0.09	0.75	6.0	52.80	0.50	52.99	15	Cir	0.010	1.00	56.30	5
6	1	147	0	DrGrt	0.00	0.39	0.90	6.0	51.15	0.65	52.10	24	Cir	0.010	0.50	59.40	6
7	6	114	0	DrGrt	0.00	0.11	0.65	6.0	52.20	0.79	53.10	24	Cir	0.010	1.17	59.50	7
8	7	69	-48	DrGrt	0.00	0.21	0.78	6.0	54.15	0.51	54.50	24	Cir	0.010	1.00	59.70	8

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Date: 06-10-2025

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev. (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	CB1	DropGrate	57.25	Cir	4.00	4.00	24	Cir	51.15	24 24	Cir Cir	51.15 51.15
2	DMH1	Manhole	58.15	Cir	4.00	4.00	24	Cir	51.54	24	Cir	51.64
3	DMH2	Manhole	57.05	Cir	4.00	4.00	24	Cir	51.93	18	Cir	52.03
4	CB2	DropGrate	56.50	Cir	4.00	4.00	18	Cir	52.70	15	Cir	52.80
5	CB3	DropGrate	56.30	Cir	4.00	4.00	15	Cir	52.99			
6	CB6	DropGrate	59.40	Cir	4.00	4.00	24	Cir	52.10	24	Cir	52.20
7	CB4	DropGrate	59.50	Cir	4.00	4.00	24	Cir	53.10	24	Cir	54.15
8	CB5	DropGrate	59.70	Cir	4.00	4.00	24	Cir	54.50			

Project File: Hydraflow - Site Plan Submission.stm | Number of Structures: 8 | Run Date: 06-10-2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line slope (%)	HGL down (ft)	HGL up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns line No.	Junction Type
1	1	11.18	24	Cir	62	50.68	51.15	0.758	52.68	52.68	0.44	53.12	End	DropGrate
2	2	3.82	24	Cir	77	51.15	51.54	0.506	53.38	53.39	0.02	53.41	1	Manhole
3	3	3.82	24	Cir	58	51.64	51.93	0.500	53.41	53.41	0.01	53.42	2	Manhole
4	4	3.82	18	Cir	114	52.03	52.70	0.588	53.42	53.45	n/a	53.83 i	3	DropGrate
5	5	0.50	15	Cir	38	52.80	52.99	0.500	53.83	53.83	0.00	53.84	4	DropGrate
6	6	4.32	24	Cir	147	51.15	52.10	0.646	53.33	53.34	0.03	53.38	1	DropGrate
7	7	1.73	24	Cir	114	52.20	53.10	0.789	53.44	53.57	n/a	53.73 i	6	DropGrate
8	8	1.21	24	Cir	69	54.15	54.50	0.507	54.48	54.89	n/a	55.01 i	7	DropGrate

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Run Date: 06-10-2025

NOTES: Return period = 25 Yrs. ; i - Inlet control.

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	62	0.24	1.95	0.75	0.18	1.52	6.0	6.0	7.4	11.18	25.60	3.95	24	0.76	50.68	51.15	52.68	52.68	57.18	57.25	1
2	1	77	0.00	1.00	0.00	0.00	0.75	0.0	6.0	7.4	3.82	20.93	1.24	24	0.51	51.15	51.54	53.38	53.39	57.25	58.15	2
3	2	58	0.31	1.00	0.75	0.23	0.75	6.0	6.0	7.4	3.82	20.79	1.41	24	0.50	51.64	51.93	53.41	53.41	58.15	57.05	3
4	3	114	0.60	0.69	0.75	0.45	0.52	6.0	6.0	7.4	3.82	10.47	3.28	18	0.59	52.03	52.70	53.42	53.45	57.05	56.50	4
5	4	38	0.09	0.09	0.75	0.07	0.07	6.0	6.0	7.4	0.50	5.94	0.51	15	0.50	52.80	52.99	53.83	53.83	56.50	56.30	5
6	1	147	0.39	0.71	0.90	0.35	0.59	6.0	6.0	7.4	4.32	23.64	1.74	24	0.65	51.15	52.10	53.33	53.34	57.25	59.40	6
7	6	114	0.11	0.32	0.65	0.07	0.24	6.0	6.0	7.4	1.73	26.13	1.98	24	0.79	52.20	53.10	53.44	53.57	59.40	59.50	7
8	7	69	0.21	0.21	0.78	0.16	0.16	6.0	6.0	7.4	1.21	20.94	3.21	24	0.51	54.15	54.50	54.48	54.89	59.50	59.70	8

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Run Date: 06-10-2025

NOTES: Intensity = 40.35 / (Inlet time + 3.90) ^ 0.74; Return period = 25 Yrs. ; Total flows limited to inlet captured flows. ; Pipe travel time suppressed. ; c = cir e = ellip b = box

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Energy Loss (ft)	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	EGL Jnct (ft)	Energy Loss (ft)	
1	3.14	2.58	0.096	0.20	0.50	0.90	25.60	1.18	0.020	0.020	....	-175	2.00	1.53	Outfall	0.24	380.56	52.88	52.97	53.41	0.096	
2	3.14	3.03	0.012	0.20	0.50	0.90	20.93	0.69	....	....	....	-92	2.00	1.85	1	0.00	376.53	53.40	53.41	53.44	0.012	
3	2.94	2.49	0.010	0.20	0.50	0.90	20.79	0.69	....	....	....	84	1.77	1.48	2	0.31	318.61	53.44	53.45	53.45	0.010	
4	1.71	0.88	0.336	0.20	0.50	0.90	10.47	0.75	0.020	0.020	....	1	1.39	0.75**	3	0.60	204.68	53.49	53.74 i	53.83	0.336	
5	1.08	0.88	0.002	0.20	0.50	0.90	5.94	0.28	0.020	0.020	....	-87	1.03	0.84	4	0.09	204.01	53.83	53.84	53.84	0.002	
6	3.14	2.05	0.048	0.20	0.50	0.90	23.64	0.74	0.020	0.020	....	0	2.00	1.24	1	0.39	234.12	53.36	53.41	53.44	0.048	
7	2.05	0.56	0.275	0.20	0.50	0.90	26.13	0.47	0.020	0.020	....	0	1.24	0.47**	6	0.11	120.55	53.45	53.72 i	53.73	0.275	
8	0.33	0.43	0.333	0.20	0.50	0.90	20.94	0.39	0.020	0.020	....	-48	0.33	0.39**	7	0.21	70.09	54.68	55.01 i	55.01	0.333	

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Date: 06-10-2025

NOTES: i Inlet control; ** Critical depth ; System flows limited to inlet captured flows.

MyReport

Flow Rate (cfs)	Sf Ave (%)	Sf Dn (%)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	Hw (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)	
11.18	0.155	0.145	4.00	2.00	2.00	57.18	57.25	0.25	Sag	27.21	2.00	52.68	52.68	53.12	....	1.97	....	0.18	1.33	0.25	100	
3.82	0.016	0.017	....	....	....	57.25	58.15	....	....	....	....	53.38	53.39	53.41	....	1.87	....	0.00	0.00	....	....	
3.82	0.018	0.015	....	....	....	58.15	57.05	....	....	....	....	53.41	53.41	53.42	....	1.49	....	0.23	1.71	....	....	
3.82	n/a	n/a	4.00	2.00	2.00	57.05	56.50	0.27	Sag	28.72	2.00	53.42	53.45 j	53.83 i	53.38	1.13	53.17	0.45	3.32	0.27	100	
0.50	0.005	0.003	2.00	2.00	2.00	56.50	56.30	0.08	Sag	9.54	2.00	53.83	53.83	53.84	....	0.85	....	0.07	0.50	0.08	100	
4.32	0.032	0.022	4.00	2.00	2.00	57.25	59.40	0.23	Sag	24.64	2.00	53.33	53.34	53.38	....	1.28	....	0.35	2.59	0.23	100	
1.73	n/a	n/a	4.00	2.00	2.00	59.40	59.50	0.08	Sag	9.83	2.00	53.44	53.57 j	53.73 i	53.41	0.63	53.12	0.07	0.53	0.08	100	
1.21	n/a	n/a	4.00	2.00	2.00	59.50	59.70	0.14	Sag	15.62	2.00	54.48	54.89	55.01 i	....	0.51	....	0.16	1.21	0.14	100	

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Date: 06-10-2025

NOTES: i Inlet control; ** Critical depth ; System flows limited to inlet captured flows.

MyReport

Inlet ID	Inlet Loc	Inlet Spread (ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP ($)	Cost CMP ($)	Cost PVC ($)	
CB1	Sag	27.21	6.0	7.37	7.37	50.68	51.15	....	....	0.00	0.00	1.50	Dp-Grate	0.00	3,354	3,019	2,851	
DMH1	Sag	....	0.0	7.37	0.00	51.15	51.54	....	....	0.00	0.00	1.00	MH	0.00	4,134	3,721	3,514	
DMH2	Sag	....	6.0	7.37	7.37	51.64	51.93	....	....	0.00	0.00	0.15	MH	0.00	2,840	2,556	2,414	
CB2	Sag	28.72	6.0	7.37	7.37	52.03	52.70	79.80	4.42	0.19	0.44	1.50	Dp-Grate	0.00	4,508	4,057	3,832	
CB3	Sag	9.54	6.0	7.37	7.37	52.80	52.99	....	....	0.00	0.00	1.00	Dp-Grate	0.00	1,240	1,116	1,054	
CB6	Sag	24.64	6.0	7.37	7.37	51.15	52.10	....	....	0.00	0.00	0.50	Dp-Grate	0.00	7,774	6,997	6,608	
CB4	Sag	9.83	6.0	7.37	7.37	52.20	53.10	68.40	3.34	0.06	0.34	1.17	Dp-Grate	0.00	6,058	5,452	5,149	
CB5	Sag	15.62	6.0	7.37	7.37	54.15	54.50	....	....	0.00	0.00	1.00	Dp-Grate	0.00	3,156	2,840	2,683	

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Date: 06-10-2025

NOTES: Intensity = 40.35 / (Inlet time + 3.90) ^ 0.74 -- Return period = 25 Yrs. ; i Inlet control; ** Critical depth ; System flows limited to inlet captured flows.

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)	Tc (min)
1	62	24	0.76	Cir	....	....	0.010	0.44	178.18	0.00	0.00	3.04	1.71	24	0.75	24	0.00	0.00	0.00	6.0
2	77	24	0.51	Cir	....	....	0.010	0.02	101.29	0.00	....	....	....	24	0.00	24	0.00	0.00	0.00	6.0
3	58	24	0.50	Cir	....	....	0.010	0.01	98.25	0.00	....	....	....	24	0.75	24	0.00	0.00	0.00	6.0
4	114	18	0.59	Cir	....	....	0.010	n/a	94.27	0.00	0.00	3.32	0.00	18	0.75	18	0.00	0.00	0.00	6.0
5	38	15	0.50	Cir	....	....	0.010	0.00	56.28	0.00	0.00	0.50	0.00	15	0.75	15	0.00	0.00	0.00	6.0
6	147	24	0.65	Cir	....	....	0.010	0.03	190.99	0.00	0.00	2.59	0.00	24	0.90	24	0.00	0.00	0.00	6.0
7	114	24	0.79	Cir	....	....	0.010	n/a	200.93	0.00	0.00	0.53	0.00	24	0.65	24	0.00	0.00	0.00	6.0
8	69	24	0.51	Cir	....	....	0.010	n/a	153.87	0.00	0.00	1.21	0.00	24	0.78	24	0.00	0.00	0.00	6.0

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Date: 06-10-2025

NOTES: i Inlet control; ** Critical depth ; System flows limited to inlet captured flows.

MyReport

Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
....	1.95	1.52	11.18	3.95	3.56	0.20	0.29	4.33	4.50	4.10	180.45
....	1.00	0.75	5.53	1.24	1.21	0.02	0.02	1.26	4.10	4.61	240.45
....	1.00	0.75	5.53	1.41	1.30	0.03	0.04	1.53	4.51	3.12	158.37
....	0.69	0.52	3.82	3.28	2.24	0.08	0.29	4.32	3.52	2.30	151.45
....	0.09	0.07	0.50	0.51	0.46	0.00	0.00	0.57	2.45	2.06	37.40
....	0.71	0.59	4.32	1.74	1.38	0.03	0.07	2.11	4.10	5.30	407.55
....	0.32	0.24	1.73	1.98	0.85	0.01	0.15	3.12	5.20	4.40	146.61
....	0.21	0.16	1.21	3.21	3.62	0.20	0.12	2.81	3.35	3.20	26.31

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Date: 06-10-2025

NOTES: i Inlet control; ** Critical depth ; System flows limited to inlet captured flows.

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total Travel Time (min)
			n-Value	Flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	Flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	Flow Length (ft)	Travel Time (min)	
1	1	User																		6.00
2	2	User																		0.00
3	3	User																		6.00
4	4	User																		6.00
5	5	User																		6.00
6	6	User																		6.00
7	7	User																		6.00
8	8	User																		6.00

Project File: Hydraflow - Site Plan Submission.stm | Min. Tc used for intensity calculations = 6 min | Number of lines: 8 | Date: 06-10-2025

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)		
	(in)	(cfs)									(ft)											(K)	(ft)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	24	11.18	50.68	52.68	2.00	3.14	3.56	0.20	52.88	0.145	62	51.15	52.68	1.53	2.58	4.33	0.29	52.97	0.166	0.155	0.096	1.50	0.44
2	24	3.82	51.15	53.38	2.00	3.14	1.21	0.02	53.40	0.017	77	51.54	53.39	1.85	3.03	1.26	0.02	53.41	0.015	0.016	0.012	1.00	0.02
3	24	3.82	51.64	53.41	1.77	2.94	1.30	0.03	53.44	0.015	58	51.93	53.41	1.48	2.49	1.53	0.04	53.45	0.021	0.018	0.010	0.15	0.01
4	18	3.82	52.03	53.42	1.39	1.71	2.24	0.08	53.49	n/a	114	52.70	53.45 j	0.75**	0.88	4.32	0.29	53.74i	n/a	n/a	-0.045	1.50	n/a
5	15	0.50	52.80	53.83	1.03	1.08	0.46	0.00	53.83	0.003	38	52.99	53.83	0.84	0.88	0.57	0.00	53.84	0.006	0.005	0.002	1.00	0.00
6	24	4.32	51.15	53.33	2.00	3.14	1.38	0.03	53.36	0.022	147	52.10	53.34	1.24	2.05	2.11	0.07	53.41	0.043	0.032	0.048	0.50	0.03
7	24	1.73	52.20	53.44	1.24	2.05	0.85	0.01	53.45	n/a	114	53.10	53.57 j	0.47**	0.56	3.12	0.15	53.72i	n/a	n/a	n/a	1.17	n/a
8	24	1.21	54.15	54.48	0.33*	0.33	3.62	0.20	54.68	n/a	69	54.50	54.89	0.39**	0.43	2.81	0.12	55.01i	n/a	n/a	n/a	1.00	n/a

Project File: Hydraflow - Site Plan Submission.stm | Number of lines: 8 | Run Date: 06-10-2025

Notes: * Normal depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Hydraflow HGL Computation Procedure

General Procedure: Hydraflow computes the HGL using the Bernoulli energy equation. Manning's equation is used to determine energy losses due to pipe friction. In a standard step, iterative procedure, Hydraflow assumes upstream HGLs until the energy equation balances. If the energy equation cannot balance, supercritical flow exists and critical depth is temporarily assumed at the upstream end. A supercritical flow Profile is then computed using the same procedure in a downstream direction using momentum principles. The computed HGL is checked against inlet control.

Col. 1 The line number being computed. Calculations begin at Line 1 and proceed upstream.

Col. 2 The line size. In the case of non-circular pipes, the line rise is printed above the span.

Col. 3 Total flow rate in the line.

Col. 4 The elevation of the downstream invert.

Col. 5 Elevation of the hydraulic grade line at the downstream end. This is computed as the upstream HGL + Minor loss of this line's downstream line.

Col. 6 The downstream depth of flow inside the pipe (HGL - Invert elevation) but not greater than the line size.

Col. 7 Cross-sectional area of the flow at the downstream end.

Col. 8 The velocity of the flow at the downstream end, (Col. 3 / Col. 7).

Col. 9 Velocity head (Velocity squared / 2g).

Col. 10 The elevation of the energy grade line at the downstream end, HGL + Velocity head, (Col. 5 + Col. 9).

Col. 11 The friction slope at the downstream end (the S or Slope term in Manning's equation).

Col. 12 The line length.

Col. 13 The elevation of the upstream invert.

Col. 14 Elevation of the hydraulic grade line at the upstream end.

Col. 15 The upstream depth of flow inside the pipe (HGL - Invert elevation) but not greater than the line size.

Col. 16 Cross-sectional area of the flow at the upstream end.

Col. 17 The velocity of the flow at the upstream end, (Col. 3 / Col. 16).

Col. 18 Velocity head (Velocity squared / 2g).

Col. 19 The elevation of the energy grade line at the upstream end, HGL + Velocity head, (Col. 14 + Col. 18) .

Col. 20 The friction slope at the upstream end (the S or Slope term in Manning's equation).

Col. 21 The average of the downstream and upstream friction slopes.

Col. 22 Energy loss. Average Sf/100 x Line Length (Col. 21/100 x Col. 12). Equals (EGL upstream - EGL downstream) +/- tolerance.

Col. 23 The junction loss coefficient (K).

Col. 24 Minor loss. (Col. 23 x Col. 18). Is added to upstream HGL and used as the starting HGL for the next upstream line(s).

Section 13

Urban Impaired Stream Submissions

Section 13. Urban Impaired Stream Submissions

The proposed project is not located within an urban impaired stream watershed.

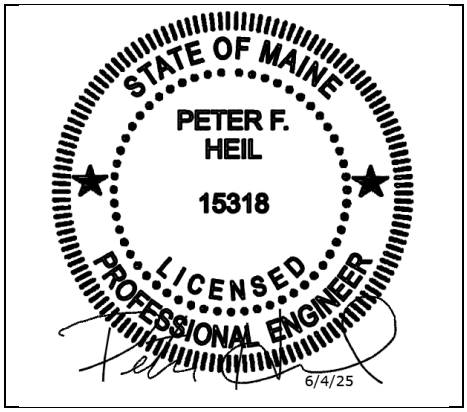
Basic Standard Submission (Erosion & Sedimentation Control Report)

Prepared For:

3 Lincoln, LLC
80 Exchange Street, Suite 400
Portland Maine 04101

Prepared By:

Acorn Engineering, Inc.
16 Middle Street, Suite 302
Portland, Maine 04101



June 2025

INTRODUCTION

Acorn Engineering, Inc. has been retained by 3 Lincoln, LLC to provide civil engineering services for the proposed development of 3 Lincoln Street (Pearl Street Lot 3). This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Biddeford Land Development Regulations, Article VI: Performance Standards, Section 26: Erosion Control 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 site address is 15 Pearl Street, Lot 3 and it only has frontage on Pearl Street. A section of the site is location within the 250' shoreland overlay zone due to the proximity from the Saco River. An Existing Conditions Survey has been prepared by Owen Haskell Inc. dated February 28, 2025.

Abutting Uses:

- North MSRD3 — Amtrack/Mixed-Use Residential/Commercial
- East MSRD3 — Saco River
- South MSRD3 — Mixed use Residential/Commercial
- West MSRD3 — Parking Garage

The site is currently vacant and has recently been stabilized with grass coverage associated with the recent City parking garage project. Additionally, contaminated soils and foundation remnants remain on site, which the applicant understands the City will be removing from the site prior to the end of the year. The existing grades on site are relatively flat ranging from 0 to 5 percent west to east toward the Saco River.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for York County
- Geotechnical Report prepared by Summit Geoengineering

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**
Urban Land (Ur)	0.27	0.27

The soil "K" values for the soils, listed above, show a low to moderate susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although soil "K" values for the soils show a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the proximity of the site to the Saco River.

1.2 Existing Erosion Problems

There are no signs of existing erosion.

1.3 Critical Areas

There are no known critical areas on site.

1.4 Protected Natural Resource

The site is located near the Saco River, which is a Protected Natural Resource, and located within the 250' shoreland zone setback. 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)

As part of the recently constructed municipal parking garage, the overall 3 Lincoln Street parcel has recently been redeveloped, with removals associated from the old MERC facility, utility installation within the adjacent Pearl Street and site stabilization from the garage project.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public roadways.

2.1.2 Erosion control berm mix with hay bale reinforcement 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 Pearl Street shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes

and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.

2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.

2.2.2 All stormwater devices shall be installed, and tributary areas stabilized prior to receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Erosion and Sedimentation Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November

1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch,

anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Peter F. Heil, PE, CPESC
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #15318
- Maine DEP - Certified in Third-Party Inspector
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #7071

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above-described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter erosion control berm with hay bale reinforcement
3. Install all other erosion control devices as necessary throughout the remainder of this schedule.
4. Commence earthwork operations, associated with the roadway construction.
5. Commence installation of any utility work.
6. Continue earthwork and grading to subgrade as necessary for construction.
7. Complete installation of utilities.
8. Complete remaining earthwork operations.
9. Install sub-base and base gravels in paved areas.
10. Install paving, curbing and brickwork.
11. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
12. Once the site is stabilized, 90% catch of grass has been obtained, or mulching of landscape areas is complete, remove all temporary erosion control measures.
13. Touch up areas without a vigorous catch of grass with loam and seed.
14. Complete site signage and striping.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan
- Permanent Seeding Plan
- Housekeeping Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

PERMANENT SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of permanent seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.
Kentucky Bluegrass	0.46
Creeping Red Fescue	0.46
Perennial Ryegrass	0.11
Total	1.03

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Recommendations

Permanent seeding is recommended to be completed in the spring. Later summer seeding is allowed if completed prior to September 1st. If seeding cannot be accomplished during the periods recommended for permanent seeding, then the contractor shall perform temporary seeding per the temporary seeding plan.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to permanent seeding and mulching.

HOUSEKEEPING PLAN

The following housekeeping plan has is developed in accordance with Maine DEP Chapter 500 Stormwater Management standards. For additional information, reference Appendix C of Chapter 500.

1. **Spill prevention.** Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

NOTE: Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at : http://www.maine.gov/dep/spills/emergspillresp/

2. **Groundwater protection.** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

   See Chapter 500 Appendix D for license by rule standards for infiltration of stormwater.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3. **Fugitive sediment and dust.** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

NOTE: Dewatering a stream without a permit from the Department may violate state water quality standards and the *Natural Resources Protection Act*.

4. **Debris and other materials.** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. **Excavation de-watering.** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

NOTE: Dewatering controls are discussed in the "Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection."

6. **Authorized Non-stormwater discharges.** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

(a) Discharges from firefighting activity;

(b) Fire hydrant flushings;

(c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);

(d) Dust control runoff in accordance with permit conditions and Section 3, above;

(e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

(f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;

(g) Uncontaminated air conditioning or compressor condensate;

(h) Uncontaminated groundwater or spring water;

(i) Foundation or footer drain-water where flows are not contaminated;

(j) Uncontaminated excavation dewatering (see requirements in Section 5, above);

(k) Potable water sources including waterline flushings; and

(l) Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under Chapter 500 does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6, above. Specifically, the Department's approval does not authorize discharges of the following:

(a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

(b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;

(c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

(d) Toxic or hazardous substances from a spill or other release.

(8) Additional requirements. Additional requirements may be applied on a site-specific basis.

Section 15

Groundwater

Section 15. Groundwater

A. Narrative and Report

Location

See this Section 11 Soils for a copy of a Bedrock and Surficial Geology map with the project location depicted.

Quantity

There will be no groundwater use or subsurface wastewater disposal. Potable water will be provided by Maine Water Company and sanitary sewer will discharge into the municipal system.

Sources

The project will generate normal residential and commercial quantities of wastewater, solid waste, fuel and solvents. As the project will be serviced by municipal sewer, none of these items will be discharged into the groundwater.

Measures to Prevent Degradation

The impervious areas associated with the project are directed to catch basins or stormwater treatment systems and will ultimately outlet to the Saco River. Groundwater is not anticipated to be adversely affected as a result of the proposed project.

B. Groundwater Protection Plan

There are no development plans to store or use petroleum products, pesticides, herbicides, solvents, acids or other materials with the potential to contaminate groundwater.

C. Monitoring Plan

Not applicable

D. Monitoring Well Installation Report

Not applicable

Section 16

Water Supply

Section 16. Water Supply

A. Water Supply Method

This project proposes to extend the 8" D.I. water main within the lot and provide 6" D.I. fire protection water services with a 6" gate valves and 4" domestic D.I. water services with 4" gate valves for buildings A, B and C. Building D will have a single 6" D.I. fire protection water service with a 6" gate valve. Each townhome within building D will be individually served by a 2" domestic water service with 2" curb stops. Please see the attached Utility Plan for more information.

B. Subsurface Wastewater Disposal

Not applicable. The development will be serviced by a 2" force main sewer within Pearl Street.

C. Total Usage

This project anticipates an estimated water supply of 23,230 gpd.

Based upon the Section 4 of the Maine Subsurface Water Disposal Rules, the project anticipates the following design flows:

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Vacant Lot	N/A	N/A	N/A	0
Total Gallons per Day (Existing)				**0**
Proposed Flow				
Building A				
Residential Units	1-Bedroom	19	120	2,280
Residential Units	1-Bedroom + den	23	120	2,760
Residential Units	2-Bedroom	10	180	1,800
Total Gallons per Day (Proposed)				6,840
Building B				
Residential Units	Studio	4	120	480
Residential Units	1-Bedroom	26	120	3,120
Residential Units	1-Bedroom + den	29	120	3,480
Residential Units	2-Bedroom	26	180	4,680
Total Gallons per Day (Proposed)				11,760
Building C				
Restaurant	10 Employees	154 Seats	20gpd per seat + 12gpd per employee	3,280
Total Gallons per Day (Proposed)				3,280
Building D				
Townhomes	3-Bedroom	5	270	1,350
Total Gallons per Day (Proposed)				1,350
Total Gallons per Day (Proposed)				**23,230**
Net Change				**23,230**

October 12th, 2021

Acorn Engineering, Inc
Zachary Stevens, EI
PO Box 3372
Portland, ME 04104

Re: Ability to Serve Determination – Pearl Street – Lot 3 Redevelopment - Biddeford

Greetings,

The Maine Water Company (MWC) has received your request for an Ability to Serve Determination on behalf of your client, 3 Lincoln LLC, for the above referenced project. The request indicates a plan to redevelop Lot 3 of Pearl Street into 3 separate lots for residential high density / mixed use. The anticipated domestic demand has been presented as 33,650 gallons per day at full build out based on Maine subsurface wastewater disposal rules. Sprinkler demand information is not yet available. Based on the criteria that has been presented, MWC does have sufficient capacity in the 12-inch ductile iron main on Pearl Street to serve the needs of this project. The static pressure in the area is approximately **60psi**. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- Configuration of domestic and fire services will require additional review.
- Additional plan approval, paperwork and fees associated with services for this project will require further coordination with MWC. Please allow 2-4 weeks before construction begins on waterworks materials to finalize all paperwork and fees.
- A hydrant flow test will be required to be conducted at the expense of the developer and analyzed by the sprinkler designer to ensure adequate flows in the event of a fire.
- Existing services to the parcel may be required to be retired.
- MWC may require a public main extension to serve the 3 lots of this development. In the case of a public main extension – only one water main would enter the development and all other fire and domestic services would be served from the main entering the development. Further review is required for this determination.

Should a Customer Agreement for service not be executed within one year of the date of this letter, MWC reserves the right to reevaluate its ability to serve this project.

All work must be completed in accordance with Maine Water Company material and installation specifications. All appropriate paperwork must be completed and the deposit paid prior to the start of construction. Please forward all design plan revisions as the project develops to prevent construction delays.

Water service will be provided in accordance with our standard terms and conditions as well as Maine Public Utilities Commission rules. If you have any additional questions, please do not hesitate to contact our office at 1-800-287-1643 or by email at Marcus.Knipp@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

Marcus Knipp, E.I.T.
Engineer

The Maine Water Company
93 Industrial Park Road
Saco, ME 04072
T: 207.282.1543
www.mainewater.com

Section 17

Wastewater Disposal

Section 17. Wastewater Disposal

A. On-Site Subsurface Wastewater Disposal System

The project will not be serviced by individual on-site subsurface sewage disposal systems. However, pump stations will be included in the design to route sewage to the existing municipal sewer system within Pearl Street.

B. Nitrate-Nitrogen Impact Assessment

Not applicable.

C. Municipal Facility or Utility Company Letter

An Ability to Serve Letter from the City's Engineering Department is attached, it should be noted that the anticipated daily flows for this amendment application are lower than the original approval. The proposed project includes multiple pump stations to be installed to convey sewage to the existing force main within Pearl Street. See the Civil Plan Set for additional information.

Design flows are provided attached based on Section 4 of the Maine Subsurface Water Disposal Rules. Additionally, pump station sizing received from Pump Systems Inc can be found attached. All four buildings on Lot 3 are proposed to be services by centrifugal pumps as requested by the Town Engineer.

D. Wastewater discharge information

Not applicable.

E. Storage or Treatment Lagoons

Not applicable.

Based upon the Section 4 of the Maine Subsurface Water Disposal Rules, the project anticipates the following design flows:

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Vacant Lot	N/A	N/A	N/A	0
Total Gallons per Day (Existing)				**0**
Proposed Flow				
Building A				
Residential Units	1-Bedroom	19	120	2,280
Residential Units	1-Bedroom + den	23	120	2,760
Residential Units	2-Bedroom	10	180	1,800
Total Gallons per Day (Proposed)				6,840
Building B				
Residential Units	Studio	4	120	480
Residential Units	1-Bedroom	26	120	3,120
Residential Units	1-Bedroom + den	29	120	3,480
Residential Units	2-Bedroom	26	180	4,680
Total Gallons per Day (Proposed)				11,760
Building C				
Restaurant	10 Employees	154 Seats	20gpd per seat + 12gpd per employee	3,280
Total Gallons per Day (Proposed)				3,280
Building D				
Townhomes	3-Bedroom	5	270	1,350
Total Gallons per Day (Proposed)				1,350
Total Gallons per Day (Proposed)				**23,230**
Net Change				**23,230**

City of Biddeford, Maine

City of Biddeford
Public Works Department / Engineering Division/Wastewater Administration Division
P.O. Box 586, 205 Main Street, Suite 301
Biddeford, ME 04005
Phone: (207) 284-9118, Fax: (207) 571-0662

Letter of Wastewater Treatment Plant Capacity to Serve
Mixed Use Development, Residential flow only
3 Pearl Street

Peter Heil
Acorn Engineering, Inc.
P O Box 3372
Portland, Me 04104

December 29, 2022

Brief description of project: **Proposed Mixed Use Development Project on 3 Pearl Street Biddeford, Maine-** Estimated new flows: **29,610 gpd**.

Determination

The applicant is proposing a mixed use development on 3 Pearl Street. Based on an email received from Acorn Engineers, Inc., dated November 21, 2022, it is currently projected that the proposed mixed use development will discharge 29,610 gallons per day of flow from the residential portion of the project into the system. Commercial flows will be calculated at the time the application is submitted.

The City of Biddeford Wastewater Department has reviewed the request to serve the above described project. It has been determined that at this time, once the flow reaches the wastewater treatment facility, the City has sufficient capacity to treat the estimated flows from the above described project. Changes to the project from that presented to this department may require a new review of the request for ability to serve. This determination will be effective for a period of one year from the date above.

Upon approval of the Planning Board, the applicant must make application for sewer service. Flow amounts for the project will be determined at the time application is made and may or may not be the amount stated above. The applicant will be required to pay all fees based on the flow amount calculated at the time application is made and prior to the issuance of any building permits and/or the issuance of a certificate of occupancy. Any roof drains connected into the sewer system shall be removed.

The City of Biddeford is an equal opportunity provider. To file a complaint, write to Human Resource Director, 205 Main Street Biddeford, ME 04005, or call (207) 286-0593.

This Capacity to Serve Letter is intended only to indicate that the City of Biddeford Wastewater Treatment Facilities has the ability to handle and treat the flow from the above stated project once it is received at the treatment facility. Project design plans must be submitted to the City for review and comment. The Planning Department, Engineering Department or other persons from the Wastewater Department may require further studies, calculations or documentation to determine any actions that may need to be taken to address any impacts/capacity issues and/or any system upgrades that may be needed to address any impacts this project may have on the City's sewer collection and conveyance system(s) or its components.

Thomas Milligan, PE
City Engineer Emeritus
City of Biddeford Engineering Department
Tom.milligan@biddefordmaine.org
207-284-9118

CC: Jeff Demers, Public Works/Wastewater Director
Roby Fecteau, Code Enforcement
David Galbraith, City Planner
Alex Buechner, Wastewater Superintendent
Craig Chekan, City Engineer

Biddeford

Controls to suit Pearl Street A/B

PART 1

1.01 SECTION General

2.12 ELECTRICAL CONTROL COMPONENTS

A. The pump station control panel shall be tested as an integral unit by the pump station manufacturer.

B. The electrical control equipment shall be mounted within a NEMA 4X, TYPE 1 stainless steel enclosure with 3-point latch. The enclosure door shall be hinged and sealed with a neoprene gasket. It shall include a removable plated steel back panel on which control components shall be mounted. Back panel shall be secured to enclosure with collar studs. Operator controls shall be mounted on the enclosure door. The control enclosure shall be mounted within the fiberglass valve enclosure. The control panel shall be equipped with vapor emission type corrosion inhibitors.

C. All control components shall be securely fastened to a removable back panel with screws and lock washers. Switches, indicators and instruments shall be mounted through the control panel door. All control devices and instruments shall be secured to the sub-plate with machine screws and lock washers. Mounting holes shall be drilled/tapped, and self-tapping screws shall not be used to mount any components. All connections from the back panel to door mounted or remote devices shall be made through terminal blocks. All control devices shall be clearly labeled to indicate function.

D. A main terminal block and ground bar shall be furnished for field connection of the electrical supply. The connections shall be designed to accept copper conductors of sufficient size to serve the pump station loads. The main terminal block shall be mounted to allow incoming wire bending space in accordance with Article 373 of the National Electrical Code (NEC).

E. Motor Branch Components
   1. A properly sized heavy duty air circuit breaker shall be furnished for each pump motor, and shall have a symmetrical RMS interrupting rating of 18,000 amperes at 460 volts, 25,000 amperes at 230 volts All circuit breakers shall be sealed by the manufacturer after calibration to prevent tampering.

F. Oil-tight pilot lights for each pump motor shall be provided. Each light shall be wired in parallel with the related pump motor starter to indicate that the motor is on or should be running. Pilot lights shall be in addition to any lights provided as a part of automatic level controller that may be specified herein. All pilot lights shall be suitable for 120VAC, and shall be mounted in keyed openings on the inner door of the control panel

G. Individual pilot lights shall be provided to alert maintenance personnel to a "high temperature" or "seal leak" alarm condition for each pump and the pump control panel shall be equipped to terminate pump operation due to high motor winding temperature or moisture in the motor housing, utilizing contacts in the pump motor housing. As noted above pilot lights shall be in addition to any lights provided as a part of automatic level controller that may be specified herein. All pilot lights shall be suitable for 120VAC, and shall be mounted in keyed openings on the door of the control panel.

H. The control circuit shall be protected by a normal duty thermal-magnetic air circuit breaker which shall be connected in such a manner as to allow control power to be disconnected from all control circuits.

I. Pump mode selector switches shall be connected to permit manual start and manual stop for each pump individually, and to select automatic operation of each pump under control of the liquid level control system. Manual operation shall override the liquid level control system. Selector switches shall be heavy duty, oil-tight design, with contacts rated NEMA A300 minimum.

Control panel designs that utilize float switches for level sensing and control shall be provided with a separate alternating relay, as well as a lead-lag-auto selector switch .

J. The control panel, as furnished by the manufacturer, shall be completely wired. The contractor shall field connect the power feeder lines to the main terminal block, final connections to the remote alarm devices, and the connections between the pump and the pump motor control. All wiring, workmanship, and schematic wiring diagrams shall be in compliance with applicable standards and specifications set forth by the National Electric Code (NEC). All user serviceable wiring shall be type MTW or THW, 600 volts, and shall be color coded as follows:

▪ Line and load circuits, AC or DC power	Black
▪ AC control circuit less than line voltage	Red
▪ DC control circuit	Blue
▪ Interlock control circuit, from external source	Yellow
▪ Equipment grounding conductor	Green
▪ Current carrying ground	White
▪ Hot with circuit breaker open	Orange

K. Control circuit wiring inside the panel, with the exception of internal wiring of individual components, shall be 16-gauge minimum, type MTW or THW, 600 volts. Power wiring shall be 14-gauge minimum. Motor branch and other power conductors shall not be loaded above the temperature rating of the connected termination. Wires shall be clearly

numbered at each end in accordance with the electrical diagrams. All wires on the sub-plate shall be bundled and tied.

L. Wires connected to components mounted on the enclosure door shall be bundled and tied in accordance with good commercial practice. Bundles shall be made flexible at the hinged side of the enclosure. Adequate length and flex shall be provided to allow the door to swing to its full open position without undue stress or abrasion on the wire or insulation. Bundles shall be held in place on each side of the hinge by mechanical fastening devices.

M. All conduit and fittings shall be UL listed. Liquid tight flexible metal conduit shall be constructed of smooth, flexible galvanized steel core with smooth abrasion resistant, liquid tight, polyvinyl chloride cover. Conduit shall be supported in accordance with articles 346, 347, and 350 of the National Electric Code. Conduit shall be sized according to the National Electric Code.

N. The pump control manufacturer shall provide a common ground bar mounted on the enclosure back plate. The mounting surface of the ground bar shall have any paint removed before making final connections. The contractor shall make the field connections to the main ground lug and each pump motor in accordance with the National Electric Code.

O. A permanent corrosion resistant name plate(s) shall be attached to the control and include the following information:

- Equipment serial number
- Control panel short circuit rating
- Supply voltage, phase and frequency
- Current rating of the minimum main conductor
- Electrical wiring diagram number
- Motor horsepower and full load current
- Motor overload heater element
- Motor circuit breaker trip current rating
- Name and location of equipment manufacturer

P. Control components shall be permanently marked using the same identification shown on the electrical diagram. Identification label shall be mounted adjacent to the device. Switches, indicators, and instruments shall be plainly marked to indicate function, position, etc. Marking shall be mounted adjacent to and above the device.

2.13 LIQUID LEVEL CONTROL

A. The level control system shall start and stop the pump motors in response to changes in wet well level, as set forth herein.

B. The level control system shall utilize alternation to select first one pump, then the second pump to run as lead pump for a pumping cycle. Alternation shall occur at the end of a pumping cycle.

C. Float System – Sealed mercury-free float switches shall be provided. All floats shall have the same length of cable to allow for full height adjustment and interchangeability. Stainless steel float mounting brackets with strain relief grommets shall be provided, to allow for easy adjustment of the float levels. Additional float wire supports shall be provided to prevent float wires from crossing hatch openings.

2.14 Alarm System

A. A local red beacon alarm shall be affixed to the top of the control cabinet, activated on closure of the alarm float switch. A test-off-auto switch shall be proved.

A "sonalert" buzzer shall be mounted on the enclosure exterior to provide audible alarm locally. A push-to-silence button shall be provided for the sonalert, In the event to push-to-silence button is depressed, the audible alarm shall be silenced but the beacon shall continue to be activated until the alarm condition has been repaired.

A cellular autodialer shall be provided activation on the following conditions:

1. High level alarm
2. Seal leak alarm
3. Motor overtempt (each motor)
4. Loss of station AC power

The autodialer and its monitoring shall be capable of maintaining input signals for at least 7 days, in the cloud.

Specification based on Sensaphone Sentinel. Please note that this is a subscription service, requiring annual renewal. The first year subscription shall be paid for and activated by the Contractor. Coordinate with the Owner to enter the correct dial-out telephone/text or emails for intended recipients.

PART 3 EXECUTION

3.01 EXAMINATION

A. Contractor shall off-load equipment at installation site using equipment of sufficient size and design to prevent injury or damage. Station manufacturer shall provide written instruction for proper handling. Immediately after off-loading, contractor shall inspect complete pump station and appurtenances for shipping damage or missing parts. Any

damage or discrepancy shall be noted in written claim with shipper prior to accepting delivery. Validate all station serial numbers and parts lists with shipping documentation. Notify the manufacturer's representative of any unacceptable conditions noted with shipper.

3.02 INSTALLATION

A. The contractor shall install, level, align, and lubricate all equipment associated with the pump station as shown indicated on the project drawings, and as outlined in the O&M manual provided with the equipment. Installation must be in accordance with written instructions supplied by the manufacturer at time of delivery.

B. Check motor and control data plates for compatibility to site voltage. Install and test the station ground prior to connecting line voltage to station control panel.

C. Prior to applying electrical power to any motors or control equipment, check all wiring for tight connection. Verify that all protective devices (fuses and circuit breakers) conform to project design documents. Manually operate circuit breakers and switches to ensure operation without binding. Open all circuit breakers and disconnects before connecting utility power. Verify line voltage, phase sequence and ground before actual start-up.

3.03 FIELD QUALITY CONTROL

A. Operational Test

1. Prior to acceptance by owner, an operational test of all pumps, and control systems shall be conducted to verify that the installed equipment meets the purpose and intent of these specifications. Tests shall demonstrate that all equipment provided is electrically, mechanically, structurally, and otherwise acceptable; that it is safe and in optimum working condition; and that it conforms to the specified operating characteristics.

2. After construction debris and foreign material has been removed from the wet well, contractor shall supply clear water volume adequate to operate station through several pumping cycles. Observe and record operation of pumps, discharge gauge readings, ampere draw, pump controls, and liquid level controls. Check calibration of all instrumentation equipment, test manual control devices, and automatic control systems. Be alert to any undue noise, vibration or other operational problems.

B. Manufacturer's Start-up Services

1. Coordinate station start-up with the manufacturer's technical representative. The representative or factory service technician will inspect the completed installation, calibrate and adjust instrumentation, correct or supervise correction of defects or malfunctions, and instruct operating personnel in proper operation and maintenance procedures. The pump station warranty is contingent on receipt of a complete start-up report in accordance with specification Section 1.08.E.

3.04 CLEANING

A. Prior to acceptance, inspect interior and exterior of pump station for dirt, splashed material or damaged paint. Clean or repair accordingly. Remove from the job site all tools, surplus materials, scrap and debris.

3.05 PROTECTION

A. The pump station should be placed into service immediately upon completion of field startup. If operation is delayed, the station shall be stored and maintained per the manufacturer's written instructions until it is ready for use.

Biddeford Pearl St A

Wastewater Pump Station

&

Force Main

Design Calculations

Project Name: Pearl Street A

Location: Biddeford ME

Designed By: John Benham

Checked By:

Date: 12/6/22

Project no.: 221206JB01

Biddeford Pearl St A

Wastewater Pump Station

&

Force Main

Project Summary

Project Name:	Pearl Street A
Average Daily Flow (gpm):	11.8 USGPM
Pump Operational Point No. 1 (gpm@tdh):	72 GPM @ 104 feet TDH
Pump Manufacturer:	Ebara
Model Number:	50DGFU63.72
Impeller Diameter:	6.38"
Horse Power:	5
Voltage:	230/3
Force Main Diameter (in):	2
Force Main Length (ft):	850

Design Pumping Flow Rate

Peaking Factor Calculation	
Service Area Population =	90
Peak Factor =	$\frac{18 + \sqrt{P}}{4 + \sqrt{P}}$
Calculated Peak Factor =	4.3
Design Peak Factor =	4.3

Determine Minimum Pump Rate		
Average Daily Flow =	16,950	GPD
Peak Flow =	72,136	GPD
Minimum Pumping Rate Required =	50	GPM
Design Pumping Rate =	75	GPM

Cycle Time & Wet Well Geometry

Target Cycles Per Hour			
ADF	=	12	gpm
Pumping Rate	=	75	gpm
Time	=	15.0	min.
Cycles Per Hour =		**4.0**	
Check Cycles Per Hour:		**OK**	
Check Cycles Per Hour:		**OK**	

Determine Wet well Diameter		
Required Volume =	149	Gallons
Pick Wet Well Diameter =	**5.0**	Ft
Pick Wet Well Cycle =	**2.0**	Vert. Ft
Volume in Cycle =	294	Gallons

Vertical Datum Used: **By Engineer**

Determine Wet Well Invert & Float Elevations

Wet well Dia. = **5.0** Ft

Top Elev=	57.42		
Gnd Elev=	56.92		
SS Invert In=	50.35		
		Alarm =	48.35
		Lag On =	47.85
		Lead On =	46.85
		Pumps Off	44.85
Bottom Invert Elev* =	41.92		

*As required for complete submergence

OK

Force Main & Piping Design

Off-Site Force Main Data	
Design Pump Rate (gpm) =	75
Select Force Main Size (in) =	**2**
Velocity (fps) =	7.66
Meets Minimum Velocity Requirement?	**OK**
Meets Maximum Velocity Requirement?	**OK**
Required Pump?	**Use Grinder Pump**
Line Length (ft) =	**850**
Account for Minor Losses =	5%
Equiv Length (ft) =	893

Connection Point:	**TBD by Engineer**

Pump Station Piping Data			
Design Pump Rate (gpm) =			75
Pick Wet Well & Valve Vault Piping Size (in) =			**2**
Velocity (fps) =			7.66
Meets Minimum Velocity Requirement?			**OK > 2 FPS**
Meets Maximum Velocity Requirement?			**OK < 8 FPS**
Item	Number of Fittings	L/D Ratio	Equivalent Length
45 bend	0	16	0.00
90 bend	2	30	10.00
22.5 bend	1	9	1.50
Branch Tee Flow	1	60	10.00
Check valve	1	135	22.50
Plug Valve	1	17	2.83
			0.00
			0.00
			0.00
Equivalent Fitting Length (ft) =			47
Wet Well & Valve Vault Piping Length (ft) =			**20**
Total Equivalent Pump Station Pipe Length (ft) =			67
Equivalent Off-Site Diameter Length (ft) =			67
Total Equivalent Force Main Length (ft) =			***959***

Pump Selection

Force Main Diameter (in) =	2
Equivalent Force Main Length (ft) =	959
Hazen-Williams C Factor =	150
Minimum Required Pump Rate (GPM) =	50
Design Pumping Rate (GPM) =	75

GPM	Pressure Head at Connection "All On" (feet)	Pressure Head at Connection "Only Proposed Pump Station On" (feet)	Static Head (feet)	"All On" TDH (feet)	Proposed Pump Station On" TDH (feet)	Velocity (fps)	Pump Head (feet)
50	0	0	15	60	60	5.1	122
60	0	0	15	78	78	6.1	119.5
70	0	0	15	99	99	7.1	108
80	0	0	15	122	122	8.2	90
90	0	0	15	149	149	9.2	65

Pump Manufacturer: **EBARA**

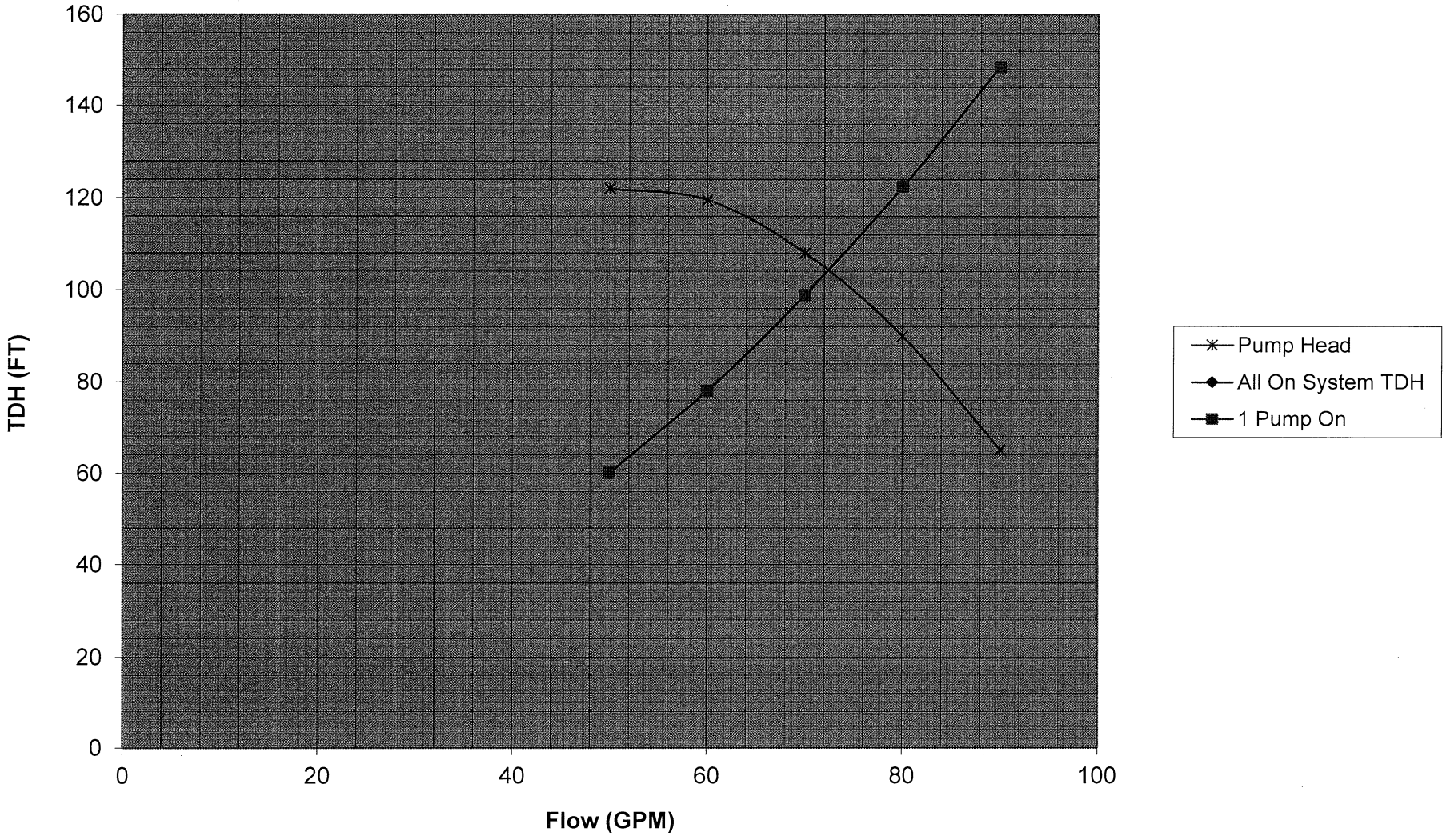
Model Number: **50DGFU63.72**

Impeller Diameter: **6.38"**

Horsepower: **5**

Voltage: **230 volt, 3 phase**

Pump and Force Main System Curve



Station Operation Check

Proposed Operational Point No.1

72	GPM @	104	TDH

Check Wet well Cycle Times

Wet well Diameter (feet)	Wet well Area (gal / VF)	Wet well Cycle (ft)	Wet well Volume (gal)
5.0	147	2.0	294

Fill = $\frac{\text{Wet well Volume}}{\text{ADF}}$ = 24.9 minutes

Run = $\frac{\text{Wet well Volume}}{\text{Pump Rate - ADF}}$ = 4.9 minutes

Total = 29.8 minutes

Cycle Time = 2.0 Cycles / Hour

Meets Minimum Cycle Time? **OK**

Meets Maximum Cycle Time? **OK**

Buoyancy Calculations

Wet well Outside Dimensions	**6.00**	Feet
Wet well Inside Dimensions	5.00	Feet
Wet well Top Slab Elevation	57.42	Feet
Wet well Invert Elevation	41.92	Feet
Extended Base Slab Diameter	**8.00**	Feet
Extended Base Slab Thickness	**1.00**	Feet
Top Slab Thickness	**0.50**	Feet

Calculate Total Volume of Wet well Structure

Volume of Wet well Riser Sections=	438	cf
Volume of Wet well Extended Base=	50	cf
Total Volume of Wet well Structure=	488	cf

Calculate Total Volume of Water Displaced

H20 Displaced = (Volume of Wet well Structure) * (62.4 lbs/cf)

H20 Displaced= 30468 lbs

Calculate Weight of Wet well Components

Section	Total Ht	Weight
Top Slab Thickness (ft.)	0.50	2121
Riser - Total Vertical Ft.	15.50	20087
Base Slab Thickness (ft.)	1.00	7540
Totals=	17	29747

Total Weight of Concrete in Wet well= 29747 lbs.

Calculate Submerged Weight of Soil Above Extended Base/Footing

Total Area of Extended Base	50	sf
Total Area of Wet well Riser	28	sf
Area of Extended Base less Wet well	22	sf
Height of Soil Above Extended Base	15	ft
Volume of Soil Above Extended Base	330	cf
Weight of Soil Above Extended Base (estimated)	**50**	lbs/cf
Total Weight of Soil Above Extended Base	16493	lbs/cf

Flotation Protection Required?

Weight of Concrete and Weight of Soil Above Extended Base:	46240	lbs
Weight of Water Displaced By Wet Well:	30468	lbs
Flotation Protection Required?	**NO**	

Biddeford 15 Pearl St Lot B

Wastewater Pump Station

&

Force Main

Design Calculations

Project Name:	**15 Pearl Street, Lot 3**
Location:	**Biddeford ME**
Designed By:	**John Benham**
Checked By:	
Date:	**1/14/25**
Project no.:	**25002**
Revised:	**Rev 1 1/15/2024**

Wastewater Pump Station
&
Force Main
Project Summary

Project Name:	**25 Pearl Street, Lot 3**
Average Daily Flow (gpm):	**12.5**
Pump Operational Point No. 1 (gpm@tdh):	**95 GPM @ 33 ft**
Pump Manufacturer:	**Ebara Fluid Handling**
Model Number:	**80DKEU461.52**
Impeller Diameter:	**6.54"**
Horse Power:	**2**
Voltage:	**230, 3 ph**
Force Main Diameter (in):	**3**
Force Main Length (ft):	**730**

Tributary
Wastewater Flow Calculations

Establishment	Unit Value (Gal/Day/Unit)	Unit Type	# of Units	Discharge, GPD
Residential Studio	90	Residence	4	360
Residential One Bedroom plus Den	120	Residence	33	3,960
Residential One Bedroom	90	Residence	22	1,980
Residential 2 bedroom	180	Residence	26	4,680
Other -				0
		Average Daily Flow (gallons per day)		**10,980**

Design Pumping Flow Rate

Peaking Factor Calculation	
Service Area Population =	225
Peak Factor =	$\frac{18 + \sqrt{P}}{4 + \sqrt{P}}$
Calculated Peak Factor =	4.1
Design Peak Factor =	4.1

Determine Minimum Pump Rate		
Average Daily Flow =	10,980	GPD
Peak Flow =	45,336	GPD
Minimum Pumping Rate Required =	31	GPM
Design Pumping Rate =	**95**	GPM

Cycle Time & Wet Well Geometry

Target Cycles Per Hour			
ADF	=	8	gpm
Pumping Rate	=	95	gpm
Time	=	30.0	min.
Cycles Per Hour =		**2.0**	
Check Cycles Per Hour:		**OK**	
Check Cycles Per Hour:		**OK**	

Determine Wet well Diameter		
Required Volume =	210	Gallons
Pick Wet Well Diameter =	**6.0**	Ft
Pick Wet Well Cycle =	**1.0**	Vert. Ft
Volume in Cycle =	211	Gallons

Vertical Datum Used: **By Engineer**

Determine Wet Well Invert & Float Elevations

Wet well Dia. = **6.0** Ft

Top Elev=	54.50
Gnd Elev=	54.50
SS Invert In=	49.25
Alarm =	47.25
Lag On =	47.25
Lead On =	46.25
Pumps Off	44.75
Bottom Invert Elev* =	41.25

*As required for complete submergence

OK

Force Main & Piping Design

Off-Site Force Main Data	
Design Pump Rate (gpm) =	95
Select Force Main Size (in) =	**3**
Velocity (fps) =	4.31
Meets Minimum Velocity Requirement?	**OK**
Meets Maximum Velocity Requirement?	**OK**
Required Pump?	**Use Non-Clog Pump**
Line Length (ft) =	**730**
Account for Minor Losses =	5%
Equiv Length (ft) =	767

Connection Point:	**TBD by Engineer**

Pump Station Piping Data	
Design Pump Rate (gpm) =	95
Pick Wet Well & Valve Vault Piping Size (in) =	**3**
Velocity (fps) =	4.31
Meets Minimum Velocity Requirement?	**OK > 2 FPS**
Meets Maximum Velocity Requirement?	**OK < 8 FPS**

Item	Number of Fittings	L/D Ratio	Equivalent Length
45 bend	0	16	0.00
90 bend	2	30	15.00
22.5 bend	1	9	2.25
Branch Tee Flow	1	60	15.00
Check valve	1	135	33.75
Plug Valve	1	17	4.25
			0.00
			0.00
			0.00

Equivalent Fitting Length (ft) =	70
Wet Well & Valve Vault Piping Length (ft) =	**20**
Total Equivalent Pump Station Pipe Length (ft) =	90
Equivalent Off-Site Diameter Length (ft) =	90
Total Equivalent Force Main Length (ft) =	***857***

Pump Selection

Force Main Diameter (in) =	3
Equivalent Force Main Length (ft) =	857
Hazen-Williams C Factor =	150
Minimum Required Pump Rate (GPM) =	31
Design Pumping Rate (GPM) =	95

GPM	Pressure Head at Connection "All On" (feet)	Pressure Head at Connection "Only Proposed Pump Station On" (feet)	Static Head (feet)	"All On" TDH (feet)	"Only Proposed Pump Station On" TDH (feet)	Velocity (fps)	Pump Head (feet)
75	0	0	12.5	24	24	3.4	35.2
95	0	0	12.5	31	31	4.3	33.2
115	0	0	12.5	39	39	5.2	31
135	0	0	12.4	48	48	6.1	29.3
155	0	0	12.5	58	58	7.0	27.4

Pump Manufacturer: **Ebara**

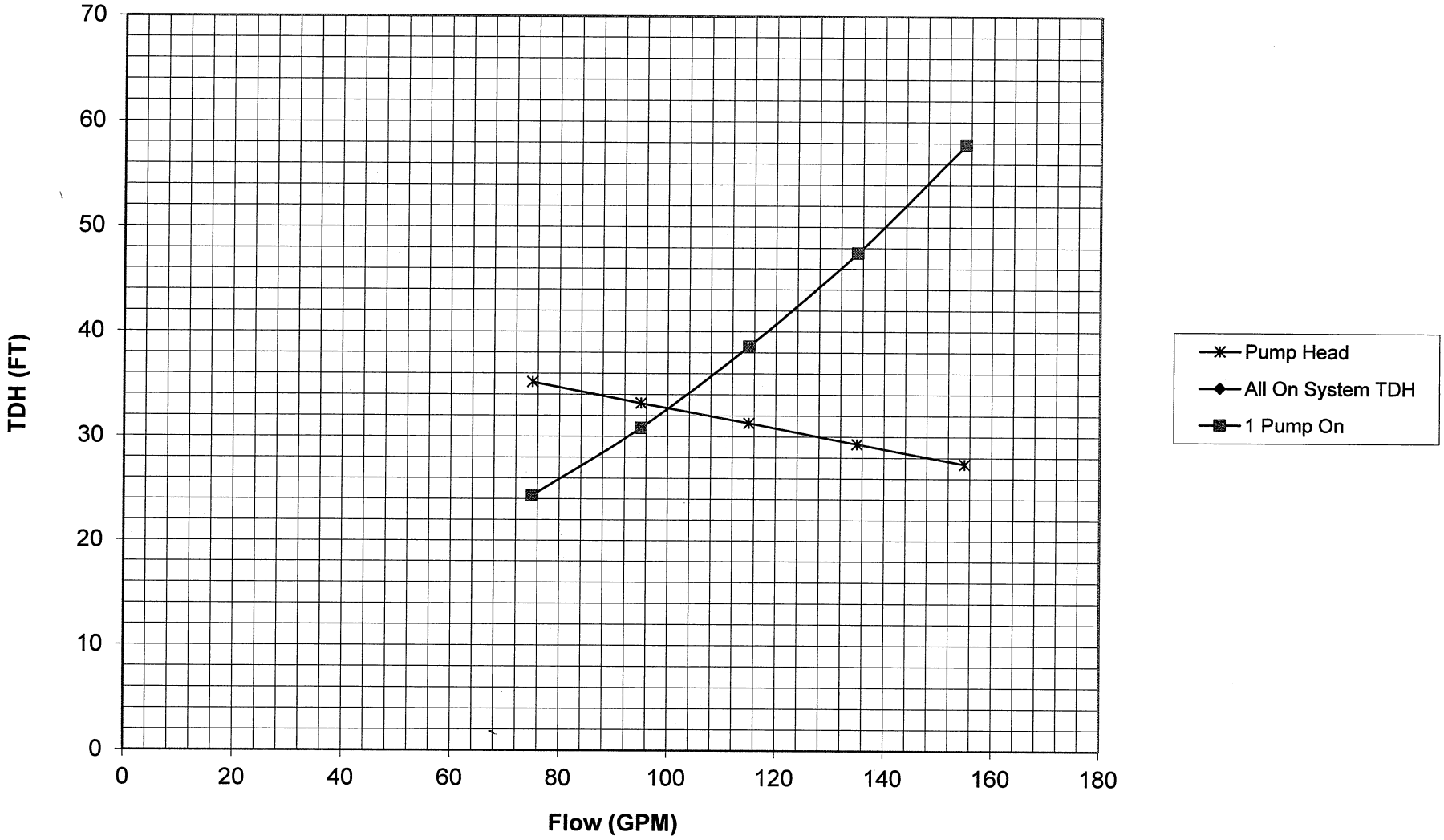
Model Number: **80DKEU461.52**

Impeller Diameter: **6.34"**

Horsepower: **2**

Voltage: **230 volt, 3 phase**

Pump and Force Main System Curve



Station Operation Check

Proposed Operational Point No.1

95	GPM @	33	TDH

Check Wet well Cycle Times

Wet well Diameter (feet)	Wet well Area (gal / VF)	Wet well Cycle (ft)	Wet well Volume (gal)
6.0	211	1.0	211

Fill = $\frac{\text{Wet well Volume}}{\text{ADF}}$ = 27.7 minutes

Run = $\frac{\text{Wet well Volume}}{\text{Pump Rate - ADF}}$ = 2.4 minutes

Total = 30.1 minutes

Cycle Time = 2.0 Cycles / Hour

Meets Minimum Cycle Time? **OK**

Meets Maximum Cycle Time? **OK**

Buoyancy Calculations

Wet well Outside Dimensions	**7.00**	Feet
Wet well Inside Dimensions	6.00	Feet
Wet well Top Slab Elevation	54.50	Feet
Wet well Invert Elevation	41.25	Feet
Extended Base Slab Diameter	**8.00**	Feet
Extended Base Slab Thickness	**1.00**	Feet
Top Slab Thickness	**1.00**	Feet

Calculate Total Volume of Wet well Structure

Volume of Wet well Riser Sections=	510	cf
Volume of Wet well Extended Base=	50	cf
Total Volume of Wet well Structure=	560	cf

Calculate Total Volume of Water Displaced

H20 Displaced = (Volume of Wet well Structure) * (62.4 lbs/cf)

H20 Displaced= 34938 lbs

Calculate Weight of Wet well Components

Section	Total Ht	Weight
Top Slab Thickness (ft.)	1.00	5773
Riser - Total Vertical Ft.	13.25	20293
Base Slab Thickness (ft.)	1.00	7540
Totals=	15.25	33605

Total Weight of Concrete in Wet well= 33605 lbs.

Calculate Submerged Weight of Soil Above Extended Base/Footing

Total Area of Extended Base	50	sf
Total Area of Wet well Riser	38	sf
Area of Extended Base less Wet well	12	sf
Height of Soil Above Extended Base	13	ft
Volume of Soil Above Extended Base	156	cf
Weight of Soil Above Extended Base (estimated)	**50**	lbs/cf
Total Weight of Soil Above Extended Base	7805	lbs/cf

Flotation Protection Required?

Weight of Concrete and Weight of Soil Above Extended Base	41410	lbs
Weight of Water Displaced By Wet Well:	34938	lbs
Flotation Protection Required?	**NO**	

Section 18

Solid Waste

Section 18. Solid Waste

The property management company or owner shall be responsible for managing and contracting with a private hauler to remove solid waste. The expectation is that solid waste would be collected as needed by the private hauler. All solid waste containers are anticipated to be located internally.

Solid waste produced by the residential redevelopments is predictable in that it will generate a fair amount of recyclable material such as cardboard and plastic due to residents' daily needs. Garbage generation for the residential buildings is anticipated to be relatively low when compared to a typical residential use given the urban environment that provides amenities and services in proximity to the living space. Solid waste produced by the proposed commercial use restaurant will be predicable in that it will generate a fair amount of trash and compostable material.

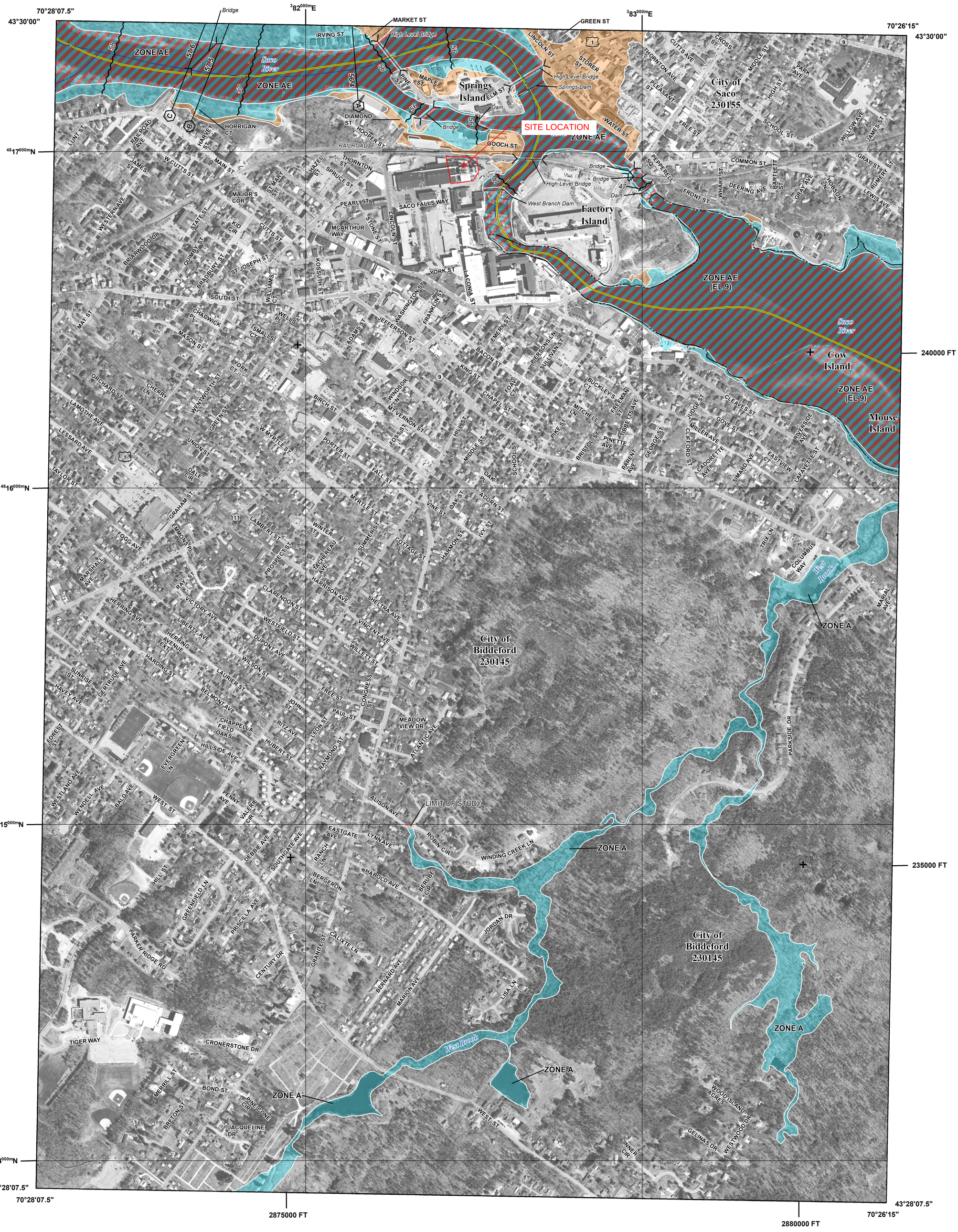
Section 19

Flooding

Section 19. Flooding

The proposed redevelopment project does not anticipate increasing peak flow runoff rates due to the decrease in impervious area from the previous MERC facility conditions. In addition, the projects stormwater will be directed to an existing subsurface treatment system that has been conservatively sized to treat and store stormwater for the site. The project is located near a major river segment (Saco River) and is eligible for a waiver from the flooding standard per Chapter 500, Section F, 3.

Attached is the FEMA flood map 23031C0452G dated 7/17/2024 which shows the site.



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A,V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- E 18.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- 8 — Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM provided in digital format by State of Maine, Maine office of GIS (MeGIS). This information was derived from MeGIS, dated 2012.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and FDTs may reflect stream channel distances that differ from what is shown on the map.

SCALE

Map Projection:
NAD 1983 UTM Zone 19N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

YORK COUNTY, MAINE
All Jurisdictions

PANEL 0452 OF 0800

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
BIDDEFORD, CITY OF	230145	0452	G
SACO, CITY OF	230155	0452	G

VERSION NUMBER
2.3.2.1

MAP NUMBER
23031C0452G

EFFECTIVE DATE
July 17, 2024

Section 20

Blasting

Section 20. Blasting

The project does anticipate some blasting during construction. Please refer to the General Blasting Recommendations and Boring Logs within the Geotechnical Report by Summit Geoengineering Services, Inc (found in Section 11. Soils). If required, the contractor shall be responsible for obtaining a blasting permit by the City of Biddeford's Fire Department and in conformance with the Code of Ordinances, Chapter 34, Article V: Blasting.

Section 21

Air Emissions

Section 21. Air Emissions

The project will not produce any point source air emissions. The project will also not produce any non-point source air emissions besides the vehicle traffic circulating throughout the site.

Section 22

Odors

Section 22. Odors

The project does not anticipate to produce any odors other than typical vehicle exhaust. The affected areas will be within the site where vehicles may idle.

Section 23

Water Vapor

Section 23. Water Vapor

The project is not anticipated to produce significant amounts of water vapor.

Section 24

Sunlight

Section 24. Sunlight

The proposed project does not anticipate blocking direct sunlight for abutting structures utilizing solar energy.

Section 25

Notices

Section 25. Notices

Notices for the public information meeting and for the intent to file application have been sent to all abutters and to City Planning Department officials on 6/9/25 as part of this Site Law Amendment submission to the city of Biddeford. The Newspaper notice is anticipated to be circulated on 6/10/2025.See attached for the list of abutters within 1,000 ft and associated abutter map.

It should be noted that the old certification form is provided that requests for mailings to be sent to direct abutters. (The mailings were sent to all abutters within 1,000 ft of the project to meet the DEPs updated requirements). New forms are not found on the DEPs website at this time. It is our understanding the DEP has been working on their new MELS system and this could be a reason why forms are not readily available.

Public Notice

Notice of Intent to File

Please take notice that 3 Lincoln, LLC, with a mailing address of 80 Exchange Street, Suite 400, Portland ME 04101, is intending to file a Stormwater Management Law Permit Application with the Maine Department of Environmental Protection (DEP) pursuant to the provisions of 38 M.R.S. § 420-D on or about: June 27th, 2025.

The project proposes to amend the previously approved DEP Stormwater Permits (L-10282-NJ-A-N & L-10282-NJ-C-A) programming on Pearl Street (Lot 3) in Biddeford from three total buildings to four. The amendment includes the addition of 5 townhomes and revises the original programming of building A from 85 to 52 units, building B from 129 to 85 units and building C will remain a restaurant use.

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 during normal working hours. A copy of the application may also be seen at the municipal offices in Biddeford, Maine.

Written or public comments may be sent to the regional office in Portland where the application is filed for public inspection: MDEP, Southern Maine Regional Office, 312 Canco Road, Portland, Maine, 04103.

FORM C 05/06

Public Notice Filing and Certification

The DEP Rules, Chapter 2, require an applicant to provide public notice for all Stormwater Law projects with the exception of minor revisions and condition compliance applications. In the notice, the applicant must describe the proposed activity and where it is located. **"Abutter"** for the purposes of the notice provision means any person who owns property that is BOTH (1) adjoining and (2) within one mile of the delineated project boundary, including owners of property directly across a public or private right of way.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication and certified mailing.

2. **Abutting Property Owners:** You must send a copy of the Notice of Intent to File by certified mail to the owners of the property abutting the activity. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office:** You must send a copy of the Notice of Intent to File and a **duplicate of the entire application** to the Municipal Office.

   ATTACH a list of then names and addresses of the owners of abutting property.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;
2. A certified mailing of the Notice of Intent to File was sent to all abutters within 30 days of the filing of the application.
3. A certified mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located; and
4. Provided notice of, if required, and held a public informational meeting in accordance with Chapter 2. Rules Concerning the Processing of Applications, Section 14, prior to filing the application. Notice of the meeting was sent by certified mail to abutters and to the town office of the municipality in which the project is located at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on _____.
Date

Approximately _____ members of the public attended the Public Informational Meeting.

_____ _____
Signature of Applicant or authorized agent Date

MBLU	Owner Name 1 Owner Name 2	Mailing Address 1	Mailing City Mailing State Mailing Zip
38-376	LUCID PROPERTIES, LLC	215 MAIN ST	BIDDEFORD, ME 04005
38-111	COMMUNITY HOUSING OF MAINE, INC	1 CITY CENTER 4TH FL	PORTLAND, ME 04101
40-37	TRUMPLER, NICHOLAS A	6 TALL PINES LN	SACO, ME 04072-9577
40-55	PRECISION SCREW MACHINE PRODUCTS INC	PO BOX 1944	BIDDEFORD, ME 04005
38-114	OUELLETTE, ROLANDE M	37 STONE ST	BIDDEFORD, ME 04005
40-10	B & D MEREALTY, LLC	172 WORCESTER RD	NATICK, MA 01760
38-119	LU, QIU SHUN	2 HEMLOCK DR	SACO, ME 04072
40-55-1	BIF II US RENEWABLE LLC	BARCLAY DAMON LLP (AMO)	SYRACUSE, NY 13202
38-372	CITY OF BIDDEFORD SHEVENELL MINI PARK	PO BOX 586	BIDDEFORD, ME 04005-0586
38-124-1	BIDDEFORD SAVINGS BANK	MAINE COMMUNITY BANK ATTN: ACCOUNTS PAYABLE	WESTBROOK, ME 04098-0558
40-10-1	B & D MEREALTY, LLC	172 WORCESTER RD	NATICK, MA 01760
38-379	TERCAT NORTH REALTY LLC C/O CUSHING & DOLAN PC	375 TOTTEN POND RD STE 200	WALTHAM, MA 02451
40-38	CITY OF BIDDEFORD	PO BOX 586	BIDDEFORD, ME 04005-0586
40-14	DO, TRANG THI & LE, TRUNG Q	555 DAISEY RD	LILESVILLE, NC 28091
40-57	JB PROPERTIES, LLC	PO BOX 2148	BIDDEFORD, ME 04005
40-67-1	PELONE, LLC	419 PRESUMPSCOT ST	PORTLAND, ME 04103
	MILLS AT PEPPERELL LLC THE	2 MAIN ST SUITE 17301E	BIDDEFORD, ME 04005
40-67	C & T REALTY, LLC	4 INNKEEPER LN	FALMOUTH, ME 04105-2530
38-377	SACO RIVER REALTY LLC	193 MAIN ST SUITE 106	BIDDEFORD, ME 04005
40-52-1	BIF II US RENEWABLE LLC	BARCLAY DAMON LLP (AMO)	SYRACUSE, NY 13202
40-28	YD HOLDINGS, LLC	5 RITA RD	KENNEBUNKPORT, ME 04046
40-52-2	LI, RI TENG WANG, WEI YI	PO BOX 495	MOODY, ME 04054
40-10-2	B & D MEREALTY, LLC	172 WORCESTER RD	NATICK, MA 01760
40-31	PORCELLA, BREWSTER	6720 SPRINGHILL DR	FREDERICK, MD 21702
40-13	WEBB, DOREEN A	15 HOOPER ST	BIDDEFORD, ME 04005-2016
40-70	ROWELL, LLC	PO BOX 157	SPRINGVALE, ME 04083
	MILLS AT PEPPERELL LLC THE	2 MAIN ST SUITE 17301E	BIDDEFORD, ME 04005
40-52	KITCHEN, STEPHEN C	560 ELM ST	MERCER, ME 04957
40-58	BOSTON & MAINE RAILROAD C/O CSX TRANSPORTATION	500 WATER ST J-910	JACKSONVILLE, FL 32202
38-134	FULL CIRCLE PROPERTIES LLC	215 MAIN ST	BIDDEFORD, ME 04005
40-5	J E PROPERTIES LLC C/O DUPUIS HARDWARE & LOCKSMITH	2 SPRUCE ST	BIDDEFORD, ME 04005
40-42	FIVE GAS, LLC	778 PORTLAND RD	SACO, ME 04072
40-32	CLARK, WILLIAM E JR & KATHERINE E	38 MAPLE ST	BIDDEFORD, ME 04005-2021
40-73	DROWN, WILLIAM C	30 STONE ST	BIDDEFORD, ME 04005-2005
38-135	THE 227 GROUP	PO BOX 1259	BIDDEFORD, ME 04005
40-23	88 ELM STREET, LLC	172 WORCESTER RD	NATICK, MA 01760-2229
40-1	FJH PROPERTIES, LLC	35 CARROLL ST	FALMOUTH, ME 04105
40-25-1	GLOVES ETC INC C/O BRIAN T NESTOR	PO BOX 546	BIDDEFORD, ME 04005-0546
	NORTH DAM LLC	2 MAIN ST 17-301E	BIDDEFORD, ME 04005
40-16	O'KEEFE, SEAN & REBECCA	31 HOOPER ST	BIDDEFORD, ME 04005
40-26	ANASTASOFF, ALEXANDER P	PO BOX 2895	SOUTH PORTLAND, ME 04106
71-9	RIVERDAM MILL LLC	PO BOX 535	BUXTON, ME 04093
38-350	KEELY, VINCENT ET AL	25 OCEANVIEW DR	BIDDEFORD, ME 04005

38-127	244 MAIN ST PROPERTIES INC	MAINE COMMUNITY BANK ATTN: ACCOUNTS PAYABLE	WESTBROOK, ME 04098-0558
40-67-2	PELONE, LLC	419 PRESUMPSCOTT ST	PORTLAND, ME 04103
40-71-1	SHAI PROPERTY MANAGEMENT LLC	316 MAIN ST STE 202	BIDDEFORD, ME 04005
40-12	TREADWELL, ASHLEY	11 HOOPER ST	BIDDEFORD, ME 04005
40-24	PFP LAWRENCE INC. NORTHEAST ELECT DIST - ACCTS PAYABLE	56 KEARNEY RD	NEEDHAM, MA 02494
40-6	VANCE, WARREN VANCE, MICHELLE POIRIER	PO BOX 661	SACO, ME 04072
38-113	P&C HOLDINGS, LLC	260 MAIN ST	BIDDEFORD, ME 04005
40-56	FIFTY NINE ELM STREET LLC	380 WARREN AVE	PORTLAND, ME 04103
38-338-1	SACO RIVER REALTY LLC	193 MAIN ST SUITE 106	BIDDEFORD, ME 04005
40-36	POULIN, MAURICE C	487 LIMERICK RD	ARUNDEL, ME 04046
38-112	YORK COUNTY COMMUNITY ACTION CORP	PO BOX 72	SANFORD, ME 04073-0072
40-5-1	BOSTON & MAINE RAILROAD C/O CSX TRANSPORTATION	500 WATER ST J-910	JACKSONVILLE, FL 32202
40-69	ROWELL, LLC	PO BOX 157	SPRINGVALE, ME 04083
38-29	DE DONUTS HOLDINGS LLC C/O ARISTIDIS SPARANGIS	476 ALFRED ST	BIDDEFORD, ME 04005
40-20-1	ARGETES, DEBRA M	22 HOOPER ST	BIDDEFORD, ME 04005
38-123	MCARTHUR LIBRARY ASSOCIATION	270 MAIN ST	BIDDEFORD, ME 04005-2413
40-8	BOUCHER, NELSON & ROBERT	9 THORNTON ST	BIDDEFORD, ME 04005-2023
	MILLS AT PEPPERELL LLC THE	2 MAIN ST SUITE 17301E	BIDDEFORD, ME 04005
71-9-4	COUNTING HOUSE LLC	25 SUMMER ST	PORTLAND, ME 04102
40-25	RSTBR LLC	18 KELLY LN	SCARBOROUGH, ME 04070
40-29	LAPIERRE, GERARD H & JANICE E	17 PINE ST	BIDDEFORD, ME 04005-2032
40-35	COVEHEAD BAY HOLDINGS, LLC	48 OCEANSIDE DR	SACO, ME 04072
40-71	23 LINCOLN, LLC	PO BOX 2456	OGUNQUIT, ME 03907-2456
40-39-1	NEW DAM, LLC	14 ELM ST	BIDDEFORD, ME 04005
40-5-2	J E PROPERTIES, LLC	2 SPRUCE ST	BIDDEFORD, ME 04005
38-351	208 MAIN BIDDEFORD, LLC	1504 STANFORD DR NE	ALBUQUERQUE, NM 87106
38-128	BIDDEFORD SAVINGS BANK	MAINE COMMUNITY BANK ATTN: ACCOUNTS PAYABLE	WESTBROOK, ME 04098-0558
40-68	FRECHETTE PROPERTIES, LLC	129 COTTAGE RD	GRAY, ME 04039
40-55-2	BIF II US RENEWABLE LLC	BARCLAY DAMON LLP (AMO)	SYRACUSE, NY 13202
38-115	GARNER, ELIZABETH W	10 PEARL ST	BIDDEFORD, ME 04005
40-30	GMMG PROPERTIES, LLC	58 NEW COUNTY RD	SACO, ME 04072
40-18	TIBBETTS, MARK P	24 HOOPER ST	BIDDEFORD, ME 04005
38-129-1	FOURTH GEN, LLC	30 ORCHARD ST	BIDDEFORD, ME 04005
38-338	THACHER HOTEL LLC	193 MAIN ST	BIDDEFORD, ME 04005
40-33	MCFARLAND, RICHARD A	976 BRIGHTON AVE	PORTLAND, ME 04102-1008
38-130	BANGOR SAVINGS BANK	PO BOX 930	BANGOR, ME 04402-0930
40-27	LAURIE AND DAVID, LLC	307 EAST BRIDGE ST	WESTBROOK, ME 04092
40-8-1	FORZLEY, CHARLES N	329 STARLIT WAY	MYRTLE BEACH, SC 29579
38-129	NEW MORNING BIDDEFORD, LLC	230 MAIN ST	BIDDEFORD, ME 04005
40-41	ARMSTRONG, C D	14 ELM ST	BIDDEFORD, ME 04005-2008
40-40	NEW DAM, LLC	14 ELM ST	BIDDEFORD, ME 04005
38-378	EHDG DEVELOPMENT PROPERTIES	26 PLYMOUTH DR	SACO, ME 04072-1734
71-9-2	THE LOFTS AT SACO FALLS, LP	10 FREE ST, 3RD FLOOR	PORTLAND, ME 04101

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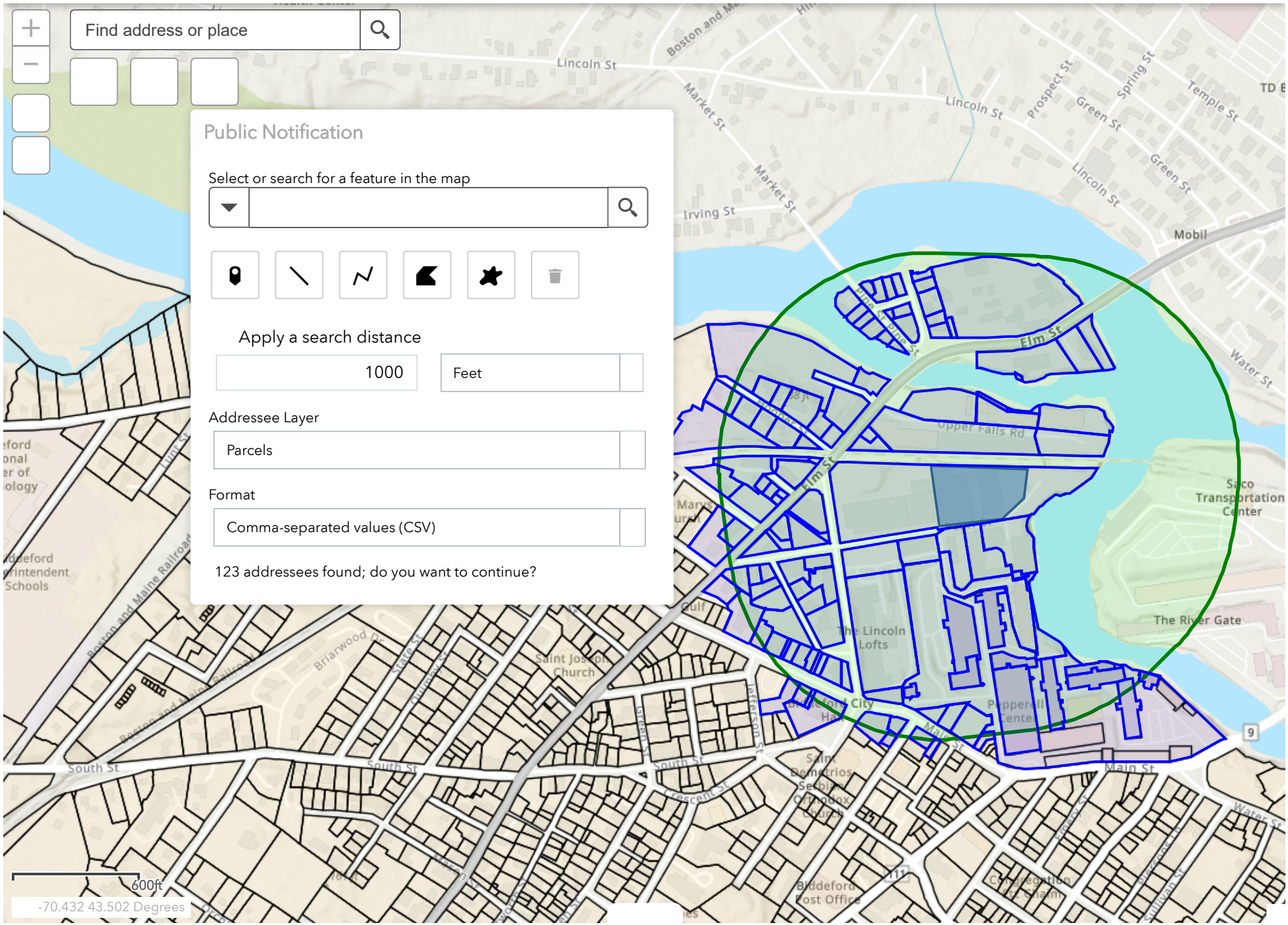
40-11	TRACY, SUSAN A HALE, SHER A	3 HOOPER ST	BIDDEFORD, ME 04005
40-43	FIVE GAS, LLC	778 PORTLAND RD	SACO, ME 04072
40-51	BIF II US RENEWABLE LLC	BARCLAY DAMON LLP (AMO)	SYRACUSE, NY 13202
40-56-1			,
38-124	P&C HOLDINGS, LLC	260 MAIN ST #1	BIDDEFORD, ME 04005
40-7	DEVLIN, MARTIN	416 MAIN ST #2	SACO, ME 04072-1523
40-20	WILMOT, KELLY T & DANIEL J	20 HOOPER ST	BIDDEFORD, ME 04005
38-116	BROWN, VANESSA	6 PEARL ST APT 202	BIDDEFORD, ME 04005
40-22	LANDRY, ANDREW D	6 HOOPER ST	BIDDEFORD, ME 04005
40-6-1	POIRIER, ROLAND & CECILE T	43 SHADAGEE RD	SACO, ME 04072
40-50	ARMSTRONG, CHARLES D C/O DEERING LUMBER	14 ELM ST	BIDDEFORD, ME 04005-2008
38-117	TRAN, CAM & SANG	110 WESTERN AVE	BIDDEFORD, ME 04005
40-39	READY, FRANCES	18 MAPLE ST	BIDDEFORD, ME 04005-2021
40-26-1	ANASTASOFF APARTMENTS, LLC	PO BOX 2895	SOUTH PORTLAND, ME 04116
40-72	ATRIX NORTH REALTY LLC C/O CUSHING & DOLAN PC	375 TOTTEN POND RD STE 200	WALTHAM, MA 02451
38-133	CITY OF BIDDEFORD MUNICIPAL BUILDING	PO BOX 586	BIDDEFORD, ME 04005-0586
			,
			,
71-9-1	THE MILL AT SACO FALLS LP C/O SACO FALLS MANAGEMENT	10 FREE ST, 3RD FLOOR	PORTLAND, ME 04101
			,
			,
71-2	CITY OF BIDDEFORD	PO BOX 586	BIDDEFORD, ME 04005
40-55-3	PRECISION SCREW MACHINE PRODUCTS INC	PO BOX 1944	BIDDEFORD, ME 04005
38-134-1	THE 227 GROUP	PO BOX 1259	BIDDEFORD, ME 04005
38-132	CITY OF BIDDEFORD CITY PARK	PO BOX 586	BIDDEFORD, ME 04005-0586
			,
71-9-3	MACHINE SHOP #1 STUMP, LLC	PO BOX 535	BUXTON, ME 04093
38-125	BIDDEFORD SAVINGS BANK	MAINE COMMUNITY BANK ATTN: ACCOUNTS PAYABLE	WESTBROOK, ME 04098-0558
71-4	TLC BUGBEE BROWN BUILDING LLC C/O TARBOX LAND CORP	1 BLACKBERRY LN	SACO, ME 04072
71-5	LHL HOLDINGS, LLC	3 PENSTOCK WAY	NEWMARKET , NH 03857
38-126	BIDDEFORD SAVINGS BANK	MAINE COMMUNITY BANK ATTN: ACCOUNTS PAYABLE	WESTBROOK, ME 04098-0558
38-131	BANGOR SAVINGS BANK	PO BOX 930	BANGOR, ME 04402-0930
71-8	CITY OF BIDDEFORD	PO BOX 586	BIDDEFORD, ME 04005-0586
71-5-1	GALLAGHER'S RAINBOW INC	36 MAY ST	BIDDEFORD, ME 04005
71-10			,

Saco

037002000000	BUILDING 108 ASSOCIATES LP	PO BOX 759	ME,04072
37004000000	BROOKFIELD WHITE PINE HYDRO LLC	BARCLAY DAMON LLP	NY,NY,13202
37003000000	CENTRAL ME POWER CO	LOCAL TAXES	ME,04101
37010000000	CITY OF SACO	300 MAIN ST	ME,04072
37999000000	BOSTON & MAINE RAILROAD	IRON HORSE PARK	NORTH BILLERICA, MA 018862

1 2025 Abbutters and Mailing Lists

with ArcGIS Web AppBuilder



Section 26

Maine Tribe & Nations Correspondence

Section 26. Maine Tribes/Nations Correspondence

See attached letters to associated Maine Tribes and their corresponding responses received thus far.

ACORN ENGINEERING, INC.

Mr. Donald Soctomah, THPO
Passamaquoddy Tribe of Indians
Pleasant Point & Indian Township Reservation
PO Box 343
Perry, Maine 04667

December 14th, 2022

Subject: Presence of Tribes
3 Lincoln Street (Lot 3) Redevelopment
Biddeford, Maine

Dear Mr. Donald Soctomah:

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford Maine.

As part of the Site Location of Development Application process, Acorn requests information from the Tribe of Passamaquoddy Tribe of Indians regarding potential nearby historic, archaeological, or tribal areas.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:
EX-1 Vicinity Map

Tribal Historic Preservation Office
Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-214-4051

December 14, 2022

Zachary Stevens, E.I.
Project Engineer
Licensed in Maine
Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104

- Re: Biddeford – 3 Lincoln St Project

Dear Zachary;

The Passamaquoddy THPO has reviewed the following applications regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal 107 Maine State Governments, and Executive Order 12898 Environmental Justice.

The Projects listed above will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe. Should buried artifacts, human remains, cultural sites or ground features be unexpectedly unearthed during ground disturbing activities, all construction should immediately cease and the resources be examined by a professional archaeologist. Additionally, all appropriate authorities-including all pertinent tribal entities should be notified.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe

ACORN ENGINEERING, INC.

Kendyl Reis, THPO
Mi'Kmaq Nation
7 Northern Road
Presque Isle, ME 04769

December 14th, 2022

Subject: Presence of Tribes
3 Lincoln Street (Lot 3) Redevelopment
Biddeford, Maine

Dear Kendyl

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford Maine.

As part of the Site Location of Development Application process, Acorn requests information from Mi'Kmaq Nation regarding potential nearby historic, archaeological, or tribal areas.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:
EX-1 Vicinity Map

Tribal Historic Preservation Office
Mi'kmaq Nation (Formerly known as the Aroostook Band of Micmac)
Kendyl Reis
Tribal Historic Preservation Officer
7 Northern Road
Presque Isle, ME 04769
Phone: (207)764-1972 ext. 161
kreis@micmac-nsn.gov

3 Lincoln Street Redevelopment Biddeford
January 5th, 2023

Based on the project description, we do not have knowledge of any specific sites or cultural features that exist at the proposed project location(s).

However, this geographic area does constitute traditional areas that were historically utilized by members of the Mi'kmaq Nation and the other Wabanaki Tribes. Therefore, we respectfully request that if during the course of excavation/construction activities, human remains, artifacts, or any other evidence of Native American presence is discovered, that site activities in the vicinity of the discovery immediately cease, pending notification to us.

In addition, if this project results in wetland disturbances requiring mitigation, we are requesting that you utilize the black ash (Fraginus nigra) as the principal wetland species for wetland restoration activities. The black ash tree has special significance in the culture of the northeastern Tribes and is used extensively for weaving baskets and other Native American crafts. The black ash tree also provides valuable food and habitat for migratory waterfowl and other wildlife. Unfortunately, however, this species has been selected against by foresters and landowners who favor other tree species. As a result of this, and other environmental factors, the black ash tree is in serious decline in Maine. The Mi'kmaq Nation has completed several black ash wetland restoration projects and have a dependable source for highly-quality seedlings, and the experience and expertise to assist you with black ash wetland restoration projects.

On the subject of human remains, artifacts, or any other evidence of Native American presence is discovered. The human remains will be reburied with the appropriate respect for the remains that is required at a distinctive and respectable site. The artifacts and other evidence of Native American discovery will be documented with appropriate detail. The items will be analyzed for the precise period of the items' distinctive period and will be documented by the Tribal Historic Preservation Officer for the Mi'kmaq Nation.

If you have any questions or comments, please feel free to contact me.

Sincerely,

Kendyl Reis
Tribal Historic Preservation Officer

ACORN ENGINEERING, INC.

Environmental Planner
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, ME 04730

December 14th, 2022

Subject: Presence of Tribes
3 Lincoln Street (Lot 3) Redevelopment
Biddeford, Maine

To Environmental Planner:

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford Maine.

As part of the Site Location of Development Application process, Acorn requests information from the Houlton Band of Maliseet Indians regarding potential nearby historic, archaeological, or tribal areas.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:
EX-1 Vicinity Map

Zach Stevens

From: Isaac St John <istjohn@maliseets.com>
Sent: Tuesday, January 24, 2023 8:31 AM
To: Zach Stevens
Subject: RE: 3 Lincoln Street Redevelopment - Biddeford

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,

We do not have an immediate concern with your project or project site, and do not currently have the resources to fully investigate same. Should any human remains, archaeological properties or other items of historical importance be unearthed while working on this project, we recommend that you stop your project and report your findings to the appropriate authorities including the Houlton Band of Maliseet Indians.

Thank you,

Isaac St. John
Tribal Historic Preservation Officer
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, ME 04730

From: Zach Stevens [mailto:zstevens@acorn-engineering.com]
Sent: Wednesday, December 14, 2022 2:33 PM
To: Isaac St John <istjohn@maliseets.com>
Cc: Pete Heil <pheil@acorn-engineering.com>
Subject: 3 Lincoln Street Redevelopment - Biddeford

Hello,

As part of the Site Location of Development Application for the project located at 3 Lincoln Street in Biddeford, we are reaching out to confirm the proposed redevelopment has no adverse effects to any historical or archaeological land.

Please find the attached letter and vicinity map to facilitate your review. Please let us know if you need any additional information.

Zachary Stevens, E.I.
Project Engineer

Licensed in Maine

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104
Acorn's Website | Instagram | LinkedIn

B. 207.775.2655
C. 207.240.2993

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ACORN ENGINEERING, INC.

Mr. Christopher Sockalexis, THPO
Cultural & Historic Preservation Department
Penobscot Nation
12 Wabanaki Way
Indian Island, ME 04468

December 14th, 2022

Subject: Presence of Tribes
3 Lincoln Street (Lot 3) Redevelopment
Biddeford, Maine

Dear Mr. Sockalexis:

Acorn Engineering, Inc. has been retained to provide engineering services for a proposed redevelopment in Biddeford, Maine. The project area is approximately 2.08-acres and is located at 3 Lincoln Street within the Main Street Revitalization District (MSRD-3) and the newly created Waterfront Renaissance (WR) Shoreland Overlay Zoning District in Biddeford Maine.

As part of the Site Location of Development Application process, Acorn requests information from Penobscot Nation regarding potential nearby historic, archaeological, or tribal areas.

Acorn Engineering appreciates your assistance and looks forward to your response. Please refer to the attached documents to facilitate your review.

Sincerely,

Zachary Stevens

Zachary Stevens, EI
Project Engineer
Acorn Engineering, Inc.

Attached:
EX-1 Vicinity Map

Section 27

Declaration of Easements, Covenants, and Restrictions

Section 27: Declaration of Easements, Covenants, and Restrictions

The project does not propose any easements as part of this amendment application.

Please refer the attached plans for the existing easements across the property.

1. Existing Conditions Survey prepared by Owen Haskell, Inc. on February 28, 2025.

Section 28

Traffic & Parking Overview

Section 28: Traffic & Parking Overview

This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

Access to Building B covered parking will be available from the drive aisle located on Lot 2, and access to Building A will be located directly from Pearl Street. As the project will produce greater than 100 peak hour trips, the project required a Maine DOT Traffic Movement Permit. A copy of the previously approved TMP application is attached to this section. It should be noted that the amended programming of the site, as reported in the breakdown below, is a reduction in units and trips to the previously approved TMP. We understand the DOT has a draft TMP ready for issuance.

In accordance with the City's Land Development Regulations, Performance Standards for off-street parking and loading, Table 6-49B: Parking space requirements, the project parking demand requires two (2) parking spaces per dwelling unit (One (1) if designed exclusively for, and occupancy is restricted to, senior housing, studio apartments and 1-bedroom apartments), plus an additional 5% for residential visitors, 1 space for every 3 restaurant seats, and 1 space for every 300 square feet of floor space for retail. This results in a total of 240 spaces required ((1 space/D.U. x 5 D.U.) + (0.05 x 5 D.U.) + (1 space/D.U. x 42 1-bedroom D.U.) + (2 space/D.U. x 10 2-bedroom D.U.) + (0.05 x 52 D.U.) + (1 space/D.U. x 59 1-bedroom D.U.) + (2 space/D.U. x 26 2-bedroom D.U.) + (0.05 x 85 D.U.) + (1 space / 300 sf of floor space x 953 sf) + (1 space/3 seats x 154 estimated restaurant seats) = 240 spaces).

The project proposes a waiver to exclude the 55 Commercial use parking spaces required from the restaurant which would bring the 240 parking spaces requirement down to 185.

The project proposes providing covered parking on the lower level of building A totaling 22 spaces, and covered parking on the lower level of building B totaling 18 spaces, and each townhome will have an associated 1 car garage for each unit. Therefore, an additional 140 spaces are required to be leased from the Pearl Street City parking garage located on Lot 2. The applicant is working with the garage operating managers to secure the lease for these spaces and can forward a copy upon receipt.

Attachments:

1. Maine Department of Transportation Traffic Movement Permit Application prepared by TYLIN
2. Preliminary Traffic Impact Review prepared by Sewall
3. Comment Response Letter prepared by TYLIN
4. City of Biddeford TMP Letter

MAINE DEPARTMENT OF TRANSPORTATION

TRAFFIC MOVEMENT PERMIT APPPLICATION

REQUEST FOR SCOPING MEETING

3 Lincoln Street Project

Residential Apartments and Restaurant

Pearl Street, Biddeford, Maine

September 20, 2021

Submitted by:

T.Y. Lin International
12 Northbrook Drive
Building A, Suite One
Falmouth, Maine 04105

T·Y·LIN INTERNATIONAL

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE
ID#

Total Fees:
Date Received:

****

PERMIT APPLICATION - TRAFFIC

TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. § 704 - A

Please type or print:

This application is for: Traffic 100-200 PCE's ___
Traffic 200+ PCE's **X**

Name of Applicant **3 Lincoln, LLC**

Address: **80 Exchange Street, Suite 400, Portland, ME 04101** Telephone: **207.808.8787**

Name of local contact or agent: **Thomas A. Errico, P.E., T.Y. Lin International**

Address: **12 Northbrook Drive, Falmouth, Maine** Telephone: **207.347.4354**

Name and type of development: **3 Lincoln Street Project – Residential Apartments and Restaurant**

Location of development including road, street, or nearest route number: **Lot 3 Pearl Street**

City/Town/Plantation: **Biddeford**, County: **York**, Parcel #: **Map 71 / Lot 2**

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? Yes ___ No **X**

Was this development started prior to obtaining a traffic permit? **No**

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30 - A, chapter 187)?

Yes **X** No _

Is this project located within a compact area of an urban compact municipality? Yes **X** No _

Is this development or any portion of the site currently subject to state or municipal enforcement action?

No

Existing DEP or MDOT permit number (if applicable): **N/A**

Name(s) of DOT staff person(s) contacted concerning this application: **N/A**

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applications: **N/A**

CERTIFICATION

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

Signature: Thomas A. Errico Re/Cert/Lic No.: ME 6618

Name (print): Thomas A. Errico, PE

Date: September 20, 2021

If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature of applicant 8/26/21

Signature of applicant Date

NOTICE OF INTENT TO FILE

Please take notice that 3 Lincoln, LLC, 80 Exchange Street, Suite 400, Portland ME 04092, (207) 808-8787 is intending to file a Traffic Movement Permit application with the Maine Department of Transportation pursuant to the provisions of 23 M.R.S.A. § 704 - A on or about August 25, 2021.

The application is for:
The development of 191 apartment units and a 298 seat restaurant. The project is expected to generate 61 new trips during the weekday AM peak hour, 296 trips during the weekday PM peak hour and 245 trips during the Saturday peak hour. Access and egress will be via Pearl Street.

At the following location:
Lot 3 Pearl Street in Biddeford, Tax Map 71 / Lot 2

A request for a public hearing 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. 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 Transportation Division office in Scarborough during normal working hours. A copy of the application may also be seen at the municipal offices in **Biddeford, Maine**.

Written public comments may be sent to the Department of Transportation, Traffic Engineering Division, 16 State House Station, Augusta, Maine 04333.

SECTION 1
SITE AND TRAFFIC INFORMATION

1.A. Site Plan

The project consists of the following:

Lot 3A – 83 Residential Apartments Units
- (17) studio
- (32) 1-bedroom
- (23) 2-bedroom
- (11) 3-bedroom
- 50 parking spaces underground parking garage

Lot 3B – 108 Residential Apartments Units
- (42) studio
- (42) 1-bedroom
- (24) 2-bedroom
- 37 parking spaces underground parking garage

Lot 3C – (2) Restaurants - 298 seats total
- 170 seats in lower level
- 128 seats in upper level

Parking for the residential uses will be provided within each residential building and the adjacent parking gararge. Parking for the restaurant use will be via area public parking sites and for this study it is assumed to be in the recently opened Pearl Street parking garage. A site plan prepared by Acorn Engineering Inc. is attached.

1.B. Existing and Proposed Site Uses

The project site is located on Pearl Street located off Lincoln Street in Biddeford. The parcel to be developed is identified on Biddeford Tax Map #: Lot 71 /Lot 2. Currently the site is vacant and as noted above will consist of residential and restaurant land uses.

1.C. Site and Vicinity Boundaries

Figure 1 depicts a location map illustrating roads in the vicinity of the project.

1.D. Proposed Uses in the Vicinity of the Proposed Development

TYLI has contacted the Biddeford Planning office for proposed developments that may impact the study area. Projects that have been approved and not occupied will be included as background traffic in the analysis.

1.E. Trip Generation

Trip generation from the site was based upon information contained in the Trip Generation Manual, Institute of Transportation Engineers, 10th Edition. **Table 1** summarizes Weekday AM and PM peak hour traffic volumes (see Appendix for supporting information). Traffic generated by the proposed project was based on Land Use Code 221 Multifamily Housing (Mid-Rise) and Land Use Code 932 High-Turnover (Sit-Down Restaurant). The volumes represent trip generation for the Peak Hour of Generator. The following summarizes the trip generation rates and trip distribution used for the project.

- Land Use Code 221 Multifamily Housing (Mid-Rise)
  - AM Peak Hour of Generator
    - Average Rate Per – 0.32 per unit
    - **Ln(T) = 0.83 Ln(X) – 0.27 [used for this Application]**
    - Directional Distribution: 20% Entering, 73% Exiting
  - PM Peak Hour of Generator
    - Average Rate Per – 0.41 per unit
    - **Ln(T) = 0.83 Ln(X) – 0.05 [used for this Application]**
    - Directional Distribution: 60% Entering, 40% Exiting
  - Saturday Peak Hour of Generator
    - Average Rate Per – 0.44 per unit
    - **T = 0.42 (X) + 6.73 [used for this Application]**
    - Directional Distribution: 49% Entering, 51% Exiting
- Land Use Code 932 High-Turnover (Sit-Down Restaurant)
  - AM Peak Hour of Generator
    - Average Rate Per – 0.59 per seat [Restaurant will not be open and thus excluded]
    - Equation not given
  - PM Peak Hour of Generator
    - **Average Rate Per – 0.73 per seat [used for this Application]**
    - Equation not given
    - Directional Distribution: 52% Entering, 48% Exiting
  - Saturday Peak Hour of Generator
    - **Average Rate Per – 0.53 per seat [used for this Application]**
    - Equation not given
    - Directional Distribution: 53% Entering, 47% Exiting

Given the type of land uses proposed, internal capture trip activity will occur (residents dining at the restaurant or employees of the restaurant living in the proposed housing, as examples). To estimate the internal capture influence NCHRP 684 methods were used. The NCHRP 684 method estimates a modest 5% reduction in the PM peak hour and 9% during the Saturday peak hour (see Appendix for calculation sheets). Given that the restaurant will be closed in the morning, no adjustments were included. Additionally, not all traffic generated by the project are new trips to area roadways. Some site trips comprise of "Pass-By" trips. According to ITE, a pass-by trip is made as an intermediate stop on the way from an origin to a primary trip destination without a route diversion. Pass-By trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. According to ITE a Restaurant (Land Use Code 932) has an average Pass-By trip percentage of 43 percent. Saturday Pass-By percentages are not provided, and the Weekday percentages was used As noted in **Table 1** the project would be expected to generate 61 new trips during the morning peak hour, 162 new trips during the afternoon peak hour and 127 new trips during the Saturday peak hour.

Table 1
Trip Generation
Peak Hour of Generator

	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Residential Apartment (191 Units)	16	45	61	47	31	78	43	44	87
Restaurant (298 Seats)[1]	N/A	N/A	N/A	113	105	218	84	74	158
Sub-Total	16	45	61	160	136	296	127	118	245

Internal Capture Trips	N/A	N/A	N/A	-7	-7	-14	-11	-11	-22
Total Entering and Exiting Site	16	45	61	153	129	282	116	107	223
Restaurant Pass-By Trips (43%)[2]	N/A	N/A	N/A	-60	-60	-120	-48	-48	-96
Total New Traffic	16	45	61	93	69	162	68	59	127

1 – The restaurant is not open during the morning peak hour

2 – Saturday Pass-By trips not provided, and weekday PM utilized.

1.F Trip Distribution

The assignment of trips to the area roadway system was based upon existing traffic volume patterns and approved assignment percentages defined in the Riverdam Redevelopment Traffic Impact Study. The assignment percentages proposed are noted as follows:

Entering Trips

- Left-turn from Lincoln Street onto Pearl Street – 58%
- Right-turn from Lincoln Street onto Pearl Street – 22%
- Through movement on Pearl from Elm Street – 20%

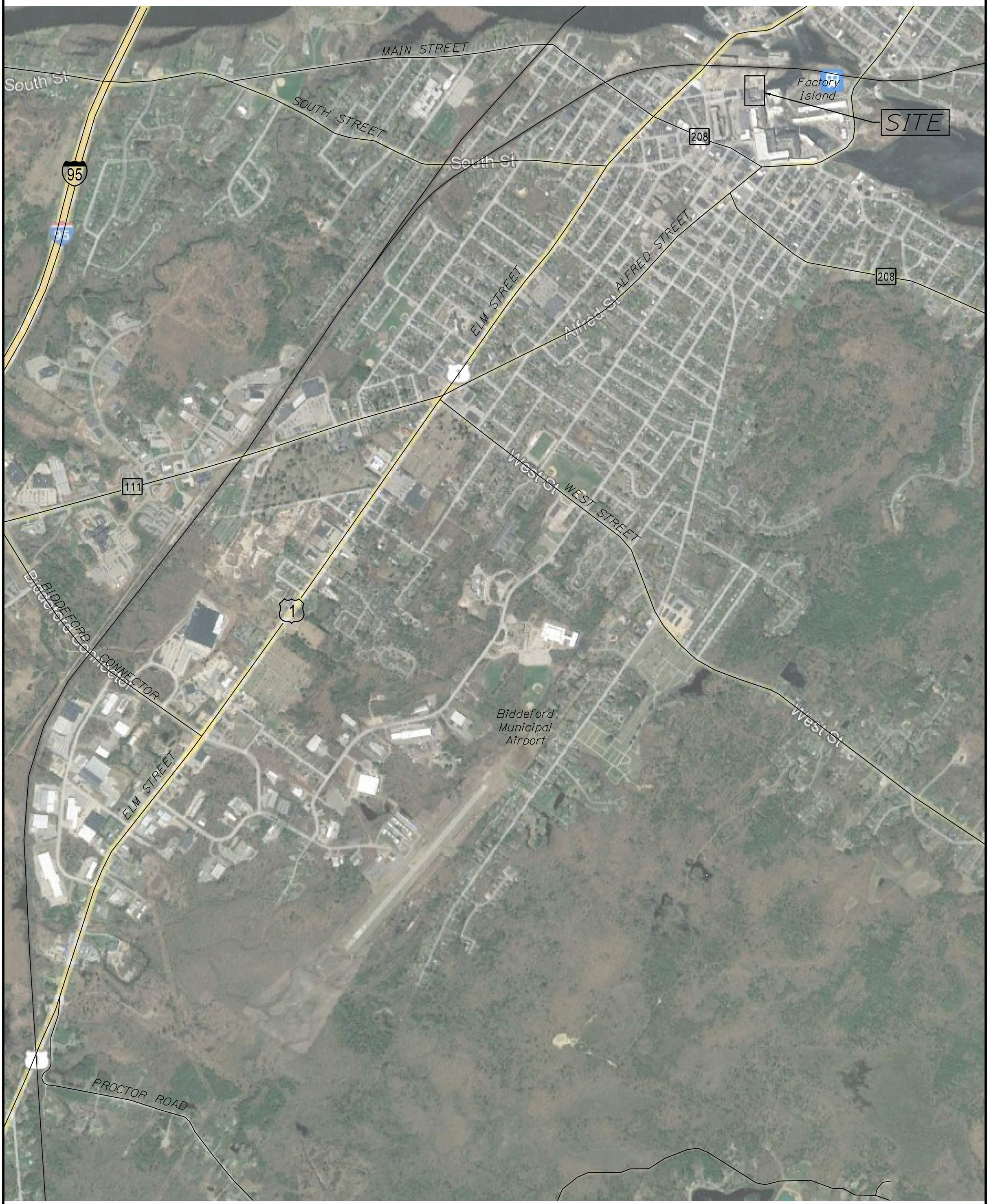
Exiting Trips

- Left-turn from Pearl Street onto Lincoln Street – 38%
- Through movement on Pearl Street to Elm Street – 10%
- Right-turn from Pearl Street onto Lincoln Street – 52%

Trips distributed above were assigned to the Main Street/Lincoln Street/Adams Street, Elm Street/Lincoln Street, Elm Street/Main Street and Pearl Street/Main Street intersections according to existing peak hour turning movement volumes. Data is not available at Elm Street and Pine and Elm Street/Water Street/Lincoln Street and was estimated according to our local knowledge. Assignments at these locations will be revised as necessary. The turning movements volumes are provided in the Appendix.

1.G Trip Assignment

Figures 2, 3 and 4 present the assignment of Primary, Pass-By and Total trips during the Weekday AM and PM peak hours and the Saturday peak hour.

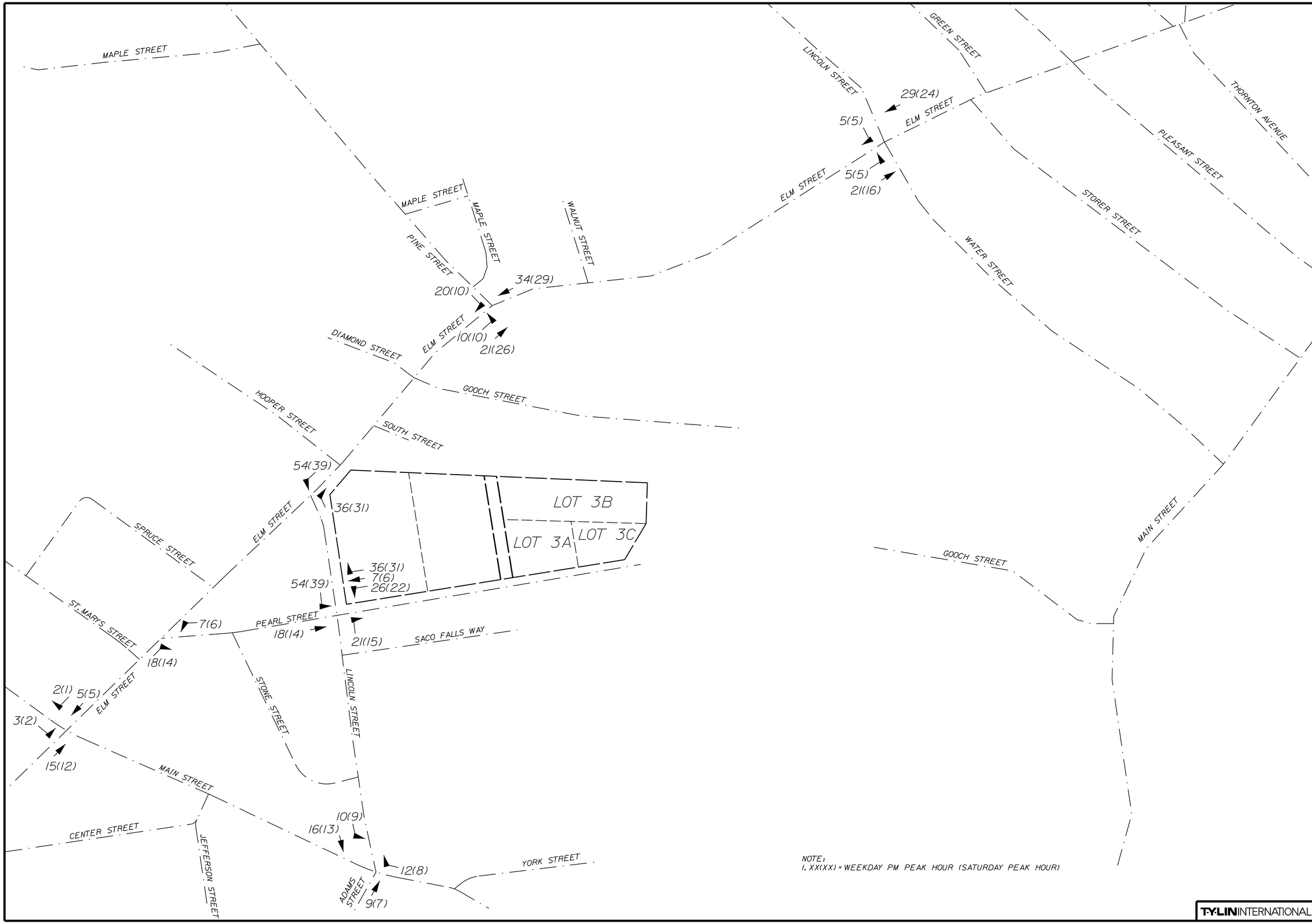


T·Y·LIN INTERNATIONAL

FIGURE NUMBER						
1	BIDDEFORD 3 LINCOLN STREET PROJECT STUDY LOCATION PLAN	PROJ. MANAGER	T. ERRICO	BY	DATE	SIGNATURE P.E. NUMBER DATE
		DESIGN-DETAILED	S. DAVIS			
		CHECKED-REVIEWED				
		DESIGN2-DETAILED2				
		DESIGN3-DETAILED3				
		REVISIONS 1				
		REVISIONS 2				
		REVISIONS 3				
		REVISIONS 4				
		FIELD CHANGES				

MaineDOT TMP APPLICATION

Filename: ...\Figure 2 Primary Trips.dgn Division: HIGHWAY Username: Date:9/17/2021



NOTE:
1. XX(XX) = WEEKDAY PM PEAK HOUR (SATURDAY PEAK HOUR)

T·Y LIN INTERNATIONAL

MaineDOT TMP APPLICATION

	BY	DATE
PROJ. MANAGER	T. ERRICO	
DESIGN-DETAILED	S. DAVIS	
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

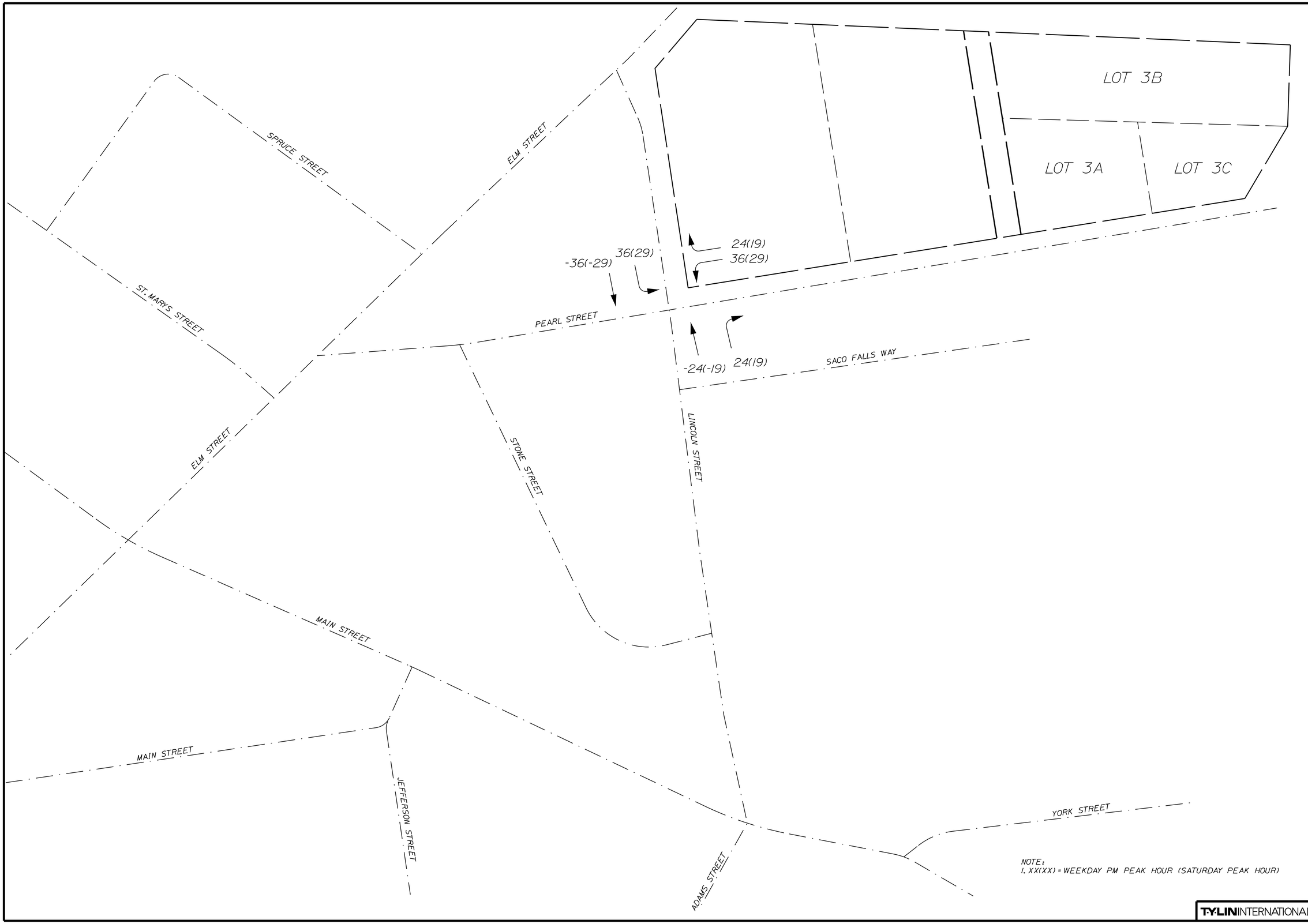
DATE

BIDDEFORD
3 LINCOLN STREET PROJECT

PRIMARY SITE TRIPS

FIGURE NUMBER

2



Filename: ...\Figure 3 Pass-By Trips.dgn Division: HIGHWAY Username: Date:9/17/2021

MaineDOT TMP APPLICATION

SIGNATURE
P.E. NUMBER
DATE

		BY	DATE
PROJ. MANAGER	T. ERRICO		
DESIGN-DETAILED	S. DAVIS		
CHECKED-REVIEWED			
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BIDDEFORD
3 LINCOLN STREET PROJECT

PASS-BY SITE TRIPS

FIGURE NUMBER
3

T·Y·LIN INTERNATIONAL

Filename: ...\Figure 4 Total Site Trips.dgn Division: HIGHWAY Username: Date:9/17/2021

MAPLE STREET
MAPLE STREET
MAPLE STREET
PINE STREET
WALNUT STREET
LINCOLN STREET
GREEN STREET
THORNTON AVENUE
ELM STREET
PLEASANT STREET
STORER STREET
WATER STREET
DIAMOND STREET
GOOCH STREET
HOOPER STREET
SOUTH STREET
SPRUCE STREET
ST. MARYS STREET
PEARL STREET
SACO FALLS WAY
STONE STREET
LINCOLN STREET
MAIN STREET
CENTER STREET
JEFFERSON STREET
ADAMS STREET
YORK STREET
GOOCH STREET
MAIN STREET

LOT 3B
LOT 3A
LOT 3C

29(24)
5(5)
5(5)
21(16)
34(29)
20(10)
10(10)
21(26)
54(39)
36(31)
-36 90
(-29)(68)
60(50)
7(6)
62(51)
7(6)
18(14)
45(34)
18(14)
-24(-19)
2(1)
5(5)
3(2)
15(12)
10(9)
16(13)
12(8)
9(7)

NOTE:
1. XX(XX) = WEEKDAY PM PEAK HOUR (SATURDAY PEAK HOUR)

T-Y LIN INTERNATIONAL

MaineDOT TMP APPLICATION

PROJ. MANAGER	T. ERRICO	BY	DATE
DESIGN-DETAILED	S. DAVIS		
CHECKED-REVIEWED			
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BIDDEFORD
3 LINCOLN STREET PROJECT

TOTAL SITE TRIPS

FIGURE NUMBER
4

SECTION 2
ACCIDENTS

Computer crash reports and Collison Crash Diagrams for High Crash Locations (attached at the end of this section) were obtained from MaineDOT for the most recent available three-year period (2018-2020) for the following roadways in the vicinity of the project:

- Route 1/Elm Street – Main Street to Saco TL
- Pearl Street
- Lincoln Street
- Main Street – Lincoln Street to Elm Street

Table 2 summarizes the crash data at locations that are High Crash Locations (HCL) or close to meeting the criteria.

Table 2
Crash Data

Location	2018-2020 Crashes	Critical Rate Factor
Elm Street/Main Street	22	0.94
Elm Street/St. Mary's Street	7	1.16
Elm Street/Spruce Street	17	0.92
Elm Street/Lincoln Street	9	1.32
Elm Street/Pine Street	14	2.00
Main Street/Lincoln Street/Adams Street	18	4.31
Main Street/Jefferson Street	8	2.90

As noted, there are four HCL's in the study area and a preliminary assessment is provided as follows:

- **Elm Street/Lincoln Street** – The crash diagram indicates turn crashes are the most prevalent type. Four crashes involved vehicles turning left onto Lincoln Street, one involving a vehicle turning left from Lincoln Street and one crash involving a motorist turning left into a nearby driveway. Traffic volumes turning left onto Lincoln Street are high as is the opposing volume on northbound Elm Street. Limited gaps may be contributing to crashes. While it is an HCL, only 9 crashes were reported. Sight distance is adequate. A mitigation improvement strategy is not evident at this time.
- **Elm Street/Pine Street** – A number of different types of crashes were reported at this location. Three rear-end collisions occurred on eastbound Elm Street; two angle crashes involving right-turns from Pine Street; Three single vehicle crashes; one crash involving a pedestrian; one crash avoiding a bicyclist; and two crashes involving movements to and from Pine Street. There was not a specific pattern that would warrant a mitigation improvement strategy.
- **Main Street/Lincoln Street/Adams Street** - This location was reviewed in conjunction with the Riverdam Redevelopment project and the TMP required mitigation (four-way STOP) to address safety deficiencies. As of September 17, 2021 the improvements have not been implemented.
- **Main Street/Jefferson Street** – Four of the crashes involved vehicles turning from Jefferson Street. Two crashes involved bicyclists on the Jefferson Street crosswalk. It is likely parked vehicles obstructed sight for motorists turning off Jefferson Street. Recent improvements that tightened the intersection likely prevent vehicles from parking too close to the intersection and thus have reduced crashes. I would note that there are mailboxes on the southeast corner that do impact sight, and relocation may make sense. While it is an HCL, only 8 crashes were reported.

Further analysis of these locations will be performed in conjunction with the Section 7 study.

SECTION 3
DEVELOPMENT ENTRANCES AND EXITS

3.A. Entrance and Exit Location

The project will utilize Pearl Street to access each residential building parking garage. Restaurant customers will utilize the new Pearl Street parking garage or other public parking facilities. A service driveway is provided for the restaurant. The attached site plan illustrates the existing driveway locations.

3.B. Entrance Plan

The attached plans provide information on proposed driveways to be utilized for the project including sight distances and the posted speed limit. Sight distances for the project driveways are noted below.

Location	Measured Sight Distance (Feet)		Minimum Standard (Feet)
	Looking Left	Looking Right	
Lot 3A/3B Driveway	Sight to End of Pearl Street	200+	200’
Restaurant Service Driveway	Sight to End of Pearl Street	200+	200’

SECTION 4
TITLE, RIGHT, OR INTEREST

A copy of the deed documenting ownership rights is in the Appendix.

SECTION 5
PUBLIC OR PRIVATE RIGHTS-OF-WAY

No new right-of-way is proposed as part of this project. All work will be conducted on private property.

SECTION 6
SCHEDULE

Construction of the project is expected to be completed in 2022.

APPENDIX

TRIP GENERATION

Multifamily Housing (Mid-Rise)
(221)

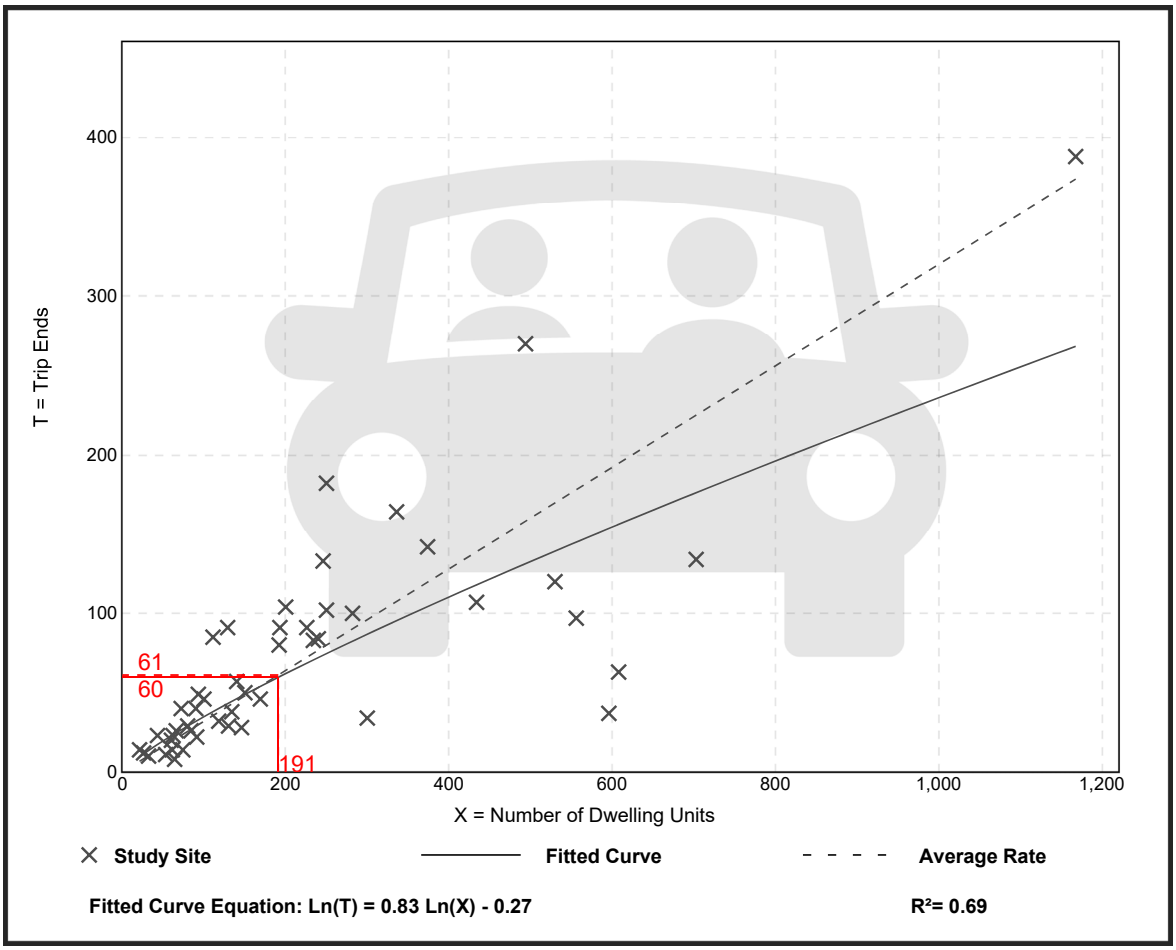
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 48
Avg. Num. of Dwelling Units: 225
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.06 - 0.77	0.17

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Multifamily Housing (Mid-Rise)
(221)

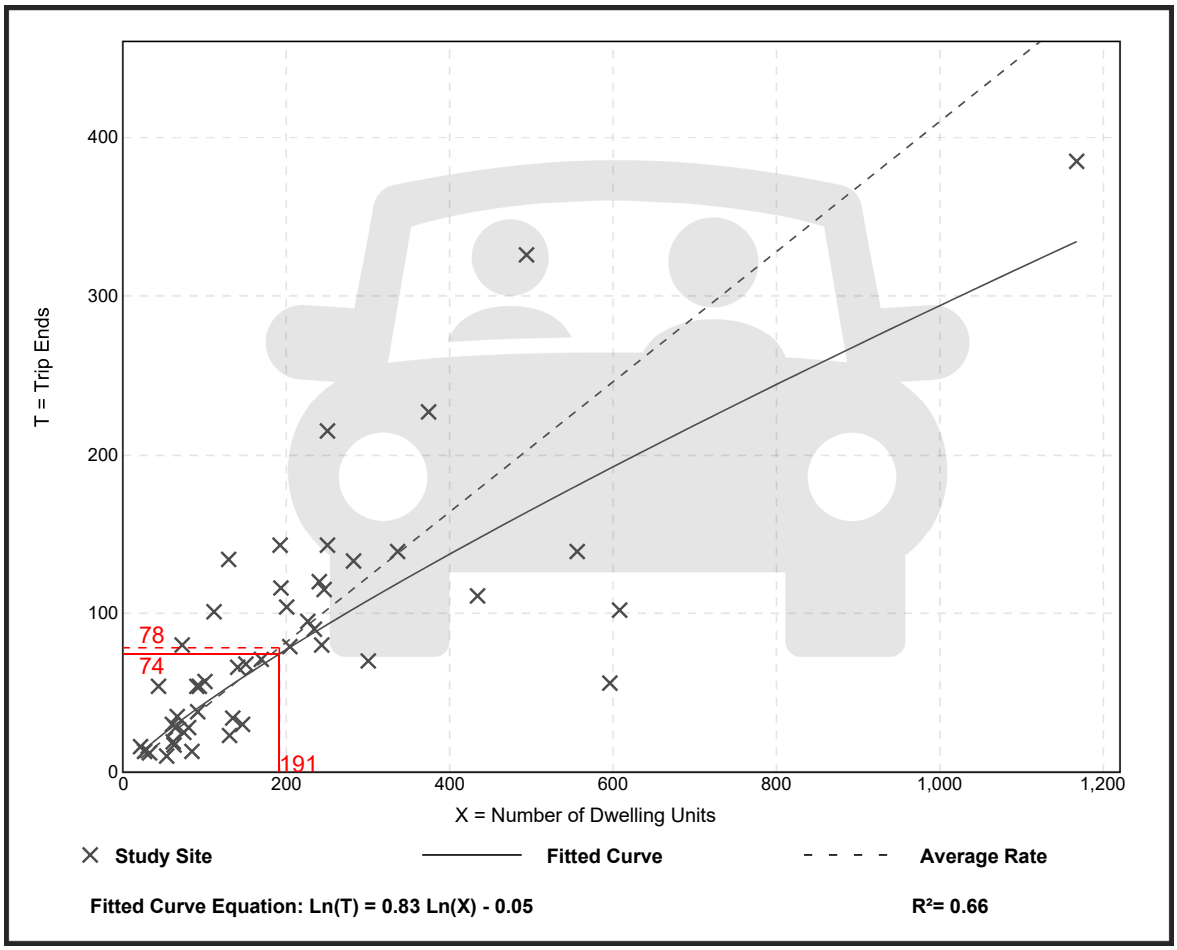
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 47
Avg. Num. of Dwelling Units: 211
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.09 - 1.26	0.22

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Multifamily Housing (Mid-Rise)
(221)

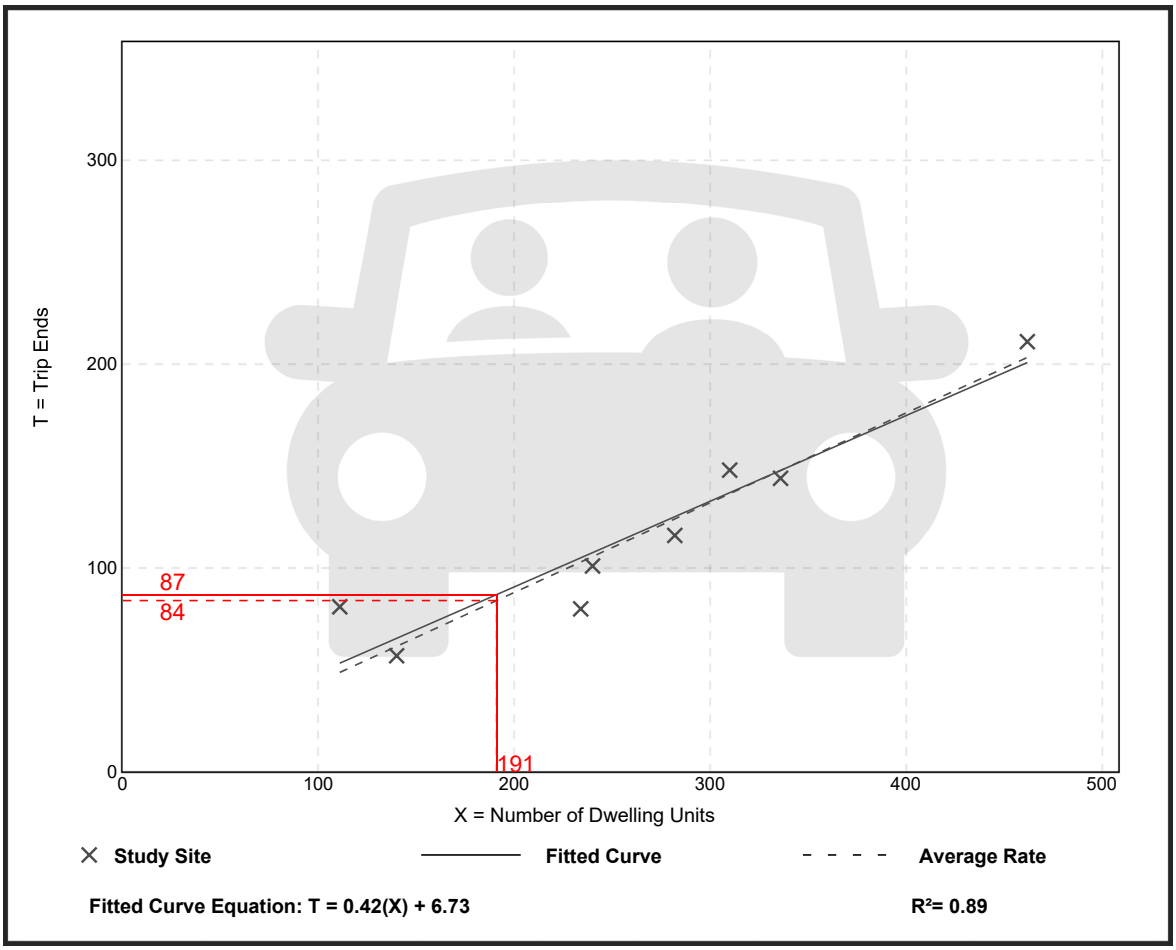
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Dwelling Units: 264
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.34 - 0.73	0.08

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

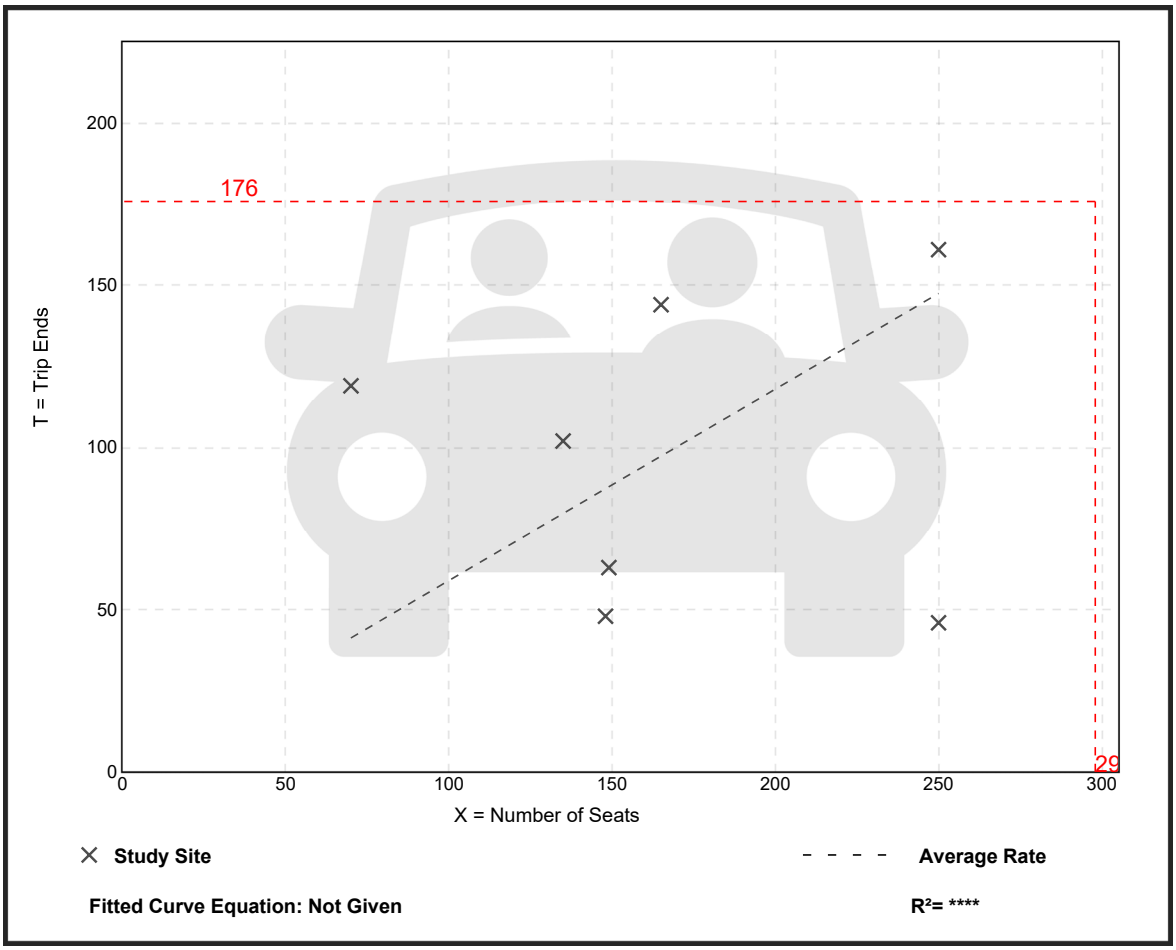
Vehicle Trip Ends vs: **Seats**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. Num. of Seats: 167
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.59	0.18 - 1.70	0.40

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

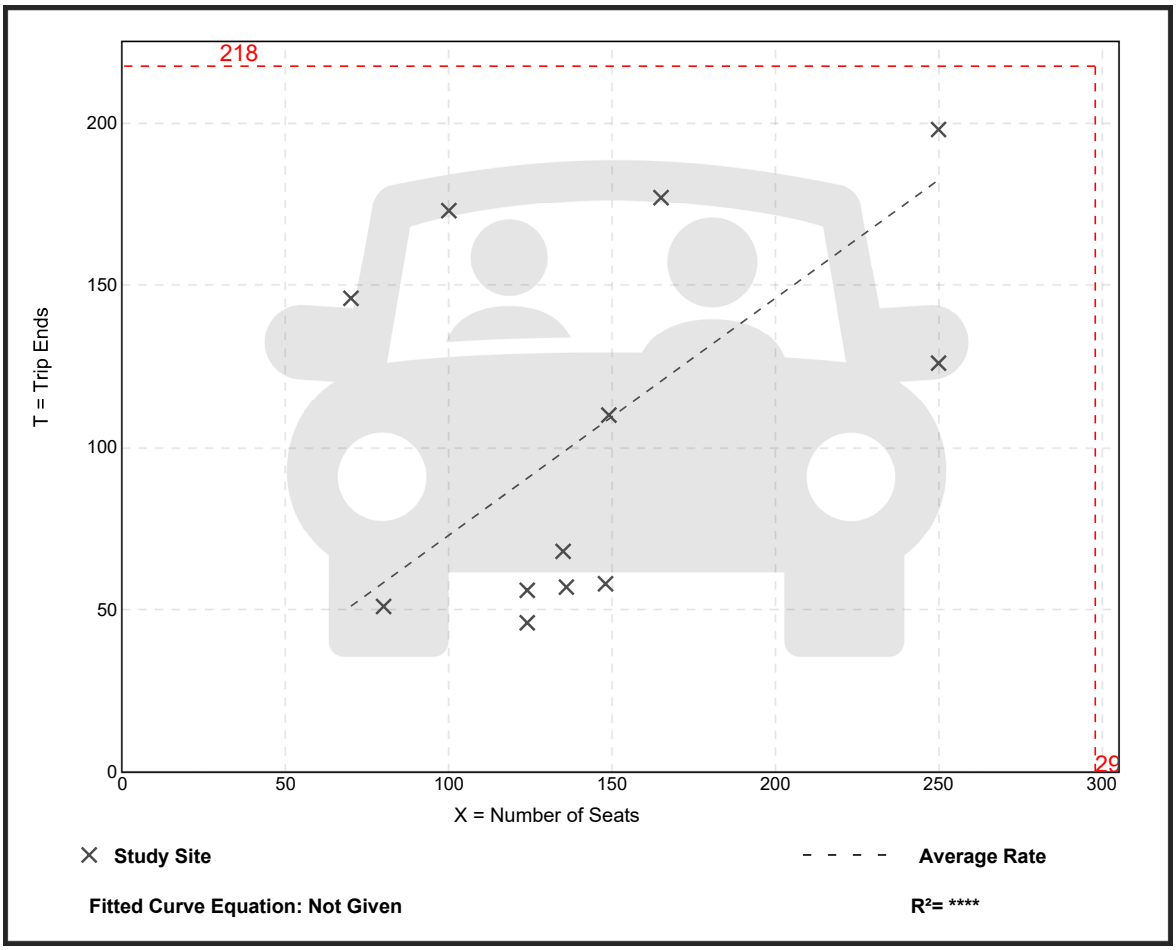
Vehicle Trip Ends vs: **Seats**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 12
Avg. Num. of Seats: 144
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.73	0.37 - 2.09	0.45

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

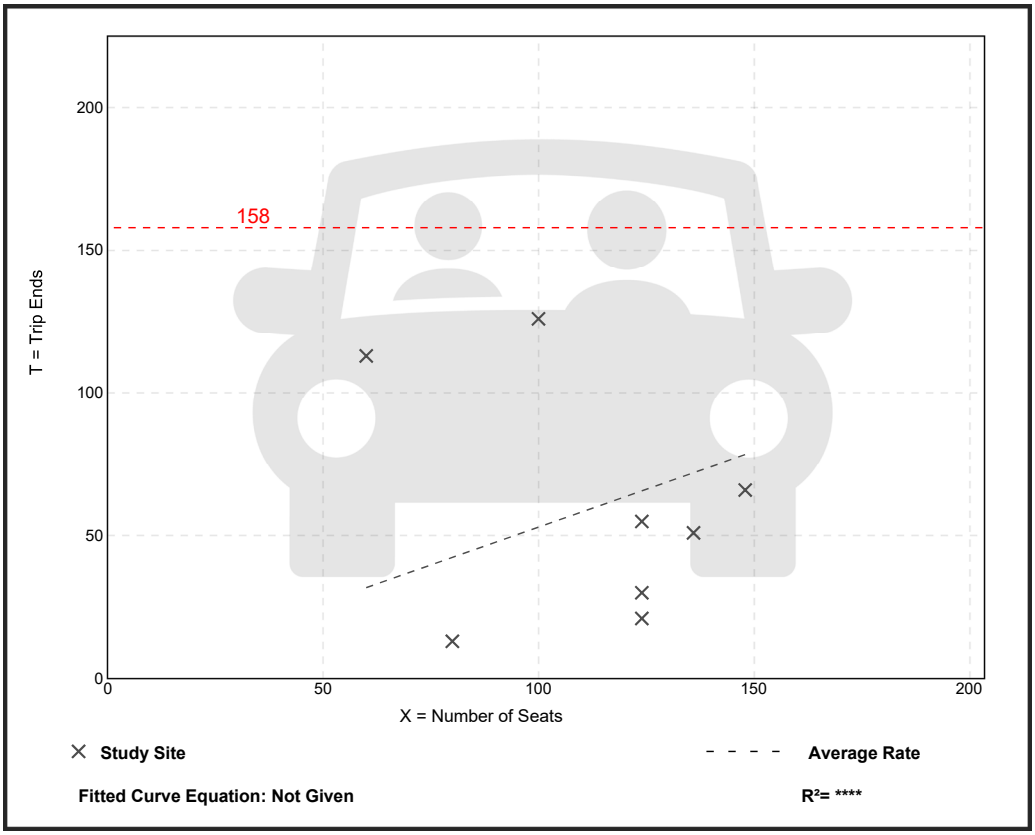
Vehicle Trip Ends vs: **Seats**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Seats: 112
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.53	0.16 - 1.88	0.51

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Pearl Street	**Organization:**	T.Y. Lin International
Project Location:	Biddeford, Maine	**Performed By:**	Tom Errico, PE
Scenario Description:	Build	**Date:**	15-Sep-21
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**PM Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail				0	0	0
Restaurant	932	298	seats	218	113	105
Cinema/Entertainment				0		
Residential	221	191	Units	78	47	31
Hotel				0		
All Other Land Uses[2]				0		
				296	160	136

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	6	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	296	160	136
Internal Capture Percentage	5%	5%	6%
External Vehicle-Trips[5]	280	152	128
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	5%	2%
Cinema/Entertainment	N/A	N/A
Residential	4%	19%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Pearl Street	**Organization:**	T.Y. Lin International
Project Location:	Biddeford, Maine	**Performed By:**	Tom Errico, PE
Scenario Description:	Build	**Date:**	15-Sep-21
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**Saturday Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail				0	0	0
Restaurant	932	298	seats	158	84	74
Cinema/Entertainment				0		
Residential	221	191	Units	87	43	44
Hotel				0		
All Other Land Uses[2]				0		
				245	127	118

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	9	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	245	127	118
Internal Capture Percentage	9%	9%	9%
External Vehicle-Trips[5]	223	116	107
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	11%	3%
Cinema/Entertainment	N/A	N/A
Residential	5%	20%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

CRASH DATA

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **56644** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

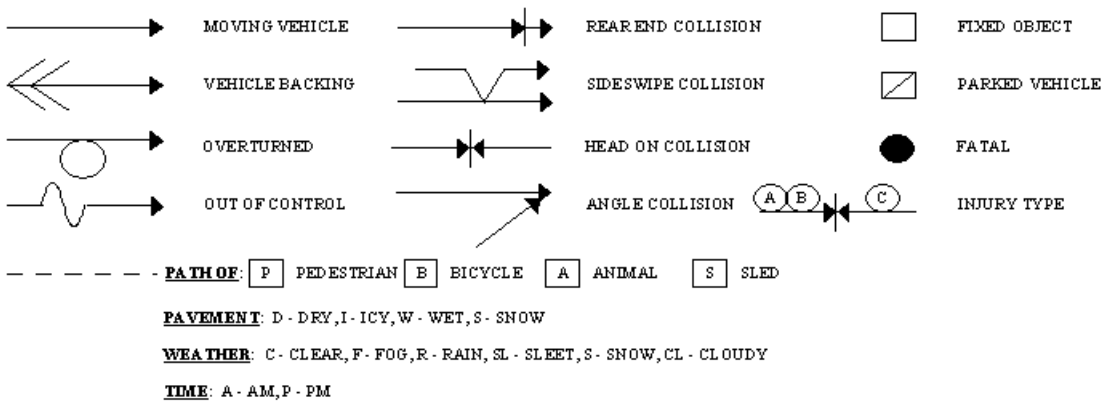
DESCRIPTION: **Jct of Elm St & Lincoln St**

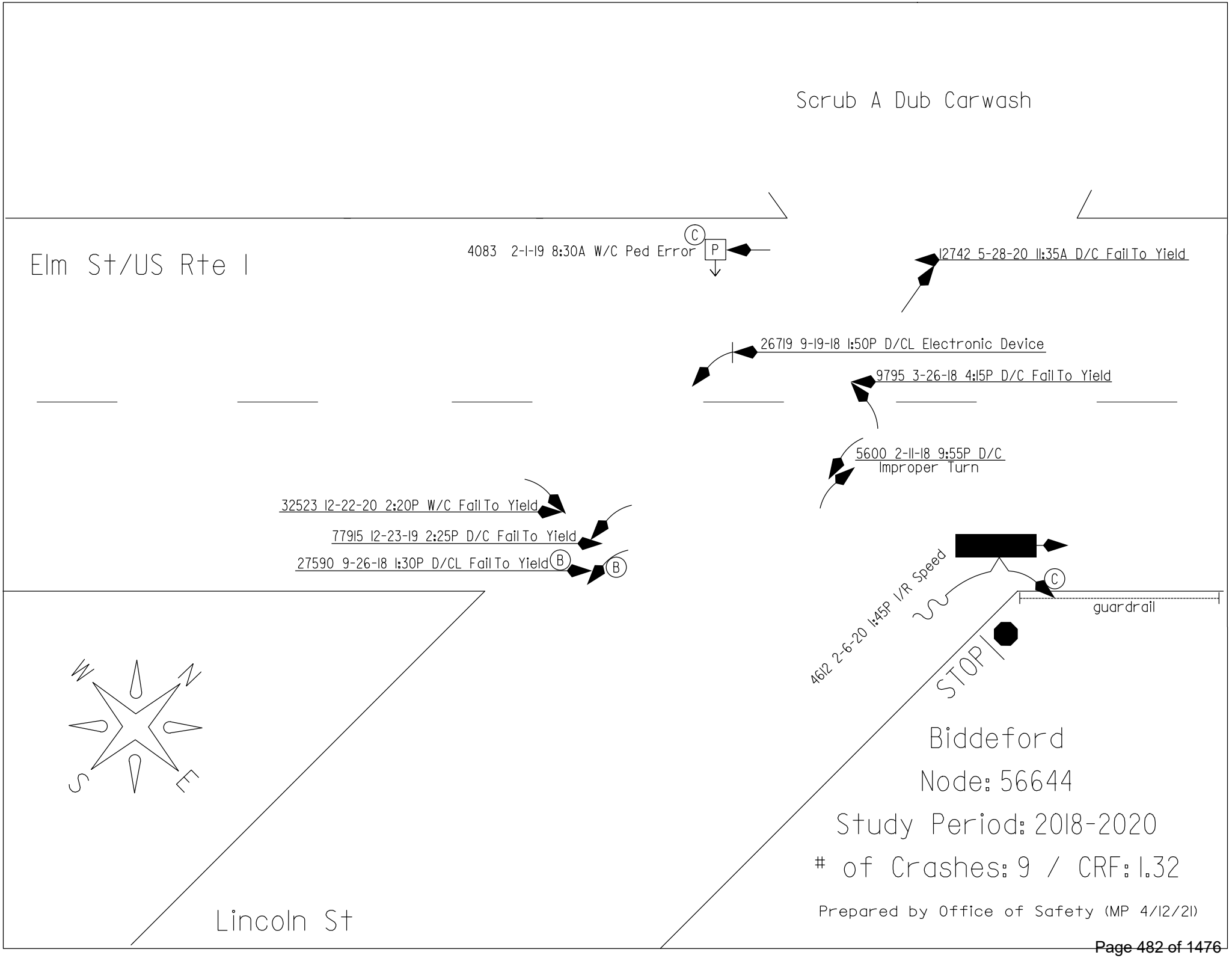
RTE # / RD #: **0001X** DATE DRAWN: **4/12/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **0.49** CRF: **1.32** % INJURY: **33.3** TOTAL CRASHES: **9**

LEGEND




Scrub A Dub Carwash
Elm St/US Rte 1
4083 2-1-19 8:30A W/C Ped Error
C
P
12742 5-28-20 11:35A D/C Fail To Yield
26719 9-19-18 1:50P D/CL Electronic Device
9795 3-26-18 4:15P D/C Fail To Yield
5600 2-11-18 9:55P D/C
Improper Turn
32523 12-22-20 2:20P W/C Fail To Yield
77915 12-23-19 2:25P D/C Fail To Yield
27590 9-26-18 1:30P D/CL Fail To Yield
B
B
4612 2-6-20 1:45P I/R Speed
C
guardrail
STOP
N
E
S
W
Lincoln St
Biddeford
Node: 56644
Study Period: 2018-2020
# of Crashes: 9 / CRF: 1.32
Prepared by Office of Safety (MP 4/12/21)

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **56648** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

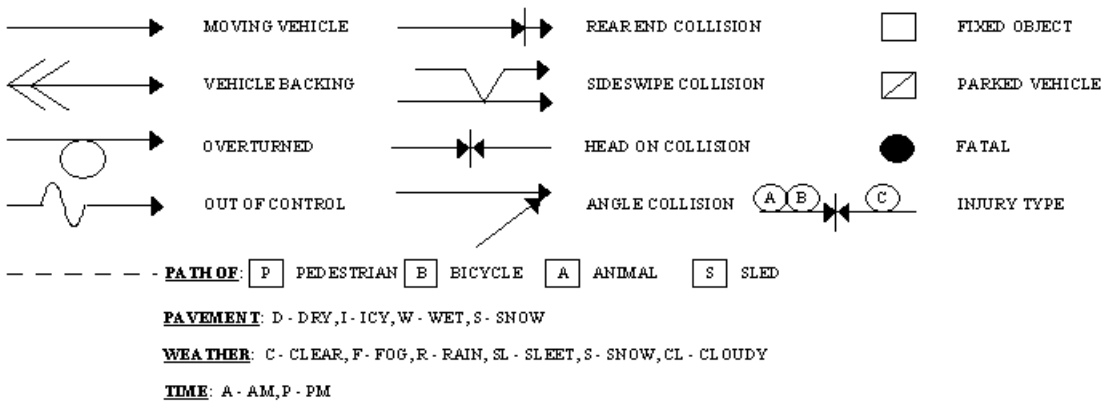
DESCRIPTION: **Jct of Elm St & Pine St**

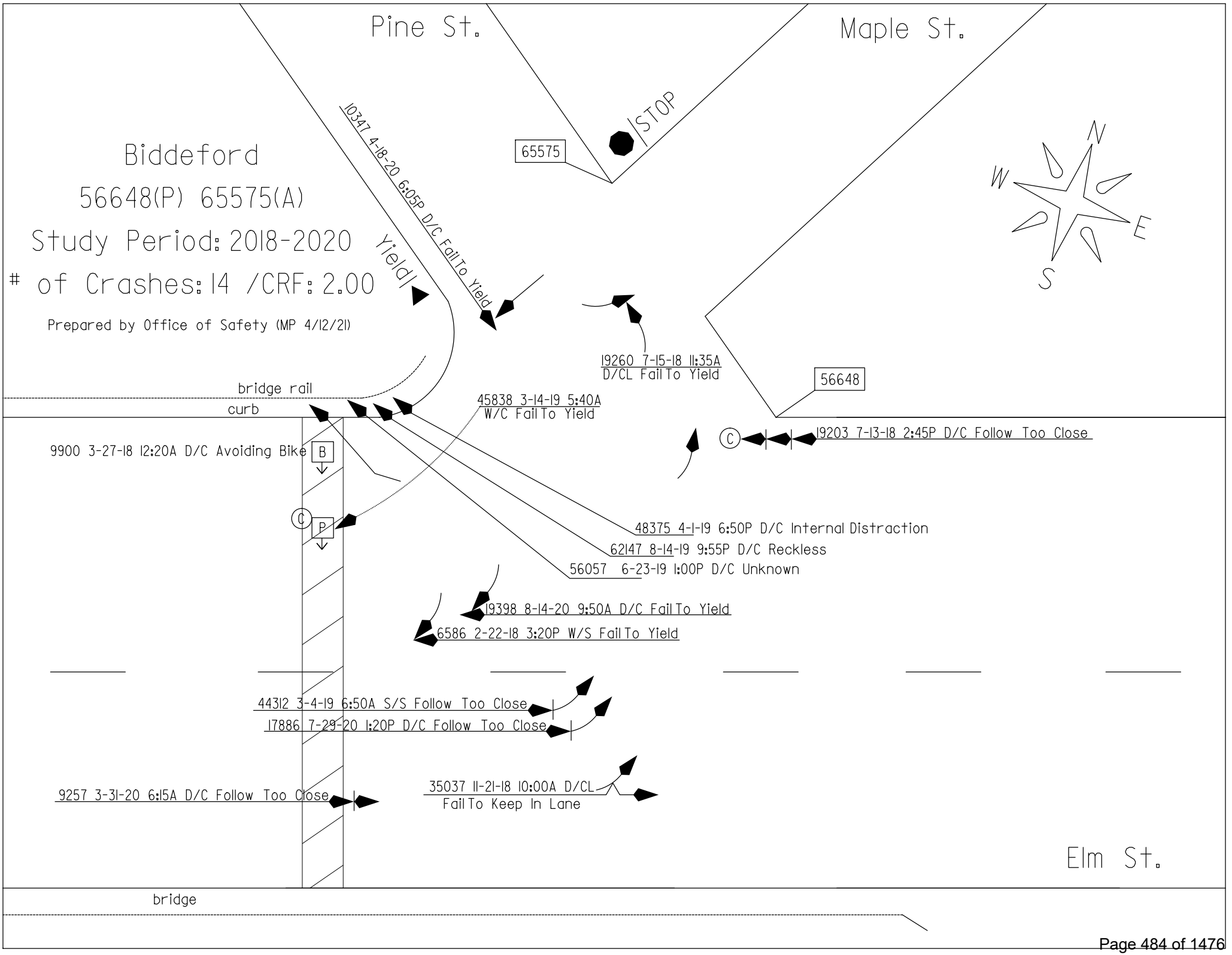
RTE # / RD #: **0001S** DATE DRAWN: **4/12/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **0.74** CRF: **2** % INJURY: **14.3** TOTAL CRASHES: **14**

LEGEND




Pine St.
Maple St.
Biddeford
56648(P) 65575(A)
Study Period: 2018-2020
# of Crashes: 14 /CRF: 2.00
Prepared by Office of Safety (MP 4/12/21)
10347 4-18-20 6:05P D/C Fail To Yield
Yield
65575
STOP
N
W
E
S
19260 7-15-18 11:35A
D/CL Fail To Yield
56648
bridge rail
curb
45838 3-14-19 5:40A
W/C Fail To Yield
19203 7-13-18 2:45P D/C Follow Too Close
9900 3-27-18 12:20A D/C Avoiding Bike
B
C
P
48375 4-1-19 6:50P D/C Internal Distraction
62147 8-14-19 9:55P D/C Reckless
56057 6-23-19 1:00P D/C Unknown
19398 8-14-20 9:50A D/C Fail To Yield
6586 2-22-18 3:20P W/S Fail To Yield
44312 3-4-19 6:50A S/S Follow Too Close
17886 7-29-20 1:20P D/C Follow Too Close
9257 3-31-20 6:15A D/C Follow Too Close
35037 11-21-18 10:00A D/CL
Fail To Keep In Lane
Elm St.
bridge

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **58493** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

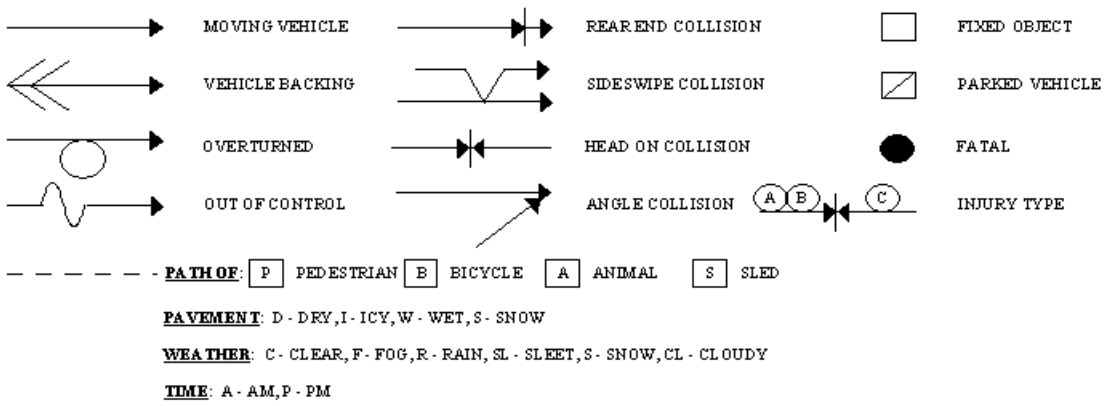
DESCRIPTION: **Jct of Main St & Jefferson St**

RTE # / RD #: **3110086** DATE DRAWN: **4/9/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **1.39** CRF: **2.9** % INJURY: **25** TOTAL CRASHES: **8**

LEGEND



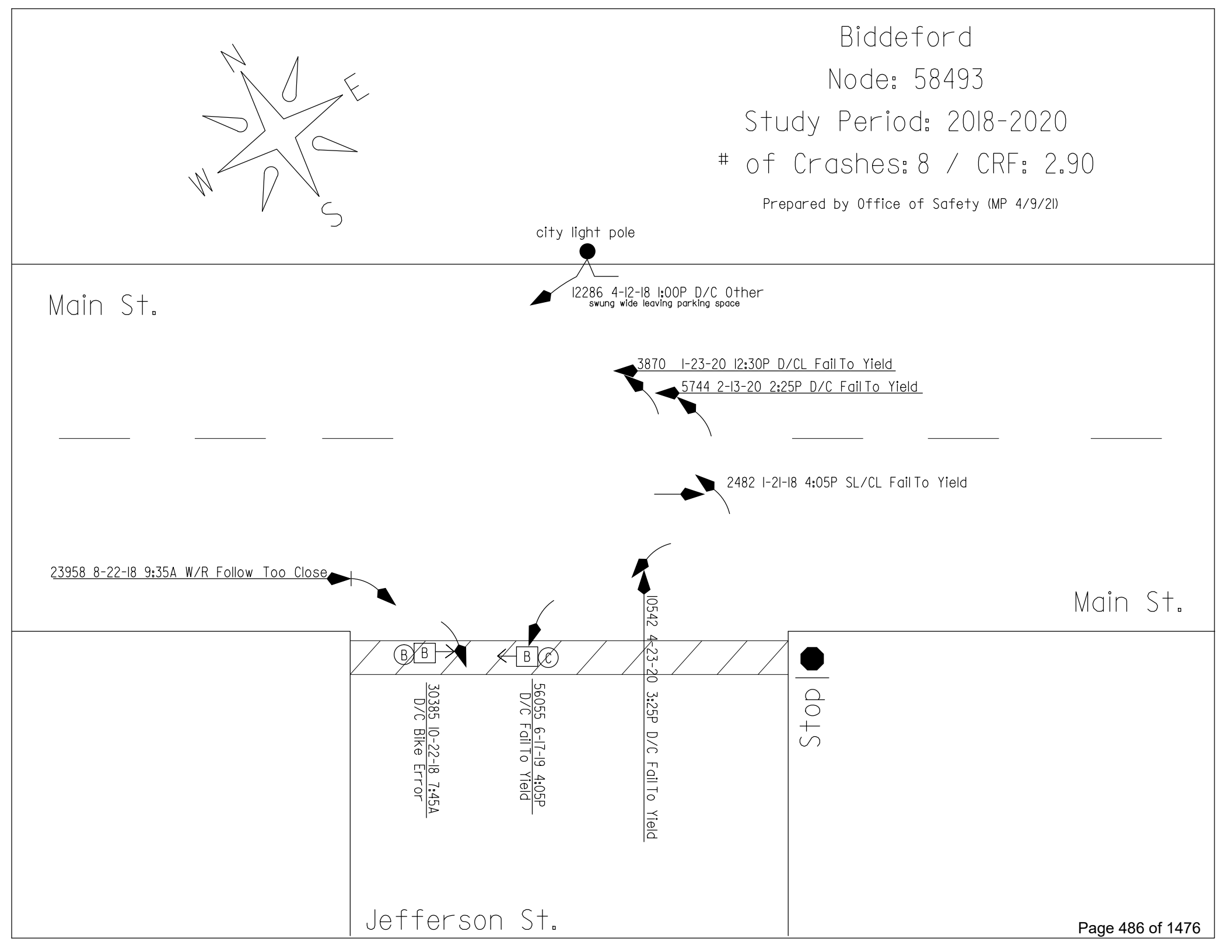
Biddeford

Node: 58493

Study Period: 2018-2020

of Crashes: 8 / CRF: 2.90

Prepared by Office of Safety (MP 4/9/21)



H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **58494** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

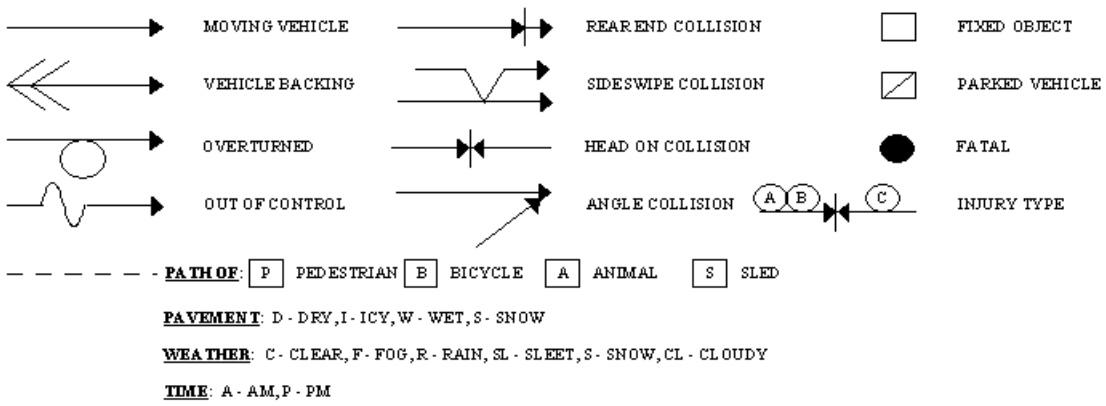
DESCRIPTION: **Jct of Main St & Adams St/Lincoln St**

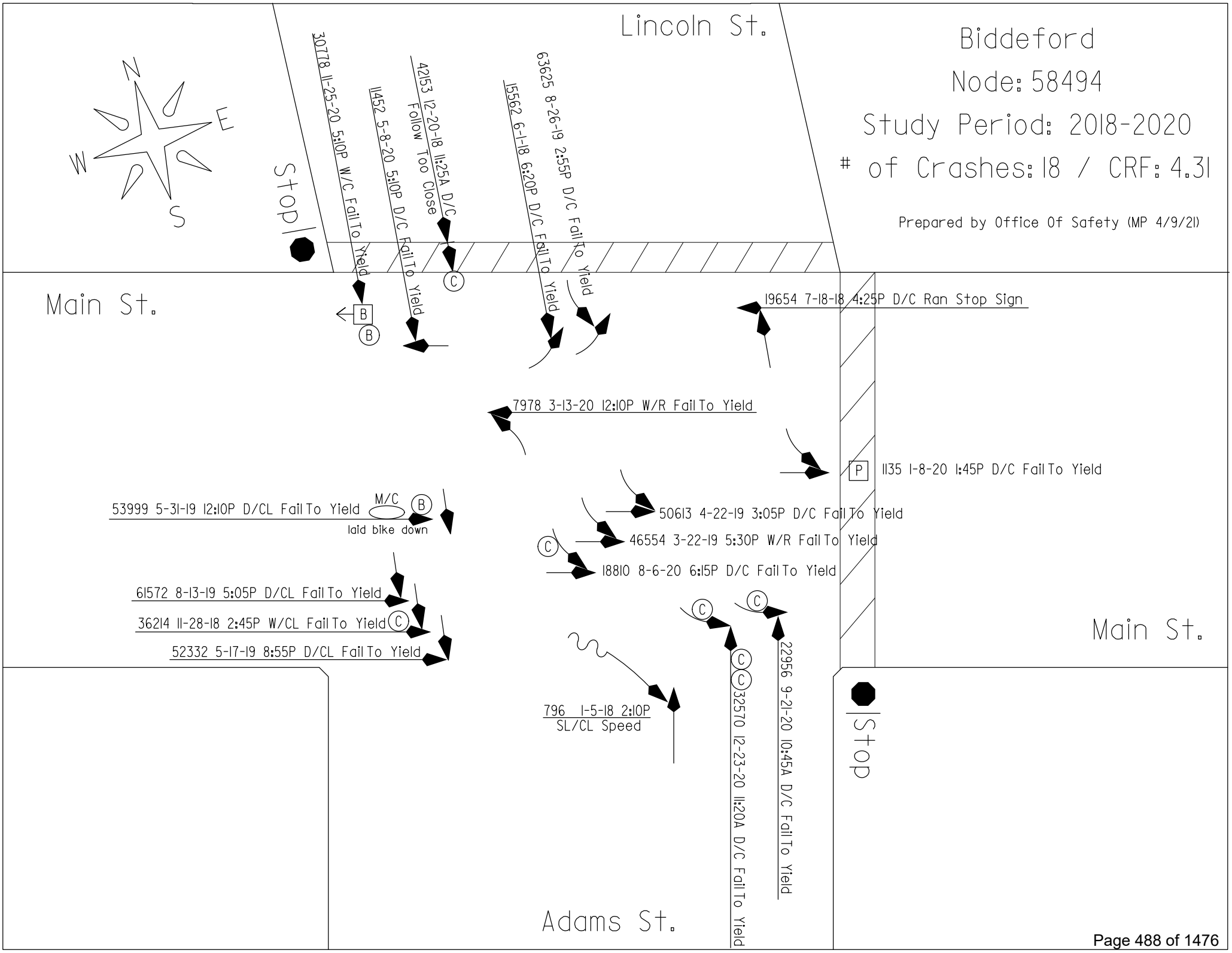
RTE # / RD #: **3110002** DATE DRAWN: **4/9/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **1.79** CRF: **4.31** % INJURY: **38.9** TOTAL CRASHES: **18**

LEGEND




Biddeford
Node: 58494
Study Period: 2018-2020
# of Crashes: 18 / CRF: 4.31
Prepared by Office Of Safety (MP 4/9/21)
Lincoln St.
Main St.
Main St.
Adams St.
N
E
S
W
Stop
Stop
30778 11-25-20 5:10P W/C Fail To Yield
11452 5-8-20 5:10P D/C Fail To Yield
42153 12-20-18 11:25A D/C Follow Too Close
15562 6-1-18 6:20P D/C Fail To Yield
63625 8-26-19 2:55P D/C Fail To Yield
19654 7-18-18 4:25P D/C Ran Stop Sign
7978 3-13-20 12:10P W/R Fail To Yield
1135 1-8-20 1:45P D/C Fail To Yield
53999 5-31-19 12:10P D/CL Fail To Yield M/C
laid bike down
50613 4-22-19 3:05P D/C Fail To Yield
46554 3-22-19 5:30P W/R Fail To Yield
18810 8-6-20 6:15P D/C Fail To Yield
61572 8-13-19 5:05P D/CL Fail To Yield
36214 11-28-18 2:45P W/CL Fail To Yield
52332 5-17-19 8:55P D/CL Fail To Yield
796 1-5-18 2:10P
SL/CL Speed
32570 12-23-20 11:20A D/C Fail To Yield
22956 9-21-20 10:45A D/C Fail To Yield

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ **Crash Summary I** ☐ **Section Detail** ☑ **Crash Summary II** ☐ **1320 Public** ☐ **1320 Private** ☐ **1320 Summary**

REPORT DESCRIPTION

Biddeford
Elm St./Lincoln St./Main St./Pearl St. Area

REPORT PARAMETERS

Year 2018, Start Month 1 through Year 2020 End Month: 12

Route: **0001X**	Start Node: **56640**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **56649**	End Offset: **0**	☐ **Exclude Last Node**
Route: **3110126**	Start Node: **58512**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **58514**	End Offset: **0**	☑ **Exclude Last Node**
Route: **3110102**	Start Node: **56644**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **58494**	End Offset: **0**	☑ **Exclude Last Node**
Route: **3110104**	Start Node: **58494**	Start Offset: **0**	☐ **Exclude First Node**
	End Node: **56640**	End Offset: **0**	☑ **Exclude Last Node**
Route: **0001S**	Start Node: **58711**	Start Offset: **0**	☑ **Exclude First Node**
	End Node: **56648**	End Offset: **0**	☑ **Exclude Last Node**

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56640	0001X - 33.99	Int of ELM ST MAIN ST	9	22	0	0	1	4	17	22.7	6.161	1.19	1.27	0.94
												Statewide Crash Rate:	0.77	
56641	0001X - 34.04	Int of ELM ST ST MARYS ST	2	7	0	0	0	2	5	28.6	5.192	0.45	0.39	1.16
												Statewide Crash Rate:	0.16	
58514	0001X - 34.05	Int of ELM ST PEARL ST	2	3	0	0	1	0	2	33.3	4.797	0.21	0.40	0.00
												Statewide Crash Rate:	0.16	
56642	0001X - 34.09	Int of ELM ST SPRUCE ST VILLAGE MARKET Z RD	9	17	0	0	0	6	11	35.3	4.585	1.24	1.34	0.92
												Statewide Crash Rate:	0.77	
58517	0001X - 34.13	Int of ELM ST THORNTON ST	2	0	0	0	0	0	0	0.0	4.588	0.00	0.40	0.00
												Statewide Crash Rate:	0.16	
56644	0001X - 34.16	Int of ELM ST, LINCOLN ST	2	9	0	0	1	2	6	33.3	6.080	0.49	0.37	1.32
												Statewide Crash Rate:	0.16	
56645	0001X - 34.19	Int of ELM ST HOOPER ST	2	1	0	0	0	0	1	0.0	6.086	0.05	0.37	0.00
												Statewide Crash Rate:	0.16	
58519	0001X - 34.25	Int of DIAMOND ST ELM ST	2	6	0	0	2	2	2	66.7	6.084	0.33	0.37	0.00
												Statewide Crash Rate:	0.16	
56647	0001X - 34.29	BRG 3080, ELM ST over SACO RIVER (W OR S CHAN)	2	0	0	0	0	0	0	0.0	2.972	0.00	0.45	0.00
												Statewide Crash Rate:	0.16	
P56648	0001X - 34.31	Int of ELM ST PINE ST	2	14	0	0	0	2	12	14.3	6.277	0.74	0.37	2.00
												Statewide Crash Rate:	0.16	
58711	0001X - 34.33	Non Int ELM ST	2	0	0	0	0	0	0	0.0	4.753	0.00	0.40	0.00
												Statewide Crash Rate:	0.16	
56649	0001X - 34.48	TL - Biddeford, Saco	2	0	0	0	0	0	0	0.0	5.132	0.00	0.39	0.00
												Statewide Crash Rate:	0.16	
58513	3110126 - 0.06	Int of PEARL ST STONE ST	2	0	0	0	0	0	0	0.0	0.519	0.00	0.63	0.00
												Statewide Crash Rate:	0.15	
58512	3110102 - 0.07	Int of LINCOLN ST PEARL ST	2	1	0	0	0	0	1	0.0	2.008	0.17	0.47	0.00
												Statewide Crash Rate:	0.15	
58515	3110102 - 0.17	Int of LINCOLN ST STONE ST	2	0	0	0	0	0	0	0.0	2.144	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
58494	3110104 - 0.15	Int of ADAMS ST LINCOLN ST MAIN ST	2	18	0	0	2	5	11	38.9	3.353	1.79	0.41	4.31
												Statewide Crash Rate:	0.15	
58493	3110104 - 0.25	Int of JEFFERSON ST MAIN ST	2	8	0	0	1	1	6	25.0	1.923	1.39	0.48	2.90
												Statewide Crash Rate:	0.15	
Study Years:	3.00	**NODE TOTALS:**		106	0	0	8	24	74	30.2	72.654	0.49	0.33	1.46

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56640	56641	3130112	0 - 0.05	0001X - 33.99	0.05	2	3	0	0	0	1	2	33.3	0.00235	425.56	624.97	0.00
Int of ELM ST MAIN ST				US 1											Statewide Crash Rate: 230.30		
56641	58514	3114278	0 - 0.01	0001X - 34.04	0.01	2	0	0	0	0	0	0	0.0	0.00049	0.00	909.62	0.00
Int of ELM ST ST MARYS ST				US 1											Statewide Crash Rate: 230.30		
56642	58514	3130113	0 - 0.04	0001X - 34.05	0.04	2	1	0	0	1	0	0	100.0	0.00177	188.67	672.93	0.00
Int of ELM ST SPRUCE ST VILLAGE MARKET Z RD				US 1											Statewide Crash Rate: 230.30		
56642	58517	3944217	0 - 0.04	0001X - 34.09	0.04	2	0	0	0	0	0	0	0.0	0.00188	0.00	662.61	0.00
Int of ELM ST SPRUCE ST VILLAGE MARKET Z RD				US 1											Statewide Crash Rate: 230.30		
56644	58517	3114282	0 - 0.03	0001X - 34.13	0.03	2	4	0	0	0	1	3	25.0	0.00133	1001.36	723.66	1.38
Int of ELM ST, LINCOLN ST				US 1											Statewide Crash Rate: 230.30		
56644	56645	3114280	0 - 0.03	0001X - 34.16	0.03	2	1	0	0	0	0	1	0.0	0.00179	186.48	670.90	0.00
Int of ELM ST, LINCOLN ST				US 1											Statewide Crash Rate: 230.30		
56645	58519	3937825	0 - 0.06	0001X - 34.19	0.06	2	2	0	0	0	0	2	0.0	0.00372	179.33	555.64	0.00
Int of ELM ST HOOPER ST				US 1											Statewide Crash Rate: 230.30		
56647	58519	3114285	0 - 0.04	0001X - 34.25	0.04	2	2	0	0	0	1	1	50.0	0.00238	280.41	623.08	0.00
BRG 3080, ELM ST over SACO RIVER (W OR S CHAN)				US 1											Statewide Crash Rate: 230.30		
56647	56648	2837611	0 - 0.02	0001X - 34.29	0.02	2	3	0	0	0	2	1	66.7	0.00119	841.23	744.72	1.13
BRG 3080, ELM ST over SACO RIVER (W OR S CHAN)				US 1											Statewide Crash Rate: 230.30		
56648	58711	3139816	0 - 0.02	0001X - 34.31	0.02	2	0	0	0	0	0	0	0.0	0.00045	0.00	922.12	0.00
Int of ELM ST PINE ST				US 1											Statewide Crash Rate: 230.30		
56649	58711	3116620	0 - 0.15	0001X - 34.33	0.15	2	6	0	0	0	0	6	0.0	0.00744	268.98	469.63	0.00
TL - Biddeford, Saco				US 1											Statewide Crash Rate: 230.30		
58512	58513	239919	0 - 0.06	3110126 - 0	0.06	2	1	0	0	0	0	1	0.0	0.00012	2855.67	1776.07	1.61
Int of LINCOLN ST PEARL ST				RD INV 31 10126											Statewide Crash Rate: 411.49		
58513	58514	239921	0 - 0.04	3110126 - 0.06	0.04	2	1	0	0	0	0	1	0.0	0.00011	3064.57	1771.95	1.73
Int of PEARL ST STONE ST				RD INV 31 10126											Statewide Crash Rate: 411.49		
56644	58512	3114281	0 - 0.07	3110102 - 0	0.07	2	1	0	0	0	0	1	0.0	0.00123	270.11	615.24	0.00
Int of ELM ST, LINCOLN ST				RD INV 31 10102											Statewide Crash Rate: 180.89		
58512	58515	3114626	0 - 0.10	3110102 - 0.07	0.10	2	4	0	0	0	1	3	25.0	0.00206	647.69	540.79	1.20
Int of LINCOLN ST PEARL ST				RD INV 31 10102											Statewide Crash Rate: 180.89		
58494	58515	3132475	0 - 0.04	3110102 - 0.17	0.04	2	0	0	0	0	0	0	0.0	0.00066	0.00	706.27	0.00
Int of ADAMS ST LINCOLN ST MAIN ST				RD INV 31 10102											Statewide Crash Rate: 180.89		
58493	58494	4046830	0 - 0.06	3110104 - 0.15	0.06	2	6	0	0	1	1	3	40.0	0.00093	2147.29	657.37	3.27
Int of JEFFERSON ST MAIN ST				RD INV 31 10104											Statewide Crash Rate: 180.89		
58493	58494	4046830	0.06 - 0.10	3110104 - 0.21	0.04	2	0	0	0	0	0	0	0.0	0.00062	0.00	715.21	0.00
Int of JEFFERSON ST MAIN ST				RD INV 31 10104											Statewide Crash Rate: 180.89		

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56640	58493	3114277	0 - 0.09	3110104 - 0.25	0.09	2	5	0	0	0	2	2	50.0	0.00162	1030.79	575.27	1.79
Int of ELM ST	MAIN ST			RD INV 31 10104											Statewide Crash Rate: 180.89		
58711	56648	3129094	0 - 0.02	0001S - 23.94	0.02	2	0	0	0	0	0	0	0.0	0.00045	0.00	922.12	0.00
Non Int ELM ST				US 1 SB											Statewide Crash Rate: 230.30		
Study Years: 3.00				**Section Totals:**	1.01		40	0	0	2	9	27	27.5	0.03258	409.23	338.05	1.21
				Grand Totals:	1.01		146	0	0	10	33	101	29.5	0.03258	1493.69	479.58	3.11

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56640	56641	3130112	0 - 0.05	0001X - 33.99	3	0	0	0	1	2	2018-4672	02/07/2018	34.01	PD
											2019-44415	03/03/2019	34.02	C
											2018-25216	09/05/2018	34.02	PD
56641	58514	3114278	0 - 0.01	0001X - 34.04	0	0	0	0	0	0				
56642	58514	3130113	0 - 0.04	0001X - 34.05	1	0	0	1	0	0	2018-32156	10/30/2018	34.07	B
56642	58517	3944217	0 - 0.04	0001X - 34.09	0	0	0	0	0	0				
56644	58517	3114282	0 - 0.03	0001X - 34.13	4	0	0	0	1	3	2019-42440	02/15/2019	34.15	C
											2018-2357	01/21/2018	34.15	PD
											2020-20414	08/25/2020	34.15	PD
											2018-24502	08/24/2018	34.15	PD
56644	56645	3114280	0 - 0.03	0001X - 34.16	1	0	0	0	0	1	2018-3772	01/31/2018	34.18	PD
56645	58519	3937825	0 - 0.06	0001X - 34.19	2	0	0	0	0	2	2018-6440	02/21/2018	34.20	PD
											2019-46111	03/15/2019	34.24	PD
56647	58519	3114285	0 - 0.04	0001X - 34.25	2	0	0	0	1	1	2018-30221	10/23/2018	34.26	PD
											2018-18747	07/06/2018	34.28	C
56647	56648	2837611	0 - 0.02	0001X - 34.29	3	0	0	0	2	1	2020-15927	07/05/2020	34.30	C
											2020-16535	07/11/2020	34.30	C
											2020-25311	10/20/2020	34.30	PD
56648	58711	3139816	0 - 0.02	0001X - 34.31	0	0	0	0	0	0				
56649	58711	3116620	0 - 0.15	0001X - 34.33	6	0	0	0	0	6	2018-26829	09/24/2018	34.34	PD
											2020-14282	06/11/2020	34.34	PD
											2018-22465	08/13/2018	34.39	PD
											2019-4073	01/25/2019	34.42	PD
											2019-75562	12/08/2019	34.43	PD
											2018-10382	04/02/2018	34.44	PD
58512	58513	239919	0 - 0.06	3110126 - 0	1	0	0	0	0	1	2020-6373	02/21/2020	0.01	PD
58513	58514	239921	0 - 0.04	3110126 - 0.06	1	0	0	0	0	1	2018-4617	02/06/2018	0.09	PD
56644	58512	3114281	0 - 0.07	3110102 - 0	1	0	0	0	0	1	2019-43804	02/18/2019	0.02	PD
58512	58515	3114626	0 - 0.10	3110102 - 0.07	4	0	0	0	1	3	2020-26347	10/31/2020	0.08	PD
											2019-48376	04/06/2019	0.09	C
											2019-67427	10/01/2019	0.16	PD
											2020-5056	02/13/2020	0.16	PD
58494	58515	3132475	0 - 0.04	3110102 - 0.17	0	0	0	0	0	0				
58493	58494	4046830	0.06 - 0.10	3110104 - 0.15	0	0	0	0	0	0				

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
58493	58494	4046830	0 - 0.06	3110104 - 0.15	6	0	0	1	1	3	2018-7638	03/05/2018	0.20	PD
											2020-22459	09/18/2020	0.22	B
											2019-62667	08/24/2019	0.22	C
											2018-1561	01/16/2018	0.22	PD
											2018-32265	11/03/2018	0.23	
											2019-75926	10/21/2019	0.24	PD
56640	58493	3114277	0 - 0.09	3110104 - 0.25	5	0	0	0	2	2	2018-9686	03/17/2018	0.27	PD
											2018-26434	09/17/2018	0.28	PD
											2018-17433	06/23/2018	0.31	C
											2018-9357	03/19/2018	0.31	C
											2018-3953	02/02/2018	0.32	
58711	56648	3129094	0 - 0.02	0001S - 23.94	0	0	0	0	0	0				
				Totals:	40	0	0	2	9	27				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												Hour of Day PM													
Day Of Week	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**Un**	**Tot**
SUNDAY	1	1	0	0	0	0	0	0	0	0	1	2	1	1	2	1	0	1	1	0	0	1	0	0	0	13
MONDAY	0	0	0	0	0	0	1	1	1	0	3	0	3	1	3	4	3	2	2	0	0	0	0	0	0	24
TUESDAY	1	0	0	0	0	0	1	0	0	1	4	1	1	3	1	1	3	1	0	1	0	1	0	0	0	20
WEDNESDAY	0	1	0	0	0	0	0	1	0	1	2	4	2	4	2	0	4	3	1	0	0	1	0	0	0	26
THURSDAY	0	0	0	0	0	1	0	0	1	0	0	4	1	4	1	3	2	1	1	0	0	1	0	0	0	20
FRIDAY	1	0	0	0	0	1	2	3	2	3	0	0	3	2	3	0	1	4	1	0	1	0	0	1	0	28
SATURDAY	0	0	0	0	0	0	0	1	1	1	0	1	1	0	2	1	1	1	2	2	0	0	1	0	0	15
Totals	3	2	0	0	0	2	4	6	5	6	10	12	12	15	14	10	14	13	8	3	1	4	1	1	0	**146**

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	137
2-(Sport) Utility Vehicle	67
3-Passenger Van	8
4-Cargo Van (10K lbs or Less)	6
5-Pickup	39
6-Motor Home	0
7-School Bus	1
8-Transit Bus	1
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	1
12-Moped	1
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	1
17-Medium/Heavy Trucks (More than 10,000 lbs)	6
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	5
23-Bicyclist	5
24-Witness	18
25-Other	1
26-Construction	0
27-Farm Vehicle	0
Total	**297**

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	9	112	3	2	0	0	126
Ran Off Roadway	7	0	0	0	0	0	7
Failed to Yield Right-of-Way	38	0	0	0	0	0	38
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	1	0	0	0	0	0	1
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	1	0	0	0	0	0	1
Exceeded Posted Speed Limit	1	1	0	0	0	0	2
Drove Too Fast For Conditions	6	0	0	0	0	0	6
Improper Turn	3	0	0	0	0	0	3
Improper Backing	6	0	0	0	0	0	6
Improper Passing	3	0	0	0	0	0	3
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	34	0	1	0	0	0	35
Failed to Keep in Proper Lane	9	0	0	0	0	0	9
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	18	0	0	0	0	0	18
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	2	0	0	0	0	0	2
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	2	0	0	0	0	0	2
Unknown	1	1	0	0	0	0	2
Total	**145**	**114**	**4**	**2**	**0**	**0**	**265**

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	134	118	4	2	0	0	258
Physically Impaired or Handicapped	2	0	0	0	0	0	2
Emotional(Depressed, Angry, Disturbed, etc.)	1	1	0	0	0	0	2
Ill (Sick)	1	0	0	0	0	0	1
Asleep or Fatigued	1	0	0	0	0	0	1
Under the Influence of Medications/Drugs/Alcohol	5	1	0	0	0	0	6
Other	0	0	0	0	0	0	0
Total	**144**	**120**	**4**	**2**	**0**	**0**	**270**

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	24	0	0	0	0	24
20-24	33	0	0	0	0	33
25-29	26	0	0	0	0	26
30-39	53	0	0	0	0	53
40-49	33	0	0	0	0	33
50-59	31	0	0	0	0	31
60-69	33	0	0	0	0	33
70-79	27	0	0	0	0	27
80-Over	5	0	0	0	0	5
Unknown	4	5	0	5	0	14
Total	**269**	**5**	**0**	**5**	**0**	**279**

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	1	38-Other Fixed Object (wall, building, tunnel, etc.)	2
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	1	**Total**	**269**
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	5		
10-Pedalcycle	5		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	231		
14-Parked Motor Vehicle	6		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	1		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	1		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	2		
22-Cable Barrier	0		
23-Culvert	1		
24-Curb	5		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	1		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	6		
33-Traffic Sign Support	1		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post Pole or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	10	11
C	33	42
PD	101	0
Total	**144**	**53**

Road Character

Road Grade	Total
1-Level	98
2-On Grade	39
3-Top of Hill	1
4-Bottom of Hill	8
5-Other	0
Total	**146**

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	41
2-Traffic Signals (Flashing)	1
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	60
6-Yield Sign	9
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	32
14-Other	3
Total	**146**

Light

Light Condition	Total
1-Daylight	124
2-Dawn	2
3-Dusk	0
4-Dark - Lighted	19
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	**146**

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2018	2019	2020	Total
JANUARY	7	3	3	13
FEBRUARY	7	4	4	15
MARCH	6	6	4	16
APRIL	4	3	2	9
MAY	3	3	2	8
JUNE	3	5	2	10
JULY	7	1	7	15
AUGUST	5	8	5	18
SEPTEMBER	7	0	2	9
OCTOBER	6	3	3	12
NOVEMBER	5	3	2	10
DECEMBER	3	4	4	11
Total	**63**	**43**	**40**	**146**

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rear End - Sideswipe	13	0	20	29	0	6	1	0	0	0	0	0	0	0	69
Head-on - Sideswipe	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Intersection Movement	0	0	18	22	0	4	0	0	0	0	0	0	0	0	44
Pedestrians	1	0	2	1	0	1	0	0	0	0	0	0	0	0	5
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	5	2	4	2	0	2	0	0	0	0	0	0	0	0	15
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	2	2	0	1	0	0	0	0	0	0	0	0	5
Other	1	0	0	1	0	0	4	0	0	0	0	0	0	0	6
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**21**	**2**	**46**	**57**	**0**	**14**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**146**

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	13	0	0	0	0	0	0	0	0	0	2	15
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	1	2
Daylight	78	1	0	0	0	0	0	0	0	0	4	83
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	2	0	0	0	0	0	0	0	0	0	1	3
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	21	0	0	0	0	0	3	1	0	0	4	29
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

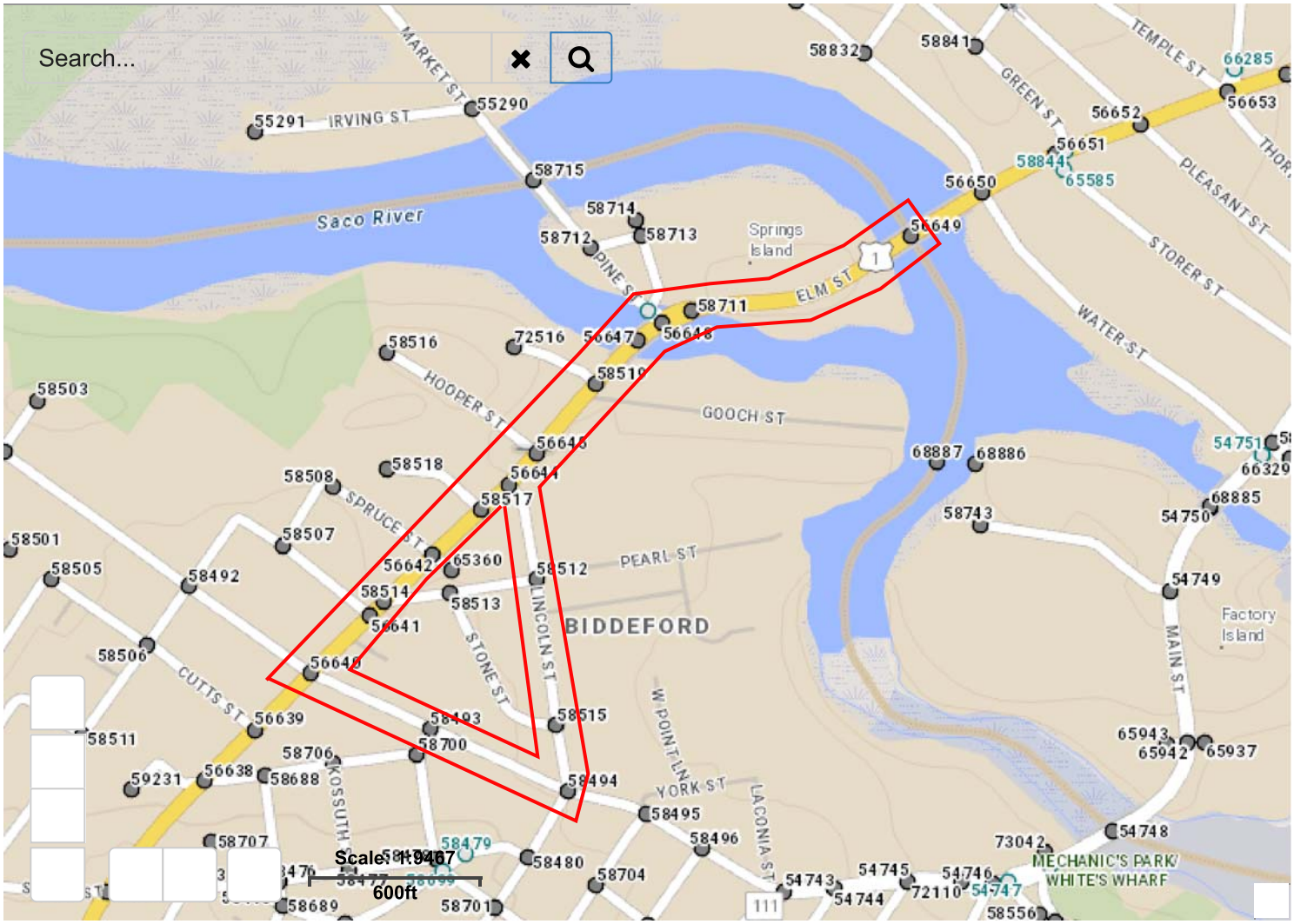
Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	1	0	0	0	0	0	0	0	0	5	6
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	4	0	0	2	6
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**116**	**2**	**0**	**0**	**0**	**0**	**3**	**6**	**0**	**0**	**19**	**146**


Search...
MARKET ST
IRVING ST
55290
55291
58715
Saco River
58714
58712
58713
PINE ST
Springs Island
56649
ELM ST
58711
56647
56648
58516
72516
58519
HOOPER ST
58503
GOOCH ST
56645
56644
58518
58508
58517
SPRUCE ST
58507
58501
58505
58492
56642
65360
58512
PEARL ST
58514
58513
56641
BIDDEFORD
LINCOLN ST
58506
56640
STONE ST
CUTTS ST
56639
58493
58515
58511
58700
58706
59231
56638
58688
58494
W POINT LN
YORK ST
58495
58707
58496
LACONIA ST
58479
58480
58704
58689
58701
54743
54745
54746
54744
72110
54747
111
58556
73042
54748
MECHANIC'S PARK/
WHITE'S WHARF
65943
65942
65937
MAIN ST
Factory Island
54749
58743
68887
68886
54751
66329
68885
54750
58832
58841
TEMPLE ST
66285
56653
56652
56651
588441
65585
56650
GREEN ST
PLEASANT ST
STORER ST
WATER ST
Scale: 1:9467
600ft

EXISTING TURNING MOVEMENT VOLUMES

Cover

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

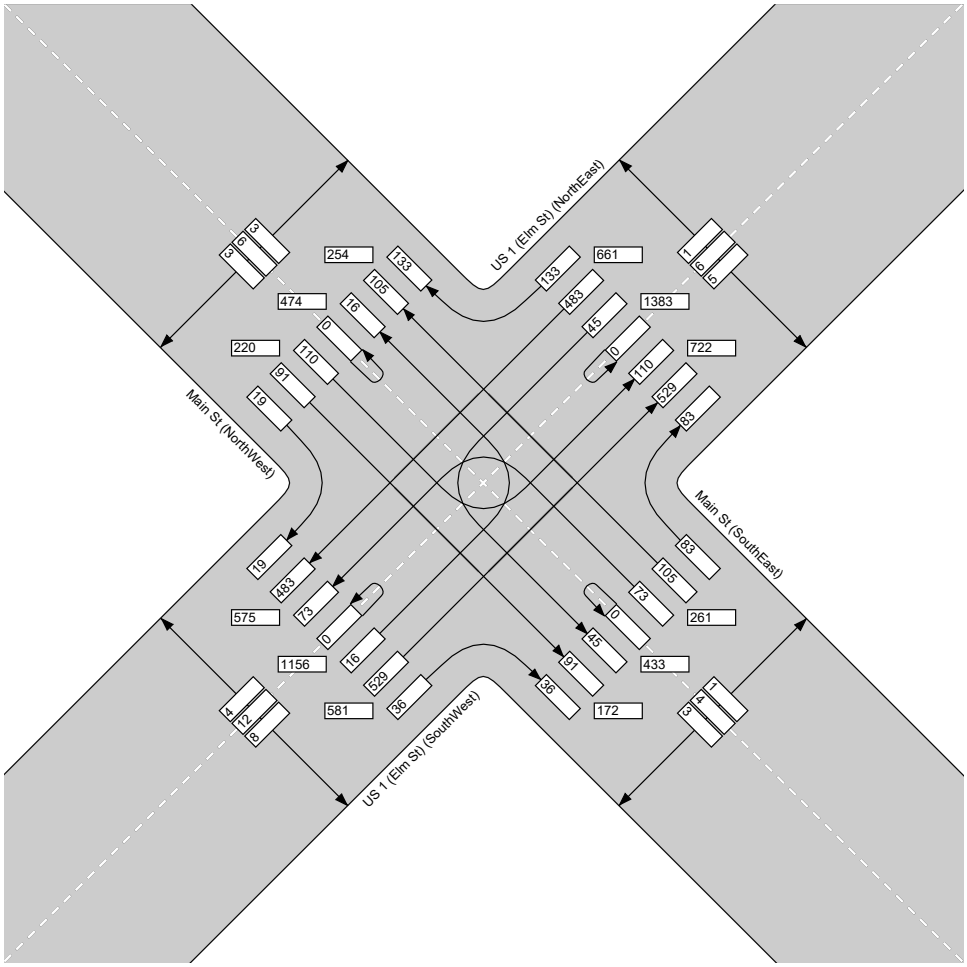
Study Name	US 1 (Elm St), Main St, 05/08/2021
Study Description	US 1 (Elm St), Main St, 05/08/2021 turning movement
Date of Survey	Thursday, August 5, 2021
Time Period	06:00 - 18:00
Comments	-
Location	

Classes

Mcl
Car
Bus
SUT
Semis
Bicycle

Diagram

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021



Time Period:

- ○ All times
- ○ AM Peak Hour:11:00 - 12:00
- ○ PM Peak Hour:15:30 - 16:30
- ○ Overall Peak Hour:15:30 - 16:30
- ◉ Custom: 16:30 - 17:30

Traffic Bins:

- ☑ Mcl
- ☑ Car
- ☑ Bus
- ☑ SUT
- ☑ Semis
- ☑ Bicycle

Crossing Bins:

- ☑ Bicycle
- ☑ Ped

Traffic total: 1723

Movements

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

From: Main St (NorthWest)																								
To: Main St (NorthWest)									To: US 1 (Elm St) (NorthEast)								To: Main St (SouthEast)							
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total		Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	
06:00	0	0	0	0	0	0	0		06:00	0	10	0	0	0	0	10	06:00	0	7	0	0	0	0	
06:15	0	0	0	0	0	0	0		06:15	0	14	0	0	0	0	14	06:15	0	5	0	0	0	0	
06:30	0	0	0	0	0	0	0		06:30	0	23	0	0	0	0	23	06:30	0	10	0	0	0	0	
06:45	0	0	0	0	0	0	0		06:45	1	26	0	0	0	0	27	06:45	0	16	0	0	0	0	
07:00	0	0	0	0	0	0	0		07:00	0	28	0	1	0	0	29	07:00	0	7	0	0	0	0	
07:15	0	0	0	0	0	0	0		07:15	0	34	0	0	0	0	34	07:15	0	16	0	0	0	0	
07:30	0	0	0	0	0	0	0		07:30	0	24	0	0	0	0	24	07:30	0	20	0	0	0	0	
07:45	0	0	0	0	0	0	0		07:45	0	34	0	0	0	0	34	07:45	0	21	0	0	0	0	
08:00	0	0	0	0	0	0	0		08:00	0	32	0	0	0	0	32	08:00	0	21	0	0	0	0	
08:15	0	0	0	0	0	0	0		08:15	0	16	0	2	0	0	18	08:15	0	16	0	1	0	0	
08:30	0	0	0	0	0	0	0		08:30	0	30	0	0	0	0	30	08:30	0	12	0	0	1	0	
08:45	0	0	0	0	0	0	0		08:45	0	22	0	0	0	0	22	08:45	0	21	0	1	1	0	
09:00	0	0	0	0	0	0	0		09:00	0	14	0	1	0	0	15	09:00	0	13	0	0	0	0	
09:15	0	0	0	0	0	0	0		09:15	0	19	0	0	1	0	20	09:15	0	14	0	0	0	0	
09:30	0	0	0	0	0	0	0		09:30	0	22	0	0	0	0	22	09:30	0	10	0	0	0	0	
09:45	0	0	0	0	0	0	0		09:45	0	22	0	0	0	0	22	09:45	0	15	0	1	0	0	
10:00	0	0	0	0	0	0	0		10:00	0	15	0	2	0	0	17	10:00	0	12	0	0	0	0	
10:15	0	0	0	0	0	0	0		10:15	0	27	0	1	0	0	28	10:15	0	17	0	0	0	0	
10:30	0	0	0	0	0	0	0		10:30	0	26	0	0	0	0	26	10:30	0	21	0	0	0	0	
10:45	0	0	0	0	0	0	0		10:45	0	16	0	0	0	0	16	10:45	0	21	0	0	0	0	
11:00	0	0	0	0	0	0	0		11:00	0	15	0	0	0	0	15	11:00	0	18	0	2	0	0	
11:15	0	0	0	0	0	0	0		11:15	0	18	0	1	0	0	19	11:15	0	14	0	0	0	0	
11:30	0	0	0	0	0	0	0		11:30	0	20	0	1	0	0	21	11:30	0	13	0	1	0	0	
11:45	0	0	0	0	0	0	0		11:45	0	22	0	0	0	0	22	11:45	0	20	0	0	0	0	
12:00	0	0	0	0	0	0	0		12:00	0	30	0	0	0	0	30	12:00	0	24	0	0	0	0	
12:15	0	0	0	0	0	0	0		12:15	0	24	0	0	0	0	24	12:15	0	19	0	0	0	0	
12:30	0	0	0	0	0	0	0		12:30	0	25	0	0	0	0	25	12:30	0	18	0	1	0	0	
12:45	0	0	0	0	0	0	0		12:45	2	27	1	1	0	0	31	12:45	0	20	0	0	0	0	
13:00	0	0	0	0	0	0	0		13:00	0	29	0	0	0	0	29	13:00	0	24	0	0	0	0	
13:15	0	0	0	0	0	0	0		13:15	0	23	0	1	0	0	24	13:15	0	23	0	0	0	0	
13:30	0	0	0	0	0	0	0		13:30	0	25	0	0	0	0	25	13:30	0	21	0	0	0	0	
13:45	0	0	0	0	0	0	0		13:45	0	19	0	0	1	0	20	13:45	0	23	0	0	0	0	
14:00	0	0	0	0	0	0	0		14:00	0	29	0	0	0	0	29	14:00	0	17	0	3	0	0	
14:15	0	0	0	0	0	0	0		14:15	1	24	0	0	0	0	25	14:15	1	13	0	0	0	0	
14:30	0	0	0	0	0	0	0		14:30	1	27	0	2	0	0	30	14:30	0	8	0	0	1	0	
14:45	0	0	0	0	0	0	0		14:45	0	18	0	0	0	0	18	14:45	0	33	0	1	0	0	

15:00	0	0	0	0	0	0	0	15:00	0	23	0	1	0	0	24	15:00	0	18	0	0	0	
15:15	0	0	0	0	0	0	0	15:15	0	28	0	0	0	0	28	15:15	0	15	0	0	0	
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:30	**0**	**30**	**0**	**0**	**0**	**0**	**30**	15:30	**0**	**27**	**0**	**0**	**0**	
15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	15:45	**0**	**19**	**0**	**3**	**0**	**0**	**22**	15:45	**1**	**27**	**0**	**0**	**0**	
16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	16:00	**0**	**29**	**0**	**1**	**0**	**0**	**30**	16:00	**0**	**14**	**0**	**0**	**0**	
16:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	16:15	**0**	**27**	**0**	**0**	**0**	**0**	**27**	16:15	**1**	**22**	**0**	**0**	**0**	
16:30	0	0	0	0	0	0	0	16:30	0	27	0	0	0	0	27	16:30	0	22	0	0	0	
16:45	0	0	0	0	0	0	0	16:45	0	24	0	0	0	0	24	16:45	1	27	0	0	0	
17:00	0	0	0	0	0	0	0	17:00	0	29	0	0	0	0	29	17:00	0	22	0	0	0	
17:15	0	0	0	0	0	0	0	17:15	0	30	0	0	0	0	30	17:15	1	17	0	0	0	
17:30	0	0	0	0	0	0	0	17:30	0	33	0	0	0	0	33	17:30	0	19	0	0	0	
17:45	0	0	0	0	0	0	0	17:45	1	31	0	0	0	0	32	17:45	0	20	0	0	0	
Total	0	0	0	0	0	0	0	Total	6	1159	1	18	2	0	1186	Total	5	853	0	11	3	
% of Total	-	-	-	-	-	-	-	% of Total	0.5%	97.7%	0.1%	1.5%	0.2%	0%	100%	% of Total	0.6%	97.6%	0%	1.3%	0.3%	0.2
% of Approach	0%	0%	0%	0%	0%	0%	0%	% of Approach	54.5%	52.6%	100%	60%	40%	0%	52.6%	% of Approach	45.5%	38.7%	0%	36.7%	60%	100

From: US 1 (Elm St) (NorthEast)

To: Main St (NorthWest)

Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	7	0	0	0	0	7
06:15	0	4	0	0	0	0	4
06:30	0	8	0	0	0	0	8
06:45	0	9	0	0	0	0	9
07:00	0	11	0	0	0	0	11
07:15	0	15	0	1	0	0	16
07:30	0	17	0	0	0	0	17
07:45	0	19	0	0	0	0	19
08:00	0	12	0	0	0	0	12
08:15	0	8	0	0	0	0	8
08:30	0	14	0	0	0	0	14
08:45	0	12	0	0	0	0	12
09:00	0	15	0	0	0	0	15
09:15	0	14	0	0	0	0	14
09:30	0	12	0	0	0	0	12
09:45	0	6	0	0	0	0	6
10:00	0	14	0	0	0	0	14
10:15	0	12	0	0	0	0	12
10:30	0	13	0	1	0	0	14
10:45	0	13	0	1	0	0	14
11:00	0	13	0	0	0	0	13
11:15	0	17	0	0	0	0	17
11:30	0	23	0	0	0	0	23
11:45	0	15	0	0	0	0	15
12:00	0	18	0	1	0	0	19
12:15	4	21	0	0	0	0	25
12:30	2	27	0	1	0	0	30
12:45	0	22	0	0	0	0	22
13:00	0	21	0	0	0	0	21
13:15	1	32	0	0	0	0	33
13:30	0	19	0	1	0	0	20
13:45	0	18	0	0	0	0	18
14:00	0	26	0	0	0	0	26
14:15	0	21	0	0	0	0	21
14:30	0	18	0	0	0	0	18
14:45	0	28	0	0	0	0	28
15:00	1	27	0	1	0	0	29
15:15	0	25	0	0	1	0	26
15:30	**0**	**24**	**0**	**2**	**0**	**0**	**26**
15:45	**0**	**34**	**0**	**0**	**0**	**1**	**35**
16:00	**0**	**29**	**0**	**0**	**0**	**0**	**29**
16:15	**0**	**29**	**0**	**0**	**0**	**0**	**29**
16:30	1	28	0	1	0	0	30
16:45	0	35	0	0	0	0	35
17:00	0	36	0	0	0	0	36
17:15	0	32	0	0	0	0	32
17:30	0	44	0	0	0	0	44
17:45	0	34	0	0	0	0	34
Total	9	951	0	10	1	1	972
% of Total	0.9%	97.8%	0%	1%	0.1%	0.1%	100%
% of Approach	28.1%	14.7%	0%	6.9%	4.5%	25%	14.6%

To: US 1 (Elm St) (NorthEast)

Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**
15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**
16:30	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
% of Total	-	-	-	-	-	-	-
% of Approach	0%	0%	0%	0%	0%	0%	0%

To: Main St (SouthEast)

Period	Mcl	Car	Bus	SUT	Semis	Bicycle
06:00	0	4	0	0	0	
06:15	0	1	0	0	0	
06:30	0	5	0	1	0	
06:45	0	6	0	0	0	
07:00	0	4	0	0	0	
07:15	0	4	0	1	0	
07:30	0	7	0	0	0	
07:45	0	8	0	0	0	
08:00	0	4	0	0	0	
08:15	0	7	0	0	0	
08:30	0	13	0	0	0	
08:45	0	10	0	0	0	
09:00	0	10	0	0	0	
09:15	0	14	0	0	0	
09:30	0	6	0	0	0	
09:45	0	4	0	0	0	
10:00	0	5	0	0	0	
10:15	0	12	0	0	0	
10:30	0	6	0	0	0	
10:45	0	12	0	0	0	
11:00	0	13	0	0	0	
11:15	0	12	0	0	0	
11:30	0	11	0	0	0	
11:45	0	13	0	0	0	
12:00	0	11	0	0	0	
12:15	0	10	0	0	0	
12:30	0	7	0	0	0	
12:45	0	17	0	0	0	
13:00	1	7	0	0	0	
13:15	0	19	0	0	1	
13:30	1	12	0	0	0	
13:45	0	9	0	0	0	
14:00	0	9	0	0	0	
14:15	0	11	0	0	0	
14:30	0	10	0	0	0	
14:45	0	11	0	0	0	
15:00	0	11	0	0	0	
15:15	0	7	0	0	0	
15:30	**1**	**13**	**0**	**1**	**0**	
15:45	**0**	**12**	**0**	**0**	**0**	
16:00	**0**	**10**	**0**	**0**	**0**	
16:15	**0**	**12**	**0**	**0**	**0**	
16:30	0	10	0	0	0	
16:45	0	10	0	0	0	
17:00	0	12	0	0	0	
17:15	0	13	0	0	0	
17:30	0	11	0	0	0	
17:45	0	11	0	0	0	
Total	3	456	0	3	1	
% of Total	0.6%	98.1%	0%	0.6%	0.2%	0.4
% of Approach	9.4%	7.1%	0%	2.1%	4.5%	50

From: Main St (SouthEast)

To: Main St (NorthWest)

Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	1	0	0	0	0	1
06:15	0	0	0	0	0	0	0
06:30	0	2	0	0	0	0	2
06:45	0	5	0	0	0	0	5
07:00	0	10	0	0	0	0	10
07:15	0	5	0	0	0	0	5
07:30	0	10	0	1	0	0	11
07:45	0	11	0	1	0	0	12
08:00	0	11	0	0	0	0	11
08:15	0	9	0	1	0	0	10
08:30	0	5	0	1	0	0	6
08:45	0	9	0	2	0	0	11
09:00	0	13	0	0	0	0	13
09:15	0	13	0	0	0	0	13
09:30	0	10	0	0	0	0	10
09:45	0	11	0	1	0	0	12
10:00	0	7	0	0	0	0	7
10:15	0	14	0	1	0	0	15
10:30	0	12	0	0	0	0	12
10:45	0	15	0	0	0	0	15
11:00	0	9	0	1	0	0	10
11:15	0	5	0	0	0	0	5
11:30	0	15	0	0	0	0	15
11:45	0	12	0	1	0	0	13
12:00	1	15	0	0	0	0	16
12:15	0	14	0	0	0	0	14
12:30	2	17	0	0	0	1	20
12:45	0	17	0	0	0	0	17
13:00	0	16	0	0	0	0	16
13:15	1	18	0	0	0	0	19
13:30	0	18	0	0	0	0	18
13:45	0	14	0	0	0	0	14
14:00	0	14	0	0	0	0	14
14:15	0	13	0	0	1	0	14

To: US 1 (Elm St) (NorthEast)

Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total
06:00	0	5	0	0	1	0	6
06:15	0	12	0	0	0	0	12
06:30	0	8	0	0	0	0	8
06:45	0	9	0	0	0	0	9
07:00	0	10	0	0	0	0	10
07:15	0	12	0	0	0	0	12
07:30	0	19	0	0	0	0	19
07:45	0	12	0	0	0	0	12
08:00	0	17	0	0	0	0	17
08:15	0	18	0	0	0	0	18
08:30	0	16	0	0	0	0	16
08:45	0	24	0	0	0	0	24
09:00	0	13	0	0	0	0	13
09:15	0	17	0	0	0	0	17
09:30	0	14	0	1	0	0	15
09:45	0	24	0	0	0	0	24
10:00	0	15	0	0	0	0	15
10:15	0	18	0	0	0	0	18
10:30	0	21	0	0	0	0	21
10:45	0	25	0	0	0	0	25
11:00	0	15	0	2	0	0	17
11:15	0	20	0	0	0	0	20
11:30	0	20	0	0	0	0	20
11:45	0	27	0	0	0	0	27
12:00	0	22	0	0	0	0	22
12:15	1	21	0	1	0	0	23
12:30	0	17	0	0	0	0	17
12:45	0	15	0	0	0	0	15
13:00	0	23	0	0	0	0	23
13:15	0	19	0	0	0	0	19
13:30	0	23	0	0	0	0	23
13:45	0	16	0	0	0	0	16
14:00	0	14	0	0	0	0	14
14:15	0	17	0	1	0	0	18

To: Main St (SouthEast)

Period	Mcl	Car	Bus	SUT	Semis	Bicycle
06:00	0	0	0	0	0	
06:15	0	0	0	0	0	
06:30	0	0	0	0	0	
06:45	0	0	0	0	0	
07:00	0	0	0	0	0	
07:15	0	0	0	0	0	
07:30	0	0	0	0	0	
07:45	0	0	0	0	0	
08:00	0	0	0	0	0	
08:15	0	0	0	0	0	
08:30	0	0	0	0	0	
08:45	0	0	0	0	0	
09:00	0	0	0	0	0	
09:15	0	0	0	0	0	
09:30	0	0	0	0	0	
09:45	0	0	0	0	0	
10:00	0	0	0	0	0	
10:15	0	0	0	0	0	
10:30	0	0	0	0	0	
10:45	0	0	0	0	0	
11:00	0	0	0	0	0	
11:15	0	0	0	0	0	
11:30	0	0	0	0	0	
11:45	0	0	0	0	0	
12:00	0	0	0	0	0	
12:15	0	0	0	0	0	
12:30	0	0	0	0	0	
12:45	0	0	0	0	0	
13:00	0	0	0	0	0	
13:15	0	0	0	0	0	
13:30	0	0	0	0	0	
13:45	0	0	0	0	0	
14:00	0	0	0	0	0	
14:15	0	0	0	0	0	

14:30	0	16	0	1	0	1	18	14:30	0	12	0	0	0	0	12	14:30	0	0	0	0	0	
14:45	0	20	0	0	0	0	20	14:45	0	14	0	0	0	0	14	14:45	0	0	0	0	0	
15:00	0	24	0	0	0	0	24	15:00	1	15	0	0	0	1	17	15:00	0	0	0	0	0	
15:15	0	15	0	1	0	0	16	15:15	0	15	0	0	0	0	15	15:15	0	0	0	0	0	
15:30	**0**	**17**	**0**	**0**	**0**	**0**	**17**	15:30	**1**	**14**	**0**	**0**	**0**	**0**	**15**	15:30	**0**	**0**	**0**	**0**	**0**	
15:45	**0**	**17**	**0**	**2**	**0**	**0**	**19**	15:45	**1**	**15**	**0**	**0**	**0**	**0**	**16**	15:45	**0**	**0**	**0**	**0**	**0**	
16:00	**1**	**25**	**0**	**0**	**0**	**0**	**26**	16:00	**0**	**13**	**0**	**0**	**0**	**0**	**13**	16:00	**0**	**0**	**0**	**0**	**0**	
16:15	**0**	**15**	**0**	**0**	**0**	**0**	**15**	16:15	**0**	**24**	**0**	**0**	**0**	**0**	**24**	16:15	**0**	**0**	**0**	**0**	**0**	
16:30	0	18	0	0	0	0	18	16:30	0	22	0	0	0	0	22	16:30	0	0	0	0	0	
16:45	0	31	0	0	0	0	31	16:45	0	20	0	0	0	0	20	16:45	0	0	0	0	0	
17:00	1	24	0	0	0	0	25	17:00	0	18	0	0	0	0	18	17:00	0	0	0	0	0	
17:15	0	31	0	0	0	0	31	17:15	0	23	0	0	0	0	23	17:15	0	0	0	0	0	
17:30	1	21	0	0	0	1	23	17:30	0	23	0	0	0	0	23	17:30	0	0	0	0	0	
17:45	0	13	0	0	0	0	13	17:45	0	15	0	0	0	0	15	17:45	0	0	0	0	0	
Total	7	657	0	14	1	3	682	Total	4	821	0	5	1	1	832	Total	0	0	0	0	0	
% of Total	1%	96.3%	0%	2.1%	0.1%	0.4%	100%	% of Total	0.5%	98.7%	0%	0.6%	0.1%	0.1%	100%	% of Total	-	-	-	-	-	
% of Approach	41.2%	30.3%	0%	45.2%	25%	75%	30.6%	% of Approach	23.5%	37.9%	0%	16.1%	25%	25%	37.4%	% of Approach	0%	0%	0%	0%	0%	0

From: US 1 (Elm St) (SouthWest)

To: Main St (NorthWest)								To: US 1 (Elm St) (NorthEast)								To: Main St (SouthEast)						
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle
06:00	0	0	0	0	0	0	0	06:00	0	19	0	1	0	0	20	06:00	0	3	2	0	0	
06:15	0	0	0	0	0	0	0	06:15	0	32	0	2	0	0	34	06:15	0	0	0	0	0	
06:30	0	1	0	0	0	0	1	06:30	0	40	0	1	1	0	42	06:30	0	1	0	1	0	
06:45	0	1	0	0	0	0	1	06:45	0	48	0	2	2	0	52	06:45	0	3	0	0	0	
07:00	0	0	0	0	0	0	0	07:00	0	50	0	0	0	0	50	07:00	0	6	0	0	0	
07:15	0	2	0	0	0	0	2	07:15	0	62	0	1	0	0	63	07:15	0	8	0	0	0	
07:30	0	2	0	0	0	0	2	07:30	0	71	0	3	1	0	75	07:30	0	4	0	0	0	
07:45	0	0	0	0	0	0	0	07:45	0	82	0	1	0	0	83	07:45	0	6	0	1	0	
08:00	0	0	0	1	0	0	1	08:00	0	46	0	3	3	0	52	08:00	0	6	0	0	0	
08:15	0	1	0	0	0	0	1	08:15	0	71	0	5	0	0	76	08:15	0	5	1	0	0	
08:30	0	1	0	0	0	0	1	08:30	1	74	0	1	2	0	78	08:30	0	3	0	0	0	
08:45	0	2	0	0	0	0	2	08:45	0	65	0	2	1	0	68	08:45	0	12	0	0	0	
09:00	0	0	0	0	0	0	0	09:00	0	65	0	5	2	0	72	09:00	0	8	0	1	0	
09:15	0	1	0	0	0	0	1	09:15	0	68	0	0	1	0	69	09:15	0	10	0	0	0	
09:30	0	4	0	0	0	0	4	09:30	0	72	0	1	2	0	75	09:30	0	7	0	0	0	
09:45	0	1	0	0	0	0	1	09:45	0	92	0	2	1	0	95	09:45	0	8	0	0	0	
10:00	0	4	0	0	0	0	4	10:00	0	94	0	4	0	0	98	10:00	0	3	0	0	0	
10:15	0	2	0	0	0	0	2	10:15	0	99	0	4	0	0	103	10:15	0	12	0	0	0	
10:30	0	1	0	0	0	0	1	10:30	0	81	0	5	0	0	86	10:30	0	8	0	1	0	
10:45	0	2	0	0	0	0	2	10:45	0	103	0	5	0	0	108	10:45	0	19	1	0	0	
11:00	0	2	0	0	0	0	2	11:00	0	81	0	4	1	0	86	11:00	0	2	0	0	0	
11:15	0	0	0	0	0	0	0	11:15	0	126	0	7	0	0	133	11:15	0	13	0	0	0	
11:30	0	1	0	0	0	0	1	11:30	0	112	0	5	1	0	118	11:30	0	13	0	0	0	
11:45	0	2	0	0	0	0	2	11:45	0	95	0	6	0	0	101	11:45	0	15	0	1	0	
12:00	0	3	0	0	0	0	3	12:00	2	99	0	2	2	0	105	12:00	0	17	0	0	0	
12:15	1	1	0	0	0	0	2	12:15	0	98	0	4	1	0	103	12:15	0	8	0	0	0	
12:30	0	1	0	0	0	0	1	12:30	0	116	0	4	0	1	121	12:30	0	10	0	0	1	
12:45	0	7	0	0	0	0	7	12:45	2	100	0	7	1	0	110	12:45	0	13	0	0	0	
13:00	0	2	0	0	0	0	2	13:00	0	116	0	1	0	0	117	13:00	0	10	0	0	0	
13:15	2	3	0	0	0	0	5	13:15	0	97	0	1	1	0	99	13:15	0	10	1	0	0	
13:30	0	2	0	1	0	0	3	13:30	1	114	1	4	0	0	120	13:30	0	9	0	0	0	
13:45	0	4	0	0	0	0	4	13:45	5	119	0	7	0	0	131	13:45	0	15	0	0	0	
14:00	0	2	0	0	0	0	2	14:00	0	92	1	2	0	0	95	14:00	0	7	0	0	0	
14:15	1	2	0	0	0	0	3	14:15	1	119	0	2	1	0	123	14:15	0	16	0	0	0	
14:30	0	3	0	0	0	0	3	14:30	0	128	0	0	2	0	130	14:30	0	14	0	0	0	
14:45	0	5	0	0	0	0	5	14:45	1	140	0	1	1	0	143	14:45	0	13	0	0	0	
15:00	0	2	0	0	0	0	2	15:00	1	124	1	4	2	0	132	15:00	1	15	0	0	0	
15:15	0	2	0	1	0	0	3	15:15	1	119	0	4	1	0	125	15:15	0	12	0	0	0	
15:30	**0**	**2**	**0**	**0**	**0**	**0**	**2**	15:30	**4**	**144**	**0**	**2**	**0**	**0**	**150**	15:30	**0**	**5**	**0**	**0**	**0**	
15:45	**0**	**2**	**0**	**0**	**0**	**0**	**2**	15:45	**1**	**144**	**0**	**0**	**0**	**0**	**145**	15:45	**0**	**15**	**1**	**0**	**0**	
16:00	**0**	**1**	**0**	**0**	**0**	**0**	**1**	16:00	**1**	**139**	**0**	**3**	**1**	**0**	**144**	16:00	**0**	**11**	**0**	**0**	**0**	
16:15	**0**	**2**	**0**	**0**	**0**	**0**	**2**	16:15	**0**	**152**	**0**	**4**	**1**	**0**	**157**	16:15	**0**	**11**	**0**	**0**	**0**	
16:30	0	1	0	0	0	0	1	16:30	0	126	0	1	0	0	127	16:30	0	10	0	0	0	
16:45	1	2	0	0	0	0	3	16:45	2	126	0	3	0	0	131	16:45	0	9	0	0	0	
17:00	0	7	0	0	0	0	7	17:00	1	122	0	0	1	0	124	17:00	0	9	0	0	0	
17:15	0	5	0	0	0	0	5	17:15	1	145	0	1	0	0	147	17:15	0	8	0	0	0	
17:30	0	2	0	0	0	0	2	17:30	1	111	0	2	0	0	114	17:30	0	9	0	0	0	
17:45	0	2	0	0	0	0	2	17:45	0	120	0	1	0	0	121	17:45	1	8	0	0	0	
Total	5	95	0	3	0	0	103	Total	26	4658	3	130	33	1	4851	Total	2	439	6	5	1	
% of Total	4.9%	92.2%	0%	2.9%	0%	0%	100%	% of Total	0.5%	96%	0.1%	2.7%	0.7%	0%	100%	% of Total	0.4%	96.9%	1.3%	1.1%	0.2%	0
% of Approach	15.2%	1.8%	0%	2.2%	0%	0%	1.9%	% of Approach	78.8%	89.7%	33.3%	94.2%	97.1%	100%	89.7%	% of Approach	6.1%	8.5%	66.7%	3.6%	2.9%	0

Legs

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

Main St (NorthWest)

Towards Junction								Away From Junction								Both Directions								
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	
06:00	0	20	0	0	0	0	20	06:00	0	8	0	0	0	0	8	06:00	0	28	0	0	0	0	28	0
06:15	0	22	0	0	0	0	22	06:15	0	4	0	0	0	0	4	06:15	0	26	0	0	0	0	26	0
06:30	0	34	0	0	0	0	34	06:30	0	11	0	0	0	0	11	06:30	0	45	0	0	0	0	45	0
06:45	1	44	0	0	0	0	45	06:45	0	15	0	0	0	0	15	06:45	1	59	0	0	0	0	60	0
07:00	0	37	0	1	0	0	38	07:00	0	21	0	0	0	0	21	07:00	0	58	0	1	0	0	59	0
07:15	0	50	0	0	0	0	50	07:15	0	22	0	1	0	0	23	07:15	0	72	0	1	0	0	73	0
07:30	0	50	0	0	0	0	50	07:30	0	29	0	1	0	0	30	07:30	0	79	0	1	0	0	80	0
07:45	0	57	0	0	0	0	57	07:45	0	30	0	1	0	0	31	07:45	0	87	0	1	0	0	88	0
08:00	0	57	0	0	0	0	57	08:00	0	23	0	1	0	0	24	08:00	0	80	0	1	0	0	81	0
08:15	0	33	0	3	0	0	36	08:15	0	18	0	1	0	0	19	08:15	0	51	0	4	0	0	55	0
08:30	0	42	0	0	1	0	43	08:30	0	20	0	1	0	0	21	08:30	0	62	0	1	1	0	64	0
08:45	0	49	0	1	1	0	51	08:45	0	23	0	2	0	0	25	08:45	0	72	0	3	1	0	76	0
09:00	0	29	0	1	0	0	30	09:00	0	28	0	0	0	0	28	09:00	0	57	0	1	0	0	58	0
09:15	0	36	0	0	1	0	37	09:15	0	28	0	0	0	0	28	09:15	0	64	0	0	1	0	65	0
09:30	0	37	0	0	0	0	37	09:30	0	26	0	0	0	0	26	09:30	0	63	0	0	0	0	63	0
09:45	0	43	0	1	0	0	44	09:45	0	18	0	1	0	0	19	09:45	0	61	0	2	0	0	63	0
10:00	0	28	0	2	0	0	30	10:00	0	25	0	0	0	0	25	10:00	0	53	0	2	0	0	55	1
10:15	0	48	0	1	0	0	49	10:15	0	28	0	1	0	0	29	10:15	0	76	0	2	0	0	78	1
10:30	0	51	0	0	0	0	51	10:30	0	26	0	1	0	0	27	10:30	0	77	0	1	0	0	78	1
10:45	0	42	0	0	0	0	42	10:45	0	30	0	1	0	0	31	10:45	0	72	0	1	0	0	73	1
11:00	0	37	0	2	0	0	39	11:00	0	24	0	1	0	0	25	11:00	0	61	0	3	0	0	64	1
11:15	0	34	0	1	0	0	35	11:15	0	22	0	0	0	0	22	11:15	0	56	0	1	0	0	57	1
11:30	0	37	0	2	0	0	39	11:30	0	39	0	0	0	0	39	11:30	0	76	0	2	0	0	78	1
11:45	0	49	0	0	0	0	49	11:45	0	29	0	1	0	0	30	11:45	0	78	0	1	0	0	79	1
12:00	0	65	0	0	0	0	65	12:00	1	36	0	1	0	0	38	12:00	1	101	0	1	0	0	103	1
12:15	0	45	0	0	0	0	45	12:15	5	36	0	0	0	0	41	12:15	5	81	0	0	0	0	86	1

12:30	0	51	0	2	0	0	53	12:30	4	45	0	1	0	1	51	12:30	4	96	0	3	0	1	104	1
12:45	2	52	1	1	0	0	56	12:45	0	46	0	0	0	0	46	12:45	2	98	1	1	0	0	102	1
13:00	0	57	0	0	0	0	57	13:00	0	39	0	0	0	0	39	13:00	0	96	0	0	0	0	96	1
13:15	0	49	0	1	0	0	50	13:15	4	53	0	0	0	0	57	13:15	4	102	0	1	0	0	107	1
13:30	0	48	0	0	0	0	48	13:30	0	39	0	2	0	0	41	13:30	0	87	0	2	0	0	89	1
13:45	0	44	0	0	1	0	45	13:45	0	36	0	0	0	0	36	13:45	0	80	0	0	1	0	81	1
14:00	0	49	0	3	0	0	52	14:00	0	42	0	0	0	0	42	14:00	0	91	0	3	0	0	94	1
14:15	2	42	0	0	0	0	44	14:15	1	36	0	0	1	0	38	14:15	3	78	0	0	1	0	82	1
14:30	1	42	0	2	1	1	47	14:30	0	37	0	1	0	1	39	14:30	1	79	0	3	1	2	86	1
14:45	0	61	0	1	0	0	62	14:45	0	53	0	0	0	0	53	14:45	0	114	0	1	0	0	115	1
15:00	0	43	0	1	0	0	44	15:00	1	53	0	1	0	0	55	15:00	1	96	0	2	0	0	99	1
15:15	0	46	0	0	0	0	46	15:15	0	42	0	2	1	0	45	15:15	0	88	0	2	1	0	91	1
15:30	**0**	**60**	**0**	**0**	**0**	**0**	**60**	15:30	**0**	**43**	**0**	**2**	**0**	**0**	**45**	15:30	**0**	**103**	**0**	**2**	**0**	**0**	**105**	1
15:45	**1**	**49**	**0**	**3**	**0**	**0**	**53**	15:45	**0**	**53**	**0**	**2**	**0**	**1**	**56**	15:45	**1**	**102**	**0**	**5**	**0**	**1**	**109**	1
16:00	**0**	**47**	**0**	**1**	**0**	**0**	**48**	16:00	**1**	**55**	**0**	**0**	**0**	**0**	**56**	16:00	**1**	**102**	**0**	**1**	**0**	**0**	**104**	1
16:15	**1**	**55**	**0**	**0**	**0**	**0**	**56**	16:15	**0**	**46**	**0**	**0**	**0**	**0**	**46**	16:15	**1**	**101**	**0**	**0**	**0**	**0**	**102**	1
16:30	0	51	0	0	0	0	51	16:30	1	47	0	1	0	0	49	16:30	1	98	0	1	0	0	100	1
16:45	1	56	0	0	0	1	58	16:45	1	68	0	0	0	0	69	16:45	2	124	0	0	0	1	127	1
17:00	0	57	0	0	0	0	57	17:00	1	67	0	0	0	0	68	17:00	1	124	0	0	0	0	125	1
17:15	1	53	0	0	0	0	54	17:15	0	68	0	0	0	0	68	17:15	1	121	0	0	0	0	122	1
17:30	0	62	0	0	0	0	62	17:30	1	67	0	0	0	1	69	17:30	1	129	0	0	0	1	131	1
17:45	1	55	0	0	0	0	56	17:45	0	49	0	0	0	0	49	17:45	1	104	0	0	0	0	105	1
Total	11	2205	1	30	5	2	2254	Total	21	1703	0	27	2	4	1757	Total	32	3908	1	57	7	6	4011	T
% of Total	0.5%	97.8%	0%	1.3%	0.2%	0.1%	100%	% of Total	1.2%	96.9%	0%	1.5%	0.1%	0.2%	100%	% of Total	0.8%	97.4%	0%	1.4%	0.2%	0.1%	100%	%

US 1 (Elm St) (NorthEast)

Towards Junction								**Away From Junction**								**Both Directions**								
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	P
06:00	0	42	0	1	1	1	45	06:00	0	34	0	1	1	0	36	06:00	0	76	0	2	2	1	81	0
06:15	0	50	0	0	0	0	50	06:15	0	58	0	2	0	0	60	06:15	0	108	0	2	0	0	110	0
06:30	0	78	0	4	1	0	83	06:30	0	71	0	1	1	0	73	06:30	0	149	0	5	2	0	156	0
06:45	0	99	1	3	0	0	103	06:45	1	83	0	2	2	0	88	06:45	1	182	1	5	2	0	191	0
07:00	0	85	0	2	0	0	87	07:00	0	88	0	1	0	0	89	07:00	0	173	0	3	0	0	176	0
07:15	0	114	0	4	0	0	118	07:15	0	108	0	1	0	0	109	07:15	0	222	0	5	0	0	227	0
07:30	0	114	0	2	0	0	116	07:30	0	114	0	3	1	0	118	07:30	0	228	0	5	1	0	234	0
07:45	0	124	0	7	0	0	131	07:45	0	128	0	1	0	0	129	07:45	0	252	0	8	0	0	260	0
08:00	1	110	0	2	2	0	115	08:00	0	95	0	3	3	0	101	08:00	1	205	0	5	5	0	216	0
08:15	0	113	0	3	1	0	117	08:15	0	105	0	7	0	0	112	08:15	0	218	0	10	1	0	229	0
08:30	0	108	0	2	1	0	111	08:30	1	120	0	1	2	0	124	08:30	1	228	0	3	3	0	235	0
08:45	0	139	0	6	0	0	145	08:45	0	111	0	2	1	0	114	08:45	0	250	0	8	1	0	259	0
09:00	0	105	0	2	1	0	108	09:00	0	92	0	6	2	0	100	09:00	0	197	0	8	3	0	208	0
09:15	0	117	0	7	0	0	124	09:15	0	104	0	0	2	0	106	09:15	0	221	0	7	2	0	230	0
09:30	0	123	0	4	0	0	127	09:30	0	108	0	2	2	0	112	09:30	0	231	0	6	2	0	239	0
09:45	0	116	0	3	2	0	121	09:45	0	138	0	2	1	0	141	09:45	0	254	0	5	3	0	262	0
10:00	0	137	0	3	0	0	140	10:00	0	124	0	6	0	0	130	10:00	0	261	0	9	0	0	270	0
10:15	0	143	0	5	0	0	148	10:15	0	144	0	5	0	0	149	10:15	0	287	0	10	0	0	297	0
10:30	0	137	0	4	0	0	141	10:30	0	128	0	5	0	0	133	10:30	0	265	0	9	0	0	274	0
10:45	0	127	0	1	1	0	129	10:45	0	144	0	5	0	0	149	10:45	0	271	0	6	1	0	278	0
11:00	0	136	0	2	0	0	138	11:00	0	111	0	6	1	0	118	11:00	0	247	0	8	1	0	256	0
11:15	0	141	0	4	0	0	145	11:15	0	164	0	8	0	0	172	11:15	0	305	0	12	0	0	317	0
11:30	0	148	0	5	1	0	154	11:30	0	152	0	6	1	0	159	11:30	0	300	0	11	2	0	313	0
11:45	0	136	0	3	1	0	140	11:45	0	144	0	6	0	0	150	11:45	0	280	0	9	1	0	290	0
12:00	0	126	1	2	1	0	130	12:00	2	151	0	2	2	0	157	12:00	2	277	1	4	3	0	287	0
12:15	4	134	0	0	1	0	139	12:15	1	143	0	5	1	0	150	12:15	5	277	0	5	2	0	289	0
12:30	4	153	0	6	0	0	163	12:30	0	158	0	4	0	1	163	12:30	4	311	0	10	0	1	326	0
12:45	1	164	0	3	1	0	169	12:45	4	142	1	8	1	0	156	12:45	5	306	1	11	2	0	325	0
13:00	3	140	0	3	0	0	146	13:00	0	168	0	1	0	0	169	13:00	3	308	0	4	0	0	315	0
13:15	2	167	0	2	1	0	172	13:15	0	139	0	2	1	0	142	13:15	2	306	0	4	2	0	314	0
13:30	2	157	1	5	0	0	165	13:30	1	162	1	4	0	0	168	13:30	3	319	2	9	0	0	333	0
13:45	0	146	0	3	0	0	149	13:45	5	154	0	7	1	0	167	13:45	5	300	0	10	1	0	316	0
14:00	0	135	1	3	0	0	139	14:00	0	135	1	2	0	0	138	14:00	0	270	2	5	0	0	277	0
14:15	0	160	0	6	0	0	166	14:15	2	160	0	3	1	0	166	14:15	2	320	0	9	1	0	332	0
14:30	1	143	0	2	1	0	147	14:30	1	167	0	2	2	0	172	14:30	2	310	0	4	3	0	319	0
14:45	0	152	1	2	1	0	156	14:45	1	172	0	1	1	0	175	14:45	1	324	1	3	2	0	331	0
15:00	1	156	0	3	0	0	160	15:00	2	162	1	5	2	1	173	15:00	3	318	1	8	2	1	333	0
15:15	2	156	0	2	2	0	162	15:15	1	162	0	4	1	0	168	15:15	3	318	0	6	3	0	330	0
15:30	**1**	**164**	**0**	**6**	**0**	**0**	**171**	15:30	**5**	**188**	**0**	**2**	**0**	**0**	**195**	15:30	**6**	**352**	**0**	**8**	**0**	**0**	**366**	0
15:45	**2**	**177**	**0**	**2**	**0**	**1**	**182**	15:45	**2**	**178**	**0**	**3**	**0**	**0**	**183**	15:45	**4**	**355**	**0**	**5**	**0**	**1**	**365**	0
16:00	**1**	**150**	**0**	**1**	**0**	**1**	**153**	16:00	**1**	**181**	**0**	**4**	**1**	**0**	**187**	16:00	**2**	**331**	**0**	**5**	**1**	**1**	**340**	0
16:15	**0**	**161**	**0**	**3**	**0**	**1**	**165**	16:15	**0**	**203**	**0**	**4**	**1**	**0**	**208**	16:15	**0**	**364**	**0**	**7**	**1**	**1**	**373**	0
16:30	2	163	0	2	0	0	167	16:30	0	175	0	1	0	0	176	16:30	2	338	0	3	0	0	343	0
16:45	2	174	0	0	0	0	176	16:45	2	170	0	3	0	0	175	16:45	4	344	0	3	0	0	351	0
17:00	0	158	0	1	0	0	159	17:00	1	169	0	0	1	0	171	17:00	1	327	0	1	1	0	330	0
17:15	1	154	0	4	0	0	159	17:15	1	198	0	1	0	0	200	17:15	2	352	0	5	0	0	359	0
17:30	1	159	0	4	2	0	166	17:30	1	167	0	2	0	0	170	17:30	2	326	0	6	2	0	336	0
17:45	1	171	0	1	0	0	173	17:45	1	166	0	1	0	0	168	17:45	2	337	0	2	0	0	341	0
Total	32	6462	5	145	22	4	6670	Total	36	6638	4	153	36	2	6869	Total	68	13100	9	298	58	6	13539	T
% of Total	0.5%	96.9%	0.1%	2.2%	0.3%	0.1%	100%	% of Total	0.5%	96.6%	0.1%	2.2%	0.5%	0%	100%	% of Total	0.5%	96.8%	0.1%	2.2%	0.4%	0%	100%	%

Main St (SouthEast)

Towards Junction								**Away From Junction**								**Both Directions**								
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	P
06:00	0	7	0	0	1	0	8	06:00	0	14	2	0	0	1	17	06:00	0	21	2	0	1	1	25	0
06:15	0	18	1	0	0	0	19	06:15	0	6	0	0	0	0	6	06:15	0	24	1	0	0	0	25	0
06:30	0	10	0	0	0	0	10	06:30	0	16	0	2	0	0	18	06:30	0	26	0	2	0	0	28	0
06:45	0	20	0	0	0	0	20	06:45	0	25	0	0	0	0	25	06:45	0	45	0	0	0	0	45	0
07:00	0	23	0	0	0	0	23	07:00	0	17	0	0	0	0	17	07:00	0	40	0	0	0	0	40	0
07:15	0	24	0	1	0	0	25	07:15	0	28	0	1	0	0	29	07:15	0	52	0	2	0	0	54	0
07:30	0	40	0	2	0	0	42	07:30	0	31	0	0	0	0	31	07:30	0	71	0	2	0	0	73	0
07:45	0	33	0	1	0	0	34	07:45	0	35	0	1	0	0	36	07:45	0	68	0	2	0	0	70	0
08:00	0	33	0	0	0	0	33	08:00	0	31	0	0	0	0	31	08:00	0	64	0	0	0	0	64	0
08:15	0	35	0	1	0	0	36	08:15	0	28	1	1	0	0	30	08:15	0	63	1	2	0	0	66	0
08:30	0	33	0	1	0	0	34	08:30	0	28	0	0	1	0	29	08:30	0	61	0	1	1	0	63	0
08:45	0	47	1	2	0	0	50	08:45	0	43	0	1	1	0	45	08:45	0	90	1	3	1	0	95	0
09:00	0	45	0	0	0	0	45	09:00	0	31	0	1	0	0	32	09:00	0	76	0	1	0	0	77	0
09:15	0	43	0	0	0	0	43	09:15	0	38	0	0	0	0	38	09:15	0	81	0	0	0	0	81	0
09:30	0	33	0	1	0	0	34	09:30	0	23	0	0	0	0	23	09:30	0	56	0	1	0	0	57	0
09:45	0	54	0	1	0	0	55	09:45	0	27	0	1	0	0	28	09:45	0	81	0	2	0	0	83	0
10:00	0	41	0	1	0	0	42	10:00	0	20	0	0	0	0	20	10:00	0	61	0	1	0	0	62	0
10:15	0	45	0	1	0	0	46	10:15	0	41	0	0	0	0	41	10:15	0	86	0	1	0	0	87	0
10:30	0	52	0	0	0	0	52	10:30	0	35	0	1	0	0	36	10:30	0	87	0	1	0	0	88	0
10:45	0	54	0	1	0	0	55	10:45	0	52	1	0	0	0	53	10:45	0	106	1	1	0	0	108	0
11:00	0	44	0	3	0	0	47	11:00	0	33	0	2	0	0	35	11:00	0	77	0	5	0	0	82	0
11:15	0	40	1	1	0	0	42	11:15	0	39	0	0	0	0	39	11:15	0	79	1	1	0	0	81	0
11:30	0	48	0	1	0	0	49	11:30	0	37	0	1	0	0	38	11:30	0	85	0	2	0	0	87	0
11:45	0	55	0	2	0	0	57	11:45	0	48	0	1	0	0	49	11:45	0	103	0	3	0	0	106	0
12:00	1	64	0	0	0	0	65	12:00	0	52	0	0	0	0	52	12:00	1	116	0	0	0	0	117	0
12:15	1	53	0	1	0	0	55	12:15	0	37	0	0	0	0	37	12:15	1	90	0	1	0	0	92	0

12:30	2	51	0	0	0	1	54	12:30	0	35	0	1	1	0	37	12:30	2	86	0	1	1	1	91	1
12:45	0	48	0	1	1	0	50	12:45	0	50	0	0	0	0	50	12:45	0	98	0	1	1	0	100	1
13:00	2	57	0	1	1	0	61	13:00	1	41	0	0	0	0	42	13:00	3	98	0	1	1	0	103	1
13:15	2	54	0	0	0	0	56	13:15	0	52	1	0	1	0	54	13:15	2	106	1	0	1	0	110	1
13:30	0	64	0	0	0	0	64	13:30	1	42	0	0	0	0	43	13:30	1	106	0	0	0	0	107	1
13:45	0	45	1	0	0	0	46	13:45	0	47	0	0	0	0	47	13:45	0	92	1	0	0	0	93	1
14:00	0	49	0	0	0	0	49	14:00	0	33	0	3	0	0	36	14:00	0	82	0	3	0	0	85	1
14:15	1	39	0	1	1	0	42	14:15	1	40	0	0	0	0	41	14:15	2	79	0	1	1	0	83	1
14:30	0	49	0	1	0	1	51	14:30	0	32	0	0	1	1	34	14:30	0	81	0	1	1	2	85	1
14:45	0	48	0	0	0	0	48	14:45	0	57	0	1	0	0	58	14:45	0	105	0	1	0	0	106	1
15:00	1	61	0	0	0	1	63	15:00	1	44	0	0	0	0	45	15:00	2	105	0	0	0	1	108	1
15:15	0	46	0	1	0	0	47	15:15	0	34	0	0	0	0	34	15:15	0	80	0	1	0	0	81	1
15:30	**1**	**51**	**0**	**0**	**0**	**0**	**52**	15:30	**1**	**45**	**0**	**1**	**0**	**0**	**47**	15:30	**2**	**96**	**0**	**1**	**0**	**0**	**99**	1
15:45	**1**	**45**	**0**	**2**	**0**	**0**	**48**	15:45	**1**	**54**	**1**	**0**	**0**	**0**	**56**	15:45	**2**	**99**	**1**	**2**	**0**	**0**	**104**	1
16:00	**1**	**54**	**0**	**0**	**0**	**0**	**55**	16:00	**0**	**35**	**0**	**0**	**0**	**1**	**36**	16:00	**1**	**89**	**0**	**0**	**0**	**1**	**91**	1
16:15	**1**	**48**	**1**	**1**	**0**	**0**	**51**	16:15	**1**	**45**	**0**	**0**	**0**	**0**	**46**	16:15	**2**	**93**	**1**	**1**	**0**	**0**	**97**	1
16:30	0	62	0	1	0	0	63	16:30	0	42	0	0	0	0	42	16:30	0	104	0	1	0	0	105	1
16:45	0	69	0	0	0	0	69	16:45	1	46	0	0	0	1	48	16:45	1	115	0	0	0	1	117	1
17:00	1	54	0	1	0	0	56	17:00	0	43	0	0	0	0	43	17:00	1	97	0	1	0	0	99	1
17:15	0	73	0	0	0	0	73	17:15	1	38	0	0	0	0	39	17:15	1	111	0	0	0	0	112	1
17:30	1	60	0	0	0	1	62	17:30	0	39	0	0	0	0	39	17:30	1	99	0	0	0	1	101	1
17:45	1	44	0	0	0	0	45	17:45	1	39	0	0	0	0	40	17:45	2	83	0	0	0	0	85	1
Total	17	2165	5	31	4	4	2226	Total	10	1748	6	19	5	4	1792	Total	27	3913	11	50	9	8	4018	T
% of Total	0.8%	97.3%	0.2%	1.4%	0.2%	0.2%	100%	% of Total	0.6%	97.5%	0.3%	1.1%	0.3%	0.2%	100%	% of Total	0.7%	97.4%	0.3%	1.2%	0.2%	0.2%	100%	%

US 1 (Elm St) (SouthWest)

Towards Junction								Away From Junction								Both Directions								
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	P
06:00	0	22	2	1	0	0	25	06:00	0	35	0	1	1	0	37	06:00	0	57	2	2	1	0	62	0
06:15	0	32	0	2	0	0	34	06:15	0	54	1	0	0	0	55	06:15	0	86	1	2	0	0	89	0
06:30	0	42	0	2	1	0	45	06:30	0	66	0	3	1	0	70	06:30	0	108	0	5	2	0	115	0
06:45	0	52	0	2	2	0	56	06:45	0	92	1	3	0	0	96	06:45	0	144	1	5	2	0	152	0
07:00	0	56	0	0	0	0	56	07:00	0	75	0	2	0	0	77	07:00	0	131	0	2	0	0	133	0
07:15	0	72	0	1	0	0	73	07:15	0	102	0	3	0	0	105	07:15	0	174	0	4	0	0	178	0
07:30	0	77	0	3	1	0	81	07:30	0	107	0	3	0	0	110	07:30	0	184	0	6	1	0	191	0
07:45	0	88	0	2	0	0	90	07:45	0	109	0	7	0	0	116	07:45	0	197	0	9	0	0	206	0
08:00	0	52	0	4	3	0	59	08:00	1	103	0	2	2	0	108	08:00	1	155	0	6	5	0	167	0
08:15	0	77	1	5	0	0	83	08:15	0	107	0	3	1	0	111	08:15	0	184	1	8	1	0	194	0
08:30	1	78	0	1	2	0	82	08:30	0	93	0	2	1	0	96	08:30	1	171	0	3	3	0	178	0
08:45	0	79	0	2	1	0	82	08:45	0	137	1	6	0	0	144	08:45	0	216	1	8	1	0	226	0
09:00	0	73	0	6	2	0	81	09:00	0	101	0	2	1	0	104	09:00	0	174	0	8	3	0	185	0
09:15	0	79	0	0	1	0	80	09:15	0	105	0	7	0	0	112	09:15	0	184	0	7	1	0	192	0
09:30	0	83	0	1	2	0	86	09:30	0	119	0	4	0	0	123	09:30	0	202	0	5	2	0	209	0
09:45	0	101	0	2	1	0	104	09:45	0	131	0	3	2	0	136	09:45	0	232	0	5	3	0	240	0
10:00	0	101	0	4	0	0	105	10:00	0	138	0	4	0	0	142	10:00	0	239	0	8	0	0	247	0
10:15	0	113	0	4	0	0	117	10:15	0	136	0	5	0	0	141	10:15	0	249	0	9	0	0	258	0
10:30	0	90	0	6	0	0	96	10:30	0	141	0	3	0	0	144	10:30	0	231	0	9	0	0	240	0
10:45	0	124	1	5	0	0	130	10:45	0	121	0	1	1	0	123	10:45	0	245	1	6	1	0	253	0
11:00	0	85	0	4	1	0	90	11:00	0	134	0	2	0	0	136	11:00	0	219	0	6	1	0	226	0
11:15	0	139	0	7	0	0	146	11:15	0	129	1	5	0	0	135	11:15	0	268	1	12	0	0	281	0
11:30	0	126	0	5	1	0	132	11:30	0	131	0	6	1	0	138	11:30	0	257	0	11	2	0	270	0
11:45	0	112	0	7	0	0	119	11:45	0	131	0	4	1	0	136	11:45	0	243	0	11	1	0	255	0
12:00	2	119	0	2	2	0	125	12:00	0	135	1	1	1	0	138	12:00	2	254	1	3	3	0	263	0
12:15	1	107	0	4	1	0	113	12:15	0	123	0	0	1	0	124	12:15	1	230	0	4	2	0	237	0
12:30	0	127	0	4	1	1	133	12:30	2	144	0	6	0	0	152	12:30	2	271	0	10	1	1	285	0
12:45	2	120	0	7	1	0	130	12:45	1	146	0	4	2	0	153	12:45	3	266	0	11	3	0	283	0
13:00	0	128	0	1	0	0	129	13:00	4	134	0	4	1	0	143	13:00	4	262	0	5	1	0	272	0
13:15	2	110	1	1	1	0	115	13:15	2	136	0	2	0	0	140	13:15	4	246	1	3	1	0	255	0
13:30	1	125	1	5	0	0	132	13:30	1	151	1	4	0	0	157	13:30	2	276	2	9	0	0	289	0
13:45	5	138	0	7	0	0	150	13:45	0	136	1	3	0	0	140	13:45	5	274	1	10	0	0	290	0
14:00	0	101	1	2	0	0	104	14:00	0	124	1	3	0	0	128	14:00	0	225	2	5	0	0	232	0
14:15	2	137	0	2	1	0	142	14:15	1	142	0	6	0	0	149	14:15	3	279	0	8	1	0	291	0
14:30	0	145	0	0	2	0	147	14:30	1	143	0	2	1	0	147	14:30	1	288	0	2	3	0	294	0
14:45	1	158	0	1	1	0	161	14:45	0	137	1	2	1	0	141	14:45	1	295	1	3	2	0	302	0
15:00	2	141	1	4	2	0	150	15:00	0	142	0	2	0	0	144	15:00	2	283	1	6	2	0	294	0
15:15	1	133	0	5	1	0	140	15:15	2	143	0	2	1	0	148	15:15	3	276	0	7	2	0	288	0
15:30	**4**	**151**	**0**	**2**	**0**	**0**	**157**	15:30	**0**	**150**	**0**	**3**	**0**	**0**	**153**	15:30	**4**	**301**	**0**	**5**	**0**	**0**	**310**	0
15:45	**1**	**161**	**1**	**0**	**0**	**0**	**163**	15:45	**2**	**147**	**0**	**2**	**0**	**0**	**151**	15:45	**3**	**308**	**1**	**2**	**0**	**0**	**314**	0
16:00	**1**	**151**	**0**	**3**	**1**	**0**	**156**	16:00	**1**	**131**	**0**	**1**	**0**	**0**	**133**	16:00	**2**	**282**	**0**	**4**	**1**	**0**	**289**	0
16:15	**0**	**165**	**0**	**4**	**1**	**0**	**170**	16:15	**1**	**135**	**1**	**4**	**0**	**1**	**142**	16:15	**1**	**300**	**1**	**8**	**1**	**1**	**312**	0
16:30	0	137	0	1	0	0	138	16:30	1	149	0	2	0	0	152	16:30	1	286	0	3	0	0	290	0
16:45	3	137	0	3	0	0	143	16:45	2	152	0	0	0	0	154	16:45	5	289	0	3	0	0	297	0
17:00	1	138	0	0	1	0	140	17:00	0	128	0	2	0	0	130	17:00	1	266	0	2	1	0	270	0
17:15	1	158	0	1	0	0	160	17:15	1	134	0	4	0	0	139	17:15	2	292	0	5	0	0	299	0
17:30	1	122	0	2	0	0	125	17:30	1	130	0	4	2	0	137	17:30	2	252	0	6	2	0	262	0
17:45	1	130	0	1	0	0	132	17:45	2	146	0	1	0	0	149	17:45	3	276	0	2	0	0	281	0
Total	33	5192	9	138	34	1	5407	Total	26	5935	10	145	22	1	6139	Total	59	11127	19	283	56	2	11546	T
% of Total	0.6%	96%	0.2%	2.6%	0.6%	0%	100%	% of Total	0.4%	96.7%	0.2%	2.4%	0.4%	0%	100%	% of Total	0.5%	96.4%	0.2%	2.5%	0.5%	0%	100%	%

Movement Summary

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

From: Main St (NorthWest)							
To: Main St (NorthWest)		**To: US 1 (Elm St) (NorthEast)**		**To: Main St (SouthEast)**		**To: US 1 (Elm St) (SouthWest)**	
Total	0	Total	1186	Total	874	Total	194
% of Approach	0%	% of Approach	52.6%	% of Approach	38.8%	% of Approach	8.6%
AM Peak Hour	11:00 - 12:00 0	AM Peak Hour	11:00 - 12:00 77	AM Peak Hour	11:00 - 12:00 68	AM Peak Hour	11:00 - 12:00 17
AM PHF	-	AM PHF	0.875	AM PHF	0.85	AM PHF	0.607
PM Peak Hour	15:30 - 16:30 0	PM Peak Hour	15:30 - 16:30 109	PM Peak Hour	15:30 - 16:30 92	PM Peak Hour	15:30 - 16:30 16
PM PHF	-	PM PHF	0.908	PM PHF	0.821	PM PHF	0.667
Overall Peak Hour	15:30 - 16:30 0	Overall Peak Hour	15:30 - 16:30 109	Overall Peak Hour	15:30 - 16:30 92	Overall Peak Hour	15:30 - 16:30 16
Overall PHF	-	Overall PHF	0.908	Overall PHF	0.821	Overall PHF	0.667
From: US 1 (Elm St) (NorthEast)							
To: Main St (NorthWest)		**To: US 1 (Elm St) (NorthEast)**		**To: Main St (SouthEast)**		**To: US 1 (Elm St) (SouthWest)**	
Total	972	Total	0	Total	465	Total	5233
% of Approach	14.6%	% of Approach	0%	% of Approach	7%	% of Approach	78.5%
AM Peak Hour	11:00 - 12:00 68	AM Peak Hour	11:00 - 12:00 0	AM Peak Hour	11:00 - 12:00 49	AM Peak Hour	11:00 - 12:00 460
AM PHF	0.739	AM PHF	-	AM PHF	0.942	AM PHF	0.958
PM Peak Hour	15:30 - 16:30 119	PM Peak Hour	15:30 - 16:30 0	PM Peak Hour	15:30 - 16:30 50	PM Peak Hour	15:30 - 16:30 502
PM PHF	0.85	PM PHF	-	PM PHF	0.833	PM PHF	0.93

Overall Peak Hour	15:30 - 16:30	119	Overall Peak Hour	15:30 - 16:30	0	Overall Peak Hour	15:30 - 16:30	50	Overall Peak Hour	15:30 - 16:30	502
Overall PHF	0.85		Overall PHF	-		Overall PHF	0.833		Overall PHF	0.93	
From: Main St (SouthEast)											
To: Main St (NorthWest)			**To: US 1 (Elm St) (NorthEast)**			**To: Main St (SouthEast)**			**To: US 1 (Elm St) (SouthWest)**		
Total	682		Total	832		Total	0		Total	712	
% of Approach	30.6%		% of Approach	37.4%		% of Approach	0%		% of Approach	32%	
AM Peak Hour	11:00 - 12:00	43	AM Peak Hour	11:00 - 12:00	84	AM Peak Hour	11:00 - 12:00	0	AM Peak Hour	11:00 - 12:00	68
AM PHF	0.717		AM PHF	0.778		AM PHF	-		AM PHF	0.85	
PM Peak Hour	15:30 - 16:30	77	PM Peak Hour	15:30 - 16:30	68	PM Peak Hour	15:30 - 16:30	0	PM Peak Hour	15:30 - 16:30	61
PM PHF	0.74		PM PHF	0.708		PM PHF	-		PM PHF	0.762	
Overall Peak Hour	15:30 - 16:30	77	Overall Peak Hour	15:30 - 16:30	68	Overall Peak Hour	15:30 - 16:30	0	Overall Peak Hour	15:30 - 16:30	61
Overall PHF	0.74		Overall PHF	0.708		Overall PHF	-		Overall PHF	0.762	
From: US 1 (Elm St) (SouthWest)											
To: Main St (NorthWest)			**To: US 1 (Elm St) (NorthEast)**			**To: Main St (SouthEast)**			**To: US 1 (Elm St) (SouthWest)**		
Total	103		Total	4851		Total	453		Total	0	
% of Approach	1.9%		% of Approach	89.7%		% of Approach	8.4%		% of Approach	0%	
AM Peak Hour	11:00 - 12:00	5	AM Peak Hour	11:00 - 12:00	438	AM Peak Hour	11:00 - 12:00	44	AM Peak Hour	11:00 - 12:00	0
AM PHF	0.625		AM PHF	0.823		AM PHF	0.688		AM PHF	-	
PM Peak Hour	15:30 - 16:30	7	PM Peak Hour	15:30 - 16:30	596	PM Peak Hour	15:30 - 16:30	43	PM Peak Hour	15:30 - 16:30	0
PM PHF	0.875		PM PHF	0.949		PM PHF	0.672		PM PHF	-	
Overall Peak Hour	15:30 - 16:30	7	Overall Peak Hour	15:30 - 16:30	596	Overall Peak Hour	15:30 - 16:30	43	Overall Peak Hour	15:30 - 16:30	0
Overall PHF	0.875		Overall PHF	0.949		Overall PHF	0.672		Overall PHF	-	

Leg Summary

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

Main St (NorthWest)											
Towards Junction			**Away From Junction**			**Both Directions**			**Crossing**		
Total	2254		Total	1757		Total	4011		Total	39	
AM Peak Hour	11:00 - 12:00	162	AM Peak Hour	11:00 - 12:00	116	AM Peak Hour	11:00 - 12:00	278	AM Peak Hour	11:00 - 12:00	4
AM PHF	0.827		AM PHF	0.744		AM PHF	0.88		AM PHF	0.333	
PM Peak Hour	15:30 - 16:30	217	PM Peak Hour	15:30 - 16:30	203	PM Peak Hour	15:30 - 16:30	420	PM Peak Hour	15:30 - 16:30	4
PM PHF	0.904		PM PHF	0.906		PM PHF	0.963		PM PHF	0.333	
Overall Peak Hour	15:30 - 16:30	217	Overall Peak Hour	15:30 - 16:30	203	Overall Peak Hour	15:30 - 16:30	420	Overall Peak Hour	15:30 - 16:30	4
Overall PHF	0.904		Overall PHF	0.906		Overall PHF	0.963		Overall PHF	0.333	
US 1 (Elm St) (NorthEast)											
Towards Junction			**Away From Junction**			**Both Directions**			**Crossing**		
Total	6670		Total	6869		Total	13539		Total	48	
AM Peak Hour	11:00 - 12:00	577	AM Peak Hour	11:00 - 12:00	599	AM Peak Hour	11:00 - 12:00	1176	AM Peak Hour	11:00 - 12:00	4
AM PHF	0.937		AM PHF	0.871		AM PHF	0.927		AM PHF	0.333	
PM Peak Hour	15:30 - 16:30	671	PM Peak Hour	15:30 - 16:30	773	PM Peak Hour	15:30 - 16:30	1444	PM Peak Hour	15:30 - 16:30	6
PM PHF	0.922		PM PHF	0.929		PM PHF	0.968		PM PHF	0.5	
Overall Peak Hour	15:30 - 16:30	671	Overall Peak Hour	15:30 - 16:30	773	Overall Peak Hour	15:30 - 16:30	1444	Overall Peak Hour	15:30 - 16:30	6
Overall PHF	0.922		Overall PHF	0.929		Overall PHF	0.968		Overall PHF	0.5	
Main St (SouthEast)											
Towards Junction			**Away From Junction**			**Both Directions**			**Crossing**		
Total	2226		Total	1792		Total	4018		Total	62	
AM Peak Hour	11:00 - 12:00	195	AM Peak Hour	11:00 - 12:00	161	AM Peak Hour	11:00 - 12:00	356	AM Peak Hour	11:00 - 12:00	0
AM PHF	0.855		AM PHF	0.821		AM PHF	0.84		AM PHF	-	
PM Peak Hour	15:30 - 16:30	206	PM Peak Hour	15:30 - 16:30	185	PM Peak Hour	15:30 - 16:30	391	PM Peak Hour	15:30 - 16:30	4
PM PHF	0.936		PM PHF	0.826		PM PHF	0.94		PM PHF	0.5	
Overall Peak Hour	15:30 - 16:30	206	Overall Peak Hour	15:30 - 16:30	185	Overall Peak Hour	15:30 - 16:30	391	Overall Peak Hour	15:30 - 16:30	4
Overall PHF	0.936		Overall PHF	0.826		Overall PHF	0.94		Overall PHF	0.5	
US 1 (Elm St) (SouthWest)											
Towards Junction			**Away From Junction**			**Both Directions**			**Crossing**		
Total	5407		Total	6139		Total	11546		Total	71	
AM Peak Hour	11:00 - 12:00	487	AM Peak Hour	11:00 - 12:00	545	AM Peak Hour	11:00 - 12:00	1032	AM Peak Hour	11:00 - 12:00	2
AM PHF	0.834		AM PHF	0.987		AM PHF	0.918		AM PHF	0.5	
PM Peak Hour	15:30 - 16:30	646	PM Peak Hour	15:30 - 16:30	579	PM Peak Hour	15:30 - 16:30	1225	PM Peak Hour	15:30 - 16:30	6
PM PHF	0.95		PM PHF	0.946		PM PHF	0.975		PM PHF	0.5	
Overall Peak Hour	15:30 - 16:30	646	Overall Peak Hour	15:30 - 16:30	579	Overall Peak Hour	15:30 - 16:30	1225	Overall Peak Hour	15:30 - 16:30	6
Overall PHF	0.95		Overall PHF	0.946		Overall PHF	0.975		Overall PHF	0.5	

Total Flow

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

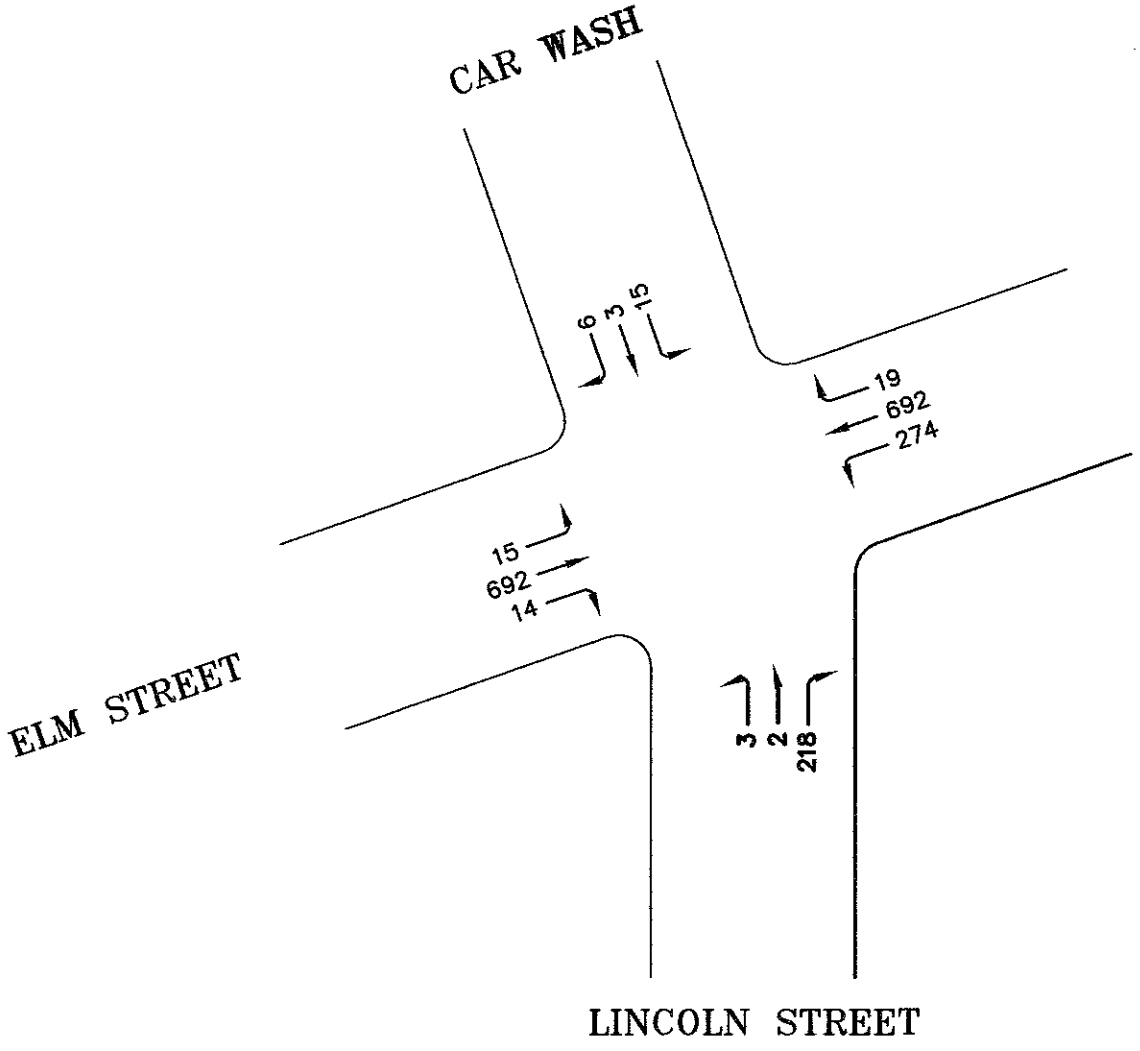
Traffic								Crossing			
Period	Mcl	Car	Bus	SUT	Semis	Bicycle	Total	Period	Bicycle	Ped	Total
06:00	0	91	2	2	2	1	98	06:00	0	0	0
06:15	0	122	1	2	0	0	125	06:15	0	5	5
06:30	0	164	0	6	2	0	172	06:30	0	3	3
06:45	1	215	1	5	2	0	224	06:45	0	1	1
07:00	0	201	0	3	0	0	204	07:00	0	1	1
07:15	0	260	0	6	0	0	266	07:15	0	1	1
07:30	0	281	0	7	1	0	289	07:30	0	1	1
07:45	0	302	0	10	0	0	312	07:45	0	2	2
08:00	1	252	0	6	5	0	264	08:00	0	1	1
08:15	0	258	1	12	1	0	272	08:15	0	1	1
08:30	1	261	0	4	4	0	270	08:30	1	2	3
08:45	0	314	1	11	2	0	328	08:45	0	0	0
09:00	0	252	0	9	3	0	264	09:00	0	5	5
09:15	0	275	0	7	2	0	284	09:15	0	6	6
09:30	0	276	0	6	2	0	284	09:30	0	1	1
09:45	0	314	0	7	3	0	324	09:45	0	1	1
10:00	0	307	0	10	0	0	317	10:00	0	2	2
10:15	0	349	0	11	0	0	360	10:15	0	4	4
10:30	0	330	0	10	0	0	340	10:30	1	4	5
10:45	0	347	1	7	1	0	356	10:45	0	1	1

11:00	0	302	0	11	1	0	314	11:00	0	1	1
11:15	0	354	1	13	0	0	368	11:15	0	4	4
11:30	0	359	0	13	2	0	374	11:30	0	4	4
11:45	0	352	0	12	1	0	365	11:45	0	1	1
12:00	3	374	1	4	3	0	385	12:00	1	3	4
12:15	6	339	0	5	2	0	352	12:15	1	10	11
12:30	6	382	0	12	1	2	403	12:30	1	4	5
12:45	5	384	1	12	3	0	405	12:45	2	12	14
13:00	5	382	0	5	1	0	393	13:00	0	9	9
13:15	6	380	1	4	2	0	393	13:15	1	8	9
13:30	3	394	2	10	0	0	409	13:30	0	5	5
13:45	5	373	1	10	1	0	390	13:45	0	5	5
14:00	0	334	2	8	0	0	344	14:00	0	4	4
14:15	5	378	0	9	2	0	394	14:15	0	5	5
14:30	2	379	0	5	4	2	392	14:30	0	4	4
14:45	1	419	1	4	2	0	427	14:45	7	7	14
15:00	4	401	1	8	2	1	417	15:00	1	7	8
15:15	3	381	0	8	3	0	395	15:15	3	4	7
15:30	**6**	**426**	**0**	**8**	**0**	**0**	**440**	15:30	**2**	**7**	**9**
15:45	**5**	**432**	**1**	**7**	**0**	**1**	**446**	15:45	**0**	**3**	**3**
16:00	**3**	**402**	**0**	**5**	**1**	**1**	**412**	16:00	**1**	**6**	**7**
16:15	**2**	**429**	**1**	**8**	**1**	**1**	**442**	16:15	**0**	**1**	**1**
16:30	2	413	0	4	0	0	419	16:30	1	2	3
16:45	6	436	0	3	0	1	446	16:45	2	5	7
17:00	2	407	0	2	1	0	412	17:00	1	5	6
17:15	3	438	0	5	0	0	446	17:15	1	11	12
17:30	3	403	0	6	2	1	415	17:30	0	6	6
17:45	4	400	0	2	0	0	406	17:45	0	8	8
Total	93	16024	20	344	65	11	16557	Total	27	193	220
% of Total	0.6%	96.8%	0.1%	2.1%	0.4%	0.1%	100%	% of Total	12.3%	87.7%	100%

Total Summary

MAINE_DOT_TM - 000031050042 - US 1 (Elm St), Main St, 05/08/2021 - Thursday, August 5, 2021

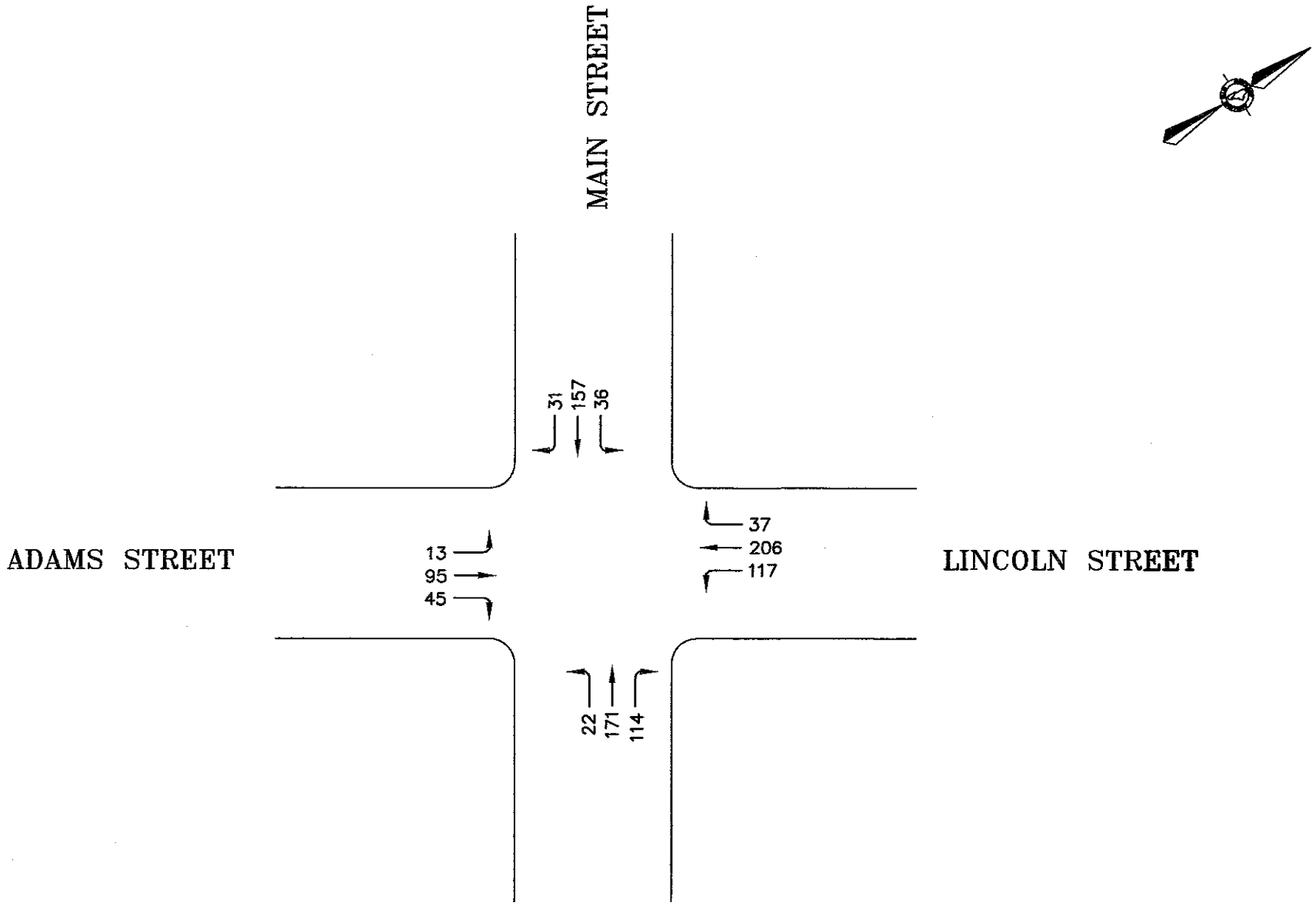
Traffic Summary			Crossing Summary		
Total	16557		Total	220	
AM Peak Hour	11:00 - 12:00	1421	AM Peak Hour	11:00 - 12:00	10
AM PHF	0.95		AM PHF	0.625	
PM Peak Hour	15:30 - 16:30	1740	PM Peak Hour	15:30 - 16:30	20
PM PHF	0.975		PM PHF	0.556	
Overall Peak Hour	15:30 - 16:30	1740	Overall Peak Hour	15:30 - 16:30	20
Overall PHF	0.975		Overall PHF	0.556	



EXISTING 2019 TRAFFIC
WEEKDAY PM PEAK HOUR
FIGURE 1b

E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\RIVERDAM REDEVELOPMENT\PLANSET\RIVERDAM OCT3.DWG

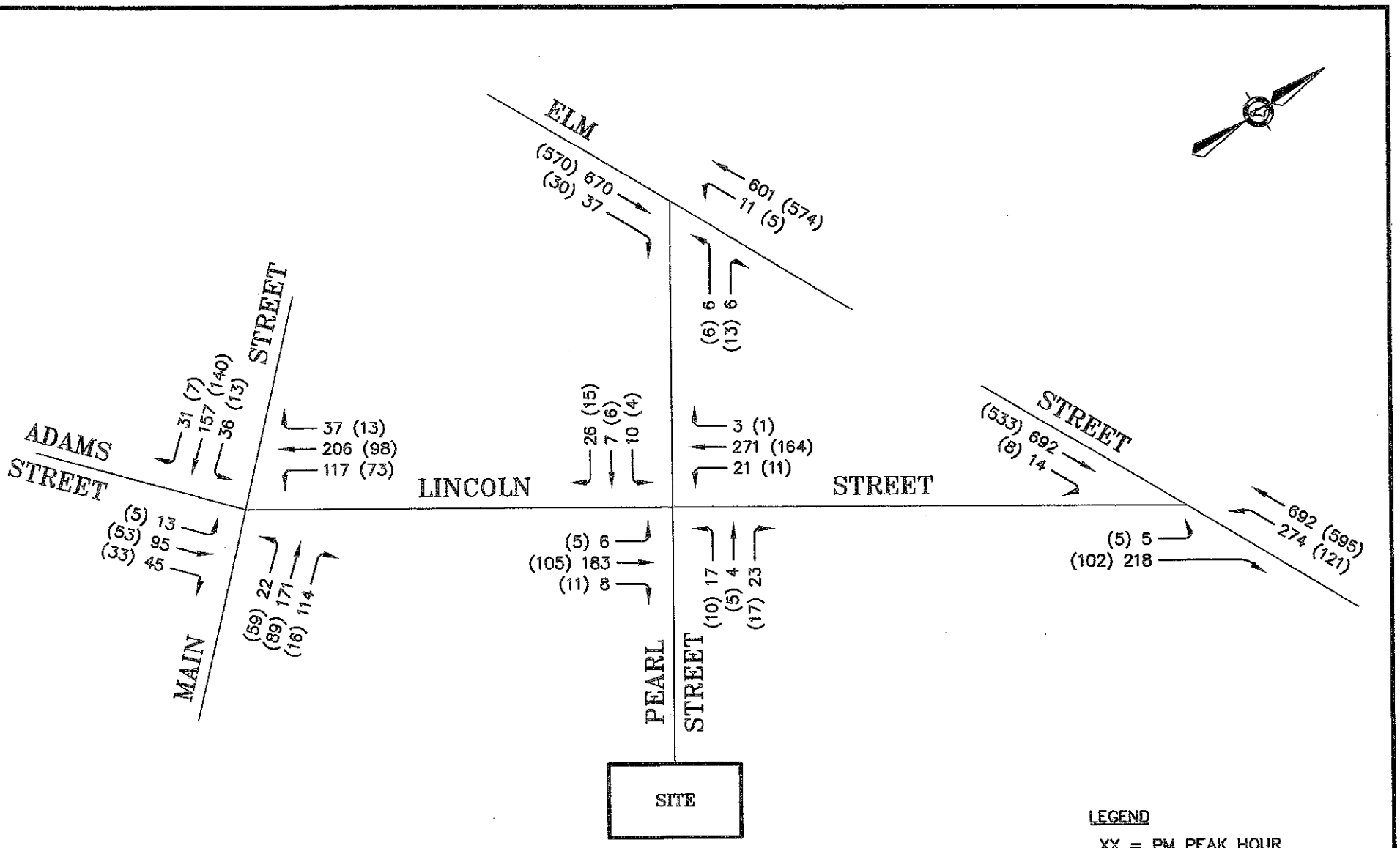
RIVERDAM REDEVELOPMENT BIDDEFORD, MAINE	TRAFFIC SOLUTIONS 17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038
DATE: OCTOBER, 2019	FIGURE: 1b



EXISTING 2019 TRAFFIC
WEEKDAY PM PEAK HOUR
FIGURE 1a

E:\LAND PROJECTS\34000\34359 TRAFFIC SOLUTIONS\RIVERDAM REDEVELOPMENT\PLANSET\RIVERDAM OCT3.DWG

Project Name and Location: RIVERDAM REDEVELOPMENT BIDDEFORD, MAINE	TRAFFIC SOLUTIONS 17 MOUNTVIEW DRIVE, CORHAM, MAINE 04038
DATE: OCTOBER, 2019	FIGURE: 1a



EXISTING 2019 PEAK HOUR TRAFFIC
(PM PEAK HOUR & SATURDAY PEAK HOUR)
FIGURE 1

E:\LAND PROJECTS\34000\34399 TRAFFIC SOLUTIONS\RIVERDAM REDEVELOPMENT\PLANSET\RIVERDAM.DWG

RIVERDAM REDEVELOPMENT BIDDEFORD, MAINE	TRAFFIC SOLUTIONS 17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038
DATE: AUGUST, 2019	FIGURE: 1

SITE PLAN

GENERAL NOTES:

1. ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF BIDDEFORD STANDARD.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF BIDDEFORD STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.

PLAN REFERENCES:

1. PLAN TITLED "BIDDEFORD PARKING GARAGE MERC SITE" PREPARED BY DESMAN DESIGN MANAGEMENT DATED 12/20/2019 AND REVISED 1/14/2020.
2. PLAN TITLED "PEARL STREET RECONSTRUCTION PROJECT" PREPARED BY SEWALL DATED 10/14/2020
3. PLAN TITLED "EXISTING CONDITIONS SURVEY" PREPARED BY OWEN HASKELL, INC. DATED 8/5/2021



BIDDEFORD FIRETRUCK

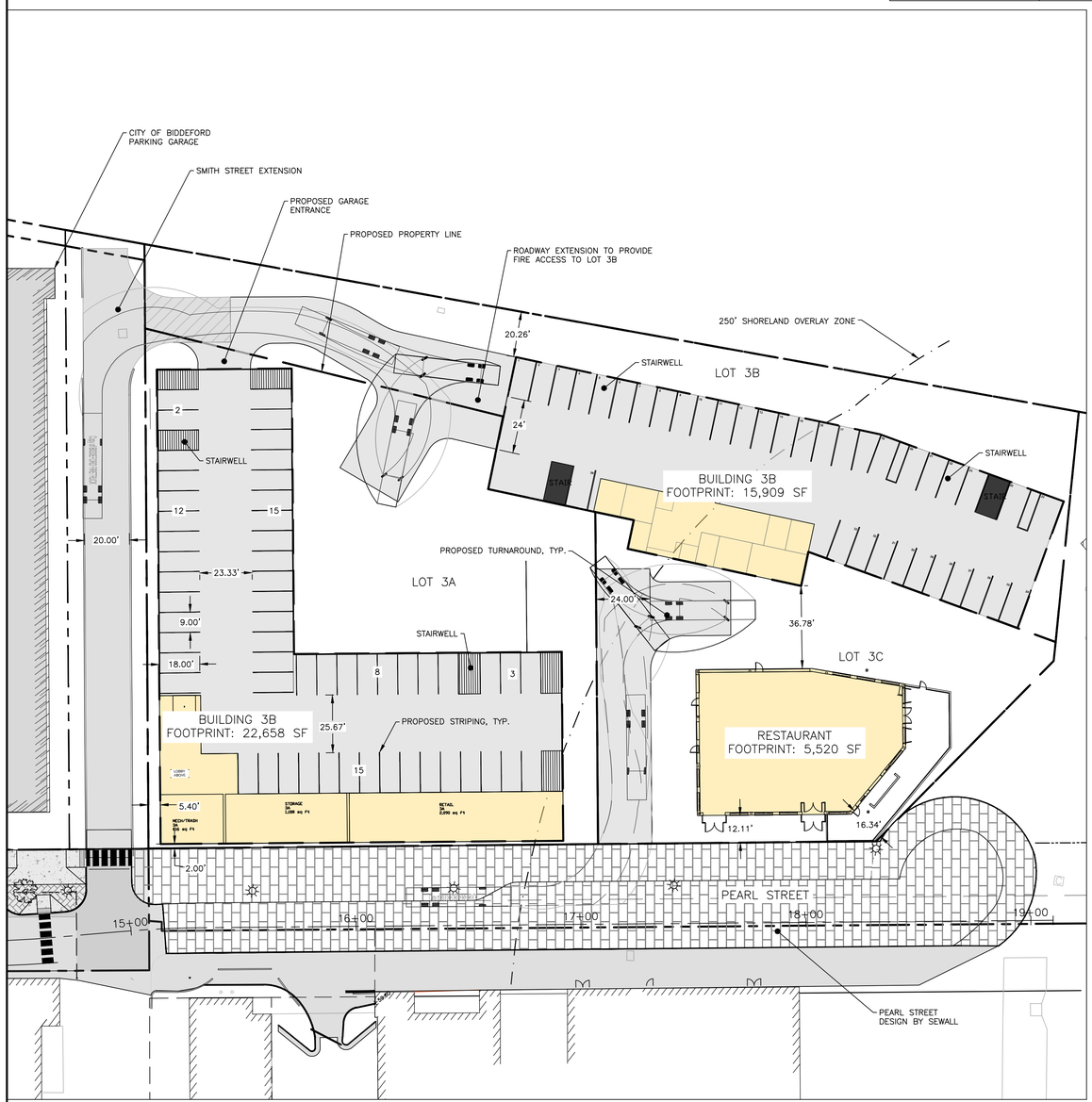
Overall Length	46.750ft
Overall Width	8.500ft
Overall Body Height	9.851ft
Min Body Ground Clearance	0.920ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

PARKING SUMMARY

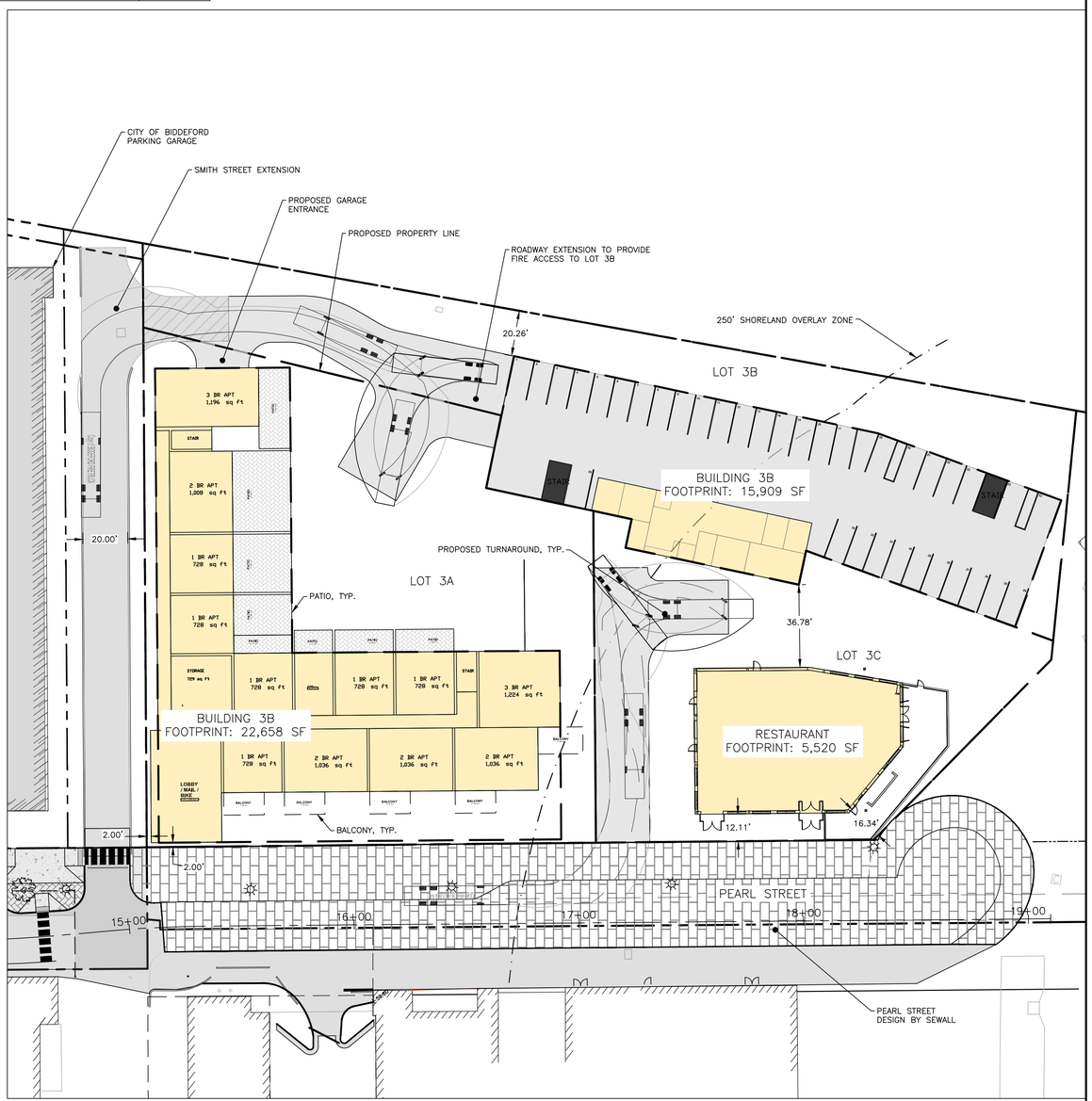
USE	UNITS	SPACES REQUIRED	PROPOSED
LOT 3A	64	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 64 SPACES	50
–	–	INCREASE OF 5% (OF 64 SPACES) TO ALLOW FOR VISITORS = 4 SPACES	–
LOT 3B	76	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 76 SPACES	42
–	–	INCREASE OF 5% (OF 76 SPACES) TO ALLOW FOR VISITORS = 4 SPACES	–
LOT 3C	170 SEATS & 128 SEATS	1 SPACE / 3 SEATS = 100 SPACES	N/A
ADA (8'X18')	–	–	TBD
STANDARD (9'X18')	–	–	TBD
TOTAL SPACES	–	248	92
ADDITIONAL SPACES NEEDED IN PARKING GARAGE	–	–	156

LOT 3A SPACE AND BULK STANDARDS

ZONE:	REQUIRED (MSRD3)	REQUIRED (GD-1)	EXISTING LOT 3	PROPOSED LOT 3A	PROPOSED LOT 3B	PROPOSED LOT 3C
MINIMUM LOT SIZE	NONE	NONE (WITHIN EX. STRUCTURES ONLY)	–	39,629 SF	30,230 SF	20,580 SF
MINIMUM STREET FRONTAGE	NONE	–	324'	200'	–	124'
MINIMUM FRONT YARD SETBACK	NONE	–	N/A	2.00'	0'	12.11'
MINIMUM REAR YARD SETBACK	NONE	–	N/A	5.18'	20.26'	36.78'
MINIMUM SIDE YARD SETBACK	NONE	–	N/A	2.00'	0'	16.34'
MINIMUM BUILDING HEIGHT	MIN. 2 STORIES OR 26 FEET	–	N/A	TBD	TBD	TBD
MINIMUM SHORE FRONTAGE	–	NONE (WITHIN EX. STRUCTURES ONLY)	N/A	–	–	–
SACO RIVER SETBACK (INCLUDING PARKING AREAS)	–	100' FROM NORMAL HIGH-WATER LINE	–	–	–	–
SACO RIVER NO-CUT ZONE (SRCC)	–	75'	–	–	–	–
MAX LOT COVERAGE	100%	70% WITHN SHORELAND ZONE	–	57.2%	52.6%	26.8%



GARAGE FLOOR PLAN
1" = 30'



30 0 30 60
SCALE: 1" = 30'

PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
TMP REVIEW	PFH 9/9/21

SITE PLAN

DRAWING NAME:

PROJECT NAME: PEARL STREET LOT 3 REDEVELOPMENT

CLIENT: FATHOM COMPANIES
80 EXCHANGE STREET, SUITE 400 PORTLAND, ME 04101

ACORN ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND SHALL NOT BE USED BY ANY PERSON OR ENTITY FOR ANY PROJECT OTHER THAN THE SPECIFIC PROJECT FOR WHICH THEY WERE PREPARED AND PUBLISHED FOR, AND ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY ACORN ENGINEERING, INC. FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO ACORN ENGINEERING, INC.

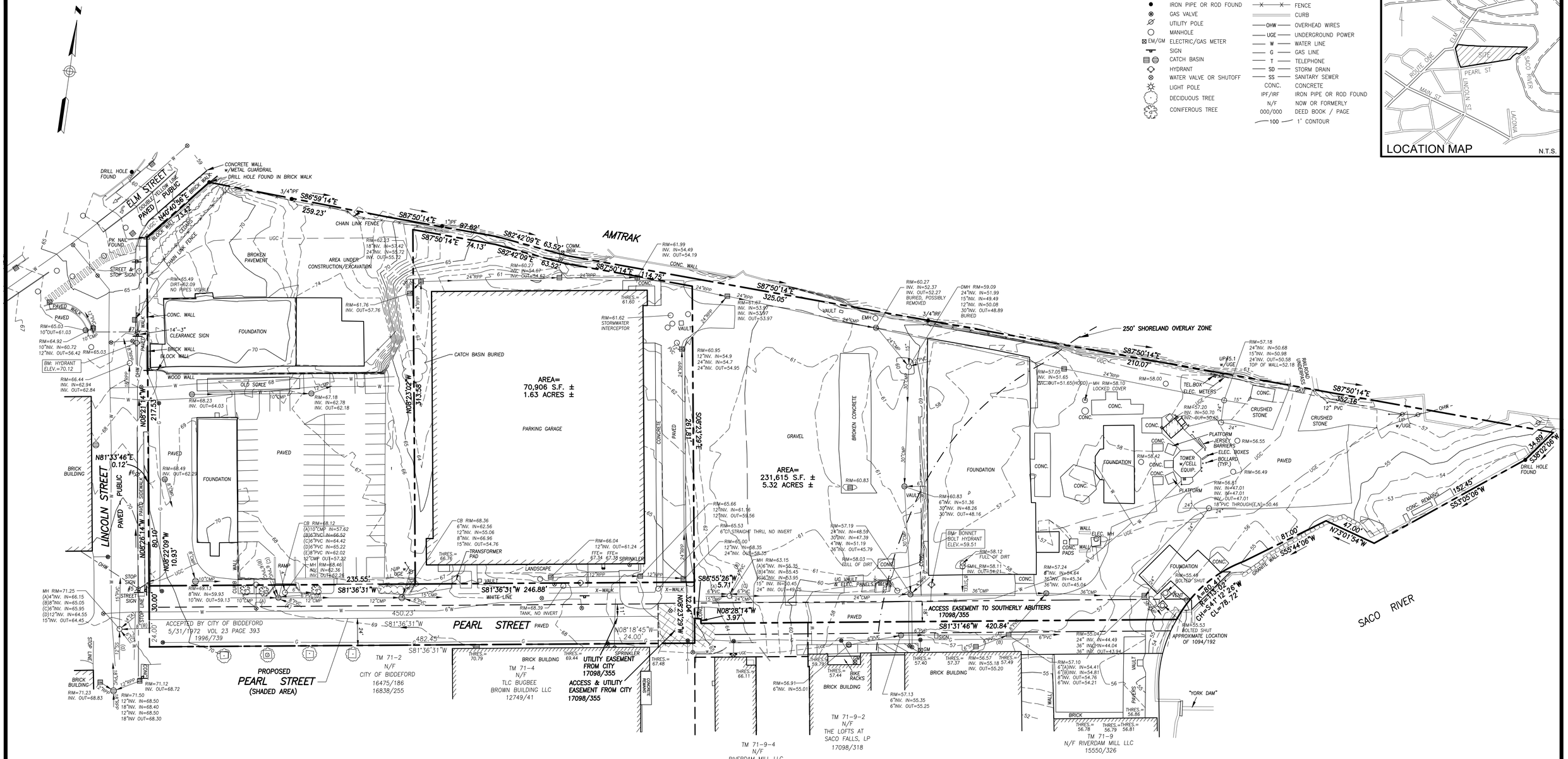
ACORN ENGINEERING, INC.
ATTN: PETER HEIL, P.E.
PO BOX 3427 KENNEBUNK, MAINE 04104
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS/PFH

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-10

BOUNDARY SURVEY



PLAN REFERENCES

1. PLAN SHOWING LAND SURVEYED FOR MAINE ENERGY RECOVERY COMPANY BIDDEFORD MAINE BY DOW & COULOMBE, INC. DATED JANUARY 15, 1985 REVISED THROUGH OCT. 4, 1986.

2. ALTA/ACSM LAND TITLE SURVEY (URBAN) MADE FOR MAINE ENERGY RECOVERY COMPANY BIDDEFORD, MAINE BY DOW & COULOMBE, INC. DATED MARCH 15, 1996 REVISED THROUGH MAY 14, 2009.

3. ALTA/NSPS LAND TITLE SURVEY AT 75 SACO FALLS WAY, BIDDEFORD, MAINE MADE FOR THE LOFTS AT SACO FALLS, LP BY OWEN HASKELL, INC. DATED JULY 30, 2015 REVISED THROUGH 12-20-16.

4. EXHIBIT PLAN OF EASEMENT AT 75 SACO FALLS WAY, BIDDEFORD, MAINE MADE FOR THE LOFTS AT SACO FALLS, LP BY OWEN HASKELL, INC. DATED AUGUST 27, 2015 REVISED THROUGH DEC. 20, 2106.

5. EXISTING CONDITIONS SURVEY ON PEARL STREET, BIDDEFORD, MAINE MADE FOR MILONE & MCBROOM BY OWEN HASKELL, INC. DATED APRIL 19, 2018.

6. LAND DIVISION PLAN ON LINCOLN STREET & PEARL STREET BIDDEFORD, MAINE MADE FOR DESMAN DESIGN MANAGEMENT BY OWEN HASKELL, INC. DATED FEB. 4, 2020.

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

GENERAL NOTES

1. OWNER OF RECORD: CITY OF BIDDEFORD
   TAX MAP 71 LOT 2
   Y.C.R.D. BOOK 16838 PAGE 255
   Y.C.R.D. BOOK 16475 PAGE 186

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83.

3. ELEVATIONS ARE BASED ON NAVD 88 DATUM.

STATE OF MAINE
RANDY R. LOUBIER 2407
PROFESSIONAL LAND SURVEYOR

RANDY R. LOUBIER, PLS #2407

Existing Conditions Survey
On
Pearl Street, Biddeford, Maine
Made for
City of Biddeford
205 Main St. Biddeford, ME 04005

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: RRL / JLW	DATE: AUGUST 20, 2021	JOB NO. 2021-168 B-Y	
CHECKED BY: RRL	SCALE: 1" = 40'	DRWG. NO. 1	

TITLE, RIGHT, OR INTEREST

Master Plan Development Agreement

This Master Plan Development Agreement (this "Agreement") dated November 17, 2020 ("Effective Date"), is executed between 3 Lincoln, LLC, a Maine limited liability company (the "Developer"), having an address at P.O. Box 7486, Portland, Maine 04112 and the City of Biddeford, Maine, a Maine municipal corporation and body politic with offices at 205 Main Street, Biddeford, Maine (the "City"). The Developer and the City are collectively referred to as the "Parties."

RECITALS

WHEREAS, the City owns the parcel of land in Biddeford, Maine commonly known as the "MERC" site located at 3 Lincoln Street, a plan of which is attached hereto as Exhibit A and a legal description of which is attached as Exhibit B (the "Site"). The Site is an irregularly shaped parcel containing approximately 8.4 acres of land bound to the west by Lincoln Street, the east by the Saco River, to the north by the Boston & Maine Railroad, Gooch Street, and to the south by Pearl Street and several commercial/industrial buildings.

WHEREAS, the City, working with a team established by the City Council, developed the 3 Lincoln Street Redevelopment Market and Feasibility Study in conjunction with Camoin Associates (the "Camoin Study"), to establish a blueprint for the redevelopment of the Site (the "Project").

WHEREAS, the City has selected the Developer to serve as the master developer for the Project.

WHEREAS, the goals of the Project are to develop up to 400,000 square feet of new, mixed use commercial space, create between 800 and 1,800 new jobs, and increase the City's base property value by up to $63,000,000.

WHEREAS, the Project is expected to become an anchor within the City's so-called "Mill District," with the goal that the Project will support activities in the existing surrounding buildings, the RiverWalk and its amenities, and associated business development in the surrounding area.

AGREEMENT

NOW, THEREFORE, in consideration of the promises and mutual agreements contained herein and other consideration, the receipt and adequacy of which is hereby acknowledged, and intending to be bound hereby, the Parties agree as follows:

ARTICLE I
GENERAL TERMS & COMMITMENTS

1.1 Purpose. This Agreement sets forth the major terms and conditions under which the Parties intend to pursue the Project. The Parties recognize that, as the Project progresses, further definitions and agreements expanding the terms of this Agreement may be warranted and/or necessitated. The Parties have sought in this Agreement to (i) provide a sufficient degree of definition to facilitate planning, design and implementation within a broad scope and (ii) make certain commitments that are necessary to achieve the successful realization of the Project.

1.2 Description of the Project. The Project consists of the planning, permitting, and development of the Site, including coordination of the development by the City of a municipal parking garage (the "Municipal Parking Garage") on the portion of the Site shown on Exhibit A as the site for those improvements ("Garage Site") and the development of buildings adjacent to the Municipal Parking Garage generally located on the east and west sides of that structure on the development sites shown on Exhibit A (collectively the "Development Sites") as commercial, residential, academic, hospitality, retail or other uses (collectively the "Adjacent Buildings"). The Parties shall progress through each stage of the Project, consistent with Section 1.3 below, giving due consideration to Site conditions, financial feasibility, and other commercially reasonable development considerations. The Parties expressly acknowledge the need to provide reasonable flexibility to the Developer to enable the Developer to respond to changing market conditions and intend that the scope of the Project be interpreted and adjusted by the City and the Developer in a manner that will promote, and not hinder, a commercially reasonable and economically viable redevelopment of the Site. Without limitation of the foregoing, as of the date of the Agreement, the Project and its various elements are envisioned to be generally consistent with the Camoin Study. In the course of modifying and refining these initial plans throughout the development process, the Developer will seek to incorporate a mixture of residential, retail, office, hospitality, education and service uses with the adjacent Municipal Parking Garage, park area, street system, the RiverWalk and other amenities intended to foster the creation of an economically vibrant, urban style mixed use destination, generally as contemplated by the Camoin Study and in accordance with the principles enumerated in Section 3.1 of this Agreement.

1.3 Project Schedule. The Project shall proceed in accordance with the following schedule (the "Project Development Schedule"):

As of the Effective Date, the City shall deliver to Developer a garage concept plan deemed suitable by the Developer (as set forth in Section 3.2 below) including, without limitation, all four elevations, a section plan, parking space count, structural plan, and other AIA standard elements ("Garage Concept Plan") (the date of delivery referred to as the "Start Date").

1.3.2 Within three (3) months following the Start Date, the Developer shall prepare (or have prepared) and present to the City a concept plan for the development of each of the Development Sites (the "Preliminary Concept Plan"). In the event that the City determines that the Preliminary Concept Plan is not suitable, and the City and the Developer are unable to

agree to revisions to the Preliminary Concept Plan that make such plan suitable to the City, the City shall be permitted to terminate this Agreement in accordance with Article VI; provided, that in the event that the City terminates this Agreement pursuant to this Section 1.3.2, the City shall reimburse the Developer for all costs and expenses incurred prior to the date of termination, plus twenty percent (20%) to partially compensate the Developer for its time and effort.

1.3.3 Within the six (6) month period following written notice of acceptance of the Preliminary Concept Plan by the City, the Parties shall agree to a financial plan and, utilizing design plans associated with the Municipal Parking Garage, shall work together to create concept plans depicting the layout and design of the Development Sites and the Site as a whole, including site design concepts, internal layout, and building use scenarios (the "Site Concept Plans"). The Site Concepts Plans also shall set forth a timetable by which Developer shall complete the improvements described in the Site Concept Plans with agreed upon financial penalties if such timetables are not reasonably accomplished. In the event that the City or the Developer determines that the proposed Site Concept Plans are not suitable, and the City and the Developer are unable to agree to revisions to the Site Concept Plans that make such plans suitable to the City or the Developer, the City or Developer shall be permitted to terminate this Agreement in accordance with Article VI; provided, that in the event that the City terminates this Agreement pursuant to this Section 1.3.3, the City shall reimburse the Developer for all costs and expenses incurred prior to the date of termination, plus twenty percent (20%) to partially compensate the Developer for its time and effort.

1.3.4 During the six (6) month period following the approval by the City and Developer of the Site Concept Plans, each of the City and the Developer shall use commercially reasonable efforts to obtain all federal, state and municipal permits and approvals ("Governmental Approvals") necessary to proceed with the development and improvements described in the Site Concept Plans. The City shall have primary responsibility for the Governmental Approvals required for the Municipal Parking Garage and related improvements and the Developer shall have primary responsibility for the Governmental Approvals required for the buildings and related improvements to be located on the Development Sites; provided that the Parties acknowledge that as an integrated master development the Governmental Approvals are likely to be highly integrated and interdependent, and therefore agree to work cooperatively and on a coordinated basis to obtain the Governmental Approvals.

1.3.5 Throughout the period specified in Sections 1.3.2-1.3.4 above, the Parties shall work together to identify candidates as potential tenants, joint venture participants, co-developers, or other users for the Development Sites.

1.3.6 The milestone dates set forth in Sections 1.3.2, 1.3.3 and 1.3.4 shall be extended in the event the Municipal Parking Garage has not achieved the same milestone as specified in each Section for the Project. The extension of the applicable milestone shall be coterminous with the date the Municipal Parking Garage achieves its corresponding milestone, in order to assure that the pace of development of the Project does not proceed at a substantially

more rapid rate than the development of the Municipal Parking Garage, which is an critical element in the Developer's ability to successfully develop the Project.

1.4 Exclusive Development. The Parties shall work exclusively with each other, in good faith, to develop the Project. This Agreement shall not extend to any other activities, transactions or relationships other than with respect to the Project and the transactions contemplated by this Agreement. Nothing in this Agreement shall preclude or restrict either Party from conducting its business as it determines in its sole and absolute discretion other than in connection with the Project, and neither Party shall have any rights or obligations in and to the other Party's independent ventures or the income or profits derived therefrom, including any ventures located proximate to the site.

1.5 Personnel and Resources. Each Party shall make available, at all reasonable times and location, the personnel and resources reasonably necessary to complete such Party's responsibilities with respect to the development of the Project.

1.6 Manner of Development. The Parties acknowledge and agree that the development of the Adjacent Buildings may be undertaken by the Developer through whatever means or transaction structure the Developer determines appropriate, including through direct ownership and development by Developer, leasing or re-sale to third parties, co-development with joint venture partners, subdivision and sale for development of all or portions of the Development Sites or Adjacent Buildings, declaration of one or more condominiums or through use of any other means or transaction structures as Developer determines appropriate, with the overall goal of developing the Development Sites on the basis described herein (the foregoing being referred to herein as "Development Relationships"). Developer agrees that in the event the development of the Adjacent Buildings is undertaken by anyone other than Developer or its related entities, Developer shall first obtain the written consent of the City to the involvement of any third party individuals or entities, which consent shall not be unreasonably withheld.

ARTICLE II
PURCHASE OPTION

2.1 Purchase Option. The City hereby grants to the Developer an exclusive option (the "Option") to purchase either or both of the Development Sites, including all rights, privileges, easements and appurtenances thereto existing or as necessary or convenient for the construction, development and operation of the Adjacent Buildings and other improvements identified and defined in the Site Concept Plans, but specifically excluding the cell tower site (the "Subject Property"). This Option applies to the Subject Property both in its current state and in the event it is further developed. The Subject Property shall be conveyed together with all improvements thereon, all easements and rights of way relating thereto, all appurtenances thereto, as well as any common element interests therein, and subject to the terms and conditions set forth in this Agreement.

2.2 Terms of the Option. The Option granted hereby shall have the following terms and conditions:

2.2.1 Term: The Option shall have a term beginning on the Effective Date and expiring eighteen (18) months following receipt of all Governmental Approvals pursuant to Section 1.3.5 hereof, unless the same shall sooner be exercised or terminated in accordance with the terms hereof ("Option Term").

2.2.2 Purchase Price: The total purchase price for the Subject Properties if they are purchased together shall be One Million Two Hundred Thousand Dollars ($1,200,000) (the "Purchase Price").

2.2.3 Exercise of Option: Upon satisfaction of the Condition of Exercise described in Section 2.2.4 below, the Option may be exercised by the Developer by the transmittal of a signed written notice of the Developer's exercise of the Option ("Notice of Exercise"), and specifying the date, time and place for closing on the purchase of the Subject Property, which shall not be later than ninety (90) days following the date of the Notice of Exercise ("Closing Date"). The Developer shall have the right to exercise the Option with respect to either or both Subject Properties, and if exercised for one of the Subject Properties the Option shall continue in force for the other Subject Property for the remainder of the Option Term. If the Developer exercises the Option separately, the purchase price for the first property shall be Seven Hundred Thousand Dollars ($700,000) and the purchase price for the second property shall be Seven Hundred Thousand Dollars ($700,000) for a combined purchase price of One Million Four Hundred Thousand Dollars ($1,400,000).

2.2.4 Condition of Exercise: It shall be a condition of exercise of the Option that the Site Concept Plans shall have been completed pursuant to Section 1.3.3 above.

2.2.5 Closing: The closing of the purchase of each Subject Property hereunder shall be conducted in accordance with the following provisions:

(a) The City shall sell, assign, convey, transfer and deliver title to the Subject Property together with all easements, licenses, rights of way and appurtenant rights reasonably required in order to develop the Subject Property in accordance with the Site Concept Plan, and together therewith all surveys, plans, specifications, title commitments or policies and other records, files or information related to the development of the Subject Property in accordance with the Site Concept Plan, free and clear of any liens, encumbrances or restrictions of any nature, except for the Permitted Real Property Liens. "Permitted Real Property Liens" means: (i) real property taxes for the current tax year that are not due and payable as of the Closing date, (ii) any liens, encumbrances or other title exception or nonconformity accepted by, or not expressly objected to in writing by, the Developer at or before Closing, and (iii) local, state and federal laws, ordinances or governmental regulations, including but not limited to, building and zoning laws, ordinances and regulations.

(b) The Developer shall pay the Purchase Price by wire transfer to an account specified by the City, as increased or decreased by applicable prorations and adjustments, including (i) all real and personal property taxes and similar ad valorem obligations levied with respect to the Subject Property for a taxable period that includes (but does not end on) the Closing Date based on the number of days of such taxable period included in the period ending with and including the Closing Date, (ii) any and all other income and expenses items that relate to the Subject Property that are incurred during a period beginning before the Closing Date and ending after the Closing Date, including but not limited to (i) water, sewer, electricity, gas, oil, telephone and other utility expenses, and (ii) payments under any contracts or agreements related to the Subject Property that Developer agrees to accept an assignment (collectively, the "Prorations"). The Prorations shall be apportioned as of the Closing Date such that the City shall be liable for that portion of such Prorations relating to, or arising in respect of, periods through and including the Closing Date and Developer shall be liable for (and shall reimburse the City to the extent City shall have paid) that portion of such expense items relating to, or arising in respect to, periods after the Closing Date.

2.3 Memorandum of Option. The Parties agree that upon request of either Party, a Memorandum of Option incorporating the terms hereof may be filed in the York County Registry of Deeds in lieu of the filing of the whole of this Agreement.

ARTICLE III
RESPONSIBILITIES OF PARTIES

The Developer and the City have agreed to implement the vision and objectives embodied in the Camoin Study by agreeing to complete the responsibilities of each Party enumerated in this Agreement. The Parties acknowledge that this is a joint public and private enterprise in which the Parties will work closely together to further the completion of the Project. The following responsibilities are hereby assigned to the Parties:

3.1 Developer Responsibilities. The Developer shall use commercially reasonable efforts to:

3.1.1 Perform its obligations pursuant to Article I hereof.

3.1.2 Design, develop and construct the Adjacent Buildings in accordance with the Site Concept Plans, or arrange for their design, development and construction through one or more Development Relationships. The Parties agree that the development of the Adjacent Buildings may be phased.

3.1.3 In designing and developing the Adjacent Buildings, the Developer shall consider the following factors:

a. Site use plans that incorporate urban mixed use principles;

b. Transit and pedestrian orientation with existing or future facilities in the Mill District;

c. Connection to surrounding properties, including cross track connections to the Saco-Lowell Building, potential use of buildings and building sites on Elm Street and the potentially re-aligned Lincoln and Pearl Streets; and

d. Coordination with mill owners in the Mill District, particularly as it relates to energy self-sufficiency.

3.2 City Responsibilities. Perform its obligations pursuant to Article I hereof.

3.2.2 The City shall continue to move forward with and make progress on the development of the Municipal Parking Garage and shall use best efforts to keep the Developer apprised of all design plans and changes. The Developer's responsibilities under this Agreement shall be conditional upon the Developer's deeming suitable the Garage Concept Plan, which shall include the Developer having sufficient time and opportunity to review the Garage Concept Plan and to exercise the Developer's judgment, at its sole discretion, regarding the suitability of such Garage Concept Plan. In the event that the Developer determines that the Garage Concept Plan is not suitable, and the City and the Developer are unable to agree to revisions to the Garage Concept Plan that make such plan suitable to the Developer, the Developer shall be permitted to terminate this Agreement with no further obligation and without penalty, as specified in Article VI.

3.2.3 The City shall continue to move forward on the planning, design and construction of the next phase of the RiverWalk.

3.2.4 The City shall pursue the planning and design of smart infrastructure for the benefit of 3 Lincoln Street and downtown Biddeford, including without limitation, gigabit internet service, wireless broadband mesh network, LED lighting, video and sensor technology, and the software required to store, analyze and secure data transmitted through this smart infrastructure.

3.2.5 The City and Maine Energy Recovery Company, LP, the former owner of the Site, pursuant to a Voluntary Response Action Plan ("VRAP"), completed environmental remedial actions on the Site resulting in a Maine Department of Environmental Protection Certification of Completion of a Voluntary Response Action Plan. The Certification of Completion is recorded in the York County Registry of Deeds in Book 17072, Page 169. Developer recognizes and agrees that the Certification of Completion and the Declaration of Environmental Covenant recorded in the York County Registry of Deeds in Book 17098, Page 898 imposes certain covenants, conditions and restrictions on the Site that are binding upon Developer and its successors and assigns. Developer agrees that the Certification of Completion is satisfactory evidence that all required environmental remediation on the Site was completed as of the date of the Certification of Remediation and that the City's obligations to complete any additional environmental remediation at the Site required in order to allow for the development of the Site contemplated hereby, including the financing of such development with financial institutions, is limited to environmental conditions occurring after the date of the Certification of

Completion. In the event that any such remediation is necessary, the City will provide to Developer, on or before the Closing Date for each Subject Property, evidence of the required remediation in form reasonably acceptable to Developer and any financial institutions financing the Municipal Parking Garage and Adjacent Buildings, including the environmental clearances listed on Exhibit C hereto.

3.2.6 The City shall provide the Developer with all environmental site assessments (phase 1 and 2 together with any additional test results), geotech studies, the results from test borings, soil samples, monitoring wells, and all other background information in the City's possession, or under its control, pertaining to the Site.

3.2.7 The City will assist the Developer in any local or state reviews necessary for the development of the Site.

3.2.8 The City shall exercise best efforts to assure that the Developer is not required to bear the cost of all offsite improvements necessary to support the contemplated development of the Project, including any costs necessary to ensure that utilities adequate to support the contemplated development are delivered to the Subject Property.

3.2.9 The City will work with the Developer to identify a full range of financial, tax, and development incentives for the redevelopment of the Site; provided, that the City's obligations under this Section 3.2.9 are subject to the Developer's cooperation in providing reasonably requested financial and project-level information. Any such financial information provided by the Developer shall be treated as confidential information pursuant to this Agreement and as confidential business information to the extent allowed by law and protected as such.

3.2.10 The City shall promptly provide to the Developer all information it has related to potential Development Relationships.

3.3 Joint Party Responsibilities.

3.3.1 Performance: Time is of the essence and a material provision of this Agreement. The Developer and the City shall exercise commercially reasonable efforts to coordinate their development efforts and recognize that meeting the timelines contained herein are, in part, contingent upon the overall success of developing their respective portions of the Projects and market trends. The Parties may agree to mutually extend the timeframes specified herein as appropriate based on overall development progress; provided, however, that if one or more of the Parties does not meet a timeframe specified in this Agreement and the Parties cannot mutually agree upon an extension of such timeframe, such failure to meet the original timeframe shall be treated as an Event of Default, as defined below.

3.3.2 Access to Information: Upon reasonable request, each Party shall provide the other Party with full and complete access to data, documents, and any other information pertinent to the Project in order to permit each Party to perform an adequate due diligence review of matters related to the Project at each stage of development.

3.3.3 Cooperation: In addition to the actions recited herein and contemplated to be performed, executed and delivered by each Party, each Party shall perform, execute and deliver or cause to be performed, executed and delivered hereafter any and all further acts, deeds and assurances as the other Party may reasonably require to consummate or evidence the consummation of the transaction and/or the discharge of the obligations contemplated herein. The City and the Developer shall use reasonable efforts to coordinate the timing and installation/construction of all offsite improvements, if any, required in connection with the development of the Project.

3.3.4 Confidentiality: Neither Party, nor any permitted affiliate, agent or advisor of either Party shall: (a) disclose to any third party any information concerning the Project, the Site, prospective or actual Developer Relationships, the other Party, its affiliates or this Agreement; or (b) use any such information in any manner which may directly or indirectly negatively impact the Project, the other Party, or its affiliates, except that such information may be disclosed by such Party if required by law or, following written notice to the Party whose information is to be disclosed, to any lender or prospective lender or other entity necessary to develop or finance each portion of the Project. This confidentiality requirement shall not restrict the release of information which: (i) is or becomes generally available to the public other than as a result of disclosure by the other Party or its representatives, (ii) was or becomes available to the receiving Party on a non-confidential basis from a source other than the disclosing Party or its representatives; provided, that, to the receiving Party's knowledge and after due inquiry, such source is not prohibited from disclosing such information to the receiving Party by a contractual, legal or fiduciary obligation to the disclosing Party or its representatives, or (iii) is independently developed by the receiving Party without violating its obligations hereunder. In the event that this Agreement terminates prior to the purchase of the Subject Property by the Developer pursuant to Article 2 herein, then all such data, plans, proposals, and other materials furnished hereunder shall be returned to the Party from whom received, with an appropriate assurance that all copies thereof have been destroyed, except for those materials that were presented to the Developer, the Biddeford City Council or other governing body of the Parties. The obligations established pursuant to this section shall survive any termination of this Agreement and the withdrawal of a Party for a period of three (3) years.

ARTICLE IV
LIMIT OF LIABILITY

Notwithstanding any other provision of this Agreement, in no event shall the Parties or any of their Affiliates, by reason of any of their respective acts or omissions relating to the development, negotiation, design, financing, ownership, construction, operation or maintenance of the Project, or relation to any of their obligations under this Agreement, be liable whether in contract, tort, misrepresentation, warranty, negligence, strict liability, or otherwise for any special, indirect, or consequential damages arising out of or in connection with this Agreement, or the performance, non-performance or breach thereof.

ARTICLE V
INDEMNIFICATION

Each Party shall indemnify, defend, and hold harmless the other Party and its agents, servants, officers, directors, employees and Affiliates from and against any loss, cost, liability, claim, damage, expense (including, without limitation, all out-of-pocket expenses, reasonable attorneys' and paralegal fees, disbursements and costs), penalty or fine incurred in connection with any claim or cause of action arising from or in connection with any claim or cause of action arising from or in connection with the Project or this Agreement to the extent caused by the negligence, misrepresentation, fraud, fault or misconduct of the indemnifying Party or any of its Affiliates.

The City's duty to indemnify shall not waive any defense, immunity or limitations of liability, which may be available to the City, its officers, agents, or employees, under the Maine Tort Claims Act, 14 M.R.S. §8101, et seq., or any other privileges or immunities as may be provided by law.

The Developer shall maintain commercial general liability insurance with coverage for personal injury liability and/or property damage liability with minimum limits of not less than $1,000,000 per occurrence, and shall name the City as an additional insured on such policies.

ARTICLE VI
DEFAULT AND REMEDIES

6.1 Events of Default. The following shall each constitute an event of default under this Agreement (each, an "Event of Default"),

6.1.1 The Developer's failure to observe or perform any covenant, agreement, or obligation of the Developer set forth in this Agreement, whether or not specifically identified in this Agreement as an Event of Default.

6.1.2 The City's failure to observe or perform any covenant, agreement, or obligation of the Developer set forth in this Agreement, whether or not specifically identified in this Agreement as an Event of Default.

6.1.3 The filing by the Developer of any petition or the initiation of any proceedings under the United States Bankruptcy Code or under any act or acts, state or federal, dealing with, or relating to the subject or subjects of bankruptcy or insolvency, or under any amendment of such act or acts, either as a bankrupt or as an insolvent, or as a debtor, or in any similar capacity, by the Developer; or any involuntary petition in bankruptcy is filed against the Developer and the same is not stayed or discharged within sixty (60) days from such filing; or any other petition or any other proceedings of the foregoing or similar kind or character is filed or instituted or taken against the Developer, or a receiver of the business or of the property or assets

of the Developer, is appointed by any court, except a receiver appointed at the insistence or request of the City; or the Developer makes any assignment for the benefit of its creditors;

6.2 Opportunity to Cure. If an Event of Default occurs, the non-breaching Party shall give the breaching Party written notice of the Event of Default and an opportunity to cure of not less than thirty (30) days, and if the default is, of its nature, not curable within 30 days, then a reasonable period to effect a cure given the nature of the default.

6.3 Remedies. In the event that the breaching Party fails to cure an Event of Default within the cure period set forth in Section 6.2, then the non-breaching Party shall be entitled to pursue any and all legal or equitable remedies available to it under the circumstances.

ARTICLE VII
REPRESENTATIONS AND WARRANTIES

7.1 Representations and Warranties. Each Party represents and warrants to the other that:

7.1.1 it is duly qualified to do business and is in good standing in the State of Maine;

7.1.2 it has full power and authority to execute, deliver and perform its obligations under this Agreement;

7.1.3 the execution, delivery and performance of this Agreement has been duly and validly authorized by all necessary action by such Party; and

7.1.4 the execution and delivery of this Agreement by such Party and the performance of the terms, covenants and conditions contained herein will not violate the articles of incorporation or by-laws of such Party, or any order of a court or arbitrator, and will not conflict with and will not constitute a material breach of, or default under, the provisions of any material contract by which either Party is bound.

ARTICLE VIII
FORCE MAJEURE

The timeframes and deadlines for performance of the obligations of the Parties shall be specified herein shall be extended during the period of any force majeure. For the purposes of this Agreement, "force majeure" shall mean and include all factors, circumstances, transactions, occurrences and other actions beyond the direct control of the Party, including without limiting the generality of the foregoing, labor disputes, civil disturbance, war, war-like operations, invasions, rebellion, hostilities, military or usurped power, sabotage, fires or other casualty, or acts of God that have the effect of rendering practically unavailable materials or labor or other resources necessary to perform the obligation or responsibility in a timely manner.

ARTICLE IX
MISCELLANEOUS

9.1 Right to Require Performance. The failure of either Party at any time to require performance by the other Party of any provisions hereof shall in no way affect the right of such Party thereafter to enforce same. Nor shall waiver by either Party of any breach of any provisions hereof be taken or held to be a waiver of any succeeding breach of such provisions or as a waiver of any provision itself.

9.2 City Agencies and Regulators. This Agreement is not intended to supersede the authority granted by law to any regulatory board or agency of the City. Such regulatory boards and agencies must perform their responsibilities in accordance with the law governing that performance. Therefore, nothing in this Agreement shall be construed or implied to require the City's planning, zoning, land use or other regulatory boards or agencies (however designated) to approve the plans for any aspect of the Project or other action required under this Agreement. Such boards and agencies are not obligated in any way by this Agreement

9.3 Relationship of Parties This Agreement shall not be interpreted or construed to independently create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent of representative of, or to otherwise bind, the other Party.

9.4 Affiliates. The Developer may form or employ related Affiliates for purposes of participating in the Project. It is expressly recognized that the Developer contemplates use of one or more special purpose entities to develop the Adjacent Buildings.

9.5 Definition of Terms. It is agreed by the Parties hereto that reference in this Agreement to the City and the Developer, and all expressions referring thereto, shall mean the party, person, or persons named above as the City and the Developer, as the case may be, their successors and assigns, or any person, persons, or parties claiming by, through or under them.

9.6 Integration. This Agreement encompasses the entire Agreement of the Parties, and supersedes all previous understandings and agreements between the Parties, whether oral or written. The Parties hereby acknowledge and represent, by affixing their hands and seals hereto, that the Parties have not relied on any representation, assertion, guarantee, warranty, collateral contract or other assurance, except those set out in this Agreement, made by or on behalf of any other Party or any other person or entity whatsoever, prior to the execution of this Agreement. The Parties hereby waive all rights and remedies, at law or in equity, arising or which may arise as the result of a Party's reliance on such representation, assertion, guarantee, warranty, collateral contract or other assurance, provided that nothing herein contained shall be construed as a restriction or limitation of the Party's right to remedies associated with the gross negligence, willful misconduct or fraud of

any person or party taking place prior to, or contemporaneously with, the execution of this Agreement.

9.7 No Oral Modifications. This Agreement may not be amended or terminated orally. This Agreement and all the covenants, terms and provisions contained herein shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns. Except for an affiliated single purpose entity organized by the Developer to construct and operate the Project, neither this Agreement nor any of the rights, interests or obligations under this Agreement may be assigned or delegated by any Party, without the prior written consent of the other Party. This Agreement is not intended to confer any rights or benefits to any entity other than to the City and to the Developer, its affiliate entity organized to construct and operate the Project, and its affiliates.

9.8 Mutual Cooperation and Further Agreements. The Parties acknowledge that the obligations set further herein may be further described in other agreements as agreed to by the Parties. The City and the Developer agree to cooperate in good faith with regard to each and every aspect required for the completion of all operations contemplated by this Agreement. The Parties further agree to negotiate in good faith and to enter such other and further agreements as may be necessary to implement any aspect of design, engineering, construction or facility operation contemplated under this Agreement.

9.9 Expenses. Each Party shall pay all charges and fees in connection with employment of its respective attorneys relating to the negotiation of this Agreement, the Option, and the Definitive Agreement.

9.10 Notice. All notices required to be given to the City or the Developer under this Agreement shall be in writing and deemed given upon the earlier of actual receipt by personal delivery or two (2) days after being mailed by U.S. priority, registered or certified mail, return receipt requested, or a reputable overnight courier as follows:

City	City of Biddeford c/o James A. Bennett, (or the then current) City Manager P.O. Box 586 205 Main Street Biddeford, Maine 04005
With a copy to	Keith R. Jacques, Esq. Woodman Edmands Danylik Austin Smith & Jacques, P.A. P.O. Box 468 234 Main Street Biddeford, Maine 04005
Developer	3 Lincoln LLC

c/o James H. Brady, manager
P.O. Box 7486
Portland, ME 04112-7486

With a copy to Christopher E. Howard
Pierce Atwood LLP
254 Commercial Street
Portland, Maine 04101

9.11 Governing Law. This Agreement is and shall constitute a contract under and is to be construed in accordance with the laws of the State of Maine. Any dispute resulting in legal action and not resolved by arbitration, mediation, or such other method as may be mutually agreed to by the Parties shall be adjudicated within the jurisdiction of the State of Maine.

9.12 Severability. Any provision or part of the Agreement held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the Parties, who agree that the Agreement shall be reformed to replace such stricken provisions or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provisions.

9.13 Survival. All express representations, warranties, indemnifications or limitations of liability made in or given in this Agreement shall survive the expiration or the termination of this Agreement for any reason.

9.14 Mediation/Arbitration. The Parties hereto agree that prior to filing litigation they will consider alternative dispute resolution techniques such as mediation and arbitration to resolve all claims, counterclaims, disputes and other matters in question between the Parties arising out of this Agreement.

[*Remainder of page intentionally blank*]

IN WITNESS WHEREOF, the Parties hereto have set their hands and seals as of this 17 day of Nov, 2020.

DEVELOPER:
3 Lincoln, LLC

Witness Jonathan Benoit

By: _____
Its: manager

CITY OF BIDDEFORD

Witness

By: _____
Name: James A. Bennett
Title: City Manager

City of Biddeford, Maine

The Office of
City Manager
James A. Bennett
Email: jbennett@biddefordmaine.org

MEMORANDUM

TO:	**BE Fitler LLC**
FROM:	James A. Bennett, City Manager
DATE:	December 19, 2019
RE:	**Clarification to Master Plan Development Agreement**

This memo issued to clarify .section 1.3.6 of the Master Plan Development agreement. That section contemplates that milestone dates within the agreement shall be extended if the parking garage was unable to meet its milestone. This section shall be broadly interpreted to include any delays that might occur that are a result of any infrastructure design, approval or construction required to serve the parking garage, including, but not limited to:

- Pearl Street Road Design and Construction;
- Pearl Street Utilities Design and Construction, including water and sewer improvements; or
- Pearl Street Pedestrian and Landscape design and construction, including direct links to the Riverwalk.

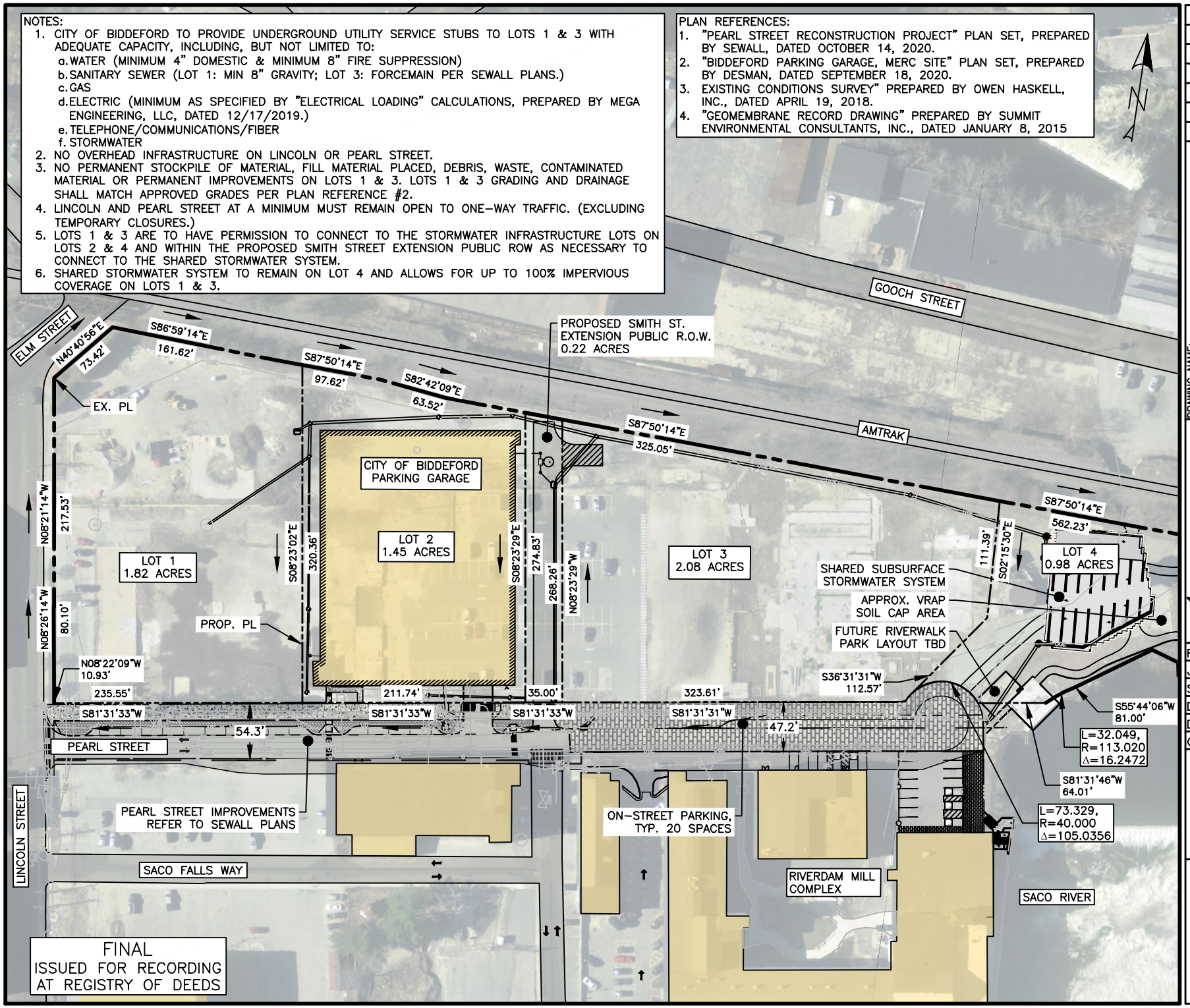
Finally, nothing within the agreement, nor within this memo prohibits the parties to mutually extend any deadline contained within the agreement. Any extension shall be done in writing.

Exhibit A
Site Plan

[insert Site Plan]

NOTES:
1. CITY OF BIDDEFORD TO PROVIDE UNDERGROUND UTILITY SERVICE STUBS TO LOTS 1 & 3 WITH ADEQUATE CAPACITY, INCLUDING, BUT NOT LIMITED TO:
   a. WATER (MINIMUM 4" DOMESTIC & MINIMUM 8" FIRE SUPPRESSION)
   b. SANITARY SEWER (LOT 1: MIN 8" GRAVITY; LOT 3: FORCEMAIN PER SEWALL PLANS.)
   c. GAS
   d. ELECTRIC (MINIMUM AS SPECIFIED BY "ELECTRICAL LOADING" CALCULATIONS, PREPARED BY MEGA ENGINEERING, LLC, DATED 12/17/2019.)
   e. TELEPHONE/COMMUNICATIONS/FIBER
   f. STORMWATER
2. NO OVERHEAD INFRASTRUCTURE ON LINCOLN OR PEARL STREET.
3. NO PERMANENT STOCKPILE OF MATERIAL, FILL MATERIAL PLACED, DEBRIS, WASTE, CONTAMINATED MATERIAL OR PERMANENT IMPROVEMENTS ON LOTS 1 & 3. LOTS 1 & 3 GRADING AND DRAINAGE SHALL MATCH APPROVED GRADES PER PLAN REFERENCE #2.
4. LINCOLN AND PEARL STREET AT A MINIMUM MUST REMAIN OPEN TO ONE-WAY TRAFFIC. (EXCLUDING TEMPORARY CLOSURES.)
5. LOTS 1 & 3 ARE TO HAVE PERMISSION TO CONNECT TO THE STORMWATER INFRASTRUCTURE LOTS ON LOTS 2 & 4 AND WITHIN THE PROPOSED SMITH STREET EXTENSION PUBLIC ROW AS NECESSARY TO CONNECT TO THE SHARED STORMWATER SYSTEM.
6. SHARED STORMWATER SYSTEM TO REMAIN ON LOT 4 AND ALLOWS FOR UP TO 100% IMPERVIOUS COVERAGE ON LOTS 1 & 3.

PLAN REFERENCES:
1. "PEARL STREET RECONSTRUCTION PROJECT" PLAN SET, PREPARED BY SEWALL, DATED OCTOBER 14, 2020.
2. "BIDDEFORD PARKING GARAGE, MERC SITE" PLAN SET, PREPARED BY DESMAN, DATED SEPTEMBER 18, 2020.
3. EXISTING CONDITIONS SURVEY" PREPARED BY OWEN HASKELL, INC., DATED APRIL 19, 2018.
4. "GEOMEMBRANE RECORD DRAWING" PREPARED BY SUMMIT ENVIRONMENTAL CONSULTANTS, INC., DATED JANUARY 8, 2015



FINAL
ISSUED FOR RECORDING AT REGISTRY OF DEEDS

ISSUED FOR	BY DATE
JDA EXHIBIT	PFH 11/12/20

DRAWING NAME: OVERALL SITE EXHIBIT
PROJECT NAME: PEARL STREET & MERC REDEVELOPMENT
CLIENT: FATHOM/BE FITLER, LLC BIDDEFORD, MAINE

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. 65 HANOVER ST. PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	1" = 120'
DESIGN BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

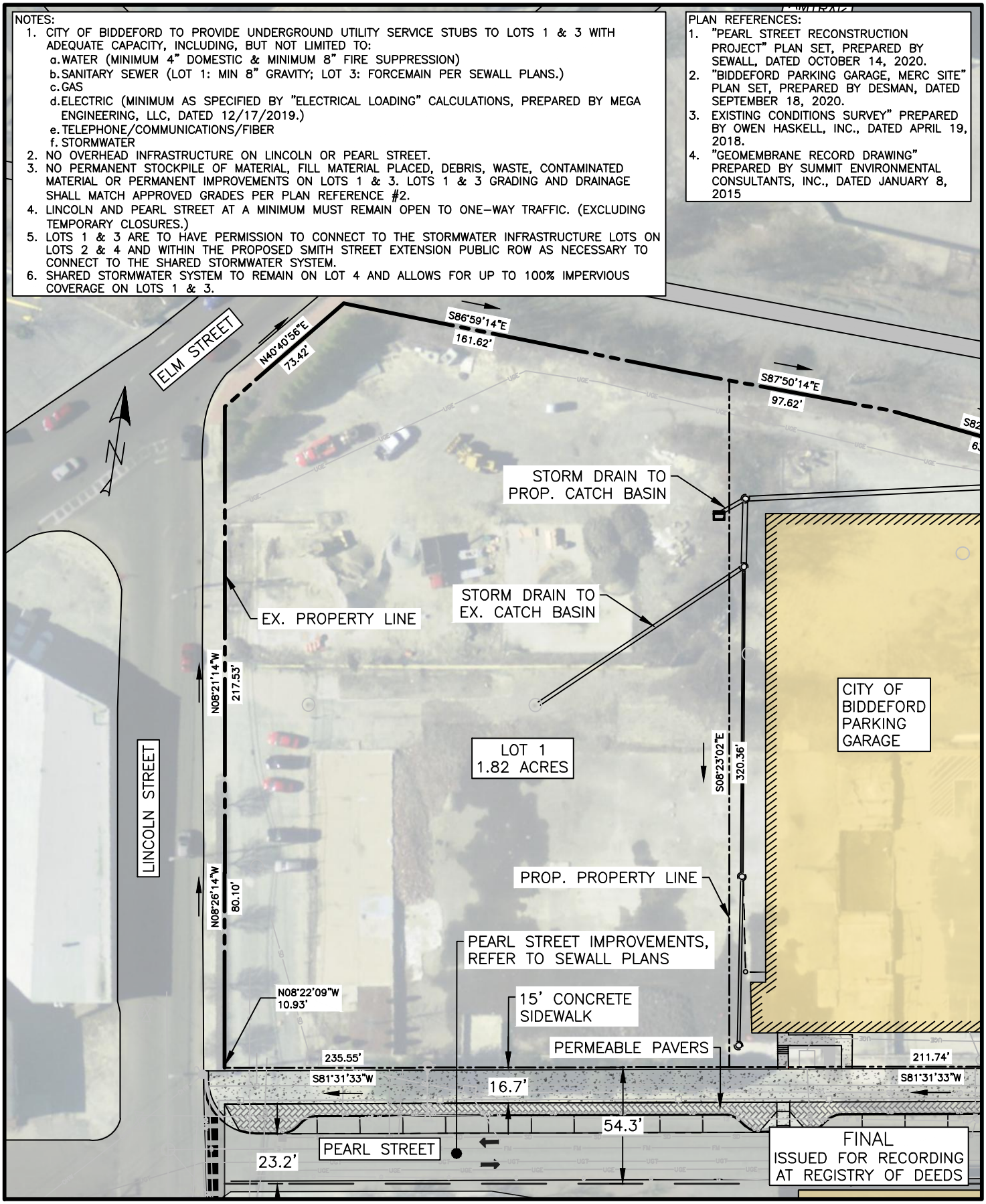
DRAWING NO.

EX-A

ALSO REFER TO EX-A1 & EX-A2

NOTES:
1. CITY OF BIDDEFORD TO PROVIDE UNDERGROUND UTILITY SERVICE STUBS TO LOTS 1 & 3 WITH ADEQUATE CAPACITY, INCLUDING, BUT NOT LIMITED TO:
   a. WATER (MINIMUM 4" DOMESTIC & MINIMUM 8" FIRE SUPPRESSION)
   b. SANITARY SEWER (LOT 1: MIN 8" GRAVITY; LOT 3: FORCEMAIN PER SEWALL PLANS.)
   c. GAS
   d. ELECTRIC (MINIMUM AS SPECIFIED BY "ELECTRICAL LOADING" CALCULATIONS, PREPARED BY MEGA ENGINEERING, LLC, DATED 12/17/2019.)
   e. TELEPHONE/COMMUNICATIONS/FIBER
   f. STORMWATER
2. NO OVERHEAD INFRASTRUCTURE ON LINCOLN OR PEARL STREET.
3. NO PERMANENT STOCKPILE OF MATERIAL, FILL MATERIAL PLACED, DEBRIS, WASTE, CONTAMINATED MATERIAL OR PERMANENT IMPROVEMENTS ON LOTS 1 & 3. LOTS 1 & 3 GRADING AND DRAINAGE SHALL MATCH APPROVED GRADES PER PLAN REFERENCE #2.
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DRAWING NO.
EX-A1
ALSO REFER TO EX-A & EX-A2

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SCALE:	1" = 60'
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DRAWN BY:	ZMS
CHECKED BY:	WHS

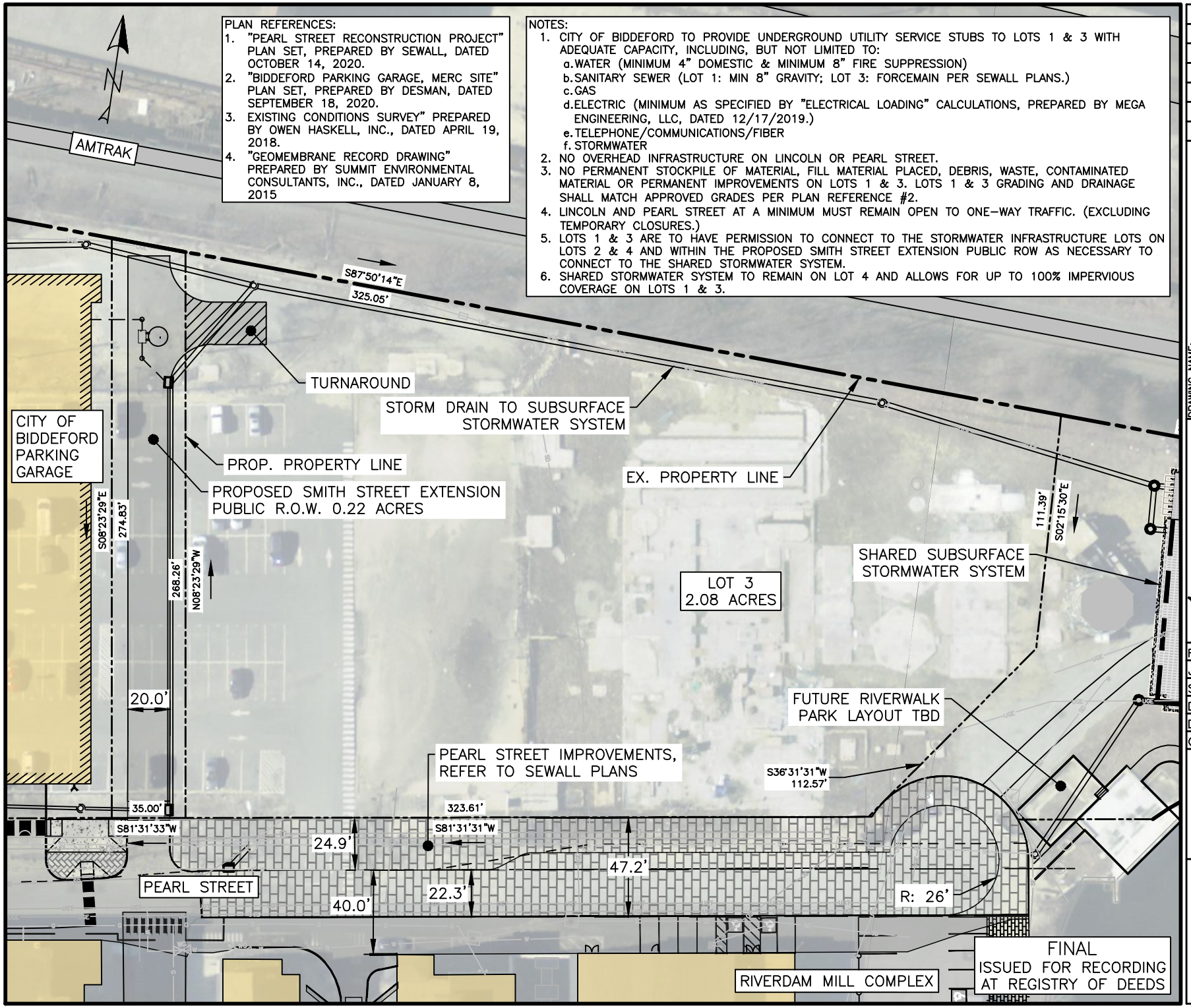
ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. P.O. BOX 3372
PORTLAND, MAINE 04104 (207) 775-2655

DRAWING NAME:
LOT 1 EXHIBIT

PROJECT NAME:
PEARL STREET & MERC REDEVELOPMENT

CLIENT:
FATHOM/BE FITLER, LLC
BIDDEFORD, MAINE

ISSUED FOR	BY	DATE
JDA EXHIBIT	PFH	11/12/20



ISSUED FOR	BY DATE
JDA EXHIBIT	PFH 11/12/20

DRAWING NAME: LOT 3 EXHIBIT

PROJECT NAME: PEARL STREET & MERC REDEVELOPMENT

CLIENT: FATHOM/BE FITLER, LLC BIDDEFORD, MAINE

ACORN ENGINEERING, INC
ACORN ENGINEERING, INC. 65 HANOVER ST. PORTLAND, MAINE 04104 (207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	1" = 60'
DESIGN BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.

EX-A2

ALSO REFER TO EX-A & EX-A1

MAINE DEPARTMENT OF TRANSPORTATION

TRAFFIC MOVEMENT PERMIT

SECTION 7

TRAFFIC IMPACT STUDY

3 Lincoln Street Project

Residential Apartments and Restaurant

Pearl Street, Biddeford, Maine

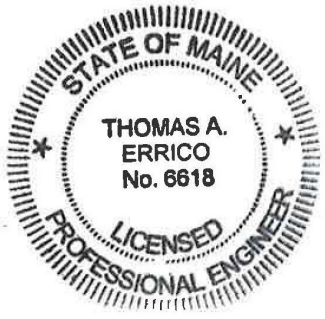
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Submitted by:

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1. Introduction

T.Y. Lin International (TYLI) was contracted by Acorn Engineering, Inc., and Fathom Company to conduct a Traffic Impact Study for the 3 Lincoln Street project located on Pearl Street in Biddeford, Maine (See **Figure 1**). The project consists of the following:

Lot 3A – 83 Residential Apartments Units

- (17) studio
- (32) 1-bedroom
- (23) 2-bedroom
- (11) 3-bedroom
- 50 parking spaces underground parking garage

Lot 3B – 108 Residential Apartments Units

- (42) studio
- (42) 1-bedroom
- (24) 2-bedroom
- 37 parking spaces underground parking garage

Lot 3C – (2) Restaurants - 298 seats total

- 170 seats in lower level
- 128 seats in upper level

Parking for the residential uses will be provided within each residential building and the adjacent parking garage. Parking for the restaurant use will be via area public parking sites and for this study it is assumed to be in the recently opened Pearl Street parking garage. A site plan prepared by Acorn Engineering Inc. is attached.

The purpose of this document is to support the MaineDOT Traffic Movement Permit process. A Traffic Movement Permit Application was submitted on September 20, 2021. A MaineDOT Traffic Movement Scoping Meeting was held on December 15, 2021. MaineDOT requested that the Traffic Impact Study evaluate specific traffic conditions at the following intersections.

- Elm Street/Pine Street
- Elm Street/Lincoln Street
- Lincoln Street/Pearl Street
- Elm Street/Pearl Street

The tasks that were undertaken in the study were as follows:

- Conduct field reconnaissance and traffic counting programs during the weekday PM and Saturday peak periods at study area intersections.
- Develop existing design hour traffic volumes from peak hour traffic volumes.

- Project existing design hour traffic volumes to a future year based on a traffic growth factor and include other approved land development projects not yet in operation as provided by the City and State.
- Develop anticipated traffic volumes to be generated by the planned project for the weekday PM and Saturday peak hour conditions.
- Conduct capacity analyses, level of service determination, and vehicle queuing analyses as appropriate for:
    - Future conditions without the project; and
    - Future conditions with the project.
- Based on the traffic analyses, determine any operational deficiencies at the study area intersections.
- Conduct a safety analysis at the following locations:
    - Pine Street/Elm Street
    - Lincoln Street/Elm Street
    - Lincoln Street/Pearl Street (Review sight distance issues)
    - Provide AADT for the above locations
- Perform a traffic impact fee calculation according to City methods.

2. Data Collection

TYLI performed field reconnaissance of the study area, assembled existing traffic counts, conducted a video turning movement count and gathered information on anticipated future developments in the vicinity of the project. A manual turning movement count was conducted on a typical weekday from 3:00-6:00 PM and a Saturday from 11:00-2:00 PM on the date noted:

- Elm Street/Lincoln Street (PM July 18, 2019, and Saturday July 20, 2019 Riverdam Study)
- Elm Street/Pine Street (PM November 2, 2021, and Saturday October 30, 2021)
- Lincoln Street/Pearl Street (PM June 13, 2019, and Saturday July 20, 2019 Riverdam Study)
- Elm Street/Pearl Street (PM July 17, 2019, and Saturday July 27, 2019 Riverdam Study)

Copies of the turning movement counts are provided in the **Appendix**.

3. Existing (2021) Design Hour Traffic Volumes

The primary purpose of this study is to determine the impact the proposed project will have on the local transportation system. In general, the critical time period for a given project is directly associated with peaking characteristics of both the project-related traffic and the area transportation system. As directed by MaineDOT, this study evaluates traffic conditions during the weekday PM and Saturday peak hours of the local roadway system.

Development of peak hour traffic volumes was based upon the traffic counts conducted or assembled. Because the traffic counts were collected in different years, two tasks were performed to estimate existing design hour volume conditions, adjusting 2019 traffic volumes to reflect 2021 conditions, and seasonally adjusting the volumes to reflect summer conditions.

The 2019 traffic counts were adjusted by a growth rate of 1.0 percent per year (see **Section 6** for growth rate assumption) and traffic from the Riverdam project was added to these intersections. The Riverdam project was occupied at the time of the 2021 counts and therefore trips were not added to the Elm Street/Pine Street intersection.

The traffic pattern on any highway shows considerable variation in traffic volumes during different hours of the day and during the year. It is therefore important to determine which hourly traffic volume to use for analysis and design. It would be wasteful to predicate the design on the (maximum) peak hour traffic of the year, yet the use of the average hourly traffic would result in an inadequate design. The hourly traffic volume used in design should not be exceeded very often or by very much. On the other hand, it should not be so high that traffic would rarely be great enough to make full use of the facility. Based upon the relationship between highest hourly volumes and daily traffic volumes, it has been concluded that the hourly traffic used in design should be the 30th Highest Hour Volume, or sometimes call Design Hour Volume. For this study, the 2021 peak hour traffic volumes were adjusted to obtain Design Hour Volumes by applying the MaineDOT Weekly Group Mean Factors. The adjustment factor used was 1.08. No adjustment was required for the 2019 counts as collection of data occurred during the summer. **Figure 2** presents the Existing (2021) Design Hour Traffic Volumes within the study area.

4. Future (2024) No-Build Traffic Volumes

In order to estimate traffic volumes during the No-Build condition, it is important to incorporate both historical traffic growth and traffic generated by other developments in the study area. The latter is necessary because conditions associated with nearby developments may generate traffic that impact roadways being studied. For this study, TYLI estimated an annual traffic growth rate of 1.0 percent based on previous experience in the region. Given the expected build out of the project in 2024, the Existing (2021) Design Hour traffic volumes were projected to Future (2024) No- Build traffic volumes (without the proposed development) by applying the annual traffic growth rate of 1.0 percent over a three-year period.

TYLI also reviewed other developments projected to occur in or near the study area. Based on feedback from the City of Biddeford at the MaineDOT Scoping meeting, the Lincoln Mill project (50% occupied) and the Building 11 Elderly Apartment project were identified and incorporated as part of the Future (2024) No-Build volumes.

Traffic from the Lincoln Mill project was based on information contained in the Riverdam Traffic Study. Fifty percent of traffic from the project was included in this study. It was assumed that 59 entering trips and 66 exiting trips during the weekday PM peak hour. Because Saturday peak hour trip generation information was not included, the weekday data was used.

Traffic from the Building 11 Elderly Apartment project was based on the ITE Trip Generation Manual (a traffic study is not available). According to the City, the project consists of 71 apartment units. This corelates to 19 weekday PM peak hour trips and 23 Saturday peak hour trips. The City suggested that we

assign 50% of these trips to Pearl Street. Assignment of the trips to the roadway system was based on a similar trip assignment pattern as the 3 Lincoln Street project.

Given that traffic counts at some intersections were collected in 2019, traffic from the Riverdam project were added to those intersections.

Figure 3 depicts traffic for the other development project during the PM and Saturday peak hours. **Figure 4** presents the estimated Future (2024) No-Build traffic volumes at the study area intersections.

5. Site Traffic Generation and Distribution

Trip generation from the site was based upon information contained in the Trip Generation Manual, Institute of Transportation Engineers, 10th Edition. **Table 1** summarizes Weekday AM and PM peak hour traffic volumes (see Appendix for supporting information). Traffic generated by the proposed project was based on Land Use Code 221 Multifamily Housing (Mid-Rise) and Land Use Code 932 High-Turnover (Sit-Down Restaurant). The volumes represent trip generation for the Peak Hour of Generator. The following summarizes the trip generation rates and trip distribution used for the project.

- Land Use Code 221 Multifamily Housing (Mid-Rise)
  - AM Peak Hour of Generator
    - Average Rate Per – 0.32 per unit
    - **Ln(T) = 0.83 Ln(X) – 0.27 [used for this Application]**
    - Directional Distribution: 20% Entering, 73% Exiting
  - PM Peak Hour of Generator
    - Average Rate Per – 0.41 per unit
    - **Ln(T) = 0.83 Ln(X) – 0.05 [used for this Application]**
    - Directional Distribution: 60% Entering, 40% Exiting
  - Saturday Peak Hour of Generator
    - Average Rate Per – 0.44 per unit
    - **T = 0.42 (X) + 6.73 [used for this Application]**
    - Directional Distribution: 49% Entering, 51% Exiting
- Land Use Code 932 High-Turnover (Sit-Down Restaurant)
  - AM Peak Hour of Generator
    - Average Rate Per – 0.59 per seat [Restaurant will not be open and thus excluded]
    - Equation not given
  - PM Peak Hour of Generator
    - **Average Rate Per – 0.73 per seat [used for this Application]**
    - Equation not given
    - Directional Distribution: 52% Entering, 48% Exiting
  - Saturday Peak Hour of Generator
    - **Average Rate Per – 0.53 per seat [used for this Application]**
    - Equation not given
    - Directional Distribution: 53% Entering, 47% Exiting

Given the type of land uses proposed, internal capture trip activity will occur (residents dinning at the restaurant or employees of the restaurant living in the proposed housing, as examples). To estimate the internal capture influence NCHRP 684 methods were used. The NCHRP 684 method estimates a modest 5%

reduction in the PM peak hour and 9% during the Saturday peak hour (see Appendix for calculation sheets). Given that the restaurant will be closed in the morning, no adjustments were included. Additionally, not all traffic generated by the project are new trips to area roadways. Some site trips comprise of "Pass-By" trips. According to ITE, a pass-by trip is made as an intermediate stop on the way from an origin to a primary trip destination without a route diversion. Pass-By trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. According to ITE a Restaurant (Land Use Code 932) has an average Pass-By trip percentage of 43 percent. Saturday Pass-By percentages are not provided, and the Weekday percentages was used As noted in **Table 1** the project would be expected to generate 61 new trips during the morning peak hour, 162 new trips during the afternoon peak hour and 127 new trips during the Saturday peak hour.

Table 1
Trip Generation
Peak Hour of Generator

	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Residential Apartment (191 Units)	16	45	61	47	31	78	43	44	87
Restaurant (298 Seats)[1]	N/A	N/A	N/A	113	105	218	84	74	158
Sub-Total	16	45	61	160	136	296	127	118	245
Internal Capture Trips	N/A	N/A	N/A	-7	-7	-14	-11	-11	-22
Total Entering and Exiting Site	16	45	61	153	129	282	116	107	223
Restaurant Pass-By Trips (43%)[2]	N/A	N/A	N/A	-60	-60	-120	-48	-48	-96
Total New Traffic	16	45	61	93	69	162	68	59	127

1 – The restaurant is not open during the morning peak hour

2 – Saturday Pass-By trips not provided, and weekday PM utilized.

The assignment of trips to the area roadway system was based upon existing traffic volume patterns and approved assignment percentages defined in the Riverdam Redevelopment Traffic Impact Study. The assignment percentages proposed are noted as follows:

Entering Trips

- Left-turn from Lincoln Street onto Pearl Street – 58%
- Right-turn from Lincoln Street onto Pearl Street – 22%
- Through movement on Pearl from Elm Street – 20%

Exiting Trips

- Left-turn from Pearl Street onto Lincoln Street – 38%
- Through movement on Pearl Street to Elm Street – 10%
- Right-turn from Pearl Street onto Lincoln Street – 52%

Trips distributed above were assigned to the Elm Street and Pine Street intersection according to existing traffic volumes. Based on the data approximately 30% of the site traffic traveling north on Elm Street was assigned to Pine Street. **Figure 5** presents the assignment of trips during the Weekday PM and Saturday peak hours.

6. Future (2024) Build Traffic Volumes

Future (2024) traffic volumes with the planned project completed were estimated by adding the site generated traffic to the Future (2024) No-Build traffic. A growth rate of 1% per year was used based on two data sources. A review of historical AADT traffic volume data indicates Elm Street had a volume of 12,790 vehicles in 2016 and 13,260 vehicles in 2021. This corresponds to a 0.75% annual growth rate. In conjunction with the Biddeford Route 111 Transportations/South Street Connections Study traffic volume forecasts were developed by Kevin Hooper and Elm Street north of Main Street is expected to grow by 14% between 2021 and 2045 or about 0.58% per year. Accordingly, use of a 1% annual growth rate seems appropriate. **Figure 6** illustrates the estimate Future (2024) Build traffic volumes at the study area intersections.

7. Intersection Analysis

To evaluate the impact of traffic generated by the planned project, capacity analyses were performed at the study intersections under Future (2024) No-Build and Future (2024) Build conditions. The standard used to evaluate traffic operating conditions of the transportation system is referred to as the Level of Service (LOS). Level of Service provides a measurement of the delay experienced at an intersection as a result of traffic operations at that intersection. In general, there are six levels of service: Level of Service A to Level of Service F. The highest, Level of Service A, describes a condition of free flow, with low volumes and high speeds. Level of Service B represents a stable traffic flow with operating speeds beginning to be restricted somewhat by traffic conditions. Level of Service C, which is normally utilized for design purposes, describes a stable condition of traffic operation. It entails moderately restricted movements due to higher traffic volumes, but traffic conditions are not objectionable to motorists. Level of Service D reflects a condition of more restrictive movements for motorists and influence of congestion becomes more noticeable. Level of Service E is representative of the actual capacity of the roadway or intersection and involves delay to all motorists due to congestion. The lowest, Level of Service F, is described as force flow and is characterized by volumes greater than the theoretical roadway capacity. Complete congestion occurs, and in extreme cases, the volume passing a given point drops to zero. This is considered as an unacceptable traffic operating condition.

Table 2 highlights the level of service criteria for signalized intersections. The level of service criteria for signalized intersections is based on control delay per vehicle measured in seconds.

Table 2 LOS Criteria for Signalized Intersections	
Level of Service	Control Delay Per Vehicle (seconds)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	> 80

Source: 2010 Highway Capacity Manual, Transportation Research Board

Table 3 highlights the level of service criteria for unsignalized intersections. The level of service criteria for un-signalized intersections is based on control delay per vehicle measured in seconds. The LOS procedure computes capacity for each movement that has a conflict, based upon the critical time gap required to complete the maneuver and the volume of traffic that is opposing the movement.

Table 3 LOS Criteria for Unsignalized Intersections	
Level of Service	Control Delay Per Vehicle (seconds)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50

Source: 2010 Highway Capacity Manual, Transportation Research Board

For this study, level of service analysis of the study area intersections was conducted with Synchro/SimTraffic 11. Tables **4 through 7** present the results of the level of service analyses No-Build and Build future conditions within the study area.

Table 4 Elm Street/Pine Street Level of Service Summary								
Movement	PM Peak Hour				Saturday Peak Hour			
	2024 No-Build		2024 Build		2024 No-Build		2024 Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Elm St. NB Left	B	12.0	B	13.8	A	7.5	A	8.6
Elm St. NB Through	A	2.8	A	2.9	A	2.0	A	2.4
Elm St. SB Through/Right	A	5.6	A	6.2	A	3.9	A	4.1
Pine St. Left/Right	F	639.0	F	812.3	F	282.3	F	321.9
Overall	F	51.8	F	54.3	E	40.0	D	46.3

Table 5 Elm Street/Lincoln Street Level of Service Summary								
Movement	PM Peak Hour				Saturday Peak Hour			
	2024 No-Build		2024 Build		2024 No-Build		2024 Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Elm St. NB Left/Through/Right	A	2.3	A	2.8	A	1.1	A	1.4
Elm St. SB Left	C	22.6	D	30.3	A	7.8	A	8.4
Elm St. SB Through/Right	A	2.6	A	4.7	A	0.7	A	0.8
Lincoln St. Right	F	88.8	F	108.1	A	9.5	B	12.5
Car Wash Driveway	F	325.1	F	498.9	D	23.0	D	31.1
Overall	C	21.8	C	29.2	A	2.9	A	4.0

Table 6 Lincoln Street/Pearl Street Level of Service Summary								
Movement	PM Peak Hour				Saturday Peak Hour			
	2024 No-Build		2024 Build		2024 No-Build		2024 Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Lincoln NB	B	15.0	C	21.5	A	0.7	A	0.8
Lincoln SB	A	2.4	A	3.7	A	1.9	A	2.8
Pearl EB	B	15.0	C	33.8	A	6.6	A	8.4
Pearl WB	F	79.1	F	223.1	A	6.8	B	11.3
Overall	C	23.9	F	70.2	A	3.5	A	5.9

Table 7 Elm Street/Pearl Street Level of Service Summary								
Movement	PM Peak Hour				Saturday Peak Hour			
	2024 No-Build		2024 Build		2024 No-Build		2024 Build	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Elm NB	A	1.2	A	1.7	A	1.2	A	1.5
Elm SB	A	1.2	A	1.3	A	0.6	A	1.3
Pearl WB	E	37.8	F	68.7	E	36.7	E	66.7
Overall	A	2.1	A	3.8	A	2.3	A	4.9

Tables 8 through 11 present the 95th% vehicle queue estimates at the study intersection.

Table 8 Elm Street/Pine Street 95th% Queue Summary (Feet)					
Movement	Available Storage	PM Peak Hour		Saturday Peak Hour	
		2024 No-Build	2024 Build	2024 No-Build	2024 Build
Elm St. NB Left	100	156	168	107	115
Elm St. NB Through		138	139	4	58
Elm St. SB Through/Right		201	217	117	130
Pine St. Left/Right		835	812	861	872

Table 9 Elm Street/Lincoln Street 95th% Queue Summary (Feet)					
Movement	Available Storage	PM Peak Hour		Saturday Peak Hour	
		2024 No-Build	2024 Build	2024 No-Build	2024 Build
Elm St. NB Left/Through/Right		216	117	33	59
Elm St. SB Left	80*	206	250	82	100
Elm St. SB Through/Right		102	306	N/A	N/A
Lincoln St. Right		330	321	77	106
Car Wash Driveway		150	175	40	47

*The lane is not well defined and there is about 20 feet from the centerline to curb of a significant distance.

Table 10 Lincoln Street/Pearl Street 95th% Queue Summary (Feet)				
Movement	PM Peak Hour		Saturday Peak Hour	
	2024 No-Build	2024 Build	2024 No-Build	2024 Build
Lincoln NB	172	217	13	17
Lincoln SB	71	110	55	83
Pearl EB	71	137	56	62
Pearl WB	403	996	81	142

Table 11 Elm Street/Pearl Street 95th% Queue Summary (Feet)				
Movement	PM Peak Hour		Saturday Peak Hour	
	2024 No-Build	2024 Build	2024 No-Build	2024 Build
Elm SB	110	95	56	105
Pearl WB	53	126	70	135

The following summarizes the conclusion of the analysis.

Elm Street/Pine Street

Movements from Pine Street experience delay under both No-Build and Build conditions. Pine Street serves as a route between Biddeford, parts of Saco and Exit 36 of the Maine Turnpike and turn movements are significant. With heavy traffic volumes on Elm Street, right-turn movements onto Elm Street struggle to find a gap in traffic.

Elm Street/Lincoln Street

The SimTraffic model for this location assumed the TMP required improvements for the Riverdam project (prohibiting left and through movements from Lincoln Street). Even with these improvements, right-turn movements from Lincoln Street will experience long delays with and without the proposed project. Movements from the Car Wash will also experience long delays.

MaineDOT requested that a traffic signal warrant analysis be conducted at the location. Because limited traffic volume data is available only the Peak Hour Volume Warrant and the Crash Warrant were evaluated.

Warrant 3: Peak Hour

The MUTCD has a disclaimer for use of this warrant that reads "This signal warrant shall be applied only in unusual cases such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. This location does not meet this criteria, but given the lack of data it is the only volume-based warrant evaluated.

Warrant 3 is based on the sum of the major street traffic volume and the higher minor street traffic volume. The Peak Hour Warrant was evaluated for two volume conditions; 2019 Existing Conditions (when the traffic counts were performed) and for the 2024 Build Conditions. Given intersection turning movement volumes, the Elm Street southbound left-turn onto Lincoln Street is the volume that would trigger the warrant (the left-turn volume is greater than the right-turn volume from Lincoln Street). Accordingly, the left turn volume was used as the minor movement and the Elm Street northbound approach volumes was used as the major movement. The red mark on the following graphs represents the plot of major volume on northbound Elm Street and minor volume Elm Street southbound left-turn during the PM peak hour. As illustrated the warrant is not met for the 2019 existing volume condition but met for the 2024 Build volume scenario.

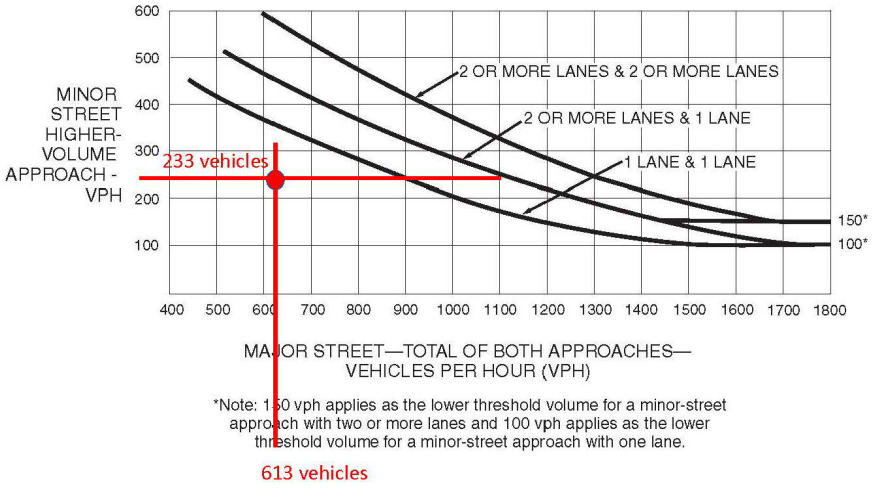
The following summarizes the actual 2019 volumes, adjustment to average conditions, and the 2024 Build volumes during the PM peak hour. The 2024 Build volumes used in the warrant evaluation were reduced by 15% to approximate average conditions.

<u>2019 Existing</u>

- Elm Street Southbound Left – 274 (7/18/2019) x 0.85 (group mean factor) = 233
- Elm Street Northbound Left+Through+Right (15+692+14) – 721 x 0.85 (group mean factor) = 613

2019 Existing PM peak hour

Figure 4C-3. Warrant 3, Peak Hour

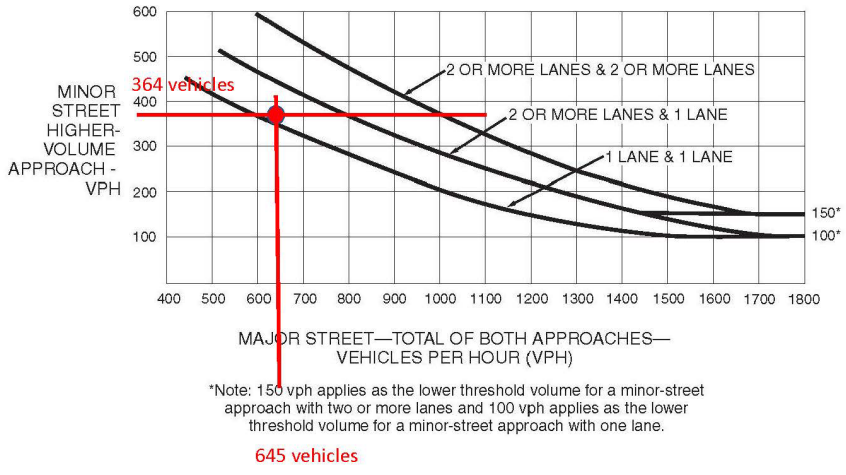


2024 Build

- Elm Street Southbound Left – 428 x 0.85 (group mean factor) = 364
- Elm Street Northbound Left+Through+Right (16+727+16) – 759 x 0.85 (group mean factor) = 645

2024 Build PM peak hour

Figure 4C-3. Warrant 3, Peak Hour



Warrant 7: Crash Experience

Warrant 7 states the need for a traffic control signal shall be considered if an engineering study finds that all the following criteria are met:

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency: and
B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements of a reportable crash: and
C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both the 80 percent column of Condition A in Table 4c-1, or the vph in both the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be the same for 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

This intersection is a High Crash Location (HCL). Based upon crash data there are not five crashes within a 12-month period that would be correctable by a traffic signal (See **Section 8**). Therefore, this warrant is not satisfied.

Lincoln Street/Pearl Street

Movements from Pearl Street (from the development) will experience long delays following project completion. Review of the simulation model indicated traffic is backing up along Lincoln Street from the Elm Street intersection and making it difficult to exit the site.

Elm Street/Pearl Street

Movements from Pearl Street will experience increased delay following project completion. Movements will decline from a level of service E in the No-Build condition to F following project completion.

8.0 Safety Analysis

Computer crash reports and Collison Crash Diagrams for High Crash Locations were obtained from MaineDOT for the most recent available three-year period (2018-2020) for the following roadways in the vicinity of the project:

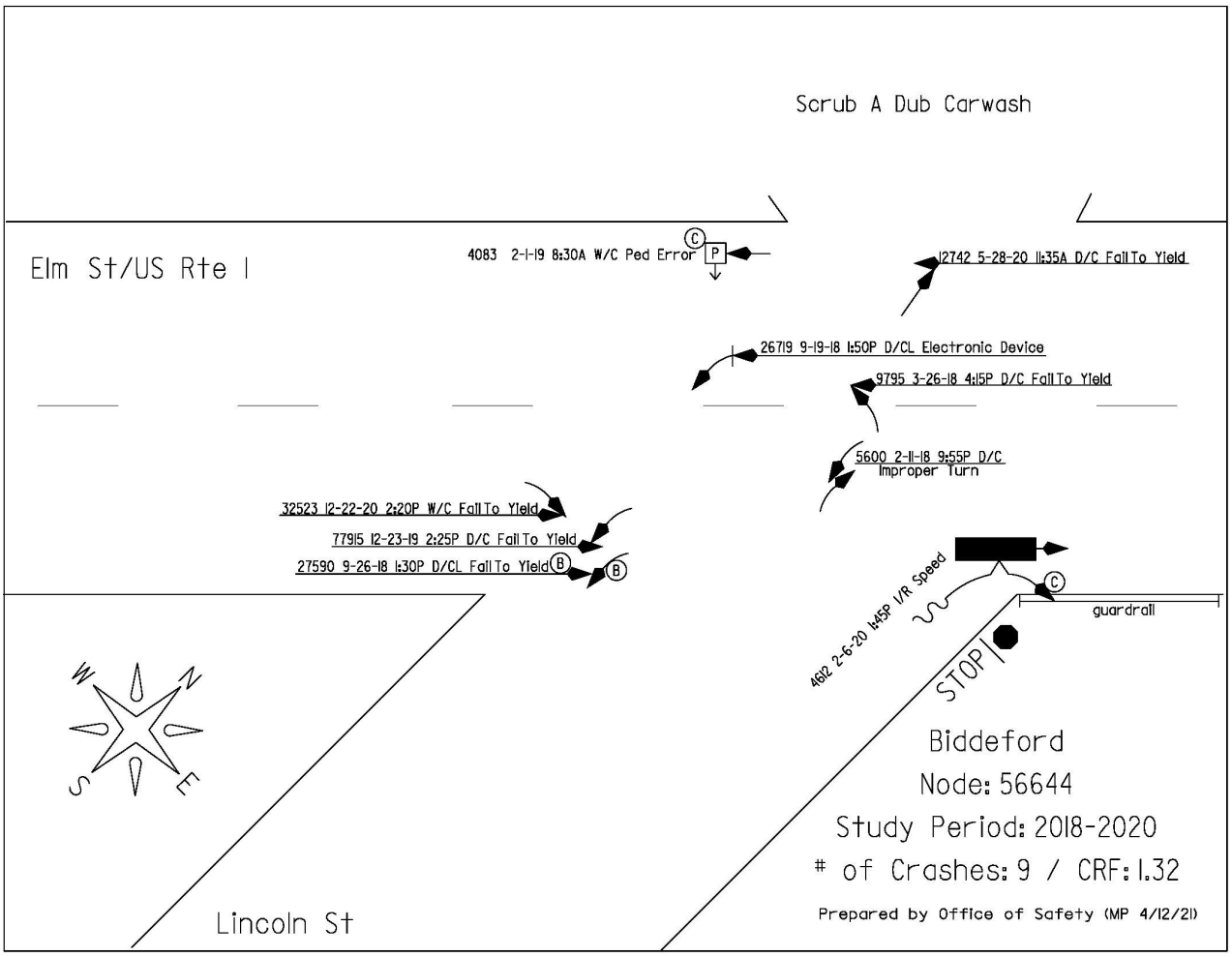
- Route 1/Elm Street – Main Street to Saco TL
- Pearl Street
- Lincoln Street
- Main Street – Lincoln Street to Elm Street

Table 12 summarizes the crash data at locations that are High Crash Locations (HCL) or close to meeting the criteria.

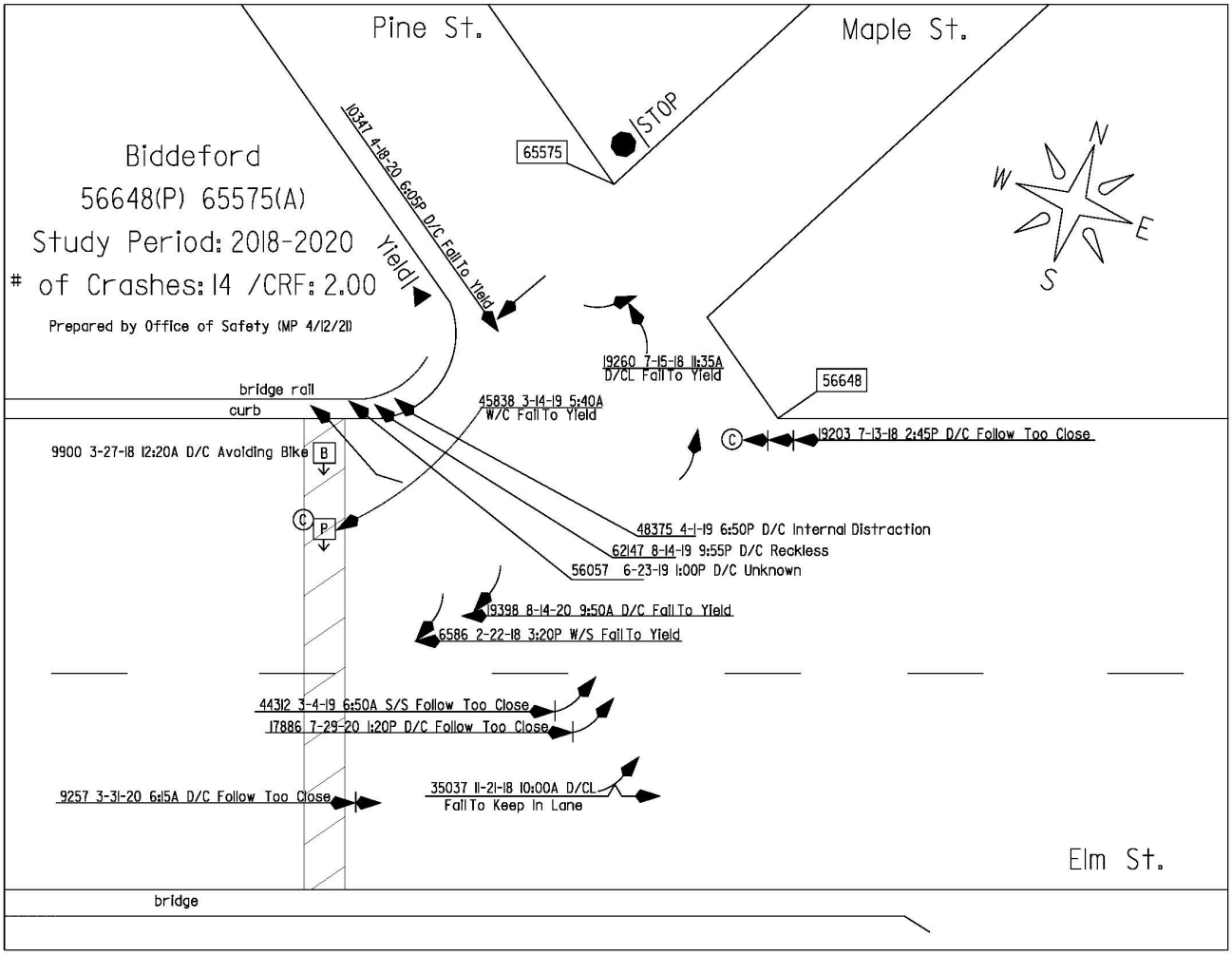
Table 12 Crash Data		
Location	**2018-2020 Crashes**	**Critical Rate Factor**
Elm Street/Main Street	22	0.94
Elm Street/St. Mary's Street	7	1.16
Elm Street/Spruce Street	17	0.92
Elm Street/Lincoln Street	9	1.32
Elm Street/Pine Street	14	2.00
Main Street/Lincoln Street/Adams Street	18	4.31
Main Street/Jefferson Street	8	2.90

At the scoping meeting the following locations were requested to be investigated: Elm Street/Pine Street, Elm Street/Lincoln Street, and Lincoln Street/Pearl Street.

- **Elm Street/Lincoln Street** – The crash diagram indicates turn crashes are the most prevalent type. Four crashes involved vehicles turning left onto Lincoln Street, one involving a vehicle turning left from Lincoln Street and one crash involving a motorist turning left into a nearby driveway. Traffic volumes turning left onto Lincoln Street are high as is the opposing volume on northbound Elm Street. Limited gaps may be contributing to crashes. While it is an HCL, only 9 crashes were reported. Sight distance is adequate. A mitigation improvement strategy is not evident. It should be noted that an improvement plan is being implemented for Elm Street between Main Street and Pine Street and these improvements would be expected to improve conditions at this location. The Elm Street Concept Improvements project proposes to close Lincoln Street between Elm Street and Pearl Street. Additionally, access management improvements at the Car Wash and general geometric improvements are included. In combination, these improvements would be expected to enhance safety.


Scrub A Dub Carwash
Elm St/US Rte 1
4083 2-1-19 8:30A W/C Ped Error
12742 5-28-20 11:35A D/C Fail To Yield
26719 9-19-18 1:50P D/CL Electronic Device
9795 3-26-18 4:15P D/C Fail To Yield
5600 2-11-18 9:55P D/C Improper Turn
32523 12-22-20 2:20P W/C Fail To Yield
77915 12-23-19 2:25P D/C Fail To Yield
27590 9-26-18 1:30P D/CL Fail To Yield
4612 2-6-20 1:45P I/R Speed
guardrail
STOP
Biddeford
Node: 56644
Study Period: 2018-2020
# of Crashes: 9 / CRF: 1.32
Prepared by Office of Safety (MP 4/12/21)
Lincoln St

- **Elm Street/Pine Street** – A number of different types of crashes were reported at this location. Three rear-end collisions occurred on eastbound Elm Street; two angle crashes involving right-turns from Pine Street; Three single vehicle crashes; one crash involving a pedestrian; one crash avoiding a bicyclist; and two crashes involving movements to and from Pine Street. There was not a specific pattern that would warrant a mitigation improvement strategy. This location is the northern limits of the Elm Street improvement plan. The Concept Improvement plan is recommending that the intersection become signalized and left-turns from Pine Street be prohibited. This change should improve safety.



- **Lincoln Street/Pearl Street –** For this location it was requested that sight distance from northbound Pearl Street be reviewed and if deemed to be substandard, investigation into the installation of an all-way STOP condition be considered. Sight distance is constrained by buildings for motorists traveling eastbound on Pearl Street approaching Lincoln Street. Lincoln Street has a posted speed of 25MPH, and this requires a minimum sight distance of 200 feet. Available sight is actually a function where a vehicle stops. Sight is significantly obstructed if a motorist complies and stops in advance of the stop line. It is possible for a motorist to move forward and obtain 200 feet of sight. Given increased traffic volumes investigation into whether a multi-way STOP condition is warranted and would not result in unreasonable traffic conditions.



According to the MUTCD, a multi-way stop control condition can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. The decision to install multi-way stop control should be based on an engineering study. The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

This criteria is not relevant.

B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

According to crash data obtained from the MaineDOT for the most recent available three-year period (2018-2020) only one crash was reported. This criteria is not met.

C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

For this warrant to be satisfied at least 300 vehicles per hour are required for 8 hours of an average day for Lincoln Street and 200 vehicles per hour for Pearl Street. During the 2024 Build PM Peak hour the Lincoln Street volume is 732 vehicles. Pearl Street is estimated to have 414 vehicles. Based upon the above data, it is possible this level of traffic is met for 8 hours of an average day.

D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

This would reduce the volume criteria to 240 vehicles for Lincoln Street and 160 vehicles for Pearl Street. Based upon the previously summarized volume data, it is likely volumes would meet the criteria for 8 hours on an average day.

The MUTCD notes the following other criteria that may be considered in an engineering study include:

A. The need to control left-turn conflicts;

This does not seem to be relevant.

B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;

This does not seem to be relevant.

C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop;

This is relevant as documented in the previous photograph where a building obstructs sight.

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

This is not relevant.

Based upon the results of the warrant evaluation and increased traffic volumes at the intersection a multi-way STOP intersection should be considered. Refer to **Section 10** – Traffic Mitigation Considerations for additional details and conclusions.

MaineDOT Highway Safety Evaluation - The MaineDOT has process in which they use information provided in the Highway Safety Manual (HSM) to forecast potential safety impacts due to increasing traffic volumes at a specific location. Per the request of the MaineDOT, the forecasted Annual Average Daily Traffic (AADT) volume increase due to the proposed project at each of the previous noted locations has been estimated for use in completing their calculations. The Lincoln Street/Pearl Street location was not included because it is not a High Crash Location. It is our understanding that the results of their evaluation will then be used to determine a safety impact fee per high crash location in lieu of mitigation. **Table 13**

presents the Weekday trip generation for the project based on the 11th Edition of the ITE Trip Generation Manual.

Table 13 Trip Generation Weekday For Highway Safety Evaluation			
	Weekday		
	Enter	Exit	Total
Residential Apartment (191 Units)	434	434	868
Restaurant (298 Seats)	651	651	1302
Sub-Total	1085	1085	2170
Internal Capture Trips (5%)	-54	-54	-108
Total Entering and Exiting Site	1031	1031	2062
Restaurant Pass-By Trips (43%)	-443	-443	-886
Total New Traffic	588	588	1176

Table 14 presents the increase in AADT at the requested intersections. The assignment of weekday trips was similar to the assignment of peak hour trips, which is estimated to be 55% to and from Elm Street along Lincoln Street, 15% to and from Elm Street along Pearl Street and 30% to and from Main Street along Lincoln Street.

Table 14 Increase in AADT for Highway Safety Evaluation	
Intersection	**Increase in AADT**
Elm Street/Pine Street	
Elm Street NB	647
Elm Street SB	453
Pine Street	194
Elm Street/Lincoln Street	
Elm Street NB	0
Elm Street SB	647
Lincoln Street	647

Section 9 – Pedestrian Infrastructure Review

A review of pedestrian infrastructure was performed within the study area. The following streets/intersections were reviewed with the noted details.

Pearl Street

- Pearl Street north of Lincoln Street is currently being reconstructed and a sidewalk will be provided on the west side of the street with curb ramps provided at the two intersection corners at Lincoln Street.
- A sidewalk is not provided on Pearl Street from Lincoln Street to Elm Street (a short section of sidewalk in poor condition exists north of Stone Street). The Elm Street Concept Improvement Plan includes the construction of a sidewalk on the east side of Pearl Street.

Lincoln Street

- A sidewalk exists on Lincoln Street between Pearl Street and Elm Street.

Elm Street

- Elm Street has sidewalks on both sides of the street from Pearl Street to Gooch Street. Between Gooch Street and Pine Street a sidewalk is provided on the west side (only one sidewalk is provided on the bridge over the Saco River).
- Elm Street/Pearl Street intersection
    - A crosswalk across Pearl Street is provided, but ADA compliant ramps are not provided.
- Elm Street/Spruce Street
    - This location has a crosswalk on Spruce Street and the north leg of Elm Street. The ramps appear to be ADA compliant. It also includes compliant pedestrian signal heads and push buttons that were upgraded by MaineDOT.
- Elm Street Midblock Crosswalk
    - There is a midblock crosswalk between Spruce Street and Thornton Avenue. This crosswalk is not ADA compliant and does not have warning signs.
- Elm Street/Thornton Street
    - There are crosswalks on the north leg on Elm Street and on Thornton Avenue. The crosswalks are not ADA compliant and do not have warning signs.
- Elm Street/Lincoln Street
    - A crosswalk across Lincoln Street is provided, but ADA compliant ramps are not provided. It is also a very long crossing and has a “kinked” alignment.

- Elm Street/Hooper Street
    - A crosswalk across Hooper Street is provided, but ADA compliant ramps are not provided.
- Elm Street/Gooch Street/Diamond Street
    - This location has a crosswalk on Diamond Street and the south leg of Elm Street. The landings are not ADA compliant, and the Elm Street crosswalk does not have warning signs.
- Elm Street/Pine Street
    - This location has a crosswalk on Pine Street that is not ADA compliant.

Section 10 – City Traffic Impact Fee

As requested at the Scoping Meeting, an impact fee was calculated based upon the recommendations in the Biddeford-Saco Mill District Study Mitigation and Impact Fee Summary dated June 2015 prepared by Gorrill-Palmer. That report establishes an impact fee of $1,082 per PM peak hour trip end generated by the project. As noted in **Table 1**, the project is expected to generate 162 new PM peak hour trips entering and exiting the site. This results in an impact fee of $175,284.

It should be noted that this is provided for information purposes as there is an on-going study/project that identified conceptual improvements and costs for upgrading Elm Street between Main Street and Pine Street. That project may identify a revised set of impact fee contribution requirements. The concept study has been completed and generally consists of the following:

- The plan assumes the Elm Street/Spruce Street/Pearl Street is aligned and signalized.
- Lincoln Street is closed to through traffic between Pearl Street and Elm Street. A shared-use path is proposed, and local service vehicles will be permitted (possibly via a shared street).
- The Elm Street/Gooch Street/Diamond Street intersection is signalized.
- The Elm Street/Pine Street intersection is signalized.
- A small urban roundabout is proposed at the Lincoln Street/Pearl Street intersection.
- Bike lanes are provided on Elm Street between Lincoln Street and Gooch Street/Diamond Street.
- Sidewalks are fully upgraded and meet ADA standards. A sidewalk is proposed on Pearl Street between Elm Street and Lincoln Street.
- A refuge island and RRFB's are proposed at Elm Street/St. Mary's Street.
- A refuge island and RRFB's are proposed at the closed Lincoln Street on Elm Street.
- Various access management improvements.

MaineDOT prepared a conceptual planning-level cost estimate for the project as noted below:

- Construction Estimated cost: $9,000,000.00 + 25 % contingency= $11,225.00.00
- Total construction estimated cost: $11,225,000.00
- Construction Engineering(CE): $1,700,000
- Right of way:$1,500,000
- Preliminary Engineering: $1,000,000
- **Total estimated project cost is $15,425,000.**

Assumptions:

- Unknown right of way and plans have not been shown to the public (Property owners). This is a rough estimate as the project would have to acquire a domino's pizza business, and have other property impacts that would have to be addressed.
- Unknown utility upgrades.
- Unknown existing conditions of the drainage system.
- Historical or Environmental concerns have not been evaluated.

The City should be advised this fall whether or not the Elm Street/Route 1 federal earmark request will be funded. If successful, federal funds will be available after this October 1st to finalize the project design, secure required right-of-way and construct all improvements. The construction timing for this project will likely be no earlier than 2024.

Section 11 – Traffic Mitigation Considerations

Based upon the analysis and conclusions presented previously the following traffic mitigation strategies are suggested.

- **Elm Street/Pine Street –** As noted previously movements from Pine Street will experience long delays. We recommend the following actions:
    - Replace the "Yield" sign with a STOP sign. This was requested by the City.
    - Prohibit Left-turn movements from Pine Street. This change will reduce delay, but conditions will continue to be Level of Service F.

Movement	PM Peak Hour			
	2024 Build		2024 Build W/Improvements	
	LOS	Delay	LOS	Delay
Elm St. NB Left	B	13.8	B	13.2
Elm St. NB Through	A	2.9	A	3.0
Elm St. SB Through/Right	A	6.2	C	15.2
Pine St. Left/Right	F	812.3	F	411.9
Overall	F	54.3	F	51.7

- Or Pay the City Impact Fee estimate noted in Section 9.
- Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes this intersection will be signalized and left-turn movements from Pine Street will be prohibited.

- **Elm Street/Lincoln Street** - As noted previously movements from Lincoln Street will experience long delays, even with the Riverdam improvements. We recommend the following actions:
  - Pay the City Impact Fee estimate noted in Section 9.
  - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes Lincoln Street will be closed between Elm Street and Pearl Street.
- **Lincoln Street/Pearl Street** – As noted previously movements from the development side of Pearl Street will experience long delays. We recommend the following actions:
  - Install STOP signs on Lincoln Street to address both sight limitations and delays on Pearl Street. We conducted an SimTraffic analysis with this change assuming Lincoln Street does not back up into the intersection. Results indicate the intersection will operate at Level of Service B (10.1 seconds/vehicle) overall and all movement will operate at LOS B or better. The following table summarizes levels of service, delay and queue lengths.

Movement	PM Peak Hour		
	2024 Build All-Way STOP		
	LOS	Delay	95th% Queue (feet)
Lincoln St. EB	A	7.4	63
Lincoln St. WB	A	8.1	106
Pearl St. NB	A	8.5	94
Pearl St. SB	B	12.0	185
Overall	B	10.1	

  - Pay the City Impact Fee estimate noted in Section 9.
  - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes either an All-Way STOP condition or construction of roundabout.
- **Elm Street/Pearl Street** - As noted previously movements from Pearl Street will experience long delays. We recommend the following actions
  - Pay the City Impact Fee estimate noted in Section 9.
  - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes Pearl Street will be aligned with Spruce Street creating a four-way signalized intersection.

12. Site Access

The project will utilize Pearl Street to access each residential building parking garage. Restaurant customers will utilize the new Pearl Street parking garage or other public parking facilities. A service driveway is provided for the restaurant. The attached site plan illustrates the existing driveway locations and provides information on proposed driveways to be utilized for the project including sight distances and the posted speed limit. Sight distances for the project driveways are noted in **Table 15**.

Table 15
Driveway Sight Distance

Location	Measured Sight Distance (Feet)		Minimum Standard (Feet)
	Looking Left	Looking Right	
Lot 3A/3B Driveway	Sight to End of Pearl Street	200+	200’
Restaurant Service Driveway	Sight to End of Pearl Street	200+	200’

13. Conclusions and Recommendations

The proposed project is expected to generate 61 new vehicle trips during the weekday AM peak hour, 162 new vehicle trips during the weekday PM peak hour and 127 new trips during the Saturday peak hour. The purpose of this document is to support the MaineDOT Traffic Movement Permit process. A Traffic Movement Permit Application was submitted on September 20, 2021. A MaineDOT Traffic Movement Permit Scoping Meeting was held on December 15, 2021. MaineDOT requested that the Traffic Impact Study (Section 7) evaluate specific traffic conditions at the Elm Street/Pine Street, Elm Street/Lincoln Street, Elm Street/Pearl Street and Lincoln Street/Pearl Street. The following summarizes the results of the level of service analysis, safety evaluation and recommendation for the project.

1. The following presents the results and conclusions of the level of service analysis at the study intersections.

- **Elm Street/Pine Street** - Movements from Pine Street experience delay under both No-Build and Build conditions. Pine Street serves as a route between Biddeford, parts of Saco and Exit 36 of the Maine Turnpike and turn movements are significant. With heavy traffic volumes on Elm Street, right-turn movements onto Elm Street struggle to find a gap in traffic.
- **Elm Street/Lincoln Street** - The SimTraffic model for this location assumed the TMP required improvements for the Riverdam project (prohibiting left and through movements from Lincoln Street). Even with these improvements, right-turn movements from Lincoln Street will experience long delays with and without the proposed project. Movements from the Car Wash will also experience long delays.
- **Lincoln Street/Pearl Street** - Movements from Pearl Street (from the development) will experience long delays following project completion. Review of the simulation model indicated traffic is backing up along Lincoln Street from the Elm Street intersection and making it difficult to exit the site.

- **Elm Street/Pearl Street** - Movements from Pearl Street will experience increase delay following project completion. Movements will decline from a level of service E in the No-Build condition to F following project completion.

2. The following presents the results and conclusions at the locations evaluated as directed at the scoping meeting.

- **Elm Street/Pine Street –** As noted previously movements from Pine Street will experience long delays. We recommend the following actions:
    - Replace the "Yield" sign with a STOP sign. This was requested by the City.
    - Prohibit Left-turn movements from Pine Street. This change will reduce delay, but conditions will continue to be Level of Service F.
    - Or Pay the City Impact Fee estimate noted in Section 9.
    - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes this intersection will be signalized and left-turn movements from Pine Street will be prohibited.
- **Elm Street/Lincoln Street** - As noted previously movements from Lincoln Street will experience long delays, even with the Riverdam improvements. We recommend the following actions:
    - Pay the City Impact Fee estimate noted in Section 9.
    - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes Lincoln Street will be closed between Elm Street and Pearl Street.
- **Lincoln Street/Pearl Street** – As noted previously movements from the development side of Pearl Street will experience long delays. We recommend the following actions:
    - Install STOP signs on Lincoln Street to address both sight limitations and delays on Pearl Street. We conducted an SimTraffic analysis with this change assuming Lincoln Street does not back up into the intersection. Results indicate the intersection will operate at Level of Service B (10.1 seconds/vehicle) overall and all movement will operate at LOS B or better.
    - Pay the City Impact Fee estimate noted in Section 9.
    - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes either an All-Way STOP condition or construction of roundabout.
- **Elm Street/Pearl Street** - As noted previously movements from Pearl Street will experience long delays. We recommend the following actions
    - Pay the City Impact Fee estimate noted in Section 9.
    - Or Pay a to be determined Fee associated with the Elm Street Concept Plan project. That project assumes Pearl Street will be aligned with Spruce Street creating a four-way signalized intersection.

Appendix

A. Figures
B. Traffic Counts/Traffic Volume Development
C. Synchro/SimTraffic Output
D. Crash Data
E. Site Plan

December 14, 2021

3 Lincoln Street Project

MaineDOT TMP Scoping Meeting Action Items

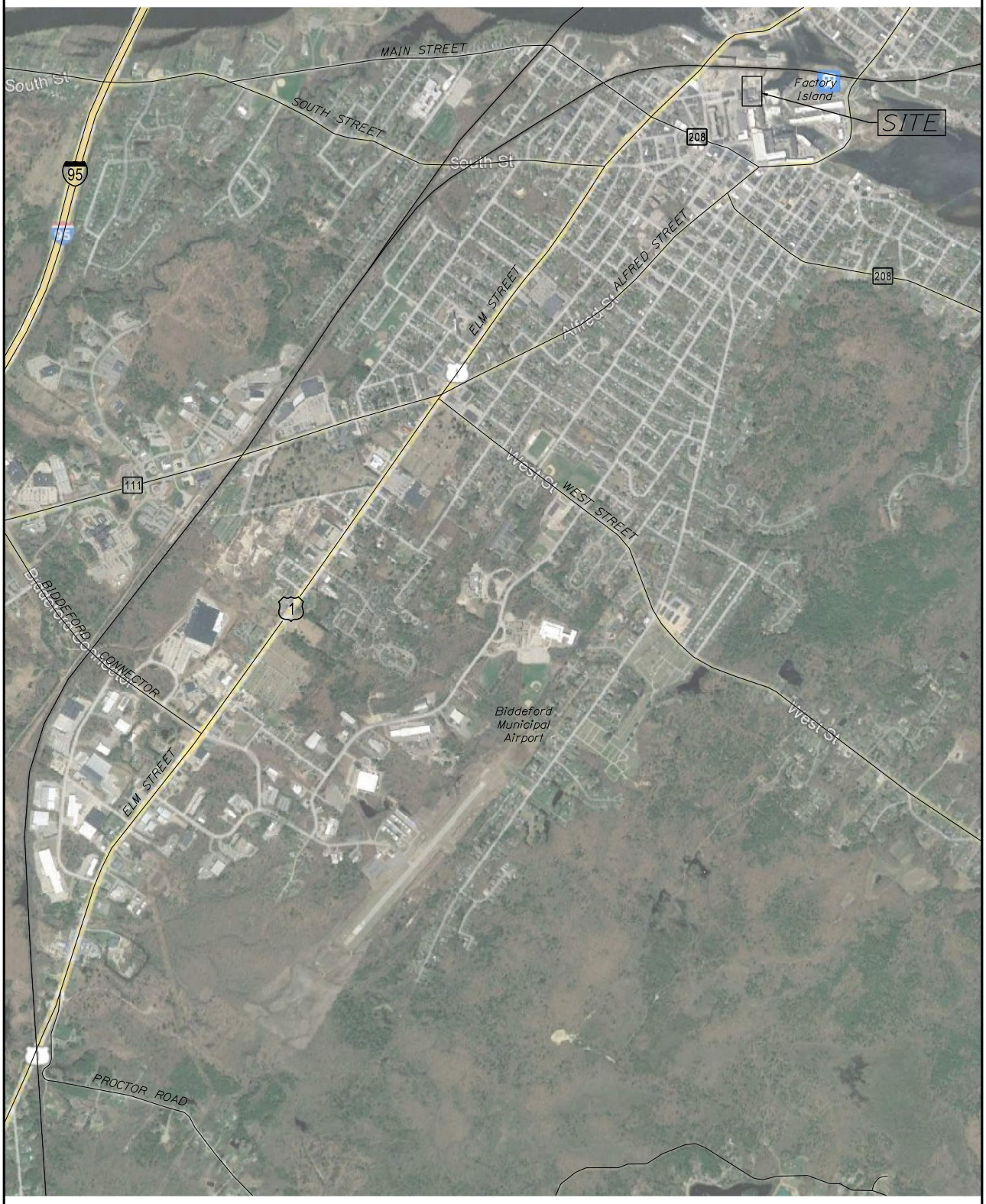
Prepared By Tom Errico, PE

Attendees:

Tom Errico, Pete, Marike, Bob V., Randy Illian, Tom M. Greg Tansley. , Craig Chekan

1. Greg noted that the STOP signs were being installed at the Main/Lincoln/Adams intersection soon with other improvements to be implemented when plans are approved.
2. Incorporate diverted trips from Elm Street into the trip assignment. This can be part of the 43% Pass-By reduction.
3. For other development:
    - Lincoln Mill is 50% occupied. The City will provide the Sebago study for use.
    - Riverdam is fully occupied
    - Building 11 will have 71 elderly apartment units. Access via Pearl and York. ITE will be used to estimate traffic.
4. Study area shall include:
    - Elm/Lincoln
    - Elm/Pine
    - Lincoln/Pearl
    - Elm/Pearl
5. Study will evaluate condition during the weekday PM and Saturday peak hours.
6. HCL analysis shall be performed at:
    - Pine/Elm
    - Lincoln/Elm
    - Lincoln/Pearl (look at sight distance issue – maybe a all-way STOP)
    - No need to do an analysis at Main/Lincoln/Adams
    - Provide AADT for the above locations
7. Perform an impact fee calculation according to GP study methods.
8. The Riverdam TMP mitigation shall be assumed complete (or to be implemented by this project or replaced with new Elm Street improvements.
9. Not specific action for pedestrian modes. ET is on Elm Street and will need to be a consideration when the concept plan is developed. Existing crosswalks that are not ADA compliant are the City's responsibility. It was noted that the Gooch Street Lot 1 project is installing a RRFB at Elm/Gooch crosswalk.
10. No specific action for transit.

A. Figures



T-Y LIN INTERNATIONAL

FIGURE NUMBER						
1	BIDDEFORD 3 LINCOLN STREET PROJECT STUDY LOCATION PLAN	PROJ. MANAGER	T. ERRICO	BY	DATE	SIGNATURE P.E. NUMBER DATE
		DESIGN-DETAILED	S. DAVIS			
		CHECKED-REVIEWED				
		DESIGN2-DETAILED2				
		DESIGN3-DETAILED3				
		REVISIONS 1				
		REVISIONS 2				
		REVISIONS 3				
		REVISIONS 4				
		FIELD CHANGES				

MaineDOT TMP APPLICATION

BIDDEFORD
3 LINCOLN STREET PROJECT

FIGURE NUMBER 2

MaineDOT TMP APPLICATION

Filename: ...\Desktop\Border.dgn Division: HIGHWAY Username: Date:3/18/2022

BIDDEFORD
3 LINCOLN STREET PROJECT

FIGURE NUMBER 3

PROJ. MANAGER	T. ERICO			
DESIGN-DETAILED	H. TRACY			
CHECKED-RELEASED				
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SIGNATURE
P.E. NUMBER
DATE

MaineDOT TMP APPLICATION

1YLin

Filename: ...\Desktop\Border.dgn Division: HIGHWAY Username: Date:3/18/2022

PROJ. MANAGER	T. ERICO			
DESIGNED - TALED	H. TRACY			
CHECKED - RE'ME'D				
DESIGNED - TALED2				
DESIGNED - TALED2				
DESIGNED - TALED3				
RE VISIONS 1				
RE VISIONS 2				
RE VISIONS 3				
RE VISIONS 4				
F.I.L.D. CHANGES				

SIGNATURE

P.E. NUMBER

DATE

BIDDEFORD
3 LINCOLN STREET PROJECT

FIGURE NUMBER 4

MaineDOT TMP APPLICATION

Filename: ...\Desktop\Border.dgn Division: HIGHWAY Username: Date:3/18/2022

BIDDEFORD
3 LINCOLN STREET PROJECT

FIGURE NUMBER 5

PROJ. MANAGER	T. ERICO			
DESIGN-DET.ALED	H. TRACY			
CHECKED-REVIEWED				
DESIGN2-DET.ALED2				
DESIGN3-DET.ALED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
ERR. CHARGES				

SIGNATURE
P.E. NUMBER
DATE

MaineDOT TMP APPLICATION

Filename: ...\Desktop\Border.dgn Division: HIGHWAY Username: Date:3/18/2022

BIDDEFORD
3 LINCOLN STREET PROJECT

FIGURE NUMBER 6

PROJ. MANAGER	T. ERICO			
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CHECKED-RELMED				
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FILD. CHANGES				

SIGNATURE

P.E. NUMBER

DATE

MaineDOT TMP APPLICATION

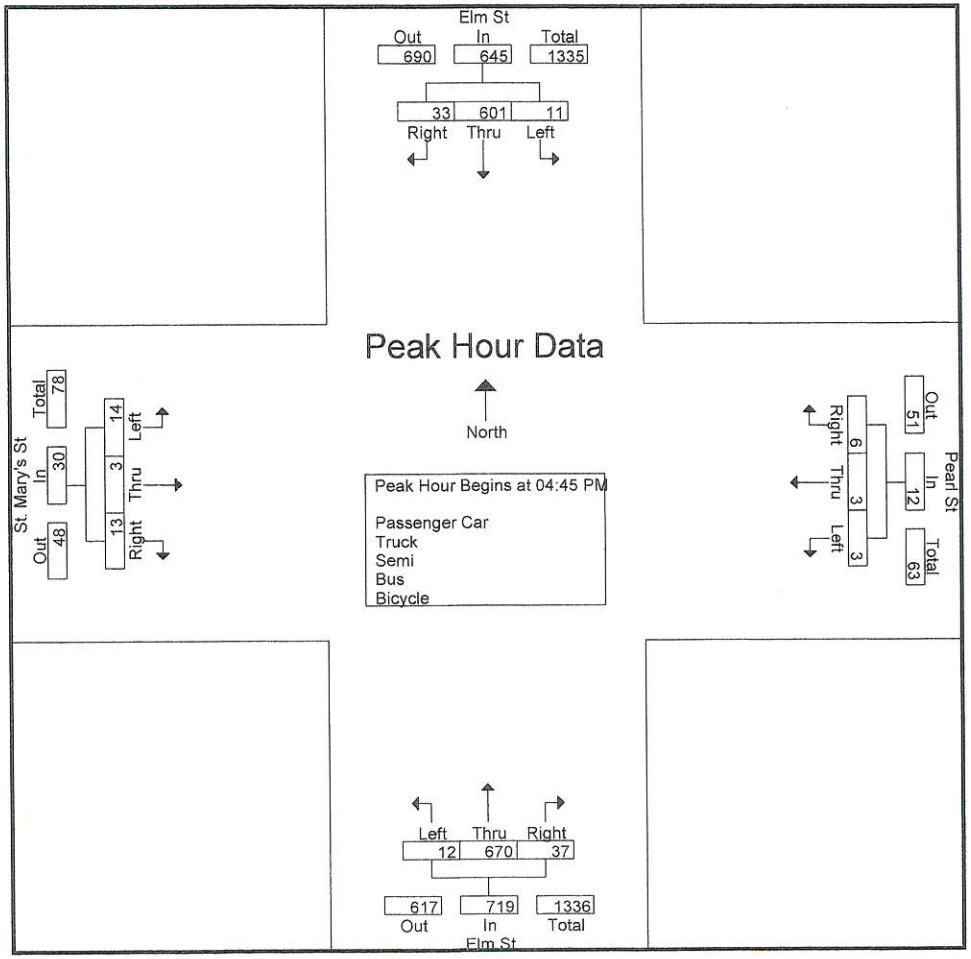
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B. Traffic Counts/Traffic Volume Development

Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Biddeford Pearl, Elm & St. Mary's St
July 17, 2019 PM
Light Rain
Count by Jen Gilbert

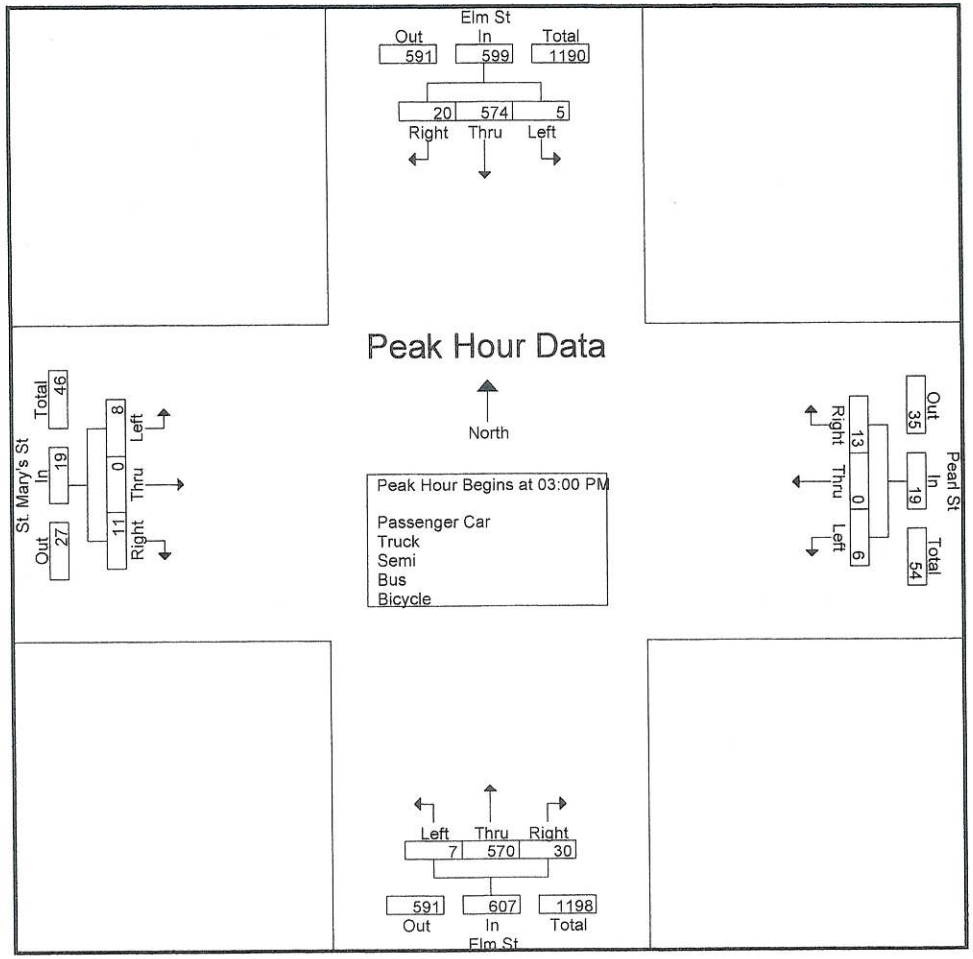
File Name : Biddeford Pearl St, Elm St & St. Mary's St 7-17-19 PM
Site Code : 00717192
Start Date : 7/17/2019
Page No : 6



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Biddeford Pearl, Elm & St. Marys
July 27, 2019 PM Saturday
Sunny
Count by Jen Gilbert

File Name : Biddeford Pearl St, Elm St & St. Mary's St 7-27-19 PM
Site Code : 00727192
Start Date : 7/27/2019
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
Page No : 1

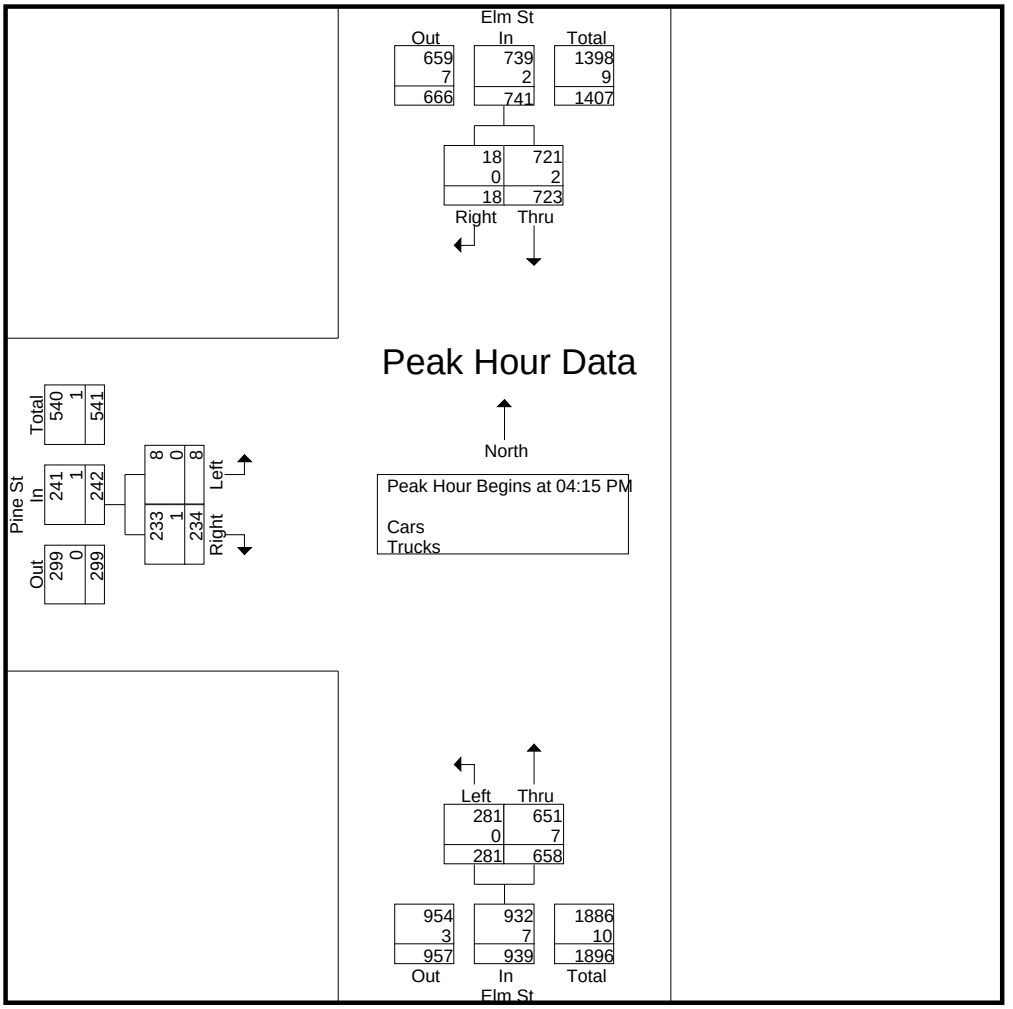
Groups Printed- Cars - Trucks

	Elm St From North		Elm St From South		Pine St From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
03:00 PM	179	4	51	181	0	54	469
03:15 PM	183	1	56	163	1	52	456
03:30 PM	163	5	64	155	2	76	465
03:45 PM	185	1	50	165	6	64	471
Total	710	11	221	664	9	246	1861
04:00 PM	174	5	51	169	4	70	473
04:15 PM	187	3	61	157	1	55	464
04:30 PM	158	5	78	152	2	57	452
04:45 PM	197	5	63	172	2	52	491
Total	716	18	253	650	9	234	1880
05:00 PM	181	5	79	177	3	70	515
05:15 PM	179	3	63	140	3	51	439
05:30 PM	186	1	65	136	0	49	437
05:45 PM	159	3	50	119	1	41	373
Total	705	12	257	572	7	211	1764
Grand Total	2131	41	731	1886	25	691	5505
Apprch %	98.1	1.9	27.9	72.1	3.5	96.5	
Total %	38.7	0.7	13.3	34.3	0.5	12.6	
Cars	2120	41	728	1870	25	685	5469
% Cars	99.5	100	99.6	99.2	100	99.1	99.3
Trucks	11	0	3	16	0	6	36
% Trucks	0.5	0	0.4	0.8	0	0.9	0.7

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	187	3	190	61	157	218	1	55	56	464
04:30 PM	158	**5**	163	78	152	230	2	57	59	452
04:45 PM	**197**	5	**202**	63	172	235	2	52	54	491
05:00 PM	181	5	186	**79**	**177**	**256**	**3**	**70**	**73**	**515**
Total Volume	723	18	741	281	658	939	8	234	242	1922
% App. Total	97.6	2.4		29.9	70.1		3.3	96.7		
PHF	.918	.900	.917	.889	.929	.917	.667	.836	.829	.933
Cars	721	18	739	281	651	932	8	233	241	1912
% Cars	99.7	100	99.7	100	98.9	99.3	100	99.6	99.6	99.5
Trucks	2	0	2	0	7	7	0	1	1	10
% Trucks	0.3	0	0.3	0	1.1	0.7	0	0.4	0.4	0.5

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
Page No : 2

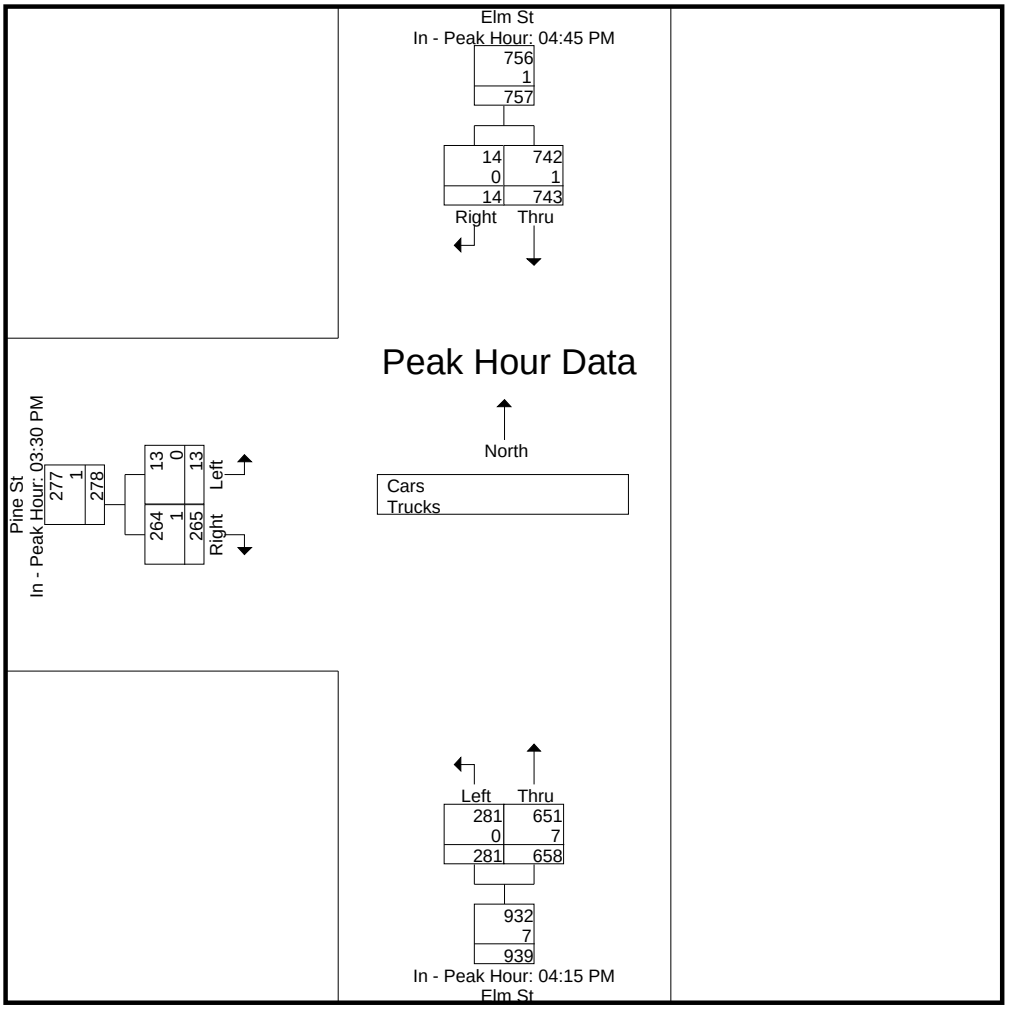


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:15 PM			03:30 PM		
+0 mins.	**197**	**5**	**202**	61	157	218	2	**76**	**78**
+15 mins.	181	5	186	78	152	230	**6**	64	70
+30 mins.	179	3	182	63	172	235	4	70	74
+45 mins.	186	1	187	**79**	**177**	**256**	1	55	56
Total Volume	743	14	757	281	658	939	13	265	278
% App. Total	98.2	1.8		29.9	70.1		4.7	95.3	
PHF	.943	.700	.937	.889	.929	.917	.542	.872	.891
Cars	742	14	756	281	651	932	13	264	277
% Cars	99.9	100	99.9	100	98.9	99.3	100	99.6	99.6
Trucks	1	0	1	0	7	7	0	1	1
% Trucks	0.1	0	0.1	0	1.1	0.7	0	0.4	0.4

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
Page No : 4

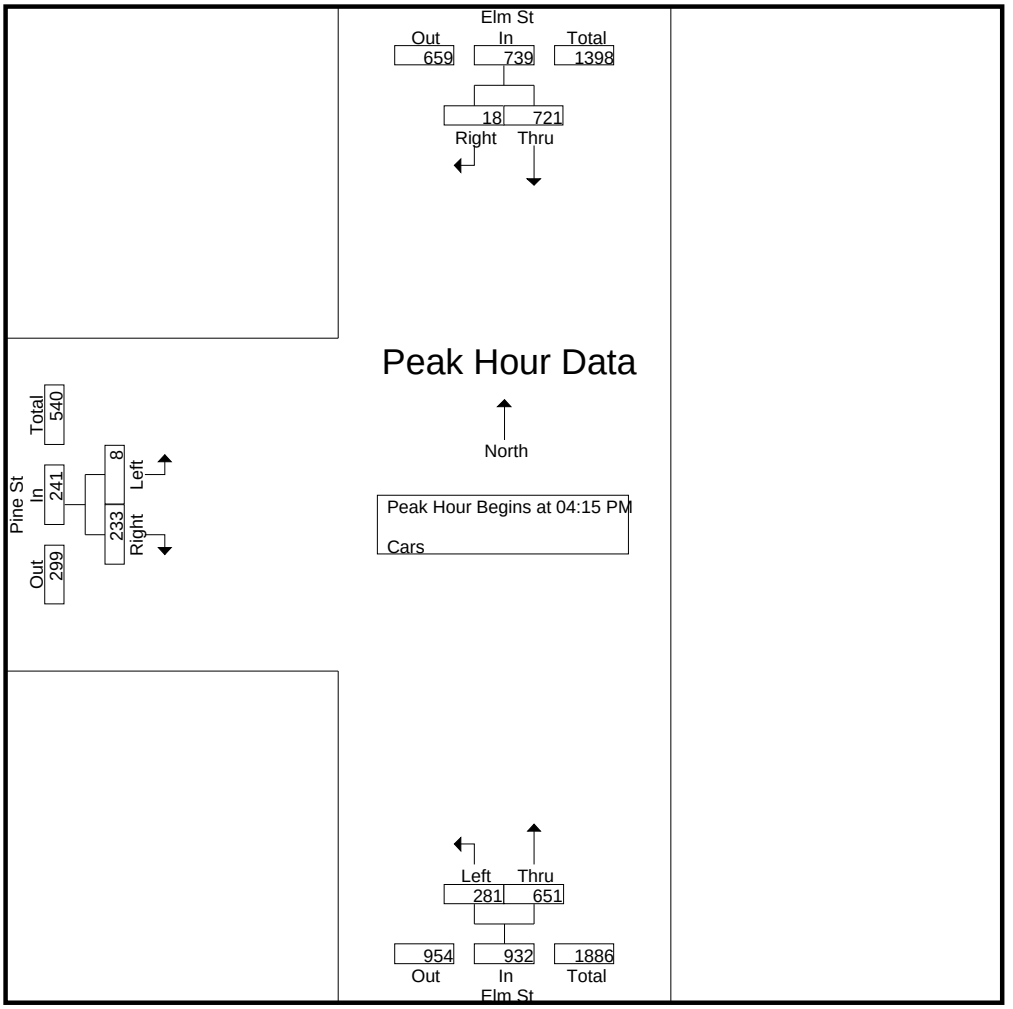
Groups Printed- Cars

	Elm St From North		Elm St From South		Pine St From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
03:00 PM	175	4	49	178	0	52	458
03:15 PM	182	1	56	162	1	52	454
03:30 PM	163	5	64	154	2	75	463
03:45 PM	183	1	49	164	6	64	467
Total	703	11	218	658	9	243	1842
04:00 PM	173	5	51	168	4	70	471
04:15 PM	187	3	61	155	1	55	462
04:30 PM	157	5	78	150	2	57	449
04:45 PM	196	5	63	171	2	52	489
Total	713	18	253	644	9	234	1871
05:00 PM	181	5	79	175	3	69	512
05:15 PM	179	3	63	139	3	50	437
05:30 PM	186	1	65	135	0	48	435
05:45 PM	158	3	50	119	1	41	372
Total	704	12	257	568	7	208	1756
Grand Total	2120	41	728	1870	25	685	5469
Apprch %	98.1	1.9	28	72	3.5	96.5	
Total %	38.8	0.7	13.3	34.2	0.5	12.5	

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	187	3	190	61	155	216	1	55	56	462
04:30 PM	157	**5**	162	78	150	228	2	57	59	449
04:45 PM	**196**	5	**201**	63	171	234	2	52	54	489
05:00 PM	181	5	186	**79**	**175**	**254**	**3**	**69**	**72**	**512**
Total Volume	721	18	739	281	651	932	8	233	241	1912
% App. Total	97.6	2.4		30.2	69.8		3.3	96.7		
PHF	.920	.900	.919	.889	.930	.917	.667	.844	.837	.934

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
Page No : 5

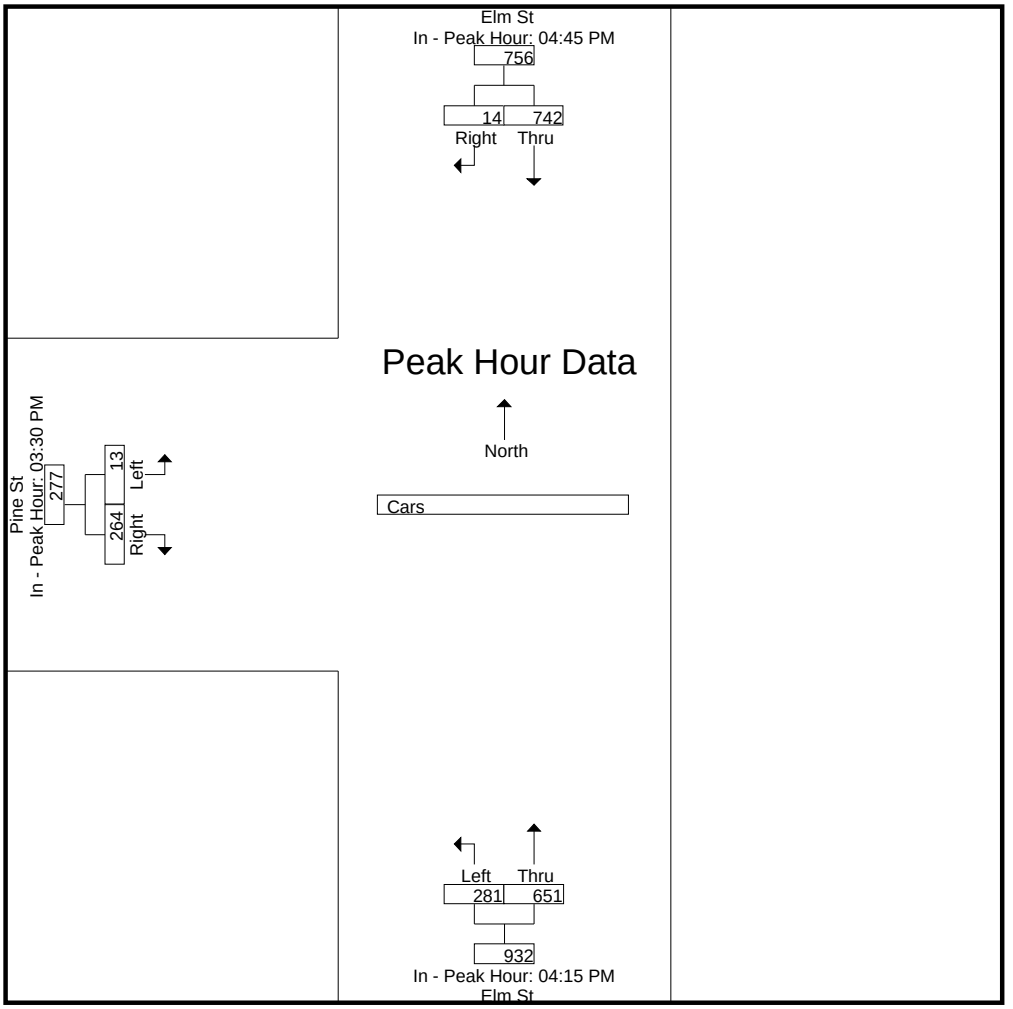


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:15 PM			03:30 PM		
+0 mins.	**196**	**5**	**201**	61	155	216	2	**75**	**77**
+15 mins.	181	5	186	78	150	228	**6**	64	70
+30 mins.	179	3	182	63	171	234	4	70	74
+45 mins.	186	1	187	**79**	**175**	**254**	1	55	56
Total Volume	742	14	756	281	651	932	13	264	277
% App. Total	98.1	1.9		30.2	69.8		4.7	95.3	
PHF	.946	.700	.940	.889	.930	.917	.542	.880	.899

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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Accurate Counts

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N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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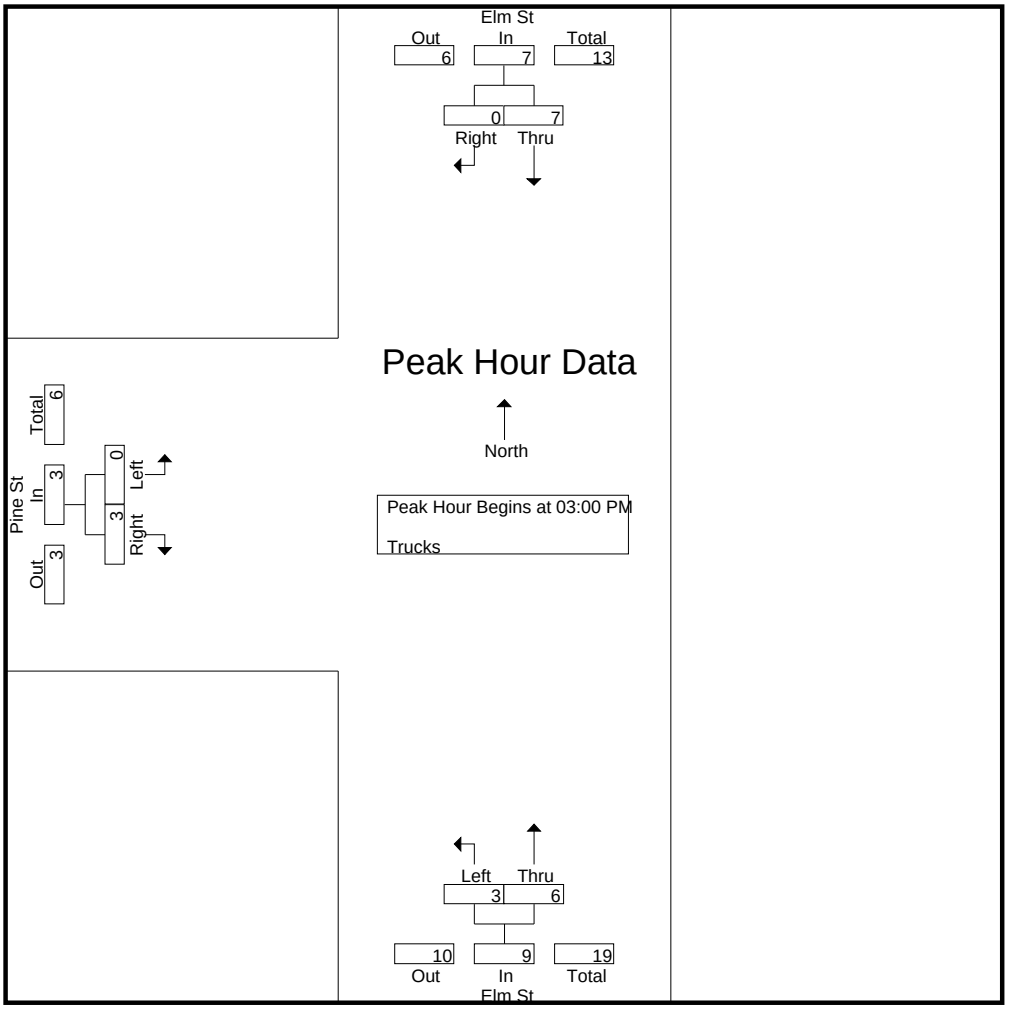
Groups Printed- Trucks

	Elm St From North		Elm St From South		Pine St From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
03:00 PM	4	0	2	3	0	2	11
03:15 PM	1	0	0	1	0	0	2
03:30 PM	0	0	0	1	0	1	2
03:45 PM	2	0	1	1	0	0	4
Total	7	0	3	6	0	3	19
04:00 PM	1	0	0	1	0	0	2
04:15 PM	0	0	0	2	0	0	2
04:30 PM	1	0	0	2	0	0	3
04:45 PM	1	0	0	1	0	0	2
Total	3	0	0	6	0	0	9
05:00 PM	0	0	0	2	0	1	3
05:15 PM	0	0	0	1	0	1	2
05:30 PM	0	0	0	1	0	1	2
05:45 PM	1	0	0	0	0	0	1
Total	1	0	0	4	0	3	8
Grand Total	11	0	3	16	0	6	36
Apprch %	100	0	15.8	84.2	0	100	
Total %	30.6	0	8.3	44.4	0	16.7	

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:00 PM										
03:00 PM	**4**	0	**4**	**2**	**3**	**5**	0	**2**	**2**	**11**
03:15 PM	1	0	1	0	1	1	0	0	0	2
03:30 PM	0	0	0	0	1	1	0	1	1	2
03:45 PM	2	0	2	1	1	2	0	0	0	4
Total Volume	7	0	7	3	6	9	0	3	3	19
% App. Total	100	0		33.3	66.7		0	100		
PHF	.438	.000	.438	.375	.500	.450	.000	.375	.375	.432

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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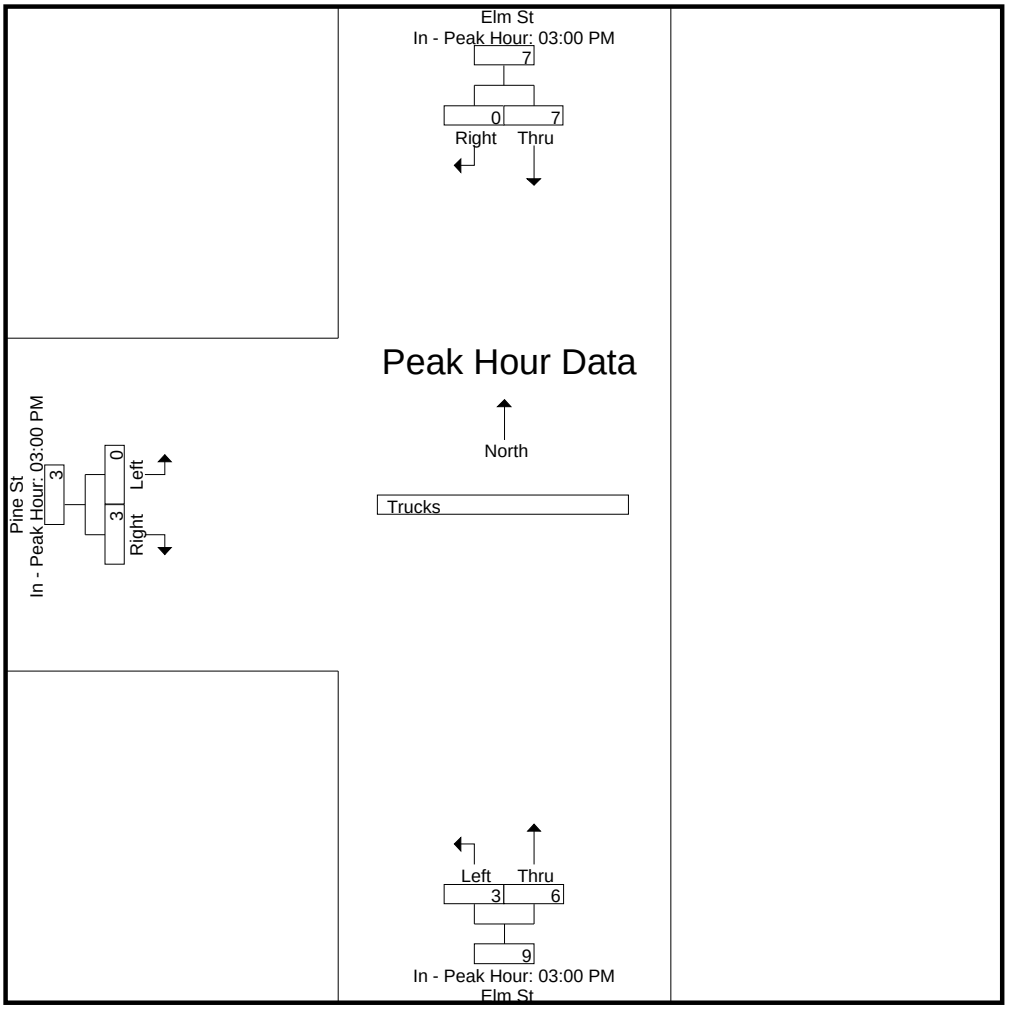


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM			03:00 PM			03:00 PM		
+0 mins.	**4**	0	**4**	**2**	**3**	**5**	0	**2**	**2**
+15 mins.	1	0	1	0	1	1	0	0	0
+30 mins.	0	0	0	0	1	1	0	1	1
+45 mins.	2	0	2	1	1	2	0	0	0
Total Volume	7	0	7	3	6	9	0	3	3
% App. Total	100	0		33.3	66.7		0	100	
PHF	.438	.000	.438	.375	.500	.450	.000	.375	.375

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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Accurate Counts

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N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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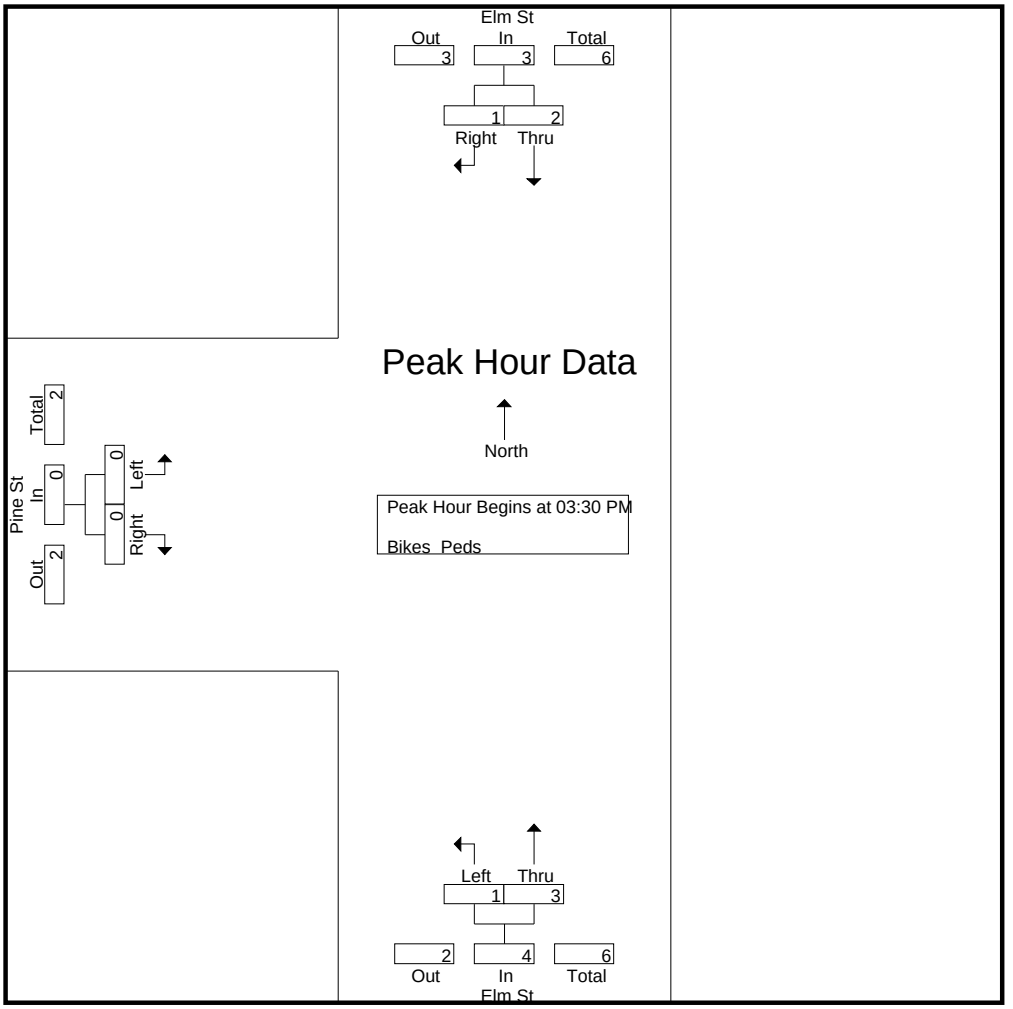
Groups Printed- Bikes Peds

	Elm St From North			Elm St From South			Pine St From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	2	2	0	2
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	2	1	1	0	0	0	0	0	4	5	3	8
03:45 PM	0	0	0	1	2	0	0	0	5	5	3	8
Total	2	1	1	1	2	0	0	0	11	12	6	18
04:00 PM	0	0	0	0	0	0	0	0	3	3	0	3
04:15 PM	0	0	0	0	1	0	0	0	3	3	1	4
04:30 PM	1	0	0	0	0	0	0	0	6	6	1	7
04:45 PM	0	0	0	0	0	0	0	0	2	2	0	2
Total	1	0	0	0	1	0	0	0	14	14	2	16
05:00 PM	0	0	0	0	0	0	0	0	5	5	0	5
05:15 PM	0	0	0	0	0	0	0	0	2	2	0	2
05:30 PM	2	0	0	0	0	0	0	0	3	3	2	5
05:45 PM	0	0	0	0	1	0	0	0	3	3	1	4
Total	2	0	0	0	1	0	0	0	13	13	3	16
Grand Total	5	1	1	1	4	0	0	0	38	39	11	50
Apprch %	83.3	16.7		20	80		0	0				
Total %	45.5	9.1		9.1	36.4		0	0		78	22	

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:30 PM										
03:30 PM	**2**	**1**	**3**	0	0	0	0	0	0	**3**
03:45 PM	0	0	0	**1**	**2**	**3**	0	0	0	3
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	2	1	3	1	3	4	0	0	0	7
% App. Total	66.7	33.3		25	75		0	0		
PHF	.250	.250	.250	.250	.375	.333	.000	.000	.000	.583

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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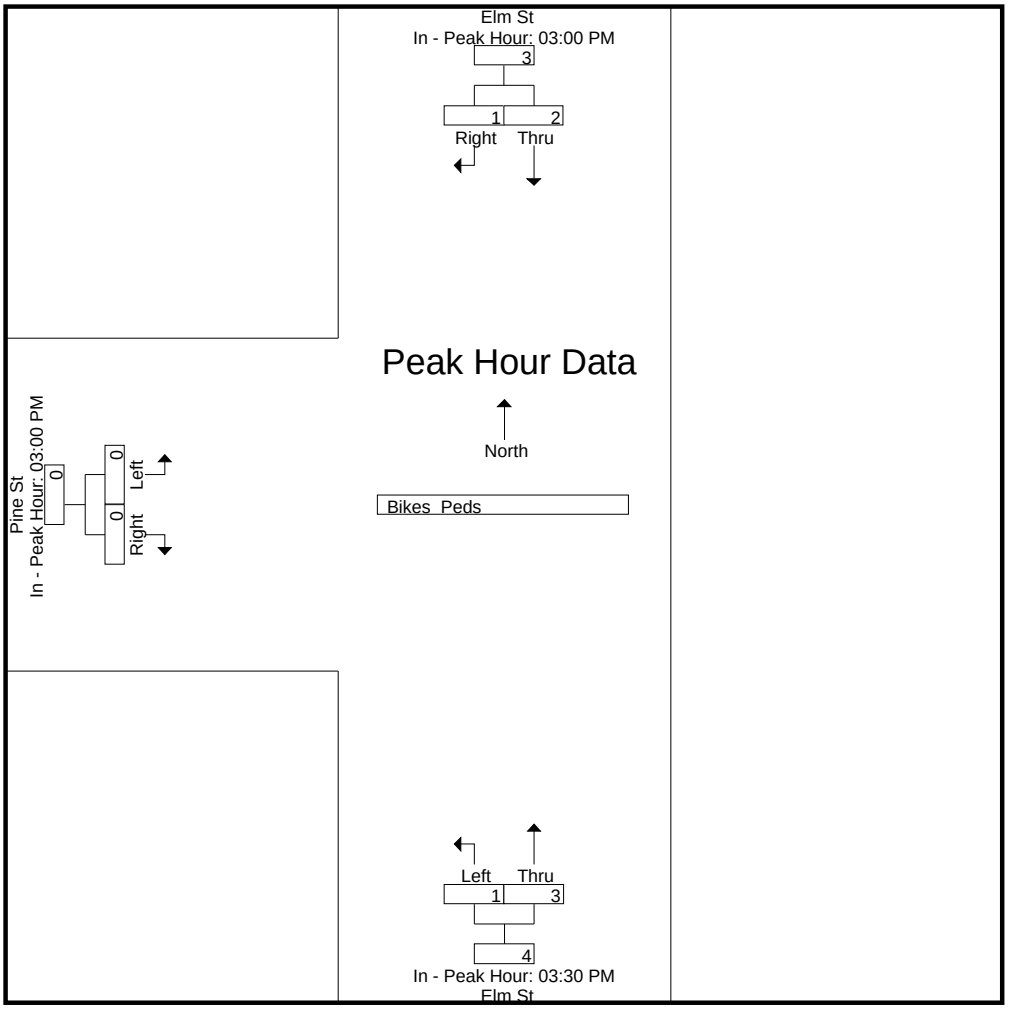


Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	03:00 PM			03:30 PM			03:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	**1**	**2**	**3**	0	0	0
+30 mins.	**2**	**1**	**3**	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	2	1	3	1	3	4	0	0	0
% App. Total	66.7	33.3		25	75		0	0	
PHF	.250	.250	.250	.250	.375	.333	.000	.000	.000

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Clear

File Name : 19150002
Site Code : 19150002
Start Date : 11/2/2021
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Accurate Counts

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N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 1

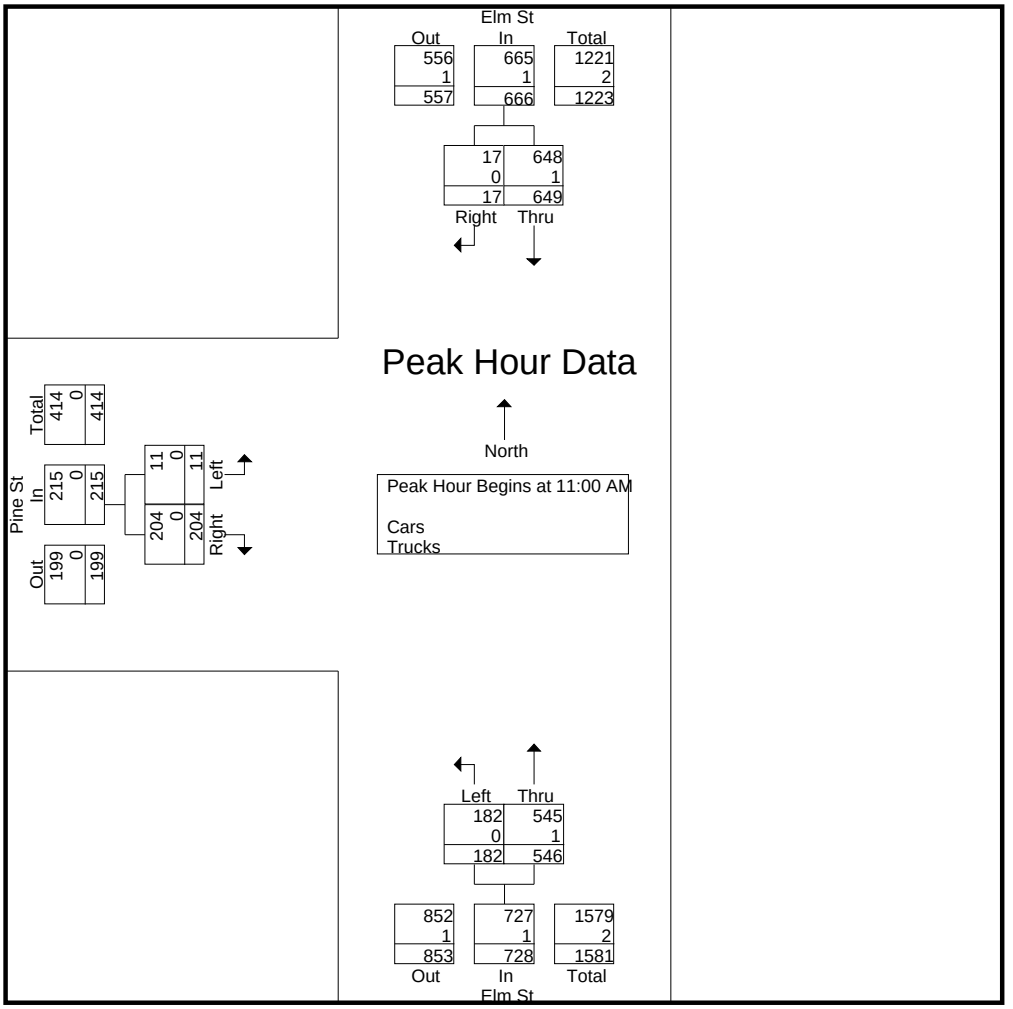
Groups Printed- Cars - Trucks

	Elm St From North		Elm St From South		Pine St From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
11:00 AM	174	9	47	130	3	59	422
11:15 AM	147	3	47	142	5	48	392
11:30 AM	177	2	43	146	2	46	416
11:45 AM	151	3	45	128	1	51	379
Total	649	17	182	546	11	204	1609
12:00 PM	147	4	35	134	6	59	385
12:15 PM	148	0	43	127	3	61	382
12:30 PM	166	5	38	136	5	52	402
12:45 PM	150	1	43	115	1	48	358
Total	611	10	159	512	15	220	1527
01:00 PM	156	4	37	116	4	61	378
01:15 PM	155	2	37	117	1	47	359
01:30 PM	155	4	40	104	1	58	362
01:45 PM	124	2	42	116	0	40	324
Total	590	12	156	453	6	206	1423
Grand Total	1850	39	497	1511	32	630	4559
Apprch %	97.9	2.1	24.8	75.2	4.8	95.2	
Total %	40.6	0.9	10.9	33.1	0.7	13.8	
Cars	1846	39	497	1507	32	630	4551
% Cars	99.8	100	100	99.7	100	100	99.8
Trucks	4	0	0	4	0	0	8
% Trucks	0.2	0	0	0.3	0	0	0.2

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	174	**9**	**183**	**47**	130	177	3	**59**	**62**	**422**
11:15 AM	147	3	150	47	142	**189**	**5**	48	53	392
11:30 AM	**177**	2	179	43	**146**	189	2	46	48	416
11:45 AM	151	3	154	45	128	173	1	51	52	379
Total Volume	649	17	666	182	546	728	11	204	215	1609
% App. Total	97.4	2.6		25	75		5.1	94.9		
PHF	.917	.472	.910	.968	.935	.963	.550	.864	.867	.953
Cars	648	17	665	182	545	727	11	204	215	1607
% Cars	99.8	100	99.8	100	99.8	99.9	100	100	100	99.9
Trucks	1	0	1	0	1	1	0	0	0	2
% Trucks	0.2	0	0.2	0	0.2	0.1	0	0	0	0.1

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 2

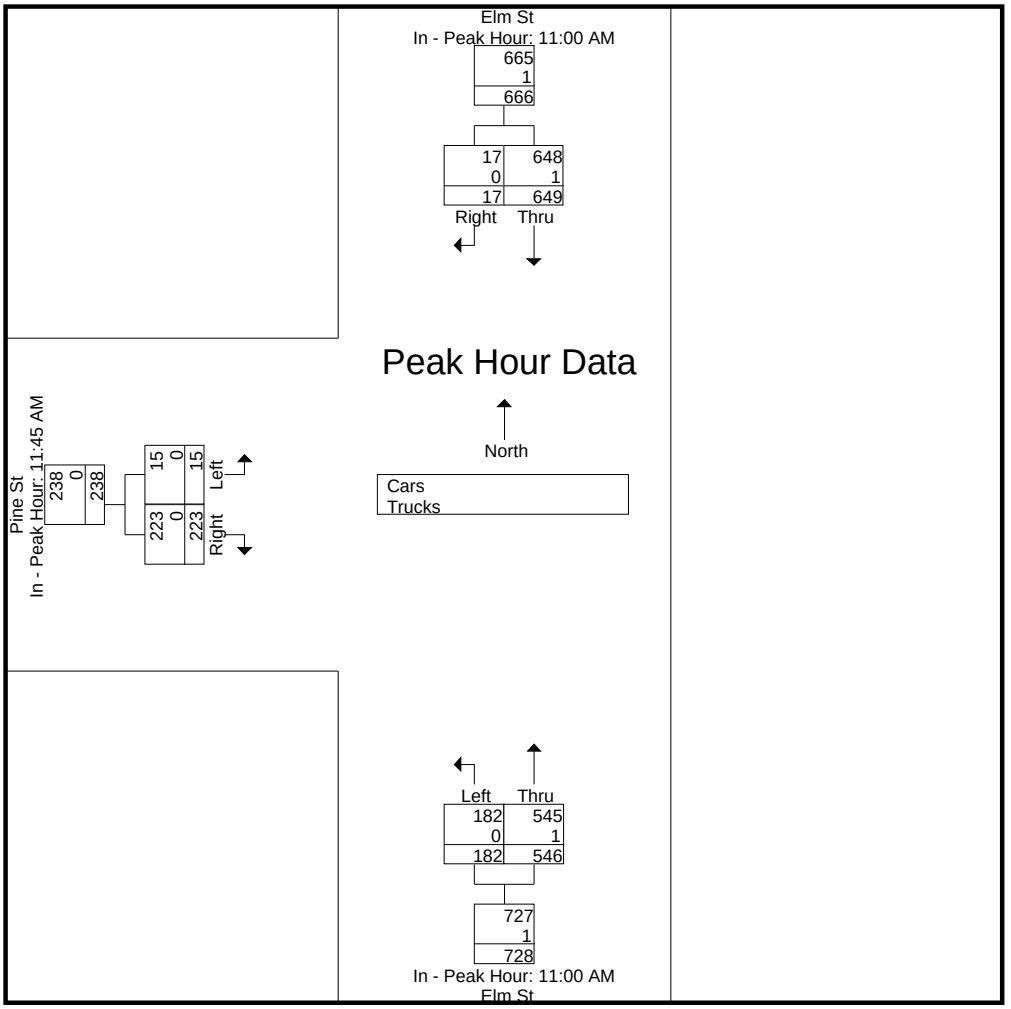


Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:45 AM		
+0 mins.	174	**9**	**183**	**47**	130	177	1	51	52
+15 mins.	147	3	150	47	142	**189**	**6**	59	**65**
+30 mins.	**177**	2	179	43	**146**	189	3	**61**	64
+45 mins.	151	3	154	45	128	173	5	52	57
Total Volume	649	17	666	182	546	728	15	223	238
% App. Total	97.4	2.6		25	75		6.3	93.7	
PHF	.917	.472	.910	.968	.935	.963	.625	.914	.915
Cars	648	17	665	182	545	727	15	223	238
% Cars	99.8	100	99.8	100	99.8	99.9	100	100	100
Trucks	1	0	1	0	1	1	0	0	0
% Trucks	0.2	0	0.2	0	0.2	0.1	0	0	0

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 3



Accurate Counts

978-664-2565

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 4

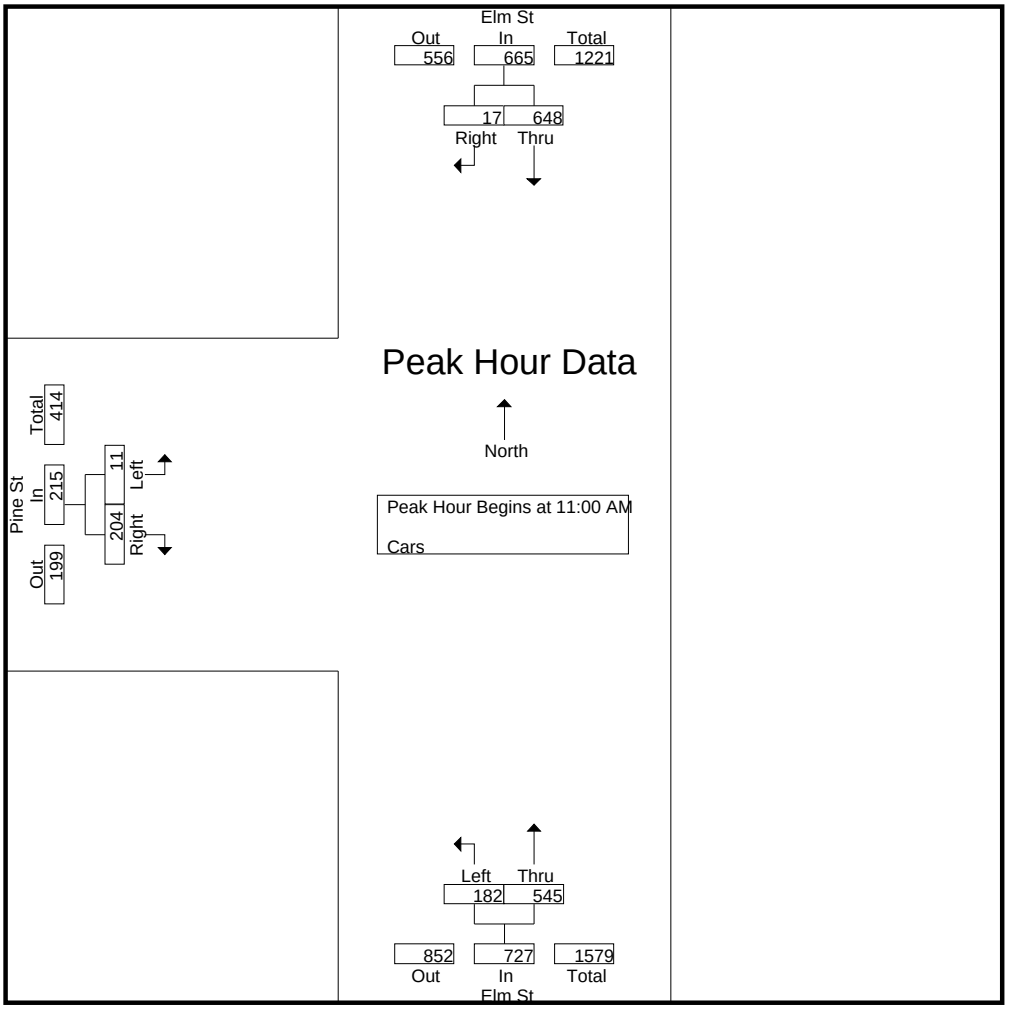
Groups Printed- Cars

	Elm St From North		Elm St From South		Pine St From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
11:00 AM	174	9	47	130	3	59	422
11:15 AM	146	3	47	141	5	48	390
11:30 AM	177	2	43	146	2	46	416
11:45 AM	151	3	45	128	1	51	379
Total	648	17	182	545	11	204	1607
12:00 PM	147	4	35	134	6	59	385
12:15 PM	148	0	43	126	3	61	381
12:30 PM	164	5	38	135	5	52	399
12:45 PM	149	1	43	115	1	48	357
Total	608	10	159	510	15	220	1522
01:00 PM	156	4	37	115	4	61	377
01:15 PM	155	2	37	117	1	47	359
01:30 PM	155	4	40	104	1	58	362
01:45 PM	124	2	42	116	0	40	324
Total	590	12	156	452	6	206	1422
Grand Total	1846	39	497	1507	32	630	4551
Apprch %	97.9	2.1	24.8	75.2	4.8	95.2	
Total %	40.6	0.9	10.9	33.1	0.7	13.8	

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	174	**9**	**183**	**47**	130	177	3	**59**	**62**	**422**
11:15 AM	146	3	149	47	141	188	**5**	48	53	390
11:30 AM	**177**	2	179	43	**146**	**189**	2	46	48	416
11:45 AM	151	3	154	45	128	173	1	51	52	379
Total Volume	648	17	665	182	545	727	11	204	215	1607
% App. Total	97.4	2.6		25	75		5.1	94.9		
PHF	.915	.472	.908	.968	.933	.962	.550	.864	.867	.952

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 5

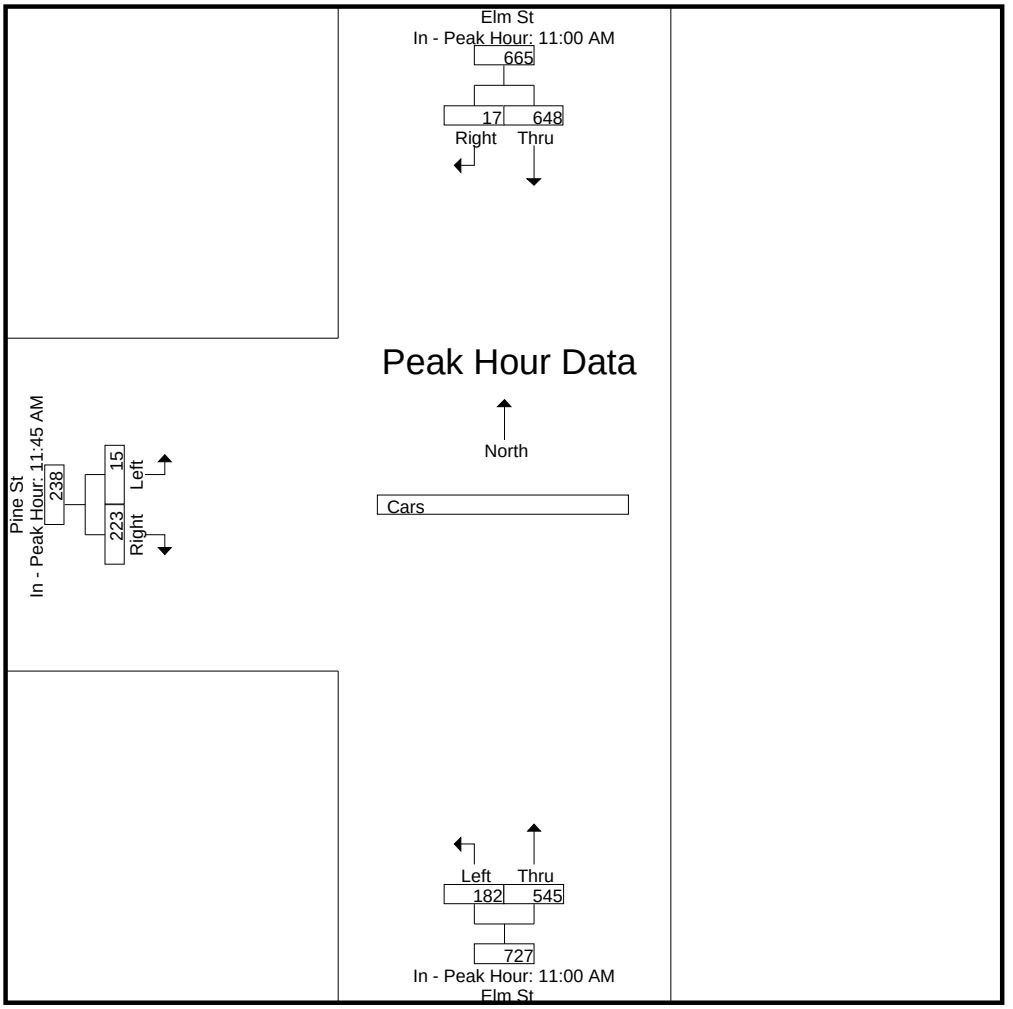


Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:45 AM		
+0 mins.	174	**9**	**183**	**47**	130	177	1	51	52
+15 mins.	146	3	149	47	141	188	**6**	59	**65**
+30 mins.	**177**	2	179	43	**146**	**189**	3	**61**	64
+45 mins.	151	3	154	45	128	173	5	52	57
Total Volume	648	17	665	182	545	727	15	223	238
% App. Total	97.4	2.6		25	75		6.3	93.7	
PHF	.915	.472	.908	.968	.933	.962	.625	.914	.915

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 7

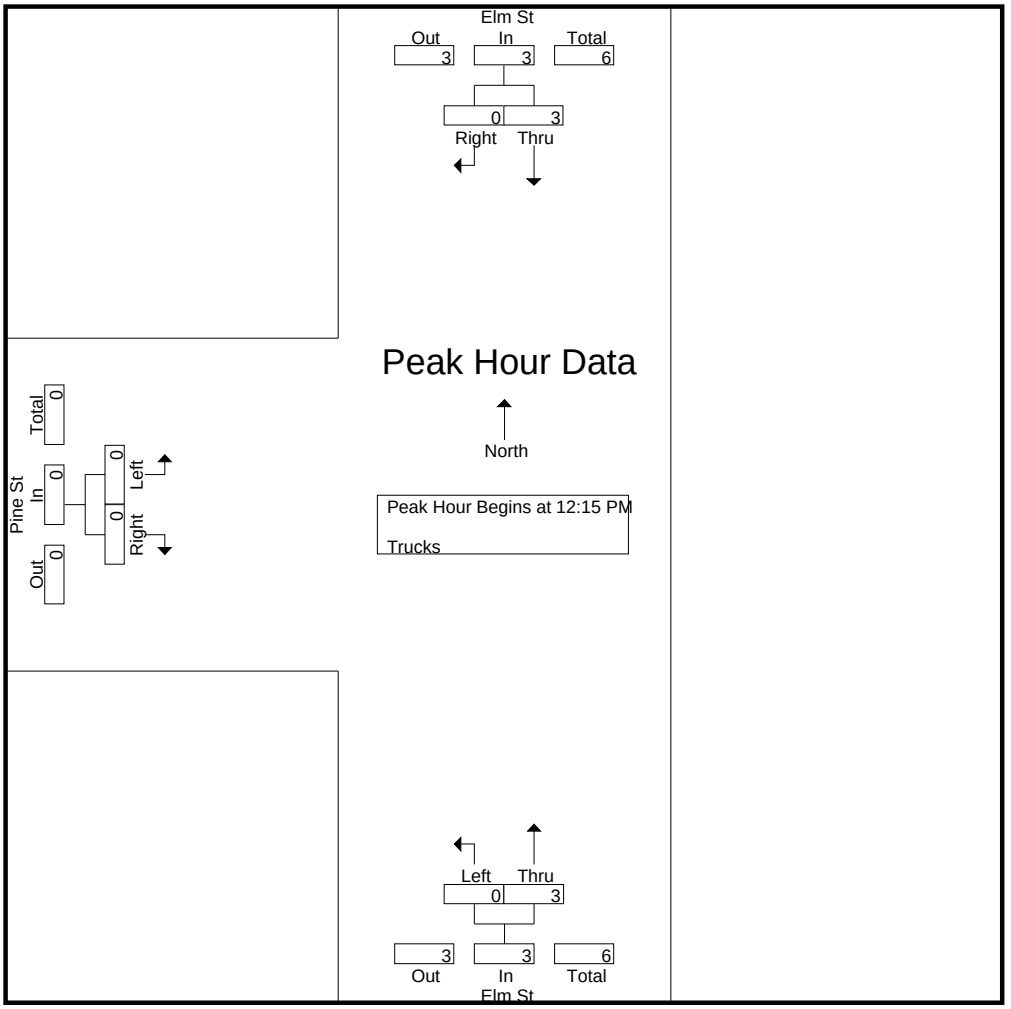
Groups Printed- Trucks

	Elm St From North		Elm St From South		Pine St From West		
Start Time	Thru	Right	Left	Thru	Left	Right	Int. Total
11:00 AM	0	0	0	0	0	0	0
11:15 AM	1	0	0	1	0	0	2
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	2
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	1	0	0	1
12:30 PM	2	0	0	1	0	0	3
12:45 PM	1	0	0	0	0	0	1
Total	3	0	0	2	0	0	5
01:00 PM	0	0	0	1	0	0	1
01:15 PM	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1
Grand Total	4	0	0	4	0	0	8
Apprch %	100	0	0	100	0	0	
Total %	50	0	0	50	0	0	

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:15 PM										
12:15 PM	0	0	0	0	**1**	**1**	0	0	0	1
12:30 PM	**2**	0	**2**	0	1	1	0	0	0	**3**
12:45 PM	1	0	1	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	3	0	3	0	3	3	0	0	0	6
% App. Total	100	0		0	100		0	0		
PHF	.375	.000	.375	.000	.750	.750	.000	.000	.000	.500

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 8

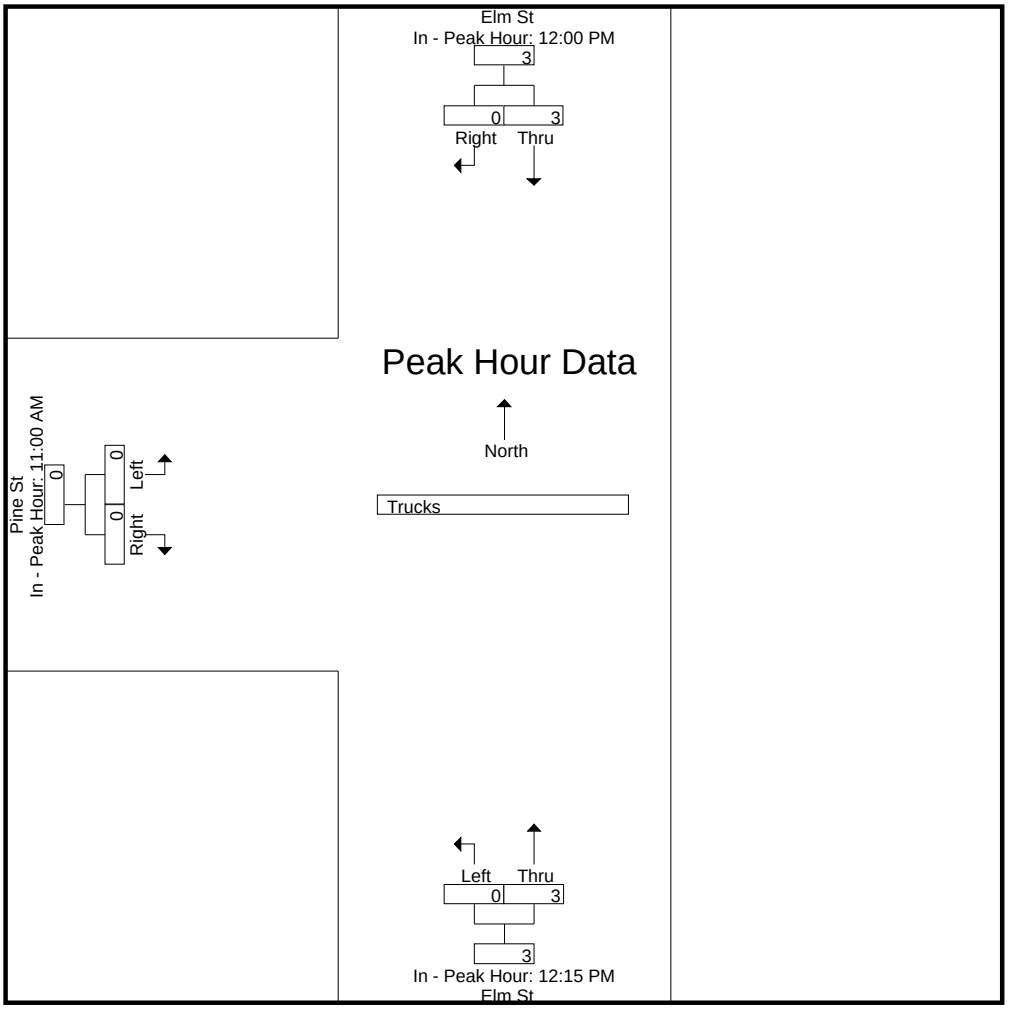


Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:00 PM			12:15 PM			11:00 AM		
+0 mins.	0	0	0	0	**1**	**1**	0	0	0
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	**2**	0	**2**	0	0	0	0	0	0
+45 mins.	1	0	1	0	1	1	0	0	0
Total Volume	3	0	3	0	3	3	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.375	.000	.375	.000	.750	.750	.000	.000	.000

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 9



N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 10

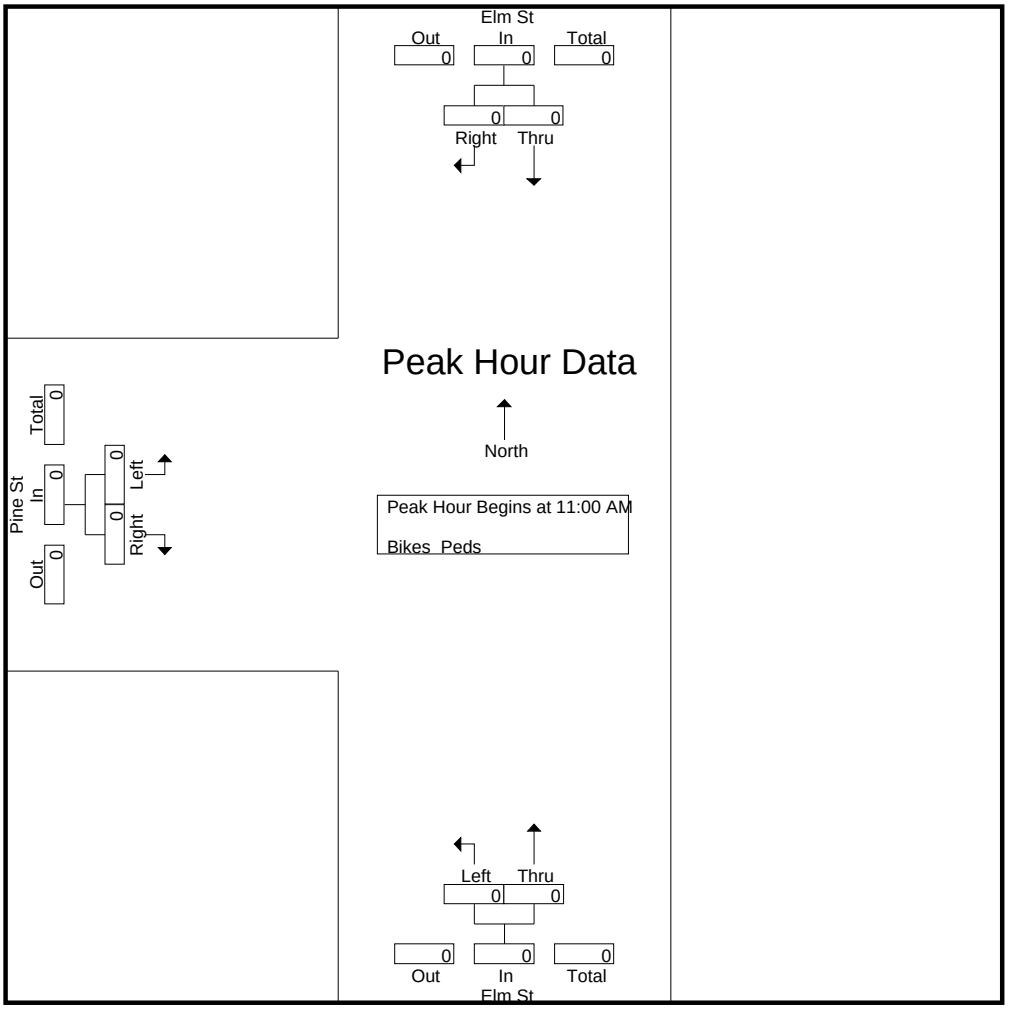
Groups Printed- Bikes Peds

	Elm St From North			Elm St From South			Pine St From West					
Start Time	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Exclu. Total	Inclu. Total	Int. Total
11:00 AM	0	0	0	0	0	0	0	0	2	2	0	2
11:15 AM	0	0	0	0	0	0	0	0	3	3	0	3
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	2	2	0	2
Total	0	0	0	0	0	0	0	0	7	7	0	7
12:00 PM	0	0	0	0	0	0	0	0	1	1	0	1
12:15 PM	0	0	0	0	0	0	0	0	1	1	0	1
12:30 PM	0	0	0	0	0	0	0	0	4	4	0	4
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	6	6	0	6
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	1	1	0	1
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM	0	0	0	0	0	0	0	0	3	3	0	3
Total	0	0	0	0	0	0	0	0	4	4	0	4
Grand Total	0	0	0	0	0	0	0	0	17	17	0	17
Apprch %	0	0		0	0		0	0				
Total %										100	0	

	Elm St From North			Elm St From South			Pine St From West			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:00 AM										
11:00 AM	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 11

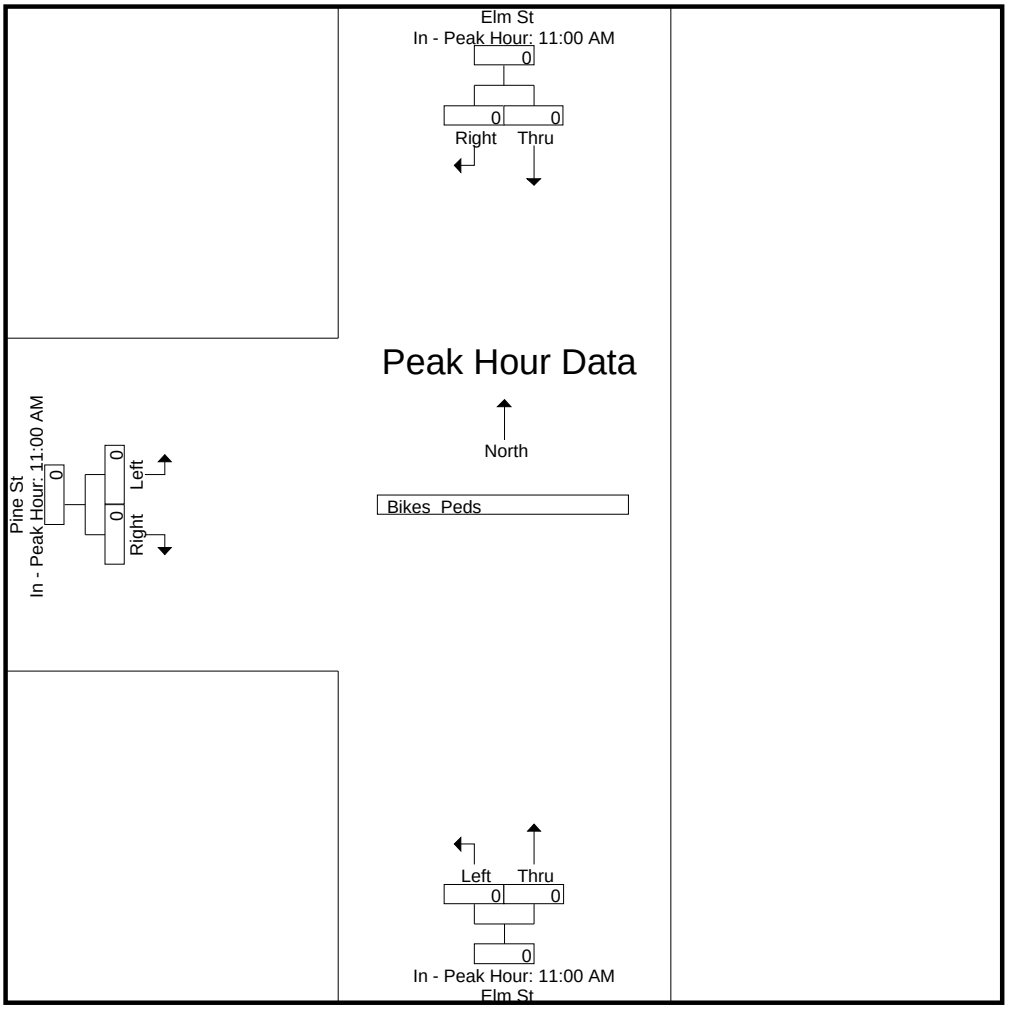


Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

N/S Street : Elm Street
E/W Street : Pine Street
City/State : Biddeford, ME
Weather : Rain

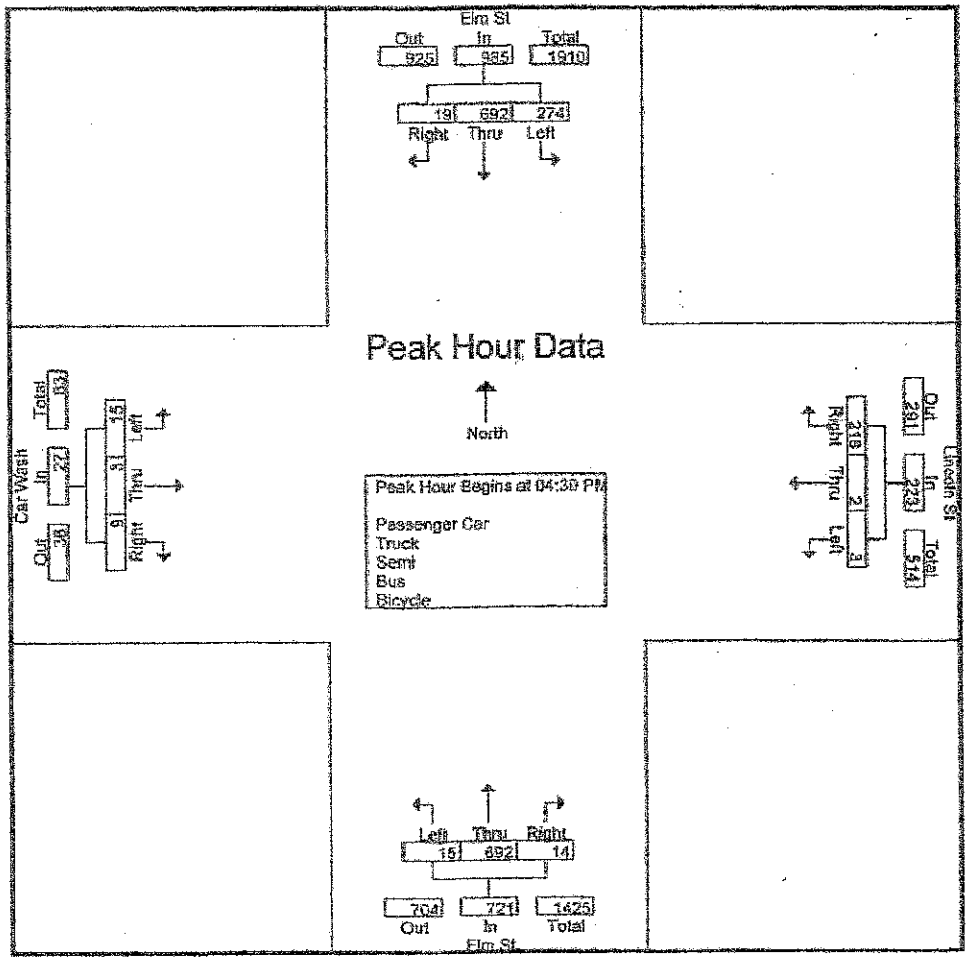
File Name : 191500S2
Site Code : 19150002
Start Date : 10/30/2021
Page No : 12



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Biddeford Lincoln St & Elm St
July 18, 2019 PM
Sunny
Count by Jen Gilbert

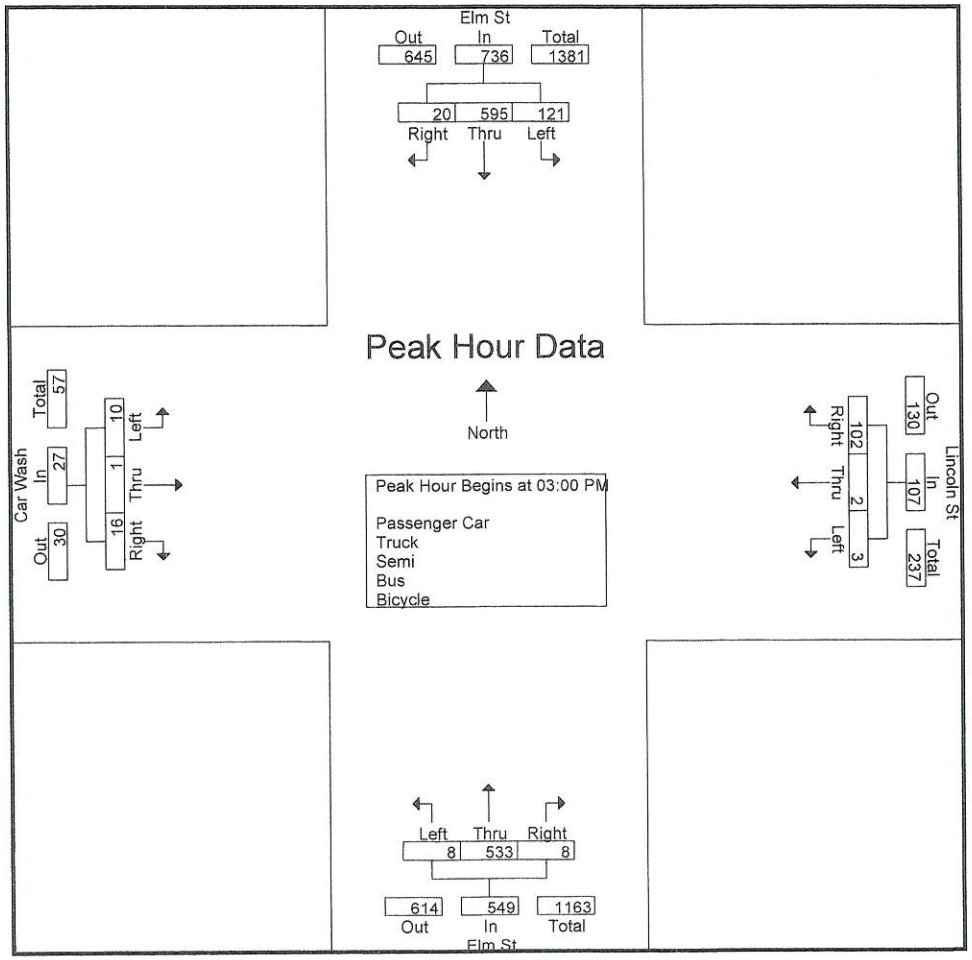
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Site Code : 00718192
Start Date : 7/18/2019
Page No : 6

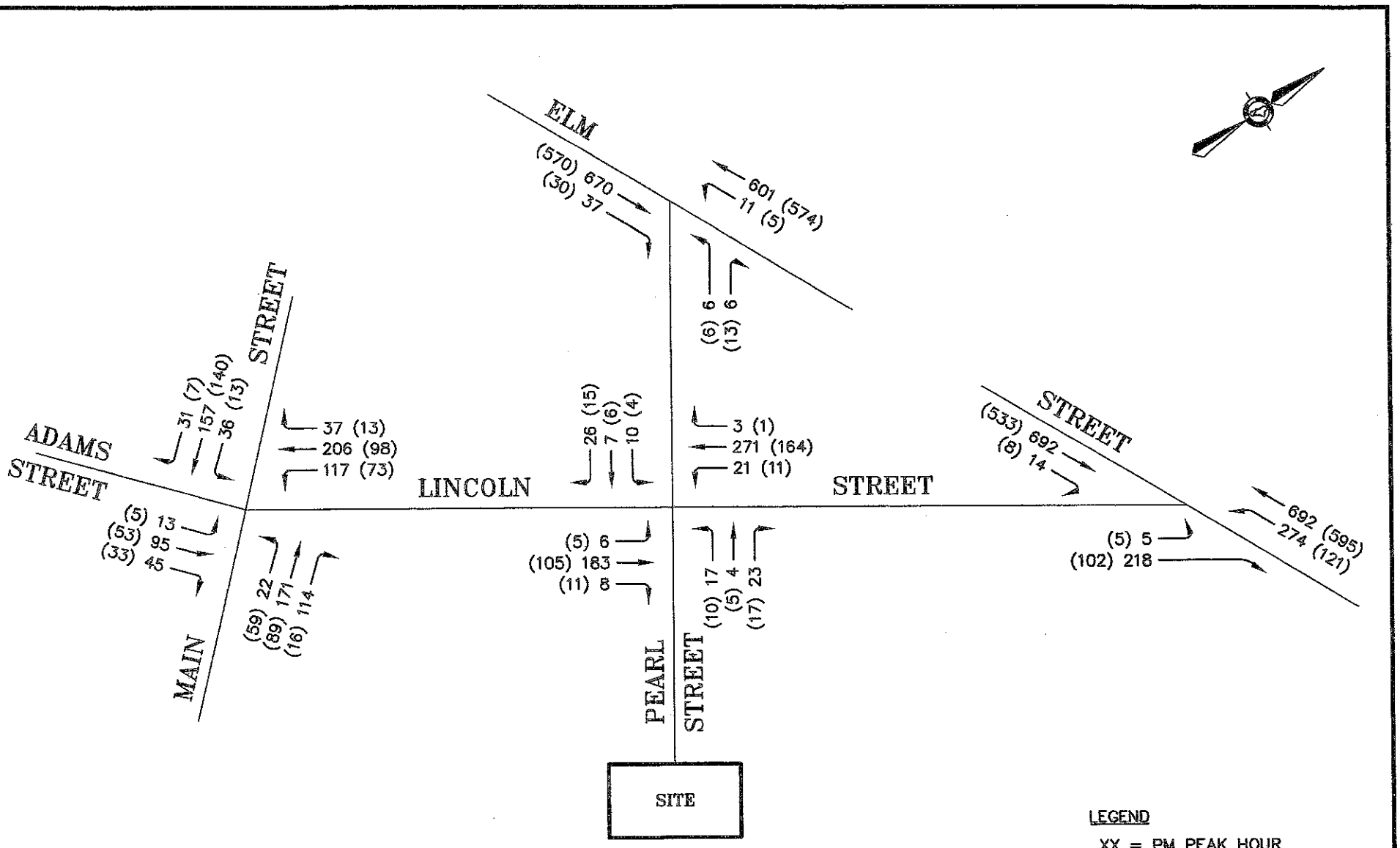


Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Biddeford Lincoln St & Elm St
July 20, 2019 PM Saturday
Sunny
Count By Nathaniel Tillson

File Name : Biddeford Lincoln St & Elm St 7-20-19 SATURDAY PM
Site Code : 00720193
Start Date : 7/20/2019
Page No : 6





EXISTING 2019 PEAK HOUR TRAFFIC
(PM PEAK HOUR & SATURDAY PEAK HOUR)
FIGURE 1

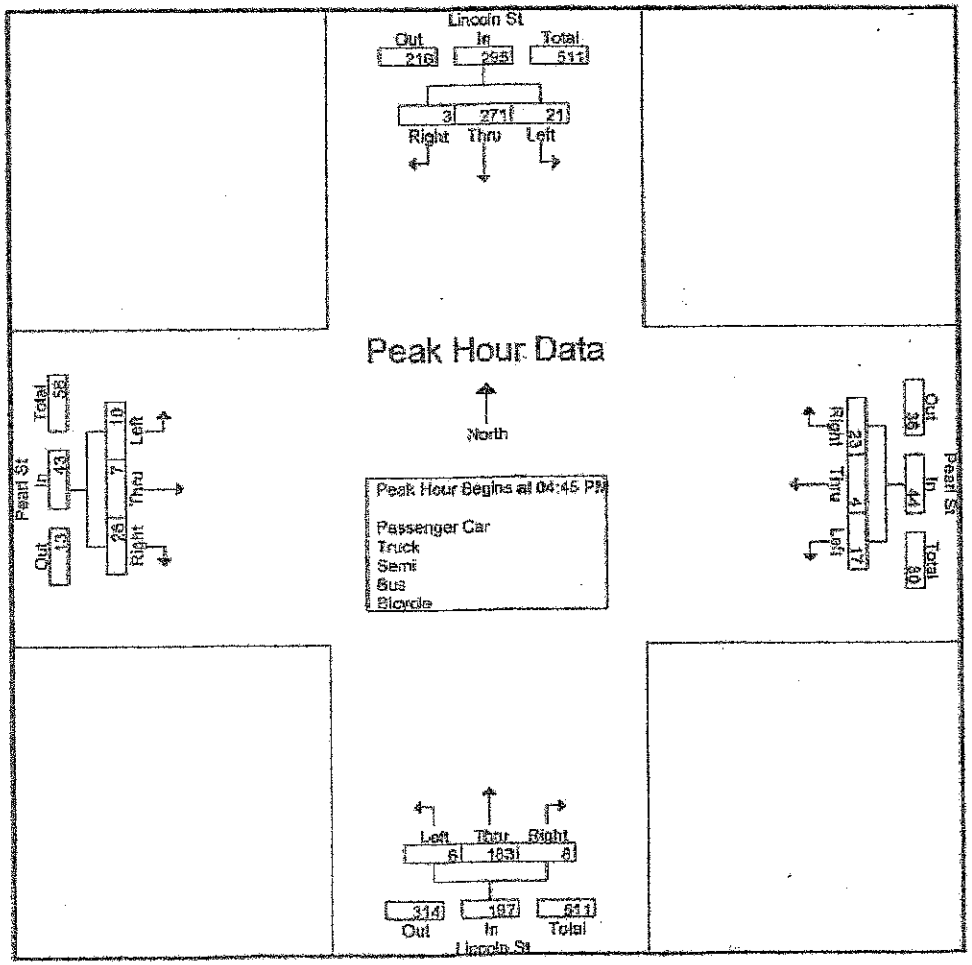
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RIVERDAM REDEVELOPMENT BIDDEFORD, MAINE	TRAFFIC SOLUTIONS 17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038
DATE: AUGUST, 2019	FIGURE: 1

Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Biddeford Lincoln St & Pearl St
June 13, 2019 PM
Rain
Count by Jen Gilbert

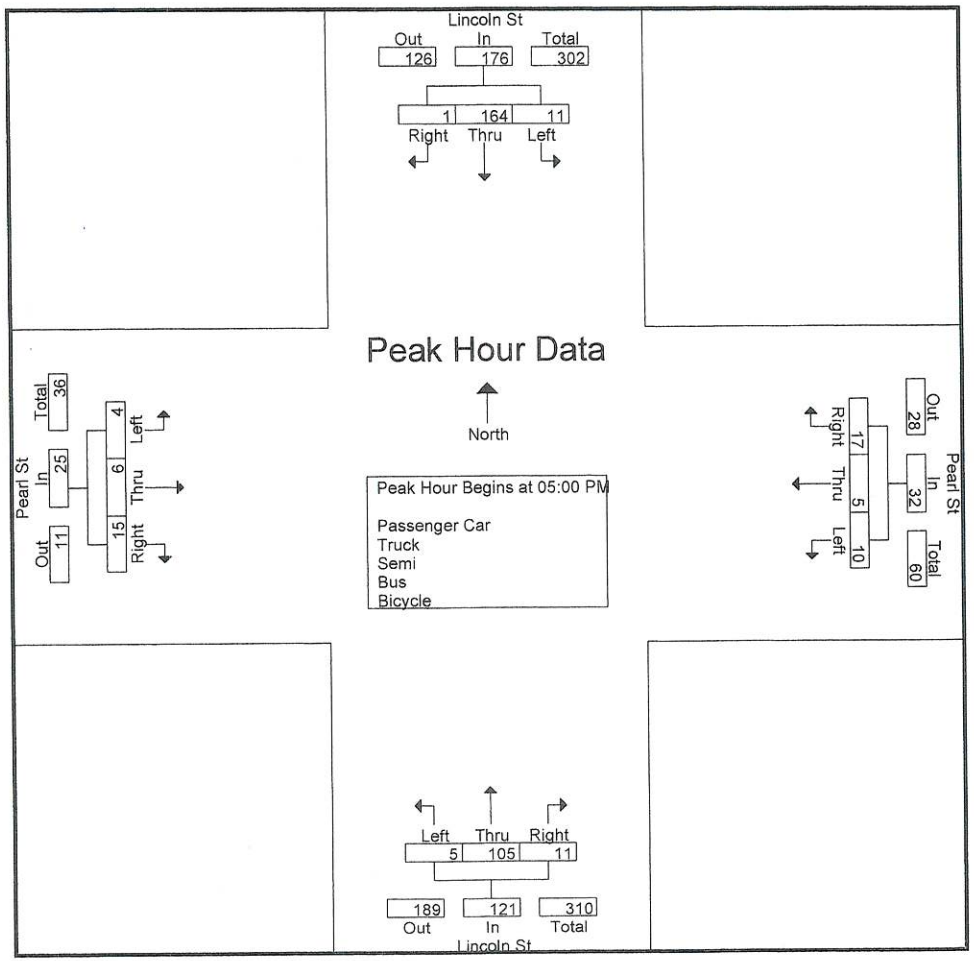
File Name : Biddeford Lincoln St & Pearl St 6-13-19 PM
Site Code : 00613192
Start Date : 6/13/2019
Page No : 6



Traffic Solutions
17 Mountview Drive
Gorham, ME 04038

Biddeford Lincoln St & Pearl St
July 20, 2019 PM Saturday
Sunny
Count by Kim Gilbert

File Name : Biddeford Lincoln St & Pearl St 6-20-19 PM
Site Code : 00720192
Start Date : 7/20/2019
Page No : 6



Multifamily Housing (Mid-Rise)
(221)

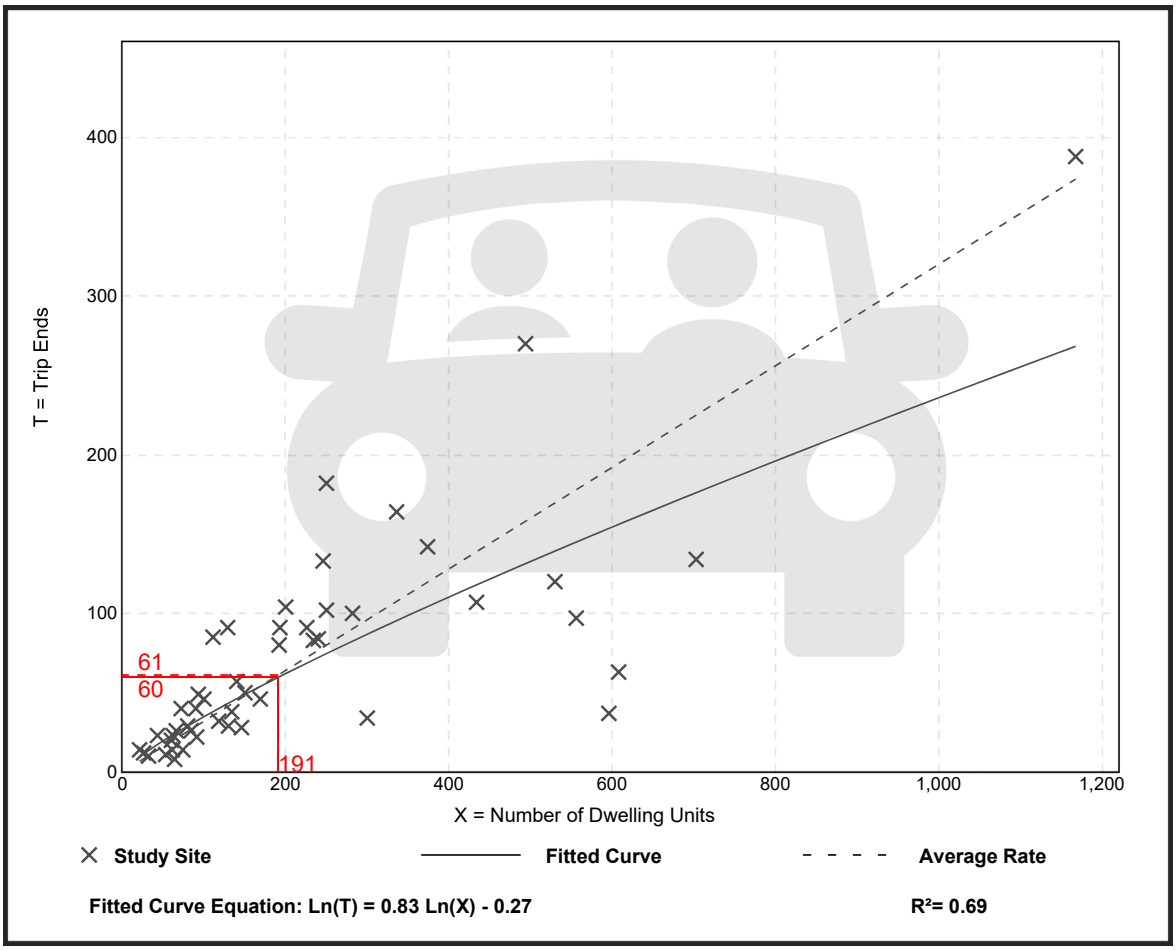
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 48
Avg. Num. of Dwelling Units: 225
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.06 - 0.77	0.17

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Multifamily Housing (Mid-Rise)
(221)

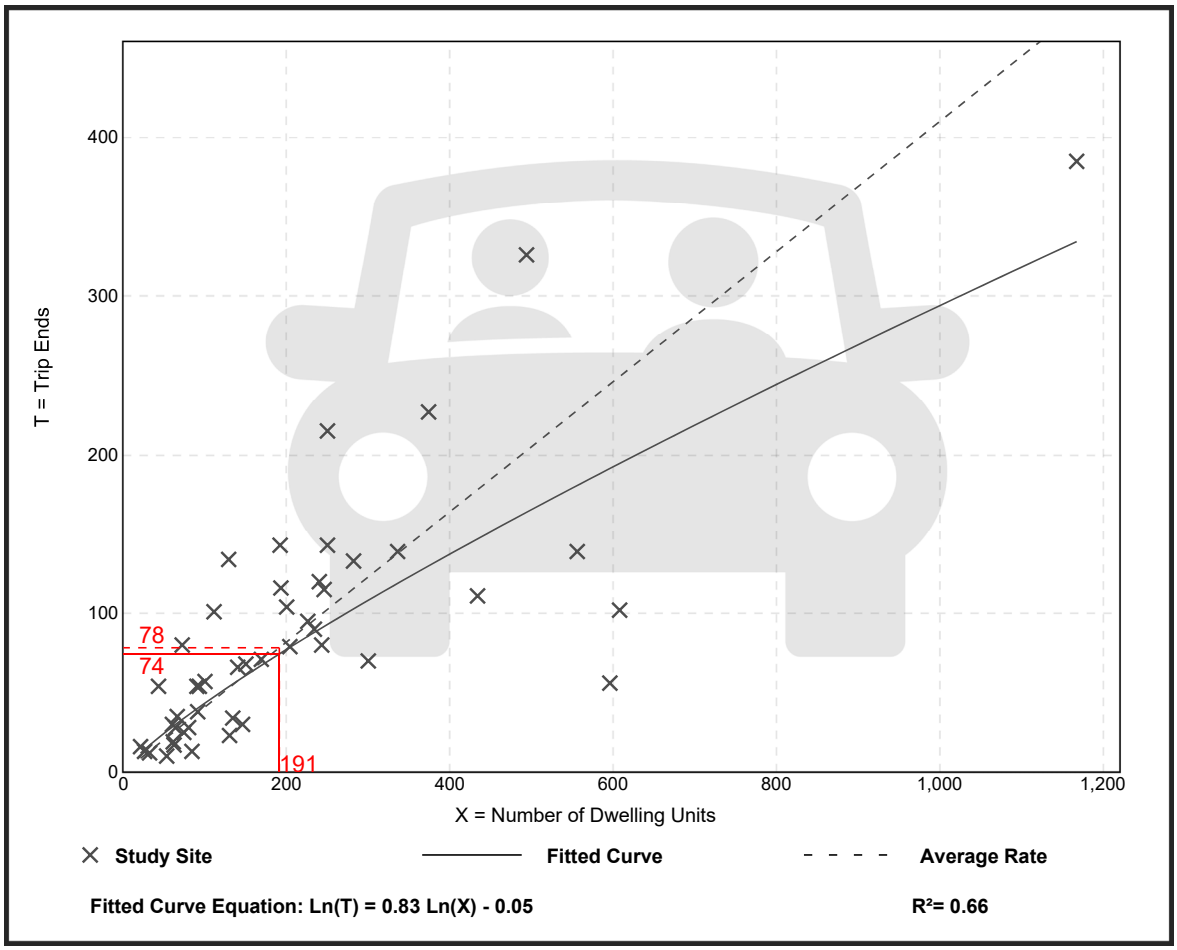
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 47
Avg. Num. of Dwelling Units: 211
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.09 - 1.26	0.22

Data Plot and Equation



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Multifamily Housing (Mid-Rise)
(221)

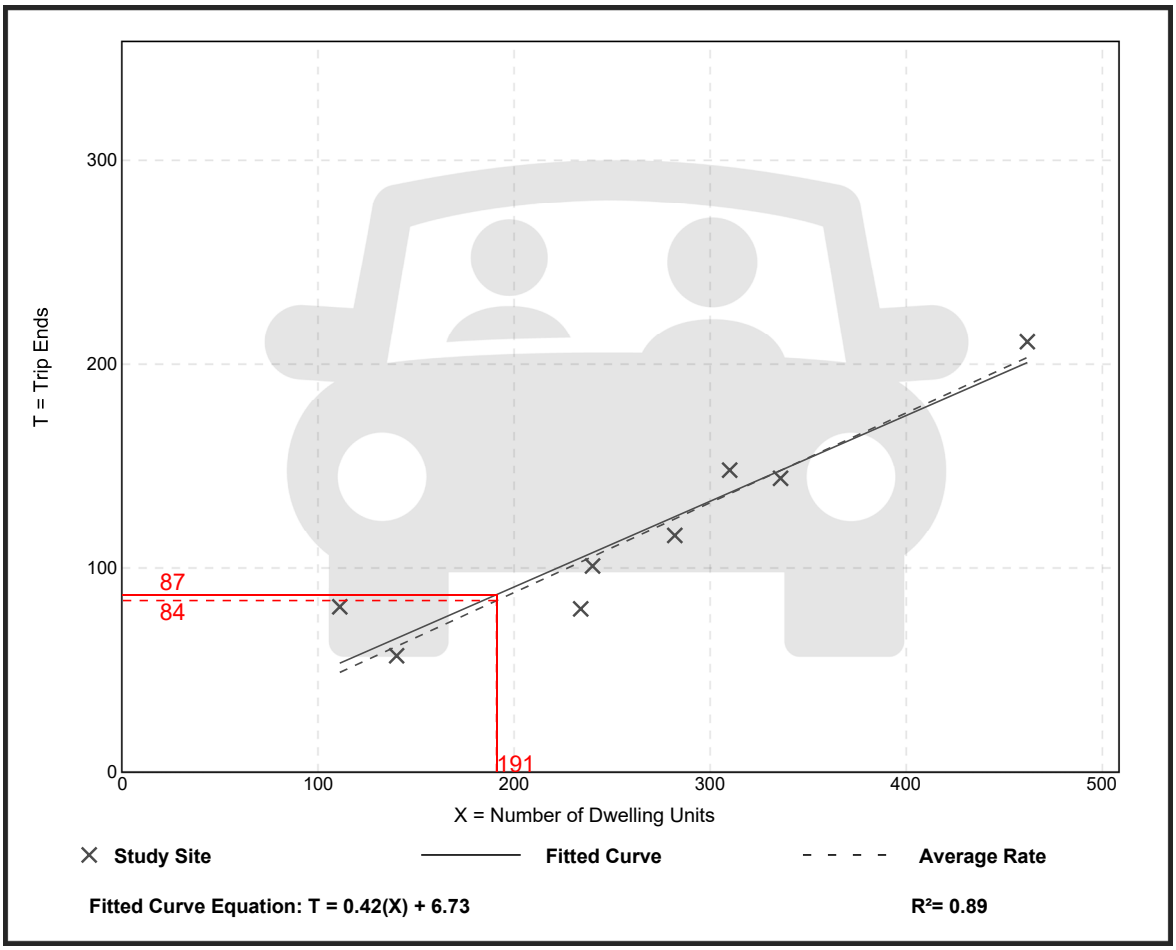
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Dwelling Units: 264
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.34 - 0.73	0.08

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

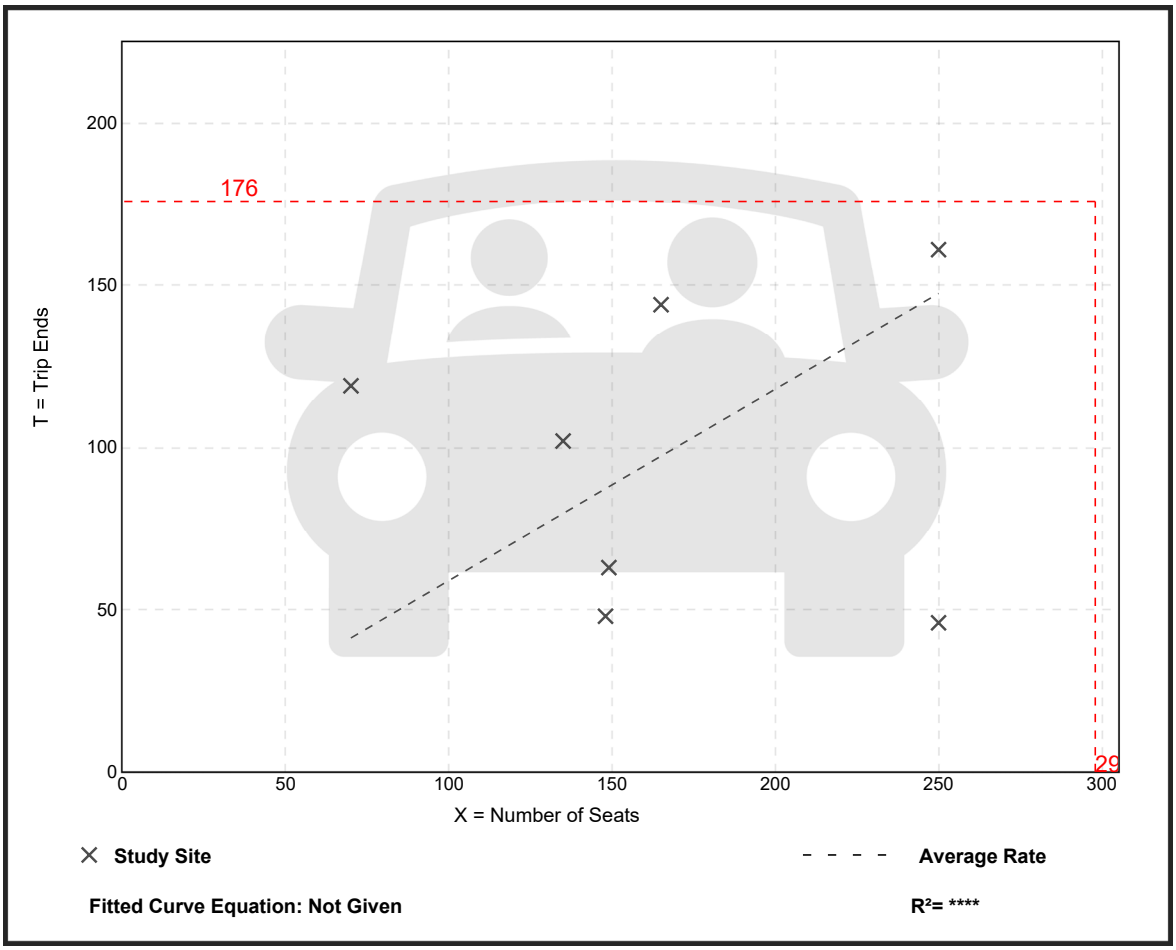
Vehicle Trip Ends vs: **Seats**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. Num. of Seats: 167
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.59	0.18 - 1.70	0.40

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

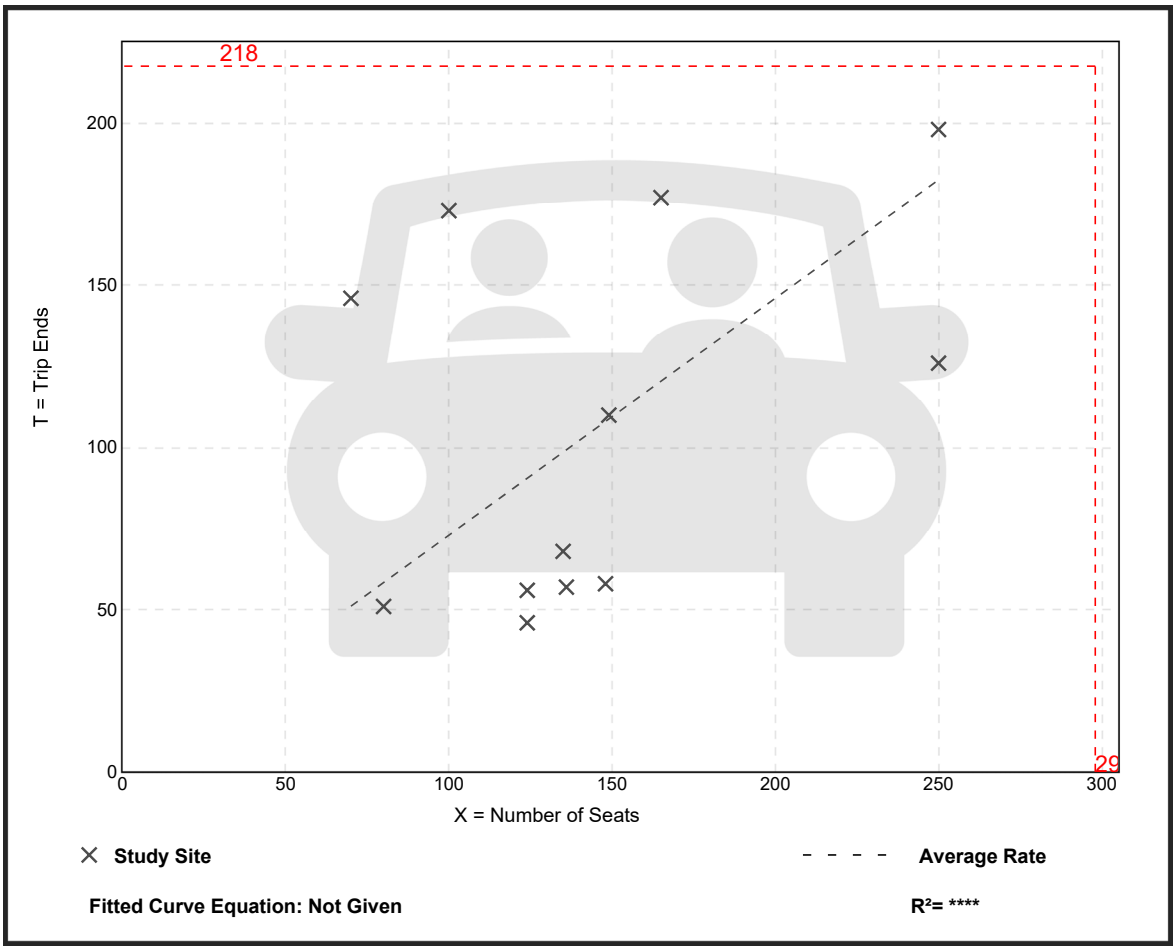
Vehicle Trip Ends vs: **Seats**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 12
Avg. Num. of Seats: 144
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.73	0.37 - 2.09	0.45

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

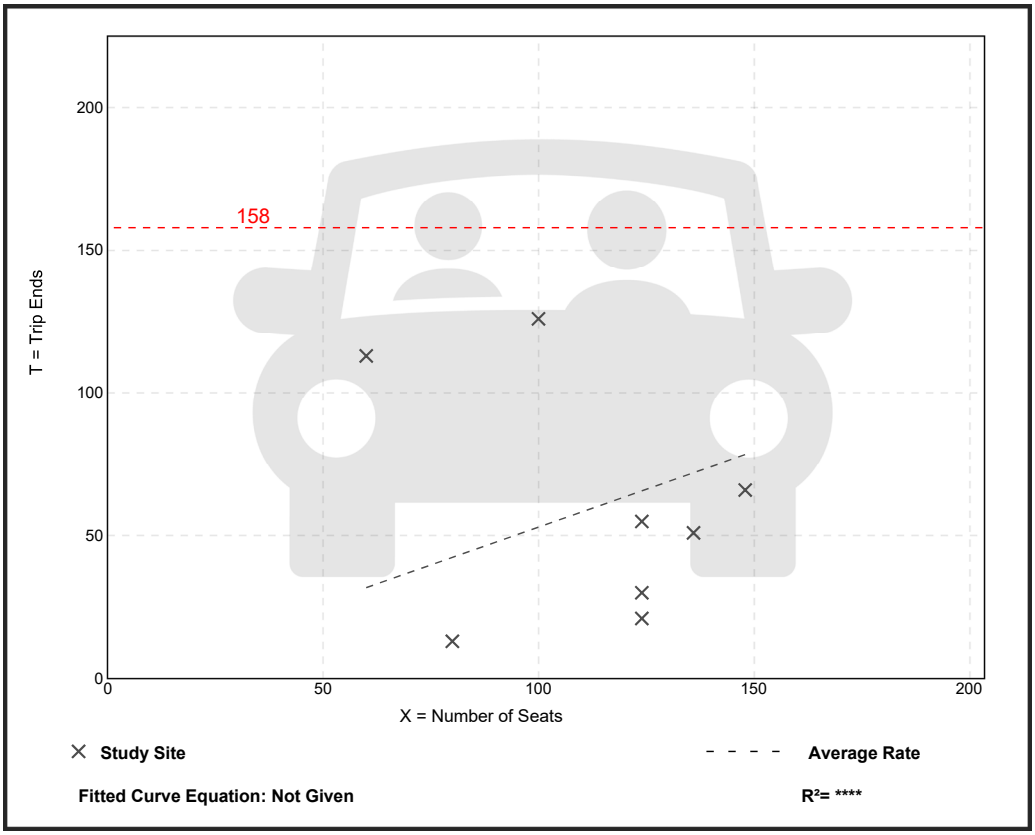
Vehicle Trip Ends vs: **Seats**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Seats: 112
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.53	0.16 - 1.88	0.51

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement ● Institute of Transportation Engineers

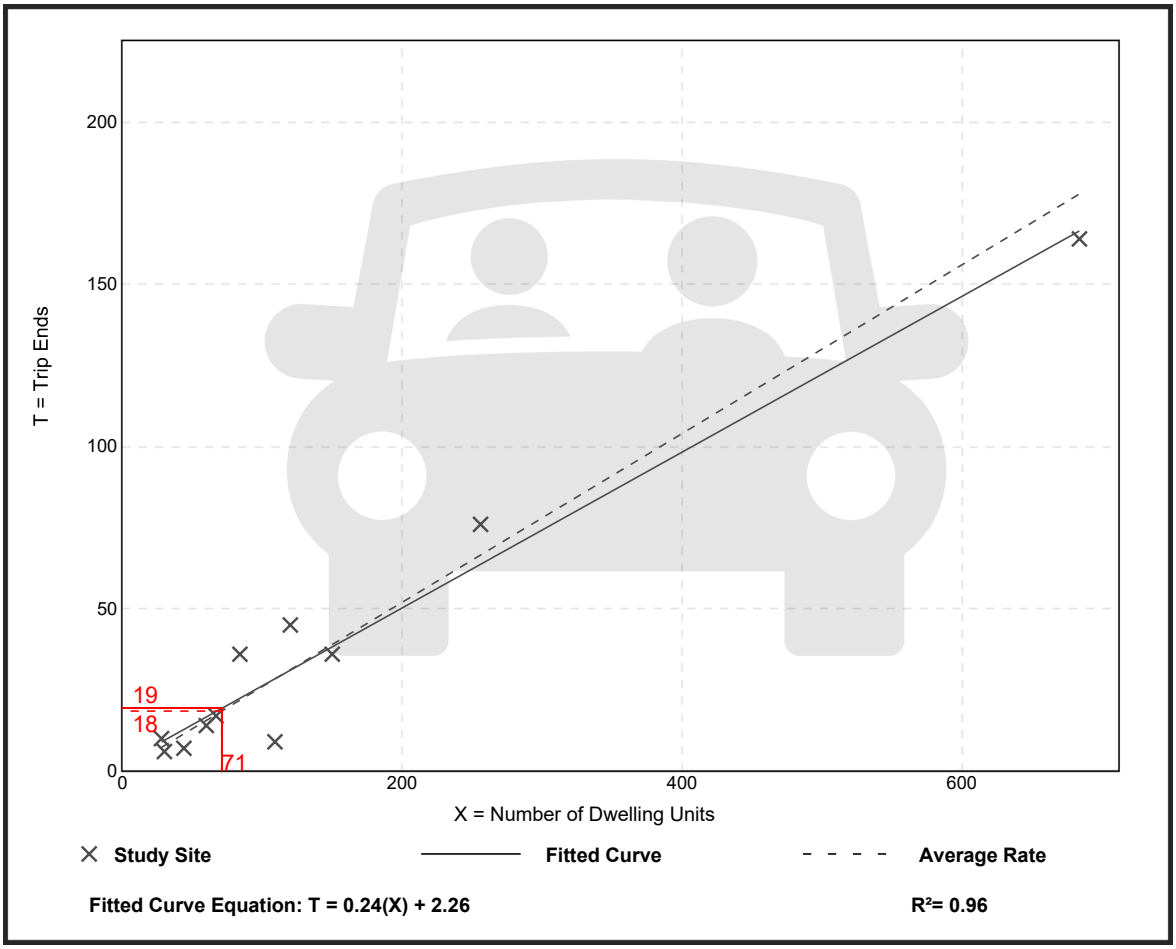
Senior Adult Housing - Attached
(252)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. Num. of Dwelling Units: 148
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.26	0.08 - 0.43	0.08

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

Senior Adult Housing - Attached
(252)

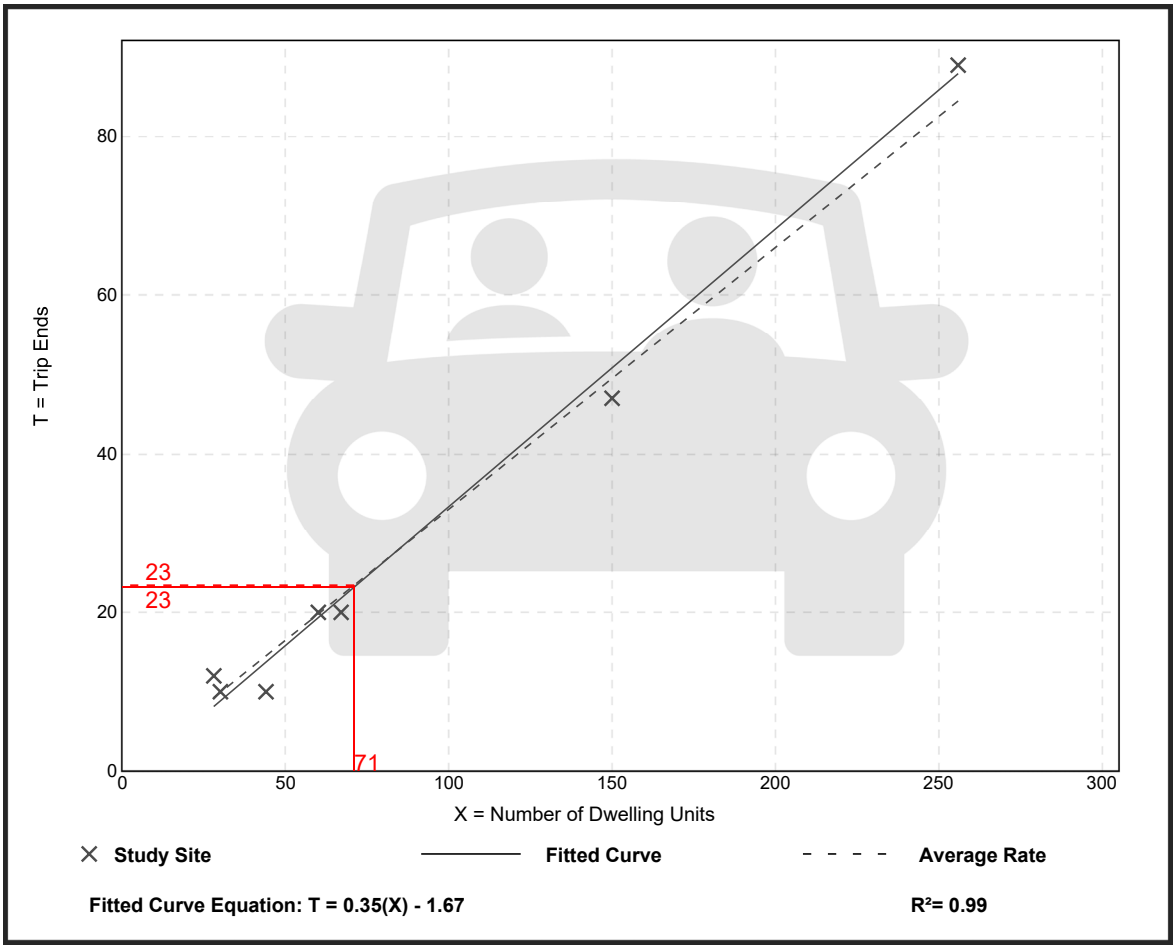
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
Avg. Num. of Dwelling Units: 91
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.33	0.23 - 0.43	0.04

Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Pearl Street	**Organization:**	T.Y. Lin International
Project Location:	Biddeford, Maine	**Performed By:**	Tom Errico, PE
Scenario Description:	Build	**Date:**	15-Sep-21
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**PM Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail				0	0	0
Restaurant	932	298	seats	218	113	105
Cinema/Entertainment				0		
Residential	221	191	Units	78	47	31
Hotel				0		
All Other Land Uses[2]				0		
				296	160	136

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	6	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	296	160	136
Internal Capture Percentage	5%	5%	6%
External Vehicle-Trips[5]	280	152	128
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	5%	2%
Cinema/Entertainment	N/A	N/A
Residential	4%	19%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Pearl Street	**Organization:**	T.Y. Lin International
Project Location:	Biddeford, Maine	**Performed By:**	Tom Errico, PE
Scenario Description:	Build	**Date:**	15-Sep-21
Analysis Year:	2022	**Checked By:**	
Analysis Period:	**Saturday Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail				0	0	0
Restaurant	932	298	seats	158	84	74
Cinema/Entertainment				0		
Residential	221	191	Units	87	43	44
Hotel				0		
All Other Land Uses[2]				0		
				245	127	118

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	9	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	245	127	118
Internal Capture Percentage	9%	9%	9%
External Vehicle-Trips[5]	223	116	107
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	11%	3%
Cinema/Entertainment	N/A	N/A
Residential	5%	20%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

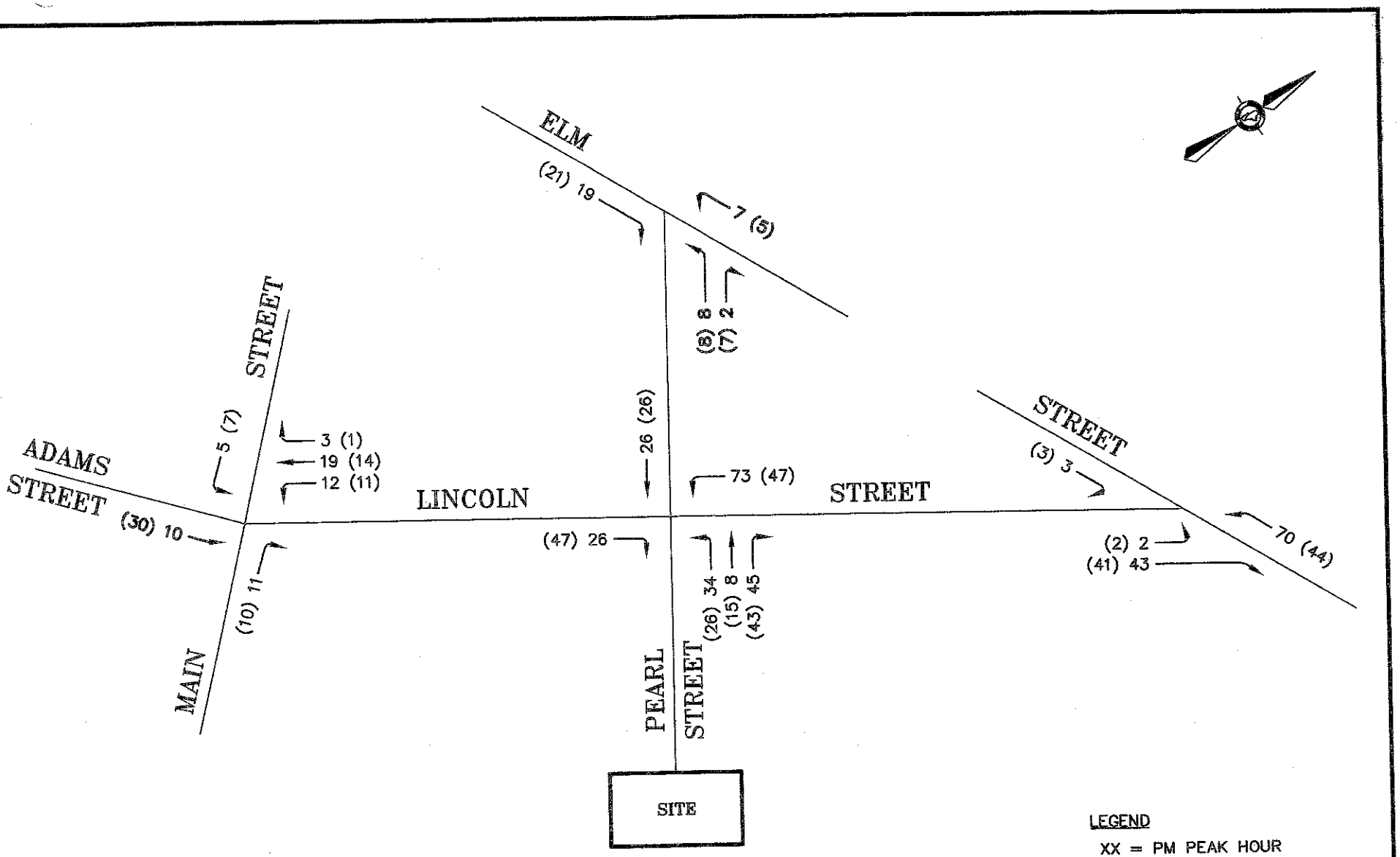
[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1



TOTAL "NET" TRIP ASSIGNMENT
(PM PEAK HOUR & SATURDAY PEAK HOUR)
FIGURE 5

E:\LAND PROJECTS\34000\34389 TRAFFIC SOLUTIONS\RIVERDAM REDEVELOPMENT\PLANSET\RIVERDAM.DWG

RIVERDAM REDEVELOPMENT BIDDEFORD, MAINE	TRAFFIC SOLUTIONS 17 MOUNTVIEW DRIVE, GORHAM, MAINE 04038
DATE: AUGUST, 2019	FIGURE: 5

WHO BUT W.B.MASON

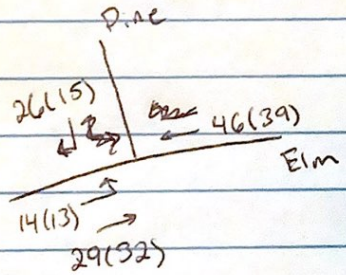
3 Lincoln St.

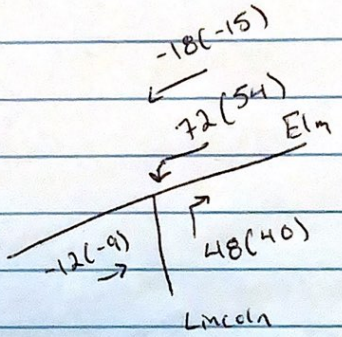
- TMC + Riverdam Traffic Volumes (Raw Data)

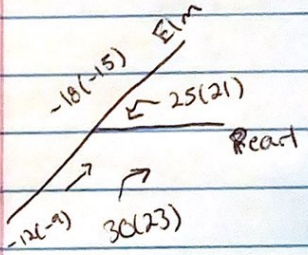
Additional trips

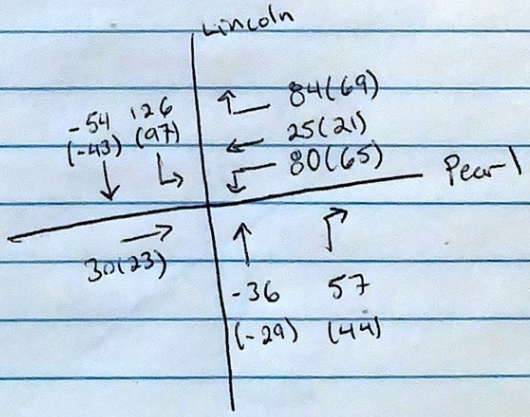
- Revised trip assignment
- Riverdam TMP
- Senior Housing PM + Saturday
- Lincoln Mill

Revised Trips

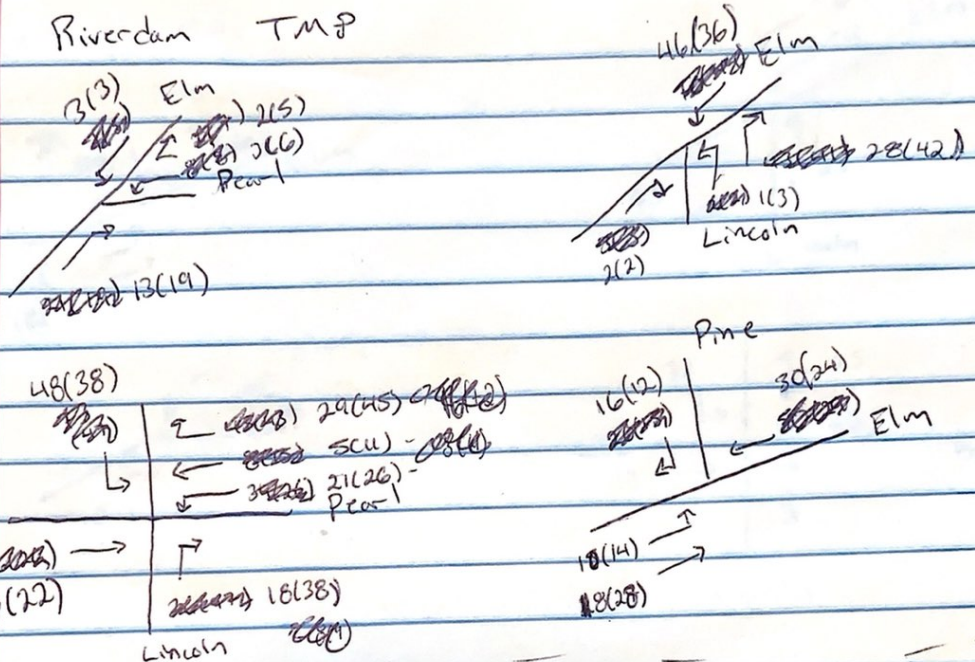








Riverdam TMP



Senior Housing 50% enter/exit from Pearl

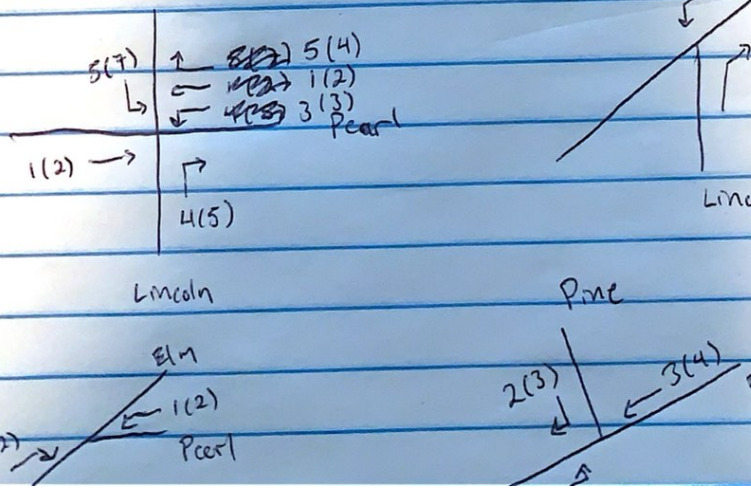
PM 55% enter - 10 > 19

45% exit - 9

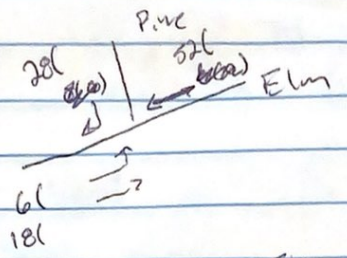
Saturday

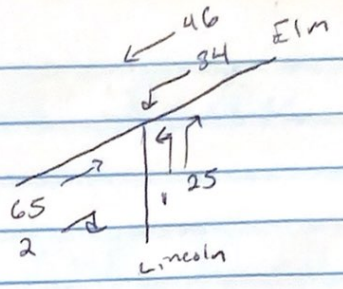
62% enter - 14 > 23

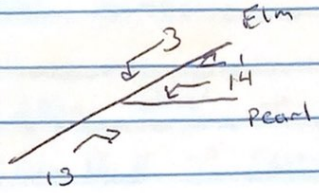
38% exit - 9

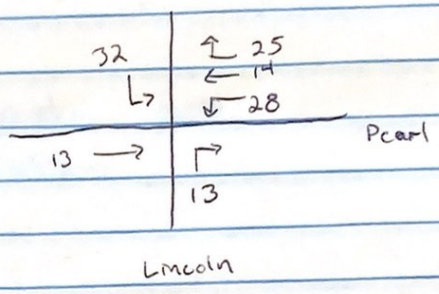


Lincoln Mill









C. Synchro/SimTraffic Output

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2402	2253	2298	2419	2293	2335
Vehs Exited	2367	2191	2236	2371	2286	2291
Starting Vehs	60	35	59	59	76	54
Ending Vehs	95	97	121	107	83	98
Travel Distance (mi)	1126	1055	1071	1129	1082	1092
Travel Time (hr)	141.9	221.1	202.1	166.3	107.9	167.9
Total Delay (hr)	99.4	181.2	161.7	123.5	67.1	126.6
Total Stops	1530	1280	1331	1611	1356	1422
Fuel Used (gal)	61.6	77.9	74.0	67.5	52.8	66.7

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2402	2253	2298	2419	2293	2335
Vehs Exited	2367	2191	2236	2371	2286	2291
Starting Vehs	60	35	59	59	76	54
Ending Vehs	95	97	121	107	83	98
Travel Distance (mi)	1126	1055	1071	1129	1082	1092
Travel Time (hr)	141.9	221.1	202.1	166.3	107.9	167.9
Total Delay (hr)	99.4	181.2	161.7	123.5	67.1	126.6
Total Stops	1530	1280	1331	1611	1356	1422
Fuel Used (gal)	61.6	77.9	74.0	67.5	52.8	66.7

1: Elm Street & Pine Street Performance by lane

Lane	WB	SE	NE	NE	All
Movements Served	LR	LR	L	R	
Denied Del/Veh (s)					122.2
Total Del/Veh (s)	5.6	639.0	12.0	2.8	51.8

7: Lincoln Street Performance by lane

Lane	NB	SB	NE	SW	SW	All
Movements Served	R	LTR	LTR	L	TR	
Denied Del/Veh (s)						0.8
Total Del/Veh (s)	88.8	325.1	2.3	22.6	2.6	21.8

9: Lincoln Street & Pearl Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	15.0	79.1	15.0	2.4	23.9

11: Pearl Street Performance by lane

Lane	WB	NE	SW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	37.8	1.2	1.2	2.1

Total Network Performance

Denied Del/Veh (s)	109.8
Total Del/Veh (s)	75.7

Intersection: 1: Elm Street & Pine Street

Movement	WB	SE	NE	NE	B5
Directions Served	LR	LR	L	R	T
Maximum Queue (ft)	273	677	173	290	58
Average Queue (ft)	85	619	90	20	3
95th Queue (ft)	201	835	156	138	33
Link Distance (ft)	1157	662		228	343
Upstream Blk Time (%)		81		1	
Queuing Penalty (veh)		0		7	
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			2	0	
Queuing Penalty (veh)			17	0	

Intersection: 7: Lincoln Street

Movement	NB	SB	NE	SW	SW	B5
Directions Served	R	LTR	LTR	L	TR	T
Maximum Queue (ft)	274	150	165	226	372	151
Average Queue (ft)	198	62	27	109	36	11
95th Queue (ft)	330	150	102	206	216	92
Link Distance (ft)	263	156	296		343	228
Upstream Blk Time (%)	21	10	0		2	0
Queuing Penalty (veh)	60	0	0		22	4
Storage Bay Dist (ft)				200		
Storage Blk Time (%)				5	0	
Queuing Penalty (veh)				35	0	

Intersection: 9: Lincoln Street & Pearl Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	88	536	228	84
Average Queue (ft)	36	142	46	26
95th Queue (ft)	71	403	172	71
Link Distance (ft)	399	862	314	263
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Pearl Street

Movement	WB	SW	B15
Directions Served	LR	LT	T
Maximum Queue (ft)	78	189	12
Average Queue (ft)	20	28	0
95th Queue (ft)	53	110	8
Link Distance (ft)	399	157	296
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		3	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 150

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2230	2346	2209	2270	2214	2254
Vehs Exited	2206	2305	2167	2262	2195	2227
Starting Vehs	46	35	35	48	46	43
Ending Vehs	70	76	77	56	65	65
Travel Distance (mi)	975	1007	962	987	979	982
Travel Time (hr)	100.0	81.2	123.3	57.6	52.2	82.9
Total Delay (hr)	63.3	43.1	87.1	20.3	15.2	45.8
Total Stops	934	1051	948	1062	1131	1024
Fuel Used (gal)	48.0	44.8	53.2	38.5	37.5	44.4

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2230	2346	2209	2270	2214	2254
Vehs Exited	2206	2305	2167	2262	2195	2227
Starting Vehs	46	35	35	48	46	43
Ending Vehs	70	76	77	56	65	65
Travel Distance (mi)	975	1007	962	987	979	982
Travel Time (hr)	100.0	81.2	123.3	57.6	52.2	82.9
Total Delay (hr)	63.3	43.1	87.1	20.3	15.2	45.8
Total Stops	934	1051	948	1062	1131	1024
Fuel Used (gal)	48.0	44.8	53.2	38.5	37.5	44.4

1: Elm Street & Pine Street Performance by lane

Lane	WB	SE	NE	NE	All
Movements Served	LR	LR	L	R	
Denied Del/Veh (s)					39.6
Total Del/Veh (s)	3.9	282.3	7.5	2.0	40.0

7: Lincoln Street Performance by lane

Lane	NB	SB	NE	SW	SW	All
Movements Served	R	LTR	LTR	L	TR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	9.5	23.0	1.1	7.8	0.7	2.9

9: Lincoln Street & Pearl Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.1
Total Del/Veh (s)	6.6	6.8	0.7	1.9	3.5

11: Pearl Street Performance by lane

Lane	WB	NE	SW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	36.7	1.2	0.6	2.3

Total Network Performance

Denied Del/Veh (s)	33.0
Total Del/Veh (s)	38.9

Intersection: 1: Elm Street & Pine Street

Movement	WB	SE	NE	NE
Directions Served	LR	LR	L	R
Maximum Queue (ft)	156	677	125	9
Average Queue (ft)	52	488	57	0
95th Queue (ft)	117	861	107	4
Link Distance (ft)	1157	662		228
Upstream Blk Time (%)		46		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 7: Lincoln Street

Movement	NB	SB	NE	SW
Directions Served	R	LTR	LTR	L
Maximum Queue (ft)	93	51	62	112
Average Queue (ft)	38	16	6	44
95th Queue (ft)	77	40	33	82
Link Distance (ft)	263	156	296	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				200
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Lincoln Street & Pearl Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	80	107	30	80
Average Queue (ft)	32	49	2	18
95th Queue (ft)	56	81	13	55
Link Distance (ft)	399	862	314	263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Pearl Street

Movement	WB	NE	SW	B15
Directions Served	LR	TR	LT	T
Maximum Queue (ft)	95	4	107	18
Average Queue (ft)	31	0	10	1
95th Queue (ft)	70	3	56	13
Link Distance (ft)	399	410	157	296
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 1

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2448	2505	2444	2460	2519	2478
Vehs Exited	2351	2398	2369	2396	2453	2392
Starting Vehs	60	61	74	77	67	65
Ending Vehs	157	168	149	141	133	150
Travel Distance (mi)	1125	1143	1117	1139	1154	1135
Travel Time (hr)	273.2	242.6	237.1	212.1	172.7	227.6
Total Delay (hr)	230.5	199.3	194.8	169.0	128.8	184.5
Total Stops	1657	1794	1566	1803	1786	1720
Fuel Used (gal)	91.9	85.5	83.7	78.2	69.9	81.8

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2448	2505	2444	2460	2519	2478
Vehs Exited	2351	2398	2369	2396	2453	2392
Starting Vehs	60	61	74	77	67	65
Ending Vehs	157	168	149	141	133	150
Travel Distance (mi)	1125	1143	1117	1139	1154	1135
Travel Time (hr)	273.2	242.6	237.1	212.1	172.7	227.6
Total Delay (hr)	230.5	199.3	194.8	169.0	128.8	184.5
Total Stops	1657	1794	1566	1803	1786	1720
Fuel Used (gal)	91.9	85.5	83.7	78.2	69.9	81.8

1: Elm Street & Pine Street Performance by lane

Lane	WB	SE	NE	NE	All
Movements Served	LR	LR	L	R	
Denied Del/Veh (s)					163.8
Total Del/Veh (s)	6.2	812.3	13.8	2.9	54.3

7: Lincoln Street Performance by lane

Lane	NB	SB	NE	SW	SW	All
Movements Served	R	LTR	LTR	L	TR	
Denied Del/Veh (s)						0.9
Total Del/Veh (s)	108.1	498.9	2.8	30.3	4.7	29.2

9: Lincoln Street & Pearl Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					23.5
Total Del/Veh (s)	33.8	223.1	21.5	3.7	70.2

11: Pearl Street Performance by lane

Lane	WB	NE	SW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.4
Total Del/Veh (s)	68.7	1.7	1.3	3.8

Total Network Performance

Denied Del/Veh (s)	147.4
Total Del/Veh (s)	101.9

Intersection: 1: Elm Street & Pine Street

Movement	WB	SE	NE	NE	B5
Directions Served	LR	LR	L	R	T
Maximum Queue (ft)	321	677	168	214	65
Average Queue (ft)	89	636	99	22	3
95th Queue (ft)	217	812	168	139	32
Link Distance (ft)	1157	662		228	343
Upstream Blk Time (%)		89		1	
Queuing Penalty (veh)		0		6	
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			3		
Queuing Penalty (veh)			24		

Intersection: 7: Lincoln Street

Movement	NB	SB	NE	SW	SW	B5
Directions Served	R	LTR	LTR	L	TR	T
Maximum Queue (ft)	276	154	207	225	392	209
Average Queue (ft)	245	73	33	144	69	21
95th Queue (ft)	321	175	117	250	306	131
Link Distance (ft)	263	156	296		343	228
Upstream Blk Time (%)	33	17	0		4	1
Queuing Penalty (veh)	110	0	1		48	16
Storage Bay Dist (ft)				200		
Storage Blk Time (%)				11	0	
Queuing Penalty (veh)				81	0	

Intersection: 9: Lincoln Street & Pearl Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	177	867	248	172
Average Queue (ft)	60	449	74	48
95th Queue (ft)	137	996	217	110
Link Distance (ft)	399	862	314	263
Upstream Blk Time (%)		27	3	0
Queuing Penalty (veh)		0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Pearl Street

Movement	WB	NE	SW	B15
Directions Served	LR	TR	LT	T
Maximum Queue (ft)	149	4	138	7
Average Queue (ft)	37	0	24	0
95th Queue (ft)	126	3	95	5
Link Distance (ft)	399	410	157	296
Upstream Blk Time (%)	0		1	
Queuing Penalty (veh)	0		4	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 292

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2386	2547	2460	2356	2340	2418
Vehs Exited	2363	2503	2423	2339	2331	2392
Starting Vehs	53	37	38	54	57	45
Ending Vehs	76	81	75	71	66	70
Travel Distance (mi)	1040	1097	1063	1026	1028	1051
Travel Time (hr)	96.7	101.2	80.0	81.8	83.6	88.7
Total Delay (hr)	57.3	59.5	39.6	42.7	44.5	48.7
Total Stops	1221	1321	1263	1304	1276	1274
Fuel Used (gal)	49.4	52.2	45.9	45.5	46.0	47.8

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2386	2547	2460	2356	2340	2418
Vehs Exited	2363	2503	2423	2339	2331	2392
Starting Vehs	53	37	38	54	57	45
Ending Vehs	76	81	75	71	66	70
Travel Distance (mi)	1040	1097	1063	1026	1028	1051
Travel Time (hr)	96.7	101.2	80.0	81.8	83.6	88.7
Total Delay (hr)	57.3	59.5	39.6	42.7	44.5	48.7
Total Stops	1221	1321	1263	1304	1276	1274
Fuel Used (gal)	49.4	52.2	45.9	45.5	46.0	47.8

1: Elm Street & Pine Street Performance by lane

Lane	WB	SE	NE	NE	All
Movements Served	LR	LR	L	R	
Denied Del/Veh (s)					31.4
Total Del/Veh (s)	4.1	321.9	8.6	2.4	46.3

7: Lincoln Street Performance by lane

Lane	NB	SB	NE	SW	SW	All
Movements Served	R	LTR	LTR	L	TR	
Denied Del/Veh (s)						0.0
Total Del/Veh (s)	12.5	31.1	1.4	8.4	0.8	4.0

9: Lincoln Street & Pearl Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.2
Total Del/Veh (s)	8.4	11.3	0.8	2.8	5.9

11: Pearl Street Performance by lane

Lane	WB	NE	SW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	66.7	1.5	1.3	4.9

Total Network Performance

Denied Del/Veh (s)	25.3
Total Del/Veh (s)	45.9

Intersection: 1: Elm Street & Pine Street

Movement	WB	SE	NE	NE	B5
Directions Served	LR	LR	L	R	T
Maximum Queue (ft)	183	677	138	106	58
Average Queue (ft)	55	569	63	5	4
95th Queue (ft)	130	872	115	58	54
Link Distance (ft)	1157	662		228	343
Upstream Blk Time (%)		64		0	
Queuing Penalty (veh)		0		3	
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			1	0	
Queuing Penalty (veh)			5	0	

Intersection: 7: Lincoln Street

Movement	NB	SB	NE	SW	SW
Directions Served	R	LTR	LTR	L	TR
Maximum Queue (ft)	125	59	112	134	4
Average Queue (ft)	49	18	12	53	0
95th Queue (ft)	106	47	59	100	3
Link Distance (ft)	263	156	296		343
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Lincoln Street & Pearl Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	74	187	31	110
Average Queue (ft)	35	76	3	32
95th Queue (ft)	62	142	17	83
Link Distance (ft)	399	862	314	263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Pearl Street

Movement	WB	NE	SW	B15
Directions Served	LR	TR	LT	T
Maximum Queue (ft)	165	9	178	25
Average Queue (ft)	55	0	20	1
95th Queue (ft)	135	4	105	14
Link Distance (ft)	399	410	157	296
Upstream Blk Time (%)			1	
Queuing Penalty (veh)			5	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 13

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1163	1210	1161	1138	1104	1155
Vehs Exited	1172	1209	1168	1134	1104	1158
Starting Vehs	16	10	15	10	7	12
Ending Vehs	7	11	8	14	7	9
Travel Distance (mi)	233	237	231	219	217	227
Travel Time (hr)	12.7	13.3	12.3	12.0	11.4	12.3
Total Delay (hr)	4.1	4.5	3.8	3.9	3.4	3.9
Total Stops	1166	1208	1164	1135	1104	1156
Fuel Used (gal)	10.6	11.0	10.5	10.0	9.8	10.4

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1163	1210	1161	1138	1104	1155
Vehs Exited	1172	1209	1168	1134	1104	1158
Starting Vehs	16	10	15	10	7	12
Ending Vehs	7	11	8	14	7	9
Travel Distance (mi)	233	237	231	219	217	227
Travel Time (hr)	12.7	13.3	12.3	12.0	11.4	12.3
Total Delay (hr)	4.1	4.5	3.8	3.9	3.4	3.9
Total Stops	1166	1208	1164	1135	1104	1156
Fuel Used (gal)	10.6	11.0	10.5	10.0	9.8	10.4

9: Lincoln Street & Pearl Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					0.4
Total Del/Veh (s)	7.4	8.1	8.5	12.9	10.1

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	11.8

Intersection: 9: Lincoln Street & Pearl Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	82	132	111	233
Average Queue (ft)	37	64	59	105
95th Queue (ft)	63	106	94	185
Link Distance (ft)	448	862	314	352
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2590	2606	2588	2471	2558	2564
Vehs Exited	2488	2483	2498	2376	2471	2463
Starting Vehs	55	62	69	76	65	64
Ending Vehs	157	185	159	171	152	165
Travel Distance (mi)	1178	1182	1176	1135	1167	1167
Travel Time (hr)	215.8	189.2	157.9	250.8	162.4	195.2
Total Delay (hr)	171.1	144.4	113.3	207.9	118.0	151.0
Total Stops	2069	2227	2059	2383	2246	2196
Fuel Used (gal)	80.4	74.2	67.3	86.9	67.8	75.3

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2590	2606	2588	2471	2558	2564
Vehs Exited	2488	2483	2498	2376	2471	2463
Starting Vehs	55	62	69	76	65	64
Ending Vehs	157	185	159	171	152	165
Travel Distance (mi)	1178	1182	1176	1135	1167	1167
Travel Time (hr)	215.8	189.2	157.9	250.8	162.4	195.2
Total Delay (hr)	171.1	144.4	113.3	207.9	118.0	151.0
Total Stops	2069	2227	2059	2383	2246	2196
Fuel Used (gal)	80.4	74.2	67.3	86.9	67.8	75.3

1: Elm Street & Pine Street Performance by lane

Lane	WB	SE	NE	NE	All
Movements Served	LR	R	L	R	
Denied Del/Veh (s)					75.1
Total Del/Veh (s)	15.2	411.9	13.2	3.0	51.7

7: Lincoln Street Performance by lane

Lane	NB	SB	NE	SW	SW	All
Movements Served	R	LTR	LTR	L	TR	
Denied Del/Veh (s)						4.2
Total Del/Veh (s)	128.2	1103.7	3.2	33.5	7.4	35.9

9: Lincoln Street & Pearl Street Performance by lane

Lane	EB	WB	NB	SB	All
Movements Served	LTR	LTR	LTR	LTR	
Denied Del/Veh (s)					35.6
Total Del/Veh (s)	10.9	288.3	115.2	13.3	110.8

11: Pearl Street Performance by lane

Lane	WB	NE	SW	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.4
Total Del/Veh (s)	73.4	1.7	1.6	4.1

Total Network Performance

Denied Del/Veh (s)	80.5
Total Del/Veh (s)	123.4

Intersection: 1: Elm Street & Pine Street

Movement	WB	SE	NE	NE	B5
Directions Served	LR	R	L	R	T
Maximum Queue (ft)	428	678	169	166	112
Average Queue (ft)	152	605	89	16	10
95th Queue (ft)	602	867	156	125	98
Link Distance (ft)	1163	663		222	343
Upstream Blk Time (%)	4	77		1	1
Queuing Penalty (veh)	0	0		15	7
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			3		
Queuing Penalty (veh)			21		

Intersection: 7: Lincoln Street

Movement	NB	SB	NE	B15	SW	SW	B5
Directions Served	R	LTR	LTR	T	L	TR	T
Maximum Queue (ft)	276	171	234	9	225	420	229
Average Queue (ft)	260	109	36	0	159	108	41
95th Queue (ft)	319	207	144	7	256	397	186
Link Distance (ft)	263	156	296	157		343	222
Upstream Blk Time (%)	48	45	0			10	3
Queuing Penalty (veh)	160	0	3			125	39
Storage Bay Dist (ft)					200		
Storage Blk Time (%)					19	0	
Queuing Penalty (veh)					135	1	

Intersection: 9: Lincoln Street & Pearl Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	84	896	354	209
Average Queue (ft)	40	600	231	113
95th Queue (ft)	71	1146	413	188
Link Distance (ft)	399	862	314	263
Upstream Blk Time (%)		40	39	0
Queuing Penalty (veh)		0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Pearl Street

Movement	WB	NE	SW	B15
Directions Served	LR	TR	LT	T
Maximum Queue (ft)	168	4	182	63
Average Queue (ft)	40	0	30	2
95th Queue (ft)	119	3	114	35
Link Distance (ft)	399	410	157	296
Upstream Blk Time (%)			1	
Queuing Penalty (veh)			6	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 512

D. Crash Data

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **56644** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

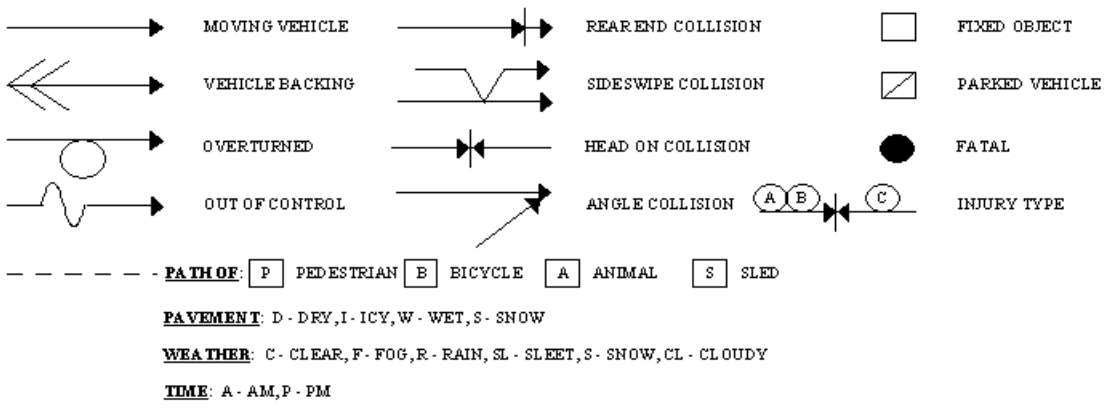
DESCRIPTION: **Jct of Elm St & Lincoln St**

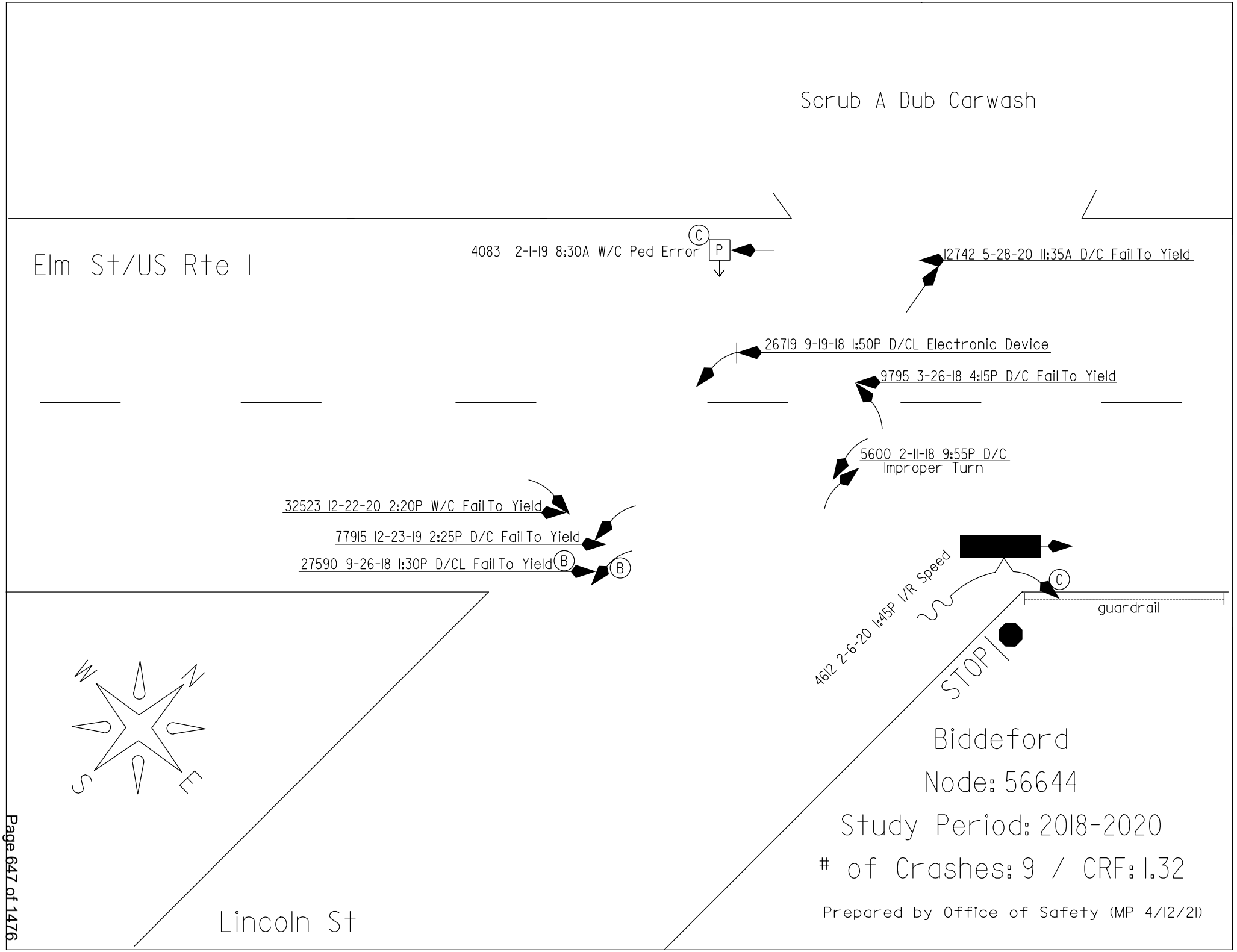
RTE # / RD #: **0001X** DATE DRAWN: **4/12/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **0.49** CRF: **1.32** % INJURY: **33.3** TOTAL CRASHES: **9**

LEGEND




Scrub A Dub Carwash
Elm St/US Rte 1
4083 2-1-19 8:30A W/C Ped Error
C
P
12742 5-28-20 11:35A D/C Fail To Yield
26719 9-19-18 1:50P D/CL Electronic Device
9795 3-26-18 4:15P D/C Fail To Yield
5600 2-11-18 9:55P D/C
Improper Turn
32523 12-22-20 2:20P W/C Fail To Yield
77915 12-23-19 2:25P D/C Fail To Yield
27590 9-26-18 1:30P D/CL Fail To Yield
B
B
4612 2-6-20 1:45P I/R Speed
C
guardrail
STOP
N
E
S
W
Lincoln St
Biddeford
Node: 56644
Study Period: 2018-2020
# of Crashes: 9 / CRF: 1.32
Prepared by Office of Safety (MP 4/12/21)

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **56648** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

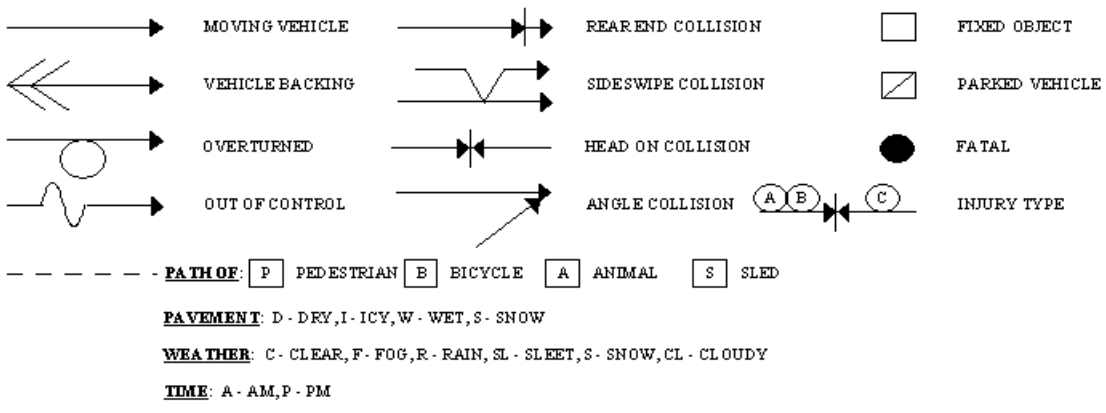
DESCRIPTION: **Jct of Elm St & Pine St**

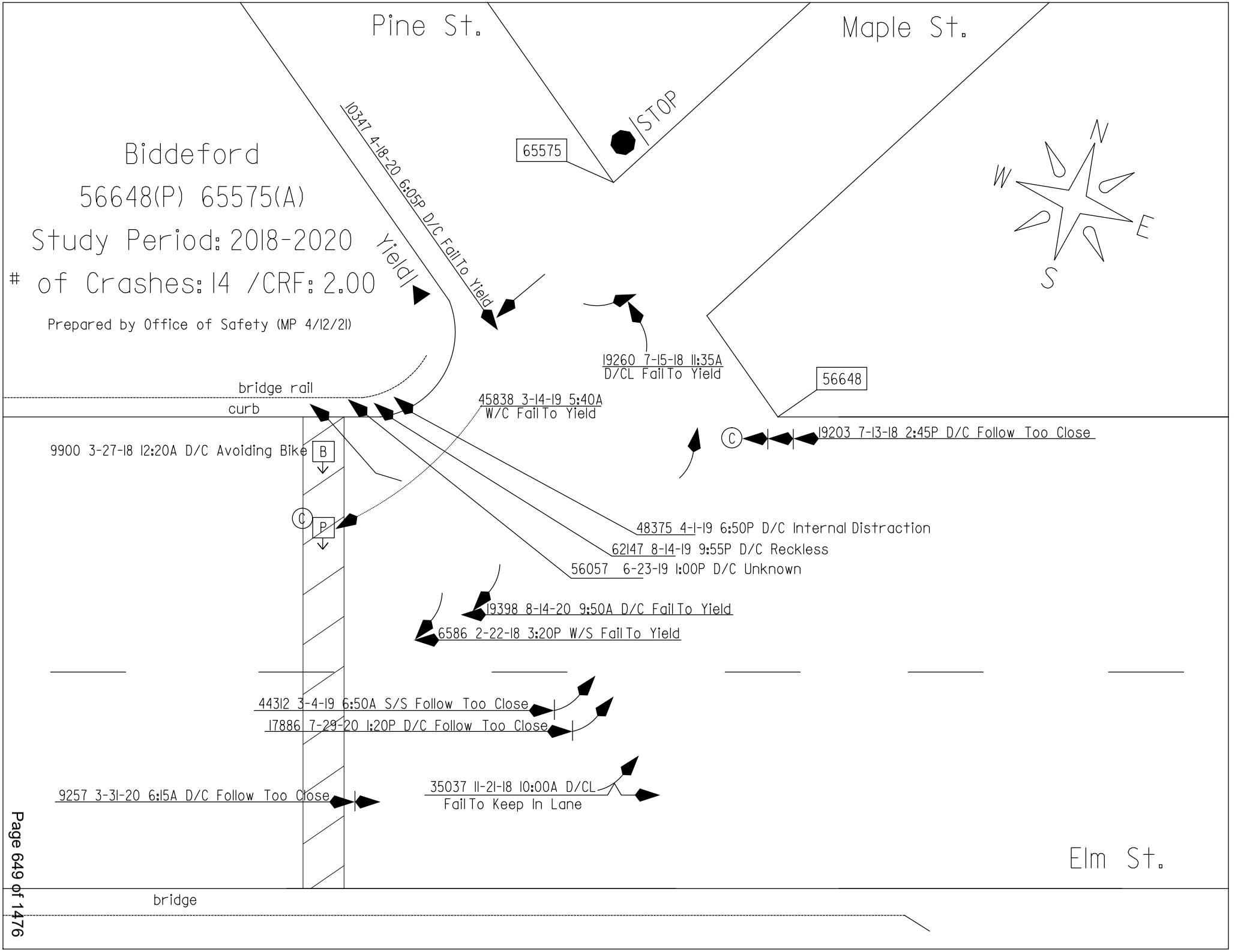
RTE # / RD #: **0001S** DATE DRAWN: **4/12/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **0.74** CRF: **2** % INJURY: **14.3** TOTAL CRASHES: **14**

LEGEND




Pine St.
Maple St.
Biddeford
56648(P) 65575(A)
Study Period: 2018-2020
# of Crashes: 14 /CRF: 2.00
Prepared by Office of Safety (MP 4/12/21)
10347 4-18-20 6:05P D/C Fail To Yield
Yield
65575
STOP
N
W
E
S
19260 7-15-18 11:35A
D/CL Fail To Yield
56648
bridge rail
curb
45838 3-14-19 5:40A
W/C Fail To Yield
19203 7-13-18 2:45P D/C Follow Too Close
9900 3-27-18 12:20A D/C Avoiding Bike
B
C
P
48375 4-1-19 6:50P D/C Internal Distraction
62147 8-14-19 9:55P D/C Reckless
56057 6-23-19 1:00P D/C Unknown
19398 8-14-20 9:50A D/C Fail To Yield
6586 2-22-18 3:20P W/S Fail To Yield
44312 3-4-19 6:50A S/S Follow Too Close
17886 7-29-20 1:20P D/C Follow Too Close
9257 3-31-20 6:15A D/C Follow Too Close
35037 11-21-18 10:00A D/CL
Fail To Keep In Lane
Elm St.
bridge

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **58493** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

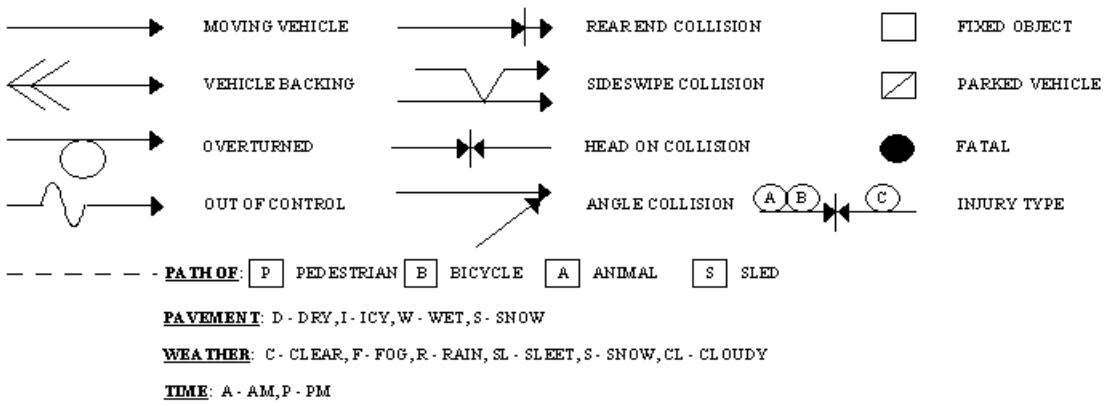
DESCRIPTION: **Jct of Main St & Jefferson St**

RTE # / RD #: **3110086** DATE DRAWN: **4/9/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **1.39** CRF: **2.9** % INJURY: **25** TOTAL CRASHES: **8**

LEGEND



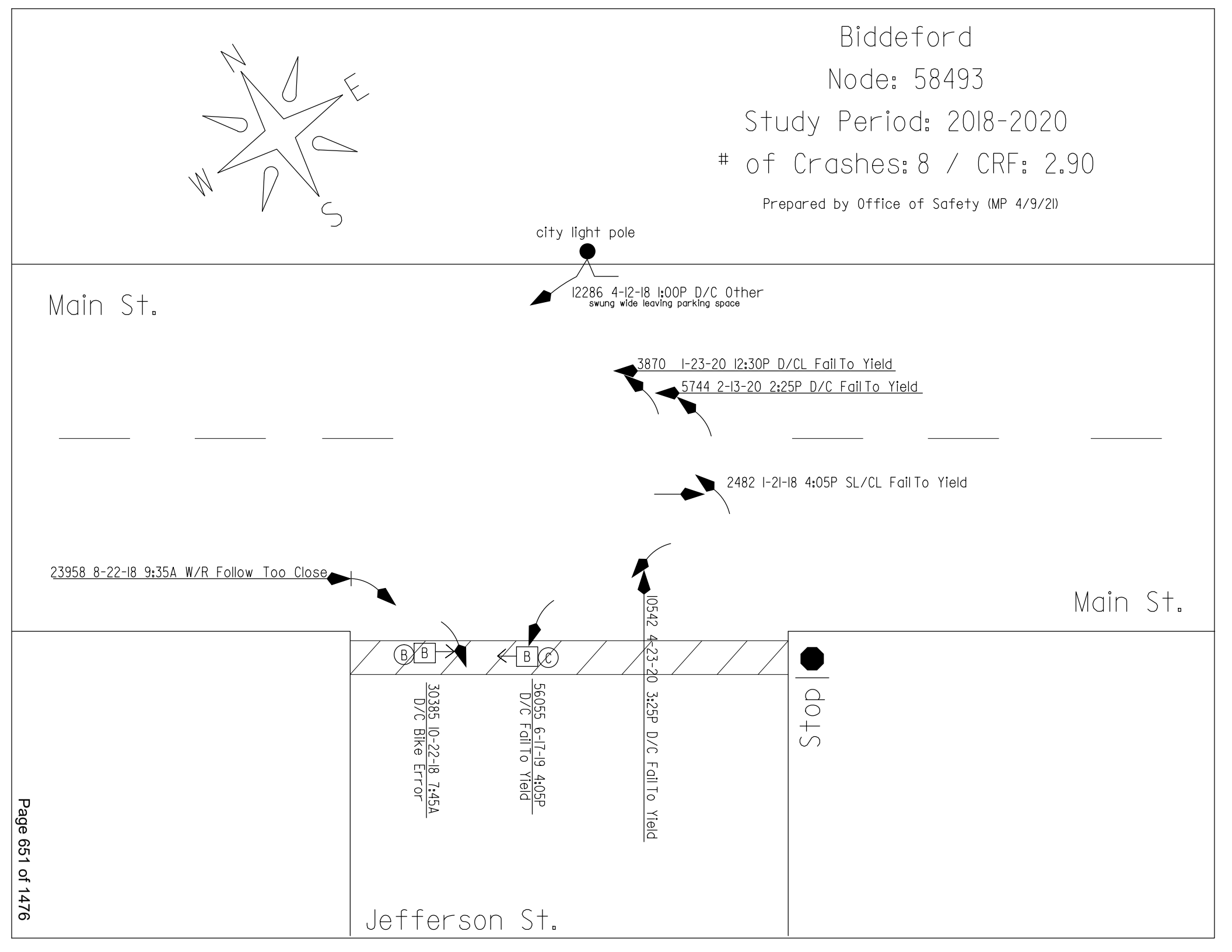
Biddeford

Node: 58493

Study Period: 2018-2020

of Crashes: 8 / CRF: 2.90

Prepared by Office of Safety (MP 4/9/21)



H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **58494** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

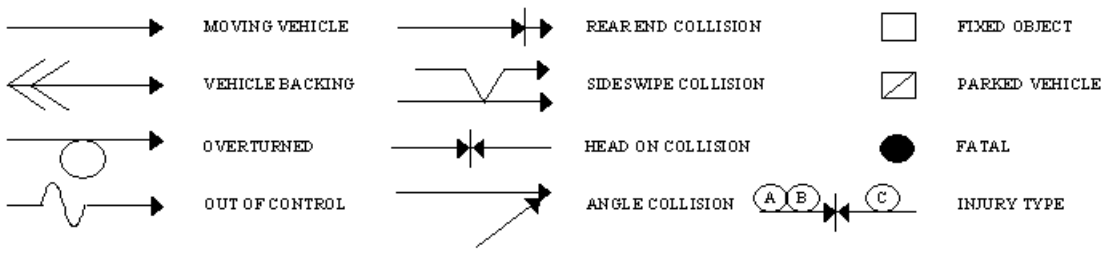
DESCRIPTION: **Jct of Main St & Adams St/Lincoln St**

RTE # / RD #: **3110002** DATE DRAWN: **4/9/2021** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2018** STUDY TO: **12/31/2020**

CRASH RATE: **1.79** CRF: **4.31** % INJURY: **38.9** TOTAL CRASHES: **18**

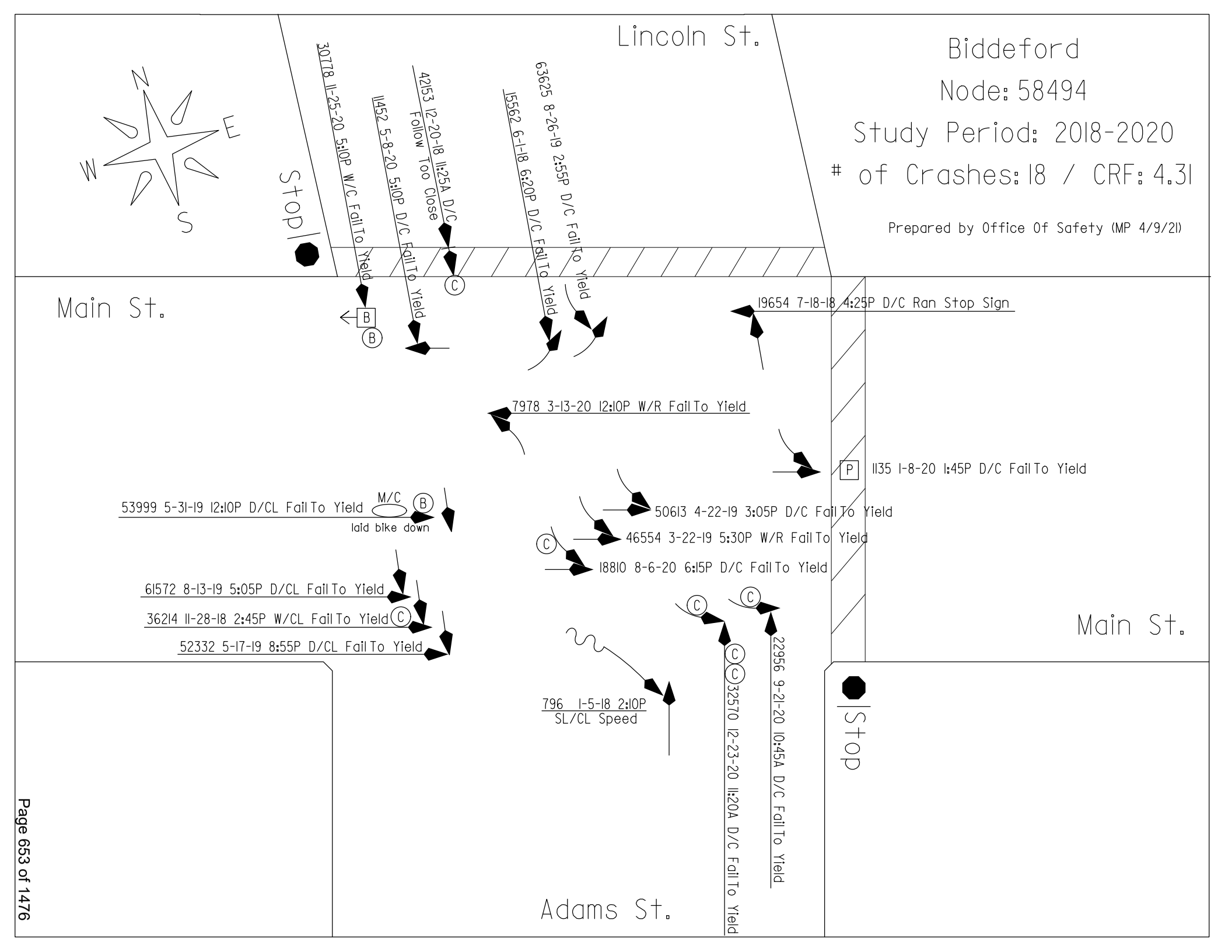
LEGEND



PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM


Biddeford
Node: 58494
Study Period: 2018-2020
# of Crashes: 18 / CRF: 4.31
Prepared by Office Of Safety (MP 4/9/21)
Lincoln St.
Main St.
Main St.
Adams St.
Stop
Stop
30778 11-25-20 5:10P W/C Fail To Yield
11452 5-8-20 5:10P D/C Fail To Yield
42153 12-20-18 11:25A D/C Follow Too Close
15562 6-1-18 6:20P D/C Fail To Yield
63625 8-26-19 2:55P D/C Fail To Yield
19654 7-18-18 4:25P D/C Ran Stop Sign
7978 3-13-20 12:10P W/R Fail To Yield
1135 1-8-20 1:45P D/C Fail To Yield
53999 5-31-19 12:10P D/CL Fail To Yield M/C
laid bike down
50613 4-22-19 3:05P D/C Fail To Yield
46554 3-22-19 5:30P W/R Fail To Yield
18810 8-6-20 6:15P D/C Fail To Yield
61572 8-13-19 5:05P D/CL Fail To Yield
36214 11-28-18 2:45P W/CL Fail To Yield
52332 5-17-19 8:55P D/CL Fail To Yield
796 1-5-18 2:10P
SL/CL Speed
32570 12-23-20 11:20A D/C Fail To Yield
22956 9-21-20 10:45A D/C Fail To Yield

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☐ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Biddeford
Elm St./Lincoln St./Main St./Pearl St. Area

REPORT PARAMETERS

Year 2018, Start Month 1 through Year 2020 End Month: 12

Route: 0001X	Start Node: 56640	Start Offset: 0	☐ Exclude First Node
	End Node: 56649	End Offset: 0	☐ Exclude Last Node
Route: 3110126	Start Node: 58512	Start Offset: 0	☑ Exclude First Node
	End Node: 58514	End Offset: 0	☑ Exclude Last Node
Route: 3110102	Start Node: 56644	Start Offset: 0	☑ Exclude First Node
	End Node: 58494	End Offset: 0	☑ Exclude Last Node
Route: 3110104	Start Node: 58494	Start Offset: 0	☐ Exclude First Node
	End Node: 56640	End Offset: 0	☑ Exclude Last Node
Route: 0001S	Start Node: 58711	Start Offset: 0	☑ Exclude First Node
	End Node: 56648	End Offset: 0	☑ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56640	0001X - 33.99	Int of ELM ST MAIN ST	9	22	0	0	1	4	17	22.7	6.161	1.19	1.27	0.94
												Statewide Crash Rate:	0.77	
56641	0001X - 34.04	Int of ELM ST ST MARYS ST	2	7	0	0	0	2	5	28.6	5.192	0.45	0.39	1.16
												Statewide Crash Rate:	0.16	
58514	0001X - 34.05	Int of ELM ST PEARL ST	2	3	0	0	1	0	2	33.3	4.797	0.21	0.40	0.00
												Statewide Crash Rate:	0.16	
56642	0001X - 34.09	Int of ELM ST SPRUCE ST VILLAGE MARKET Z RD	9	17	0	0	0	6	11	35.3	4.585	1.24	1.34	0.92
												Statewide Crash Rate:	0.77	
58517	0001X - 34.13	Int of ELM ST THORNTON ST	2	0	0	0	0	0	0	0.0	4.588	0.00	0.40	0.00
												Statewide Crash Rate:	0.16	
56644	0001X - 34.16	Int of ELM ST, LINCOLN ST	2	9	0	0	1	2	6	33.3	6.080	0.49	0.37	1.32
												Statewide Crash Rate:	0.16	
56645	0001X - 34.19	Int of ELM ST HOOPER ST	2	1	0	0	0	0	1	0.0	6.086	0.05	0.37	0.00
												Statewide Crash Rate:	0.16	
58519	0001X - 34.25	Int of DIAMOND ST ELM ST	2	6	0	0	2	2	2	66.7	6.084	0.33	0.37	0.00
												Statewide Crash Rate:	0.16	
56647	0001X - 34.29	BRG 3080, ELM ST over SACO RIVER (W OR S CHAN)	2	0	0	0	0	0	0	0.0	2.972	0.00	0.45	0.00
												Statewide Crash Rate:	0.16	
P56648	0001X - 34.31	Int of ELM ST PINE ST	2	14	0	0	0	2	12	14.3	6.277	0.74	0.37	2.00
												Statewide Crash Rate:	0.16	
58711	0001X - 34.33	Non Int ELM ST	2	0	0	0	0	0	0	0.0	4.753	0.00	0.40	0.00
												Statewide Crash Rate:	0.16	
56649	0001X - 34.48	TL - Biddeford, Saco	2	0	0	0	0	0	0	0.0	5.132	0.00	0.39	0.00
												Statewide Crash Rate:	0.16	
58513	3110126 - 0.06	Int of PEARL ST STONE ST	2	0	0	0	0	0	0	0.0	0.519	0.00	0.63	0.00
												Statewide Crash Rate:	0.15	
58512	3110102 - 0.07	Int of LINCOLN ST PEARL ST	2	1	0	0	0	0	1	0.0	2.008	0.17	0.47	0.00
												Statewide Crash Rate:	0.15	
58515	3110102 - 0.17	Int of LINCOLN ST STONE ST	2	0	0	0	0	0	0	0.0	2.144	0.00	0.47	0.00
												Statewide Crash Rate:	0.15	
58494	3110104 - 0.15	Int of ADAMS ST LINCOLN ST MAIN ST	2	18	0	0	2	5	11	38.9	3.353	1.79	0.41	4.31
												Statewide Crash Rate:	0.15	
58493	3110104 - 0.25	Int of JEFFERSON ST MAIN ST	2	8	0	0	1	1	6	25.0	1.923	1.39	0.48	2.90
												Statewide Crash Rate:	0.15	
Study Years: 3.00		NODE TOTALS:		106	0	0	8	24	74	30.2	72.654	0.49	0.33	1.46

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56640	56641	3130112	0 - 0.05	0001X - 33.99	0.05	2	3	0	0	0	1	2	33.3	0.00235	425.56	624.97	0.00
Int of ELM ST MAIN ST				US 1											Statewide Crash Rate: 230.30		
56641	58514	3114278	0 - 0.01	0001X - 34.04	0.01	2	0	0	0	0	0	0	0.0	0.00049	0.00	909.62	0.00
Int of ELM ST ST MARYS ST				US 1											Statewide Crash Rate: 230.30		
56642	58514	3130113	0 - 0.04	0001X - 34.05	0.04	2	1	0	0	1	0	0	100.0	0.00177	188.67	672.93	0.00
Int of ELM ST SPRUCE ST VILLAGE MARKET Z RD				US 1											Statewide Crash Rate: 230.30		
56642	58517	3944217	0 - 0.04	0001X - 34.09	0.04	2	0	0	0	0	0	0	0.0	0.00188	0.00	662.61	0.00
Int of ELM ST SPRUCE ST VILLAGE MARKET Z RD				US 1											Statewide Crash Rate: 230.30		
56644	58517	3114282	0 - 0.03	0001X - 34.13	0.03	2	4	0	0	0	1	3	25.0	0.00133	1001.36	723.66	1.38
Int of ELM ST, LINCOLN ST				US 1											Statewide Crash Rate: 230.30		
56644	56645	3114280	0 - 0.03	0001X - 34.16	0.03	2	1	0	0	0	0	1	0.0	0.00179	186.48	670.90	0.00
Int of ELM ST, LINCOLN ST				US 1											Statewide Crash Rate: 230.30		
56645	58519	3937825	0 - 0.06	0001X - 34.19	0.06	2	2	0	0	0	0	2	0.0	0.00372	179.33	555.64	0.00
Int of ELM ST HOOPER ST				US 1											Statewide Crash Rate: 230.30		
56647	58519	3114285	0 - 0.04	0001X - 34.25	0.04	2	2	0	0	0	1	1	50.0	0.00238	280.41	623.08	0.00
BRG 3080, ELM ST over SACO RIVER (W OR S CHAN)				US 1											Statewide Crash Rate: 230.30		
56647	56648	2837611	0 - 0.02	0001X - 34.29	0.02	2	3	0	0	0	2	1	66.7	0.00119	841.23	744.72	1.13
BRG 3080, ELM ST over SACO RIVER (W OR S CHAN)				US 1											Statewide Crash Rate: 230.30		
56648	58711	3139816	0 - 0.02	0001X - 34.31	0.02	2	0	0	0	0	0	0	0.0	0.00045	0.00	922.12	0.00
Int of ELM ST PINE ST				US 1											Statewide Crash Rate: 230.30		
56649	58711	3116620	0 - 0.15	0001X - 34.33	0.15	2	6	0	0	0	0	6	0.0	0.00744	268.98	469.63	0.00
TL - Biddeford, Saco				US 1											Statewide Crash Rate: 230.30		
58512	58513	239919	0 - 0.06	3110126 - 0	0.06	2	1	0	0	0	0	1	0.0	0.00012	2855.67	1776.07	1.61
Int of LINCOLN ST PEARL ST				RD INV 31 10126											Statewide Crash Rate: 411.49		
58513	58514	239921	0 - 0.04	3110126 - 0.06	0.04	2	1	0	0	0	0	1	0.0	0.00011	3064.57	1771.95	1.73
Int of PEARL ST STONE ST				RD INV 31 10126											Statewide Crash Rate: 411.49		
56644	58512	3114281	0 - 0.07	3110102 - 0	0.07	2	1	0	0	0	0	1	0.0	0.00123	270.11	615.24	0.00
Int of ELM ST, LINCOLN ST				RD INV 31 10102											Statewide Crash Rate: 180.89		
58512	58515	3114626	0 - 0.10	3110102 - 0.07	0.10	2	4	0	0	0	1	3	25.0	0.00206	647.69	540.79	1.20
Int of LINCOLN ST PEARL ST				RD INV 31 10102											Statewide Crash Rate: 180.89		
58494	58515	3132475	0 - 0.04	3110102 - 0.17	0.04	2	0	0	0	0	0	0	0.0	0.00066	0.00	706.27	0.00
Int of ADAMS ST LINCOLN ST MAIN ST				RD INV 31 10102											Statewide Crash Rate: 180.89		
58493	58494	4046830	0 - 0.06	3110104 - 0.15	0.06	2	6	0	0	1	1	3	40.0	0.00093	2147.29	657.37	3.27
Int of JEFFERSON ST MAIN ST				RD INV 31 10104											Statewide Crash Rate: 180.89		
58493	58494	4046830	0.06 - 0.10	3110104 - 0.21	0.04	2	0	0	0	0	0	0	0.0	0.00062	0.00	715.21	0.00
Int of JEFFERSON ST MAIN ST				RD INV 31 10104											Statewide Crash Rate: 180.89		

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
56640	58493	3114277	0 - 0.09	3110104 - 0.25	0.09	2	5	0	0	0	2	2	50.0	0.00162	1030.79	575.27	1.79
Int of ELM ST	MAIN ST			RD INV 31 10104											Statewide Crash Rate: 180.89		
58711	56648	3129094	0 - 0.02	0001S - 23.94	0.02	2	0	0	0	0	0	0	0.0	0.00045	0.00	922.12	0.00
Non Int ELM ST				US 1 SB											Statewide Crash Rate: 230.30		
Study Years: 3.00				Section Totals:	1.01		40	0	0	2	9	27	27.5	0.03258	409.23	338.05	1.21
				Grand Totals:	1.01		146	0	0	10	33	101	29.5	0.03258	1493.69	479.58	3.11

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
56640	56641	3130112	0 - 0.05	0001X - 33.99	3	0	0	0	1	2	2018-4672	02/07/2018	34.01	PD
											2019-44415	03/03/2019	34.02	C
											2018-25216	09/05/2018	34.02	PD
56641	58514	3114278	0 - 0.01	0001X - 34.04	0	0	0	0	0	0				
56642	58514	3130113	0 - 0.04	0001X - 34.05	1	0	0	1	0	0	2018-32156	10/30/2018	34.07	B
56642	58517	3944217	0 - 0.04	0001X - 34.09	0	0	0	0	0	0				
56644	58517	3114282	0 - 0.03	0001X - 34.13	4	0	0	0	1	3	2019-42440	02/15/2019	34.15	C
											2018-2357	01/21/2018	34.15	PD
											2020-20414	08/25/2020	34.15	PD
											2018-24502	08/24/2018	34.15	PD
56644	56645	3114280	0 - 0.03	0001X - 34.16	1	0	0	0	0	1	2018-3772	01/31/2018	34.18	PD
56645	58519	3937825	0 - 0.06	0001X - 34.19	2	0	0	0	0	2	2018-6440	02/21/2018	34.20	PD
											2019-46111	03/15/2019	34.24	PD
56647	58519	3114285	0 - 0.04	0001X - 34.25	2	0	0	0	1	1	2018-30221	10/23/2018	34.26	PD
											2018-18747	07/06/2018	34.28	C
56647	56648	2837611	0 - 0.02	0001X - 34.29	3	0	0	0	2	1	2020-15927	07/05/2020	34.30	C
											2020-16535	07/11/2020	34.30	C
											2020-25311	10/20/2020	34.30	PD
56648	58711	3139816	0 - 0.02	0001X - 34.31	0	0	0	0	0	0				
56649	58711	3116620	0 - 0.15	0001X - 34.33	6	0	0	0	0	6	2018-26829	09/24/2018	34.34	PD
											2020-14282	06/11/2020	34.34	PD
											2018-22465	08/13/2018	34.39	PD
											2019-4073	01/25/2019	34.42	PD
											2019-75562	12/08/2019	34.43	PD
											2018-10382	04/02/2018	34.44	PD
58512	58513	239919	0 - 0.06	3110126 - 0	1	0	0	0	0	1	2020-6373	02/21/2020	0.01	PD
58513	58514	239921	0 - 0.04	3110126 - 0.06	1	0	0	0	0	1	2018-4617	02/06/2018	0.09	PD
56644	58512	3114281	0 - 0.07	3110102 - 0	1	0	0	0	0	1	2019-43804	02/18/2019	0.02	PD
58512	58515	3114626	0 - 0.10	3110102 - 0.07	4	0	0	0	1	3	2020-26347	10/31/2020	0.08	PD
											2019-48376	04/06/2019	0.09	C
											2019-67427	10/01/2019	0.16	PD
											2020-5056	02/13/2020	0.16	PD
58494	58515	3132475	0 - 0.04	3110102 - 0.17	0	0	0	0	0	0				
58493	58494	4046830	0.06 - 0.10	3110104 - 0.15	0	0	0	0	0	0				

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes K	A	B	C	PD	Crash Report	Crash Date	Crash Mile Point	Injury Degree
58493	58494	4046830	0 - 0.06	3110104 - 0.15	6	0	0	1	1	3	2018-7638	03/05/2018	0.20	PD
											2020-22459	09/18/2020	0.22	B
											2019-62667	08/24/2019	0.22	C
											2018-1561	01/16/2018	0.22	PD
											2018-32265	11/03/2018	0.23	
											2019-75926	10/21/2019	0.24	PD
56640	58493	3114277	0 - 0.09	3110104 - 0.25	5	0	0	0	2	2	2018-9686	03/17/2018	0.27	PD
											2018-26434	09/17/2018	0.28	PD
											2018-17433	06/23/2018	0.31	C
											2018-9357	03/19/2018	0.31	C
											2018-3953	02/02/2018	0.32	
58711	56648	3129094	0 - 0.02	0001S - 23.94	0	0	0	0	0	0				
				Totals:	40	0	0	2	9	27				

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	1	1	0	0	0	0	0	0	0	0	1	2	1	1	2	1	0	1	1	0	0	1	0	0	0	13
MONDAY	0	0	0	0	0	0	1	1	1	0	3	0	3	1	3	4	3	2	2	0	0	0	0	0	0	24
TUESDAY	1	0	0	0	0	0	1	0	0	1	4	1	1	3	1	1	3	1	0	1	0	1	0	0	0	20
WEDNESDAY	0	1	0	0	0	0	0	1	0	1	2	4	2	4	2	0	4	3	1	0	0	1	0	0	0	26
THURSDAY	0	0	0	0	0	1	0	0	1	0	0	4	1	4	1	3	2	1	1	0	0	1	0	0	0	20
FRIDAY	1	0	0	0	0	1	2	3	2	3	0	0	3	2	3	0	1	4	1	0	1	0	0	1	0	28
SATURDAY	0	0	0	0	0	0	0	1	1	1	0	1	1	0	2	1	1	1	2	2	0	0	1	0	0	15
Totals	3	2	0	0	0	2	4	6	5	6	10	12	12	15	14	10	14	13	8	3	1	4	1	1	0	146

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	137
2-(Sport) Utility Vehicle	67
3-Passenger Van	8
4-Cargo Van (10K lbs or Less)	6
5-Pickup	39
6-Motor Home	0
7-School Bus	1
8-Transit Bus	1
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	1
12-Moped	1
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	1
17-Medium/Heavy Trucks (More than 10,000 lbs)	6
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	5

Unit Type	Total
23-Bicyclist	5
24-Witness	18
25-Other	1
26-Construction	0
27-Farm Vehicle	0
Total	297

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	9	112	3	2	0	0	126
Ran Off Roadway	7	0	0	0	0	0	7
Failed to Yield Right-of-Way	38	0	0	0	0	0	38
Ran Red Light	4	0	0	0	0	0	4
Ran Stop Sign	1	0	0	0	0	0	1
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	1	0	0	0	0	0	1
Exceeded Posted Speed Limit	1	1	0	0	0	0	2
Drove Too Fast For Conditions	6	0	0	0	0	0	6
Improper Turn	3	0	0	0	0	0	3
Improper Backing	6	0	0	0	0	0	6
Improper Passing	3	0	0	0	0	0	3
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	34	0	1	0	0	0	35
Failed to Keep in Proper Lane	9	0	0	0	0	0	9
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	18	0	0	0	0	0	18
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	2	0	0	0	0	0	2
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	2	0	0	0	0	0	2
Unknown	1	1	0	0	0	0	2
Total	145	114	4	2	0	0	265

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	134	118	4	2	0	0	258
Physically Impaired or Handicapped	2	0	0	0	0	0	2
Emotional(Depressed, Angry, Disturbed, etc.)	1	1	0	0	0	0	2
Ill (Sick)	1	0	0	0	0	0	1
Asleep or Fatigued	1	0	0	0	0	0	1
Under the Influence of Medications/Drugs/Alcohol	5	1	0	0	0	0	6
Other	0	0	0	0	0	0	0
Total	144	120	4	2	0	0	270

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	24	0	0	0	0	24
20-24	33	0	0	0	0	33
25-29	26	0	0	0	0	26
30-39	53	0	0	0	0	53
40-49	33	0	0	0	0	33
50-59	31	0	0	0	0	31
60-69	33	0	0	0	0	33
70-79	27	0	0	0	0	27
80-Over	5	0	0	0	0	5
Unknown	4	5	0	5	0	14
Total	269	5	0	5	0	279

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	1	38-Other Fixed Object (wall, building, tunnel, etc.)	2
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	1	Total	269
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	5		
10-Pedalcycle	5		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	231		
14-Parked Motor Vehicle	6		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	1		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	1		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	2		
22-Cable Barrier	0		
23-Culvert	1		
24-Curb	5		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	1		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	6		
33-Traffic Sign Support	1		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post Pole or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	10	11
C	33	42
PD	101	0
Total	144	53

Road Character

Road Grade	Total
1-Level	98
2-On Grade	39
3-Top of Hill	1
4-Bottom of Hill	8
5-Other	0
Total	146

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	41
2-Traffic Signals (Flashing)	1
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	60
6-Yield Sign	9
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	32
14-Other	3
Total	146

Light

Light Condition	Total
1-Daylight	124
2-Dawn	2
3-Dusk	0
4-Dark - Lighted	19
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	146

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2018	2019	2020	Total
JANUARY	7	3	3	13
FEBRUARY	7	4	4	15
MARCH	6	6	4	16
APRIL	4	3	2	9
MAY	3	3	2	8
JUNE	3	5	2	10
JULY	7	1	7	15
AUGUST	5	8	5	18
SEPTEMBER	7	0	2	9
OCTOBER	6	3	3	12
NOVEMBER	5	3	2	10
DECEMBER	3	4	4	11
Total	63	43	40	146

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rear End - Sideswipe	13	0	20	29	0	6	1	0	0	0	0	0	0	0	69
Head-on - Sideswipe	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Intersection Movement	0	0	18	22	0	4	0	0	0	0	0	0	0	0	44
Pedestrians	1	0	2	1	0	1	0	0	0	0	0	0	0	0	5
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	5	2	4	2	0	2	0	0	0	0	0	0	0	0	15
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	2	2	0	1	0	0	0	0	0	0	0	0	5
Other	1	0	0	1	0	0	4	0	0	0	0	0	0	0	6
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	21	2	46	57	0	14	6	0	0	0	0	0	0	0	146

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	13	0	0	0	0	0	0	0	0	0	2	15
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	1	2
Daylight	78	1	0	0	0	0	0	0	0	0	4	83
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	2	0	0	0	0	0	0	0	0	0	1	3
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	21	0	0	0	0	0	3	1	0	0	4	29
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

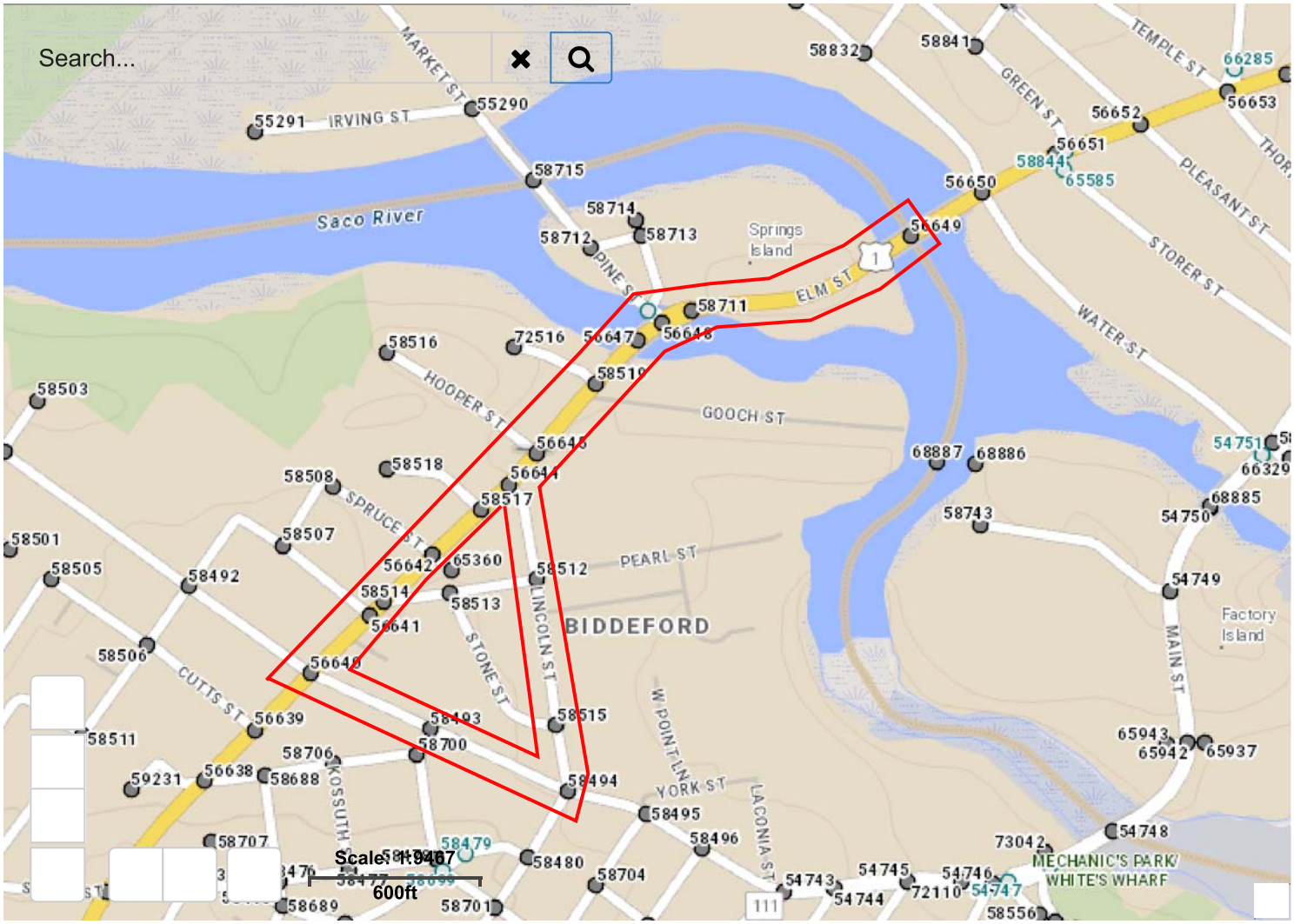
Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	1	0	0	0	0	0	0	0	0	5	6
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	4	0	0	2	6
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	116	2	0	0	0	0	3	6	0	0	19	146


Search...
MARKET ST
IRVING ST
55290
55291
58715
Saco River
58714
58712
58713
PINE ST
Springs Island
ELM ST
58711
56649
56650
56652
56651
58844
65585
66285
56653
TEMPLE ST
GREEN ST
PLEASANT ST
STORER ST
WATER ST
58832
58841
56647
56648
72516
58516
58519
HOOPER ST
GOOCH ST
58503
56645
56644
58518
58508
58517
SPRUCE ST
58507
58501
58505
58492
56642
65360
58512
PEARL ST
58514
58513
56641
LINCOLN ST
BIDDEFORD
58506
56640
STONE ST
W POINT LN
CUTTS ST
56639
58493
58515
58511
58700
58706
59231
56638
58688
58494
YORK ST
58495
58496
LACONIA ST
58707
58479
58480
58704
58689
58701
54743
54745
54746
54744
72110
54747
111
68887
68886
58743
54751
66329
68885
54750
54749
Factory Island
MAIN ST
65943
65942
65937
73042
54748
MECHANIC'S PARK/
WHITE'S WHARF
58556
Scale: 1:9467
600ft

Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

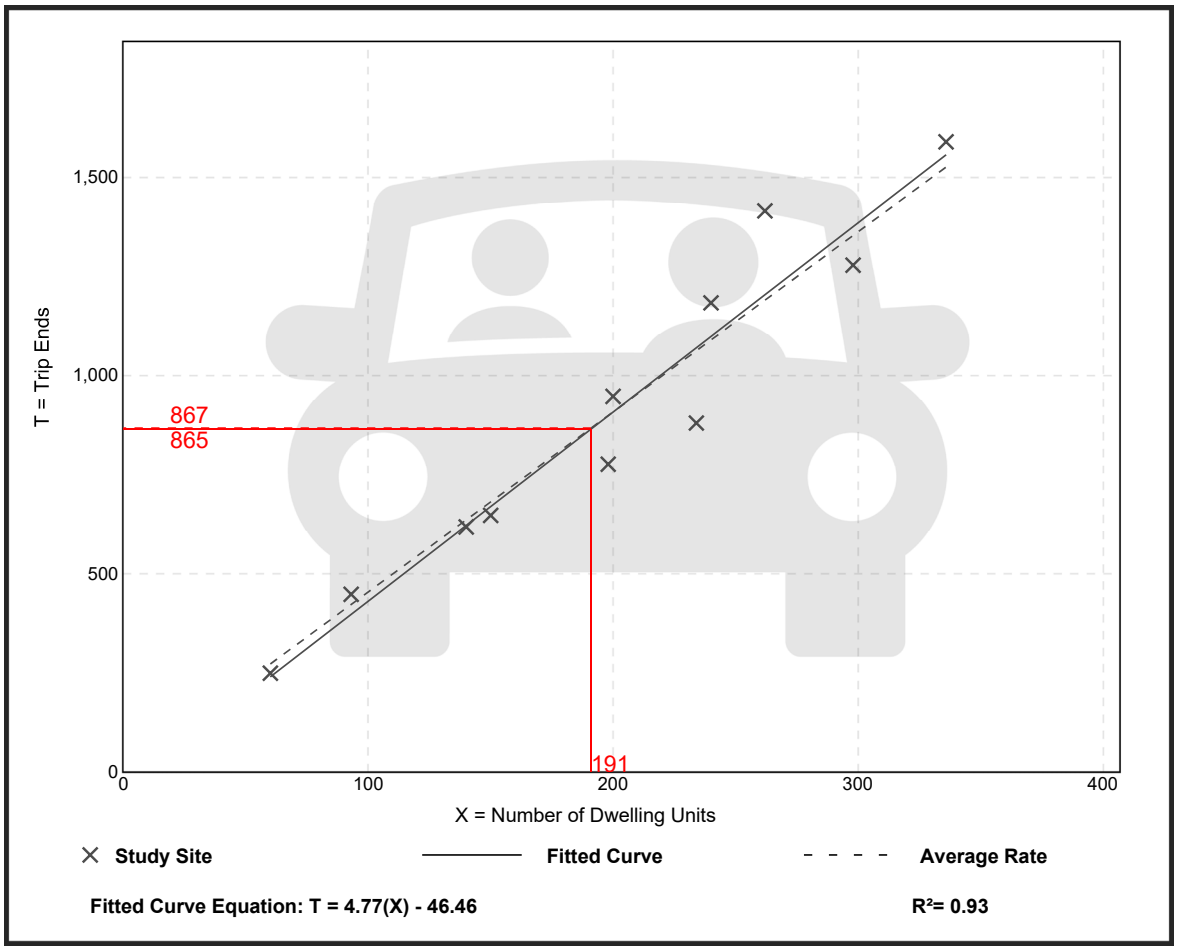
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. Num. of Dwelling Units: 201
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.54	3.76 - 5.40	0.51

Data Plot and Equation



Trip Gen Manual, 11th Edition • Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

Vehicle Trip Ends vs: **Seats**
On a: **Weekday**

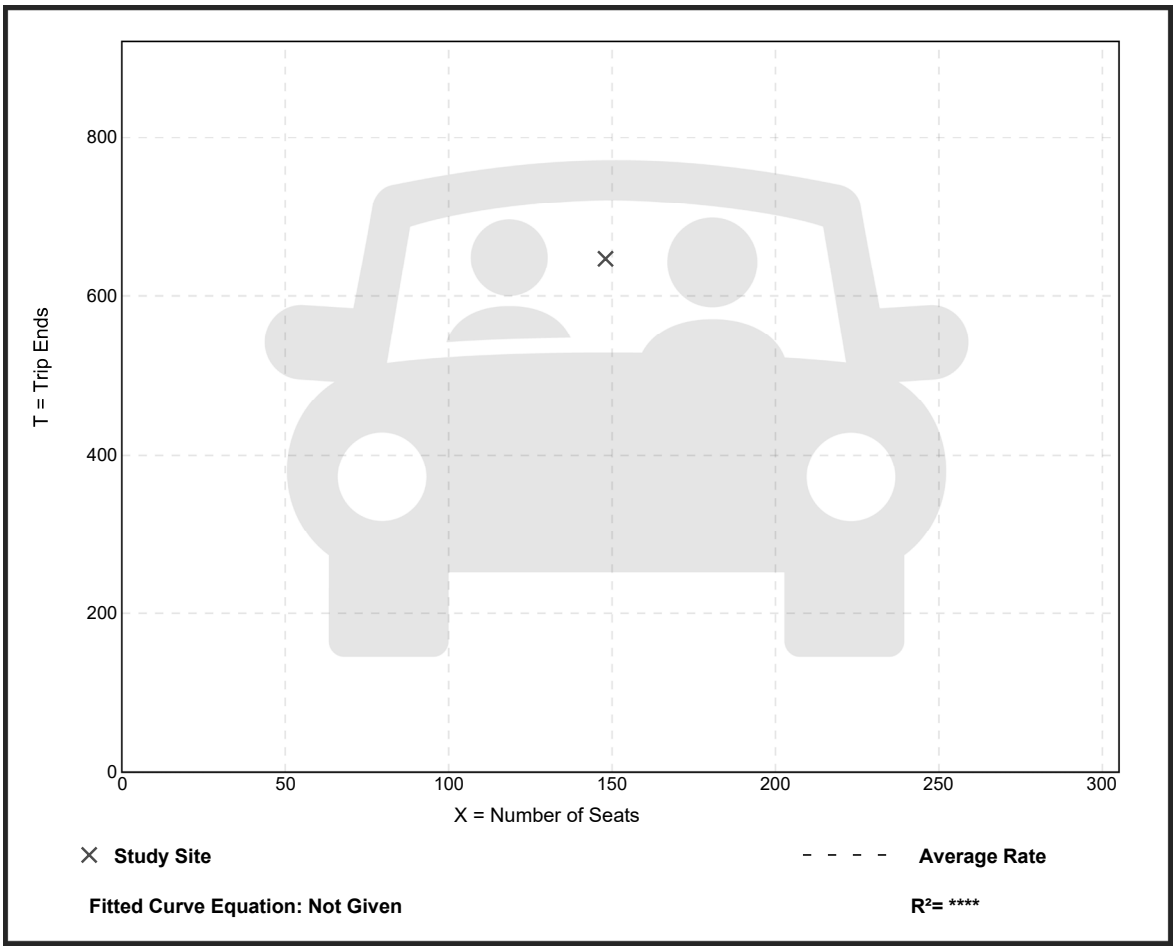
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Seats: 148
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
4.37	4.37 - 4.37	*

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

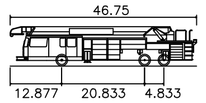
E. Site Plan

GENERAL NOTES:

1. ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF BIDDEFORD STANDARD.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF BIDDEFORD STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.

PLAN REFERENCES:

1. PLAN TITLED "BIDDEFORD PARKING GARAGE MERC SITE" PREPARED BY DESMAN DESIGN MANAGEMENT DATED 12/20/2019 AND REVISED 1/14/2020.
2. PLAN TITLED "PEARL STREET RECONSTRUCTION PROJECT" PREPARED BY SEWALL DATED 10/14/2020
3. PLAN TITLED "EXISTING CONDITIONS SURVEY" PREPARED BY OWEN HASKELL, INC. DATED 8/5/2021



BIDDEFORD FIRETRUCK

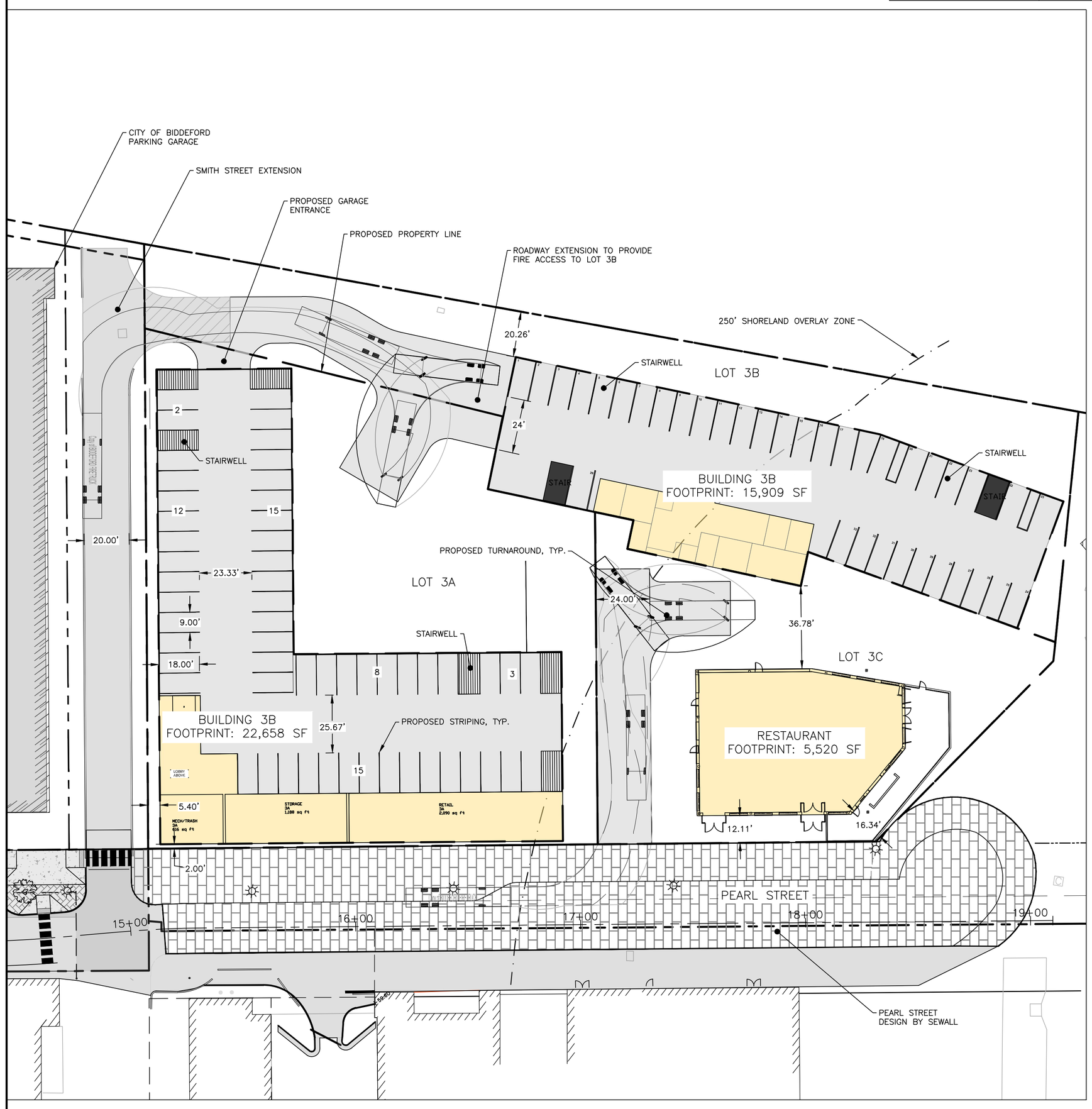
Overall Length	46.750ft
Overall Width	8.500ft
Overall Body Height	9.851ft
Min Body Ground Clearance	0.920ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

PARKING SUMMARY

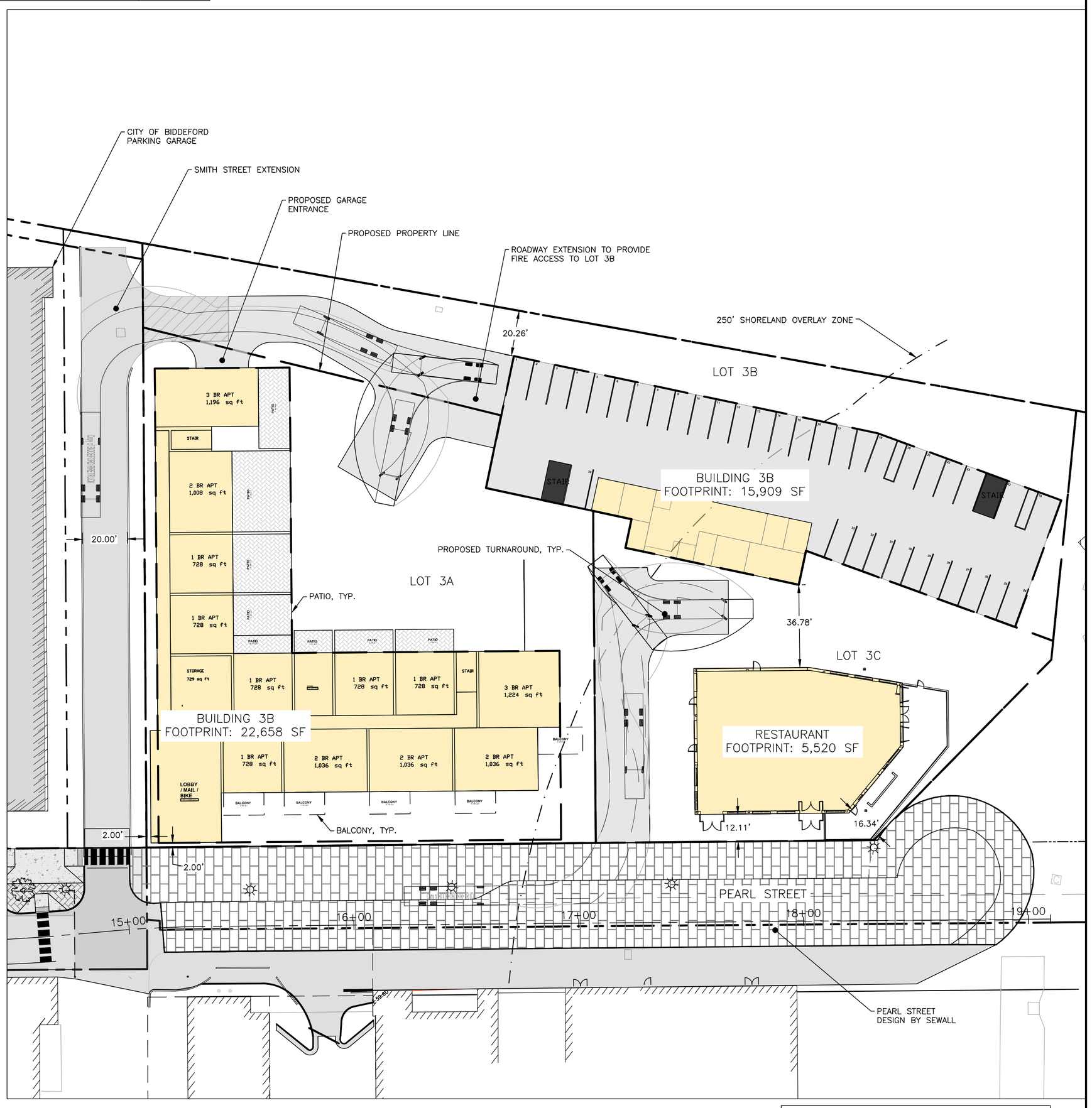
USE	UNITS	SPACES REQUIRED	PROPOSED
LOT 3A	64	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 64 SPACES	50
–	–	INCREASE OF 5% (OF 64 SPACES) TO ALLOW FOR VISITORS = 4 SPACES	–
LOT 3B	76	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 76 SPACES	42
–	–	INCREASE OF 5% (OF 76 SPACES) TO ALLOW FOR VISITORS = 4 SPACES	–
LOT 3C	170 SEATS & 128 SEATS	1 SPACE / 3 SEATS = 100 SPACES	N/A
ADA (8'X18')	–	–	TBD
STANDARD (9'X18')	–	–	TBD
TOTAL SPACES	–	248	92
ADDITIONAL SPACES NEEDED IN PARKING GARAGE	–	–	156

LOT 3A SPACE AND BULK STANDARDS

ZONE:	REQUIRED (MSRD3)	REQUIRED (GD-1)	EXISTING LOT 3	PROPOSED LOT 3A	PROPOSED LOT 3B	PROPOSED LOT 3C
MINIMUM LOT SIZE	NONE	NONE (WITHIN EX. STRUCTURES ONLY)	–	39,629 SF	30,230 SF	20,580 SF
MINIMUM STREET FRONTAGE	NONE	–	324'	200'	–	124'
MINIMUM FRONT YARD SETBACK	NONE	–	N/A	2.00'	0'	12.11'
MINIMUM REAR YARD SETBACK	NONE	–	N/A	5.18'	20.26'	36.78'
MINIMUM SIDE YARD SETBACK	NONE	–	N/A	2.00'	0'	16.34'
MINIMUM BUILDING HEIGHT	MIN. 2 STORIES OR 26 FEET	–	N/A	TBD	TBD	TBD
MINIMUM SHORE FRONTAGE	–	NONE (WITHIN EX. STRUCTURES ONLY)	N/A	–	–	–
SACO RIVER SETBACK (INCLUDING PARKING AREAS)	–	100' FROM NORMAL HIGH-WATER LINE	–	–	–	–
SACO RIVER NO-CUT ZONE (SRCC)	–	75'	–	–	–	–
MAX LOT COVERAGE	100%	70% WITHN SHORELAND ZONE	–	57.2%	52.6%	26.8%



GARAGE FLOOR PLAN
1" = 30'



30 0 30 60
SCALE: 1" = 30'

PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
TMP REVIEW	PFH 9/9/21

SITE PLAN

DRAWING NAME:

PROJECT NAME: PEARL STREET LOT 3 REDEVELOPMENT

CLIENT: FATHOM COMPANIES
80 EXCHANGE STREET, SUITE 400 PORTLAND, ME 04101

ACORN ENGINEERING, INC.

THE CAD SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE BY OTHERS, OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
227 ANNE E. MAHER DRIVE, MAINE 04104
PO BOX 3287 (207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS/PFH

STATE OF MAINE
PETER F. HEIL
15318
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-10

December 5, 2022

Mr. Gregory Mitchell
Planning and Development Director
Department of Planning & Development
City of Biddeford
205 Main Street
Biddeford, ME 04005

RE: PRELIMINARY TRAFFIC IMPACT REVIEW – 3 LINCOLN STREET DEVELOPMENT

Dear Greg,

James W. Sewall Co. (Sewall) has completed preliminary review of "Section 7 Traffic Impact Study, 3 Lincoln Street Project" as part of the peer review you requested. The study was prepared by Thomas Errico, P.E. of TY Lin and is dated "Revised April 26, 2022". My preliminary review comments and requests for additional information are summarized as follows:

1. **Trip Generation Analysis.** The trip generation analysis was performed using the 10th Edition ITE report, although the 11th Edition report was available and being utilized at the time of the study. I concur with the LUCs utilized for the analysis, 221 – Multifamily Housing Mid-Rise and 932 - High-Turnover Sit-Down Restaurant. While the results were obtained using the older 10th edition report there is no significant difference in results with the newer 11th edition. I would like to also see the results for the restaurants on the basis of square footage since there is significantly more data available for LUC 932 on this basis.

2. **Pass-by Rates**. The study utilized the 43 % PM Peak hour pass-by rate for the Saturday analysis period as well given lack of ITE data. Sewall would have utilized a lesser Saturday rate believing more weekend trips to restaurants are primary trips and not pass-by. However, a slightly lesser pass-by percentage would not be expected to affect the results of the study significantly.

3. **Trip Assignments.** I concur with the trip assignment patterns utilized for the study.

4. **Analysis Periods.** Given the proposed mix of uses and trip generation results, I concur with the analysis periods being the weekday PM peak hour and the Saturday peak hour.

5. **Study Year.** The analysis utilized a 2024 study year, which assumes the apartments and restaurant spaces have been constructed and fully occupied by the end of 2024. Given that it is almost 2023, current construction timelines, and the current permitting status for this project, is 2024 still an appropriate study year?

6. **Traffic Growth Rate.** I concur with the use of the 1 % annual traffic growth rate based upon the supporting information provided and my review of historical area traffic growth rates.

7. **Base Traffic Counts.** As with the Gooch Street study, Sewall notes the counts for Pearl Street were performed in July of 2019. The new parking garage was not open at that time nor was the Lincoln Hotel so the Pearl Street movements would not be expected to be representative of current conditions. Sewall believes traffic on Pearl Street has likely increased significantly since 2019. Mr. Errico should justify his use of older data for this intersection and if any adjustments were made to account for greater Pearl Street traffic.

8. **Sight Distance.** Based upon information in the traffic study, sight distance from the site drive meets the minimum of 200', cited as 200'+, but what is the actual sight distance? Sewall prefers the standard of 10' per mph, which is also cited several places in the Biddeford ordinance.

9. **Accident Review.** While the accident data submitted with the study was fairly current at the time of submittal, as well as the collision diagrams, they were for the older 2018 to 2020 period. I would like to see updated accident data and collision diagrams for the current 2019 to 2021 study period for the study area since there are several high crash locations in the study area.

To summarize, I would like the applicant's traffic engineer, Mr. Tom Errico, P.E. to provide trip generation analysis for the restaurants on the basis of square footage, to address my concerns regarding the Pearl Street count dates and to update the accident data to the current to 2019 to 2021 period. I have not reviewed the capacity analysis yet nor the accident data since it could be considered outdated at this time.

As always, please don't hesitate to contact me if you have any questions or concerns regarding my preliminary review findings.



Sincerely,

Diane W. Morabito, P.E. PTOE
Vice President Traffic Engineering

TYLin

December 7, 2022

Mr. Gregory Mitchell
Planning and Development Director
Department of Planning & Development
City of Biddeford
205 Main Street
Biddeford, ME 04005

Subject: 3 Lincoln Street Development, Biddeford, Maine – Peer Review

Hi Greg:

The following are response to comments provided by Sewall dated December 5, 2022.

Comment: Trip Generation Analysis. The trip generation analysis was performed using the 10th Edition ITE report, although the 11th Edition report was available and being utilized at the time of the study. I concur with the LUCs utilized for the analysis, 221 – Multifamily Housing Mid-Rise and 932 - High-Turnover Sit-Down Restaurant. While the results were obtained using the older 10th edition report there is no significant difference in results with the newer 11th edition. I would like to also see the results for the restaurants on the basis of square footage since there is significantly more data available for LUC 932 on this basis

Response: The trip generation methodology for the project was approved by MaineDOT. In response to the request, I have estimated the trip generation for the restaurant using floor area (11,040 SF) using the 11th Edition of the ITE Trip Generation Manual. The following table summarizes the trip generation estimate using floor area and comparing that estimate with the trip generation used in the study. As noted, the study assumed a higher trip generation estimate and is therefore conservative.

Trip Generation Estimate for Restaurant using Floor Area						
	PM Peak Hour			Saturday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Peak Hour of Generator	92	89	181	63	61	124
Peak Hour of Adjacent Street Traffic	61	39	100	N/A	N/A	N/A
Section 7 TMP Study Estimate	113	105	218	84	74	158

Comment: Pass-by Rates. The study utilized the 43% PM Peak hour pass-by rate for the Saturday analysis period as well given lack of ITE data. Sewall would have utilized a lesser Saturday rate believing more weekend trips to restaurants are primary trips and not pass-by. However, a slightly lesser pass-by percentage would not be expected to affect the results of the study significantly.
Response: Acknowledged.

Comment: Trip Assignments. I concur with the trip assignment patterns utilized for the study.
Response: Acknowledged.

Comment: Analysis Periods. Given the proposed mix of uses and trip generation results, I concur with the analysis periods being the weekday PM peak hour and the Saturday peak hour.
Response: Acknowledged.

Comment: Study Year. The analysis utilized a 2024 study year, which assumes the apartments and restaurant spaces have been constructed and fully occupied by the end of 2024. Given that it is almost 2023, current construction timelines, and the current permitting status for this project, is 2024 still an appropriate study year?
Response: In my professional opinion even if occupancy was delayed until 2025, the 1% added growth would not alter the conclusions of the analysis (particularly when considering that the trip generation estimate may be high).

Comment: Traffic Growth Rate. I concur with the use of the 1 % annual traffic growth rate based upon the supporting information provided and my review of historical area traffic growth rates.
Response: Acknowledged.

Comment: Base Traffic Counts. As with the Gooch Street study, Sewall notes the counts for Pearl Street were performed in July of 2019. The new parking garage was not open at that time nor was the Lincoln Hotel so the Pearl Street movements would not be expected to be representative of current conditions. Sewall believes traffic on Pearl Street has likely increased significantly since 2019. Mr. Errico should justify his use of older data for this intersection and if any adjustments were made to account for greater Pearl Street traffic.

Response: At the time of the scoping meeting in December of 2021, the 2019 traffic counts were deemed to be appropriate particularly when considering COVID travel impacts. The traffic study did add significant non-project traffic to Pearl Street into and out of the site that would be representative of post-2019 conditions. This included adding 144 PM peak hour trips and 148 trips during the Saturday peak hour. I did research available traffic volume data from MaineDOT and while traffic counts are not available on Pearl Street, there are traffic counts on Lincoln Street south of Elm Street. During the PM peak hour (4-5PM) 524 vehicles were recorded on May 2, 2019. On May 23, 2022 504 vehicles were recorded during the same time period. My general conclusion is that the volumes used in the analysis are reasonable.

Comment: Sight Distance. Based upon information in the traffic study, sight distance from the site drive meets the minimum of 200', cited as 200'+, but what is the actual sight distance? Sewall prefers the standard of 10' per mph, which is also cited several places in the Biddeford ordinance.
Response: Sight distance was measured according to MaineDOT criteria and looking towards the river, the view is unobstructed until the end of the road (180 feet), and looking towards Lincoln Street, we lose sight distance at 680 feet.

Comment: Accident Review. While the accident data submitted with the study was fairly current at the time of submittal, as well as the collision diagrams, they were for the older 2018 to 2020 period. I would like to see updated accident data and collision diagrams for the current 2019 to 2021 study period for the study area since there are several high crash locations in the study area.
Response: The crash data in the report was based on what was available at the time of production. I have researched 2019-2021 High Crash Locations in the study area and below is a summary of locations.

- **Elm Street/St. Mary's – this location is now an HCL. Eight crashes over the noted three-year period with a CRF of 1.29. Two patterns are of concern. The first is two pedestrian crashes in the Elm Street crosswalk north of St. Mary's Street. The other are movements from St. Mary's, where it can be difficult to enter Elm Street. The Elm Street Concept Improvement Plan is to include upgrades to pedestrian**

facilities and this crosswalk is proposed to have a RRFB warning system.

- **Elm Street/Lincoln Street – this location is no longer an HCL.**
- **Elm Street/Pine Street – this location continues to be a HCL with 15 crashes and a CRF of 2.11 (similar to the older data). Patterns are similar to those discussed in the traffic study and conclusions remain unchanged.**
- **Main Street/Jefferson Street – this location continues to be an HCL with 8 crashes and a CRF or 3.04. There is a distinct pattern of crashes involving vehicles turning from Jefferson Street. There are mailboxes located to the southeast of the intersection that may be obstructing sight. Relocation should be considered.**
- **Main Street/Lincoln Street/Adams Street – this location was recently converted to a multi-way STOP controlled intersection and conditions have likely improved.**

Please contact me if you have any questions.

Best regards,

T.Y. LIN INTERNATIONAL

Thomas A. Errico, PE
Senior Associate / NE Traffic Engineering Director

Attachments

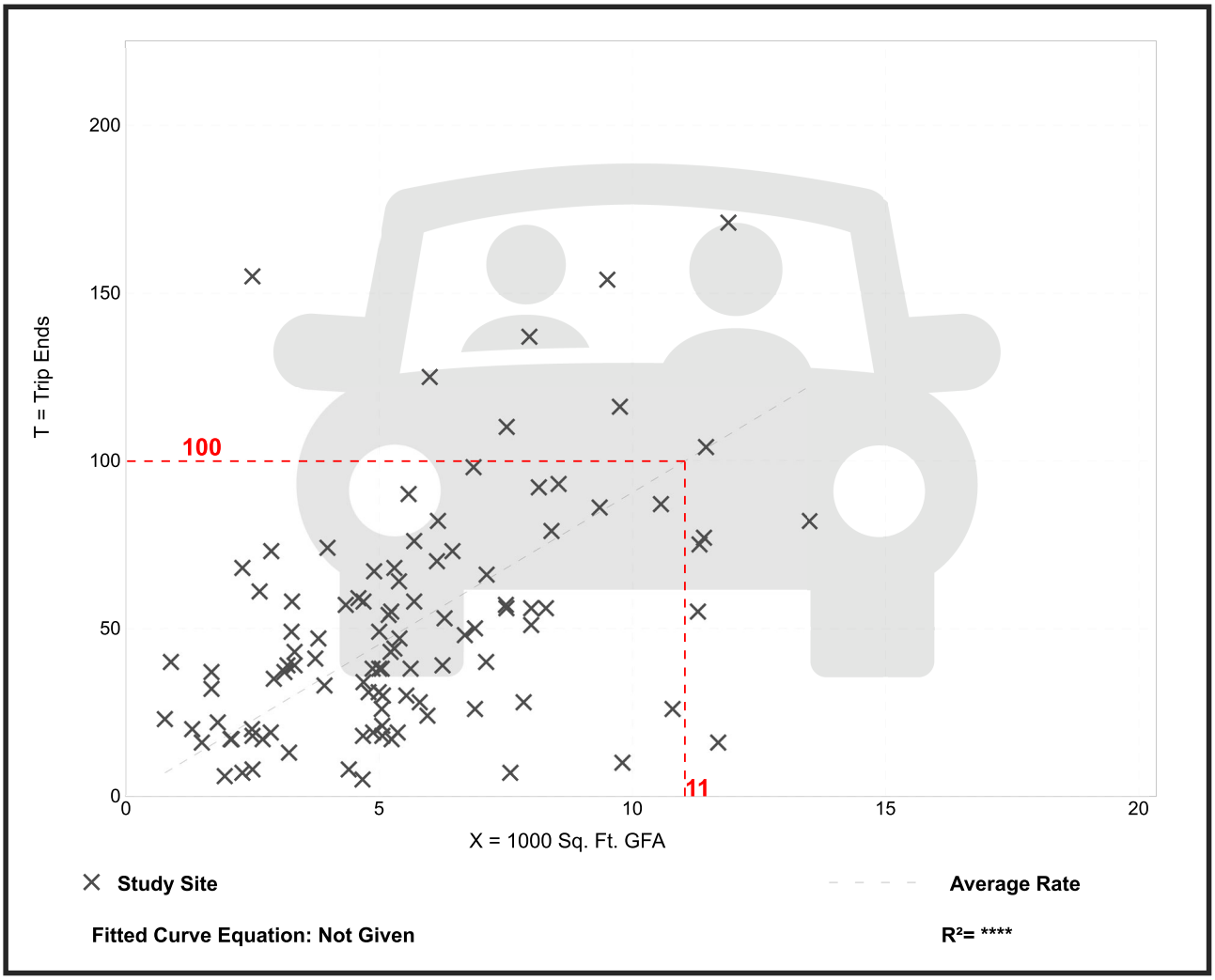
High-Turnover (Sit-Down) Restaurant
(932)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 104
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.05	0.92 - 62.00	6.18

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

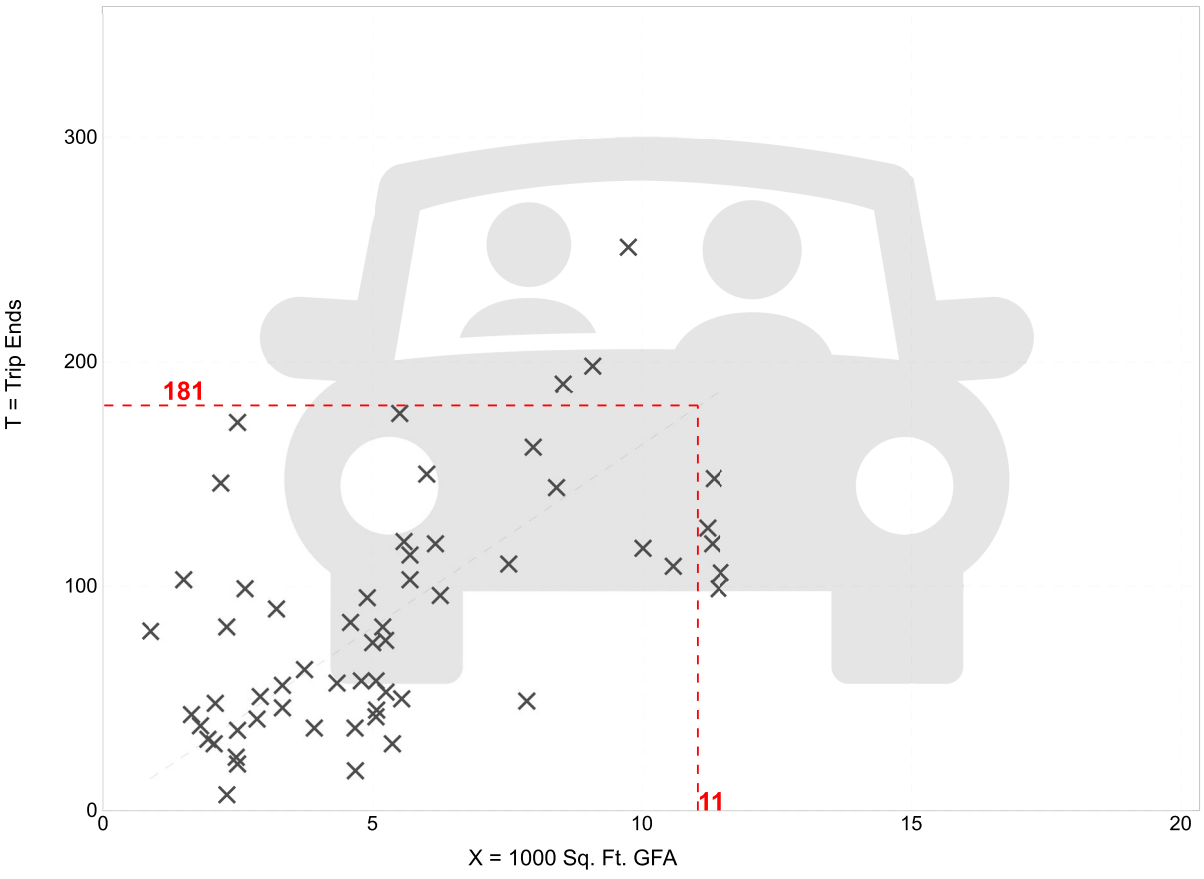
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 58
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
16.35	3.04 - 89.99	10.84

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

High-Turnover (Sit-Down) Restaurant
(932)

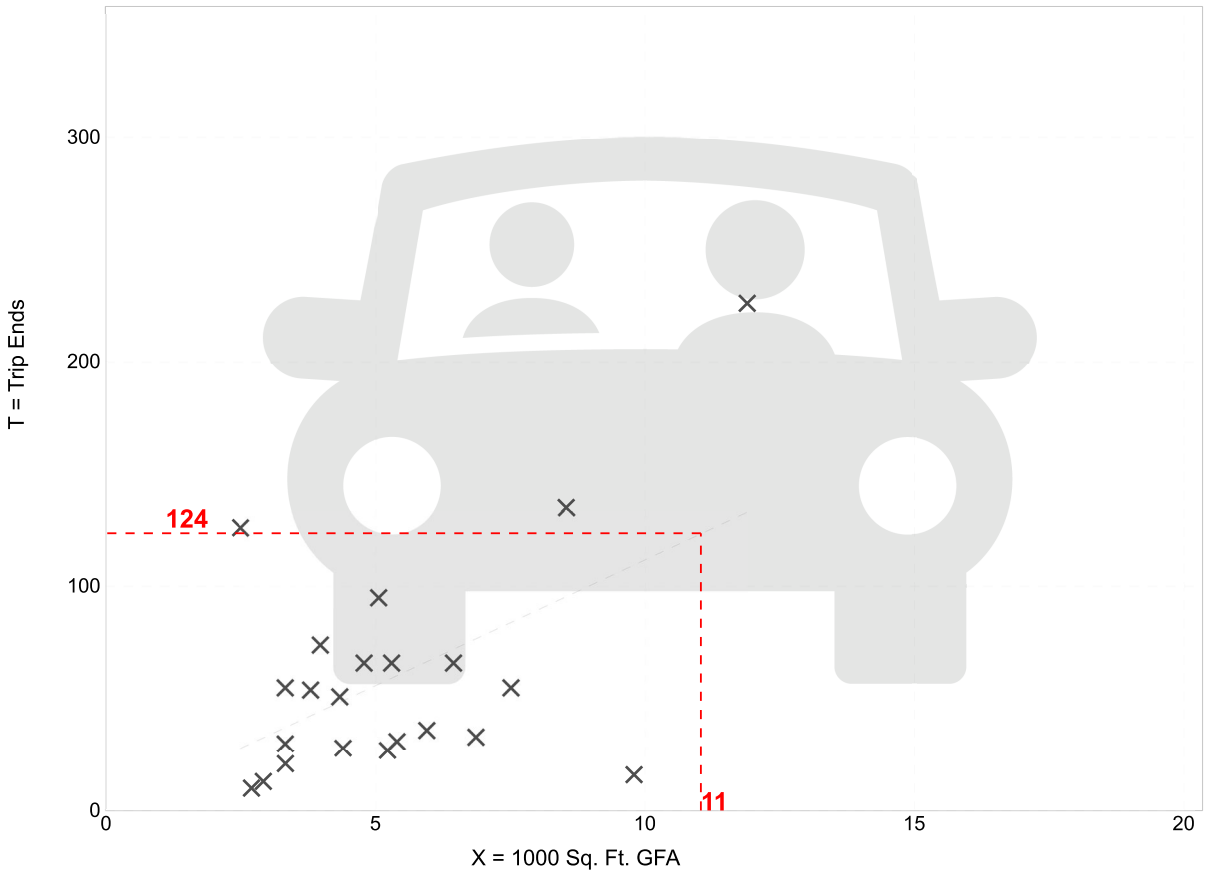
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
11.19	1.63 - 50.40	8.30

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **56641** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

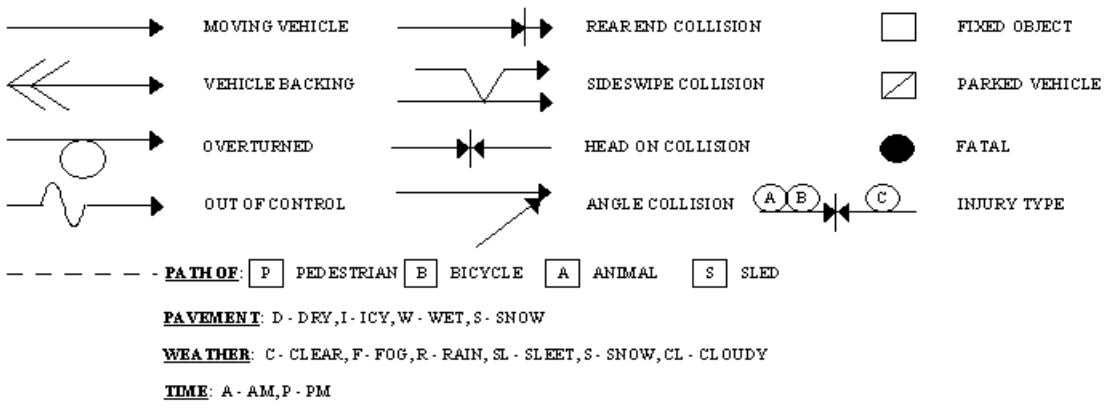
DESCRIPTION: **Jct of Elm St & St Marys St**

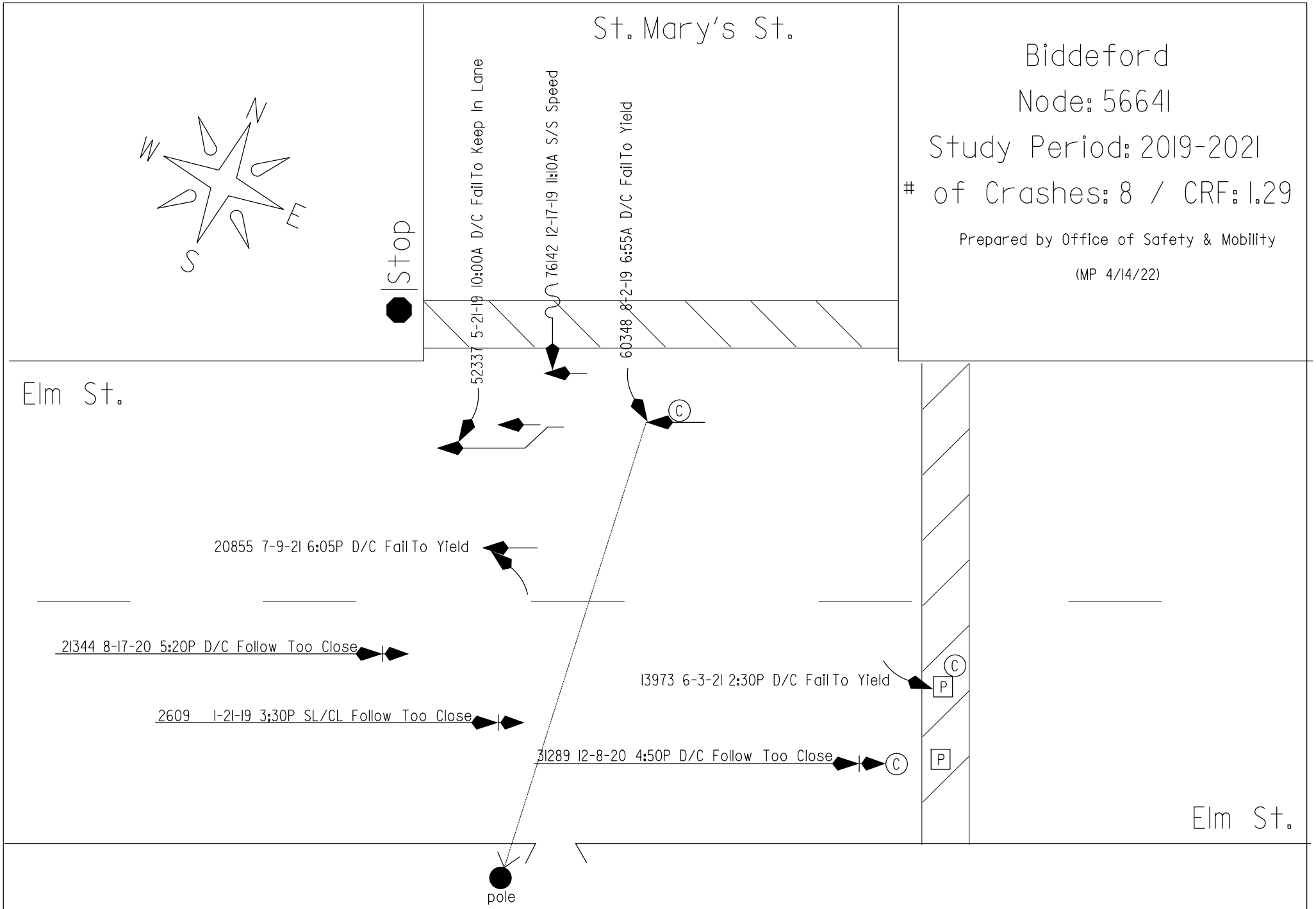
RTE # / RD #: **0001X** DATE DRAWN: **4/14/2022** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2019** STUDY TO: **12/31/2021**

CRASH RATE: **0.43** CRF: **1.29** % INJURY: **37.5** TOTAL CRASHES: **8**

LEGEND




St. Mary's St.
Biddeford
Node: 56641
Study Period: 2019-2021
# of Crashes: 8 / CRF: 1.29
Prepared by Office of Safety & Mobility
(MP 4/14/22)
N
W
E
S
Stop
52337 5-21-19 10:00A D/C Fail To Keep In Lane
76142 12-17-19 11:10A S/S Speed
60348 8-2-19 6:55A D/C Fail To Yield
Elm St.
C
20855 7-9-21 6:05P D/C Fail To Yield
21344 8-17-20 5:20P D/C Follow Too Close
13973 6-3-21 2:30P D/C Fail To Yield
C
P
2609 1-21-19 3:30P SL/CL Follow Too Close
31289 12-8-20 4:50P D/C Follow Too Close
C
P
Elm St.
pole


Search...
ST MARY ST
58513
58514
56641
ELM ST
1
BIDDEFORD
MCARTHUR WAY
MAIN ST
Scale: 1:871
60ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

- [x] Crash Summary I - Single Node
- [ ] Section Detail
- [x] Crash Summary II
- [ ] 1320 Public
- [ ] 1320 Private
- [ ] 1320 Summary

REPORT DESCRIPTION

Biddeford
Jct of Elm St & St Marys St

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: 0001X	Start Node: 56641	Start Offset: 0	☐ Exclude First Node
	End Node: 56641	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
56641	0001X - 34.04	Int of ELM ST ST MARYS ST	2	8	0	0	0	3	5	37.5	6.135	0.43	0.34	1.29
												Statewide Crash Rate:	0.14	
Study Years:	3.00	NODE TOTALS:		8	0	0	0	3	5	37.5	6.135	0.43	0.34	1.29

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
TUESDAY	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	8

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	8
2-(Sport) Utility Vehicle	1
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	1
5-Pickup	4
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	1

Unit Type	Total
23-Bicyclist	0
24-Witness	2
25-Other	0
26-Construction	0
27-Farm Vehicle	0
Total	18

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	0	6	0	0	0	0	6
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	3	0	0	0	0	0	3
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	1	0	0	0	0	1
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	3	0	0	0	0	0	3
Failed to Keep in Proper Lane	1	0	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Total	8	7	0	0	0	0	15

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	8	8	0	0	0	0	16
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	8	8	0	0	0	0	16

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	1	0	0	0	0	1
20-24	2	0	0	0	0	2
25-29	2	0	0	0	0	2
30-39	3	0	0	0	0	3
40-49	2	0	0	0	0	2
50-59	4	0	0	0	0	4
60-69	1	0	0	0	0	1
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	0	0	0	1	0	1
Total	15	0	0	1	0	16

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	15
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	1		
10-Pedalcycle	0		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	14		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	3	3
PD	5	0
Total	8	3

Road Character

Road Grade	Total
1-Level	8
2-On Grade	0
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	8

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	8
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	0
14-Other	0
Total	8

Light

Light Condition	Total
1-Daylight	7
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	1
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	8

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	1	0	0	1
FEBRUARY	0	0	0	0
MARCH	0	0	0	0
APRIL	0	0	0	0
MAY	1	0	0	1
JUNE	0	0	1	1
JULY	0	0	1	1
AUGUST	1	1	0	2
SEPTEMBER	0	0	0	0
OCTOBER	0	0	0	0
NOVEMBER	0	0	0	0
DECEMBER	1	1	0	2
Total	4	2	2	8

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	3	0	0	1	0	0	0	0	0	0	0	0	4
Pedestrians	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	7	0	0	1	0	0	0	0	0	0	0	0	8

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	5	0	0	0	0	0	0	0	0	0	0	5
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	1	0	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	0	0	0	0	0	1	1	0	0	0	8

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

LOW NODE: **56648** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

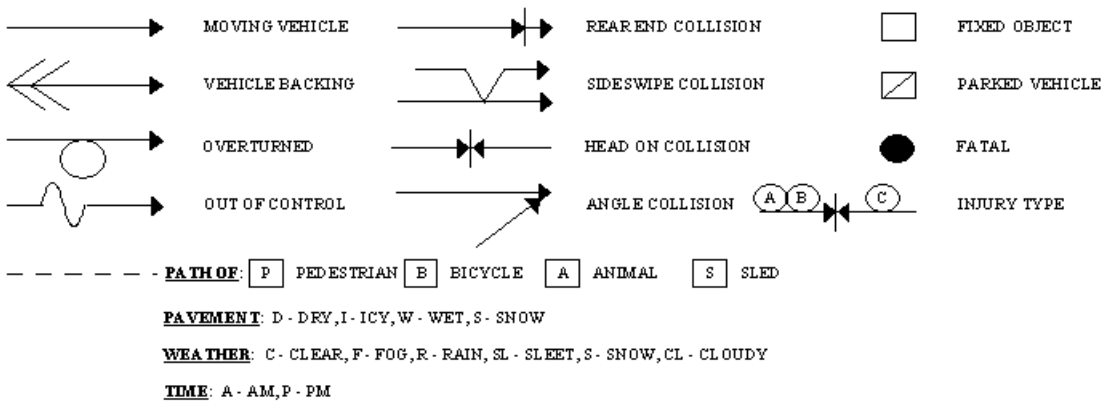
DESCRIPTION: **Jct Elm St & Pine St/Maple St**

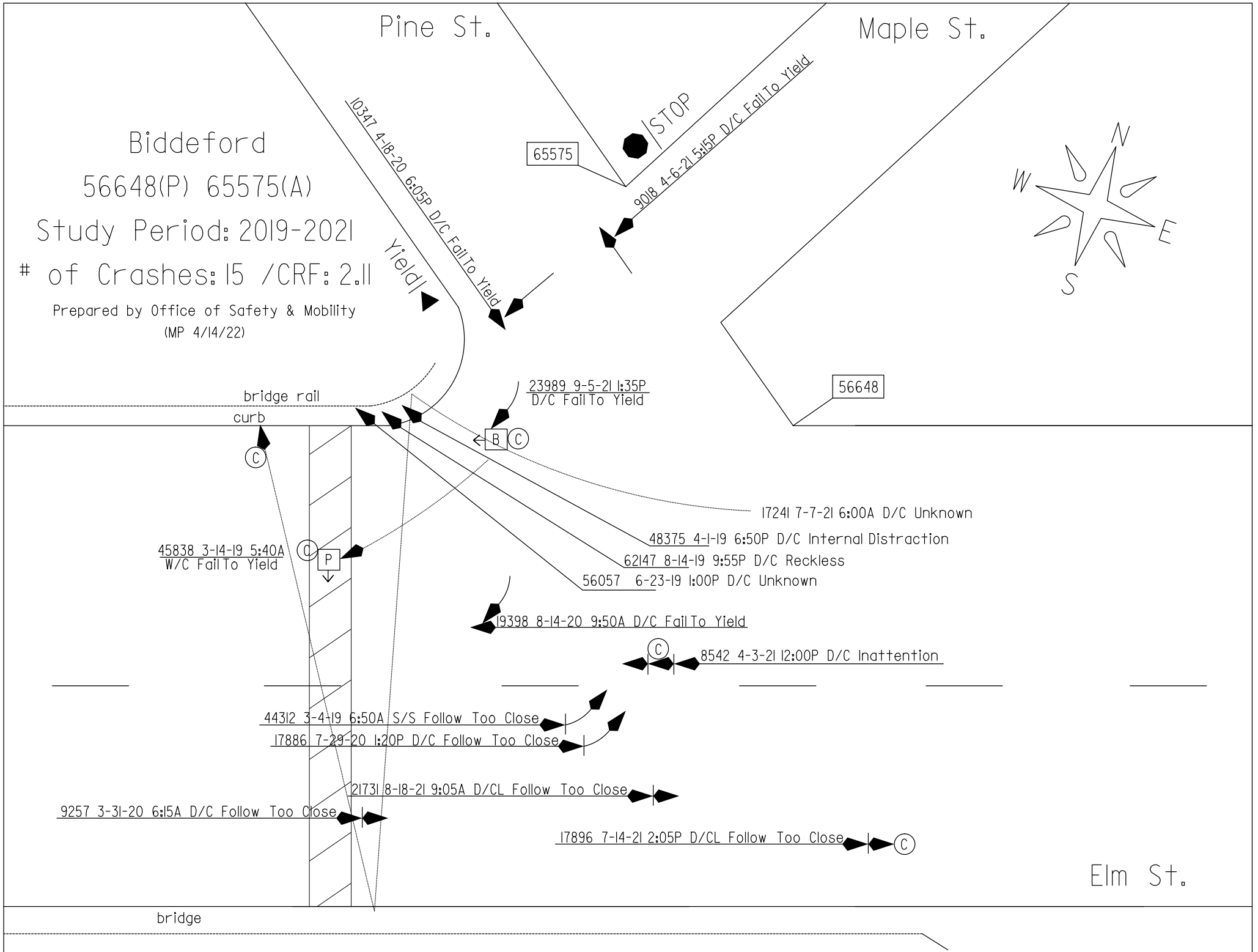
RTE # / RD #: **0001S** DATE DRAWN: **4/14/2022** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2019** STUDY TO: **12/31/2021**

CRASH RATE: **0.68** CRF: **2.11** % INJURY: **33.3** TOTAL CRASHES: **15**

LEGEND




Pine St.
Maple St.
Biddeford
56648(P) 65575(A)
Study Period: 2019-2021
# of Crashes: 15 /CRF: 2.11
Prepared by Office of Safety & Mobility
(MP 4/14/22)
10347 4-18-20 6:05P D/C Fail To Yield
STOP
65575
9018 4-6-21 5:15P D/C Fail To Yield
Yield
N
W
E
S
23989 9-5-21 1:35P
D/C Fail To Yield
56648
bridge rail
curb
B
C
17241 7-7-21 6:00A D/C Unknown
48375 4-1-19 6:50P D/C Internal Distraction
62147 8-14-19 9:55P D/C Reckless
56057 6-23-19 1:00P D/C Unknown
45838 3-14-19 5:40A
W/C Fail To Yield
P
19398 8-14-20 9:50A D/C Fail To Yield
8542 4-3-21 12:00P D/C Inattention
44312 3-4-19 6:50A S/S Follow Too Close
17886 7-29-20 1:20P D/C Follow Too Close
21731 8-18-21 9:05A D/CL Follow Too Close
9257 3-31-20 6:15A D/C Follow Too Close
17896 7-14-21 2:05P D/CL Follow Too Close
Elm St.
bridge


Search...
Springs Island
PINE ST
MAPLE ST
ELM ST
1
65575
58711
56648
56647
BIDDEFORD
Saco River
DIAMOND ST
58519
GOOCH ST
Scale: 1:1323
100ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

- [x] Crash Summary I - Single Node
- [ ] Section Detail
- [x] Crash Summary II
- [ ] 1320 Public
- [ ] 1320 Private
- [ ] 1320 Summary

REPORT DESCRIPTION

Biddeford
Jct of Elm St & Pine St with Maple St

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: 0001S	Start Node: 56648	Start Offset: 0	☐ Exclude First Node
	End Node: 56648	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
P56648	0001S - 23.96	Int of ELM ST PINE ST	2	15	0	0	0	5	10	33.3	7.353	0.68	0.32	2.11
												Statewide Crash Rate:	0.14	
Study Years:	3.00	NODE TOTALS:		15	0	0	0	5	10	33.3	7.353	0.68	0.32	2.11

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
MONDAY	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
TUESDAY	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
WEDNESDAY	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	5
THURSDAY	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
FRIDAY	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
Totals	0	0	0	0	0	1	3	0	0	2	0	0	1	3	1	0	0	1	2	0	0	1	0	0	0	15

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	10
2-(Sport) Utility Vehicle	7
3-Passenger Van	1
4-Cargo Van (10K lbs or Less)	1
5-Pickup	6
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	1
23-Bicyclist	1
24-Witness	2
25-Other	0
26-Construction	0
27-Farm Vehicle	0
Total	29

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	0	9	1	0	0	0	10
Ran Off Roadway	3	0	0	0	0	0	3
Failed to Yield Right-of-Way	5	0	0	0	0	0	5
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	5	0	0	0	0	0	5
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	2	0	0	0	0	0	2
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0
Total	15	9	1	0	0	0	25

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	15	11	1	0	0	0	27
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	15	11	1	0	0	0	27

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	3	0	0	0	0	3
20-24	4	0	0	0	0	4
25-29	3	0	0	0	0	3
30-39	7	0	0	0	0	7
40-49	0	0	0	0	0	0
50-59	2	0	0	0	0	2
60-69	3	0	0	0	0	3
70-79	3	0	0	0	0	3
80-Over	0	0	0	0	0	0
Unknown	0	1	0	1	0	2
Total	25	1	0	1	0	27

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	25
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	1		
10-Pedalcycle	1		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	19		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	4		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	5	5
PD	10	0
Total	15	5

Road Character

Road Grade	Total
1-Level	7
2-On Grade	6
3-Top of Hill	2
4-Bottom of Hill	0
5-Other	0
Total	15

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	2
6-Yield Sign	11
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	2
14-Other	0
Total	15

Light

Light Condition	Total
1-Daylight	13
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	1
5-Dark - Not Lighted	1
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	15

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	0	0	0	0
FEBRUARY	0	0	0	0
MARCH	2	1	0	3
APRIL	1	1	2	4
MAY	0	0	0	0
JUNE	1	0	0	1
JULY	0	1	2	3
AUGUST	1	1	1	3
SEPTEMBER	0	0	1	1
OCTOBER	0	0	0	0
NOVEMBER	0	0	0	0
DECEMBER	0	0	0	0
Total	5	4	6	15

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Pedestrians	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	14	0	0	0	1	0	0	0	0	0	0	0	15

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	1	1
Dark - Not Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	10	0	0	0	0	0	0	0	0	0	0	10
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	2	0	0	0	0	0	0	0	0	0	0	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	1	0	0	0	1
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13	0	0	0	0	0	0	1	0	0	1	15

H. C. L.
CRASH COLLISION DIAGRAM
DATA PACKAGE

COUNTY: **YORK** TOWN: **BIDDEFORD**

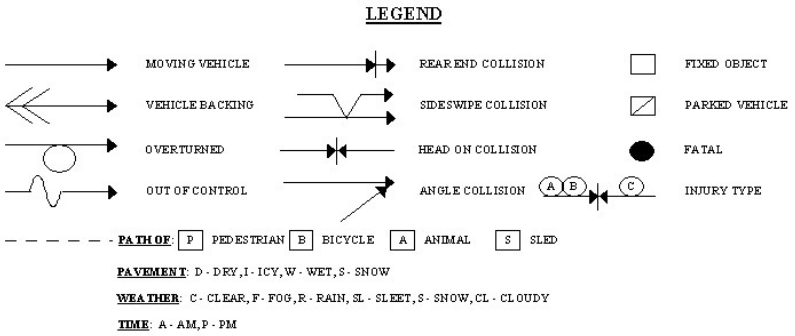
LOW NODE: **58493** HIGH NODE: **0000** REGION: **1** U/R: **URBAN**

DESCRIPTION: **Int of Jefferson St and Main St**

RTE # / RD #: **3110086** DATE DRAWN: **7/11/2022** DRAWN BY: **BOB K**

STUDY FROM: **1/1/2019** STUDY TO: **12/31/2021**

CRASH RATE: **1.29** CRF: **3.04** % INJURY: **37.5** TOTAL CRASHES: **8**



Prepared by Office of Safety & Mobility

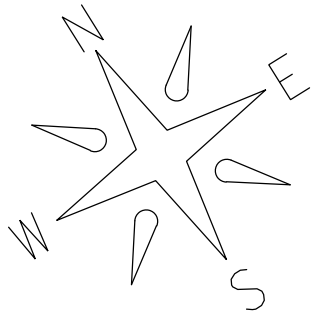
RFK3 7-11-22

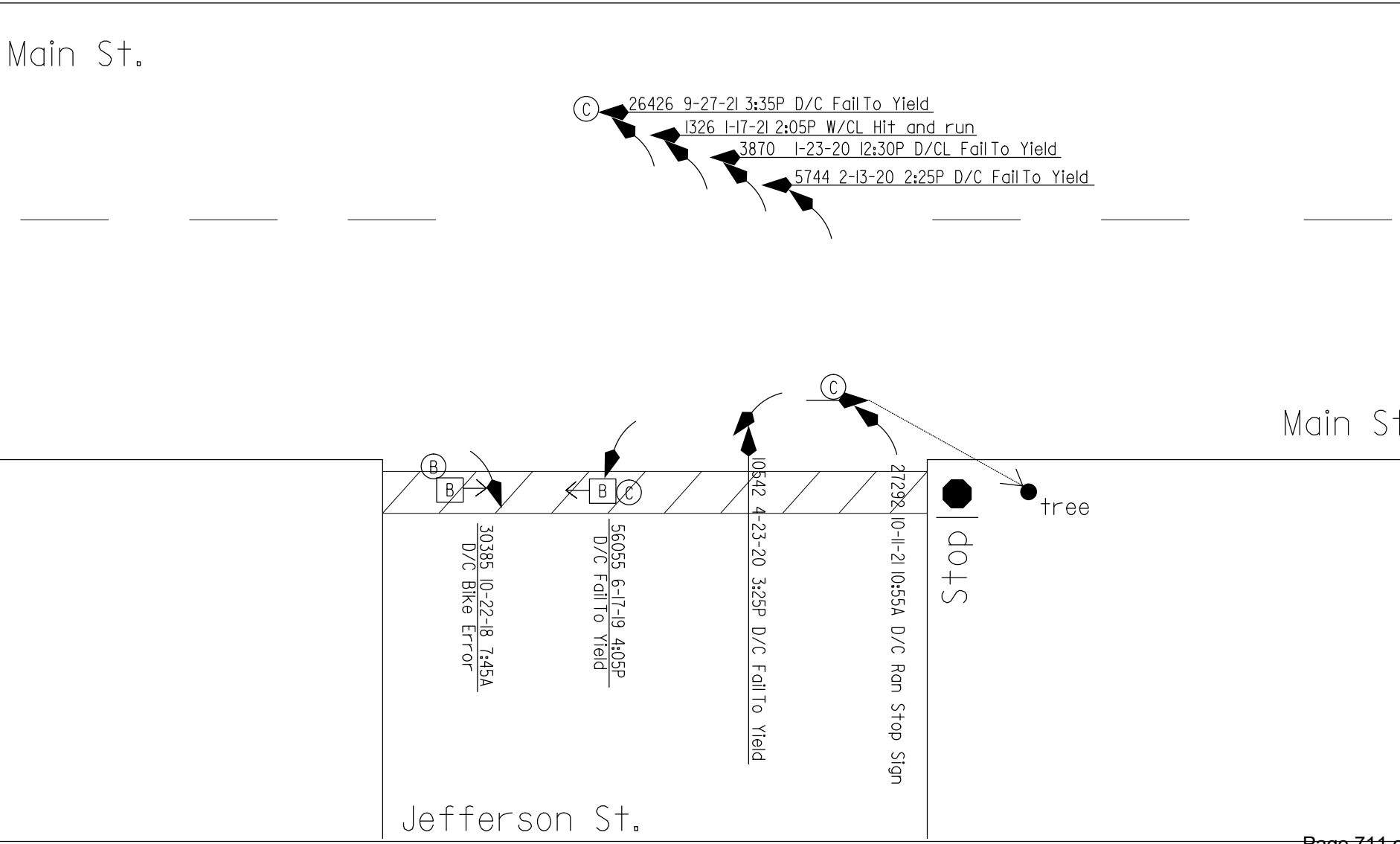
Biddeford

Node: 58493

Study Period: 2019-2021

of Crashes: 8 / CRF: 3.04






Search...
1
MCARTHUR WAY
ELM ST
56640
781839
58493
STONE ST
LINCOLN ST
58515
BIDDEFORD
58700
58706
CENTER ST
MAIN ST
58494
KOSSUTH ST
JEFFERSON ST
ADAMS ST
SOUTH ST
Scale: 1:1709
100ft

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I - Single Node	☐ Section Detail	☑ Crash Summary II	☐ 1320 Public	☐ 1320 Private	☐ 1320 Summary

REPORT DESCRIPTION

Biddeford
Jct of Main St & Jefferson St

REPORT PARAMETERS

Year 2019, Start Month 1 through Year 2021 End Month: 12

Route: 3110086	Start Node: 58493	Start Offset: 0	☐ Exclude First Node
	End Node: 58493	End Offset: 0	☐ Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
58493	3110086 - 0.26	Int of JEFFERSON ST MAIN ST	2	8	0	0	0	3	5	37.5	2.075	1.29	0.42	3.05
												Statewide Crash Rate:	0.13	
Study Years:	3.00	NODE TOTALS:		8	0	0	0	3	5	37.5	2.075	1.29	0.42	3.04

Crash Summary II - Characteristics

Crashes by Day and Hour

	AM												PM												
	Hour of Day																								
Day Of Week	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	Un	Tot
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
MONDAY	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	4
TUESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEDNESDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THURSDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	3
FRIDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SATURDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2	2	0	0	0	0	0	0	0	0	8

Vehicle Counts by Type

Unit Type	Total
1-Passenger Car	11
2-(Sport) Utility Vehicle	4
3-Passenger Van	0
4-Cargo Van (10K lbs or Less)	0
5-Pickup	0
6-Motor Home	0
7-School Bus	0
8-Transit Bus	0
9-Motor Coach	0
10-Other Bus	0
11-Motorcycle	0
12-Moped	0
13-Low Speed Vehicle	0
14-Autocycle	0
15-Experimental	0
16-Other Light Trucks (10,000 lbs or Less)	0
17-Medium/Heavy Trucks (More than 10,000 lbs)	0
18-ATV - (4 wheel)	0
20-ATV - (2 wheel)	0
21-Snowmobile	0
22-Pedestrian	0

Unit Type	Total
23-Bicyclist	1
24-Witness	2
25-Other	0
26-Construction	0
27-Farm Vehicle	0
Total	18

Crash Summary II - Characteristics

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	0	7	0	0	0	0	7
Ran Off Roadway	0	0	0	0	0	0	0
Failed to Yield Right-of-Way	6	0	0	0	0	0	6
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	1	0	0	0	0	0	1
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	0	0	0	0	0	0	0
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	0	0	0	0	0	0	0
Failed to Keep in Proper Lane	0	0	0	0	0	0	0
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	0	0	0	0	0	0	0
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	0	0	0	0	0	0	0
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	1	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0
Total	8	7	0	0	0	0	15

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	8	8	0	0	0	0	16
Physically Impaired	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	8	8	0	0	0	0	16

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	1	0	0	0	0	1
20-24	2	0	0	0	0	2
25-29	4	0	0	0	0	4
30-39	1	0	0	0	0	1
40-49	4	0	0	0	0	4
50-59	0	0	0	0	0	0
60-69	3	0	0	0	0	3
70-79	0	0	0	0	0	0
80-Over	0	0	0	0	0	0
Unknown	0	1	0	0	0	1
Total	15	1	0	0	0	16

Crash Summary II - Characteristics

Most Harmful Event

Most Harmful Event	Total	Most Harmful Event	Total
1-Overturn / Rollover	0	38-Other Fixed Object (wall, building, tunnel, etc.)	0
2-Fire / Explosion	0	39-Unknown	0
3-Immersion	0	40-Gate or Cable	0
4-Jackknife	0	41-Pressure Ridge	0
5-Cargo / Equipment Loss Or Shift	0	Total	15
6-Fell / Jumped from Motor Vehicle	0		
7-Thrown or Falling Object	0		
8-Other Non-Collision	0		
9-Pedestrian	0		
10-Pedalcycle	1		
11-Railway Vehicle - Train, Engine	0		
12-Animal	0		
13-Motor Vehicle in Transport	14		
14-Parked Motor Vehicle	0		
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0		
16-Work Zone / Maintenance Equipment	0		
17-Other Non-Fixed Object	0		
18-Impact Attenuator / Crash Cushion	0		
19-Bridge Overhead Structure	0		
20-Bridge Pier or Support	0		
21-Bridge Rail	0		
22-Cable Barrier	0		
23-Culvert	0		
24-Curb	0		
25-Ditch	0		
26-Embankment	0		
27-Guardrail Face	0		
28-Guardrail End	0		
29-Concrete Traffic Barrier	0		
30-Other Traffic Barrier	0		
31-Tree (Standing)	0		
32-Utility Pole / Light Support	0		
33-Traffic Sign Support	0		
34-Traffic Signal Support	0		
35-Fence	0		
36-Mailbox	0		
37-Other Post, Pole, or Support	0		

Injury Data

Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	0	0
B	0	0
C	3	3
PD	5	0
Total	8	3

Road Character

Road Grade	Total
1-Level	8
2-On Grade	0
3-Top of Hill	0
4-Bottom of Hill	0
5-Other	0
Total	8

Traffic Control Devices

Traffic Control Device	Total
1-Traffic Signals (Stop & Go)	0
2-Traffic Signals (Flashing)	0
3-Advisory/Warning Sign	0
4-Stop Signs - All Approaches	0
5-Stop Signs - Other	8
6-Yield Sign	0
7-Curve Warning Sign	0
8-Officer, Flagman, School Patrol	0
9-School Bus Stop Arm	0
10-School Zone Sign	0
11-R.R. Crossing Device	0
12-No Passing Zone	0
13-None	0
14-Other	0
Total	8

Light

Light Condition	Total
1-Daylight	8
2-Dawn	0
3-Dusk	0
4-Dark - Lighted	0
5-Dark - Not Lighted	0
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	8

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2019	2020	2021	Total
JANUARY	1	1	1	3
FEBRUARY	0	1	0	1
MARCH	0	0	0	0
APRIL	0	1	0	1
MAY	0	0	0	0
JUNE	1	0	0	1
JULY	0	0	0	0
AUGUST	0	0	0	0
SEPTEMBER	0	0	1	1
OCTOBER	0	0	1	1
NOVEMBER	0	0	0	0
DECEMBER	0	0	0	0
Total	2	3	3	8

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rear End - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	5	0	0	0	0	0	0	0	0	0	0	5
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	1	0	0	0	0	0	1	0	0	0	1	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather / Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	0	0	0	0	0	1	0	0	0	1	8

Hourly Direction Report MAINE_DOT_SDC 233105004104 Wednesday, May 1, 2019 to Thursday, May 2, 2019

Site Name BIDDEFORD 04104
Site ID 233105004104
Description LINCOLN ST SE/O US 1 (ELM ST)

Exclude data: None

Time	Volume	Total
00:00:00	38	38
01:00:00	18	18
02:00:00	6	6
03:00:00	22	22
04:00:00	36	36
05:00:00	68	68
06:00:00	174	174
07:00:00	384	384
08:00:00	364	364
09:00:00	295	295
10:00:00	323	323
11:00:00	368	368
12:00:00	456	456
13:00:00	346	346
14:00:00	400	400
15:00:00	452	452
16:00:00	524	524
17:00:00	479	479
18:00:00	372	372
19:00:00	250	250
20:00:00	173	173
21:00:00	114	114
22:00:00	86	86
23:00:00	51	51
7am-7pm	4763	4763
6am-10pm	5474	5474
6am-12am	5612	5612
12am-12am	5798	5798
am Peak	7:00:00	7:00:00
Peak Volume	384	384
pm Peak	16:00:00	16:00:00
Peak Volume	524	524

Event key: QC Failure QC Outlier QC Atypical Events Special Holiday Offline
Weekends and defined holidays

Holidays & Events:
None

Hourly Direction Report MAINE_DOT_SDC 233105004104 Monday, May 23, 2022 to Tuesday, May 24, 2022

Site Name BIDDEFORD 04104
Site ID 233105004104
Description LINCOLN ST SE/O US 1 (ELM ST)

Exclude data: None

Time	Volume	Total
00:00:00	27	27
01:00:00	12	12
02:00:00	13	13
03:00:00	19	19
04:00:00	32	32
05:00:00	76	76
06:00:00	185	185
07:00:00	367	367
08:00:00	329	329
09:00:00	294	294
10:00:00	289	289
11:00:00	296	296
12:00:00	392	392
13:00:00	336	336
14:00:00	372	372
15:00:00	462	462
16:00:00	504	504
17:00:00	430	430
18:00:00	274	274
19:00:00	216	216
20:00:00	160	160
21:00:00	102	102
22:00:00	67	67
23:00:00	54	54
7am-7pm	4345	4345
6am-10pm	5008	5008
6am-12am	5129	5129
12am-12am	5308	5308
am Peak	7:00:00	7:00:00
Peak Volume	367	367
pm Peak	16:00:00	16:00:00
Peak Volume	504	504

Event key: QC Failure QC Outlier QC Atypical Events Special Holiday Offline
Weekends and defined holidays

Holidays & Events:
None

City of Biddeford, Maine

The Office of
City Manager James A. Bennett
Email: James.Bennett@biddefordmaine.org

December 11, 2024

Randy Illian, P.E.
Southern Region Traffic Engineer
Maine Department of Transportation
Scarborough, ME

Dear Randy,

The City of Biddeford acknowledges receipt of your request regarding the need for an updated Traffic Movement Permit (TMP) study or a waiver for the recent modifications to the development plans in the area related to the Elm Street Project.

After careful consideration of the development changes, the City of Biddeford has elected to exercise its option, as a Designated Growth Area under the Maine Department of Transportation TMP rules, to waive the requirement for a supplemental traffic impact study and accept that the development may cause a lower level of service for vehicles.

This decision reflects the City's commitment to fostering growth and development while balancing our mobility and infrastructure needs. We recognize the changes to the original design and impact fees and are confident that the current plans align with the City's broader planning goals.

Please let us know if further documentation or clarification is required. The City of Biddeford remains committed to collaboration with MaineDOT and other stakeholders to ensure the success of this project and its alignment with state and municipal objectives.
Thank you for your continued partnership.

Sincerely,

James Bennett
City Manager

The City of Biddeford is an equal opportunity provider. To file a complaint, write to Diana Depaolo, Human Resource Director, 205 Main Street Biddeford, ME 04005, or call (207) 286-0593.

Section 29

Utilities

Section 29: Utilities Summary

The project proposes to utilize existing infrastructure to provide sufficient services for the proposed project. Please refer to the proposed utility plan (Sheet C-20) for additional information. Summaries of each utility are as follows:

Water:

The City of Biddeford recently reconstructed Pearl Street to include an 8" D.I water service stub into Lot 3 that connects to the 12" watermain within Pearl Street. This project proposes to extend the 8" D.I. water main within the lot and provide 6" D.I. fire protection water services with a 6" gate valves and 4" domestic D.I. water services with 4" gate valves for buildings A, B and C. Building D will have a single 6" D.I. fire protection water service with a 6" gate valve. Each townhome within building D will be individually served by a 2" domestic water service with 2" curb stops. Please see the attached Utility Plan for more information.

Sewer:

The City of Biddeford recently reconstructed Pearl Street to include a 2" force main sanitary force main sewer stub located within Lot 3. As part of the project the 2" force main will be extended within the parcel with connections to buildings A, B, C, & D individual centrifugal pump stations. Each 2" service will have a shut off valve. Please see the attached Utility Plan, Grading & Drainage Plan and Pump Station Detail Sheets for more information.

Stormwater:

Each of the four proposed buildings will be constructed with roof drains and foundation drains. Stormwater runoff from the site will be directed to a series of catch basins and storm drain network which will tie into the existing storm drain network installed towards the rear of the parcel, ultimately discharging into the existing subsurface stormwater treatment system that was recently installed as part of the City Garage project and located on Lot 4. The subsurface stormwater system was designed to convey and treat stormwater runoff from the overall 3 Lincoln Street parcel and had obtained a Maine DEP Stormwater Law permit (#L-10282-NJ-A-N). The proposed uses on Lot 3 will remain below the previously authorized redevelopment pollutant rankings. A copy of the previously approved application has been provided in Section 12.

Electric:

The City of Biddeford recently reconstructed Pearl Street to include an underground primary electric conduit that is ready to tie into to service future development. As part of this project, underground electric services are proposed to connect to the (3) 5" existing conduits to power to each building (A, B, C, and D) with installation of three (3) pad mounted transformers located in a single location on the North side of Building C and one (1) additional pad mounted transformer located on the south western corner of build D. Please see the attached Utility Plan for more information.

Cable/Telephone:

The City of Biddeford recently reconstructed Pearl Street to include telecom/cable stubs within Lot 3 that are routed from Pearl Street. As part of this project underground telecom/cable services are proposed to tie into the 8 existing 4" conduits and service each building (A, B, C and D). A pedestal is anticpated at the end of each service line within 5' of each respective building.

Gas:

The City of Biddeford recently reconstructed Pearl Street to include a gas stub within Lot 3 that connects to the main within Pearl Street. As part of this project a gas main is proposed to tie into the existing stub and have service connections for proposed buildings A, B, C and D.

In addition to the summaries above, Ability to serve letters have been sent out to the respective utility companies. Responses will be provided upon receipt and submitted to the Planning Department upon receipt.

ACORN ENGINEERING, INC.

Consolidated Communications
Attn: Mr. Jay Cunha
45 Forest Avenue
Portland, Maine 04101

August 23, 2021
Rev. June 3, 2025

Subject: Redevelopment 3 Lincoln Street, Lot 3, Biddeford - Amendment
Re: Ability to Serve

Mr. Cunha:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for Consolidated Communications ability to serve the project. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

It is our understanding is that City of Biddeford recently completed Pearl Street utility improvements, including telecom/cable stubs within Lot 3 that connect to the main within Pearl Street. As part of this project an underground telecom/cable service is proposed to tie into the proposed stub and service buildings A, B, C and D. A pedestal is proposed at the end of each service line within 5' of each respective building. Please see the attached Utility Plan for more information.

On behalf of the client, we are requesting the following information:

1. Any easements for services currently crossing the proposed development.
2. Any additional information, such as utility mapping within Pearl Street, abutting properties, and/or existing service connections.
3. Any proposed infrastructure improvements by Consolidated within the project vicinity.
4. Consolidated's ability to serve the project.

I have attached an Existing Conditions Survey created by Owen Haskell dated August 20th, 2021, and a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter F. Heil P.E.
Senior Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Spectrum Cable
Attn: Mr. Dan Minchev
118 Johnson Road
Portland, Maine 04102

August 23, 2021
Rev. June 3, 2025

Subject: Redevelopment of Pearl Street Lot 3, Biddeford - Amendment
Re: Ability to Serve

Mr. Minchev:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for Spectrum Cable's ability to serve the project. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

Our understanding is that the City of Biddeford recently completed Pearl Street utility improvements, including telecom/cable stubs within Lot 3 that connect to the main within Pearl Street. As part of this project an underground telecom/cable service is proposed to tie into the proposed stub and service buildings A, B, C and D. A pedestal is proposed at the end of each service line. Please see the attached Utility Plan for more information.

On behalf of the client, we are requesting the following information:

1. Any easements for services currently crossing the proposed development.
2. Any additional information, such as utility mapping within Pearl Street, abutting properties, and/or existing service connections.
3. Any proposed infrastructure improvements by Spectrum within the project vicinity.
4. Spectrum's ability to serve the project.

I have attached an Existing Conditions Survey created by Owen Haskell dated August 20th, 2021, and a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter F. Heil P.E.
Senior Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Central Maine Power
Attn: Mr. Jamie Cough
162 Canco Road
Portland, Maine 04103

August 23, 2021
Rev. June 3, 2025

Subject: Redevelopment of Pearl Street Lot 3, Biddeford - Amendment
Re: Ability to Serve

Mr. Cough:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for Central Maine Power's ability to serve the project. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

It is our understanding is that City of Biddeford recently completed Pearl Street utility improvements, including underground electric stubs within Lot 3 that connects to the main within Pearl Street. As part of this project an underground electric service is proposed to tie into the stub and run to each buildings (A, B, C, D) associated 9'x9' pad mounted transformer.

On behalf of the client, we are requesting the following information:

1. Any easements for overhead services currently crossing the proposed redevelopment
2. Any additional information, such as utility mapping within Pearl Street and existing service connections.
3. Any proposed infrastructure improvements by CMP within the project vicinity.
4. CMP's ability to serve the project.
5. Access requirements to the CMP meters.

I have attached an Existing Conditions Survey created by Owen Haskell dated August 20th, 2021, and a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter F. Heil P.E.
Senior Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

Maine Water Company
Attn: Mr. Marcus Knipp
205 Main Street
93 Industrial Park Road
Saco, Maine 04072

August 23, 2021
Rev. September 14, 2021
Rev. June 3, 2025

Subject: Redevelopment of Pearl Street Lot 3, Biddeford - Amendment
Re: Water – Ability to Serve

Mr. Knipp:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for Maine Water's ability to serve the project. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

It is our understanding that the City of Biddeford has recently completed Pearl Street utility improvements, that include a 8" D.I fire protection service stub and a 4" domestic service stub within Lot 3 that connect to the 12" watermain within Pearl Street. This project proposes to extend the 8" D.I. water main within the lot and provide 6" D.I. fire protection water services with a 6" gate valves and 4" domestic D.I. water services with 4" gate valves for buildings A, B and C. Building D will have a single 6" D.I. fire protection water service with a 6" gate valve. Each townhome within building D will be individually served by a 2" domestic water service with 2" curb sops. Please see the attached Utility Plan for more information. Based upon Section 4 of the *Maine Subsurface Wastewater Disposal Rules*, the table below outlines the proposed flow.

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Vacant Lot	N/A	N/A	N/A	0
Total Gallons per Day (Existing)				**0**

Proposed Flow				
Building A				
Residential Units	1-Bedroom	19	120	2,280
Residential Units	1-Bedroom + den	23	120	2,760
Residential Units	2-Bedroom	10	180	1,800
Total Gallons per Day (Proposed)				6,840
Building B				
Residential Units	Studio	4	120	480
Residential Units	1-Bedroom	26	120	3,120
Residential Units	1-Bedroom + den	29	120	3,480
Residential Units	2-Bedroom	26	180	4,680
Total Gallons per Day (Proposed)				11,760
Building C				
Restaurant	10 Employees	154 Seats	20gpd per seat + 12gpd per employee	3,280
Total Gallons per Day (Proposed)				3,280
Building D				
Townhomes	3-Bedroom	5	270	1,350
Total Gallons per Day (Proposed)				1,350
Total Gallons per Day (Proposed)				**23,230**
Net Change				**23,230**

Based on the assumptions in the above table, the proposed project is anticipated to increase the net water and wastewater demand by approximately **23,230** gallons per day (GPD). It should be noted that the majority of these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Pearl Street and existing service connections.
2. Any proposed infrastructure improvements within the project vicinity.
3. Flow date for the hydrants in the vicinity.
4. Maine Water's ability to serve the project.

I have attached an Existing Conditions Survey created by Owen Haskell dated August 20th, 2021, and a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,



Peter F. Heil P.E.
Project Manager
Acorn Engineering, Inc.

ACORN ENGINEERING, INC.

City of Biddeford Department of Public Works
Attn: Mr. Tom Milligan, P.E.
205 Main Street
Biddeford, Maine 04005

August 23, 2021
Rev. September 14, 2021
Rev. June 3, 2025

Subject: Redevelopment of Pearl Street Lot 3 Biddeford - Amendment
Re: Sanitary Sewer – Ability to Serve

Mr. Milligan:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for Department of Public Works ability to serve the project. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

It is our understanding the City of Biddeford recently reconstructed Pearl Street to include a 2" SDR 11 PVC force main sanitary force main sewer stub located on site. As part of the project the 2" force main will be extended within the parcel with connections to buildings A, B and C individual pump stations. Each townhome unit within building D will be served by its own pump station. Each 2" service will have a shut off and proposed sanitary sewer pump station that collects waste from each lots associated use, including, oil water separators, floor drains, elevator sumps, and residential loads. Please see the attached Utility Plan, Grading & Drainage Plan and Detail Sheets for more information

Based upon Section 4 of the *Maine Subsurface Wastewater Disposal Rules*, the table below outlines the proposed flow.

Estimate of Anticipated Daily Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow				
Vacant Lot	N/A	N/A	N/A	0
Total Gallons per Day (Existing)				**0**

Proposed Flow				
Building A				
Residential Units	1-Bedroom	19	120	2,280
Residential Units	1-Bedroom + den	23	120	2,760
Residential Units	2-Bedroom	10	180	1,800
Total Gallons per Day (Proposed)				6,840
Building B				
Residential Units	Studio	4	120	480
Residential Units	1-Bedroom	26	120	3,120
Residential Units	1-Bedroom + den	29	120	3,480
Residential Units	2-Bedroom	26	180	4,680
Total Gallons per Day (Proposed)				11,760
Building C				
Restaurant	10 Employees	154 Seats	20gpd per seat + 12gpd per employee	3,280
Total Gallons per Day (Proposed)				3,280
Building D				
Townhomes	3-Bedroom	5	270	1,350
Total Gallons per Day (Proposed)				1,350
Total Gallons per Day (Proposed)				**23,230**
Net Change				**23,230**

Based on the assumptions in the above table, the proposed project is anticipated to increase the net water and wastewater demand by approximately **23,230** gallons per day (GPD). It should be noted that the majority of these values were developed using conservative estimates from the City of Biddeford's sewer ordinance.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Pearl Street and existing service connections.
2. Any proposed infrastructure improvements within the project vicinity.
3. DPW's ability to serve the project.

I have attached an Existing Conditions Survey created by Owen Haskell dated August 20th, 2021, and a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,



Peter F. Heil P.E.
Project Manager
Acorn Engineering, Inc.

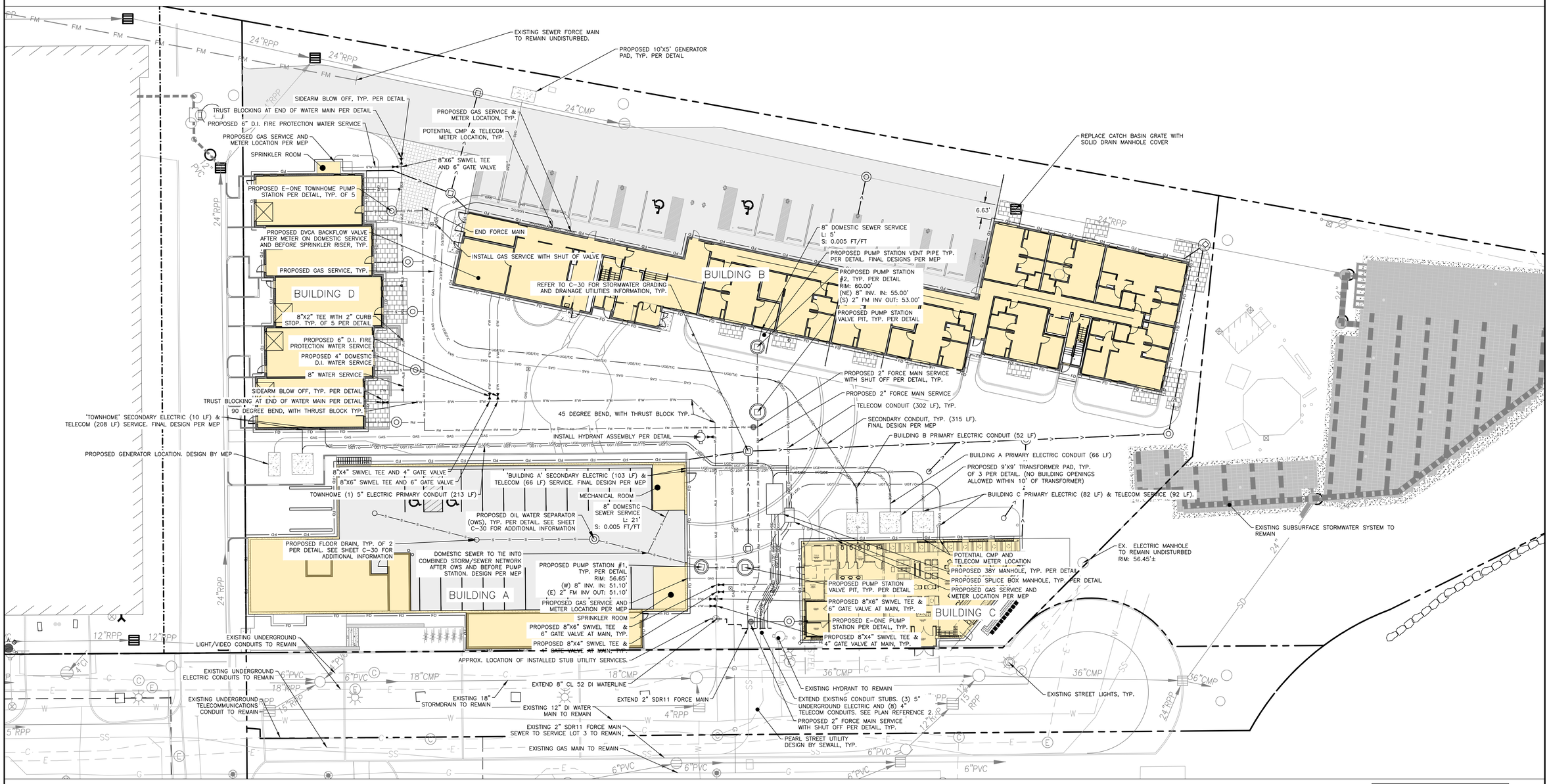
GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BIDDEFORD TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE MAINE WATER COMPANY STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE MAINE WATER COMPANY AND CITY OF BIDDEFORD.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P.. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY SPECTRUM AND CONSOLIDATED COMMUNICATIONS PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.
10. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT, PREPARED BY SUMMIT GEOENGINEERING SERVICES, DATED 6/14/22. BEDROCK AND 4' THICK CONCRETE SLABS ARE ANTICIPATED TO BE ENCOUNTERED IN CERTAIN AREAS. CONTRACTOR TO ACCOUNT FOR APPROPRIATE BLASTING AND/OR REMOVAL OF MATERIALS REQUIRED TO INSTALL SITE IMPROVEMENTS, INCLUDING UTILITIES, AS DEPICTED WITHIN THE PLAN SET.

MINIMUM HORIZONTAL UTILITY SEPARATION

UTILITY	UGE/T/C	WATER	SEWER	GAS	STORMWATER
UGE/T/C	–	6'	5'	4'	6'
WATER	6'	–	5'*	6'	3'
SEWER	5'	5'*	–	5'	10'
GAS	4'	6'	5'	–	3'
STORMWATER	6'	3'	10'	3'	–

*PERMISSIBLE ONLY IF SEWER IS LAID MIN. 18" BELOW WATER SERVICE; OTHERWISE, 10' OF HORIZONTAL SEPARATION MUST BE MAINTAINED.



20 0 20 40

SCALE: 1" = 20'

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: UTILITY PLAN

PROJECT NAME/ADDRESS: PEARL STREET REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

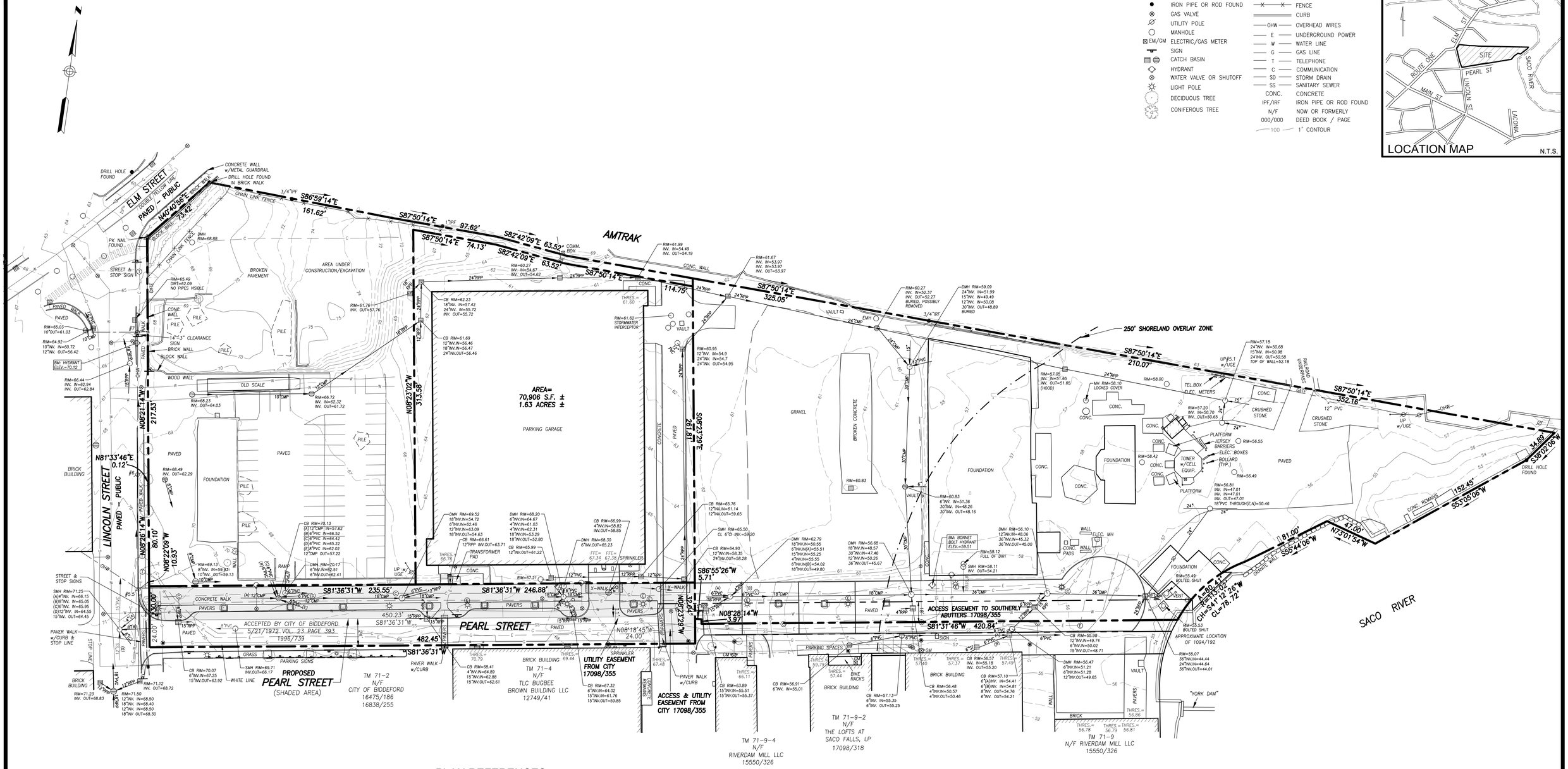
OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

THE ACORN ENGINEERING, INC. LOGO AND DESIGN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY MODIFICATION WITHOUT SUCH PERMISSION OR VERIFICATION, OR ANY USE OF THE DRAWINGS FOR ANY PROJECT OTHER THAN THAT FOR WHICH THEY WERE PREPARED, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
277 FALMOUTH ROAD, SUITE 04101
PO BOX 3200 FALMOUTH, MAINE 04105
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

DRAWING NO.
C-20



PLAN REFERENCES

1. PLAN SHOWING LAND SURVEYED FOR MAINE ENERGY RECOVERY COMPANY BIDDEFORD MAINE BY DOW & COULOMBE, INC. DATED JANUARY 15, 1985 REVISED THROUGH OCT. 4, 1986.

2. ALTA/ACSM LAND TITLE SURVEY (URBAN) MADE FOR MAINE ENERGY RECOVERY COMPANY BIDDEFORD, MAINE BY DOW & COULOMBE, INC. DATED MARCH 15, 1996 REVISED THROUGH MAY 14, 2009.

3. ALTA/NSPS LAND TITLE SURVEY AT 75 SACO FALLS WAY, BIDDEFORD, MAINE MADE FOR THE LOFTS AT SACO FALLS, LP BY OWEN HASKELL, INC. DATED JULY 30, 2015 REVISED THROUGH 12-20-16.

4. EXHIBIT PLAN OF EASEMENT AT 75 SACO FALLS WAY, BIDDEFORD, MAINE MADE FOR THE LOFTS AT SACO FALLS, LP BY OWEN HASKELL, INC. DATED AUGUST 27, 2015 REVISED THROUGH DEC. 20, 2106.

5. EXISTING CONDITIONS SURVEY ON PEARL STREET, BIDDEFORD, MAINE MADE FOR MILONE & MCBROOM BY OWEN HASKELL, INC. DATED APRIL 19, 2018.

6. LAND DIVISION PLAN ON LINCOLN STREET & PEARL STREET BIDDEFORD, MAINE MADE FOR DESMAN DESIGN MANAGEMENT BY OWEN HASKELL, INC. DATED FEB. 4, 2020.

7. EXISTING CONDITIONS SURVEY ON PEARL STREET, BIDDEFORD, MAINE MADE FOR CITY OF BIDDEFORD BY OWEN HASKELL, INC. DATED AUGUST 5, 2021, REVISED THROUGH 9/29/21.

8. CONTRACTOR PROVIDED AS-BUILT PLANS: PEARL STREET RECONSTRUCTION PROJECT, BIDDEFORD, MAINE, FEB. 4, 2022 BY SEWALL, SHEETS C4-A, C-4B, C-5A & C-5B.

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

GENERAL NOTES

1. OWNER OF RECORD: CITY OF BIDDEFORD
TAX MAP 71 LOT 2
Y.C.R.D. BOOK 16838 PAGE 255
Y.C.R.D. BOOK 16475 PAGE 186

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83.

3. ELEVATIONS ARE BASED ON NAVD 88 DATUM.

4. THE PURPOSE OF THIS PLAN IS TO UPDATE THE EXISTING CONDITIONS OF PEARL STREET AND THE LAND TO THE WEST OF THE EXISTING PARKING GARAGE. THE FEATURES SHOWN EAST OF THE PARKING GARAGE PARCEL AND NORTH OF PEARL STREET ARE TAKEN FROM PLAN REFERENCE #7 AND HAVE NOT BEED RE-SURVEYED IN 2025.

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.

DATE

Existing Conditions Survey
On
Pearl Street, Biddeford, Maine
Made for
Acorn Engineering, Inc.
P.O. Box 3372 Portland, Maine 04104

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: RRL / JLW	DATE: FEB. 28, 2025	JOB NO. 2024-334 B-Y	
CHECKED BY: RRL	SCALE: 1" = 40'	DRWG. NO. 1	

ACORN ENGINEERING, INC.

Unitil Service Corp.
Attn: Mr. Scott Carpenter
376 Riverside Industrial Parkway
Portland, Maine 04103

August 23, 2021
Rev. June 3, 2025

Subject: Redevelopment of Pearl Street Lot 3, Biddeford - Amendment
Re: Ability to Serve

Mr. Carpenter:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for Unitil's ability to serve the project. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

It is our understanding is that the City of Biddeford recently completed Pearl Street utility improvements, that include a gas stub within Lot 3 that connects to the main within Pearl Street. As part of this project a gas main is proposed to tie into the existing stub and have service connections for proposed buildings A, B, C and D. Please see the attached Utility Plan for more information.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Pearl Street location of existing service connections.
2. Any proposed infrastructure improvements by Unitil within the project vicinity.
3. Unitil's ability to serve the project.

I have attached an Existing Conditions Survey created by Owen Haskell dated August 20th, 2021, a proposed preliminary Utility Plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Peter F. Heil P.E.
Project Manager
Acorn Engineering, Inc.

Section 30

Public Safety

Section 30: Public Safety Letter of Approvals

Please refer to the attached letters that were sent to the Fire and Police Departments as part of this Site Plan & Subdivision Amendment Application. Approval Letters will be sent to City Staff upon receipt.

The Fire Department Approval Letter from the previous Major Site Plan and Subdivision Approval (2022.02) is also provided within this section. It should be noted that access into the site including firetruck turnaround maneuvers remain similar to the previous approval condition.

ACORN ENGINEERING, INC.

Biddeford Fire Dept.
Attn: Lawrence Best, Chief of Fire Department
152 Alfred St
Biddeford, ME 04005

September 14, 2021
Rev. June 2, 2025

Subject: Pearl Street Redevelopment, Lot 3, Biddeford - Amendment
Re: Letter of Approval

Mr. Best:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for a letter of approval as required by the City of Biddeford Subdivision & Site Plan application. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. The project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

From a fire protection standpoint, it is our understanding that The City of Biddeford recently reconstructed Pearl Street to include an 8" D.I water service stub into Lot 3 that connects to the 12" watermain within Pearl Street. This project proposes to extend the 8" D.I. water main within the lot and provide 6" D.I. fire protection water services with a 6" gate valves and 4" domestic D.I. water services with 4" gate valves for buildings A, B and C. Building D will have a single 6" D.I. fire protection water service with a 6" gate valve. Each townhome within building D will be individually served by a 2" domestic water service with 2" curb sops. Access and circulation for emergency vehicles within the site has largely remained the same as the approved condition. The central woonerf and turnaround located off of the private drive in the northwest corner of the lot are still sized to accommodate turning movements for Biddeford's fire trucks.

Please let me know if you have any questions or if you would like additional information from the sprinkler designer or code summaries from the architect.

Sincerely,

Zachary Stevens

Zachary Stevens, P.E.
Associate Project Manager
Acorn Engineering, Inc.

Zach Stevens

From: Gagne, Scott <Scott.Gagne@Biddefordmaine.org>
Sent: Thursday, December 22, 2022 10:07 AM
To: Zach Stevens
Subject: RE: Letter of Approval

Follow Up Flag: Follow up
Flag Status: Completed

The fire department has the ability to serve the address of 3 Lincoln Street for fire and EMS protection. Thank you

Scott Gagne
Fire Chief

Biddeford Fire Department
152 Alfred St.
Biddeford, ME 04005

(207) 282-6632 Office



Biddeford Fire Department

From: Zach Stevens <zstevens@acorn-engineering.com>
Sent: Monday, December 19, 2022 11:32 AM
To: Gagne, Scott <Scott.Gagne@Biddefordmaine.org>
Cc: Pete Heil <pheil@acorn-engineering.com>
Subject: RE: Letter of Approval

EXTERNAL: This email originated from outside of the City of Biddeford email system. Do not click links or open attachments unless you recognize the sender and know the content is safe.

HI Scott,

I wanted to follow up on the below request. Thanks,

Zachary Stevens

Acorn Engineering, Inc
B. 207.775.2655
C. 207.240.2993

From: Zach Stevens
Sent: Friday, September 30, 2022 9:30 AM

To: scott.gagne@biddefordmaine.org
Cc: Pete Heil <pheil@acorn-engineering.com>
Subject: FW: Letter of Approval

Hi Scott,

I wanted to follow up on the below request. As part of the Site Plan Application process the project is required to gain approval of the Fire Department.

The project has been updated to 214 proposed residential units (previously 191). I also attached the latest site plan to facilitate your review. Please let us know if you have any questions. Thanks,

Zachary Stevens

Acorn Engineering, Inc
B. 207.775.2655
C. 207.240.2993

From: Zach Stevens
Sent: Tuesday, September 14, 2021 3:35 PM
To: scott.gagne@biddefordmaine.org
Cc: Pete Heil <pheil@acorn-engineering.com>
Subject: Letter of Approval

Hello,

On behalf of 3 Lincoln, LLC, please find the attached letter of approval for the proposed project including 108-units and a restaurant building located at 3 Lincoln Street Biddeford ME. I have attached a Site Plan from our office as reference.

Please let us know if you have any questions during your review.

Thanks,

Zachary Stevens, E.I.
Design Engineer

Licensed in Maine

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104
Acorn's Website | Instagram | LinkedIn

B. 207.775.2655
C. 207.240.2993

As of July 2021, Acorn Engineering employees are transitioning to modified COVID-19 health & safety protocols, with most professionals working in the office at least three days a week. We are holding in-person meetings, but remain willing to use video conferencing software such as Teams or Zoom for partners and clients who are more comfortable with this communication approach. All employees continue to have laptops and full access to project files using Sharepoint to maximize efficiency and responsiveness.

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, Acorn Engineering, Inc., and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

The contents of this e-mail message and any attachments are confidential and are intended solely for addressee. The information may also be legally privileged. This transmission is sent in trust, for the sole purpose of delivery to the intended recipient. If you have received this transmission in error, any use, reproduction or dissemination of this transmission is strictly prohibited. If you are not the intended recipient, please immediately notify the sender by reply e-mail or phone and delete this message and its attachments, if any.

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.

ACORN ENGINEERING, INC.

Biddeford Police Dept.
Attn: JoAnne W. Fisk, Chief of Police
39 Alfred St
Biddeford, Maine 04005

September 14th, 2021
Rev. June 2, 2025

Subject: Pearl Street Redevelopment - Amendment
Re: Letter of Approval

Chief Fisk:

On behalf of 3 Lincoln, LLC, we are pleased to submit the following request for a letter of approval as required by the City of Biddeford Subdivision & Site Plan application. The parcel is mapped as Map: 71, Block 2, and is in the Main Street Revitalization District – High Density / Mixed-Use (MSRD-3), General Development (G-1) Shoreland Overlay Zoning Districts. This project proposes to amend the previous Major Site Plan and Subdivision approval (2022.02) programming from three (3) total buildings on Lot 3 to four (4) total buildings. The amendment includes the addition of five (5) townhomes and revises the original programming of building A from 85 residential units to 52 units, building B from 129 residential units to 85 units, and building C will remain as a restaurant with 154 total seats (previously 298 seats).

The project anticipates multiple wall pack lighting fixtures along the new buildings, thus increasing nighttime visibility for patrons and residents. Furthermore, the additional "eyes on the street" created by the proposed restaurant and renters of the 142 units within buildings A, B and D will provide another layer of security on Pearl Street and the abutting properties.

Accessways for emergency vehicles will be maintained and generally provide ample opportunity to access the site. We envision the newly developed Lot 3 functioning as a small community and overall feel the proposed project will improve public safety when compared to the existing condition by ensuring adequate lighting and increasing the occupancy of the neighborhood.

Please do not hesitate to contact me for any questions or clarifications.

Sincerely,

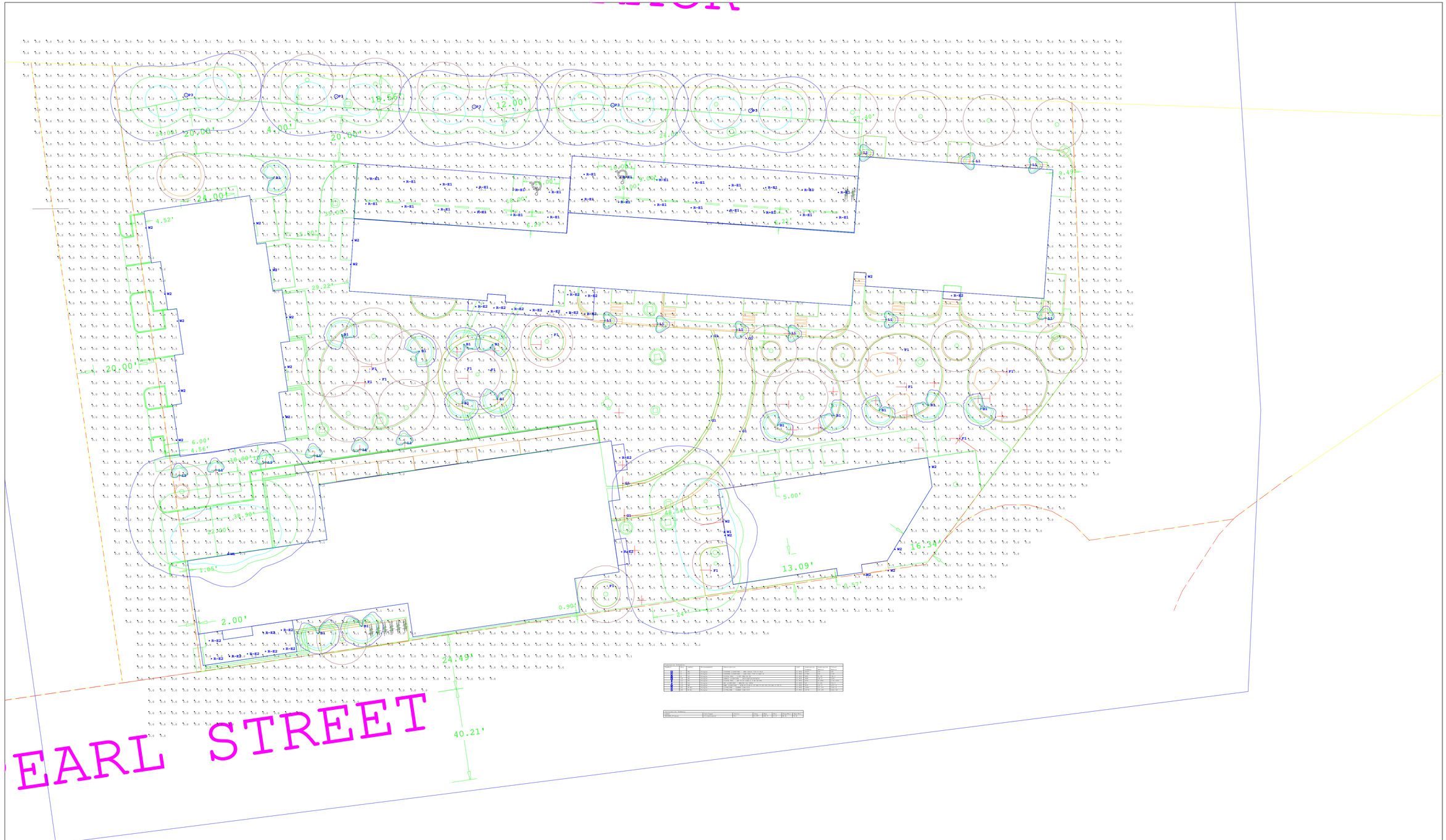
Zachary Stevens

Zachary Stevens, P.E.
Associate Project Manager
Acorn Engineering, Inc.

Section 31
Lighting

Section 31: Lighting

The project proposes to install wall mounted lighting at each egress and bollards for the internal walkways. Please refer to the Photometric Plan and Cut Sheets attached below by Reflex Lighting. The lighting will be conforming to the City of Biddeford Regulations and be dark sky compliant.



CHARRON REFLEX LIGHTING

#	Date	Comments

Revisions

Drawn By: ERIK MILLES
Checked By:
6-6-2025
Contact: emilles@reflexlighting.com
Scale: NTS

FATHOM PEARL STREET REDEVELOPMENT

BIDDEFORD, ME

Page 1 of 1

LED BOLLARD LIGHTING

L70 25°C — **147,000 Hours**



CAV15OQF
Full Cutoff Bollard with 360° Distribution



CAV15HQF
Full Cutoff Bollard with 180° Shield



Shown with "S5" Sensor



Shown with GFCI



Dimensions	
Diameter (D)	4¾″ (120mm)
Height (A)	40⅛″ (1019mm)

The Pemco EasyLED Full Cutoff Bollards with choice of optics are designed to replace HID lighting systems up to 70w MH or HPS. These fixtures are ideal for retail centers, industrial parks, schools and universities, public transit and airports, office buildings and medical facilities.

Specifications and Features:

Housing:
Extruded Aluminum Housing with Flush Mounting Base, Flat Top. Bollards Can Be Cut to Custom Lengths Upon Request.

Listing & Ratings:
ETL: Listed for Wet Locations, ANSI/UL 1598, 8750; IP66 Sealed LED Compartment.

Finish:
Textured Architectural Bronze or Black Powdercoat Finish Over a Chromate Conversion
Coating. Custom Colors Available Upon Request.

Styles:
360° Light Distribution, 120° Shield or 180° Shield

Lens:
Clear UV-Stabilized Polycarbonate Vandal-Resistant Lens

Mounting Options:
Mounting Kit with 8″ Zinc-Plated Anchor Bolts, Included.

EasyLED LED:
Aluminum Boards

Wattage:
360° Arrays: 12w & 16.6w, System: 12.9w & 18.9w
180° & 120° Arrays: 10w & 15.5w, System: 11.2w & 17w; (70w HID Equivalent)

Driver:
Electronic Driver, 120-277V, 50/60Hz; Less Than 20% THD and PF>0.90. Standard Internal Surge Protection 2kV. 0-10V Dimming Standard for a Dimming Range of 100% to 10%; Dimming Source Current is 150 Microamps.

Controls:
Fixtures Ordered with Factory-Installed Motion Sensor Controls are Internally Wired for Switching and/or 1-10V Dimming Within the Housing. Remote Direct Wired Interface of 1-10V Dimming is Not Implied and May Not Be Available, Please Consult Factory. Fixtures are Tested with QSSI Controls and May Not Function Properly With Controls Supplied By Others. Fixtures are NOT Designed for Use with Line Voltage Dimmers.

Warranty:
5-Year Warranty for -40°C to +50°C Environment.

See Page 3 for Projected Lumen Maintenance Table.

C ETL US LISTED INTERTEK — IP66

LED BOLLARD LIGHTING

Order Information Example: CAV15OQF1X17U4KCZ30SP

		U		C			
Model		**Driver**	**CCT**	**Lens**	**Color**	**Height**	**Options**
CAV15OQF1X12=Full Cutoff Bollard - 360°, 12w **CAV15OQF1X17**=Full Cutoff Bollard - 360°, 17w **CAV15TQF1X10**=Full Cutoff Bollard with 120° Shield, 10w **CAV15TQF1X16**=Full Cutoff Bollard with 120° Shield, 16w **CAV15HQF1X10**=Full Cutoff Bollard with 180° Shield, 10w **CAV15HQF1X16**=Full Cutoff Bollard with 180° Shield, 16w		**U**=120-277V	**3K**=3000K **4K**=4000K **5K**=5000K	**C**=Clear UV-Stabilized Polycarbonate Vandal-Resistant Lens	**Z**=Bronze **B**=Black **C**=Custom (Consult Factory)	**(Leave Blank)**=40⅛″ Standard Height **30**=30" Height	**SF**=Single Fuse* **DF**=Double Fuse* **SP**=Surge Protection **GF1**=GFCI Outlet, 15A, 120V **S5**=Microwave Sensor with Dimming & Remote Programming, 120-277V Only. See P17125 Spec Page for Details.* ***120-277V Models Only.**

Accessories & Replacement Parts:

Mounting Accessories (Order Separately, Field Installed)

BREBASE*	Bollard Retrofit Base Kit Adapts New Bollards to Most Existing Bolt Patterns. Fits all Pemco Bollards. Die Cast with Powdercoat Finish, Hardware Included. 11½″ Dia. x 1½″ H

*Specify Color: Z=Bronze, B=Black, C=Custom (Consult Factory)



BREBASE*

***Shown Mounted**

Accessories (Order Separately, Field Installed)

P17126	Remote Programming Tool for P17125



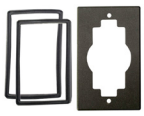
P17126

Replacement Parts (Order Separately, Field Installed)

P17125	Internal Microwave Sensor with Dimming & Remote Programming, 120-277V Only. See P17125 Spec Page for Details.
BOADP1	Adapter Plate with Gaskets for Outlet Boxes. Fits Pemco Round Bollards. Die Cast with Bronze Powdercoat Finish.

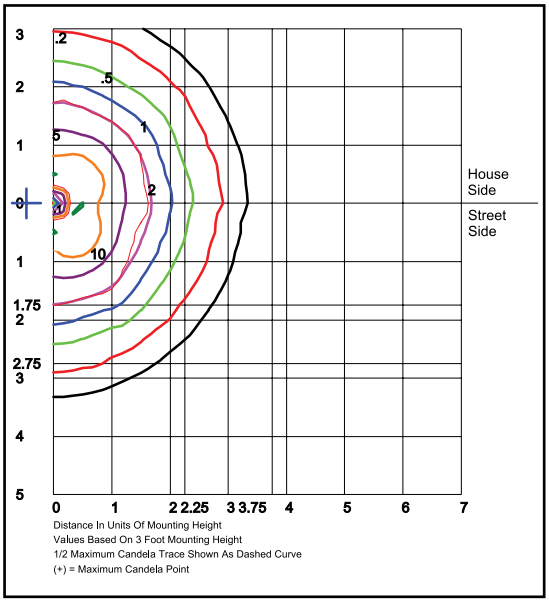


P17125

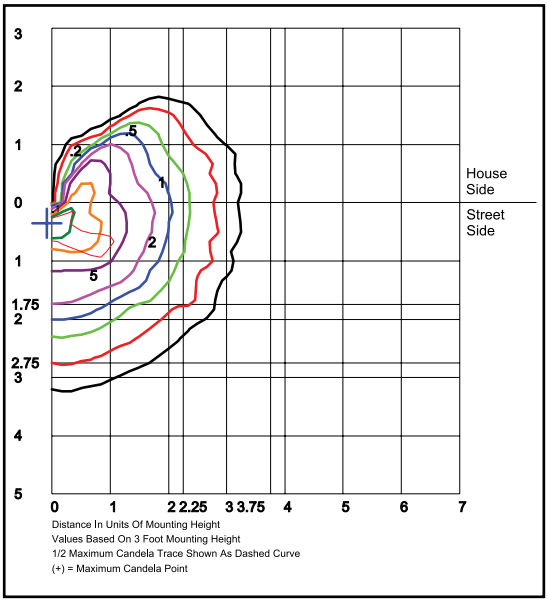


BOADP1

Photometric Data



CAV15OQF1X17U5K
360° Open - Clear Glass Lens
Grid in feet, Mounting Height = 3 ft.



CAV15HQF1X16U5K
180° Shield - Clear Glass Lens
Grid in feet, Mounting Height = 3 ft.

LED BOLLARD LIGHTING

Photometric Performance

Optic	Wattage (Catalog Logic)	12W (1X12)	17W (1X17)
	Input Watts	12.9W	18.1W
	CCT	Delivered Lumens	
360° CAV15O Models F=Type V Optic	3000K	479	671
	4000K	520	728
	5000K	541	758
	BUG Rating	B0-U1-G0	B1-U2-G0

Optic	Wattage (Catalog Logic)	10W (1X10)	16W (1X16)
	Input Watts	11.2W	17W
	CCT	Delivered Lumens	
180° CAV15H Models F=Type V Optic	3000K	338	508
	4000K	352	528
	5000K	366	549
	BUG Rating	B0-U1-G0	B0-U1-G0

Projected Lumen Maintenance

Data shown for 4000 CCT			Compare to MH			
TM-21-11	Input Watts	Initial	25,000 Hrs	50,000 Hrs	100,000 Hrs	Calculated LED Life
L70 Lumen Maintenance @ 25°C / 77°F	All wattages up to and including 19w	1.00	0.95	0.90	0.80	147,000
L70 Lumen Maintenance @ 50°C / 122°F		1.00	0.89	0.78	0.55	67,000
L80 Lumen Maintenance @ 40°C / 104°F		1.00	0.92	0.85	0.70	66,000

NOTES:

1. Projected per IESNA TM-21-11. Data references the extrapolated performance projections for the base model in a 25°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.
2. Compare to MH box indicates suggested Light Loss Factor (LLF) to be used when comparing to Metal Halide (MH) systems.

MODEL **2116** | Specification Sheet

Commercial Series • Low Voltage • Up / Accent / Downlight

TYPE: MODEL:

PROJECT:

PRODUCT FEATURES

Wattage	4.5 W or 5.5 W
Voltage	9 – 15 VAC
Lumens	295 or 389 Lumens
Lamp Type	MR-16 LED
Housing	Copper or Stainless Steel
Dimensions	2⅛" DIA x 7⅜" D



CSN

Click on image for alternate material

(within Adobe Acrobat or Acrobat Reader)

ORDERING INFORMATION

EXAMPLE: ***GR-2116-CSN-4.5-W-36-FR***

CATEGORY	MODEL	FINISH	LED
	2116		

CATEGORY	MODEL	FINISH	LED	ACCESSORIES
GR ABS Ground Stake	**2116**	**CSN** Natural Copper	**4.5-W-15** 4.5 Watts | Warm | 15° Narrow Spot	**BL** Flat Cool Blue Lens
WB Brass Wall-Mount Canopy		**SS** Stainless Steel	**4.5-W-25** 4.5 Watts | Warm | 25° Spot	**SL** Flat Spread Lens
			4.5-W-36 4.5 Watts | Warm | 36° Flood	**DBL** Flat Dark Blue Lens
			4.5-W-60 4.5 Watts | Warm | 60° Wide Flood	**GL** Flat Dark Green Lens
			5.5-W-15 5.5 Watts | Warm | 15° Narrow Spot	**RL** Flat Red Lens
			5.5-W-25 5.5 Watts | Warm | 25° Spot	**YL** Flat Amber Lens
			5.5-W-36 5.5 Watts | Warm | 36° Flood	**HL** Honeycomb louver
			5.5-W-60 5.5 Watts | Warm | 60° Wide Flood	
			NL No Lamp	

Vista Professional Outdoor Lighting reserves the right to modify the design and/or construction of the fixture shown without further notification.

SPECIFICATIONS

CONSTRUCTION:
Heavy-gauge, extruded, copper or stainless steel with machined brass base.

LENS:
Clear, tempered glass lens.
Optical effect lenses are available.

MOUNTING:
Solid Brass knuckle with ½" NPS thread.

FASTENERS/INSERTS:
Fasteners are stainless steel and brass.

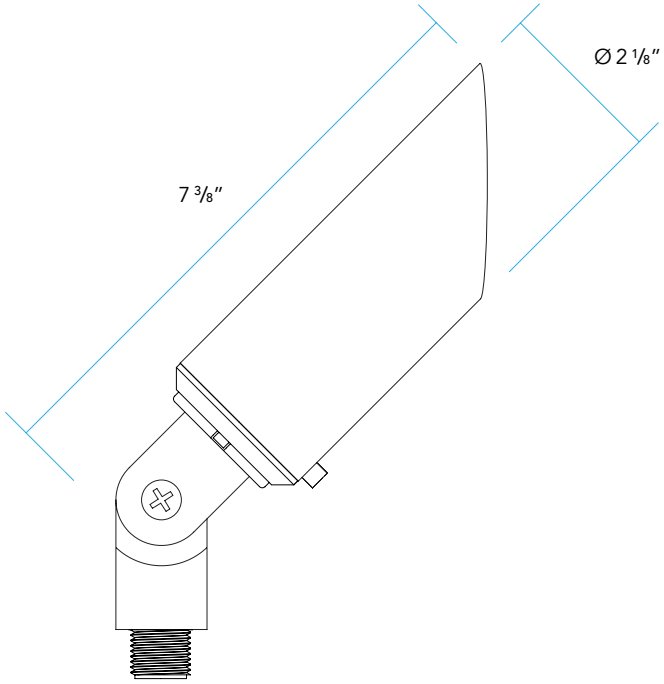
WIRING:
Prewired with a 36" pigtail of 18-2 direct-burial cable and underground connectors.

CERTIFICATIONS | STANDARDS | COMPLIANCE:
- UL Certified for wet locations (USA & Canada) | (**UL 1838**)
- Buy American Act (**BAA**)
- Build America, Buy America Act (**BABA**)

LED:
MR-16 LED Lamp.
295 or 389 Lumens.
4.5 or 5.5 Watts.

ELECTRICAL:
Input voltage range 9 - 15 VAC.
Low voltage transformer required to operate (sold separately).

DIMENSIONS



www.VistaPro.com · email@vistapro.com · Fax: (888) 670-VISTA (8478)
1625 Surveyor Avenue · Simi Valley, CA 93063 · (805) 527-0987 · (800) 766-VISTA (8478)

Vista Professional Outdoor Lighting reserves the right to modify the design and/or construction of the fixture shown without further notification.

MODEL **1182** – AL | Specification Sheet

Commercial Series • In-Grade • LED

TYPE: MODEL:

PROJECT:

PRODUCT FEATURES

Wattage	6 – 14 W
Voltage	120 or 277 VAC
Lumens	287 – 1300 Delivered Lumens
Distribution	NEMA type [***H*** x ***V***]: 1x1 (VNS), 1x1 (NS), 4x4 (MF), 5x5 (WF)
CCT	2700K, 3000K, 3500K, 4000K, 5000K
CRI	80 CRI min.
Dimming	0-10V or Phase Cut (TRIAC/ELV-120VAC only) available
Driver	Dual Volt 120 or 277VAC with tri-modal dimming capabilities
Dimensions	5" DIA x 4" D



ORDERING INFORMATION

EXAMPLE: ***1182-AL-GM-MF-27-B-DV-CX-PCT-B12-TO10***

MODEL	DOOR	FINISH	DIST	TEMP	LUMENS	VOLTAGE	LENS	DIMMIMG	ENTRIES	ACC
1182	AL					DV				

MODEL	DOOR COVER	FINISH			DISTRIBUTION	COLOR TEMP
1182	**AL** Aluminum	**B** Black	**BR** Architectural Brick	**G** Verde	**VNS** Very Narrow Spot	**27** 2700K
		Z Architectural Bronze	**LZ** Light Bronze	**P** Pewter	**NS** Narrow Spot	**30** 3000K
		DZ Dark Bronze	**SB** Special Bronze	**M** Mocha	**MF** Medium Flood	**35** 3500K
		GT Granite	**GG** Glossy Gray	**OF** Olde Finish	**WF** Wide Flood	**40** 4000K
		W White	**R** Rust			**50** 5000K
			HG Hunter Green			
			WB Weathered Bronze			
			WI Weathered Iron			
			GM Graphite Metallic			

ORDERING NOTES

Stainless Steel Door Cover option available.
See 1182-SS specification.

DELIVERED LUMENS				
	VNS	NS	MF	WF
B	287	455	564	569
C	511	777	908	903
D	588	912	1043	1084
E	646	1093	1241	1300

VOLTAGE	LENS	DIMMING	CONDUIT ENTRIES	ACCESSORIES
DV Dual Volt (120 or 277VAC)	**CX** Crowned Clear	**ND** Non Dimming (**B**,**C**,**D**,**E** Delivered Lumens)	**S12** Side ½"	**T05** Tilt Optic 5°
	AX Anti Slip Clear	**010** 0-10V (**E** Delivered Lumens only)	**B12** Bottom ½"	**T010** Tilt Optic 10°
		PCT Phase Cut (TRIAC/ELV-120VAC only) (**E** Delivered Lumens only)	**B34** Bottom ¾"	**T015** Tilt Optic 15°
				DF Diffuse Filter
				LSF Linear Spread Filter
				STR Stainless Steel Trim Ring
				RBK Rebar Bracket Kit

Vista Professional Outdoor Lighting reserves the right to modify the design and/or construction of the fixture shown without further notification.

SPECIFICATIONS

DOOR:
TYPE III hard anodized/powder coat Die-cast A360 aluminum.
Stainless steel fasteners.

FIXTURE HOUSING:
Injection-molded, glass-reinforced polymer. Unibody construction allows for superior door and optic housing support. Standard with two ½" NPT side tapped holes. ½" NPT bottom and ¾" NPT bottom conduit entry holes optional without side holes.

OPTIC/DRIVER HOUSING:
TYPE III hard anodized/powder coat Die-cast A360 aluminum. Optic and driver compartment separately sealed while being electrically connected. Driver compartment houses electronic LED driver. Driver compartment is completely epoxy potted to protect electronics from moisture.

DOOR FINISH:
Powder coat finish available in Black, Architectural Bronze, Dark Bronze, Granite, White, Architectural Brick, Light Bronze, Special Bronze, Glossy Gray, Rust, Hunter Green, Weathered Bronze, Weathered Iron, Graphite Metallic, Verde, Pewter, Mocha and Olde Finish. Custom Powder coat finishes available on request.

LENS:
3/16" thick tempered pressed clear glass. Optional anti-slip clear lens.

ACCESSORIES:
Tilt Optic 5° **TO5**, Tilt Optic 10° **TO10**, Tilt Optic 15° **TO15,** Linear Spread Filter **LSF,** Rebar Bracket Kit **RBK** and Stainless Trim Ring **STR** available.

WIRING:
Prewired with 150° C-rated wire.

MOUNTING:
Fixture suitable for direct burial in earth or poured concrete. Also suitable for IC (walls only) and Non-IC installation. For both indoor and outdoor applications.

LOAD RATING:
Peak compressive force of **10,000 lbs.** This represents 95% of max load to load failure on average. Independent tests performed by SGS US Testing Company, Inc., an ISO 17025 accredited National Testing Laboratory.

CERTIFICATIONS | STANDARDS | COMPLIANCE:
- UL Certified for wet locations (USA & Canada) | (**UL**)
- Ingress Protection Rating: **IP68**
- Buy American Act (**BAA**)
- Build America, Buy America Act (**BABA**)

LED:
Performance COB LED available in various color temperatures.
6 – 14 Watts.
287-1300 Delivered Lumens

COLOR TEMPERATURE:
2700K, 3000K, 3500K, 4000K or 5000K CCT White.

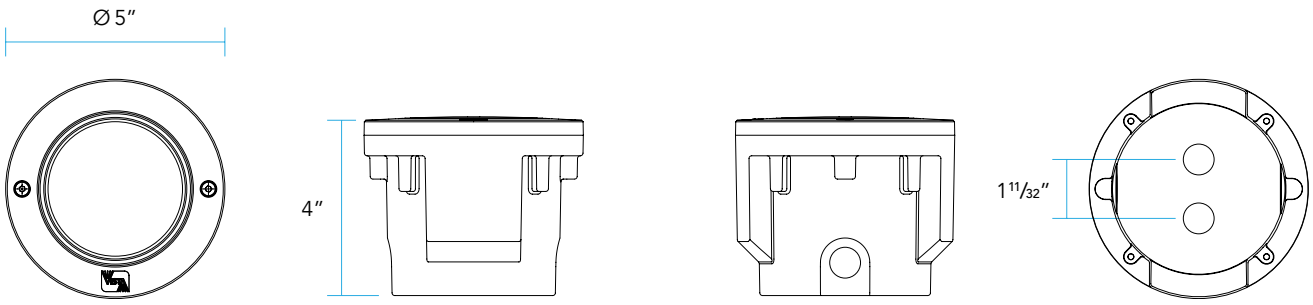
COLOR RENDERING:
80 CRI minimum

OPTICS/AIMING:
TIR/Reflectorized optics designed for maximum performance and uniformity. Fixture aiming achieved via a series of tilt optic lenses and patented magnetic aiming system. Additional tilt optic lenses available.
Very Narrow Spot optic incorporates an additional internal source shield to eliminate unwanted glare outside the beam pattern.

DRIVER:
Dual-Volt **DV** 120V or 277V input equipped with tri-modal dimming capabilities.
Start up/Operating Temperature: -10°C to +50°C.
Non-dimmable, 0-10V and Phase Cut (TRIAC/ELV-120VAC only) options available.

LIGHT DISTRIBUTION:
Very Narrow Spot **VNS** NEMA 1x1
Narrow Spot **NS** NEMA 1x1
Medium Flood **MF** NEMA 4x4
Wide Flood **WF** NEMA 5x5

DIMENSIONS



Top Front Side Bottom

Vista Professional Outdoor Lighting reserves the right to modify the design and/or construction of the fixture shown without further notification.

DELIVERED LUMENS

BEAM SPREAD	B	C	D	E
Very Narrow Spot **VNS**	6.4 Watts / 287 Lumens	10 Watts / 511 Lumens	11.7 Watts / 588 Lumens	14 Watts / 646 Lumens
Narrow Spot **NS**	6.3 Watts / 455 Lumens	9.9 Watts / 777 Lumens	11.7 Watts / 912 Lumens	13.8 Watts / 1093 Lumens
Medium Flood **MF**	6.3 Watts / 564 Lumens	9.8 Watts / 908 Lumens	11.6 Watts / 1043 Lumens	14 Watts / 1241 Lumens
Wide Flood **WF**	6.3 Watts / 570 Lumens	9.8 Watts / 904 Lumens	11.5 Watts / 1084 Lumens	14 Watts / 1300 Lumens

www.VistaPro.com · email@vistapro.com · Fax: (888) 670-VISTA (8478)
1625 Surveyor Avenue · Simi Valley, CA 93063 · (805) 527-0987 · (800) 766-VISTA (8478)

Vista Professional Outdoor Lighting reserves the right to modify the design and/or construction of the fixture shown without further notification.

HK LIGHTING

Project Name

Fixture Type

ZPLMB

(includes former MBL08 models)

PATH & BOLLARD | ZPLMB Series | 1.25"
3W (50lm) | 12V | HK LED, Amber



Mini Post Style Path Light: ZPLMB-0R1-ABL



Mini Post Style Path Light: ZPLMB-0R2-ABL

FEATURES

- Versatile and compact 12V LED mini post with single and bi-directional illumination. Perfect for residential pathway and ground cover illumination.
- 3W integrated HKLED delivering 50 lumens of soft, pleasing light.
- Wet Location Listed, IP67 standard.
- Machined from solid aircraft grade (6061-T6), corrosion-resistant aluminum, then anodized and powder coated to create a highly durable, marine grade finish. Also available in solid brass or stainless steel.
- 360° horizontal adjustment via unique swivel stem design.
- Every fixture tested end of line for water tightness and light quality.
- Readymade eligible configurations ship in 2 to 4 weeks, complete with selected accessories installed.

SPECIFICATIONS

Materials
Solid billet 6061-T6 corrosion resistant aluminum with 304 stainless steel hardware.

Finish
Aluminum materials are first anodized and then powder coated for a robust, marine grade finish. Stainless steel and brass models are provided with brushed surface.

Voltage
12V AC/DC. Requires remote step down transformer.

Wattage
3W HK LED delivering 50 lumens.

Light Engine
Innovative HK LED Light module operates like a lamp and can be easily changed in the field. CRI 90 Standard. Standard CCT options are 2700K, 3000K, 4000K. Specialty color temperature including Amber options available. Consult factory for specialty LED specification details.

Dimming
MLV or ELV Phase Control dimming.

Optics
Includes Solite Soft Focus lens for smooth, even distribution of light.

Mounting
Mounts using 1/2"-14 NPS male fitting compatible with all HK Lighting Group mounting devices. *(See page 4 for details).*

Listings
ETL Listed for Wet Location, IP67 Standard. RoHS Compliant.

ORDERING GUIDE

EXAMPLE: **ZPLMB-0R1-ABL-012V03W-27-18-MH02-12-BRZ**

MODEL	PHYSICAL OPTIONS	MATERIAL /FINISH	POWER		LIGHT	HEIGHT
ZPLMB			**012V**			
ZPLMB Series Mini Post Path Light Integrated HK LED	**TYPE** **0R1** Low Voltage, Mini Post Style Single Light **0R2** Low Voltage, Mini post Style Double Light	**ABL** Aluminum Black **ABR** Aluminum Bronze **AWH** Aluminum White **AAC** Aluminum Anodized Clear[1] **NBR** Natural Brass[1] **NCU** Natural Copper[1] **NSS** Natural Stainless Steel[1] **CCC** Custom Finish[1]	**VOLTAGE** **012V** 12V AC	**WATTAGE** **03W** 3 Watts **SPW** Specialty[2]	**CCT** **27** 2700K **30** 3000K **35** 3500K **40** 4000K **AM** Amber[2] **CC** Custom LED	**18** 18" **CC** Custom

Readymade eligible configurations ship in 2 to 4 weeks.

[1] Consult factory for specialty finish quoting and lead times.

[2] For Specialty AM (Amber LED), select SPW (Specialty) for Wattage. Consult factory for LED technical details before Specification or Order.

[3] Due to the weight of the ZPLMB, not recommended for use in soft soil.

OPTIONAL INSTALLED ACCESSORIES

MOUNTING (Most common listed, see Page 4 for additional options)

GROUND MOUNT	
MHCS-06	6" PVC Single Prong Spike (12V)[3]
MHCS-12	12" PVC Single Prong Spike (12V)[3]
MH02-06-BRZ	6" Stainless Steel 3-Prong Spike (12V) Bronze
MH02-12-BRZ	12" Stainless Steel 3-Prong Spike (12V) Bronze
JB-1	Brass In-ground Junction Box
CANOPY MOUNT	
CM1-XXX	3.75" Square Canopy Plate
CM3-XXX	4.75" Square Canopy Plate
CM5-XXX	5" Round Canopy Plate
CM5-2-XXX	5" Round Canopy Plate - Double
SURFACE MOUNT	
CMLJ-XXX	2.7" Round Surface Box
CB4.0-XXX	4" Round Surface Box
CB5.5-XXX	5.5" Round Surface Box

- Consult Accessory Spec Sheet for desired option code.
- XXX represents color option.
- Readymade options available in ABL and ABR only unless noted by the part code.

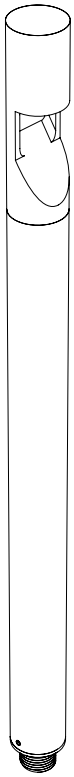
OUTDOOR MAGNETIC TRANSFORMERS (120V input/12VAC Output)

TRANSFORMERS (Go to Accessories for detailed specification)

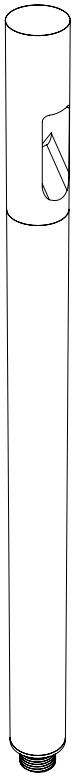
EXAMPLE: **TXS-150-SS**

MODEL		WATTAGE (VA)	PRIMARY VOLTAGE (VAC)
TXM	Stainless steel, wet location outdoor magnetic transformer Multitap | 12-15VAC Output | MLV Dimming	**150** **300**	**OTR-SS** (120V Only)
TXS	Stainless steel, wet location outdoor magnetic transformer Multitap | 12VAC Output | MLV Dimming	**150** **300** **600**	**SS** (120V Only)
TXM	Compact, damp location magnetic transformer 12VAC Output | MLV Dimming	**20** **40** **60** **100**	**120**
IGT	In ground outdoor magnetic transformer 12VAC Output | MLV Dimming	**50** (120V Only) **100** **300** **600**	**120** **277**
TXE	In-fixture or near mounted electronic transformer 12VAC Output | ELV Dimming | Enclosure by others	**60**	**120** **277**

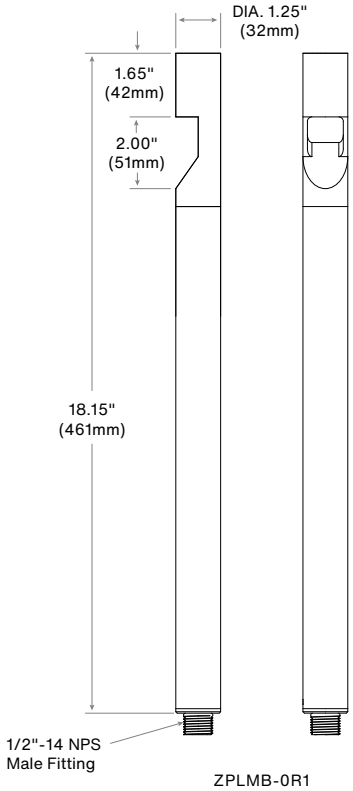
PRODUCT DRAWINGS



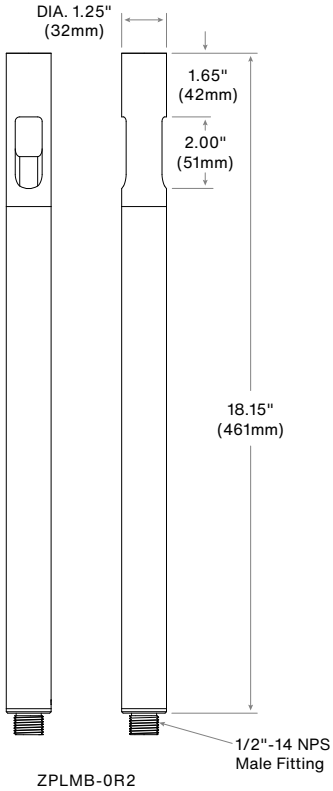
ZPLMB-0R1
Single - 18" Tall



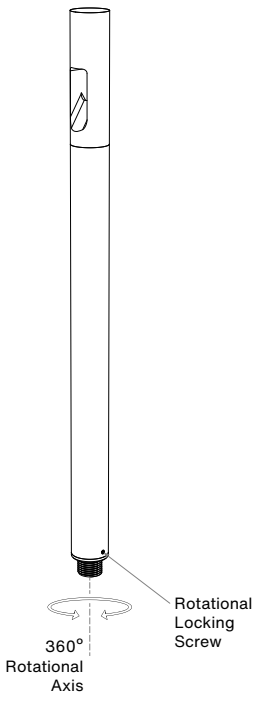
ZPLMB-0R2
Double - 18" Tall



ZPLMB-0R1



ZPLMB-0R2

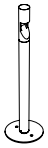


OPTIONS & ACCESSORIES

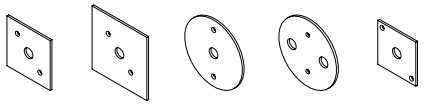
MOUNTING ACCESSORIES

Go to Accessories for options and full specifications.

Canopy Mount:



Fixture On CM5

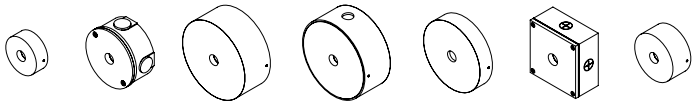


CM1 | CM3 | CM5 | CM5-2 | CM2

Surface Mount Box:

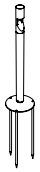


Fixture On CB5.5

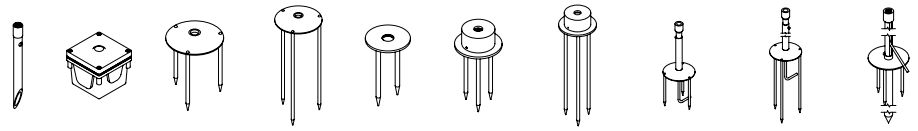


CMLJ | CB4.0 | CB5.5 | CB5.5-K/O | CB5.1 | CB4.0-SQ | CB3.5

Ground Mount:



Fixture On MH02



MHCS | JB-1 | MH02-06 | MH02-12 | MH05 | MH02-T-06 | MH02-T-12 | MHVL6-12 | MHVL12-24 | MH01

Readymade eligible configurations ship in 2 to 4 weeks.

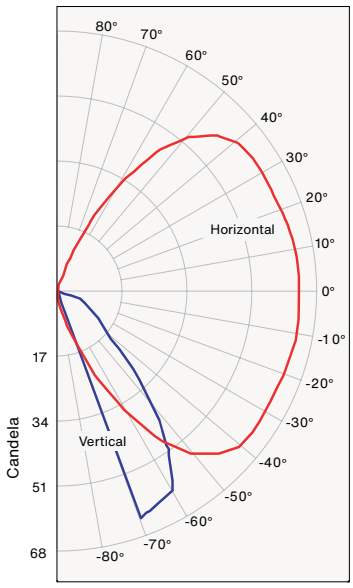
Notes:

PHOTOMETRY & ENERGY DATA

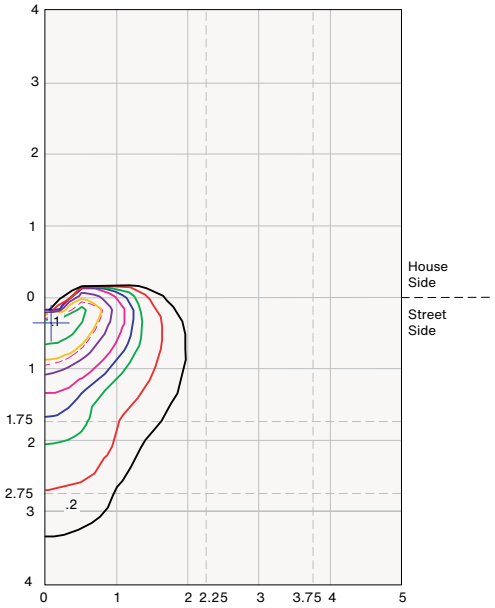
ZPLMB-R1

Input Power	3.62W
Color Temperature (CCT)	3000K
Color Rendering Index (Ra)	80
Maximum Lumen Angle	0°,-70°
Max. Candlepower	61cd
Delivered Lumens	43lm
Efficacy	12lm/W

Polar Graph - Intensity



Isocandela Lines of Horizontal Illuminance

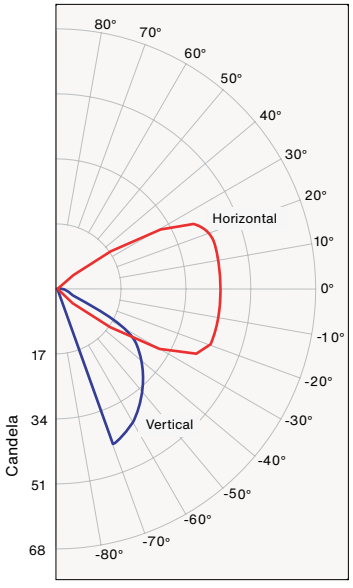


Distance in Units of Mounting Height
Values Based on 1.25 Foot Mounting Height
1/2 Maximum Candela Trace Shown as Dashed Curve
(+) = Maximum Candela Point

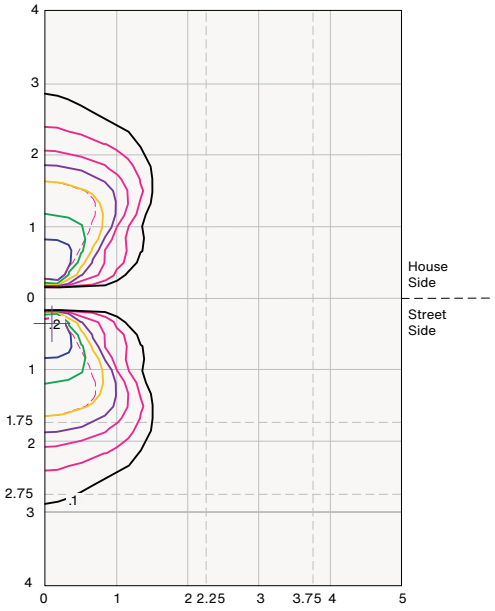
ZPLMB-R2

Input Power	3.23W
Color Temperature (CCT)	3000K
Color Rendering Index (Ra)	80
Maximum Lumen Angle	0°,-70°
Max. Candlepower	43cd
Delivered Lumens	46lm
Efficacy	14lm/W

Polar Graph - Intensity



Isocandela Lines of Horizontal Illuminance



Distance in Units of Mounting Height
Values Based on 1.4 Foot Mounting Height
1/2 Maximum Candela Trace Shown as Dashed Curve
(+) = Maximum Candela Point

CCT MULTIPLIER

Color Temp.	Multiplier
2700k	0.96
3000k	1.00

Project		**Catalog #**		**Type**	
Prepared by		**Notes**		**Date**	



Invue

LXS Luxescape Collection

Decorative Luminaire

Product Features

Interactive Menu

- Order Information page 3
- Product Specifications page 4
- Control Options page 12
- Optical Distributions page 6
- Mounting Accessories page 10

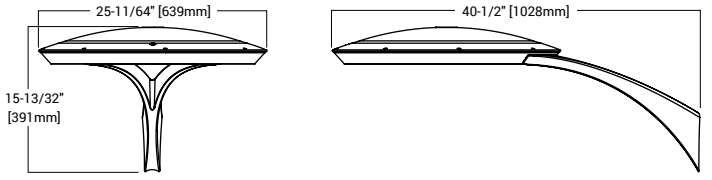
Product Certifications

Quick Facts

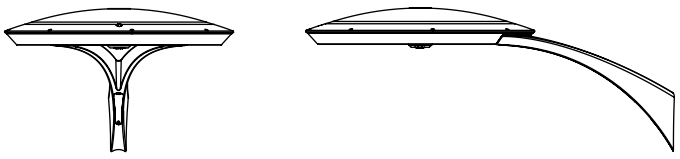
- Contemporary, architectural form in 3 configurations
- WaveStream™ LED technology provides a visually comfortable light source
- Integrated controls options for standalone or connected solutions
- Lumen packages range from 1900 to 11,400 lumens
- Standard output is 4000K CCT with minimum 70 CRI; other options are available

Dimensional and Mounting Details

Arm Mount



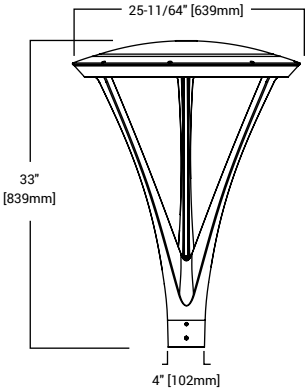
Arm Mount with WaveLinx



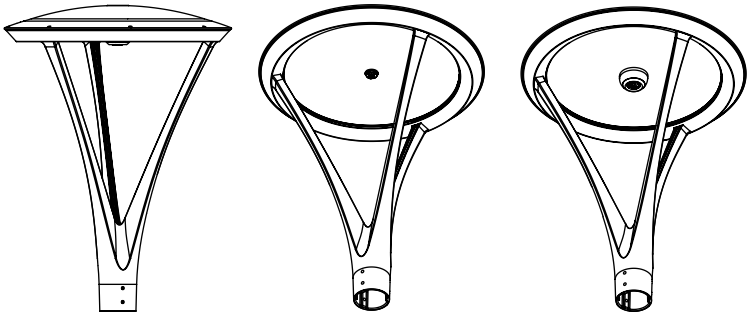
Weight: 41 lbs. [18.6 kgs.]
EPA: 1.0 Sq. Ft.

Dimensional and Mounting Details

Spider Mount

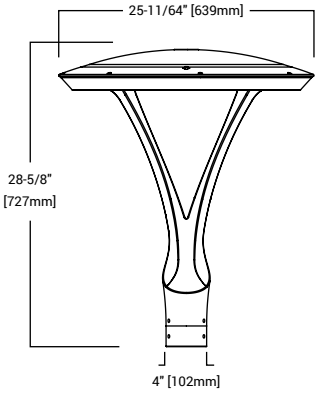


Spider Mount with WaveLinx

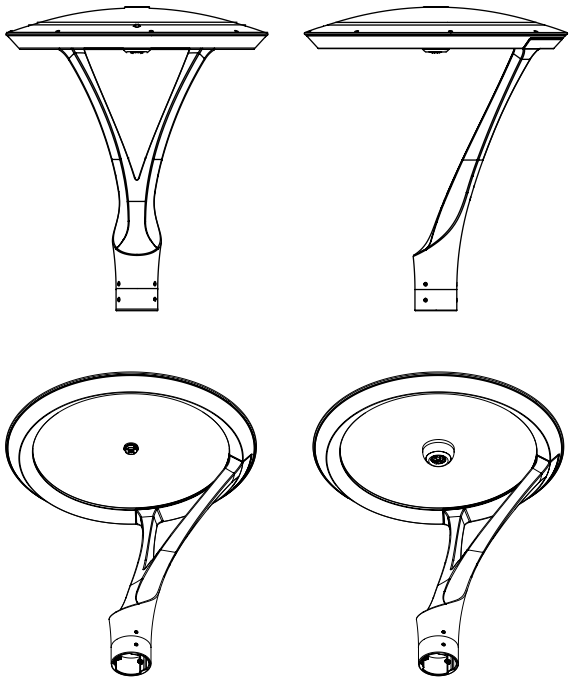


Weight: 53 lbs. [24 kgs.]
EPA: 1.6 Sq. Ft.

Cantilever Mount



Cantilever Mount with WaveLinx



Weight: 46 lbs. [20.8 kgs.]
EPA: 1.3 Sq. Ft.

Ordering Information

SAMPLE NUMBER: **LXS-VA3-LED-D1-T2-GM-S**

Product Family [1, 2]	Optic Type	Lumen Package [3]	CRI/CCT	Voltage	Distribution	Mounting	Finish
LXS= LuxeScape Collection **BAA-LXS**= LuxeScape Collection Buy American Act Compliant [34]	**VA**= Visual Comfort / WaveStream	**1**= Nominal 2,300 Lumens **2**= Nominal 4,500 Lumens **3**= Nominal 8,500 Lumens **4**= Nominal 9,500 Lumens [4]	**730**= 70 CRI / 3000K **735**= 70 CRI / 3500K **740**= 70 CRI / 4000K **830**= 80 CRI / 3000K **835**= 80 CRI / 3500K **840**= 80 CRI / 4000K **AMB**= Amber 590nm [21, 33]	**U**= 120- 277 **1**= 120 **2**= 208 **3**= 240 **4**= 277 **8**= 480 [5, 6] **9**= 347 [5]	**ASC**= Asymmetric Curbline [7] **ASW**= Asymmetric Wide [8] **AST**= Asymmetric Transverse [9] **SYM**= Symmetric Round [10]	**A**= Arm Mount **S**= Spider Mount **C**= Cantilever Mount	**AP**= Grey **BZ**= Bronze **BK**= Black **DP**= Dark Platinum **GM**= Graphite Metallic **WH**= White **RALXX**= Custom Color [11]

Options (Add as Suffix)		Accessories (Order Separately) [19, 35]
F= Single Fuse [12] **FF**= Double Fuse [13] **10MSP**= 10K MOV Surge Protective Device **20MSP**= 20kV MOV Surge Protective Device **20K**= 20kV UL 1449 Fused Surge Protective Device **DIM**= External 0-10V Dimming Leads [14] **HA**= 50°C High Ambient Temperature [15] **VS**= Vandal Shield [16] **CC**= Coastal Construction [17] **DALI**= DALI Driver [18] **BPC**= Button Type Photocontrol [19] **PR**= NEMA 3-PIN Twistlock Photocontrol Receptacle [20] **PR7**= NEMA 7-PIN Twistlock Photocontrol Receptacle [20] **PC**= Twistlock NEMA Photocontrol **LLPC**= Long Life Twistlock NEMA Photocontrol [32] **SC**= Shorting Cap	**MS-L08**= Motion Sensor for ON/OFF Operation, Up to 8' Mounting Height [21, 22, 23] **MS-L20**= Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height [21, 22, 23] **MS-L40W**= Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [21, 22, 23] **MS/DIM-L08**= Motion Sensor for Dimming Operation, Up to 8' Mounting Height [21, 22, 23] **MS/DIM-L20**= Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [21, 22, 24] **MS/DIM-L40W**= Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [21, 22, 25] **DIM10**= Synapse Integrated Control Module **WLS2WH**= WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting **WLS4WH**= WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting **WPS2WH**= WaveLinx Pro, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [26,27,36] **WPS4WH**= WaveLinx Pro, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [26,27,36]	**FSIR-100**= Wireless Configuration Tool for Occupancy Sensor [28] **ARPA2**= 2-3/8" O.D. Tenon Sleeve Adapter [30] **VA6028-XX**= Twin Mount Arm (EPA 1.36 sq./ft.) [30, 31] **VA6029-XX**= Wall Mount Arm [30, 31] **WOLC-7P-10A**= WaveLinx Outdoor Control Module (7-PIN) [29]

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Lumens are nominal. See lumen table for more information.
4. 9,500 Lumen package available only on SYM distribution
5. Requires the use of a step-down transformer.
6. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
7. IESNA Type III typical.
8. IESNA Type IV typical.
9. IESNA Type IV typical.
10. IESNA Type V typical.
11. Specify RAL number for Custom Color. Custom color matching available upon request. Consult your lighting representative at Cooper Lighting Solutions for more information.
12. Must specify voltage (120V, 277V, or 347V) to fuse the single hot leg.
13. Must specify voltage (208V, 240V, or 480V) to fuse the both hot legs.
14. Low voltage control leads brought out 18" outside fixture. Not available with control options.
15. Not available in VA3 with Type ASC, ASW and AST distributions.
16. Reduce total lumens by a 0.95 multiplier to accommodate losses.
17. Post-coating over the primary finish providing 7,000+ salt spray hours. Extended lead-times can be 4 -10 additional weeks.
18. Only available with VA3 and VA4 lumen packages.
19. Not available with MS-LXX, MS/DIM-LXX, LWR-LW, LWR-LN or 347V or 480V options.
20. Not available with MS-LXX, MS/DIM-LXX, LWR-LW, LWR-LN or 347V or 480V options.
21. Not available with HA option.
22. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult you lighting representative at Cooper Lighting Solutions for more information.
23. Approximately 22' detection diameter at 8' mounting height.
24. Approximately 40' detection diameter at 20' mounting height.
25. Approximately 100' detection diameter at 40' mounting height.
26. Cannot be used in conjunction with photocontrol or other controls systems (BPC, PR, PR7, MS).
27. NWAC Gateway required to enable field-configurability. Order WAC-POE and WPOE-120 (10V to POE injector) power supply if needed. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more WaveLinx application information.
28. This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
29. Requires 7-PIN NEMA twistlock photocontrol receptacle. WOLC-7P-10A cannot be used in conjunction with additional sensors or controls.
30. Not vibration rated at this time. Consult your lighting representative at Cooper Lighting Solutions for more information.
31. Replace XX with color designation.
32. Requires photocontrol receptacle PR or PR7.
33. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose Lumen Package 1. See IES files for photometric performance.
34. Only product configurations with this designated prefix are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic prefe ence requirements.
35. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
36. Not available with 5LTD option.
37. Not available with 2300 or 9500 lumen package.

ARP ORDERING INFORMATION (ALUMINUM DECORATIVE POLE)

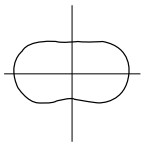
SAMPLE NUMBER: **ARP5L310ABZ2**

Product Family	Shaft Size (Inches) [1]	Wall Thickness (Inches)	Pole Top Diameter (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Options (Add as Suffix)
ARP= Aluminum Round Tapered Decorative **BAA-ARP**= Aluminum Round Tapered Decorative Buy American Act Compliant [36]	**5**= 5"	**L**= 0.156" **M**= 0.188"	**3**= 3" O.D. [2] **6**= 4" O.D. [3]	**10**= 10' **12**= 12' **14**= 14' **16**= 16' **18**= 18' [4] **22**= 22' [4]	**A**= Aluminum (Round 4-Bolt Pole)	**AP**= Grey **BA**= Anodized Bronze **BK**= Black **BZ**= Bronze **CA**= Anodized Clear **DA**= Anodized Black **DP**= Dark Platinum **GM**= Graphite Metallic **GN**= Hartford Green **WH**= White	**2**= 2-3/8" O.D. Tenon (4" Long) **5**= 3" O.D. Tenon (4" Long)	**X**= None	**C**= Convenience Outlet [5] **E**= GFCI Convenience Outlet [5] **G**= Ground Lug **V**= Vibration Dampener [4]

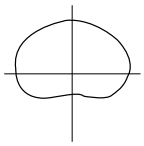
NOTES:
1. All shaft sizes nominal.
2. Provides 3" O.D. pole top suited for Arbor Post Top.
3. Provides 4" O.D. pole top suited for LuxeScape post tops.
4. Vibration damper recommended over 18 feet add suffix "V" to catalog number.
5. Specify outlet location. Receptacle not included, provision only.

Optical Distributions

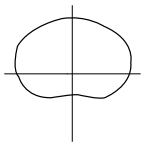
(Arm mount shown, distribution dependent on mounting)



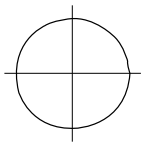
ASC
(Type III typical)



ASW
(Type IV typical)



AST
(Type IV typical)



SYM
(Type V typical)

Product Specifications

Construction

- Die-cast aluminum construction is highly durable and corrosion resistant
- ANSI C136.31 testing compliance prevents damage from installation generated vibration.
- External hardware and casting seams are minimized to enhance appearance.

Optics

- WaveStream™ LED optical system employs waveguide technology to reduce glare and create distributions ideal for pedestrian applications
- Symmetric and asymmetric distributions available
- Standard offering is 4000K CCT with 70CRI. Other CCT and CRI options are available including turtle-safe 590nm amber.

Electrical

- 0-10V dimming compatibility is standard.
- A 10kV surge protector, wired in series, is standard. Other options include 20kV modules and parallel or series configurations.
- Photocontrol receptacles and button photocell options are available

Controls

- Enable energy savings and meet code requirements by including WaveLinx connectivity in LuxeScape fixtures.
- The ANSI C136.41 compliant NEMA 7-PIN receptacle enables wireless dimming when used with compatible photocontrol.
- See control options page for more details.

Mounting

- Invue's aluminum round decorative pole (ARP) offering provides a seamless transition and compliments the contemporary design architecture with its unique sleek taper and base design.
- The tenon mount pole comes standard with an access door feature integrated into the base.
- ARM MOUNT: The integrated aluminum contemporary upsweep arm bolts directly to a 4" or 5" round pole using an "N" drill pattern.
- SPIDER & CANTILEVER MOUNT: Fitter assembly mounts over 3" O.D. tenon and can be adapted to a 2-3/8" tenon. It is secured via concealed, corrosion resistant set screw and jam screw pairs in six inconspicuous locations. Fitter design provides seamless transition to 4" O.D. round pole top
- Optional mounting accessories include a twin arm mount and wall mount arm.

Finish

- Premium TGIC based polyester powder coatings provides long service life.
- Finish is compliant to 3,000 hour salt spray standard (per ASTM B117).
- RAL and custom color matches available, additional charges and lead-time apply.

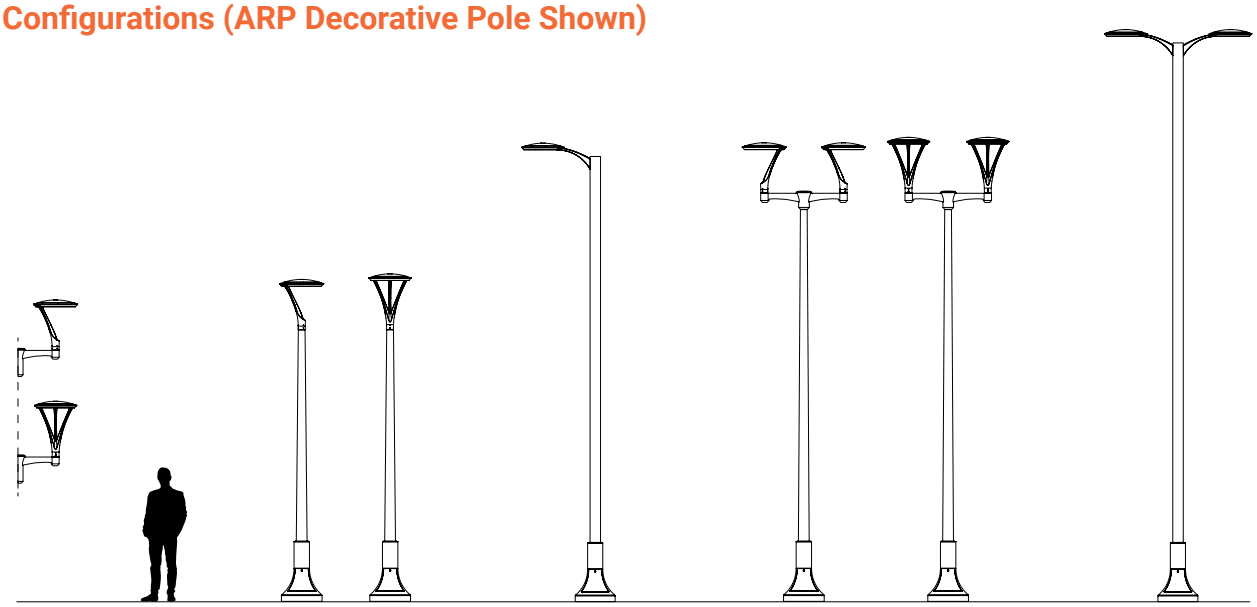
Compliance

- cULus certified for -40° to 40°C ambient environments, with high ambient options suitable up to 50°C.
- IP66 rated
- 3G vibration rated
- DarkSky approved for 3000K CCT and warmer
- Refer to DOMESTIC PREFERENCES website for information regarding Buy American Act requirements

Warranty

- Five year limited warranty, consult website for details. www.cooperlighting.com/legal

Pole Configurations (ARP Decorative Pole Shown)



Wall Mount Arm
8-10 ft. Mounting heights
(Spider/Cantilever mount only)

Single Post Top
10-18 ft. Mounting heights
(Spider/Cantilever mount only)

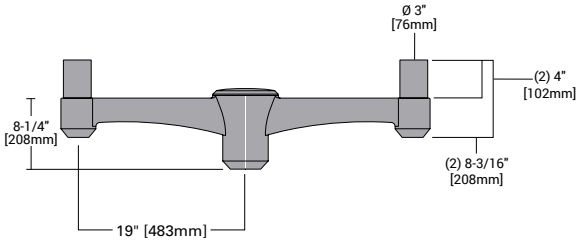
Single Mount Arm
18-22 ft. Mounting heights

Twin Mount Arm
18-22 ft. Mounting heights
(Spider/Cantilever mount only)

Twin Mount Arm
18-25 ft. Mounting heights

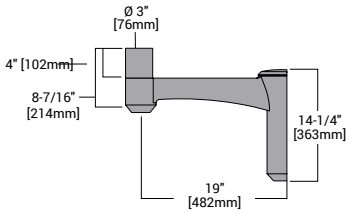
Mounting Configurations

Twin Mount Arm

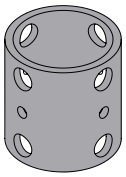


Twin Mount Arm: VA6028-XX
Weight: 18.2 lbs. [8.3 kg]
EPA: 1.36 Sq. Ft.

Wall Mount Arm



Wall Mount Arm: VA6029-XX
Weight: 8.9 lbs. [4.0 kg.]



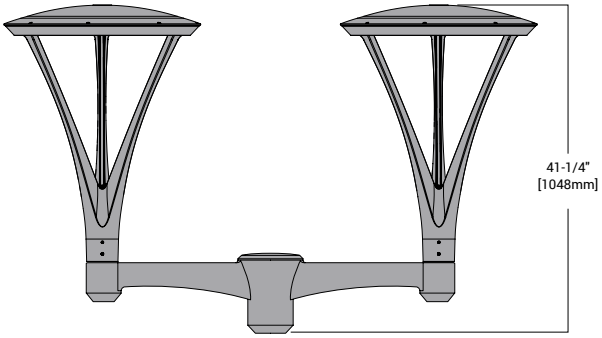
ARP2*

Mounting Requirements Chart

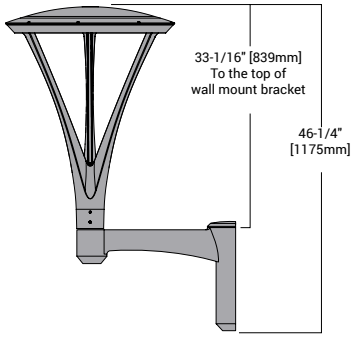
Pole Top O.D. (Inches)	4"	
Tenon O.D. (Inches)	2-3/8" Tenon	3" Tenon
Post Top	ARPA2*	Standard
Twin Mount Arm	ARPA2*	Standard

* Required for stability. Order separately.

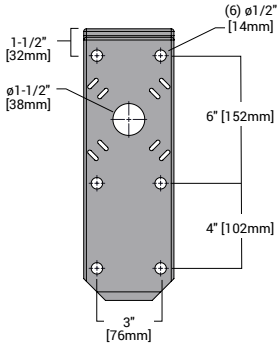
Twin Mount Arm
Shown with Spider mount



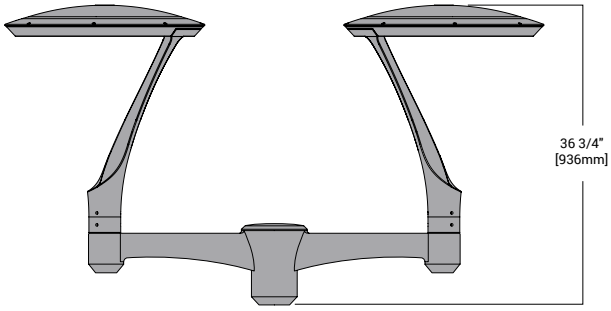
Wall Mount Arm
Shown with Spider mount



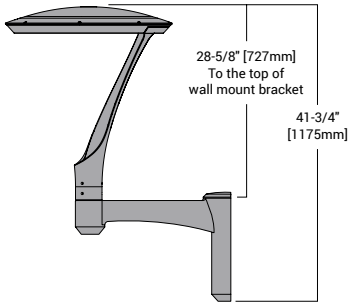
Wall Mount Arm Drill Pattern



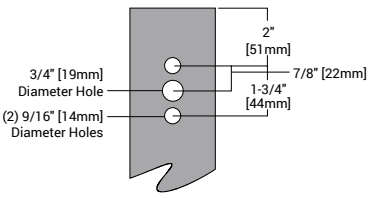
Twin Mount Arm
Shown with Cantilever mount



Wall Mount Arm
Shown with Cantilever mount



TYPE "N"



Energy and Performance Data

Lumen Maintenance

Ambient Temperature	25,000 hours*	50,000 hours*	60,000 hours*	100,000 hours**	Theoretical L70 (Hours)**
25°C	0.944	0.904	0.89	0.83	>199,000
40°C	0.946	0.909	0.894	0.839	>212,000
50°C	0.918	0.87	0.852	0.782	>151,000

* Supported by IES TM-21 standards
** Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1
40°C	0.99
50°C	0.97

Minimum Ambient Temperature

Lumen Package	Temperature
VA1	-40°C
VA2	-35°C
VA3	-35°C
VA4	-40°C
All DALI powered lumen packages	-20°C

Optical Distributions

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Power and Lumens

Lumen Package				VA1	VA2	VA3	VA4
Drive Current							
Power Wattage (Watts)*				24W	48W	96W	99W
Input Current (mA) @ 120V				200	400	800	830
Input Current (mA) @ 277V				90	180	350	360
Power Wattage (Watts)*				28W	55W	114W	108W
Input Current (mA) @ 347V				79	161	325	328
Input Current (mA) @ 480V				58	117	235	237
CRI/CCT (Nominal)	**Mounting**	**Distribution**					
730: 70CRI/3000K	**A: Arm**	**ASC: Asymmetric Curbline**	Lumens	1,949	3,740	6,730	--
			Lumens per Watt	81.2	77.9	68.0	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,323	4,458	8,022	--
			Lumens per Watt	96.8	92.9	81.0	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,400	4,607	8,291	--
			Lumens per Watt	100.0	96.0	83.7	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,485	4,958	9,111	10,571
			Lumens per Watt	118.3	120.9	105.9	110.1
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G3
			IESNA Type	V	V	V	V
	S: Spider Mount	**ASC: Asymmetric Curbline**	Lumens	1,780	3,417	6,148	--
			Lumens per Watt	74.2	71.2	62.1	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,097	4,024	7,242	--
			Lumens per Watt	87.4	83.8	73.2	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,198	4,218	7,590	--
			Lumens per Watt	91.6	87.9	76.7	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,305	4,600	8,452	9,807
			Lumens per Watt	109.8	112.2	98.3	102.2
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G3
			IESNA Type	V	V	V	V

Optical Distributions

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Power and Lumens

Lumen Package				VA1	VA2	VA3	VA4
CRI/CCT (Nominal)	**Mounting**	**Distribution**					
730: 70CRI/3000K	**C: Cantilever Mount**	**ASC: Asymmetric Curbline**	Lumens	1,857	3,564	6,414	--
			Lumens per Watt	77.4	74.3	64.8	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,213	4,248	7,645	--
			Lumens per Watt	92.2	88.5	77.2	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,324	4,460	8,025	--
			Lumens per Watt	96.8	92.9	81.1	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,342	4,674	8,588	9,965
			Lumens per Watt	111.5	114.0	99.9	103.8
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G3
			IESNA Type	V	V	V	V
740: 70CRI/4000K	**A: Arm**	**ASC: Asymmetric Curbline**	Lumens	2,105	4,040	7,270	--
			Lumens per Watt	87.7	84.2	73.4	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,509	4,816	8,666	--
			Lumens per Watt	104.5	100.3	87.5	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,593	4,977	8,956	--
			Lumens per Watt	108.0	103.7	90.5	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,684	5,356	9,842	11,420
			Lumens per Watt	127.8	130.6	114.4	119.0
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B4-U0-G3
			IESNA Type	V	V	V	V

Optical Distributions

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Power and Lumens

Lumen Package				VA1	VA2	VA3	VA4
CRI/CCT (Nominal)	**Mounting**	**Distribution**					
740: 70CRI/4000K	**S: Spider Mount**	**ASC: Asymmetric Curbline**	Lumens	1,923	3,691	6,642	--
			Lumens per Watt	80.1	76.9	67.1	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,265	4,347	7,823	--
			Lumens per Watt	94.4	90.6	79.0	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,374	4,557	8,200	--
			Lumens per Watt	98.9	94.9	82.8	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,490	4,969	9,131	10,595
			Lumens per Watt	118.6	121.2	106.2	110.4
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B4-U0-G3
			IESNA Type	V	V	V	V
	C: Cantilever Mount	**ASC: Asymmetric Curbline**	Lumens	2,006	3,850	6,929	--
			Lumens per Watt	83.6	80.2	70.0	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,391	4,589	8,258	--
			Lumens per Watt	99.6	95.6	83.4	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,510	4,818	8,669	--
			Lumens per Watt	104.6	100.4	87.6	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,530	5,049	9,277	10,765
			Lumens per Watt	120.5	123.1	107.9	112.1
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B4-U0-G3
			IESNA Type	V	V	V	V

Optical Distributions

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Power and Lumens

Lumen Package				VA1	VA2	VA3	VA4
CRI/CCT (Nominal)	**Mounting**	**Distribution**					
830: 80CRI/3000K	**A: Arm**	**ASC: Asymmetric Curbline**	Lumens	1,758	3,374	6,072	--
			Lumens per Watt	73.2	70.3	61.3	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	2,096	4,022	7,238	--
			Lumens per Watt	87.3	83.8	73.1	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,166	4,157	7,480	--
			Lumens per Watt	90.2	86.6	75.6	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,242	4,473	8,220	9,538
			Lumens per Watt	106.8	109.1	95.6	99.4
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2
			IESNA Type	V	V	V	V
	S: Spider Mount	**ASC: Asymmetric Curbline**	Lumens	1,606	3,083	5,547	--
			Lumens per Watt	66.9	64.2	56.0	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	1,892	3,631	6,534	--
			Lumens per Watt	78.8	75.6	66.0	--
			BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	1,983	3,806	6,848	--
			Lumens per Watt	82.6	79.3	69.2	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,080	4,150	7,626	8,849
			Lumens per Watt	99.0	101.2	88.7	92.2
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G3
			IESNA Type	V	V	V	V

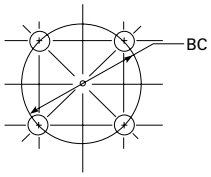
Optical Distributions

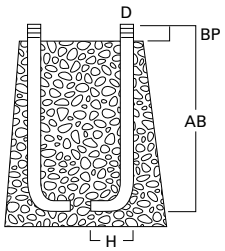
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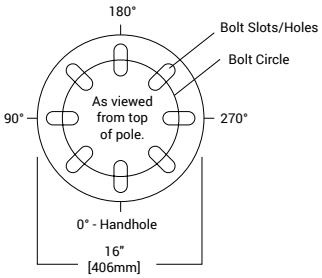
Power and Lumens

Lumen Package				VA1	VA2	VA3	VA4
CRI/CCT (Nominal)	**Mounting**	**Distribution**					
830: 80CRI/3000K	**A: Arm**	**ASC: Asymmetric Curbline**	Lumens	1,675	3,216	5,787	--
			Lumens per Watt	69.8	67.0	58.5	--
			BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	--
			IESNA Type	III	III	III	--
		ASW: Asymmetric Wide	Lumens	1,997	3,833	6,897	--
			Lumens per Watt	83.2	79.9	69.7	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	--
			IESNA Type	IV	IV	IV	--
		AST: Asymmetric Transverse	Lumens	2,096	4,024	7,241	--
			Lumens per Watt	87.3	83.8	73.1	--
			BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	--
			IESNA Type	IV	IV	IV	--
		SYM: Symmetric Round	Lumens	2,113	4,217	7,748	8,991
			Lumens per Watt	100.6	102.9	90.1	93.7
			BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G3
			IESNA Type	V	V	V	V

Anchorage Data

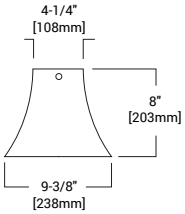






Anchor Base Detail

Access Door



Tenon O.D. (Inches)	Anchor Bolt and Template Package	Shaft Diameter (inches)	Bolt Circle (inches)	Number of Bolts	Bolt Size (inches)	Template Only
Aluminum Round Decorative Pole (ARP)	317AVE30	4 x 5	9	4	3/4 x 17	407040D

Effective Projected Area (At Pole Top)

Mounting Height (Feet)	Catalog Number	Wall Thickness (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection (Inches)	Shaft Taper (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) (1.3 gust factor)			Max. Load (Pounds)
MH			BC	BP	B	AB[1]		80 mph	90 mph	100 mph	
10	ARP5L310A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	57	20.0	17.5	14.1	120
10	ARP5L610A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	57	17.0	13.3	10.7	120
12	ARP5L312A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	62	18.2	14.1	11.2	120
12	ARP5L612A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	62	14.1	10.9	8.7	120
14	ARP5L314A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	67	14.8	11.4	9.0	120
14	ARP5L614A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	67	11.7	9.0	7.1	120
16	ARP5L316A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	72	12.0	9.1	7.0	120
16	ARP5L616A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	72	9.4	7.1	5.6	120
18	ARP5L318A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	77	9.5	7.1	5.4	120
18	ARP5L618A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	77	7.6	5.6	4.3	120
18	ARP5M618A	0.188	9.0	3.5	5 X 4	3/4 X 17 X 3	83	9.5	7.1	5.6	120

Effective Projected Area (18" Above Pole Top)

Mounting Height (Feet)	Catalog Number	Wall Thickness (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection (Inches)	Shaft Taper (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) (1.3 gust factor)			Max. Load (Pounds)
MH			BC	BP	B	AB[1]		80 mph	90 mph	100 mph	
10	ARP5L310A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	57	19.6	15.3	12.3	120
10	ARP5L610A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	57	17.0	13.3	10.7	120
12	ARP5L312A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	62	16.1	12.5	9.9	120
12	ARP5L612A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	62	14.1	10.9	8.7	120
14	ARP5L314A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	67	13.2	10.1	8.0	120
14	ARP5L614A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	67	11.7	9.0	7.1	120
16	ARP5L316A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	72	10.6	8.0	6.2	120
16	ARP5L616A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	72	9.4	7.1	5.6	120
18	ARP5L318A	0.156	9.0	3.5	5 X 3	3/4 X 17 X 3	77	8.5	6.4	4.8	120
18	ARP5L618A	0.156	9.0	3.5	5 X 4	3/4 X 17 X 3	77	7.6	5.6	4.3	120
18	ARP5M618A	0.188	9.0	3.5	5 X 4	3/4 X 17 X 3	83	9.5	7.1	5.6	120

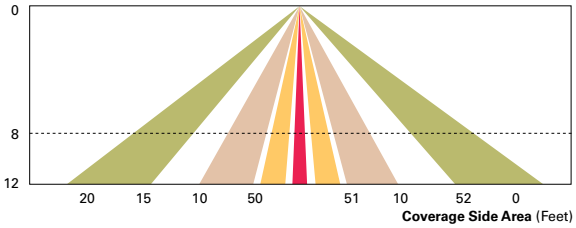
Control Options

0-10V: 0-10V (D) The dimming option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

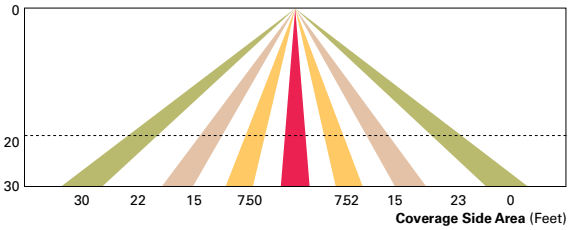
Photocontrol (PER and PER7): Photocontrol receptacles provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

Dimming Occupancy Sensor (MS): These sensors are factory installed in the luminaire housing. When a sensor for dimming operation (/DIM) option is selected, the luminaire will dim down to approximately 50 percent power after five minutes of no activity detected. When activity is detected, the luminaire returns to full light output. When a sensor for ON/OFF operation is selected, the luminaire will turn off after five minutes of no activity. These occupancy sensors include an integral photocell that can be activated or inactivated with the programming remote / configuration tool for "dusk-to-dawn" control or "daylight harvesting". Note: For MS sensors, the factory preset is OFF (Disabled). The programming remote / tool is a wireless tool that can be utilized to change the dimming level, time delay, sensitivity and other parameters. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 8'-40'.

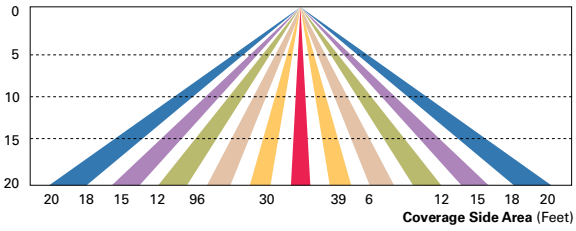
For mounting heights up to 8' (-L12)



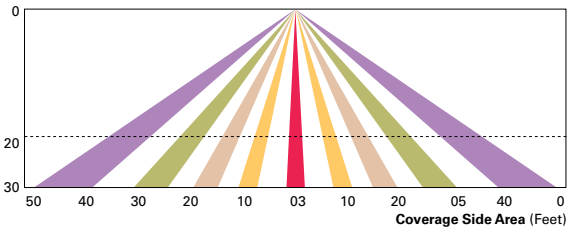
For mounting heights from 12' to 30' (-L30)



For mounting heights from 9' to 20' (-L20)



For mounting heights from 21' to 40' (-L40W)



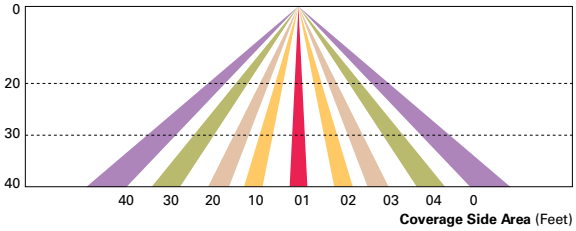
WaveLinx Wireless Control and Monitoring System

Available in 7-PIN or 4-PIN configurations, the WaveLinx Outdoor control platform operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. Use the WaveLinx Mobile application for set-up and configuration. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets).

WaveLinx Outdoor Control Module (WOLC-7P-10A) A photocontrol that enables astronomic or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

WaveLinx Wireless Sensor (WPS2 and WPS4) These outdoor sensors offer passive infrared (PIR) occupancy and a photocell for closed loop daylight sensing. These sensors are factory preset to dim down to approximately 50 percent power after 15 minutes of no activity detected. These occupancy sensors include an integral photocell for "dusk-to-dawn" control or daylight harvesting that is factory-enabled. A variety of sensor lenses are available to optimize the coverage pattern for mounting heights from 7'-40'.

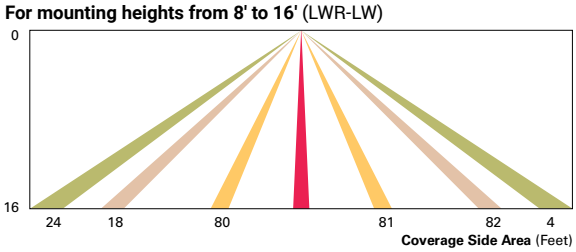
For mounting heights from 16' to 40' (WPS)



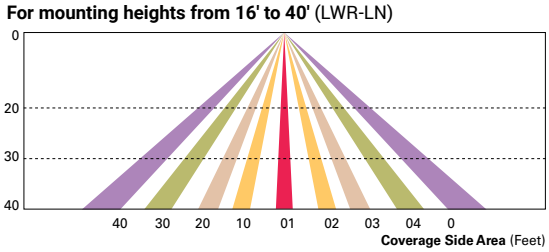
Enlighted Wireless Control and Monitoring System (LWR-LW and LWR-LN)

Enlighted is a connected lighting solution that combines LED luminaires with an integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of other resources beyond lighting.

For mounting heights from 8' to 16' (LWR-LW)



For mounting heights from 16' to 40' (LWR-LN)



Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com

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Specifications and dimensions
subject to change without notice.

Liteline

SKYE

6", 1045-1855 Lumens, 12-20W, Color Selectable
Recessed Downlighting

Job Information		
Project Name		Type
Location		
Quantity		Date
Contact/Phone		
Notes		

Features

Body
Durable airtight aluminum body with UV stable paint and white PMMA diffuser lens for low glare. Includes silicone gasket for wet location applications. Includes White interchangeable magnetic trim.

LED Characteristics
This general application light fixture features a 12, 16 or 20 watt LED module that maintains uniform intensity producing up to 1855 lumens; with a typical CRI of 90. Available with front facing 5 step color selectable switch (2700 K, 3000 K, 3500 K, 4000 K and 5000 K).

Dimming
100%-10% dimming capability. This fixture is compatible with industry standard TRIAC/ELV dimmers. For compatible dimmers, visit www.liteline.com/SKYEdimmers.

Beam Spread
The fixture lens provides 80° beam spread.

Mounting
Includes two spring loaded clips to attached to any ceiling material.

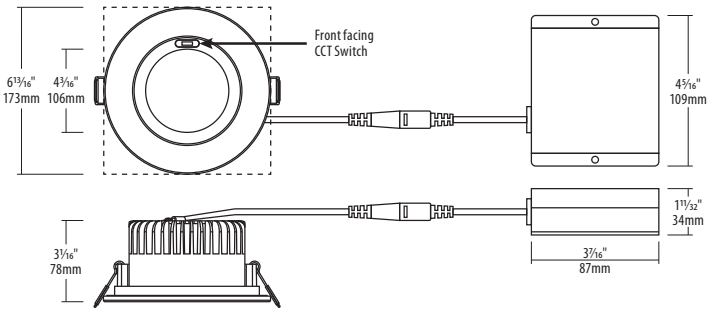
LED Driver
Extruded aluminum hardwire box with 300mA, 370mA or 500mA dimmable class II electronic LED driver with 100-135V AC input. Includes an 18" plenum rated FT6 wire with DC 2.1 connector from driver to fixture.

Quick Connect push-in terminals
"Quick connect" push-in terminals for fast and easy wiring.

Start Up Temperature
-40°C (-40°F)

Environment
- Suitable for wet locations.
- Suitable for outdoor applications.
- Suitable for insulated ceiling applications.

SPECIFICATION	
Application	Ceiling Recessed Mount
Approved Location	Wet / Outdoor / Insulated Ceilings
Beam Angle	80°
CCT	2700 K / 3000 K / 3500 K / 4000 K / 5000 K
Certification	cETLus
Standard Metal Trim	BK / BN / OB / WH
Select Trims	See page 2
CRI	90
Dimming	Yes
Dimming Tech	Forward/Reverse phase /TRIAC/ELV
Energy Star	Yes
Hole Cut	Ø 6¼" (159mm)
Input	100-135V AC, 60Hz
LM79	Yes
LM80	Yes
Lumens	Up to 1855
Lumens per Watt	Up to 111
Min. Operating Temp.	-40°C (-40°F)
Power Factor	0.95
Projected Life	70% @ 50,000 hrs
Title 24	JA8 (up to 4000 K)
Warranty	Lifetime
Wattage	12W / 16W / 20W



CCT	Lumens		
	12W	16W	20W
2700 K	1045	1490	1660
3000 K	1080	1575	1775
3500 K	1090	1640	1855
4000 K	1085	1650	1825
5000 K	1055	1605	1755



Description

SKYE is a high-performance, easy to install residential and commercial downlight solution that offers good light output, energy-efficiency and streamlined design with interchangeable color trims and color selectable switch. Suitable for wet locations.

SKYE Select dead-front trims available to provide a 2-tone professional trim and baffle finish.

Ordering Guide

	Shape	Wattage		Driver Options	Trim Finish	Baffle Finish
SLMB6			W-CCT-			
	Leave blank for Round	**16 :** 16 watt **12 :** 12 watt **20 :** 20 watt		Leave blank for standard 120V driver **E :** Lutron Hi-Lume 1% EcoSystem w/Soft-on, Fade-to-Black **C :** 120~347V, 0-10V **EM :** Emergency Backup, 120~277V, 0-10V	**BK :** Black **BN :** Brushed Nickel **OB :** Oil Rubbed Bronze **WH :** White	Leave blank (will match trim)
SKYE SELECT Dead-front	Select from above	Select from above		Select from above	**BK :** Black **WH :** White	**BG :** Gold **BK :** Black[2] **SP :** Specular **SS :** Semi-specular **WH :** White[1]

QUICKSHIP 2-DAY

CCT 5 · WET LOCATION ENDROITS MOUILLÉS · Intertek · ENERGY STAR[3] · JA8 TITLE 24 · IC RATED · AIR TIGHT · LIFETIME

Notes:
[1] Not available with BK Trim Finish. [2] Not available with WH Trim Finish. [3] Not available for SKYE SELECT models.
* QuickShip lead time may vary for orders greater than 100 pieces. No additional shipment rates apply. Subject to availability. Accessories are sold separately. For additional options please consult your Liteline representative. Due to our continued efforts to improve our products, product specifications are subject to change without notice.

Liteline Corporation
Telephone 416.996.1856 1.866.730.7704
Fax 905.709.5255 1.888.738.9736

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LITELINE.COM

Accessories



SLMB6-16W-RT-BK
Magnetic trim for 6" SKYE fixtures, round, black.



SLMB6-16W-RT-BN
Magnetic trim for 6" SKYE fixtures, round, brushed nickel.



SLMB6-16W-RT-OB
Magnetic trim for 6" SKYE fixtures, round, oil rubbed bronze.



P-6020
6¼" Round pre-mounting plate with driver attachment clip, for 6" SKYE fixtures.



SLM6P-XLRING-BK
Extra large trim ring for 6" SKYE, metal, black. (O.D. 210mm / 8¼")



SLM6P-XLRING-BN
Extra large trim ring for 6" SKYE, metal, brushed nickel. (O.D. 210mm / 8¼")



SLM6P-XLRING-WH
Extra large trim ring for 6" SKYE, metal, white. (O.D. 210mm / 8¼")



SLM-60-FC
60" Flexible connector, for use with SKYE fixtures.



P-NCMK-1
Hanger bar kit. Includes hanger bars, brackets and screws.

VBE-1
Vapour barrier extender. For use in new construction applications.



VBE-2
Vapour barrier extender. For use in remodel applications.



VBE-3
Vapour barrier extender. For use in remodel applications.



VBE-5
Vapour barrier extender. For use in new construction applications.



LC-CRTL-3WAY-1
OnCloud Smart Wi-Fi 3-way switch. Suitable for 3-way or 4-way switch applications.



LC-CRTL-DIM-1
OnCloud Smart Wi-Fi dimmer. Features an ON/OFF press and a 7 level touch slider.

SKYE SELECT



SLMB6-16W-RT-BKBG
SKYE Select trim, 6", dead front, round. Black trim with Gold baffle.



SLMB6-16W-RT-BKBK
SKYE Select trim, 6", dead front, round. Black trim with Black baffle.



SLMB6-16W-RT-BKSP
SKYE Select trim, 6", dead front, round. Black trim with Specular baffle.



SLMB6-16W-RT-BKSS
SKYE Select trim, 6", dead front, round. Black trim with Semi-specular baffle.



SLMB6-16W-RT-WHBG
SKYE Select trim, 6", dead front, round. White trim with Gold baffle.



SLMB6-16W-RT-WHSP
SKYE Select trim, 6", dead front, round. White trim with Specular baffle.



SLMB6-16W-RT-WHSS
SKYE Select trim, 6", dead front, round. White trim with Semi-specular baffle.



SLMB6-16W-RT-WHWH
SKYE Select trim, 6", dead front, round. White trim with White baffle.

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GWC Galleon Wall

Wall Mount Luminaire

Product Features

Light ARchitect™ · BAA · FADC

Product Certifications

DLC LISTED [1] · DLC LISTED PREMIUM [1] · ISO 9001 CERTIFIED · UL CERTIFIED · FC CLASS A · IP66 · ida DARK SKY APPROVED [2] · 5 YEAR LIMITED WARRANTY

Interactive Menu

- Ordering Information page 2
- Product Specifications page 2
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 6

Quick Facts

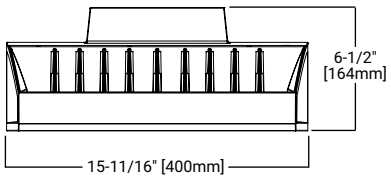
- Choice of thirteen high-efficiency, patented AccuLED Optics
- Downward and inverted wall mounting configurations
- Eight lumen packages from 3,215 up to 17,056
- Efficacies up to 154 lumens per watt

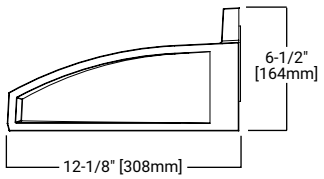
Connected Systems

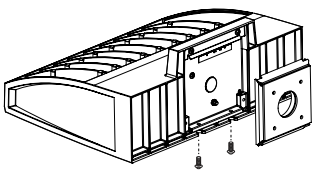
- WaveLinx PRO Wireless
- WaveLinx LITE Wireless
- Enlighted

Dimensional Details

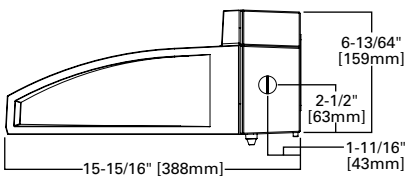
Net Weight: 17.0 lbs (7.7 kgs)



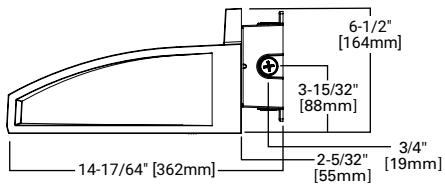




GWC with CBP option installed
(Thru-Branch Back Box accessory MA1059XX)



GWC with accessory BB/GWCXX Back Box installed



NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified for 3000K CCT and warmer only.

Ordering Information

SAMPLE NUMBER: **GWC-SA2C-740-U-T4FT-GM**

Product Family [1]	Light Engine		Color Temperature	Voltage	Distribution	Finish
	Configuration	Drive Current				
GWC=Galleon Wall **BAA-GWC**=Galleon Wall, Buy American Act Compliant [34] **TAA-GWC**=Galleon Wall, Trade Agreements Act Compliant [34]	**SA1**=1 Square **SA2**=2 Squares [2]	**A**=615mA **B**=800mA **C**=1000mA **D**=1200mA [4] **Z**=Configured [40]	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=80CRI, 2700K **830**=80CRI, 3000K **AMB**=Amber, 590nm [3, 4]	**U**=120-277V **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [6,7] **9**=347V [6] **DV**=277-480V DuraVolt Drivers [7, 8, 36]	**T2**=Type II **T3**=Type III **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **5NQ**=Type V Square Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Controls and Systems Options** (Add as Suffix)	**Accessories** (Order Separately) [35]
F=Single Fused (120, 277 or 347V. Must Specify Voltage) **FF**=Double Fused (208, 240 or 480V. Must Specify Voltage) **10K**=10kV Surge Module **20K**=Series 20kV UL 1449 Surge Protective Device **2L**=Two-Circuit Light Engine [37] **DIM**=External 0-10V Dimming Leads [9, 10] **CBP**=Battery Pack with Back Box, Cold Weather Rated [2, 4, 14, 32] **CBP-CEC**=Battery Pack with Back Box, Cold Weather Rated, CEC compliant [2, 4, 14] **BB**=Shipped with Back Box Accessory [38] **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **HSS**=Factory Installed House Side Shield [23] **GRSBK**=Factory Installed Glare Shield, BK [4, 27] **GRSWH**=Factory Installed Glare Shield, WH [4, 27] **UPL**=Uplight Housing [13] **HA**=50°C High Ambient [12] **LCF**=Light Square Trim Plate Painted to Match Housing [22] **MT**=Factory Installed Mesh Top **CC**=Coastal Construction finish [5] **CE**=CE Marking and Small Terminal Block [24] **AHD145**=After Hours Dim, 5 Hours [16] **AHD245**=After Hours Dim, 6 Hours [16] **AHD255**=After Hours Dim, 7 Hours [16] **AHD355**=After Hours Dim, 8 Hours [16] **DALI**=DALI Driver [11]	**BPC**=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) **PR**=NEMA 3-PIN Twistlock Photocontrol Receptacle **PR7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [15] **FADC**=Field Adjustable Dimming Controller [39] **SPB1**=Dimming Occupancy Sensor with Bluetooth Interface, <8' Mounting [19, 33] **SPB2**=Dimming Occupancy Sensor with Bluetooth Interface, 8' - 20' Mounting [19, 33] **SPB4**=Dimming Occupancy Sensor with Bluetooth Interface, 21' - 40' Mounting [19, 33] **MS-LXX**=Motion Sensor for On/Off Operation [17, 18, 19] **MS/DIM-LXX**=Motion Sensor for Dimming Operation [17, 18, 19] **WPS2XX**=WaveLinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [30, 31, 41] **WPS4XX**=WaveLinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [30, 31, 41] **WLS2XX**=WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [31, 41] **WLS4XX**=WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [31, 41] **LWR-LW**=Enlighted Wireless Sensor, Wide Lens for 8'-16' Mounting Height [19, 20, 21] **LWR-LN**=Enlighted Wireless Sensor, Narrow Lens for 16'-40' Mounting Height [19, 20, 21]	**OA/RA1013**=Photocontrol Shorting Cap **OA/RA1016**=NEMA Photocontrol - Multi-Tap 105-285V **OA/RA1201**=NEMA Photocontrol - 347V **OA/RA1027**=NEMA Photocontrol - 480V **MA1252**=10kV Circuit Module Replacement **MA1059XX**=Thru-branch Back Box (Must Specify Color) **BB/GWCXX**=Back Box (Must Specify Color) **LS/HSS**=Field Installed House Side Shield [23, 25] **LS/GRSBK-2PK**=Glare Shield, Black [25, 27] **LS/GRSWH-2PK**=Glare Shield, White [25, 27] **LS/PFS**=Perimeter Shield, Black [28] **FSIR-100**=Wireless Configuration Tool for Occupancy Sensor [17] **WOLC-7P-10A**=WaveLinx Outdoor Control Module (7-pin) [26, 29]

NOTES:

1. DesignLight Consortium® Qualified. Refer to www.designlights.org, Qualified Products List under Family Models for details.
2. Two light squares with CBP options limited to 25°C. CBP not available in combination with sensor options at 1200mA.
3. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A; supplied at 500mA drive current only.Exact luminaire wattage available in IES files. Available with 5WQ, 5MQ, SL2, SL3 and SL4 distributions. Can be used with HSS option.
4. Not available with HA option.
5. Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654.
6. Require the use of a step down transformer. Not available in combination with sensor options at 1200mA.
7. 480V not to be used with ungrounded or impedance grounded systems.
8. DuraVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.signify.com/duravolt for more information.
9. Cannot be used with other control options.
10. Low voltage control leads extended 18" from fixture.
11. Not available in 1200mA. When used with CBP or HA options, only available with single light square.
12. Not available in 1200mA, UPL or CBP options. Available with single light square.
13. Not available with SL2, SL3, SL4, HA, CBP, PR or PR7 options.
14. Operates a single light square only. Operates at -20°C to +40°C. Backbox is non-IP rated.
15. Compatible with standard 3-PIN photocontrols, 5-PIN or 7-PIN ANSI controls.
16. Requires the use of BPC photocontrol or the PR7 or PR photocontrol receptacle with photocontrol accessory. See After Hours Dim supplemental guide for additional information.
17. The FSIR-100 configuration tool is required to adjust parameters such as high and low modes, sensitivity, time delay and cutoff. Consult your lighting representative at Cooper Lighting Solutions for more information.
18. Replace LXX with L08 (<8' mounting), L20 (8'-20' mounting) or L40W (21'-40' mounting.)
19. Includes integral photosensor.
20. Enlighted wireless sensors are factory installed requiring network components in appropriate quantities.
21. White sensor shipped on all housing color options.
22. Not available with HSS or GRS options.
23. Not for use with 5NQ, 5MQ, 5WQ or RW optics. The light square trim plate is painted black when the HSS option is selected.
24. CE is not available with the 1200, DALI, LWR, MS, MS/DIM, BPC, PR or PR7 options. Available in 120-277V only.
25. One required for each light square.
26. Requires PR7.
27. Not for use with T4FT, T4W or SL4 optics.
28. Set of 4 pcs. Once set required per Light Square.
29. Cannot be used in conjunction with additional photocontrol or other controls systems (BPC, PR, PR7, MS, LWR).
30. WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed.
31. Replace XX with sensor color (WH, BZ, or BK).
32. Specify 120V or 277V.
33. Smart device with mobile application required to change system defaults. See controls section for details.
34. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
35. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
36. Not available in 1 square configuration at 800mA or below. Not available with any control option except SPB.
37. 2L not available with FF, AHD or DALI options. Controls and/or battery packs operate only one of the two circuits when 2L is specified. 2L with controls options not available with 347V or 480V.
38. Not available with CBP or CBP-CEC options.
39. Cannot be used with PR7 or other motion response control options.
40. Customer specific specifications utilizes standard products with small adjustments to meet unique requirements such as packaging, labels, wattage adjustments, etc.
41. Controls system is not available with photocontrol receptacles (PR , PR7) or other controls systems (FADC, SPBx).

Product Specifications

Construction

- Driver enclosure thermally isolated from optics for optimal thermal performance
- Die-cast aluminum heat sinks
- IP66 rated housing
- 1.5G vibration rated

Optics

- Patented, high-efficiency injection-molded AccuLED Optics technology
- 13 optical distributions
- IDA Certified (3000K CCT and warmer only)

Electrical

- LED driver assembly mounted for ease of maintenance
- Standard with 0-10V dimming
- Optional 10kV or 20kV surge module
- Suitable for operation in -40°C to 40°C ambient environments; Optional 50°C high ambient (HA) configuration
- Luminaire available with the field adjustable dimming controller (FADC) to manually adjust wattage and reduce the total lumen output and light levels. Comes pre-set to the highest position at the lumen output selected

Mounting

- Gasketed and zinc plated rigid steel mounting attachment
- "Hook-N-Lock" mechanism for easy installation

Finish

- Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness
- Heat sink is powder coated black
- RAL and custom color matches available
- Coastal Construction (CC) option available

Typical Applications

- Exterior Wall, Walkway

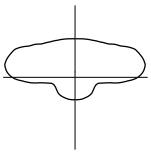
Warranty

- Five year limited warranty, consult website for details. www.cooperlighting.com/legal

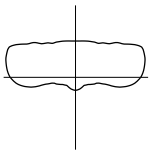
Optical Distributions

Asymmetric Area Distributions

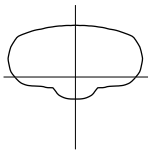
T2 (Type II)



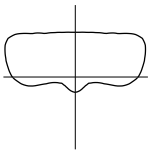
SL2 (Type II with Spill Control)



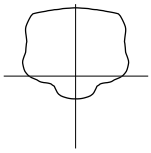
T3 (Type III)



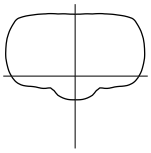
SL3 (Type III with Spill Control)



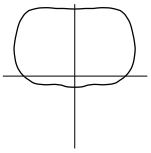
T4FT (Type IV Forward Throw)



T4W (Type IV Wide)

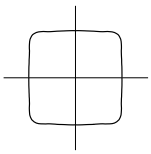


SL4 (Type IV with Spill Control)

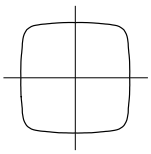


Symmetric Distributions

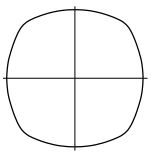
5NQ (Type V Square Narrow)



5MQ (Type V Square Medium)

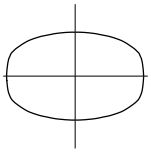


5WQ (Type V Square Wide)

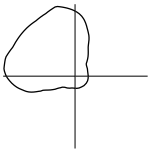


Specialized Distributions

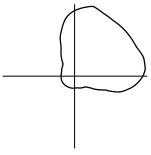
RW (Rectangular Wide Type I)



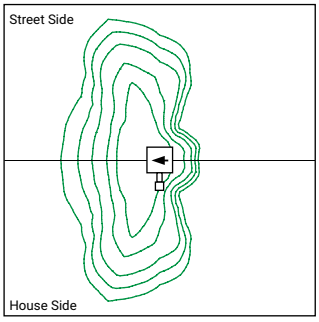
SLL (90° Spill Light Eliminator Left)



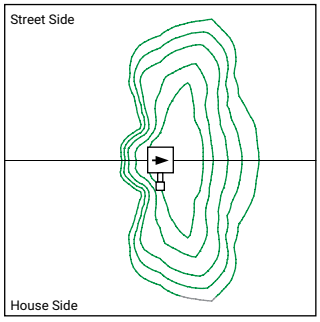
SLR (90° Spill Light Eliminator Right)



Optic Orientation



Optics Rotated Left @ 90° [L90]



Optics Rotated Right @ 90° [R90]

Energy and Performance Data

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0ºC	1.02
10ºC	1.01
25ºC	1.00
40ºC	0.99
50ºC	0.97

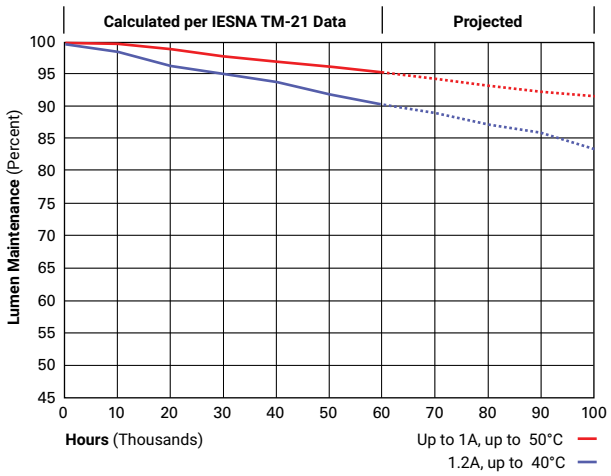
FADC Settings

FADC Position	Lumen Multiplier
1	25%
2	46%
3	55%
4	62%
5	72%
6	77%
7	82%
8	85%
9	90%
10	100%

Note: +/-5% typical value

Lumen Maintenance

Drive Current	Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Projected L70 (Hours)
Up to 1A	Up to 50°C	> 95%	> 416,000
1.2A	Up to 40°C	> 90%	> 205,000



Energy and Performance Data

View GWC Galleon Wall IES files

4000K/5000K/6000K CCT, 70 CRI

Number of Light Squares		1				2			
Drive Current		615mA	800mA	1050mA	1.2A	615mA	800mA	1050mA	1.2A
Nominal Power (Watts)		34	44	59	67	66	86	113	129
Input Current @ 120V (A)		0.30	0.39	0.51	0.58	0.58	0.77	1.02	1.16
Input Current @ 208V (A)		0.17	0.22	0.29	0.33	0.34	0.44	0.56	0.63
Input Current @ 240V (A)		0.15	0.19	0.26	0.29	0.30	0.38	0.48	0.55
Input Current @ 277V (A)		0.14	0.17	0.23	0.25	0.28	0.36	0.42	0.48
Input Current @ 347V (A)		0.11	0.15	0.17	0.20	0.19	0.24	0.32	0.39
Input Current @ 480V (A)		0.08	0.11	0.14	0.15	0.15	0.18	0.24	0.30
Optics									
T2	Lumens	4,883	5,989	7,412	8,131	9,543	11,703	14,485	15,891
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B2-U0-G3
	Lumens per Watt	144	136	126	121	145	136	128	123
T3	Lumens	4,978	6,105	7,556	8,288	9,729	11,929	14,764	16,196
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	146	139	128	124	147	139	131	126
T4FT	Lumens	5,008	6,140	7,599	8,337	9,783	11,998	14,850	16,290
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	147	140	129	124	148	140	131	126
T4W	Lumens	4,942	6,060	7,502	8,229	9,658	11,843	14,658	16,080
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
	Lumens per Watt	145	138	127	123	146	138	130	125
SL2	Lumens	4,874	5,979	7,399	8,117	9,528	11,684	14,461	15,863
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G3
	Lumens per Watt	143	136	125	121	144	136	128	123
SL3	Lumens	4,976	6,104	7,555	8,287	9,727	11,927	14,763	16,194
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	146	139	128	124	147	139	131	126
SL4	Lumens	4,729	5,799	7,178	7,873	9,239	11,333	14,025	15,387
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4
	Lumens per Watt	139	132	122	118	140	132	124	119
5NQ	Lumens	5,134	6,296	7,793	8,547	10,033	12,303	15,226	16,704
	BUG Rating	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
	Lumens per Watt	151	143	132	128	152	143	135	129
5MQ	Lumens	5,228	6,412	7,935	8,705	10,216	12,529	15,508	17,011
	BUG Rating	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	154	146	134	130	155	146	137	132
5WQ	Lumens	5,242	6,428	7,956	8,728	10,244	12,563	15,548	17,056
	BUG Rating	B3-U0-G1	B3-U0-G2	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	154	146	135	130	155	146	138	132
SLL/SLR	Lumens	4,373	5,365	6,640	7,283	8,547	10,481	12,973	14,231
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	129	122	113	109	130	122	115	110
RW	Lumens	5,087	6,238	7,721	8,472	9,941	12,190	15,088	16,553
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	150	142	131	126	151	142	134	128

*** Nominal lumen data for 70 CRI. BUG rating for 4000K/5000K. Refer to IES files for 3000K BUG ratings.**

3000K CCT, 80 CRI

Number of Light Squares		1				2			
Drive Current		615mA	800mA	1050mA	1.2A	615mA	800mA	1050mA	1.2A
Nominal Power (Watts)		34	44	59	67	66	86	113	129
Input Current @ 120V (A)		0.30	0.39	0.51	0.58	0.58	0.77	1.02	1.16
Input Current @ 208V (A)		0.17	0.22	0.29	0.33	0.34	0.44	0.56	0.63
Input Current @ 240V (A)		0.15	0.19	0.26	0.29	0.30	0.38	0.48	0.55
Input Current @ 277V (A)		0.14	0.17	0.23	0.25	0.28	0.36	0.42	0.48
Input Current @ 347V (A)		0.11	0.15	0.17	0.20	0.19	0.24	0.32	0.39
Input Current @ 480V (A)		0.08	0.11	0.14	0.15	0.15	0.18	0.24	0.30
Optics									
T2	Lumens	3,880	4,759	5,890	6,461	7,583	9,300	11,510	12,628
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	114	108	100	96	115	108	102	98
T3	Lumens	3,956	4,851	6,004	6,586	7,731	9,479	11,732	12,870
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2
	Lumens per Watt	116	110	102	98	117	110	104	100
T4FT	Lumens	3,980	4,879	6,038	6,625	7,774	9,534	11,800	12,945
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	117	111	102	99	118	111	104	100
T4W	Lumens	3,927	4,816	5,961	6,539	7,675	9,411	11,648	12,778
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
	Lumens per Watt	116	109	101	98	116	109	103	99
SL2	Lumens	3,873	4,751	5,880	6,450	7,571	9,285	11,491	12,605
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	114	108	100	96	115	108	102	98
SL3	Lumens	3,954	4,851	6,004	6,585	7,729	9,478	11,731	12,868
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	116	110	102	98	117	110	104	100
SL4	Lumens	3,758	4,608	5,704	6,256	7,342	9,006	11,145	12,227
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B1-U0-G3	B1-U0-G3	B1-U0-G3
	Lumens per Watt	111	105	97	93	111	105	99	95
5NQ	Lumens	4,080	5,003	6,193	6,792	7,973	9,776	12,099	13,274
	BUG Rating	B2-U0-G0	B2-U0-G1	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2
	Lumens per Watt	120	114	105	101	121	114	107	103
5MQ	Lumens	4,154	5,095	6,305	6,917	8,118	9,956	12,323	13,518
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	122	116	107	103	123	116	109	105
5WQ	Lumens	4,166	5,108	6,322	6,936	8,140	9,983	12,355	13,553
	BUG Rating	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
	Lumens per Watt	123	116	107	104	123	116	109	105
SLL/SLR	Lumens	3,475	4,263	5,276	5,787	6,792	8,329	10,309	11,309
	BUG Rating	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G3	B2-U0-G3
	Lumens per Watt	102	97	89	86	103	97	91	88
RW	Lumens	4,042	4,957	6,135	6,732	7,900	9,687	11,990	13,154
	BUG Rating	B2-U0-G1	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B3-U0-G2
	Lumens per Watt	119	113	104	100	120	113	106	102

*** Nominal lumen data for 70 CRI. BUG rating for 4000K/5000K. Refer to IES files for 3000K BUG ratings.**

Control Options

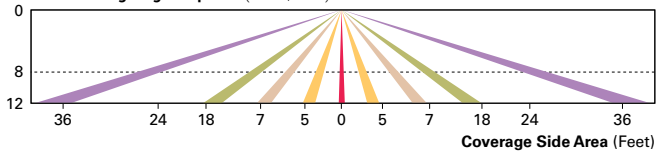
0-10V This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (BPC, PR, and PR7) Optional button-type photocontrol (BPC) and photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PR7 receptacle.

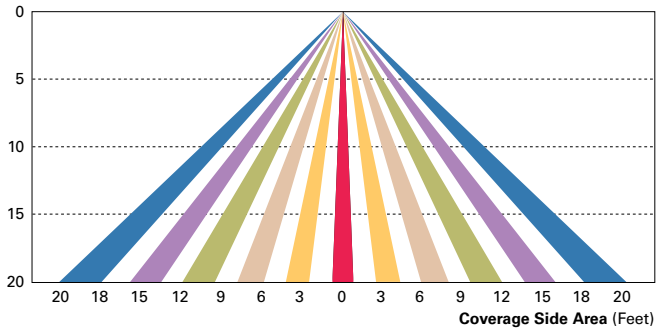
After Hours Dim (AHD) This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (SPB, MS/DIM-LXX and MS-LXX) These sensors are factory installed in the luminaire housing. When the SPB or MS/DIM sensor options are selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes. The MS-LXX sensor is factory preset to turn the luminaire off after five minutes of no activity. SPB motion sensors require the Sensor Configuration mobile application by Wattstopper to change factory default dimming level, time delay, sensitivity and other parameters. Available for iOS and Android devices. The SPB sensor is factory preset to dim down to approximately 10% power with a time delay of five minutes. The MS/DIM occupancy sensors require the FSIR-100 programming tool to adjust factory defaults.

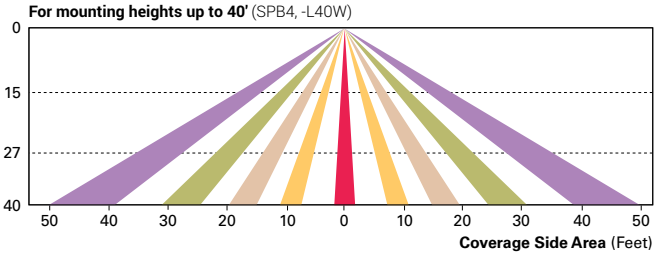
For mounting heights up to 8' (SPB1, -L08)



For mounting heights up to 20' (SPB2, -L20)

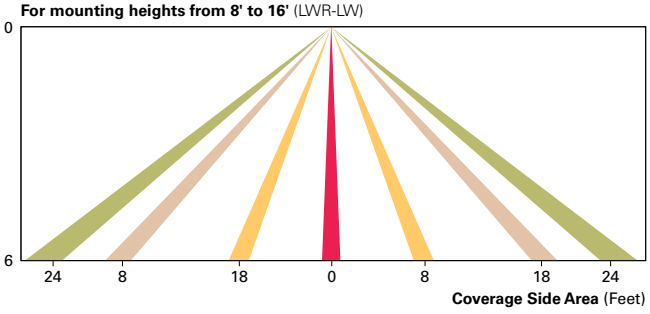


For mounting heights up to 40' (SPB4, -L40W)

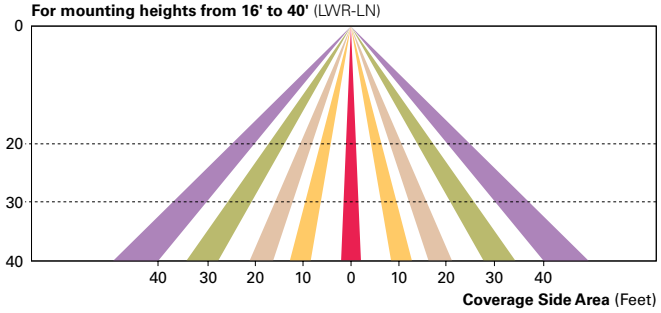


Enlighted Wireless Control and Monitoring System (LWR-LW and LWR-LN) The Enlighted control system is a connected lighting solution, combining LED luminaires with an integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes while collecting valuable data about building performance and use. Software applications utilizing energy dashboards maximize data inputs to help optimize the use of other resources beyond lighting.

For mounting heights from 8' to 16' (LWR-LW)



For mounting heights from 16' to 40' (LWR-LN)



WaveLinx Wireless Outdoor Lighting Control Module (WOLC-7P-10A) The 7-pin wireless outdoor lighting control module enables WaveLinx to control outdoor area, site and flood lighting. WaveLinx controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P. 770-486-4800
www.cooperlighting.com

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Specifications and dimensions
subject to change without notice.

X Series

Project:	Type:
Product Code:	Date:

V021725



3" Wall Mount Cylinder

- Versatile, small diameter cylinder family
- Robust machined aluminum construction
- Wet Listed options for exterior locations

CYLINDER

Mount
Wall

Size
Diameter: 3.5"
Height: 6.5", 9"

Bracket
Standard, Slim

Trims
Standard, Snoot, Wall Wash, Decorative

Finish
White, Black, Brushed Aluminum, Bronze, Custom

LIGHT OUTPUT & DISTRIBUTION

Lumens (Power)
Downlight: 750 lm (9.5W), 1000 lm (12.5W), 1250 lm (14.3W), 1500lm (14.3W)
Adjustable: 750lm (9.5W), 1000lm (12.5W)

Color Quality
93 CRI, 2-step SDCM

Color Temperature
2700K 3000K 3500K
4000K Warm Dim (3000K–1800K)
Tunable White (4000K–1800K)
Tunable White (6500K–2700K)

Beam Spread
20° Narrow Spot
30° Spot
40° Flood
50° Wide Flood

Lighting Type
Downlight | Up and downlight | Adjustable

POWER & CONTROLS

Input Voltage
120/277V

Dimming
0-10V (120/277V): 1%
TRIAC/ELV (120V): 1%
DALI-2 (120/277V): 0.1%

RATINGS & CERTIFICATIONS

Wet Location / IP65 Rated Configurations Available

NSF Listed (White and Black Finish Only)

DarkSky Approved (Downlight with non-decorative trims only, CCT less than or equal to 3000K)

WARRANTY

5 year limited warranty; 50,000 hours

DMF LIGHTING 1118 E. 223rd St. Carson, CA 90745 323.934.7779 info@dmflighting.com dmflighting.com

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PRODUCT BUILDER

CYLINDER	XCW	**XCW**	Wall Mount Cylinder					
SHAPE	R	**R**	Round					
SIZE		**6**	6.5 Inch	**9**	9 Inch			
BRACKET		**W**	Standard (Wet) 💧	**S**	Slim (Damp) [1]			
LIGHT OPTIONS		**D**	Downlight 💧	**A**	Adjustable [2]			
LUMENS DOWN		**07**	750 lm	**10**	1000 lm	**12**	1250 lm [3]	**15**	1500 lm [3]
BEAM SPREAD DOWN		**NS**	Narrow Spot (20°)	**SP**	Spot (30°)	**FL**	Flood (40°)	**WF**	Wide Flood (50°) [3]
SPECIALTY LENS		**0**	None	**H**	Hex Louver [4]				
LUMENS UP [3,5]		**00**	None	**07**	750 lm	**10**	1000 lm	**12**	1250 lm
BEAM SPREAD UP [3,5]		**00**	None	**SP**	Spot (25°)	**FL**	Flood (40°)	**WF**	Wide Flood (60°)
CCT		**27**	2700K	**30**	3000K	**35**	3500K	**40**	4000K
		3W	Warm Dim [6]	**T1**	Tunable White [7] (4000K-1800K)	**T2**	Tunable White [7] (6500K-2700K)		
FINISH [8]		**WH**	White	**BK**	Black	**BA**	Brushed Aluminum		
		BZ	Bronze	**CC**	Custom Color				
DIMMING		**O**	0-10V	**T**	TRIAC/ELV	**D**	DALI-2 [9, 10]		
EMERGENCY		**00**	None						
TRIM DOWN		**S**	Standard	**N**	Snoot (Black Only)	**W**	Wall Wash [3, 10]		
		O	Decorative: Open [3]	**Y**	Decorative: Hyperbolic [3]	**F**	Decorative: Float [3]		
TRIM UP [3]		**[Blank]**	N/A 💧	**S**	Standard 💧	**N**	Snoot [11] (Black Only)		
		O	Decorative: Open [11]	**Y**	Decorative: Hyperbolic [11]	**F**	Decorative: Float [11]		

💧 Required for Wet Location/IP65 rating

[1] Compatible with most 1-Gang Junction Boxes; Damp Location rated
[2] Only available in 750 or 1000 lm
[3] Not available in Adjustable
[4] Only available in 750 or 1000lm; Not available with DALI-2, Decorative or Wall Wash trims; Not available for 1250, 1500lm
[5] Only available in 9" size, Not available for DALI-2 or using Wall Wash trims
[6] Only available in 1000 lm, not available with Narrow Spot
[7] Only available in DALI-2 dimming - 1000lm in Downlight, 750lm for Adjustable; Not available with Narrow Spot beam spread
[8] For Marine Grade select CC
[9] Downlight: Only available in 1000 lm with Warm Dim or Tunable White CCT or 1250 lm with Static CCT
Adjustable: Only available in 1000lm with Warm Dim or Static CCT or 750lm Tunable White
[10] Not available in configurations that include an uplight
[11] Not Wet Location rated

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DOWNLIGHT MODULE PERFORMANCE

Based on 93 CRI, 3000K Downlight Module + Standard White Trim (S) Configuration
(Please refer to IES files for other trim types)

		STATIC CCT				WARM DIM	T1 TUNABLE WHITE	T2 TUNABLE WHITE
LED CHIP		CREE 93 CRI				Bridgelux 93 CRI		
SDCM		2-STEP				3-STEP		
		07	**10**	**12**	**15**	**10**	**10**	**10**
		9.5W	**12.5W**	**14.3W**	**14.3W**	**12.0W**	**14.3W**	**14.3W**
NS	Lumens	843	1099	1221	1418	N/A		
	LPW [1]	93.6	89.4	87.2	98.5			
	CBCP [2]	4005	5224	5804	6738			
	UGR [3]	13.5	14.4	14.8	15.3			
SP	Lumens	801	1045	1161	1348	857	840	991
	LPW	89	85	82.9	93.6	69.7	68.3	80.6
	CBCP	2730	3560	3956	4593	2520	2053	2422
	UGR	13.9	14.9	15.2	15.7	14.2	16.8	15.9
FL	Lumens	813	1061	1179	1369	870	842	994
	LPW	90.4	86.3	84.2	95	70.7	68.5	80.8
	CBCP	1755	2289	2543	2953	1877	1587	1873
	UGR	13.9	14.8	15.2	15.7	14.2	16	15.2
WF	Lumens	807	1052	1169	1357	863	825	974
	LPW	89.6	85.5	83.5	94.2	70.1	67.1	79.1
	CBCP	1120	1461	1623	1885	1198	1296	1529
	UGR	15.6	16.5	16.9	17.4	15.8	14.9	16.8

	STATIC				WARM DIM		T1 TUNABLE WHITE			T2 TUNABLE WHITE		
CCT MULTIPLIER	2700K	3000K	3500K	4000K	1800K	3000K	1800K	3000K	4000K	2700K	3000K	6500K
	0.93	1	1.05	1.07	0.05	1	0.7	1	1.12	0.96	1	1.07

HEX LOUVER MULTIPLIER	0.6

[1] LPW: Lumens per watt
[2] CBCP: Center beam candlepower
[3] UGR: Unified glare ratio (0.7/0.5/0.2, 4H/8H)

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ADJUSTABLE MODULE PERFORMANCE

Based on 93 CRI, 3000K Adjustable Module+ Standard White Trim (S) Configuration
(Please refer to IES files for other trim types)

		STATIC CCT		WARM DIM	T1 TUNABLE WHITE	T2 TUNABLE WHITE
LED CHIP		CREE 93 CRI		Bridgelux 93 CRI		
SDCM		2-STEP		3-STEP		
		07	**10**	**10**	**07**	**07**
		9.5W	**12.5W**	**12.0W**	**12.5W**	**12.5W**
NS	Lumens	729	984	N/A		
	LPW [1]	81	78.7			
	CBCP [2]	5264	7106			
	UGR [3]	14.6	15.6			
SP	Lumens	720	972	915	831	854
	LPW	80	77.8	73.2	69.2	71.1
	CBCP	1876	2532	2385	2164	2224
	UGR	15.5	16.6	16.4	16	16.1
FL	Lumens	739	998	939	853	876
	LPW	82.1	79.8	75.2	71.1	73
	CBCP	1032	1394	1312	1191	1224
	UGR	18.4	19.4	19.2	18.9	19

	STATIC				WARM DIM		T1 TUNABLE WHITE			T2 TUNABLE WHITE		
CCT MULTIPLIER	2700K	3000K	3500K	4000K	1800K	3000K	1800K	3000K	4000K	2700K	3000K	6500K
	0.93	1	1.05	1.07	0.05	1	0.7	1	1.12	0.96	1	1.07

HEX LOUVER MULTIPLIER	0.6

[1] *LPW: Lumens per watt*
[2] *CBCP: Center beam candlepower*
[3] *UGR: Unified glare ratio (0.7/0.5/0.2, 4H/8H)*

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SUMMARY

	STATIC CCT	WARM DIM	TUNABLE WHITE
CCT	2700K, 3000K, 3500K, 4000K	3000K - 1800K	4000K - 1800K; 6500K - 2700K
LUMENS	750 lm (9.5W), 1000 lm (12.5W), 1250 lm (14.3W), 1500 lm (14.3W)	1000 lm (12.0W)	Downlight: 1000 lm (14.3W) Adjustable: 750lm (12.5W)
EFFICACY	79 lm/W, 80 lm/W, 87 lm/W, 91 lm/W	83 lm/W	70 lm/W
COLOR QUALITY	93 CRI*, 2-step SDCM	93 CRI*, 2-step SDCM	93 CRI*, 3-step SDCM
BEAM SPREAD	Narrow Spot (20°), Spot (30°), Flood (40°), Wide Flood (50°)	Spot (30°), Flood (40°), Wide Flood (50°)	Spot (30°), Flood (40°), Wide Flood (50°)
DIMMING	0-10V (120/277V): 1% TRIAC/ELV (120V): 1% DALI-2 (120/277V): 0.1%	0-10V (120/277V): 1% TRIAC/ELV (120V): 1% DALI-2 (120/277V): 0.1%	DALI-2 (120/277V): 0.1%
LED CHIP	Cree	Bridgelux	Bridgelux
LISTINGS	ENERGY STAR® qualified[2], California Title 24 2019 JA8 compliant, UL Listed for Wet Location, UL Certified US·CA, Declare, RoHS compliant, NSF/ANSI 2 listed, suitable for splash-zone[3], DALI-2 Compliant, Compliant to FCC Title 47 Part 15; Class B, Dark Sky Compliant[4]		

[1] Tested in accordance to IESNA LM-79-2008
[2] Refer to ENERGY STAR Certified light fixtures database
[3] This product is evaluated in accordance to NSF/ANSI 2 for Splash Zone having designated trim finishes
[4] Dark SKy approved is only applicable to CCT Options less than or equal to 3000K

ADDITIONAL

INPUT VOLTAGE: 120/277V, 50/60Hz

MAX INPUT CURRENT (120V): 0.11 amps

MAX INPUT CURRENT (277V): 0.05 amps

POWER FACTOR: Greater than 0.9

TOTAL HARMONIC DISTORTION: Less than 20%

AMBIENT OPERATING TEMPERATURE: -20°C to 40°C

LIFETIME: 50,000 hours at 70% lumen maintenance

WARRANTY: 5 year limited warranty

CYLINDER: Extruded aluminum

SIZE: 6.5", 9"

FINISH: White, Black, Bronze, Brushed Aluminum, Custom Color

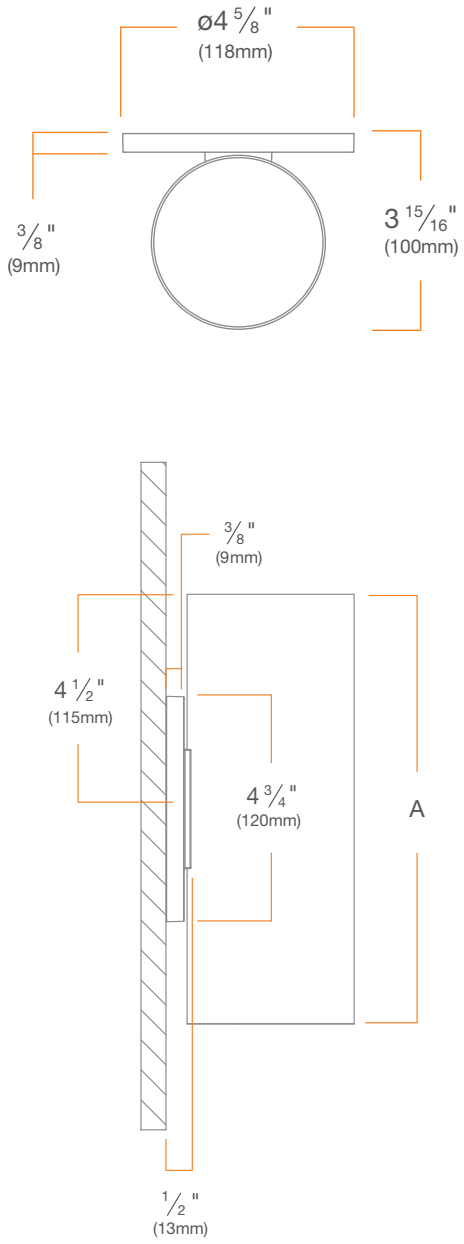
INSTALLATION: Standard Bracket compatible with most 1-gang, 2-gang, 3" octagonal, 4" octagonal, 3" round and 4" round boxes. Slim Bracket compatible with most 1-gang junction boxes.

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CYLINDER DIMENSION

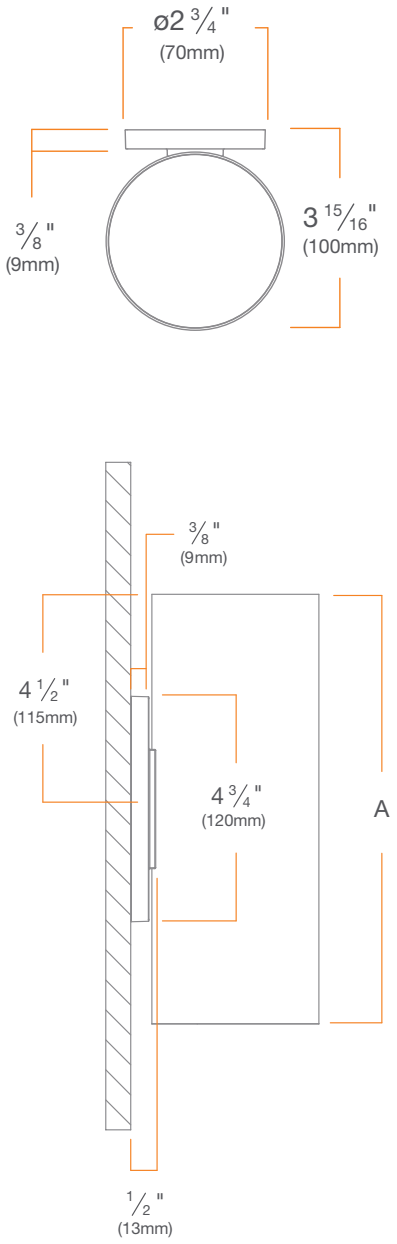
3" Wall Mount, Standard Bracket (Wet Location)

XCWR9W



3" Wall Mount, Slim Bracket (Damp Location)

XCWR9S



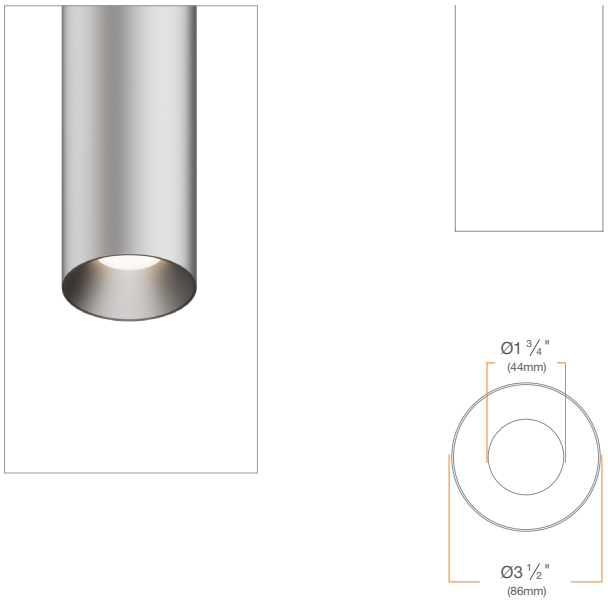
A
6.5" [165 mm]
9" [229 mm]

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TRIMS + DOWNLIGHT MODULE

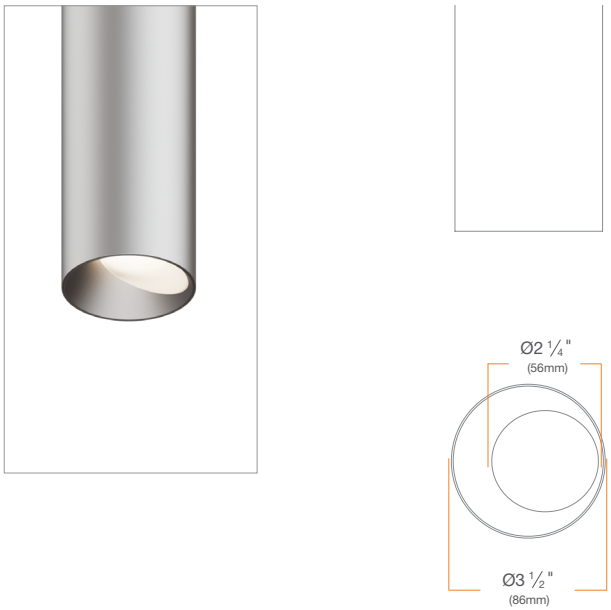
Standard Trim

XCCX-S



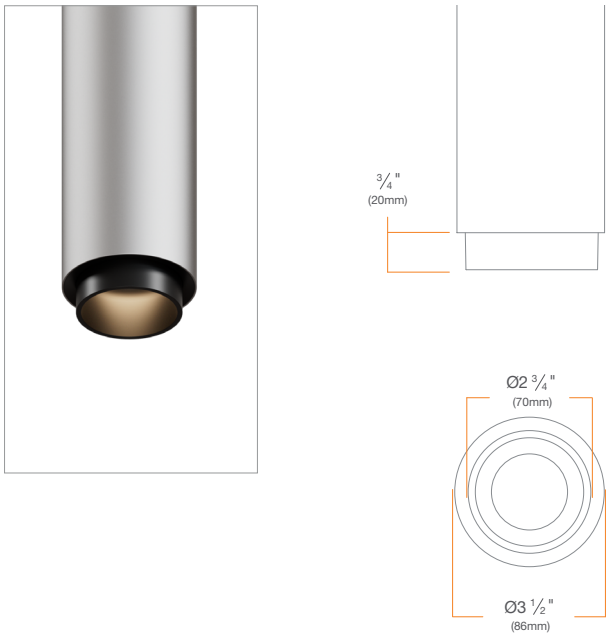
Wall Wash Trim

XCCX-W



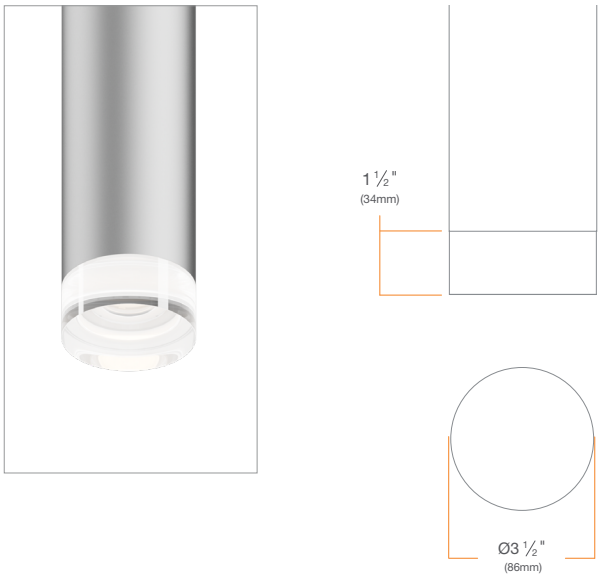
Snoot Trim

XCCX-N



Decorative Float Trim

XCCX-F



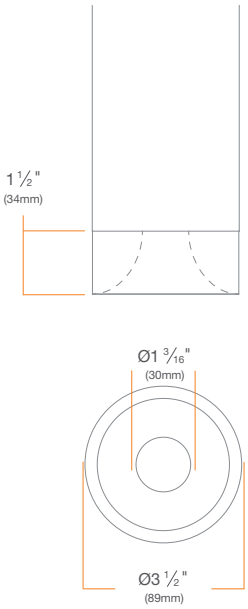
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TRIMS + DOWNLIGHT MODULE

Decorative Hyperbolic Trim

XCCX-Y

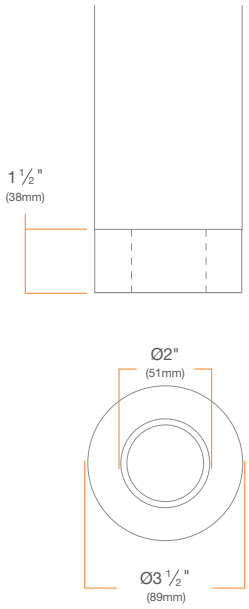




Decorative Open Trim

XCCX-O



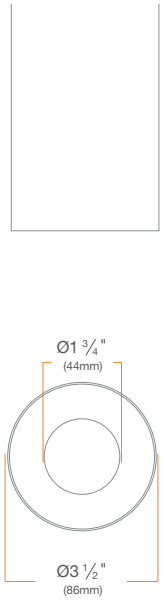


TRIMS + ADJUSTABLE MODULE

Standard Trim

XCCX-S

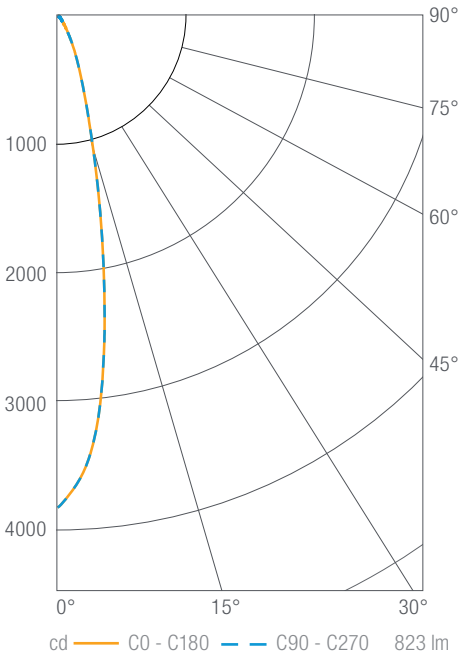




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PHOTOMETRY

X Series Cylinder 750 lm, 3000K, Narrow Spot



Luminous Intensity

Gamma	C 0˚
0º	3916
5º	3377
10º	2127
15º	1092
20º	574
25º	336
30º	186
35º	103
40º	62
45º	42
50º	29
55º	21
60º	17
65º	13
70º	10
75º	7
80º	4
85º	2
90º	0

Values in candela

Zonal Lumen Summary

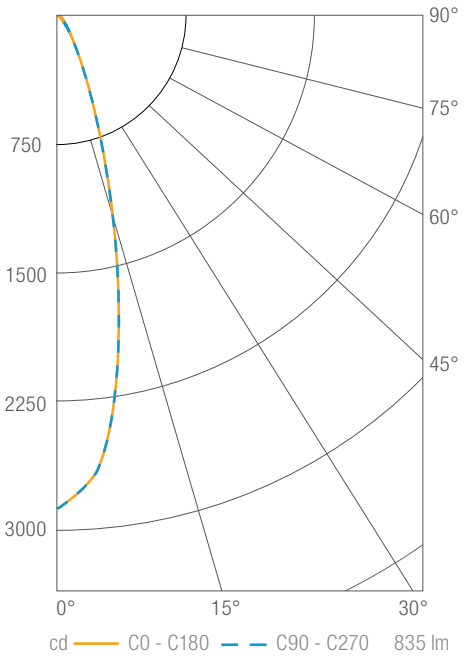
Zone	Lumens	Luminaire %
0-30	704	86
0-40	761	92
0-60	804	98
0-90	823	100
0-180	823	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3'	435	1.1'
6'	109	2.3'
9'	48	3.4'
12'	27	4.5'

Beam Angle: 21°

X Series Cylinder 750 lm, 3000K, Spot



Luminous Intensity

Gamma	C 0˚
0º	2848
5º	2649
10º	2003
15º	1237
20º	675
25º	364
30º	203
35º	119
40º	71
45º	45
50º	31
55º	22
60º	18
65º	14
70º	10
75º	7
80º	5
85º	2
90º	1

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	701	84
0-40	768	92
0-60	815	98
0-90	835	100
0-180	835	100

Illuminance Chart

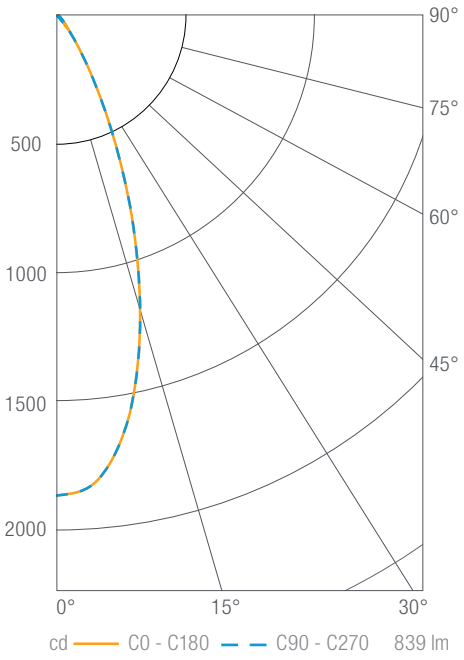
Distance from LED	Foot Candles	Diameter
3'	317	1.5'
6'	79.1	2.9'
9'	35.2	4.4'
12'	19.8	5.9'

Beam Angle: 28°

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PHOTOMETRY

X Series Cylinder 750 lm, 3000K, Flood



Luminous Intensity

Gamma	C 0˚
0º	1831
5º	1786
10º	1578
15º	1239
20º	858
25º	516
30º	276
35º	142
40º	77
45º	46
50º	29
55º	19
60º	15
65º	12
70º	9
75º	6
80º	4
85º	2
90º	1

Values in candela

Zonal Lumen Summary

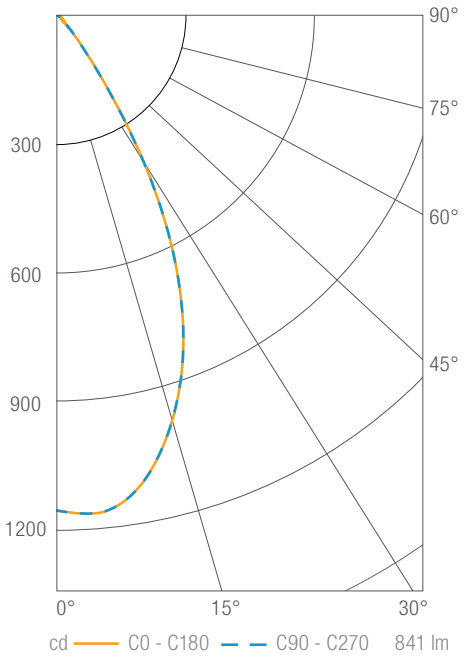
Zone	Lumens	Luminaire %
0-30	688	82
0-40	773	92
0-60	821	98
0-90	839	100
0-180	839	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3'	204	2.1'
6'	51	4.2'
9'	23	6.3'
12'	13	8.4'

Beam Angle: 39°

X Series Cylinder 750 lm, 3000K, Wide Flood



Luminous Intensity

Gamma	C 0˚
0º	1158
5º	1167
10º	1120
15º	1017
20º	872
25º	681
30º	449
35º	221
40º	97
45º	48
50º	28
55º	21
60º	17
65º	14
70º	11
75º	8
80º	5
85º	2
90º	0

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	645	77
0-40	770	92
0-60	820	98
0-90	841	100
0-180	841	100

Illuminance Chart

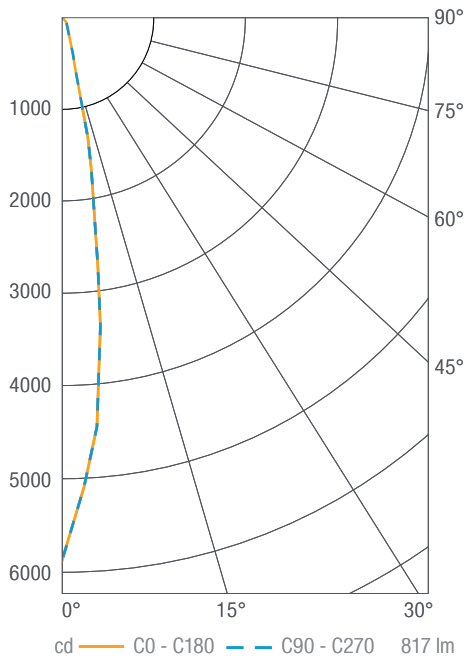
Distance from LED	Foot Candles	Diameter
3'	129	3.1'
6'	32.2	6.2'
9'	14.3	9.2
12'	8	12.3'

Beam Angle: 54°

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PHOTOMETRY

X Series Cylinder Adjustable, 750 lm, 3000K, Narrow Spot



Luminous Intensity

Gamma	C 0°
0°	5897
5°	4418
10°	1911
15°	561
20°	280
25°	165
30°	117
35°	87
40°	69
45°	57
50°	47
55°	38
60°	31
65°	23
70°	16
75°	10
80°	4
85°	1
90°	0

Values in candela

Zonal Lumen Summary

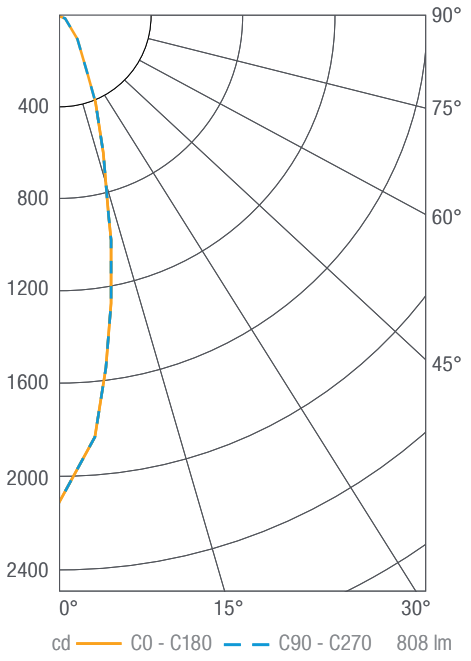
Zone	Lumens	Luminaire %
0-30	645	79
0-40	701	86
0-60	781	96
0-90	817	100
0-180	817	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3'	655	0.8'
6'	164	1.7'
9'	73	2.5'
12'	41	3.3'

Beam Angle: 16°

X Series Cylinder Adjustable, 750 lm, 3000K, Spot



Luminous Intensity

Gamma	C 0°
0°	2105
5°	1826
10°	1282
15°	800
20°	497
25°	310
30°	201
35°	137
40°	98
45°	73
50°	57
55°	45
60°	35
65°	23
70°	12
75°	5
80°	3
85°	2
90°	0

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	573	71
0-40	668	83
0-60	773	96
0-90	808	100
0-180	808	100

Illuminance Chart

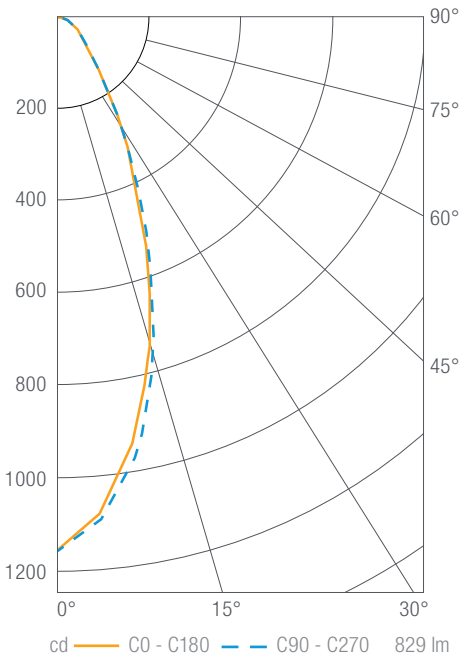
Distance from LED	Foot Candles	Diameter
3'	234	1.3'
6'	58	2.6'
9'	26	3.9'
12'	15	5.2'

Beam Angle: 28°

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PHOTOMETRY

X Series Cylinder Adjustable, 750 lm, 3000K, Flood



Luminous Intensity

Gamma	C 0˚
0º	1158
5º	1081
10º	941
15º	765
20º	576
25º	414
30º	288
35º	192
40º	130
45º	96
50º	76
55º	61
60º	49
65º	38
70º	28
75º	18
80º	10
85º	4
90º	0

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	510	62
0-40	633	76
0-60	766	92
0-90	829	100
0-180	829	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3'	129	2.2'
6'	32	4.5'
9'	14	6.7'
12'	8	9.0'

Beam Angle: 41°

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Section 32

Site Photographs

Section 32: Photographs



Figure 1. Standing east of existing parking garage on Smith Street, facing east toward the proposed Lot 3.



Figure 2. Standing east of existing parking garage, facing south toward Pearl Street. See Lot 3 on the left and Lot 2 on the right.



Figure 3. Standing east of existing parking garage, facing east toward Lot 3.



Figure 4. Standing east of existing parking garage, facing southeast toward Lot 3.



Figure 5. Standing east of existing parking garage, facing northwest toward the rear of Lot 3. See 1 Gooch Street building in background.



Figure 6. Standing near base of existing Cell Tower (Lot 4), facing west toward Lot 3 and parking garage (Lot 2).



Figure 7. Standing near base of existing Cell Tower east of Lot 3, facing northwest toward Cell Tower and partial rear of lot 3.



Figure 8. Overview of Lot 3.

Section 33

Waivers

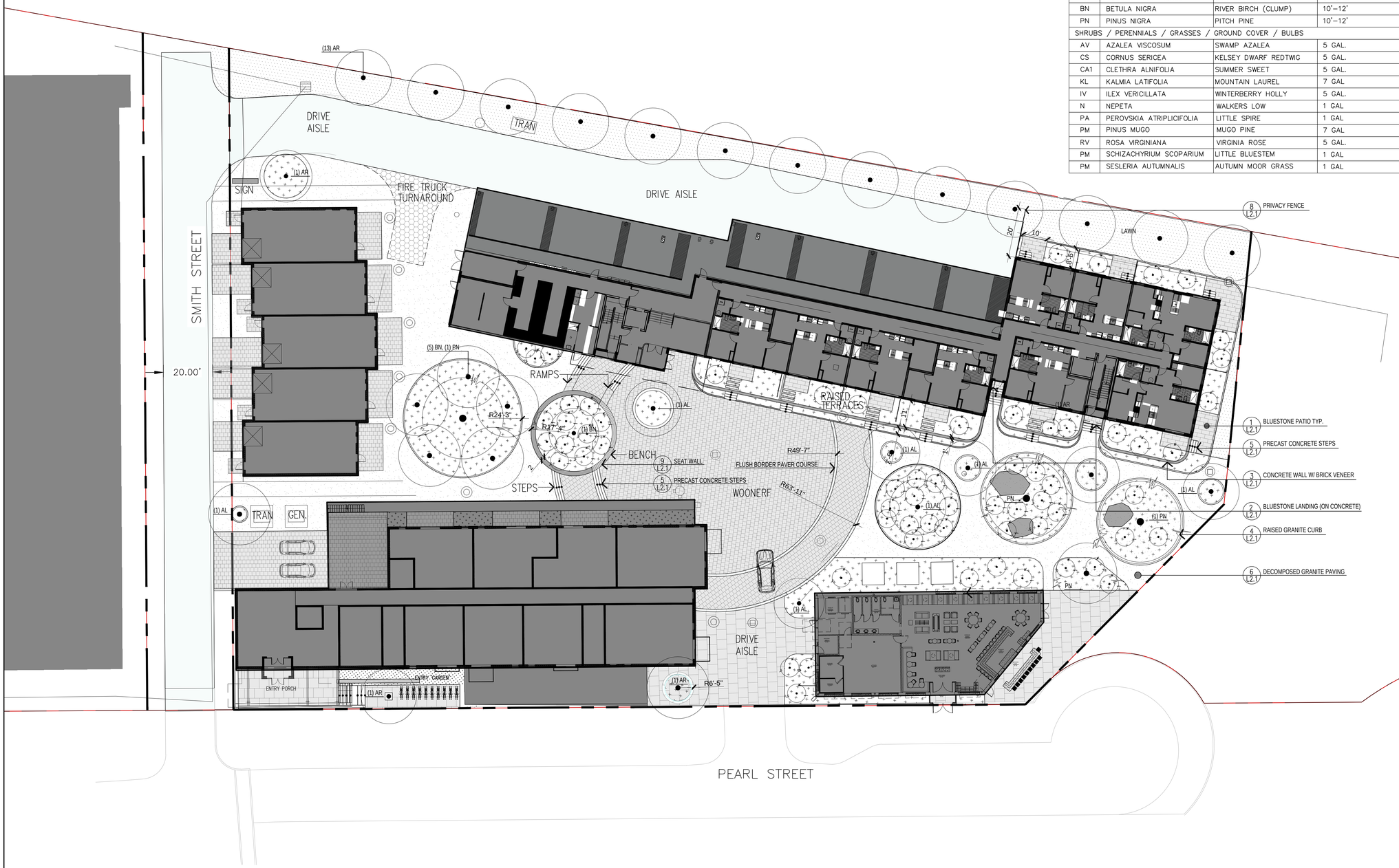
Section 33: Waivers

The project does propose the following Waivers.

1.) The project proposes to waive the commercial space parking requirements.

PLANT SCHEDULE

ID	BOTANICAL NAME	COMMON NAME	SIZE
DECIDUOUS TREES			
AL	AMELANCHIER 'LUSTRE'	SERVICEBERRY	10'–12'
AR	ACER X 'FRANKSRED'	SUNSET MAPLE	3" CAL.
BN	BETULA NIGRA	RIVER BIRCH (CLUMP)	10'–12'
PN	PINUS NIGRA	PITCH PINE	10'–12'
SHRUBS / PERENNIALS / GRASSES / GROUND COVER / BULBS			
AV	AZALEA VISCOSUM	SWAMP AZALEA	5 GAL.
CS	CORNUS SERICEA	KELSEY DWARF REDTWIG	5 GAL.
CA1	CLETHRA ALNIFOLIA	SUMMER SWEET	5 GAL.
KL	KALMIA LATIFOLIA	MOUNTAIN LAUREL	7 GAL
IV	ILEX VERICILLATA	WINTERBERRY HOLLY	5 GAL.
N	NEPETA	WALKERS LOW	1 GAL
PA	PEROVSKIA ATRIPLICIFOLIA	LITTLE SPIRE	1 GAL
PM	PINUS MUGO	MUGO PINE	7 GAL
RV	ROSA VIRGINIANA	VIRGINIA ROSE	5 GAL.
PM	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	1 GAL
PM	SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS	1 GAL



SYMBOLS LEGEND

HARDSCAPE

- PRECAST CONCRETE STEPS
- BLUESTONE PAVING
- UNIT PAVER MASONRY (GENESTE PORTLAND PLAZA PAVER XXL)
- UNIT PAVER MASONRY (TECHO BLOC BLUE 80)
- STABILIZED TURF SEE CIVIL ENG. DETAILS
- BITUMINOUS PAVING SEE CIVIL ENG. DETAILS
- PIP RADIUS BRICK VENEERED CONCRETE BENCH W/ WOOD TOP
- BICYCLE PARKING
- PROPOSED BOULDER 5' DIA. MIN
- STABILIZED STONE DUST PAVING
- BRICK CLAD RETAINING WALL
- RAISED BRICK CURB
- PRIVACY SCREEN | PARTITION (L2.1, DETAIL 8)

PLANTS

- PERENNIAL PLANTING BEDS
- LAWN
- PROPOSED DECIDUOUS TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUB

0 10 20 40 N

SITE PLAN AMENDMENT
NOT FOR CONSTRUCTION

Soren deNiord Design Studio
43 Wellwood Road
Portland, ME
04103
T: 207-400-2450
E: soren@sorendeniord.com

PEARL STREET: LOT 3

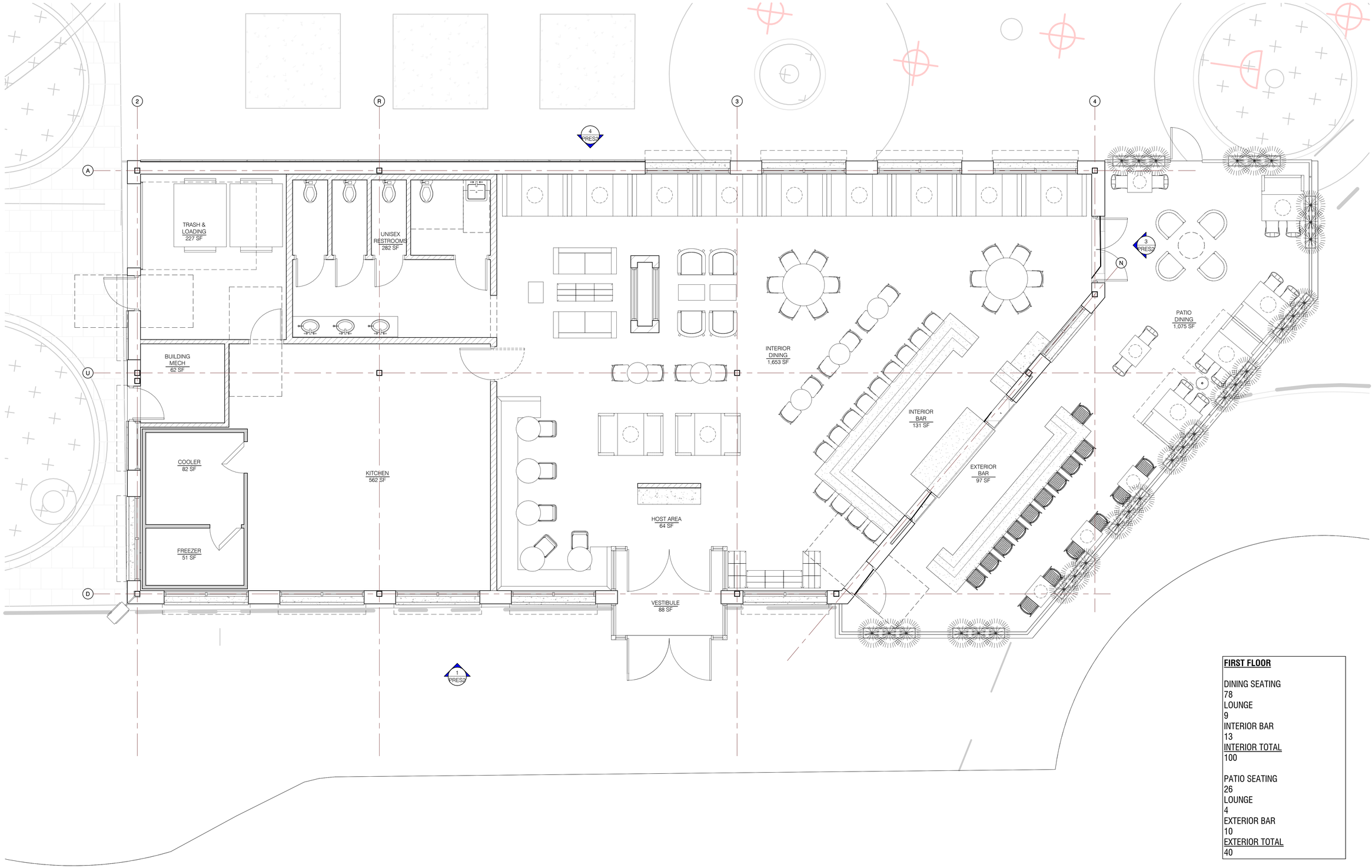
BIDDEFORD, MAINE

No:	Revision	Date:

issue:
date: JUNE 6, 2025
scale: As Noted
drawn: XX
checked: XX

L1.0

LANDSCAPE PLAN



FIRST FLOOR

DINING SEATING
78
LOUNGE
9
INTERIOR BAR
13
INTERIOR TOTAL
100

PATIO SEATING
26
LOUNGE
4
EXTERIOR BAR
10
EXTERIOR TOTAL
40

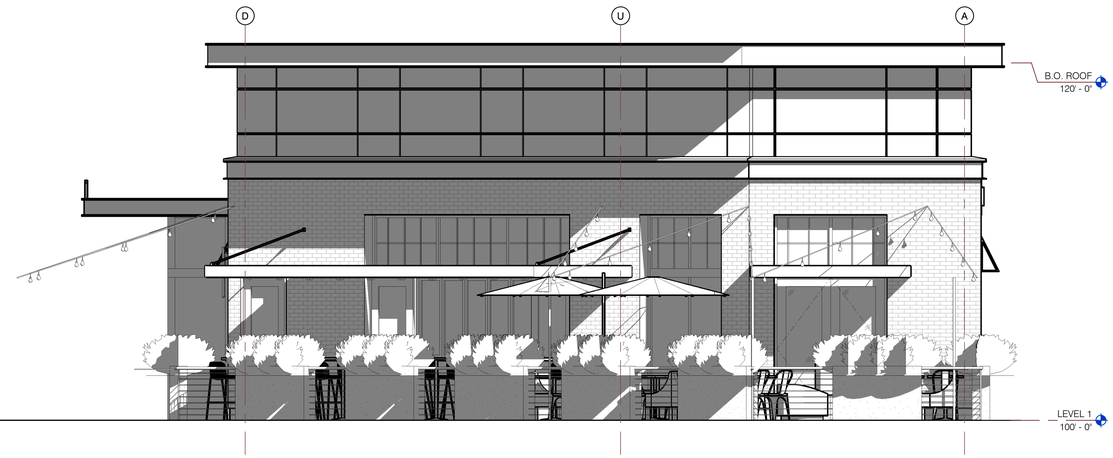
1 PRES1 UPDATED BUILDING PLAN
SCALE: 1/4" = 1'-0"



4 PRES2 EXTERIOR ELEVATION - NORTH
SCALE: 1/4" = 1'-0"



2 PRES2 EXTERIOR ELEVATION - WEST
SCALE: 1/4" = 1'-0"



3 PRES2 EXTERIOR ELEVATION - EAST
SCALE: 1/4" = 1'-0"



1 PRES2 EXTERIOR ELEVATION - SOUTH
SCALE: 1/4" = 1'-0"

PEARL STREET (LOT 3) REDEVELOPMENT

3 LINCOLN, LLC
BIDDEFORD, ME

LEGEND

EXISTING

REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION

PROPOSED

- TURF PAVER
- PAVEMENT
- CONCRETE
- STONE DUST
- BRICK PAVER
- LANDSCAPED AREA
- GRAVEL
- STRIPING
- EROSION CONTROL MIX BERM — ECB
- EDGE OF PAVEMENT
- CURB
- FENCE
- SIGN
- LIGHTING BOLLARD
- LAMP OR LIGHT POLE
- UTILITY POLE
- GUY WIRE
- WATER VALVE
- SEWER VALVE
- GAS VALVE
- FIRE HYDRANT
- SEWER MANHOLE
- SEWER PUMP STATION
- CATCH BASIN
- DRAIN MANHOLE
- TELECOM/ELECTRICAL MANHOLE
- UNDERGROUND ELECTRIC LINE — UGE
- UNDERGROUND TELECOM/CABLE — UGT / C
- UNDERGROUND WATER LINE — 4"W
- MINOR CONTOURS (1 FT) — 64
- MAJOR CONTOURS (5 FT) — 65
- GAS LINE — GAS
- STORM DRAIN LINE
- SEWER LINE — FM
- EXISTING/PROPOSED BUILDING
- OVERHEAD ELECTRICAL/TELEPHONE/CABLE — OHE/T/C
- PROPERTY LINE

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EX	EXISTING CONDITIONS SURVEY DATED 2/28/25 BY OWEN HASKELL, INC.
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CALL BEFORE YOU DIG
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1-888-344-7233

UTILITIES

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(207) 284-9118

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93 INDUSTRIAL PARK ROAD
SACO, MAINE 04072
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(207) 207-842-2367

TELEPHONE:

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(207) 745-9363

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SPECTRUM CABLE
118 JOHNSON ROAD
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CONTACT: DAN MINCHEV
(207) 253-2334

NATURAL GAS:

UNITIL SERVICE CORP.
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
CONTACT: SCOTT CARPENTER
(207) 541-2543

TELECOMUNICATIONS

FIRSTLIGHT FIBER
PORTLAND, MAINE
CONTACT: MIKE ELLINGWOOD
(888)-832-4976

WAIVERS:
1. THE PROJECT PROPOSES TO WAIVE THE COMMERCIAL PARKING REQUIREMENT FROM THE CITY OF BIDDEFORD LAND DEVELOPMENT REGULATIONS PART III – ARTICLE VI – SECTION 49 OFF-STREET PARKING AND LOADING

TOTAL DISTURBED AREA: 90,329 SF
PROJECT AREA: 90,629 SF

PERVIOUS LAND AREA
EXISTING: NEARLY 5,755± SF (MERC FACILITY)
PROPOSED: 21,745 SF

IMPERVIOUS LAND AREA
EXISTING: 84,874± SF (MERC FACILITY)
PROPOSED: 68,884 SF

BUILDING ROOF AREA
EXISTING: 65,000± SF
PROPOSED: 31,056 SF

PROJECT TEAM

DEVELOPER:

3 LINCOLN, LLC
PORTLAND, MAINE
CONTACT: JIM BRADY
(207) 317-2818

ARCHITECT:

KAPLAN THOMPSON ARCHITECTS
PORTLAND, MAINE
CONTACT: JESSE THOMPSON, R.A.
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SURVEYOR:

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FALMOUTH, MAINE
CONTACT: RANDY LOUBIER, PLS
(207) 774-0424

CIVIL ENGINEER:

ACORN ENGINEERING, INC.
PORTLAND, MAINE
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(207) 775-2655

LANDSCAPE ARCHITECT:

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(207) 400-2450

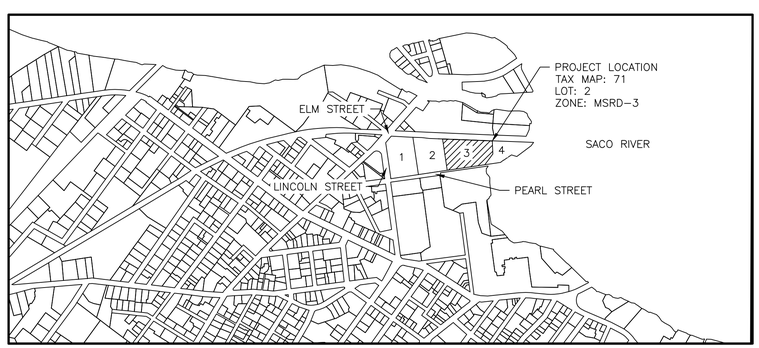
GEOTECHNICAL ENGINEER:

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(207) 318-7761

STRUCTURAL ENGINEER:

THORNTON TOMASETTI
PORTLAND, MAINE
CONTACT: MATT LEGERE, P.E.
(207) 245-6060

PLANNING BOARD NUMBER	2022.02
EXISTING USE	VACANT LOT (PREVIOUSLY MERC FACILITY)
PROPOSED USE	APARTMENTS/RESTAURANT
DRAINAGE WATERSHED	SACO RIVER
MS4 URBANIZED AREA	YES
NEARBY NATURAL RESOUCES	YES (SACO RIVER)
WITHIN 100-YEAR FLOOD ZONE	NO
PUBLIC ROAD PROPOSED	NO
PRIVATE ROAD PROPOSED	NO
PUBLIC SEWER CONNECTION	YES
PUBLIC STORMDRAIN CONNECTION	YES



VICINITY MAP
1" = 200'

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

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: COVER SHEET & LEGEND
PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE
OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND SHALL NOT BE USED BY OTHERS OR FOR OTHER PROJECTS. ANY MODIFICATION OR REUSE WITHOUT WRITTEN AUTHORIZATION BY ACORN ENGINEERING, INC. SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC
PO BOX 4337 PORTLAND, MAINE 04101
(207) 775-2655

FILE: 1124_CIVIL
JN: 1124
SCALE: AS NOTED
DESIGNED BY: PFH
DRAWN BY: ZMS
CHECKED BY: WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE (IF APPLICABLE), ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.

4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE CITY OF BIDDEFORD AND SERVICING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.

5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN .DWG FORMAT AND PAPER, STAMPED "AS-BUILT". IF AUTOCAD CAPABILITY IS NOT AVAILABLE, EXCLUDE FROM BID IN WRITING.

6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.

7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED EXISTING CONDITIONS SURVEY BY OWEN HASKELL, DATED 2/28/25.

8. SUBSURFACE DATA TO BE INCLUDED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT, PREPARED BY SUMMIT GEOENGINEERING SERVICES, DATED 6/14/22, PRIOR TO SUBMITTING A BID.

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE BIDDEFORD DEPARTMENT OF PUBLIC WORKS AND ENGINEERING DEPARTMENT ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.

10. CONSTRUCTION MANAGEMENT PLAN AND SITE LOGISTICS NARRATIVE SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.

12. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT-OF-WAY.

13. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM FOR ADJACENT STRUCTURES AND STRONGLY RECOMMENDED FOR STRUCTURES DIRECTLY ACROSS THE SITE ALONG PEARL STREET. A COPY OF THE SURVEY SHOULD BE PROVIDED TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.

14. THE CONTRACTOR SHALL SURVEY ROCK SURFACE PRIOR TO EXCAVATION AND DEVELOP VOLUME CALCULATIONS TO SHARE WITH THE ENGINEER, ACORN ENGINEERING INC. (ACORN), IF ANY.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY. REMOVAL OF WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE END OF THE WARRANTY PERIOD. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.

2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.

4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.

5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.

6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.

8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.

9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.

10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILLING, CONCRETE SHALL BE CURED PER STRUCTURAL ENGINEER'S SPECIFICATIONS.

11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.

12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.

13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.

14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).

15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAVER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

SPECIAL INSPECTION NOTES

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.

2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN 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.

   5.4. SPECIAL INSPECTOR SHALL BE EMPLOYED BY OWNER AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A LICENSED PROFESSIONAL LAND SURVEYOR.

2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF BIDDEFORD, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.

6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE MAJOR SUBDIVISION AND SITE PLAN PERMIT FROM THE CITY OF BIDDEFORD, PERMIT FROM THE SACO RIVER CORRIDOR COMMISSION, A MAINE DEP STORMWATER PERMIT, AND A TRAFFIC MOVEMENT PERMIT FROM THE MAINE DOT.
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 BIDDEFORD. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS. SEE BORING LOGS FOR ADDITIONAL INFORMATION.

3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.

4. THE MINIMUM SLOPE SHALL MEET OR EXCEED 1% 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 SUMMIT GEOENGINEERING SERVICES, DATED 6/14/22.

6. NO ADDITIONAL PAYMENT WILL BE MADE FOR UNSUITABLE MATERIALS THAT MAY EXIST ON SITE.

7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.

8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

9. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.

10. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER, IF APPLICABLE.

EROSION CONTROL NOTES:

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.

2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.

3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.

4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.

5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.

7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

2. CONTRACTOR 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. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.

4. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.

5. CONTRACTOR TO PROVIDE 5.5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.

6. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.

7. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE MAINE WATER COMPANY STANDARD CONSTRUCTION SPECIFICATIONS AND PROCEDURES, MOST RECENT REVISION.

8. 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 BIDDEFORD, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.

9. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE MAINE WATER COMPANY AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.

10. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE MAINE WATER COMPANY SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

12. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.

13. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.

14. 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 BIDDEFORD TECHNICAL MANUAL PRIOR TO ANY WORK.

15. 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.

16. ALL PIPE LINES 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.

17. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.

18. 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.

19. 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,

20. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.

21. 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.

22. EXCAVATION TO SUBRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.

23. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

DEMOLITION NOTES:

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:
   - ROCK AND CONCRETE FOUNDATIONS
   - CONCRETE SLABS
   - BITUMINOUS ASPHALT PAVEMENT
   - CONCRETE PADS AND BLOCKS
   - FENCE POST AND FENCING
   - UNDERGROUND UTILITY LINES
   - ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
   - STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
   - OTHER TRASH & MISCELLANEOUS SOLID WASTES

2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED

3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.

4. THE PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT, PROVIDED BY CREDERE ASSOCIATES, LLC DATED 9/18/2012, IS TO BE REVIEWED BY CONTRACTOR.

5. THE PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT, PROVIDED BY CREDERE ASSOCIATES, LLC DATED 10/25/2012, IS TO BE REVIEWED BY CONTRACTOR.

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SKETCH PLAN	PFH	10/23/24
PRELIMINARY	PFH	10/20/22
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SRCC	PFH	1/4/23
FINAL SITE PLAN	PFH	7/17/23
SITE PLAN AMENDMENT	PFH	6/11/25

DRAWING NAME: GENERAL NOTES

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

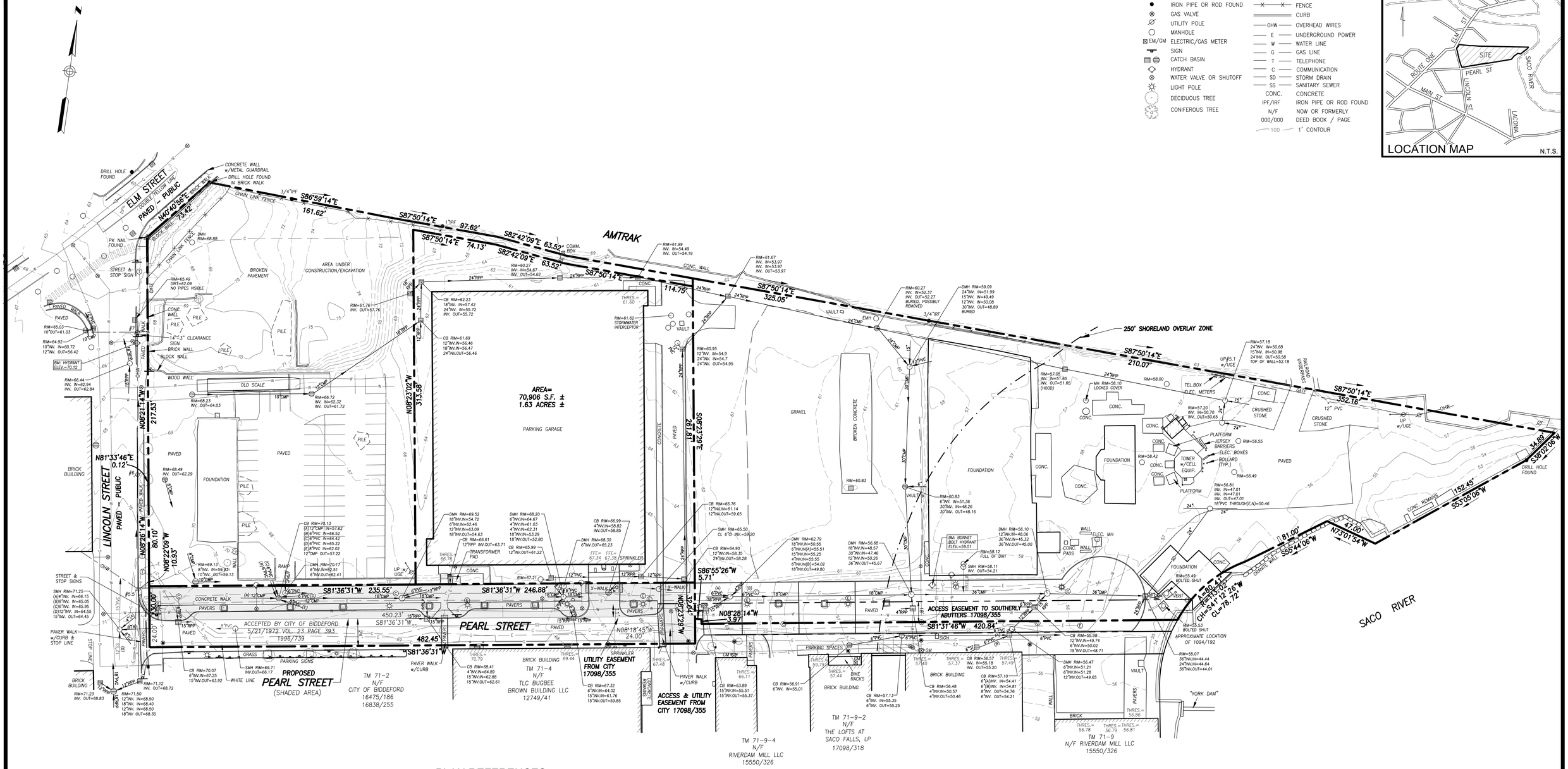
THE ACORN ENGINEERING, INC. LOGO TYPE, AND THE DESIGNS INCORPORATED HEREIN, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF ACORN ENGINEERING, INC. WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THE REUSE OF ANY OF THESE DESIGNS WITHOUT THE WRITTEN PERMISSION AND CONSENT OF ACORN ENGINEERING, INC. SHALL BE PROHIBITED AND ANY REUSE, WITHOUT SUCH PERMISSION AND CONSENT OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
70 JOHN ROAD, SANFORD, MAINE 04101
PO BOX 340, SACO, MAINE 04101
(207) 775-2655

FILE: 1124_CIVIL
JN: 1124
SCALE: AS NOTED
DESIGNED BY: PFH
DRAWN BY: ZMS
CHECKED BY: WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-02



PLAN REFERENCES

1. PLAN SHOWING LAND SURVEYED FOR MAINE ENERGY RECOVERY COMPANY BIDDEFORD MAINE BY DOW & COULOMBE, INC. DATED JANUARY 15, 1985 REVISED THROUGH OCT. 4, 1986.

2. ALTA/ACSM LAND TITLE SURVEY (URBAN) MADE FOR MAINE ENERGY RECOVERY COMPANY BIDDEFORD, MAINE BY DOW & COULOMBE, INC. DATED MARCH 15, 1996 REVISED THROUGH MAY 14, 2009.

3. ALTA/NSPS LAND TITLE SURVEY AT 75 SACO FALLS WAY, BIDDEFORD, MAINE MADE FOR THE LOFTS AT SACO FALLS, LP BY OWEN HASKELL, INC. DATED JULY 30, 2015 REVISED THROUGH 12-20-16.

4. EXHIBIT PLAN OF EASEMENT AT 75 SACO FALLS WAY, BIDDEFORD, MAINE MADE FOR THE LOFTS AT SACO FALLS, LP BY OWEN HASKELL, INC. DATED AUGUST 27, 2015 REVISED THROUGH DEC. 20, 2106.

5. EXISTING CONDITIONS SURVEY ON PEARL STREET, BIDDEFORD, MAINE MADE FOR MILONE & MCBROOM BY OWEN HASKELL, INC. DATED APRIL 19, 2018.

6. LAND DIVISION PLAN ON LINCOLN STREET & PEARL STREET BIDDEFORD, MAINE MADE FOR DESMAN DESIGN MANAGEMENT BY OWEN HASKELL, INC. DATED FEB. 4, 2020.

7. EXISTING CONDITIONS SURVEY ON PEARL STREET, BIDDEFORD, MAINE MADE FOR CITY OF BIDDEFORD BY OWEN HASKELL, INC. DATED AUGUST 5, 2021, REVISED THROUGH 9/29/21.

8. CONTRACTOR PROVIDED AS-BUILT PLANS: PEARL STREET RECONSTRUCTION PROJECT, BIDDEFORD, MAINE, FEB. 4, 2022 BY SEWALL, SHEETS C4-A, C-4B, C-5A & C-5B.

UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.

GENERAL NOTES

1. OWNER OF RECORD: CITY OF BIDDEFORD
TAX MAP 71 LOT 2
Y.C.R.D. BOOK 16838 PAGE 255
Y.C.R.D. BOOK 16475 PAGE 186

2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83.

3. ELEVATIONS ARE BASED ON NAVD 88 DATUM.

4. THE PURPOSE OF THIS PLAN IS TO UPDATE THE EXISTING CONDITIONS OF PEARL STREET AND THE LAND TO THE WEST OF THE EXISTING PARKING GARAGE. THE FEATURES SHOWN EAST OF THE PARKING GARAGE PARCEL AND NORTH OF PEARL STREET ARE TAKEN FROM PLAN REFERENCE #7 AND HAVE NOT BEED RE-SURVEYED IN 2025.

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.

_____
DATE

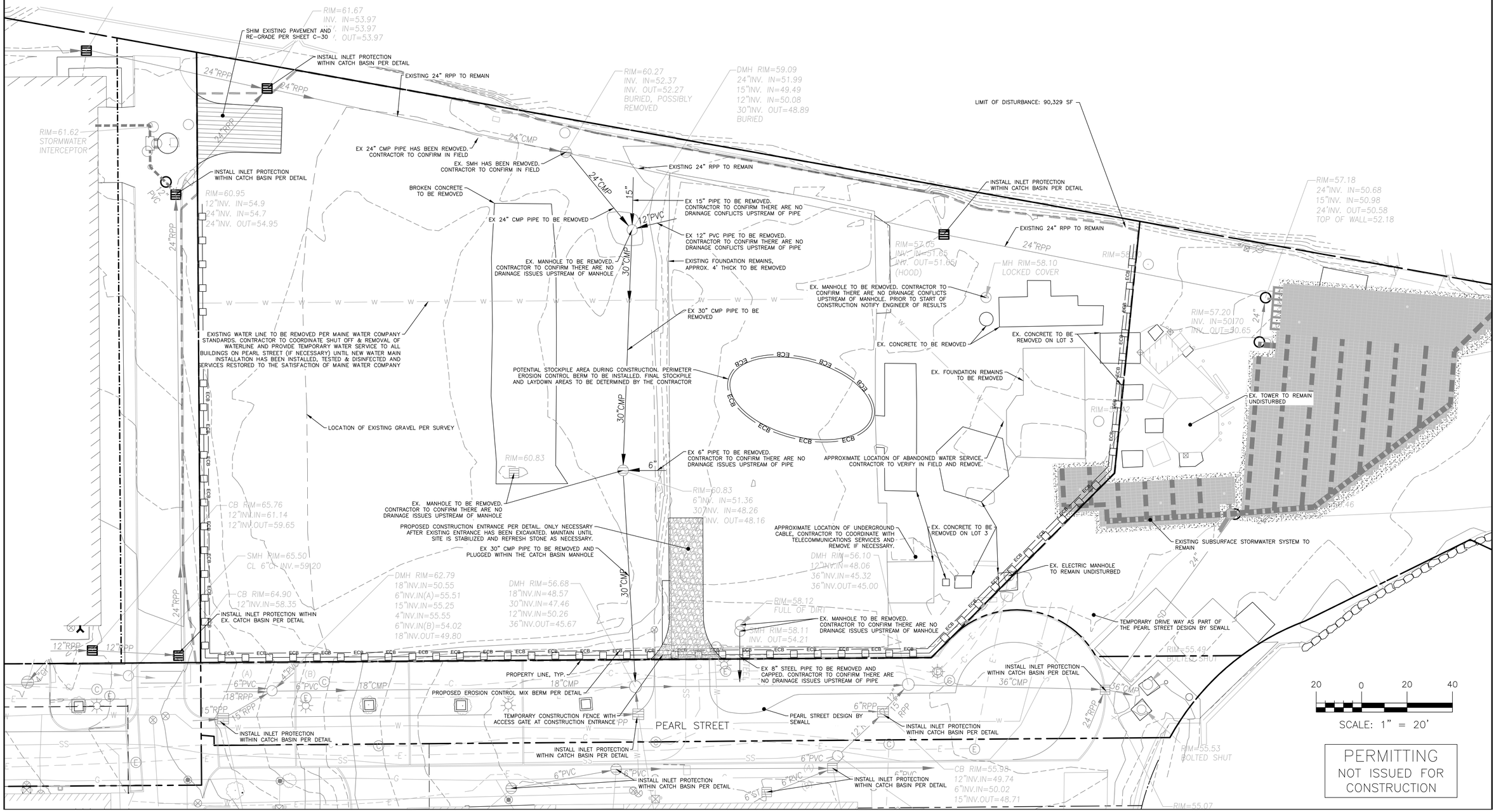
Existing Conditions Survey
On
Pearl Street, Biddeford, Maine
Made for
Acorn Engineering, Inc.
P.O. Box 3372 Portland, Maine 04104

OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 U.S. ROUTE ONE, UNIT 10, FALMOUTH, MAINE 04105

DRAWN BY: RRL / JLW	DATE: FEB. 28, 2025	JOB NO. 2024-334 B-Y	
CHECKED BY: RRL	SCALE: 1" = 40'	DRWG. NO. 1	

GENERAL NOTES:

1. EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
2. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" TO DEMONSTRATE PROPER DISPOSAL OF ALL MATERIALS.
3. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE POTENTIAL CONFLICT WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
5. ALL CONSTRUCTION SIGNAGE IS TEMPORARY AND WILL BE REMOVED AT PROJECT COMPLETION. FINAL SIGNAGE WORDING AND PLACEMENT LOCATION TO BE ACCEPTED BY THE CITY.
6. SEDIMENT BARRIERS TO BE PLACED DIRECTLY ON THE FRONT AND SIDE PROPERTY LINES, DOWN GRADIENT OF THE PROPOSED PROJECT WORK PER DETAIL; FENCES ARE OFFSET OF THE PROPERTY LINES AS SHOWN ON THE PLAN FOR CLARITY PURPOSES AND DO NOT NECESSARILY DEPICT THE PHYSICAL LOCATION.
7. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN-GRADIENT OF ALL NON-STABILIZED SURFACES, PER DETAIL.
8. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF BIDDEFORD REGULATIONS.
9. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING OFF-SITE PARKING TO EMPLOYEES; ON-SITE PARKING WILL NOT BE PROVIDED OR GUARANTEED. CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING THE APPROPRIATE PERMITS FROM THE CITY FOR CLOSING ANY ON-STREET PARKING SPACES DURING THE CONSTRUCTION PERIOD.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW REMOVAL ALONG CONSTRUCTION FENCE AND GATE.
11. CONTRACTOR TO PROVIDE ACCESS TO EXISTING BUSINESSES ALONG PEARL STREET THROUGH THE DURATION OF CONSTRUCTION.
12. ALL EXISTING STORM DRAINS SHOWN IN THE PLAN SET ARE TO BE REMOVED. PLEASE REFER TO C-30 FOR PROPOSED STORMWATER INFRASTRUCTURE IMPROVEMENTS. CONTRACTOR TO ENSURE ANY EXISTING UNDERDRAIN OR FOOTING DRAIN CONNECTIONS REMAIN OPERATIONAL. CONTRACTOR TO NOTIFY ENGINEER IF ANY SUBSURFACE STORM DRAINS NOT SHOWN ON PLAN ARE ENCOUNTERED DURING CONSTRUCTION.
13. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT, PREPARED BY SUMMIT GEOENGINEERING SERVICES, DATED 6/14/22. BEDROCK AND APPROXIMATELY 4'± THICK CONCRETE SLABS ARE ANTICIPATED TO BE ENCOUNTERED IN CERTAIN AREAS. CONTRACTOR TO ACCOUNT FOR APPROPRIATE BLASTING AND/OR REMOVAL OF MATERIALS REQUIRED TO INSTALL SITE IMPROVEMENTS, INCLUDING UTILITIES, AS DEPICTED WITHIN THE PLAN SET. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY BLASTING PERMITS, IF APPLICABLE
14. CONTRACTOR IS REQUIRED TO CONTACT THE CITY'S ENGINEERING DEPARTMENT PRIOR TO MAJOR LAND DISTURBANCE, FOR AN INITIAL E&SC INSPECTION ONCE ALL PERIMETER CONTROL DEVICES HAVE BEEN INSTALLED.
15. CONTRACTOR IS REQUIRED TO PROPERLY MAINTAIN ALL E&SC BMPS THROUGHOUT CONSTRUCTION AND AFTER RAINFALL EVENTS VIA RECORDED INSPECTION LOGS/REPORTING.
16. CONTRACTOR TO IMPLEMENT DUST CONTROL MEASURES AND KEEP SEDIMENT FROM ACCUMULATING IN PEARL STREET AND ALONG THE PEARL STREET SIDEWALK EXTENSION FRONTAGE.



PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: CONSTRUCTION MANAGEMENT & REMOVALS PLAN

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC
70 ALFRED ROAD, ALFRED, MAINE 04101
PO BOX 432 (207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT THE WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THIS PLAN WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-03

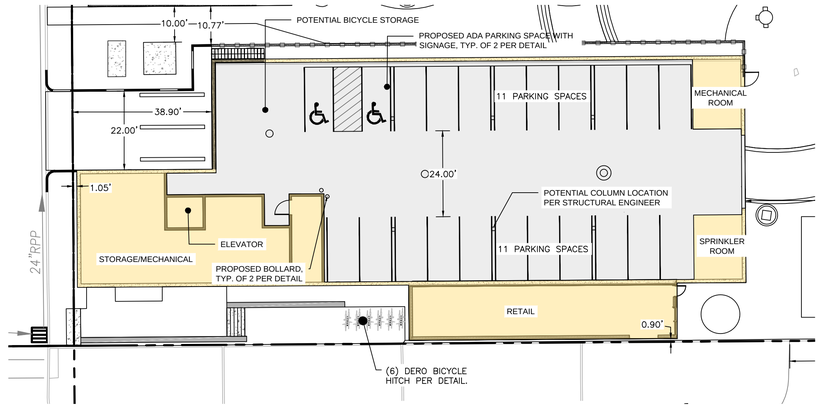
LOT 3 SPACE AND BULK STANDARDS			
ZONE:	REQUIRED (MSRD3)	REQUIRED (WR)	PROPOSED LOT 3
MINIMUM LOT SIZE	NONE	NONE (WITHIN EX. STRUCTURES ONLY)	2.08 AC
MINIMUM STREET FRONTAGE	NONE	–	322'
MINIMUM FRONT YARD SETBACK	NONE	–	0.57'
MINIMUM REAR YARD SETBACK	NONE	–	27.40'
MINIMUM SIDE YARD SETBACK	NONE	–	1.05'
MINIMUM BUILDING HEIGHT	MIN. 2 STORIES OR 26 FEET	–	SEE ELEVATIONS PER ARCHITECT
MINIMUM SHORE FRONTAGE	–	NONE (WITHIN EX. STRUCTURES ONLY)	N/A
SACO RIVER SETBACK (INCLUDING PARKING AREAS)	–	100' FROM NORMAL HIGH-WATER LINE	116.32'
SACO RIVER NO-CUT ZONE (SRCC)	–	75'	N/A
MAX LOT COVERAGE	100%	70% WITHN SHORELAND ZONE	TOTAL: 76% SHORELAND: 69.7%
MINIMUM LOT AREA PER USE	–	RESIDENTIAL: 425 SF/UNIT COMMERCIAL: 5,000 SF/STRUCTURE	RESIDENTIAL: 638 SF/UNIT COMMERCIAL: 90,629 SF/STRUCTURE

PARKING SUMMARY			
USE	UNITS	SPACES REQUIRED	PROPOSED
BUILDING A	52	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 42+20 = 62 SPACES***	22
–	–	INCREASE OF 5% (OF 52 SPACES) TO ALLOW FOR VISITORS = 3 SPACES	–
RETAIL	1,110 SF	1 SPACE / 300 SF OF FLOOR SPACE = 3 SPACES*	0
BUILDING B	85	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 59+52 = 111 SPACES***	18
–	–	INCREASE OF 5% (OF 85 SPACES) TO ALLOW FOR VISITORS = 4 SPACES	–
BUILDING C	154 SEATS	1 SPACE / 3 SEATS = 52 SPACES*	0
TOWNHOMES (BUILDING D)	5	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 5 SPACES	5
ADA (8'X18')	–	–	4
STANDARD (9'X18')	–	–	41
TOTAL SPACES	–	240 – 55* = 185	45
ADDITIONAL SPACES TO BE PROVIDED IN PARKING GARAGE	–	140**	(45+140) =185

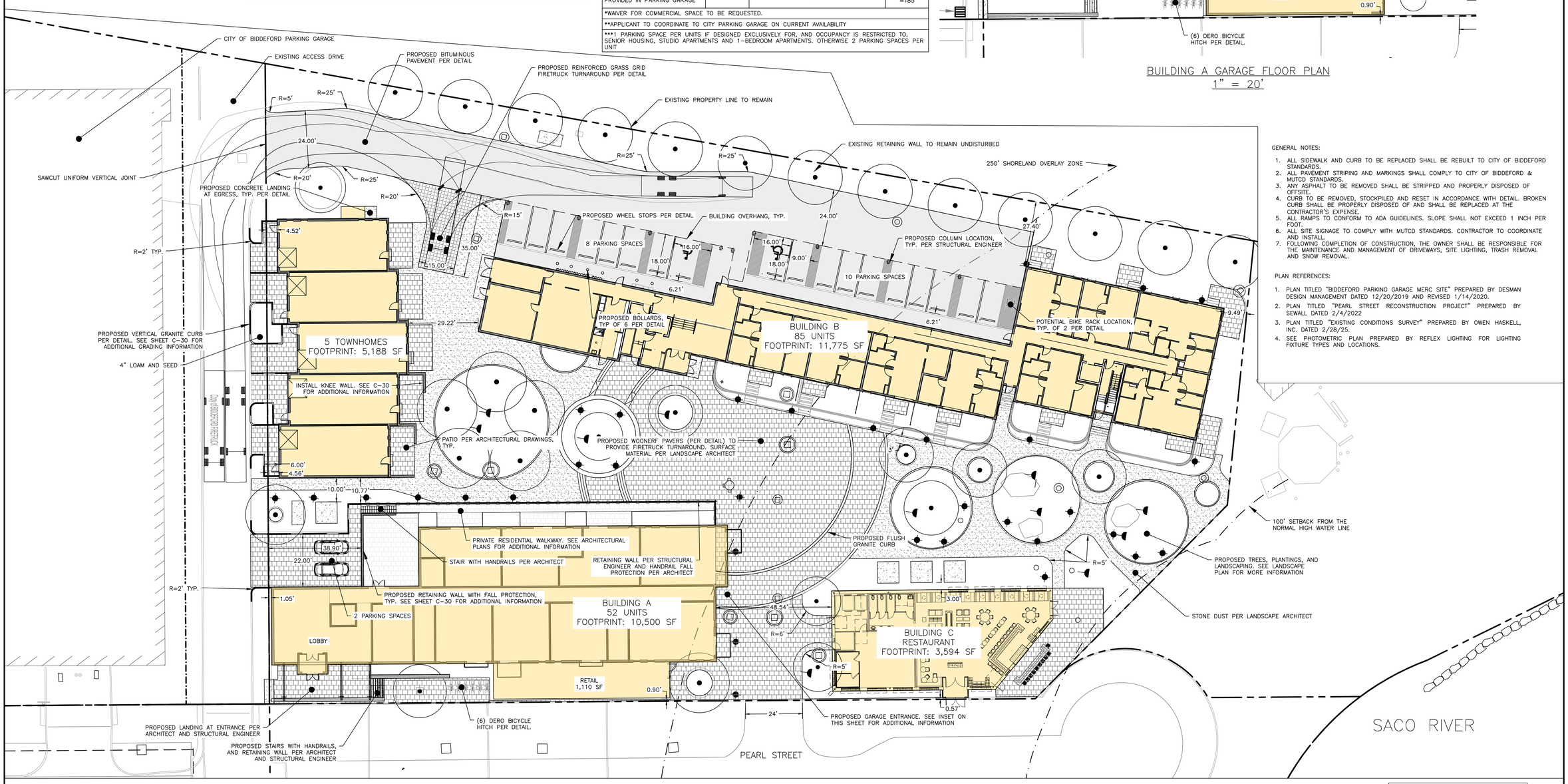
*WAIVER FOR COMMERCIAL SPACE TO BE REQUESTED.

**APPLICANT TO COORDINATE TO CITY PARKING GARAGE ON CURRENT AVAILABILITY

***1 PARKING SPACE PER UNITS IF DESIGNED EXCLUSIVELY FOR, AND OCCUPANCY IS RESTRICTED TO, SENIOR HOUSING, STUDIO APARTMENTS AND 1-BEDROOM APARTMENTS. OTHERWISE 2 PARKING SPACES PER UNIT



BUILDING A GARAGE FLOOR PLAN
1" = 20'



GENERAL NOTES:

1. ALL SIDEWALK AND CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF BIDDEFORD STANDARDS.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF BIDDEFORD & MUTCD STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.

PLAN REFERENCES:

1. PLAN TITLED "BIDDEFORD PARKING GARAGE MERC SITE" PREPARED BY DESMAN DESIGN MANAGEMENT DATED 12/20/2019 AND REVISED 1/14/2020.
2. PLAN TITLED "PEARL STREET RECONSTRUCTION PROJECT" PREPARED BY SEWALL DATED 2/4/2022
3. PLAN TITLED "EXISTING CONDITIONS SURVEY" PREPARED BY OWEN HASKELL, INC. DATED 2/28/25.
4. SEE PHOTOMETRIC PLAN PREPARED BY REFLEX LIGHTING FOR LIGHTING FIXTURE TYPES AND LOCATIONS.

20 0 20 40
SCALE: 1" = 20'

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SKETCH PLAN	PFH	10/23/24
PRELIMINARY	PFH	10/20/22
DEP SW AMENDMENT	PFH	11/7/22
SRCC	PFH	1/4/23
FINAL SITE PLAN	PFH	7/13/23
SITE PLAN AMENDMENT	PFH	6/11/25

DRAWING NAME: SITE PLAN

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

ALL PLANS, DESIGNS, DRAWINGS AND SPECIFICATIONS PREPARED BY ACORN ENGINEERING, INC. ARE AND SHALL REMAIN THE PROPERTY OF ACORN ENGINEERING, INC. AND ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT, WITHOUT THE WRITTEN AUTHORIZATION OF ACORN ENGINEERING, INC. ALL PLANS SHALL BE RETURNED TO ACORN ENGINEERING, INC. UPON REQUEST, UNLESS PERMISSION IS GRANTED BY ACORN ENGINEERING, INC. TO ALLOW THE PLANS TO BE RETAINED BY THE OWNER OR OTHERWISE. ANY REUSE OF THESE PLANS BY ANY PERSON, FIRM OR CORPORATION FOR ANY OTHER PROJECT, EXTENSIONS TO THIS PROJECT OR ON ANY OTHER SITE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
72 PINE STREET, SACO, MAINE 04101
PO BOX 3357, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1124_CIVIL
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DRAWN BY:	ZMS
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STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-10

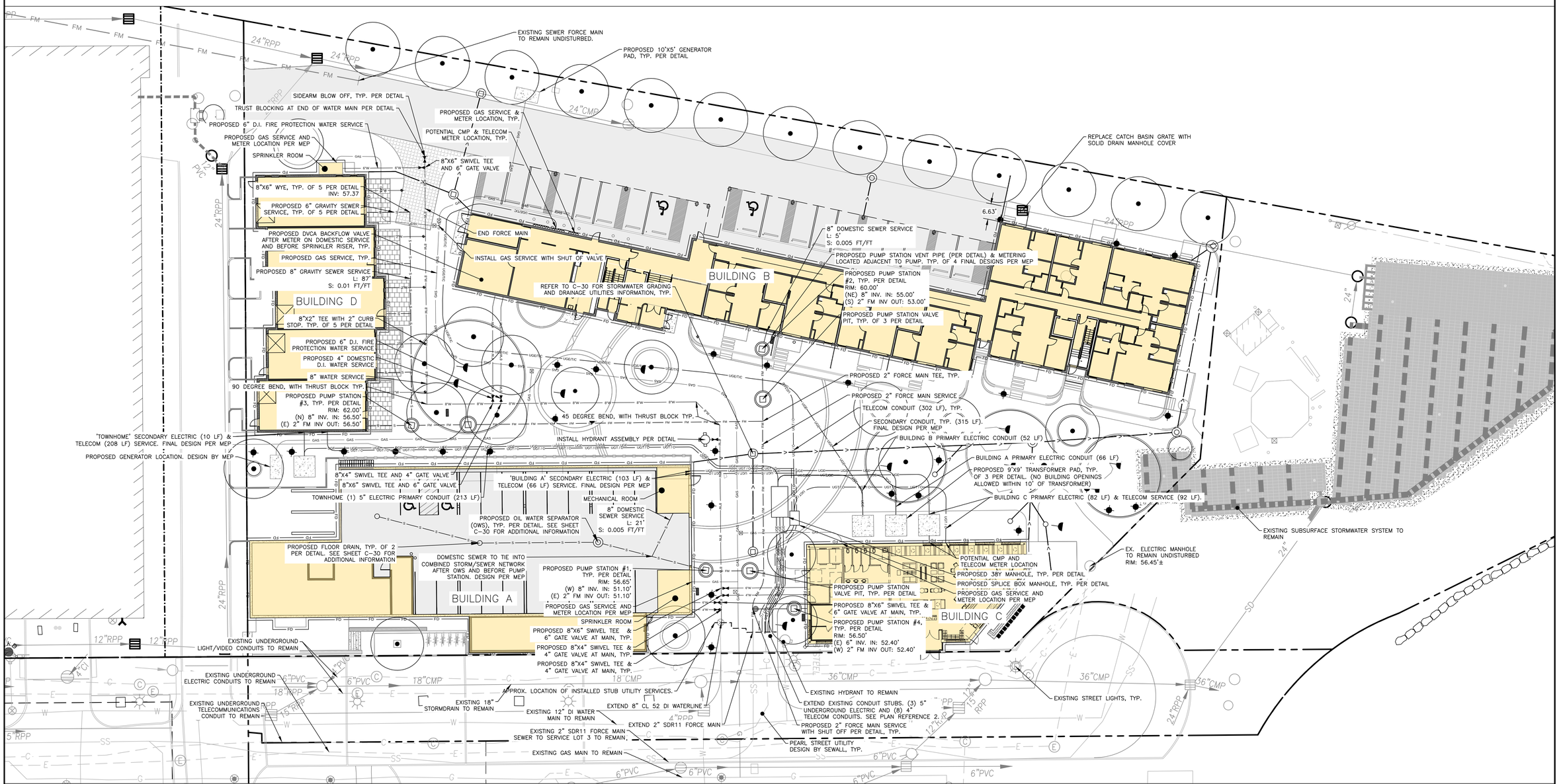
GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BIDDEFORD TECHNICAL STANDARDS. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE MAINE WATER COMPANY STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES OF THE MAINE WATER COMPANY AND CITY OF BIDDEFORD.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P.. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY SPECTRUM AND CONSOLIDATED COMMUNICATIONS PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.
10. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT, PREPARED BY SUMMIT GEOENGINEERING SERVICES, DATED 6/14/22. BEDROCK AND 4' THICK CONCRETE SLABS ARE ANTICIPATED TO BE ENCOUNTERED IN CERTAIN AREAS. CONTRACTOR TO ACCOUNT FOR APPROPRIATE BLASTING AND/OR REMOVAL OF MATERIALS REQUIRED TO INSTALL SITE IMPROVEMENTS, INCLUDING UTILITIES, AS DEPICTED WITHIN THE PLAN SET.

MINIMUM HORIZONTAL UTILITY SEPARATION

UTILITY	UGE/T/C	WATER	SEWER	GAS	STORMWATER
UGE/T/C	–	6'	5'	4'	6'
WATER	6'	–	5'*	6'	3'
SEWER	5'	5'*	–	5'	10'
GAS	4'	6'	5'	–	3'
STORMWATER	6'	3'	10'	3'	–

*PERMISSIBLE ONLY IF SEWER IS LAID MIN. 18" BELOW WATER SERVICE; OTHERWISE, 10' OF HORIZONTAL SEPARATION MUST BE MAINTAINED.



20 0 20 40

SCALE: 1" = 20'

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SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: UTILITY PLAN

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

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ACORN ENGINEERING, INC.
70 JOHN ROAD, SUITE 1, CANTON, MAINE 04101
PO BOX 421, CANTON, MAINE 04221
(207) 775-2655

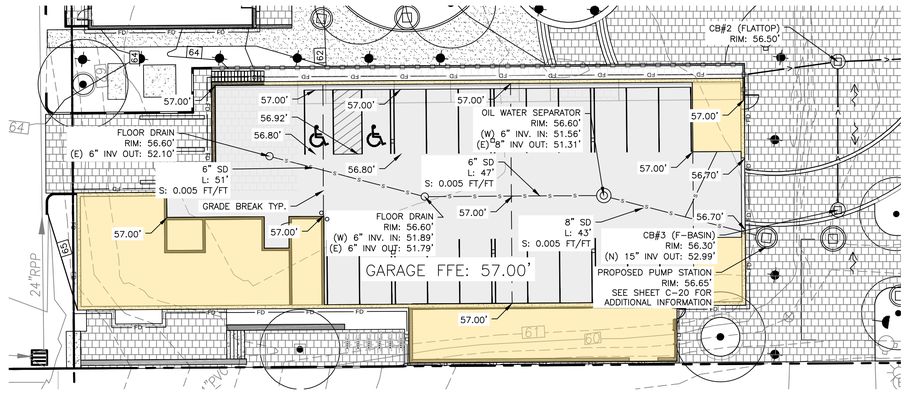
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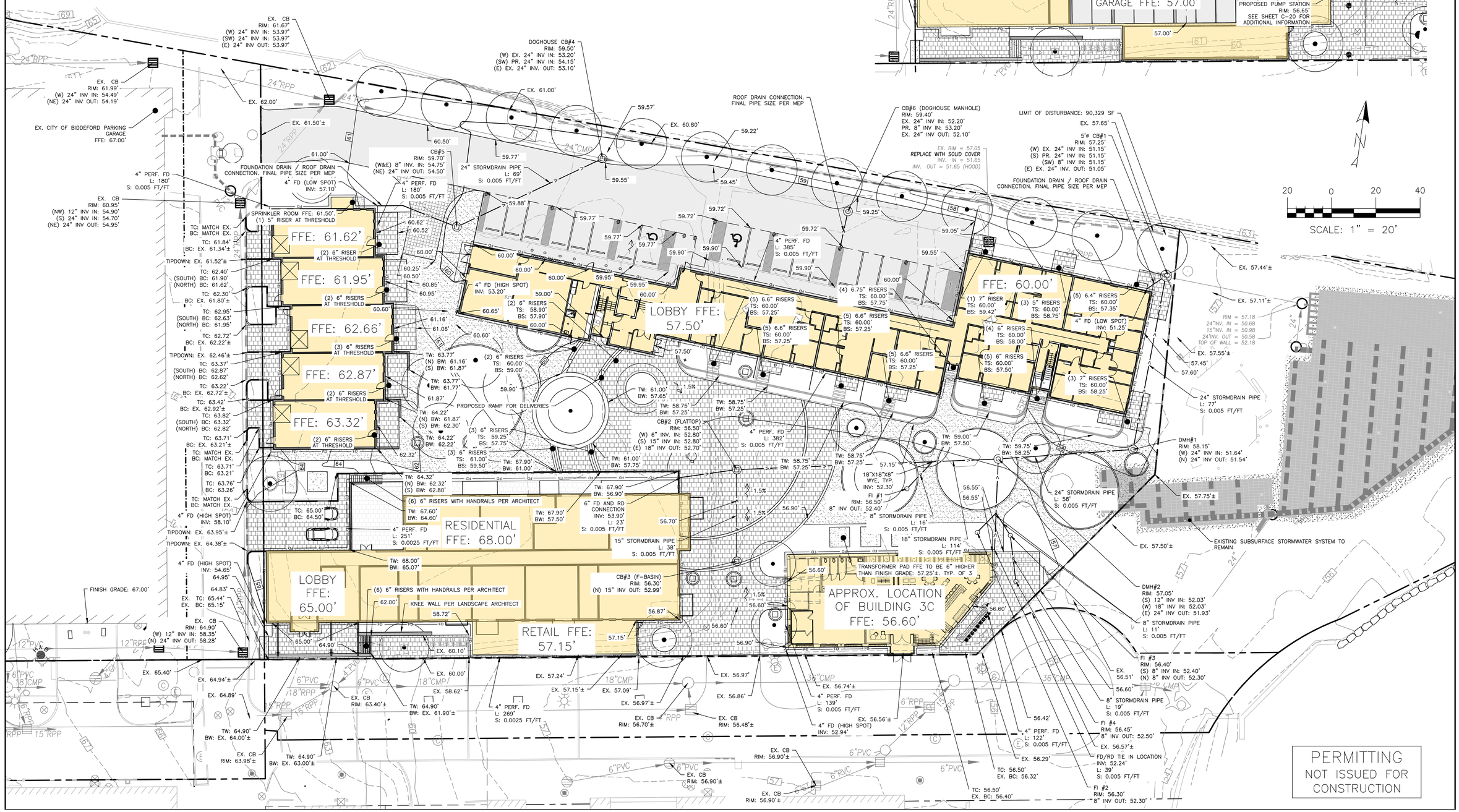
STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-20

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF BIDDEFORD TECHNICAL MANUAL STANDARDS.
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
6. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT, PREPARED BY SUMMIT GEOENGINEERING SERVICES, DATED 6/14/22. BEDROCK AND APPROX 4± FEET THICK CONCRETE SLABS ARE ANTICIPATED TO BE ENCOUNTERED IN CERTAIN AREAS. CONTRACTOR TO ACCOUNT FOR APPROPRIATE BLASTING AND/OR REMOVAL OF MATERIALS REQUIRED TO INSTALL SITE IMPROVEMENTS, INCLUDING UTILITIES, AS DEPICTED WITHIN THE PLAN SET.
7. INSTALL 2" RIGID INSULATION ON ALL DRAINAGE PIPES WITH LESS THAN 4 FT OF COVER.





ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: **GRADING PLAN**

PROJECT NAME/ADDRESS: **PEARL STREET (LOT 3) REDEVELOPMENT**
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.
ENGINEERING
LAND SURVEYING
PO BOX 1222 SACO, MAINE 04101
(207) 775-2655

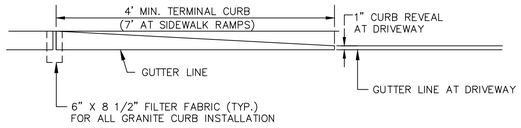
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JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

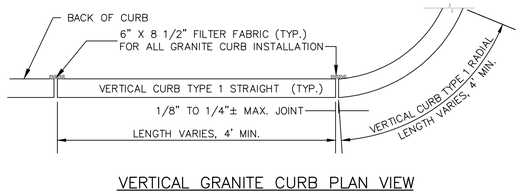
STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-30

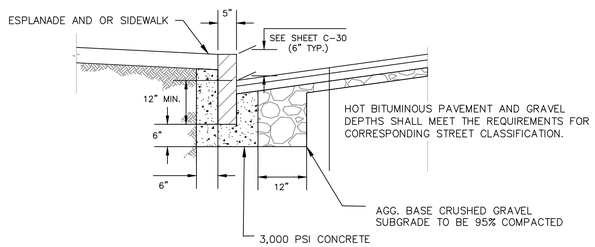
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TERMINAL CURB PROFILE



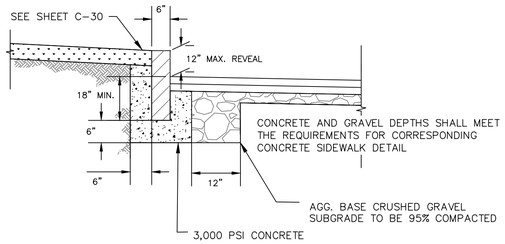
VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

NOTES:
1. INDIVIDUAL PIECES OF CURB SHORTER THAN 4 L.F. ARE NOT ALLOWED, WITH THE EXCEPTION OF RADIAL CURB.
2. THE MINIMUM HEIGHT OF THE CONCRETE BACKING SHALL BE 10-INCHES OR TO THE BOTTOM OF THE HOT MIX ASPHALT PAVEMENT, WHICHEVER IS GREATER, MEASURED FROM THE BOTTOM OF CURB.
3. CURBING SHALL BE SET IN A 6-INCH BED OF POURED IN PLACE 3,000 PSI CONCRETE MIX.
4. WOODEN SHIMS MAY BE USED TO SET CURB.

VERTICAL GRANITE CURB
NOT TO SCALE

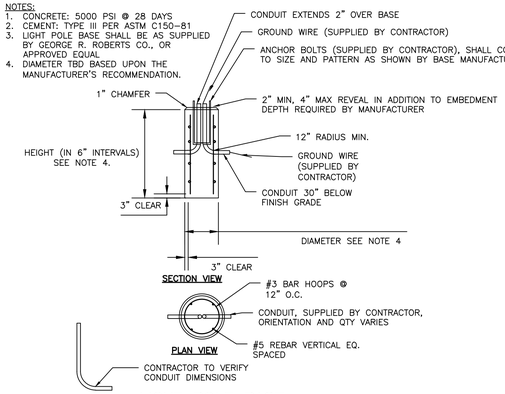


12" VERTICAL GRANITE CURB CROSS SECTION

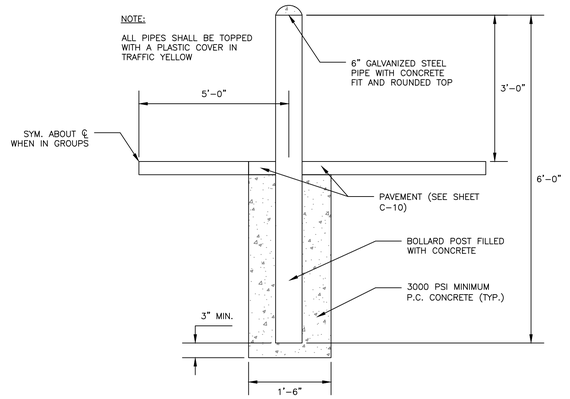
SCHEDULE		
HEIGHT OF POLE	MIN DIAMETER	MIN EMBEDMENT
<20'	18"	5'
20'-40'	2'	6'
>40'	3'	8'

REVEALS	
APPLICATIONS	REVEAL
STREET/SIDEWALK	4"
OTHER PED HARDSCAPE	FLUSH
PEDESTRIAN LAWN/MULCH	4"
PARKING AREAS (OPEN TRAFFIC)	24-36"

NOTES:
1. CONCRETE: 5000 PSI @ 28 DAYS
2. CEMENT: TYPE III PER ASTM C150-81
3. LIGHT POLE BASE SHALL BE AS SUPPLIED BY GEORGE R. ROBERTS CO., OR APPROVED EQUAL
4. DIAMETER TBD BASED UPON THE MANUFACTURER'S RECOMMENDATION.

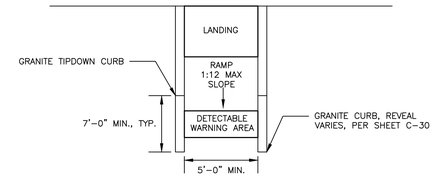


LIGHT POLE BASE
NOT TO SCALE



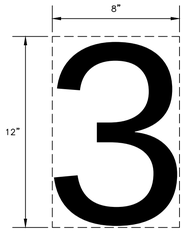
PIPE BOLLARD
NOT TO SCALE

NOTES:
1. ALL RAMPS SHALL COMPLY WITH CITY OF BIDDEFORD AND ADA STANDARDS.
2. SIDEWALK MATERIAL SHALL BE PER CITY SIDEWALK MATERIAL POLICY.
3. FLARED SECTIONS SHOULD MATCH SURFACE MATERIAL USED FOR SIDEWALK CONSTRUCTION.



DESIGN ELEMENT	SLOPE IN DIRECTION OF TRAVEL	CROSS SLOPE
APPROACH	8.33% MAX	2%
LANDING	2%	2%
RAMP	8.33% MAX	MATCH STREET GRADE
SIDEWALK	PER C-30	2%

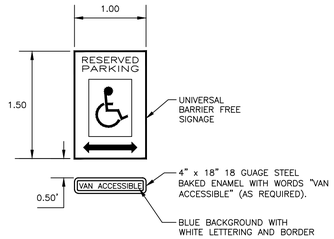
SIDEWALK RAMP LAYOUT
NOT TO SCALE



NOTES:
1. NUMBERS TO BE PAINTED AS THE SAME COLOR AS THE CORRESPONDING PARKING SPACE.
2. BOTTOM OF NUMBER TO BE FLUSH WITH THE FRONT OF THE PARKING SPACE.

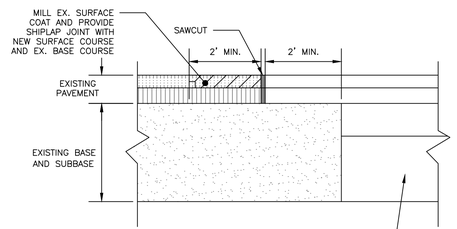
PARKING STALL NUMBER DETAIL
NOT TO SCALE

NOTES:
1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7-8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7-8a OR R7-8b.
3. IF NOT MOUNTED, SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.

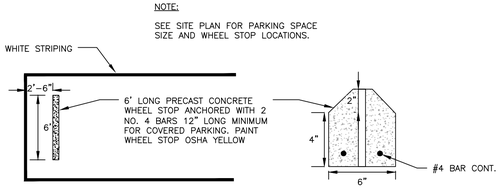


BARRIER FREE PARKING SIGN
NOT TO SCALE

NOTES:
1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. CREATE UNIFORM AND RIGID BUTT JOINT AND APPLY BITUMINOUS TACK COAT AT AN APPLICATION RATE OF 0.10 TO 0.14 GALLONS PER SQUARE YARD PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
2. THE NEW PAVEMENT SECTION SHALL MEET PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL
NOT TO SCALE



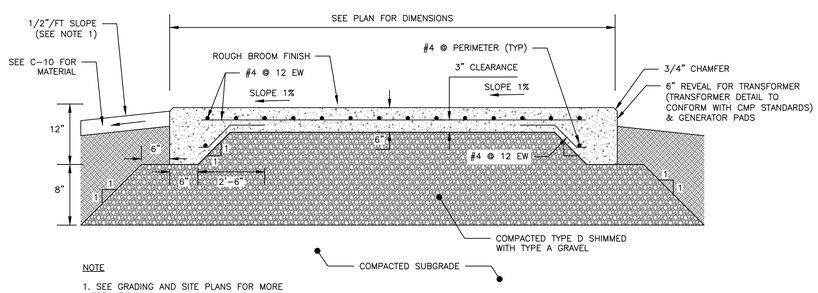
NOTE:
SEE SITE PLAN FOR PARKING SPACE SIZE AND WHEEL STOP LOCATIONS.

PLAN VIEW

SECTION VIEW

CONCRETE WHEEL STOP
NOT TO SCALE

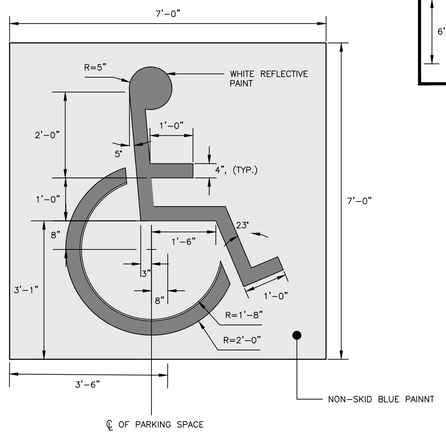
NOTES:
1. PROOFROLL AND COMPACT SUBGRADE
2. COMPACT AGGREGATES TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
3. FINISH WITH A STIFF, COARSE, FIBER BROOM.
4. REFER TO PLANS FOR DIMENSIONS.
5. CONCRETE TO BE 4,500 PSI REINFORCED PORTLAND CEMENT CONCRETE.



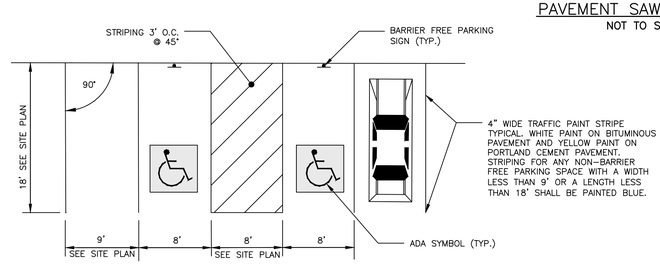
NOTE
1. SEE GRADING AND SITE PLANS FOR MORE INFORMATION

SECTION

CONCRETE PAD DETAIL
NOT TO SCALE



INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



PARKING SPACE DIMENSIONS
NOT TO SCALE

PERMITTING
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
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SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: SITE DETAILS - 1

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

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ALFRED, MAINE 04101
PO BOX 347
(207) 775-2655

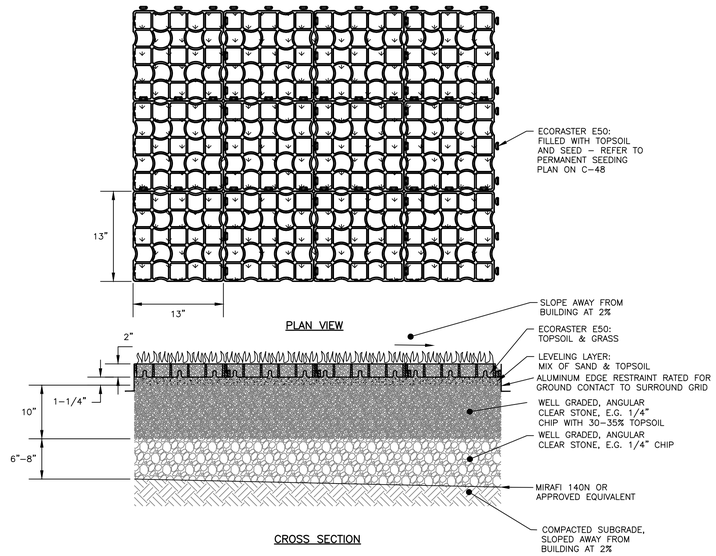
FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-40

NOTES:

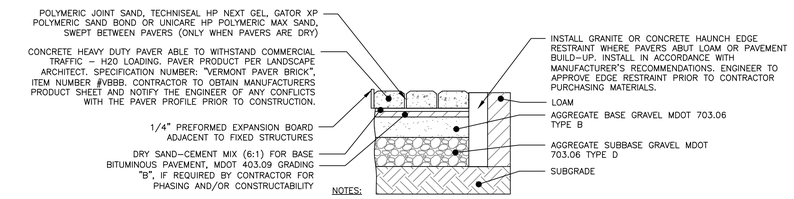
1. ¾" CHIP CLEAR OR OTHER SUITABLE CLEAR STONE CAN BE USED FOR DRAINAGE LAYER.



CROSS SECTION

PERMEABLE GROUND STABILIZATION SYSTEM WITH ECORASTER GRID DETAIL

NOT TO SCALE



NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. SURFACE AND AGGREGATE MATERIALS SHALL MEET THE CITY OF BIDDEFORD STANDARDS IN ADDITION TO MDOT STANDARDS.
3. JOINT SAND COMPRESSION STRENGTH: PROVEN RESISTANCE TO COMPRESSION OF 550 PSI AFTER DRYING FOR 7 DAYS UNDER CONTROLLED CONDITIONS (73 DEGREE F AT 50% HUMIDITY)

GRADATION REQUIREMENTS FOR JOINT SAND

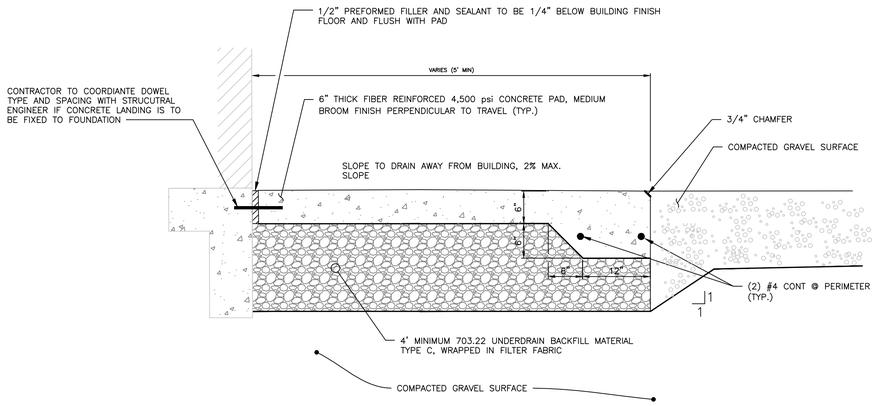
SIEVE SIZE	NATURAL SAND PERCENT PASSING	MANUFACTURED SAND PERCENT PASSING
NO. 4 (4.75mm)	100	100
NO. 8 (2.36mm)	95-100	95-100
NO. 16 (1.18mm)	70-100	70-100
NO. 30 (0.60mm)	40-75	40-75
NO. 50 (0.30mm)	10-30	20-40
NO. 100 (0.15mm)	2-15	10-25
NO. 200 (0.075)	0-1	0-10

THICKNESS OF LAYERS

STANDARD	LAYERS
3.149"	CONCRETE PAVER (DEPTH TBD BASED UPON MANUFACTURER)
1"	DRY SAND-CEMENT MIX (6:1)
2"	BITUMINOUS MDOT 403.09 GRADING "B"
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

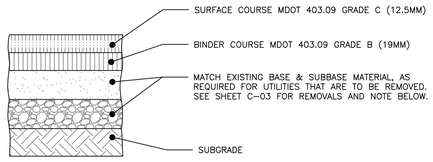
PAVER PROFILE

NOT TO SCALE



CONCRETE LANDING DETAIL

NOT TO SCALE



NOTE:
1. COMPACT AGGREGATES TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. CONTRACTOR TO VERIFY EXISTING GOOCH STREET BASE AND SUBBASE MATERIALS AND MATCH EXISTING.
3. PROJECT PROPOSES TO MILL EXISTING PAVEMENT AND INSTALL NEW BITUMINOUS PAVEMENT PER DETAIL. REFER TO APPLICABLE UTILITY CROSS SECTIONS FOR NEW UTILITY INSTALLATION.

THICKNESS OF LAYERS

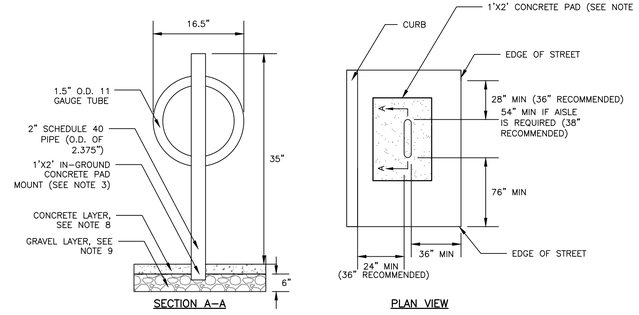
STANDARD	LAYERS
1.25"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
4"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B OR A
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

PAVEMENT PROFILE:

NOT TO SCALE

NOTES:

1. BICYCLE RACK SHALL BE "DERO BIKE HITCH", AS MANUFACTURED BY DERO BIKE RACKS.
2. BICYCLE RACK SHALL HAVE CAPACITY FOR TWO BICYCLES.
3. BICYCLE RACK PARTS SHALL BE OF UNIFORM COLOR AND SHALL BE FINISHED IN ACCORDANCE WITH PRODUCT SPECIFICATION.
4. BICYCLE RACK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S MOST RECENT INSTALLATION RECOMMENDATIONS, AND SHALL BE INSTALLED WITH AN IN-GROUND MOUNT UNLESS OTHERWISE APPROVED BY ENGINEER.
5. MINIMUM OFFSETS SHOWN. MANUFACTURER'S RECOMMENDED OFFSETS SHALL BE ENFORCED WHERE POSSIBLE.
6. MINIMUM DISTANCE BETWEEN BICYCLE RACKS SHALL BE 24". RECOMMENDED DISTANCE BETWEEN BICYCLE RACKS SHALL BE 38".
7. ALL OFFSETS ARE FROM OUTSIDE EDGES OF ITEMS.
8. CONCRETE SHALL BE 4000 PSI @28 DAYS. BOTTOM OF CONCRETE SHALL BE AT TOP OF SIDEWALK GRAVEL ELEVATION. DEPTH VARIES APPROX. 4"-7".
9. GRAVEL LAYER SHALL BE INSTALLED IN ACCORDANCE WITH CONCRETE SIDEWALK DETAIL, AND SHALL BE MAINEDOT 703.06 TYPE B.



DERO BIKE HITCH

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
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PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: SITE DETAILS - 2

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

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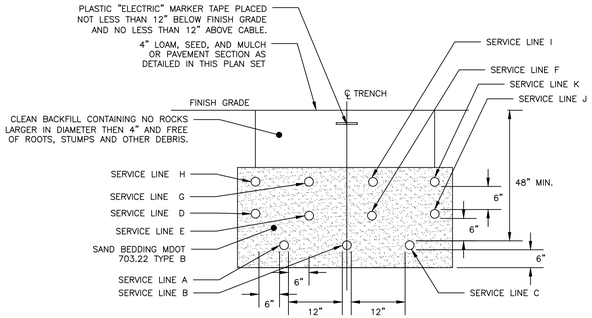
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PO BOX 3372 SCARBOROUGH, MAINE 04101
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

C-41



CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
D	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	–
E	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	–
F	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	–
G	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	–
H	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	–
I	4"	SCHEDULE 40 PVC ELECTRICAL GRADE	CABLE	–
J	4"	SCHEDULE 40 PVC	SPARE	–
K	4"	SCHEDULE 40 PVC	SPARE	–

NOTES:

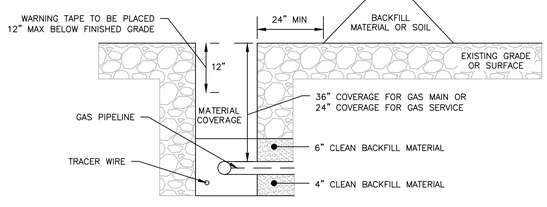
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

NOT TO SCALE

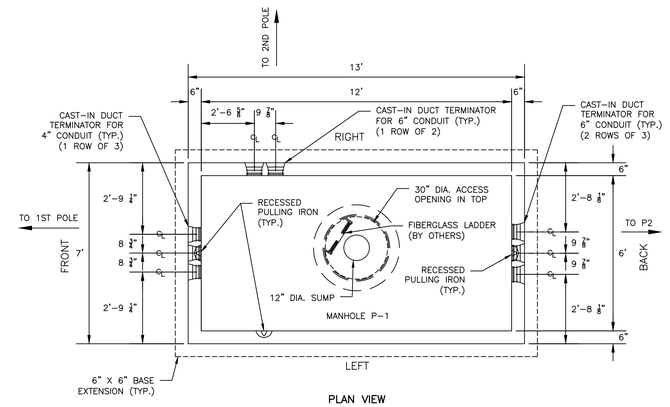
NOTES:

1. INSTALL MAINS WITH A MINIMUM OF 36" OF COVER AND SERVICES WITH A MINIMUM OF 24" OF COVER. EXCEPTIONS MAY BE MADE WITHIN SLATE AND FEDERAL CODES WITH THE PRIOR APPROVAL OF THE OPERATIONS CENTER MANAGER. INSTALL PLASTIC PIPE WITH SLACK SO EXTERNAL LOADING OR THERMAL CONTRACTION WILL NOT PLACE UNNECESSARY STRESS ON THE PIPE OR JOINTS. IN CASES WHERE A STOPPER FITTING OF OTHER NEW MATERIAL IS ADDED TO AN OLDER MAIN SUCH THAT THE MAIN HAS LESS THAN 24" OF COVE, THE CONTRACTOR SHOULD PROVIDE PERMANENT PROTECTION SUCH AS CONCRETE. WHENEVER A MAIN WILL BE INSTALLED WITH LESS THAN 24" OF COVER, NOTIFY THE OPERATIONS CENTER MANAGER OR THE DESIGNEE SO THEY CAN REQUEST APPROVAL FROM THE DEPARTMENT OF PUBLIC UTILITIES.
2. PROCEDURE – SEE FIGURE BELOW
   - 2.1. REMOVE ALL EXCESS WATER FROM THE TRENCH WITH PUMPS OR EQUIVALENT
   - 2.2. PLACE A LAYER OF SAND 4" DEEP IN TRENCH BOTTOM BEFORE LAYING THE PIPE IN THE TRENCH. THE OPERATIONS CENTER MANAGER OR COMPANY FIELD REPRESENTATIVE MAY ALLOW USE OF CLEAN FILL MATERIAL INSTEAD OF SAND PROVIDED IT IS CLEAN AND FREE OF ANY OBJECTS THAT MAY IMPINGE ON THE PIPE.
   - 2.3. FOR PLASTIC PIPE, INSTALL NUMBER 12 AWG SOLID COPPER WIRE (TRACER WIRE) WITH YELLOW INSULATION JACKET ALONG THE LENGTH OF THE SERVICE. THIS WIRE IS USED TO LOCATE THE PIPE. DO NOT PHYSICALLY ATTACH THE WIRE OR ALLOW THE WIRE TO TOUCH THE PLASTIC PIPE. KEEP THE TRACER WIRE AT LEAST 4" AWAY FROM THE PLASTIC PIPE. IF THE INSTALLATION IS TRENCHLESS, THE TRACER WIRE MAY BE LESS THEN 4" AWAY FROM THE PLASTIC PIPE.
   - 2.4. PLACE A MINIMUM OF 6" OF SAND OVER THE PIPE. THE OPERATIONS CENTER MANAGER OR COMPANY FIELD REPRESENTATIVE MAY ALLOW USE OF CLEAN FILL MATERIAL INSTEAD OF SAND PROVIDED IT IS CLEAN AND FREE OF ANY OBJECTS THAT MAY IMPINGE ON THE PIPE.
   - 2.5. PLACE WARNING TAPE IN THE TRENCH NOT MORE THAN 12" BELOW FINISHED GRADE. THE STANDARD WARNING TAPE IS YELLOW, NON-DETECTABLE TAPE, 6" WIDE.
   - 2.6. FILL THE REST OF THE TRENCH WITH CLEAN FILL MATERIAL, USING THE SPOIL WHERE SUITABLE AND ACCEPTABLE. IF THE ORIGINAL SPOIL MATERIAL IS NOT SUITABLE FOR USE AS A SUB-GRADE MATERIAL WHEN RESTORING ROAD SURFACES, USE MATERIAL REQUIRED BY STATE OR LOCAL AGENCIES. REMOVE ALL EXCESS SPOIL IN THE ACCEPTED MANNER.
   - 2.7. PROPERLY COMPACT THE TRENCH TO INSURE THE TRENCH WILL NOT SETTLE.
3. SEE GAS STANDARD 10.03 FOR A DESCRIPTION OF SUITABLE MATERIALS FOR PIPE BEDDING AND FINAL BACKFILL.

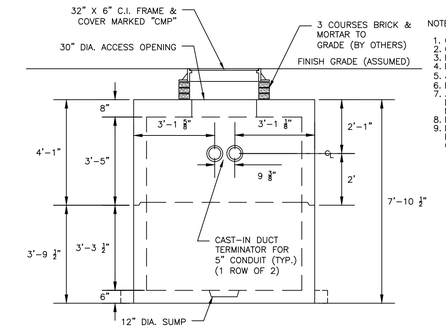


NATURAL GAS MAIN/SERVICE TRENCH DETAIL

NOT TO SCALE



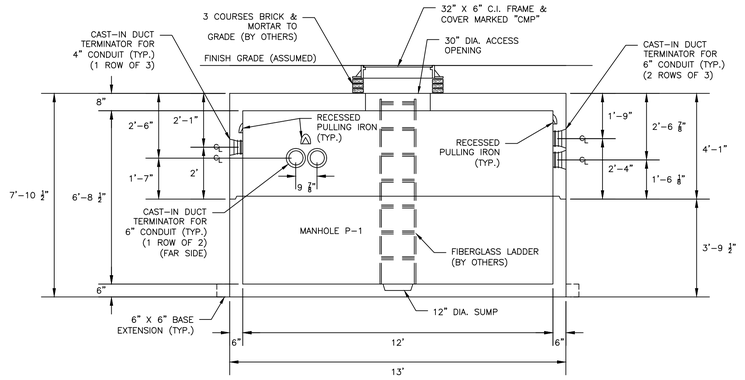
PLAN VIEW



FRONT ELEVATION VIEW

NOTES:

1. CONCRETE: 5,000 PSI @ 28 DAYS.
2. CEMENT: TYPE III PER ASTM C150-81.
3. REINFORCING: GRADE 60 PER ASTM A615.
4. DESIGN LOADING: H-20 PER ASTM C-478.
5. JOINTS TO BE SEALED WATER TIGHT WITH "CON-SEAL".
6. EXTERIOR OF TANK TO BE "AQUA-SAFE" COATED.
7. ALL PRECAST SECTIONS AND BASES SHALL HAVE THE DATE OF MANUFACTURE AND THE NAME OF THE MANUFACTURER MARKED ON THE INSIDE WALL.
8. LADDER PROVIDED AND INSTALLED BY OTHERS.
9. IDENTIFICATION TAGS FOR CABLES IN MANHOLE SHALL BE SET AT THE TIME OF MANHOLE INSTALLATION BY OTHERS.

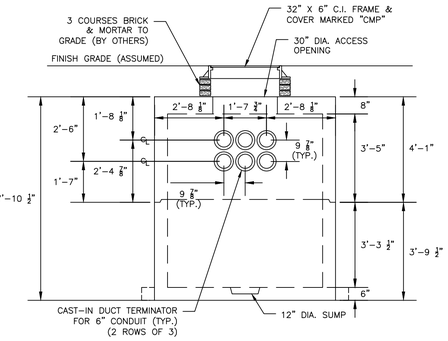


DESCRIPTION	WEIGHT	QUANTITY
3'-9 1/2" BASE	16,202 LBS	1
3'-11" TOP	18,892 LBS	1

SECTION VIEW

PRECAST CONCRETE 38Y MANHOLE DETAIL

NOT TO SCALE



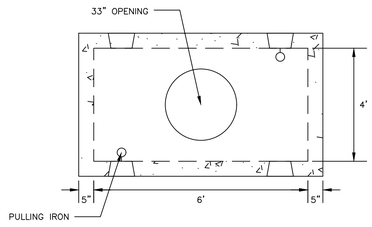
BACK ELEVATION VIEW

NOTES:

1. WHERE DANGER OF PLOW OR TRAFFIC DAMAGE EXISTS, BARRIERS CONSISTING OF CONCRETE FILLED 6 INCH IPS STEEL POSTS SET 4 FEET DEEP SHALL BE PROVIDED FOR PROTECTION (PRESSURE TREATED 6X6 INCH MIN. TIMBER POSTS MAY BE SUBSTITUTED IN RESIDENTIAL AREAS). POSTS SHALL NOT INTERFERE WITH TRANSFORMER ACCESS. GENERALLY THE POSTS SHALL BE LOCATED NEAR THE CORNERS OF THE TRANSFORMERS.
2. THE SETBACKS DEPICT CLEARANCES FROM OBSTRUCTIONS INCLUDING TREES, SHRUBS, AND FENCES.
3. THERE SHALL BE NO OPENINGS IN THE BUILDING WALL IN BACK OF, BESIDE, OR OVER THE TRANSFORMER UNLESS THE TRANSFORMER IS A MIN. OF 10 FEET FROM THE BUILDING.
4. SIDE CLEARANCES FROM DOORS OR WINDOWS SHALL NOT BE LESS THAN 10 FEET.
5. THERE SHALL BE A MIN. OF 10 FEET BETWEEN THE TRANSFORMER AND ANY GAS METER/REGULATOR, GAS RELIEF VALVE, GAS VENT DISCHARGE, GAS FILLING CONNECTION, OR PROPANE TANK. SOME INSURANCE COMPANIES MAY REQUIRE INCREASED CLEARANCES.
6. TRANSFORMER SHALL BE LOCATED FAR ENOUGH AWAY FROM BUILDING OVERHANGS SO THAT THEY WILL NOT BE SUBJECT TO DAMAGE BY FALLING ICE AND SNOW.
7. IF TRANSFORMER IS NOT INSTALLED IMMEDIATELY UPON THE INSTALLATION OF THE CABLE IN THE PAD, THE CONTRACTOR SHALL PROVIDE AND INSTALL A CMP APPROVED CONCRETE, STEEL, OR FIBERGLASS COVER OVER THE PAD OPENING TO ELIMINATE EXPOSURE OF THE CABLE.

NOTES:

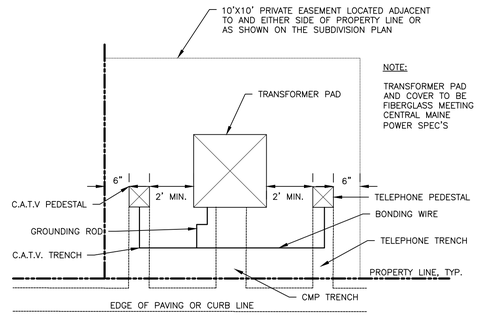
1. SPLICE BOX SHALL BE DESIGNED TO WITHSTAND H20 LOADING WITH 6" OF OVERBURDEN. THE DESIGN SHALL ALSO COMPLY WITH NATIONAL ELECTRICAL SAFETY CODE SECTION 323A. PROVIDE SHOP DRAWINGS STAMPED BY A STATE OF MAINE REGISTERED PROFESSIONAL ENGINEERING UPON REQUEST.
2. FOR USE WITH 32" COVER MARKED CMP CO., S/C62-1830 (MIN. ONE COURSE OF BRICK TO GRADE.)
3. SPLICE BOX AND SLAB SHALL BE SET ON A SUITABLE GRAVEL BASE.



PLAN VIEW

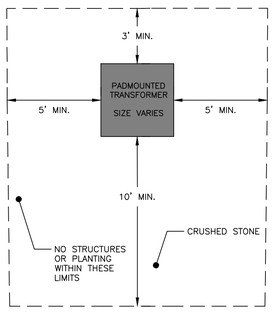
4' X 6' SPLICE BOX

NOT TO SCALE



TYPICAL TRANSFORMER DETAIL

NOT TO SCALE



CMP TRANSFORMER SETBACKS

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: UTILITY DETAILS – 1

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

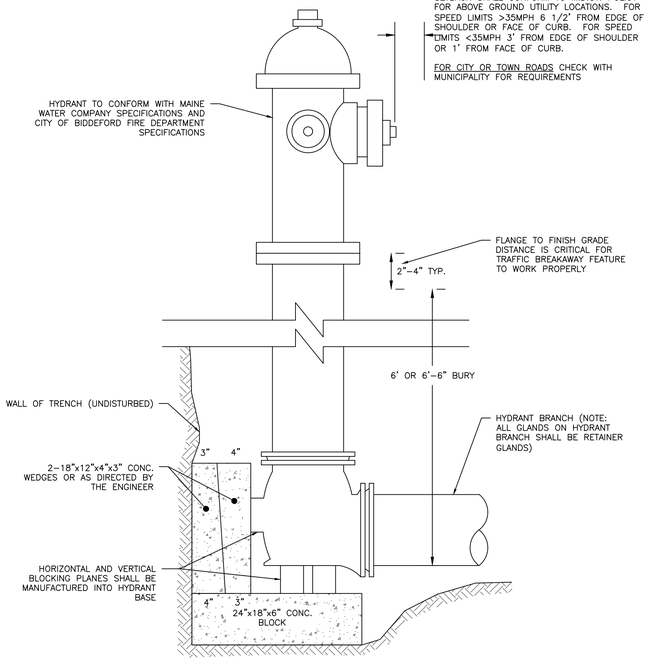
ALL PLANS SHALL NOT BE ALTERED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND IN THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
FALMOUTH, MAINE 04101
PO BOX 3294
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

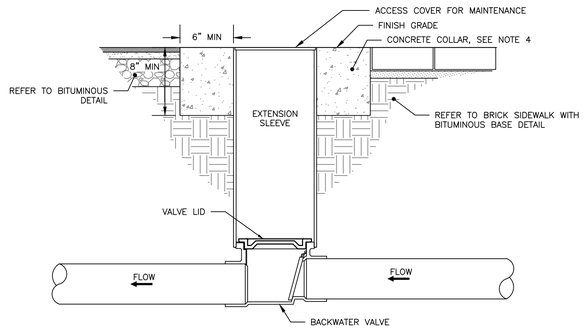
STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-42



TYPICAL HYDRANT INSTALLATION DETAIL

NOT TO SCALE

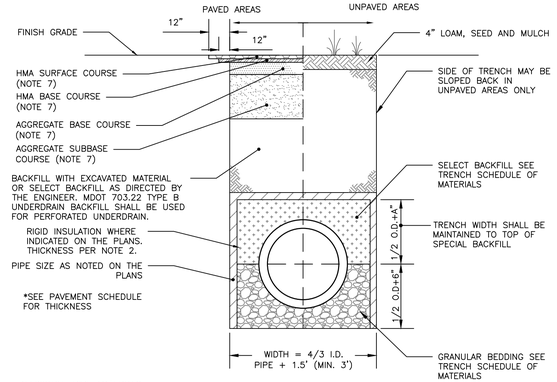


NOTES:

1. BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF BIDDEFORD TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE "SEWER" ON LID FLUSH TO SURFACE. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
4. CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

BACKFLOW VALVE ASSEMBLY

NOT TO SCALE



SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:

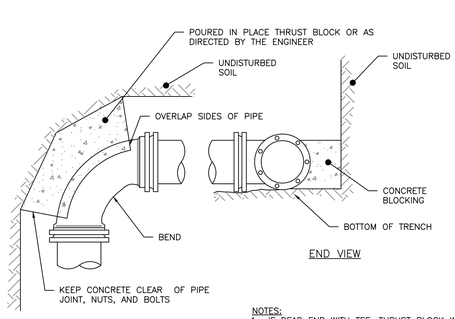
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
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 CITY OF BIDDEFORD ROW.
7. THICKNESS AS NOTED BY SURFACE DETAILS
8. ALL PROPOSED TREES PLANTED WITHIN 10' OF A STORM OR SEWER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.

ALLOWABLE PIPE MATERIALS:

- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP DUAL-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

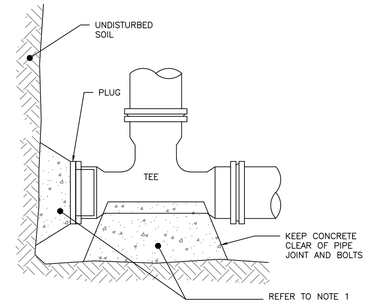
STORM DRAIN AND SEWER TYPICAL TRENCH SECTION

NOT TO SCALE



TOP VIEW

END VIEW



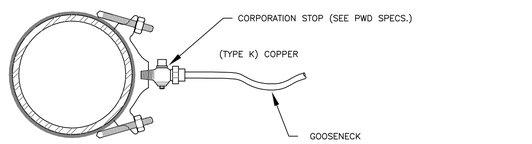
END SECTION

NOTES:

1. IF DEAD END WITH TEE, THRUST BLOCK WOULD BE REQUIRED OR AS DIRECTED BY THE ENGINEER
2. SEE THRUST/RETAINER GLAND SCHEDULE FOR TYPE OF BLOCKING TO BE USED ON BENDS

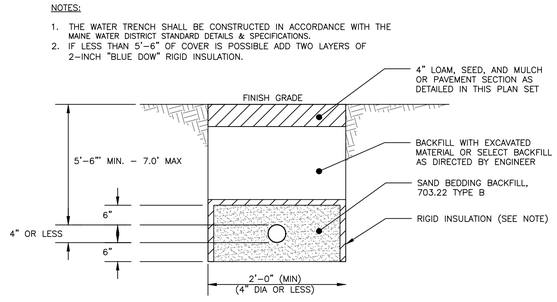
THRUST BLOCKING: REGULAR BEND

NOT TO SCALE



SERVICE SADDLE: 1-1/2" AND 2" C.C. THREAD

NOT TO SCALE

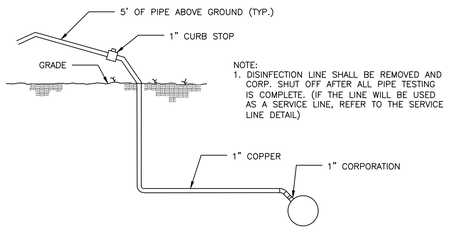


NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MAINE WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'-6" OF COVER IS POSSIBLE ADD TWO LAYERS OF 2-INCH "BLUE DOW" RIGID INSULATION.

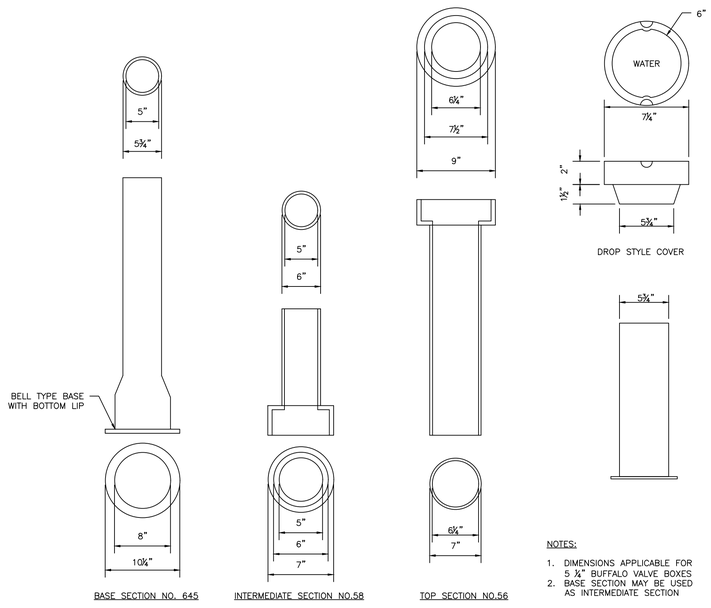
WATER SERVICE TRENCH SECTION DETAIL

NOT TO SCALE



DISINFECTION LINE DETAIL

NOT TO SCALE

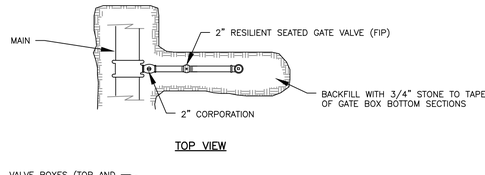


NOTES:

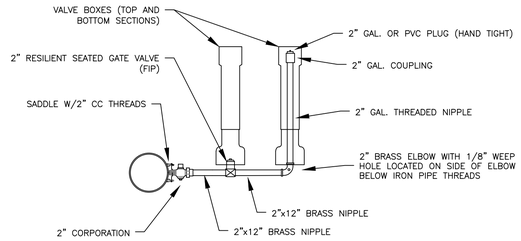
1. DIMENSIONS APPLICABLE FOR 5 ¼" BUFFALO VALVE BOXES
2. BASE SECTION MAY BE USED AS INTERMEDIATE SECTION

VALVE BOX & COVER

NOT TO SCALE



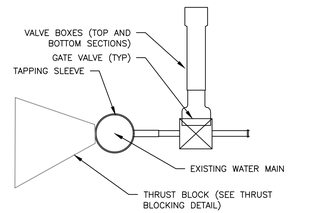
TOP VIEW



SIDE VIEW

SIDE-ARM BLOW-OFF

NOT TO SCALE



SIDE VIEW

TAPPING SLEEVE AND VALVE

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SKETCH PLAN	PFH	10/23/24
PRELIMINARY	PFH	10/20/22
DEP SW AMENDMENT	PFH	11/7/22
SRCC	PFH	1/4/23
FINAL SITE PLAN	PFH	7/11/23
SITE PLAN AMENDMENT	PFH	6/11/25

DRAWING NAME: UTILITY DETAILS - 2

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND UNAUTHORIZED USE OF OR MODIFICATION OF THESE PLANS SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

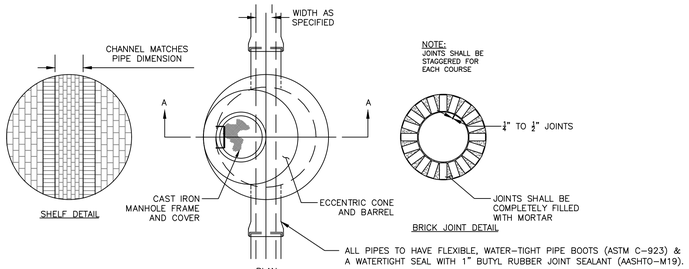
ACORN ENGINEERING, INC.
PO BOX 3477 PORTLAND, MAINE 04101
(207) 775-2655

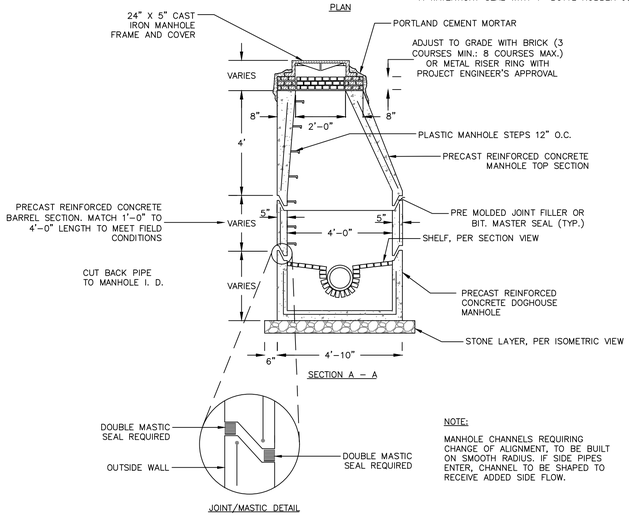
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JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

C-43



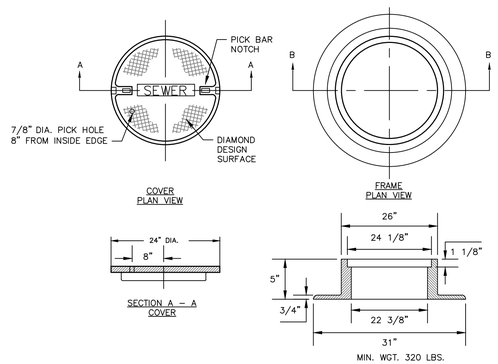


NOTE:

MANHOLE CHANNELS REQUIRING CHANGE OF ALIGNMENT, TO BE BUILT ON SMOOTH RADIUS. IF SIDE PIPES ENTER, CHANNEL TO BE SHAPED TO RECEIVE ADDED SIDE FLOW.

NOTES:
1. UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE 4000 PSI @28 DAYS.
2. RECONSTRUCT INTERIOR MANHOLE INVERT AS NECESSARY TO ACCOMMODATE NEW PIPE.
3. THIS DETAIL IS INTENDED TO PROVIDE ADDITIONAL INFORMATION TO THE CONTRACTOR IN REGARDS TO THE CONNECTION OF THE DOGHOUSE MANHOLE BASE TO THE EXISTING SANITARY SEWER SYSTEM.
4. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
5. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVAL EQUAL.
7. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE. THE MATERIAL SHALL BE MINWAX FIBROUS BRUSH COAT MADE BY THE MINWAX COMPANY, NEW YORK, NEW YORK; TREMCO 121 FOUNDATION COATING, MADE BY THE TREMCO MANUFACTURING COMPANY, CLEVELAND, OHIO; INERTOL NO-7 MADE BY INERTOL COMPANY, NEWARK, NEW JERSEY; CAMGER SUPERSEAL WATER-PROOFING CONCRETE COATING PPS-922-2, MADE BY THE CAMGER COATING SYSTEMS, INC., NORFOLK, MASSACHUSETTS OR APPROVED EQUAL.
8. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35.

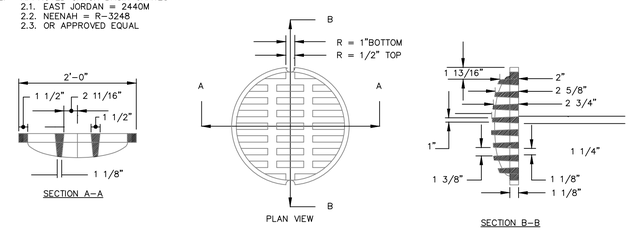
PRECAST CONCRETE MANHOLE
NOT TO SCALE



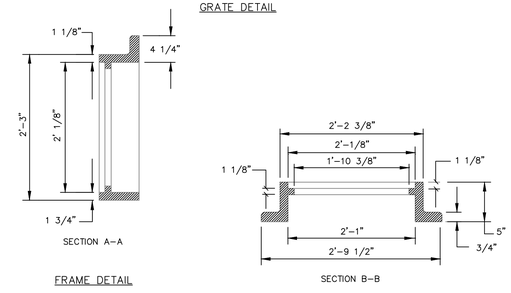
NOTES:
1. ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER
2. ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".
3. ALL SANITARY MANHOLE COVERS AND SHALL HAVE "SEWER" CAST INTO THE COVER.
4. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
5. APPROVED MANHOLE FRAMES:
   5.1. EAST JORDAN = 1690Z
   5.2. NEENAH = R-1496
   5.3. OR APPROVED EQUAL
6. APPROVED MANHOLE COVERS
   6.1. EAST JORDAN = 2160A
   6.2. NEENAH = R-1496
   6.3. OR APPROVED EQUAL

CAST IRON MANHOLE COVER AND FRAME
NOT TO SCALE

NOTES:
1. APPROVED CATCH BASIN FRAMES:
   1.1. EAST JORDAN = 7375Z
   1.2. NEENAH = R-3248
   1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
   2.1. EAST JORDAN = 2440M
   2.2. NEENAH = R-3248
   2.3. OR APPROVED EQUAL

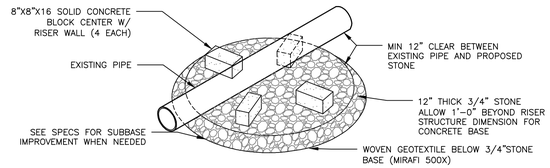


GRATE DETAIL



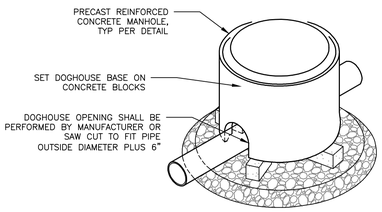
FRAME DETAIL

OIL AND WATER SEPARATOR FRAME & GRATE
NOT TO SCALE

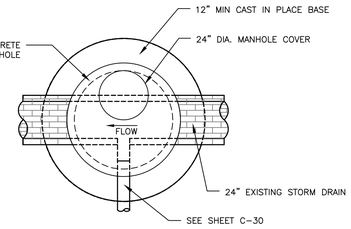


BASE ISOMETRIC VIEW

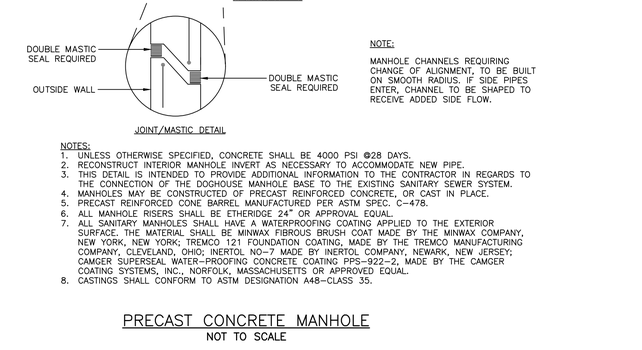
NOTES:
1. EXISTING CONCRETE CRADLE UNDER EXISTING BRICK SANITARY SEWER PIPE TO BE REMOVED. (IF APPLICABLE)
2. UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE 4000 PSI @28 DAYS.
3. RECONSTRUCT INTERIOR MANHOLE INVERT AS NECESSARY TO ACCOMMODATE NEW PIPE.
4. THIS DETAIL IS INTENDED TO PROVIDE ADDITIONAL INFORMATION TO THE CONTRACTOR IN REGARDS TO THE CONNECTION OF THE DOGHOUSE MANHOLE BASE TO THE EXISTING STORMWATER SYSTEM. MANHOLE INSTALLATION INFORMATION NOT EXPLICITLY REFERRED TO IN THIS DETAIL SHALL BE PER THE "STANDARD PRECAST MANHOLE" DETAIL



RISER ISOMETRIC VIEW

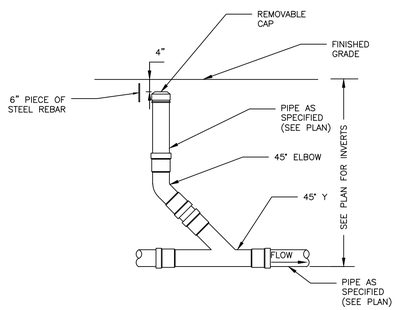


PLAN VIEW

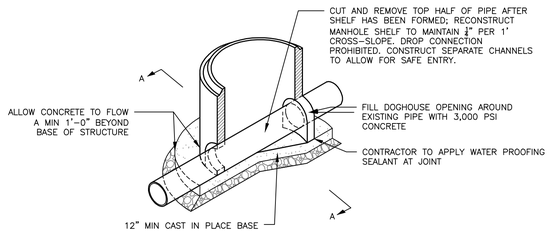


NOTES:
1. VENT IN ACCORDANCE WITH THE PLUMBING CODE.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. OIL, SAND AND WATER SEPARATOR TO CONFORM TO CATCH BASIN DETAIL, EXCEPT AS EXPLICITLY IDENTIFIED IN THIS DETAIL.
4. PIPE OPENINGS CAST IN AS REQUIRED.
5. INLET AND OUTLET PIPE SHALL BE CONSTRUCTED OF MATERIALS SPECIFIED WITHIN CITY OF BIDDEFORD'S APPROVED SEWER PIPE MATERIALS. INLET AND OUTLET PIPE INVERT SHALL BE 3" SEPARATED UNLESS NOTED ON THE PLANS.
6. FOR CLARITY, SUMP DEPTH IS 5' BELOW OUTLET INVERT.
7. AN APPROVED EQUAL MAY BE SUBSTITUTED BY THE DESIGN ENGINEER.

4'-0" DIAMETER PRECAST OIL AND WATER SEPARATOR
NOT TO SCALE



SANITARY CLEANOUT
NOT TO SCALE



FOUNDATION SECTION VIEW

PRECAST DOGHOUSE MANHOLE DETAIL
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: UTILITY DETAILS - 3

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.
ENGINEERING, INC.
THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE TO THESE PLANS, ADDITIONS OR DELETIONS TO INFORMATION SHOWN HEREON, WHETHER INTENTIONAL OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
P.O. BOX 1237 PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-44

SEWER PUMP DESIGN NOTES:

ENV-WQ 705.09 ALARM SYSTEMS:

1. ALARM SYSTEMS SHALL BE PROVIDED FOR ALL SEWAGE PUMPING STATIONS.
2. THE ALARM SIGNAL SHALL BE ACTIVATED IN ONE OF THE FOLLOWING CASES:
   - 2.1. HIGH WATER IN THE WET WELL.
   - 2.2. LOW WATER IN THE WET WELL.
   - 2.3. LOSS OF ONE OR MORE PHASES OF POWER SUPPLY OR SEVERE VOLTAGE DROP.
   - 2.4. LOSS OF ALARM TRANSMISSION LINE.
   - 2.5. STANDBY GENERATOR APPLICATION.
3. THE HIGH WATER ALARM TRIGGER SHALL BE A SEPARATE DEVICE, INDEPENDENT OF THE PUMP WET WELL LEVEL CONTROL SYSTEM.
4. SATISFACTORY OPERATION OF THE ALARM SYSTEM SHALL BE INDICATED ON A PANEL WITH A LIGHT WHICH LIGHTS UP UPON FAILURE OF THE ALARM SYSTEM.
5. THE POWER SOURCE FOR THE ALARM SYSTEM SHALL BE:
   - 5.1. AN INDEPENDENT BATTERY WITH A CONTINUOUS CHARGE OR;
   - 5.2. MAIN LINE POWER WITH A BACK-UP BATTERY SYSTEM, WHICH SHALL BE CONNECTED AUTOMATICALLY SHOULD MAIN POWER FAIL.
6. THE ALARM SIGNAL SHALL BE TRANSMITTED THROUGH A 24 HOUR PER DAY, 7 DAY PER WEEK NOTIFICATION SYSTEM TO THE APPROPRIATE UTILITY OPERATOR.
7. THE ALARM SHALL INCLUDE A LOCAL AUDIBLE ENUNCIATOR AND LIGHT
8. PROVISION SHALL BE MADE TO PERMIT SILENCING OF THE AUDIBLE ENUNCIATOR MANUALLY, AFTER THE ALARM HAS BEEN SOUNDED, BUT THE LIGHT SHALL CONTINUE UNTIL THE ALARM CONDITION HAS BEEN RECTIFIED.
9. ALARM SIGNALS FOR PRIVATELY-OPERATED SEWER PUMPING STATIONS SHALL BE TRANSMITTED TO THE RESPONSIBLE MAINTENANCE PERSON DIRECTLY OR VIA AN ANSWERING SERVICE.

ENV-WQ 705.10 INSTRUCTION AND EQUIPMENT:

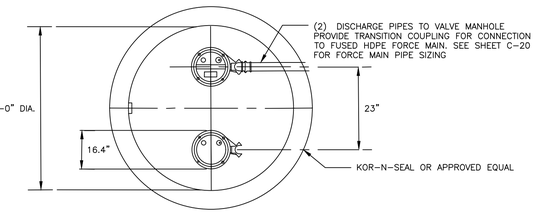
1. THE OWNER SHALL OBTAIN AND PROVIDE A COMPLETE SET OF OPERATIONAL INSTRUCTIONS, INCLUDING RECOMMENDATION FOR SPARES AND MAINTENANCE, AT EACH SEWAGE PUMPING STATION SO AS TO BE AVAILABLE TO ALL OPERATORS.

ENV-WQ 705.11 EMERGENCY OPERATION:

1. PROVIDE A TRANSFER PANEL TO ALLOW HOOK-UP TO A PORTABLE GENERATOR.

ENV-EQ 704.07 FORCE MAINS:

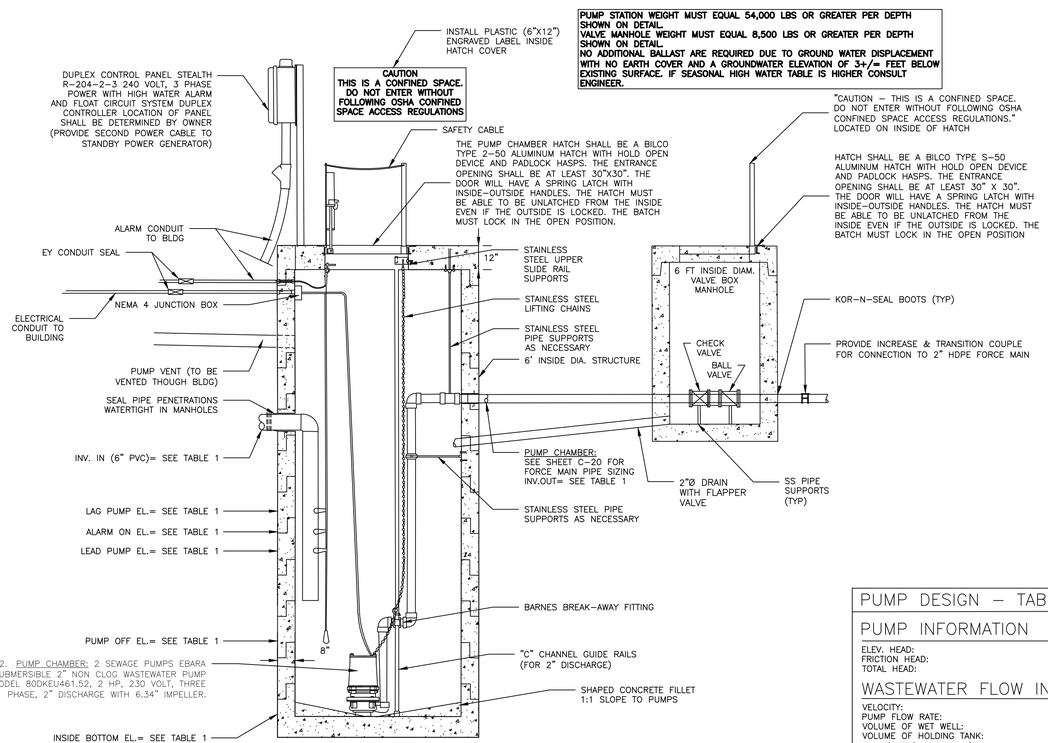
1. FORCE MAINS SHALL BE PROVIDED WITH AUTOMATIC AIR RELIEF VALVES(S) AT HIGH POINTS TO PREVENT AIR LOCKING.
2. FORCE MAINS SHALL ENTER THE GRAVITY SEWER SYSTEM AT THE FLOW LINE OF THE RECEIVING MANHOLE.
3. FORCE MAINS SHALL BE PROVIDED WITH DRAINAGE BLOW-OFFS, PROPERLY VALVED, AT LOW POINTS. SPACE SHALL BE AVAILABLE AT SUCH LOCATIONS FOR HANDLING THE DISPLACED WASTE WITHOUT DANGER OF POLLUTION OR HEALTH HAZARD.
4. FORCE MAINS SHALL BE DESIGNED IN ACCORDANCE WITH ENV-WQ 704.04, CONSTRUCTED WITH MATERIALS AS SPECIFIED IN ENV-WQ 704.06, AND TESTED AS SPECIFIED IN ENV-WQ 704.08.
5. THRUST BLOCKS MADE FROM INORGANIC, CORROSION-RESISTANT MATERIAL SHALL BE PLACED AT ALL BENDS, ELBOWS, TEES AND JUNCTIONS.
6. FORCE MAINS SHALL BE DESIGNED TO WITHSTAND HYDROSTATIC PRESSURES OF AT LEAST 2.5 TIMES THE DESIGN TOTAL DYNAMIC HEAD.
7. ENV-WQ 704.08 FORCE MAIN AND PRESSURE SEWER CONSTRUCTION MATERIALS.
   - 7.1. FORCE MAINS AND PRESSURE SEWERS SHALL BE CONSTRUCTED OF DUCTILE IRON (DI), HIGH DENSITY POLYETHYLENE (HDPE), OR PVC MATERIAL
   - 7.2. FORCE MAINS AND PRESSURE SEWERS SHALL BE TREATED AS GRAVITY SEWERS FOR PURPOSES OF FOUNDATION BEDDING AND BACKFILL REQUIREMENTS.
   - 7.3. PVC PIPE USED FOR FORCE MAINS AND PRESSURE SEWERS SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM D2241 OR ASTM D1785 STANDARDS IN EFFECT WHEN THE PIPE IS MANUFACTURED.
   - 7.4. HDPE PIPE USED FOR FORCE MAINS AND PRESSURE SEWERS SHALL BE CERTIFIED BY ITS MANUFACTURER AS CONFORMING TO THE ASTM D3035 STANDARD IN EFFECT WHEN THE PIPE IS MANUFACTURED.
   - 7.5. IF DI PIPE IS USED IN AN ENVIRONMENT THAT COULD CAUSE CORROSION OR OTHER DETERIORATION OF OR DAMAGE TO AN IRON PIPE, OR OTHERWISE REDUCE THE TYPICAL LIFE EXPECTANCY OF THE PIPE, SUCH AS MAY OCCUR WITH CERTAIN SOIL TYPES, LOW PH LEVELS, OR WATER CONDITIONS, THE PIPE SHALL BE PROTECTED AGAINST CORROSION, SUCH AS WITH CATHODIC PROTECTION.
8. ENV-WQ 704.09 FORCE MAIN AND PRESSURE SEWER TESTING.
   - 8.1. FORCE MAINS AND PRESSURE SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 5 OF THE AWWA C600, "INSTALLATION OF CAST IRON WATER MAINS AND THEIR APPURTENANCES" STANDARD IN EFFECT WHEN THE TEST IS CONDUCTED, AVAILABLE AS NOTED IN APPENDIX D, AT A PRESSURE EQUAL TO THE GREATER OF 150 PERCENT OF THE DESIGN OPERATION TOTAL DYNAMIC HEAD OR AT LEAST 100 PSI.



NOTES:

1. **DUPLEX AUTOMATIC CONTROL PANEL AND ALARM PANEL TO BE PLACED IN BUILDING. COORDINATE LOCATION WITH ARCHITECT**
2. PUMP CHAMBER: 2 SEWAGE PUMPS EBARA SUBMERSIBLE 2" NON CLOG WASTEWATER PUMP MODEL 80DKEU461.52, 2 HP, 230 VOLT, THREE PHASE, 2" DISCHARGE WITH 6.34" IMPELLER.
3. **OUTSIDE OF PUMP BASIN SHALL BE SEALED WITH A BITUMINOUS COATING TO ENSURE WATER TIGHTNESS.**
4. **OUTSIDE OF PUMP BASIN SHALL BE SEALED WITH A BITUMINOUS COATING TO ENSURE WATER TIGHTNESS.**
5. **ALL JOINTS SHALL BE SEALED WITH A DOUBLE ROW OF AN ELASTOMERIC OR MASTIC-LIKE SEALANT.**
6. **CONTROL PANEL TO BE WIRED TO ALTERNATE OPERATION OF PUMPS.**
7. **SEPARATE ELECTRICAL CIRCUITS SHALL BE PROVIDED FOR THE PUMPS AND ALARM SYSTEMS.**
8. **ALL PIPE AND FITTINGS TO BE PRODUCED BY A SINGLE MANUFACTURER AND TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. PRIMER SHALL CONFORM TO ASTM F656.**
9. **PUMP STATIONS SHALL BE OUTFITTED WITH AUDIBLE ALARM, FLASHING WARNING LIGHT AND DISCONNECT TO BE MOUNTED ADJACENT TO EACH PUMP STATION.**
10. **PUMP STATION SHALL RECORD PUMP RUN TIMES AND HAVE CONTINUOUS FLOW RECORDING.**
11. **PUMP STATIONS SHALL HAVE A PERMANENT EMERGENCY GENERATOR, WITH 500 GAL. LIQUID PROPANE FUEL STORAGE TO ALLOW PUMP OPERATION AT PEAK FLOW FOR 48 HRS, OR AVERAGE FLOW FOR 96 HOURS (WHICHEVER IS GREATER).**
12. AN OPERATION AND MAINTENANCE MANUAL IS REQUIRED AND SHALL BE PROVIDED TO THE OWNER/OPERATOR PURSUANT TO ENV-WQ 705.10(A)

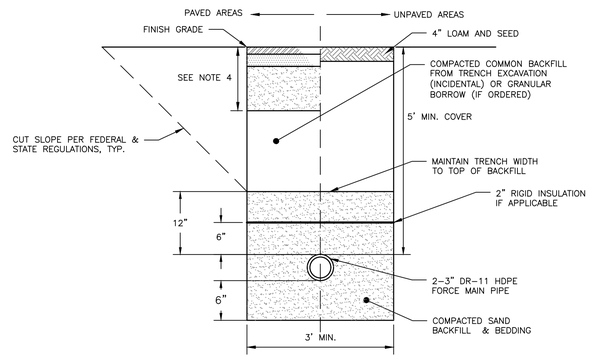
PUMP STATION WEIGHT MUST EQUAL 54,000 LBS OR GREATER PER DEPTH SHOWN ON DETAIL.
VALVE MANHOLE WEIGHT MUST EQUAL 8,500 LBS OR GREATER PER DEPTH SHOWN ON DETAIL.
NO ADDITIONAL BALLAST ARE REQUIRED DUE TO GROUND WATER DISPLACEMENT WITH NO EARTH COVER AND A GROUNDWATER ELEVATION OF 3+/= FEET BELOW EXISTING SURFACE. IF SEASONAL HIGH WATER TABLE IS HIGHER CONSULT ENGINEER.



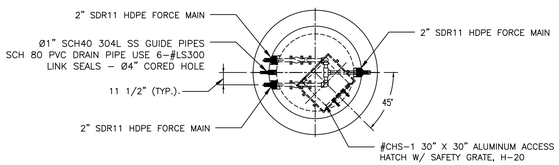
SEWER PUMP STATION DETAIL
NOT TO SCALE

NOTES:

1. PLACE TRENCH BACKFILL MATERIAL IN 12" LIFTS.
2. COMPACT MATERIAL LIFTS TO 92% OF MAX. DRY DENSITY.
3. PAVED AREAS SHALL MATCH TYPICAL ROAD SECTION WHEN LOCATED WITHIN PAVED AREAS.
4. WORK WITHIN UPPER FALLS WAY SHALL BE COORDINATED WITH THE DEPARTMENT OF PUBLIC WORKS DIRECTOR. PAVEMENT CUT IN UPPER FALLS WAY SHALL BE RESTORED TO EXISTING CONDITIONS OR THE MAJOR RESIDENTIAL STREETS PAVEMENT PROFILE, WHICHEVER IS MORE STRINGENT.
5. MIN 2" OF RIGID INSULATION WHERE COVER IS LESS THAN 5'.



FORCE MAIN TRENCH
NOT TO SCALE



VALVE PIT SECTION VIEW
NOT TO SCALE

PUMP DESIGN - TABLE 2		
PUMP INFORMATION	PUMP 1	PUMP 2
ELEV. HEAD:	40.9'	**40.9'**
FRICTION HEAD:	14.8'	**14.8'**
TOTAL HEAD:	55.7'	**55.7'**
WASTEWATER FLOW INFORMATION		
VELOCITY:	7.66 FPS	
PUMP FLOW RATE:	75 GPM	
VOLUME OF WET WELL:	147 GAL/FT (5' INSIDE DIA.)	
VOLUME OF HOLDING TANK:	424 GAL/FT (6'X15' INSIDE DIMS.)	
DOES/DAY (ALTERNATING):	6 DOES (ALTERNATING)	
VOLUME/DOSE:	5,240 GAL	
PUMPING TIME/DOSE:	18.85 MIN	

TABLE 1: STRUCTURE DESIGN		
	PUMP 1	**PUMP 2**
HATCH TYPE	300 PSF	300 PSF
TOP EL.	57.00'	57.00'
GND EL.	57.00'	57.00'
SS INV. IN EL.	52.00'	52.00'
SS INV. OUT EL.	52.00'	52.00'
LAG ON EL.	47.25'	47.25'
ALARM EL.	47.25'	47.25'
LEAD ON EL.	46.25'	46.25'
PUMPS OFF EL.	44.75'	44.75'
BOTTOM INVERT EL.	41.25'	41.25'

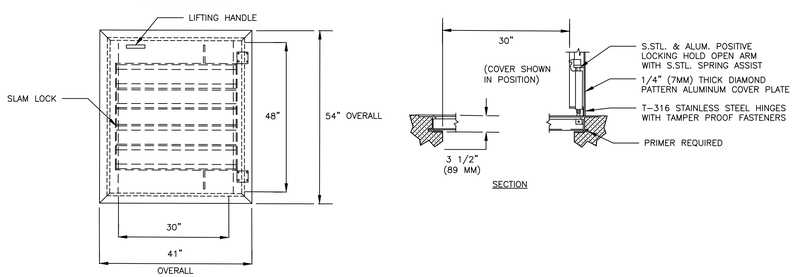
SERIES H1R ACCESS DOOR

STANDARD FEATURES:

- **AUTO-LOCK T-316 STAINLESS STEEL HOLD OPEN ARM WITH RELEASE HANDLE**
- **T-316 STAINLESS STEEL HINGES AND ATTACHING HARDWARE**
- **T-316 STAINLESS STEEL SLAM LOCK WITH REMOVABLE KEY**
- **STAINLESS STEEL COMPRESSION SPRING ASSIST**
- **SINGLE LEAF CONSTRUCTION**
- **H20 LOAD RATING (SEE NOTES)**
- **EXTRUDED ALUMINUM FRAME**
- **RECESSED LIFTING HANDLE**
- **LIFETIME GUARANTEE**

NOTES:

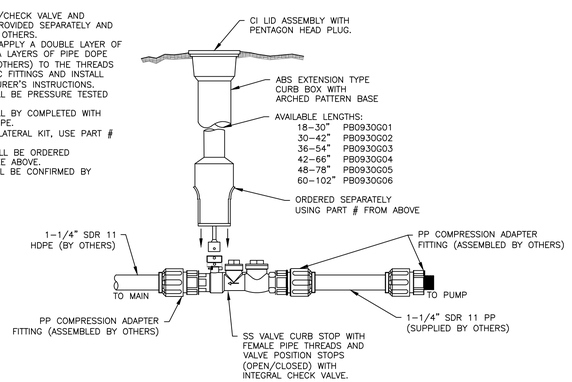
1. **SUITABLE FOR USE IN OFF STREET LOCATION WHERE NOT SUBJECTED TO HIGH DENSITY TRAFFIC.**
2. **PROVIDE A FULL BED OF CLASS "A" CONCRETE UNDER FRAME AND SUPPORT ANGLES.**



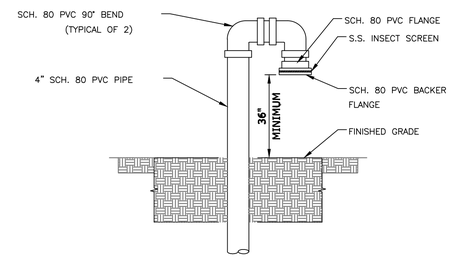
ACCESS DOOR
NOT TO SCALE

NOTES:

1. SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY AND ASSEMBLED BY OTHERS.
2. TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, A LAYERS OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER MANUFACTURER'S INSTRUCTIONS.
3. ASSEMBLY SHALL BE PRESSURE TESTED BY OTHERS.
4. ASSEMBLY SHALL BY COMPLETED WITH SDR11 HDPE PIPE.
5. TO ORDER SS LATERAL KIT, USE PART # NC0193G0.
6. CURB BOX SHALL BE ORDERED SEPARATELY, SEE ABOVE.
7. PIPE SIZE SHALL BE CONFIRMED BY OTHERS.



FORCE MAIN SHUT-OFF DETAIL
NOT TO SCALE



VENT PIPE
NOT TO SCALE

All PUMP STATIONS TO BE DESIGNED BY OTHERS. PUMP STATION DETAILS PROVIDED BY ACORN ENGINEERING ARE INTENDED SOLEY FOR VISUAL AND GENERAL INFORMATION PURPOSES AND SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH PUMP STATION MANUFACTURER TO OBTAIN SPECIFICATIONS AND CONFIRM FINAL DESIGN OF PUMP STATIONS.

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SKETCH PLAN	PFH	10/23/24
PRELIMINARY	PFH	10/29/22
DEP SW AMENDMENT	PFH	11/7/22
SRCC	PFH	1/4/23
FINAL SITE PLAN	PFH	7/11/23
SITE PLAN AMENDMENT	PFH	6/11/25

DRAWING NAME: PUMP STATION DETAILS - 1
PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT, PEARL STREET, BIDDEFORD, MAINE
OWNER OF RECORD: 3 LINCOLN, LLC, 80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

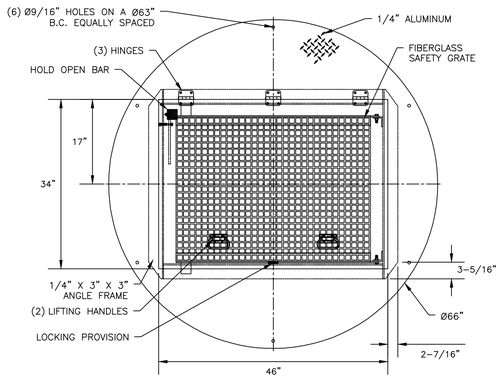
ACORN ENGINEERING, INC. — CIVIL ENGINEERING — LAND PLANNING
PO BOX 1222, EAST WAKEFIELD, NH 03830 (207) 775-2655

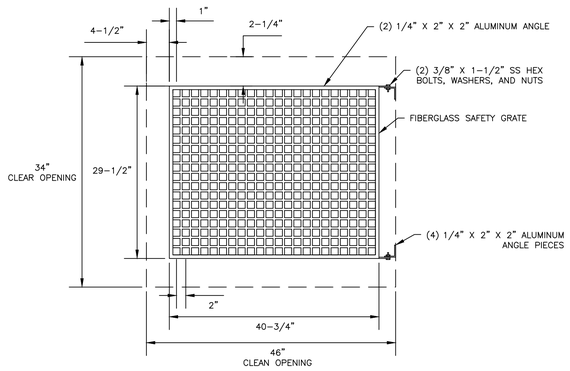
THESE PLANS SHALL NOT BE MODIFIED WITHOUT WRITTEN AUTHORIZATION FROM ACORN ENGINEERING, INC. AND IF SO MODIFIED, OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE: 1124_CIVIL
JN: 1124
SCALE: AS NOTED
DESIGNED BY: PFH
DRAWN BY: ZMS
CHECKED BY: WHS

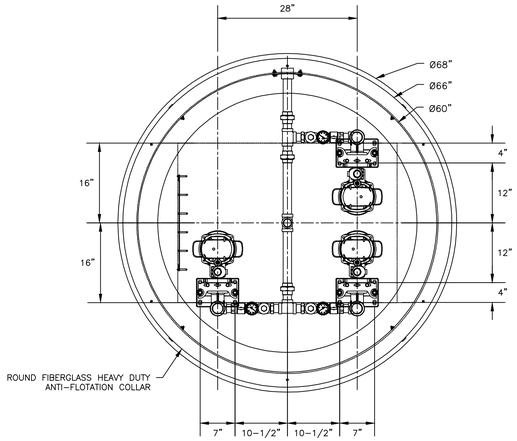
STATE OF MAINE — PETER F. HEIL — 15318 — 6/11/25 — REGISTERED PROFESSIONAL ENGINEER

DRAWING NO.
C-45

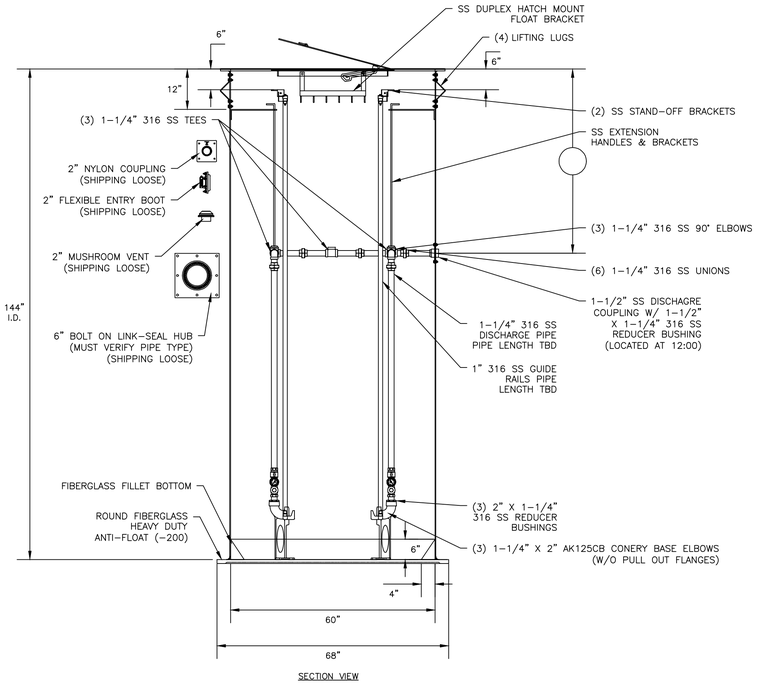




1-1/4" ALUMINUM HDC W/ SAFTEY GRATE
NOT TO SCALE

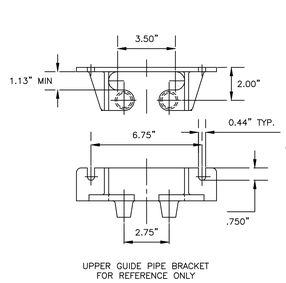


PLAN VIEW

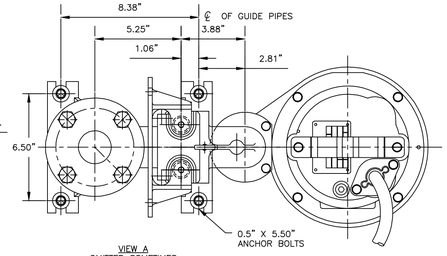


SECTION VIEW

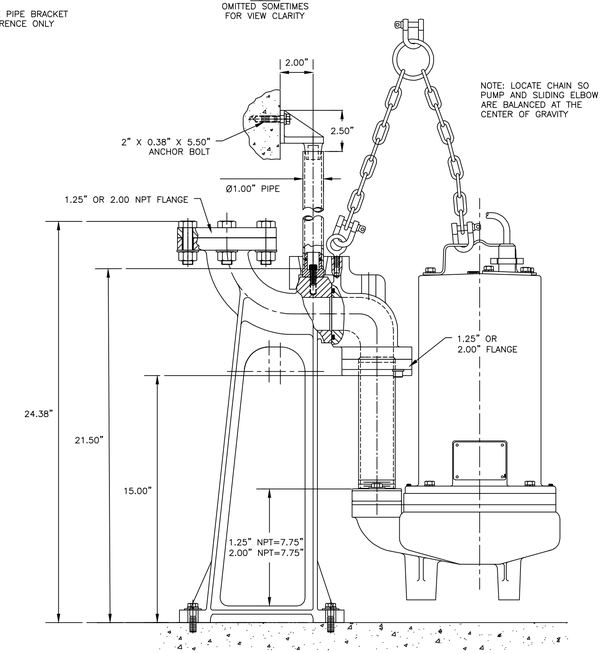
SANITARY SEWER PUMP STATION
NOT TO SCALE



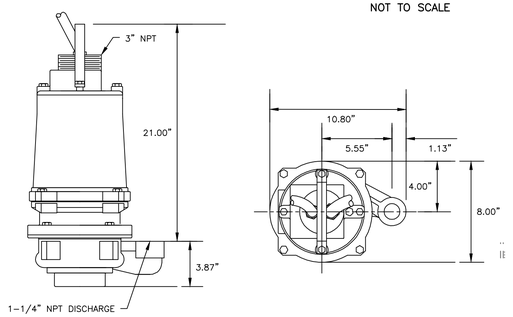
UPPER GUIDE PIPE BRACKET FOR REFERENCE ONLY



VIEW A
OMITTED SOMETIMES FOR VIEW CLARITY



1.25" – 3" BREAK AWAY FITTING
NOT TO SCALE



MODEL NO.	PART NO.	HP	VOLT/PH	Hz	RPM (NOM)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D INCH (MM)
XSGV2022L	127325	2	230/1	60	3450	H	15	53.8	10/4	SOW	0.75 (19)
XSGV2062L	127326	2	200/3	60	3450	J	11	42	10/4	SOW	0.75 (19)
XSGV2032L	127327	2	230/3	60	3450	J	9	36	10/4	SOW	0.75 (19)
XSGV2042L	127328	2	460/3	60	3450	J	4.5	18	10/4	SOW	0.75 (19)
XSGV2052L	127329	2	575/3	60	3450	J	3.2	14.4	10/4	SOW	0.75 (19)

SUBMERSIBLE GRINDER PUMP
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: PUMP STATION DETAILS – 2

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.

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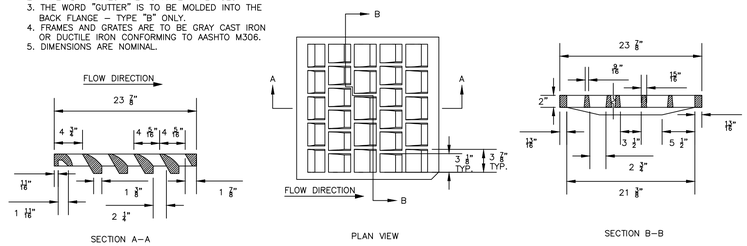
ACORN ENGINEERING, INC.
P.O. BOX 2332, BIDDEFORD, MAINE 04101
(207) 775-2655

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SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
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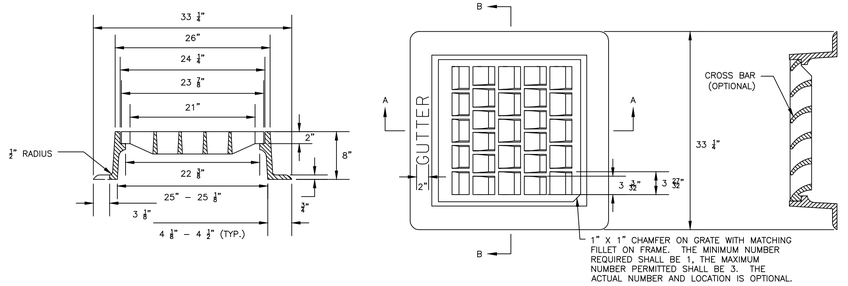
STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-46

NOTES:
1. TYPE "A" FRAMES ARE TO HAVE 3 FLANGES.
2. TYPE "B" FRAMES ARE TO HAVE 4 FLANGES.
3. THE WORD "GUTTER" IS TO BE MOLDED INTO THE BACK FLANGE – TYPE "B" ONLY.
4. FRAMES AND GRATES ARE TO BE GRAY CAST IRON OR DUCTILE IRON CONFORMING TO AASHTO M306.
5. DIMENSIONS ARE NOMINAL.

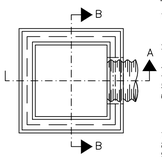


GRATE DETAIL



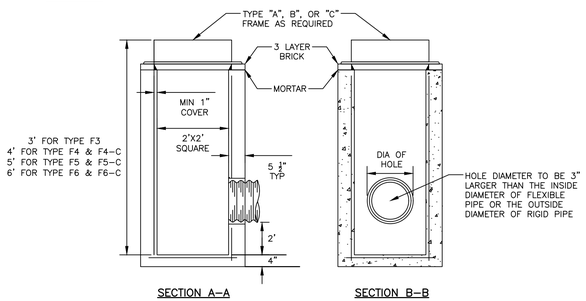
FRAME DETAIL

CATCH BASIN FRAME & GRATE – SQUARE
NOT TO SCALE

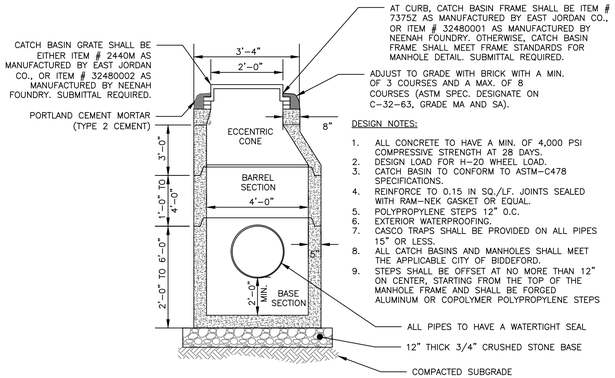


PLAN VIEW

NOTES:
1. ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK FRAME AND GRATE TO BE PRECAST AS A SINGLE PORTLAND CEMENT CONCRETE UNIT, #4 REBAR MINIMUM 8" O.C. OR EQUIVALENT WITH ENGINEER OF RECORD'S APPROVAL.
2. FIBER–REINFORCED CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
3. DESIGN LOAD FOR H–20 WHEEL LOAD.
4. CATCH BASIN TO CONFORM TO ASTM–C478 SPECIFICATIONS.
5. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM–NEK GASKET OR EQUAL.
6. POLYPROPYLENE STEPS 12" O.C.
   6.1. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS.
7. EXTERIOR WATERPROOFING.
8. FLEXIBLE WATERTIGHT PIPE BOOTS TO CONFORM TO ASTM C–923.
9. SHALL MEET THE APPLICABLE TOWN OF BRUNSWICK STANDARDS.
10. CATCH BASIN SHALL BE AS MANUFACTURED BY PRECAST OF MAINE OR APPROVED EQUAL.



24" SQUARE CATCH BASIN "TYPE F"
NOT TO SCALE



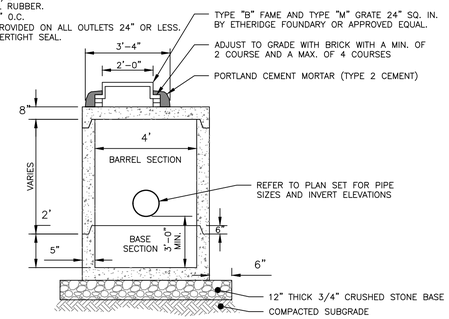
DESIGN NOTES:
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H–20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM–C478 SPECIFICATIONS.
4. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM–NEK GASKET OR EQUAL.
5. POLYPROPYLENE STEPS 12" O.C.
6. EXTERIOR WATERPROOFING.
7. CASCO TRAPS SHALL BE PROVIDED ON ALL PIPES 15" OR LESS.
8. ALL CATCH BASINS AND MANHOLES SHALL MEET THE APPLICABLE CITY OF BIDDEFORD.
9. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS

4'–0" & 5'–0" DIAMETER PRECAST CATCH BASIN/MANHOLE
NOT TO SCALE

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 lbs. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. MANHOLES MAY BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
3. PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C–478.
4. ALL STORM AND SEWER MANHOLE COVERS SHALL BE SOLD AND SHALL HAVE ONE ⅞" DIAMETER DRILLED PICK HOLE LOCATED 8" FROM THE CENTER OF THE COVER.
5. ALL SANITARY MANHOLE COVERS SHALL HAVE "SEWER" CAST INTO THE COVER. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
6. ALL MANHOLE RISERS SHALL BE ETHERIDGE 24" OR APPROVAL EQUAL.
7. SEWER BRICK SHALL CONFORM TO ASTM SPEC. DESIGNATE ON C–32–63, GRADE MA AND SA.
8. ALL SANITARY MANHOLES SHALL HAVE A WATERPROOFING COATING APPLIED TO THE EXTERIOR SURFACE.
9. CATCH BASIN FRAMES FOR TYPE A4 CATCH BASIN CURB INLETS SHALL BE ETHERIDGE DR5A OR APPROVED EQUAL.
10. CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48–CLASS 35.
11. EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF BIDDEFORD.
12. ALL CATCH BASIN OUTLETS SHALL BE INSTALLED WITH A CASCO TRAP PER DETAIL.

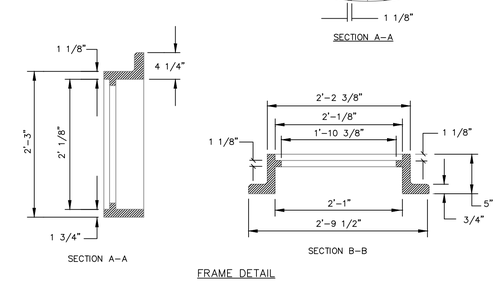
GENERAL NOTES FOR MANHOLES AND CATCH BASINS

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. CASCO TRAPS SHALL BE PROVIDED ON ALL OUTLETS 24" OR LESS.
8. ALL PIPES TO HAVE A WATERTIGHT SEAL.



4'–0" PRECAST CATCH BASIN WITH FLATTOP
NOT TO SCALE

NOTES:
1. APPROVED CATCH BASIN FRAMES:
   1.1. EAST JORDAN = 7375Z
   1.2. NEENAH = R–3248
   1.3. OR APPROVED EQUAL
2. APPROVED CATCH BASIN GRATES
   2.1. EAST JORDAN = 2440M
   2.2. NEENAH = R–3248
   2.3. OR APPROVED EQUAL

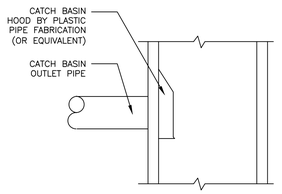


CATCH BASIN FRAME & GRATE
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

CATCH BASIN/DRAIN MANHOLE HOOD DETAIL
NOT TO SCALE

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	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: **DRAINAGE DETAILS – 1**

PROJECT NAME/ADDRESS: **PEARL STREET (LOT 3) REDEVELOPMENT**
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

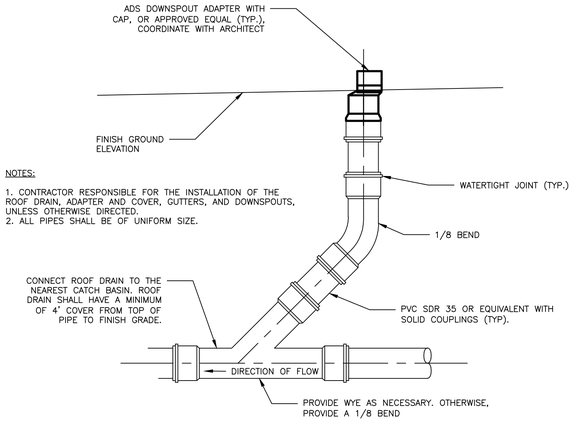
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ACORN ENGINEERING, INC
P.O. BOX 3301 PORTLAND, MAINE 04101
(207) 775–2655

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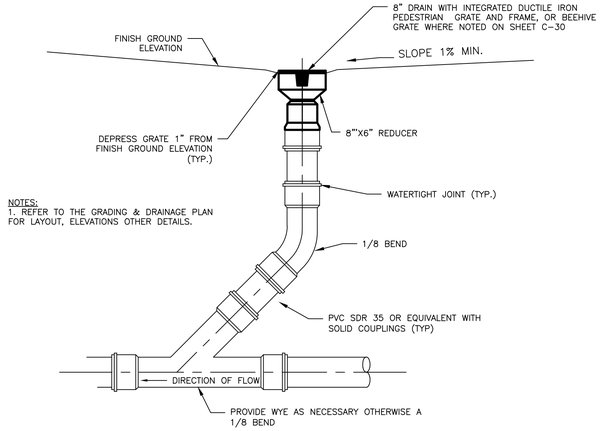
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STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

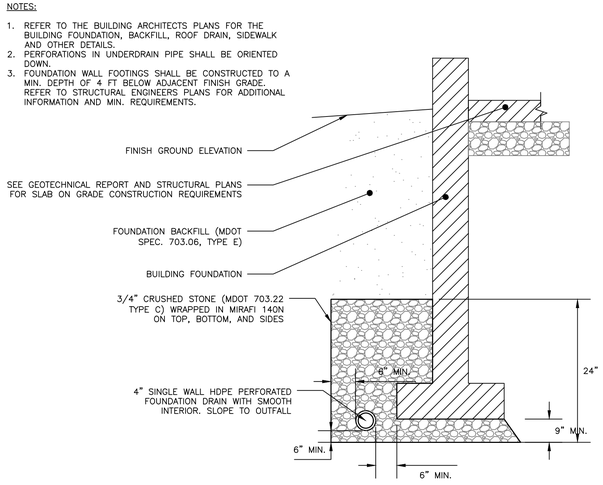
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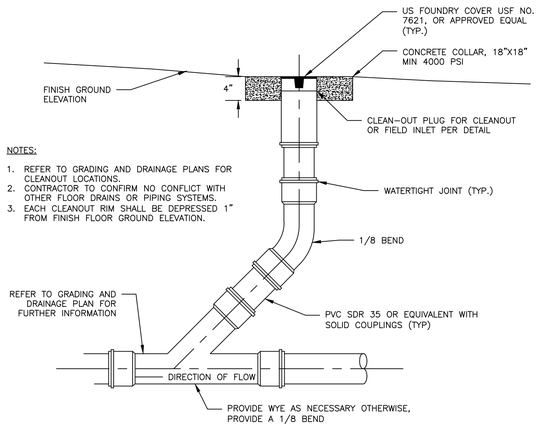
ROOF DRAIN DETAIL
NOT TO SCALE



FIELD INLET DRAIN DETAIL WITH GRATE
NOT TO SCALE



FOUNDATION DRAIN DETAIL
NOT TO SCALE



CONCRETE COLLAR FOR FLOOR DRAINS AND CLEANOUTS IN PAVED AREAS
NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: DRAINAGE DETAILS – 2

PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

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PO BOX 3777, PORTLAND, MAINE 04101
(207) 775-2655

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STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-48

NOTES:

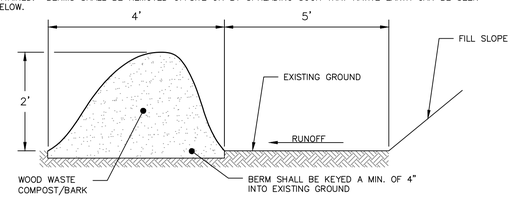
1. THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DOT CHAPTER 700, SECTION 717.04(D):

   1.1. pH BETWEEN 5.0 – 8.0
   1.2. PARTICLE SIZE (BY WEIGHT):
   1.2.1. 100% PASSING A 150 MM (6 IN) SCREEN
   1.2.2. 75 TO 85% PASSING A 19 MM (0.75 IN) SCREEN
   1.3. SOLUBLE SALTS CONTENT < 4.0 MMHOS/CM
   1.4. ORGANIC MATTER 20 TO 100% , DRY WEIGHT BASIS

2. THE BERM SHOULD BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR, WHEN NECESSARY THE BERM MAY BE PLACED PERPENDICULAR TO THE SLOPE ALONG THE PROPERTY LINE TO CONTAIN THE SEDIMENT PROVIDED A BERM IS LOCATED AT THE BASE OF THE SLOPE.

3. THE BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.

4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED OFFSITE OR BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.

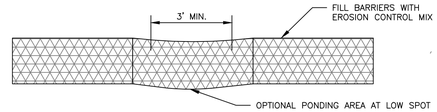


EROSION CONTROL MIX BERM DETAIL

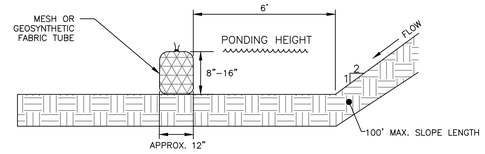
NOT TO SCALE

NOTES:

1. FULL CONTACT WITH THE GROUND IS CRITICAL TO PREVENT SHORT CIRCUITING UNDER THE TUBE – THE GROUND SURFACE SHOULD BE SMOOTH AND LEVEL. IN WOODED AREAS, PROTRUDING ROOTS AND DEBRIS MAY NEED TO BE REMOVED. IN GRASSED AREAS, THE GRASS NEEDS TO BE EITHER MOWED OR COMPRESSED DOWN.
2. STAKING MAY BE NECESSARY ON STEEP SLOPES.
3. UPON FINAL STABILIZATION, THE TUBE CAN BE CUT OPEN AND THE MATERIAL SPREAD OUT ONTO THE GROUND. THE MESH MATERIAL SHOULD BE REMOVE.
4. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE COMPOST FILTER SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE, IMPROVING FILTRATION AND SEDIMENT RETENTION.



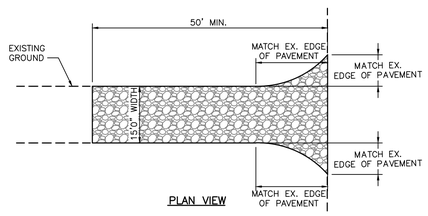
FRONT VIEW



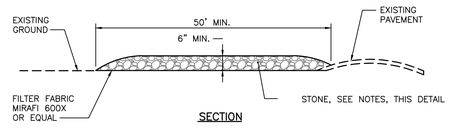
SIDE VIEW

FILTER SOCK DETAIL

NOT TO SCALE



PLAN VIEW



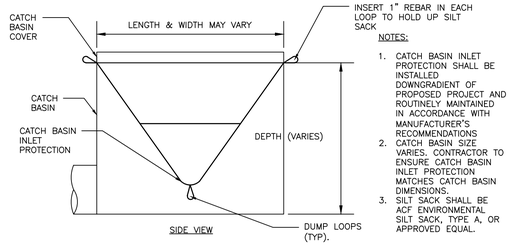
SECTION

NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"–3" COARSE AGGREGATE
3. CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.
4. WHEN NECESSARY, ON–SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.
5. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT–OF–WAY

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



SIDE VIEW

NOTES:

1. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED DOWNGRADIENT OF PROPOSED PROJECT AND ROUTINELY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. CATCH BASIN SIZE VARIES. CONTRACTOR TO ENSURE CATCH BASIN INLET PROTECTION MATCHES CATCH BASIN DIMENSIONS.
3. SILT SACK SHALL BE ACF ENVIRONMENTAL SILT SACK, TYPE A, OR APPROVED EQUAL.

CATCH BASIN INLET PROTECTION

NOT TO SCALE

PERMITTING
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/20/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: **EROSION & SEDIMENTATION CONTROL DETAILS**

PROJECT NAME/ADDRESS: **PEARL STREET (LOT 3) REDEVELOPMENT**
PEARL STREET, BIDDEFORD, MAINE

OWNER OF RECORD: 3 LINCOLN, LLC
80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

ACORN ENGINEERING, INC.
ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3477 PORTLAND, MAINE 04101
(207) 775-2655

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CHECKED BY:	WHS

STATE OF MAINE
PETER F. HEIL
15318
6/11/25
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

C-50

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 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.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 PEARL STREET AND SMITH STREET SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCES TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 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.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM AND SHALL BE LIMED, AND MULCHED.
EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.2 OF THIS REPORT.

1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.

1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 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, MULCHING AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 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 WEEK, 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.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE, WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: PETER HEIL, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

Ø MAINE PROFESSIONAL ENGINEERING LICENSE #15318
Ø MAINE DEP – CERTIFIED THIRD PARTY INSPECTOR
Ø CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #7071

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. PRIORITIZE THE DOWNHILL SIDE TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN PEARL STREET.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 SEEDING PLAN

7.1 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.

7.2 SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P205–K20) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

7.3 SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

PERMANENT SEED APPLICATION RATES

SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

7.4 MULCHING

MULCH SHALL BE HARDWOOD AND APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT. REFER TO DETAIL FOR MORE INFORMATION.

8.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

HOUSEKEEPING

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1–800–482–0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1–800–452–4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT : HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE–TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

SEE APPENDIX D FOR LICENSE BY RULE STANDARDS FOR INFILTRATION OF STORMWATER.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465–C(1).

3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL. BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF–SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITAT

PLAN REFERENCES:

1. PLAN TITLED "BIDDEFORD PARKING GARAGE MERC SITE" PREPARED BY DESMAN DESIGN MANAGEMENT DATED 12/20/2019 AND REVISED 1/14/2020.
2. PLAN TITLED "PEARL STREET RECONSTRUCTION PROJECT" PREPARED BY SEWALL DATED 2/4/2022
3. PLAN TITLED "EXISTING CONDITIONS SURVEY" PREPARED BY OWEN HASKELL, INC. DATED 2/28/25.
4. PLAN TITLED "SUBDIVISION PLAT" PREPARED BY ACORN ENGINEERING ON 5/27/25.
5. PLAN TITLED "SUBDIVISION PLAT – FIRST AMENDED" PREPARED BY ACORN ENGINEERING ON 5/27/25.

PARKING SUMMARY			
USE	UNITS	SPACES REQUIRED	PROPOSED
BUILDING A	52	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 42+20 = 62 SPACES***	22
–	–	INCREASE OF 5% (OF 52 SPACES) TO ALLOW FOR VISITORS = 3 SPACES	–
RETAIL	1,110 SF	1 SPACE / 300 SF OF FLOOR SPACE = 3 SPACES*	0
BUILDING B	85	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 59+52 = 111 SPACES***	18
–	–	INCREASE OF 5% (OF 85 SPACES) TO ALLOW FOR VISITORS = 4 SPACES	–
BUILDING C	154 SEATS	1 SPACE / 3 SEATS = 52 SPACES*	0
TOWNHOMES (BUILDING D)	5	1 SPACE / DWELLING UNIT (EXCLUSIVELY FOR & OCCUPANCY RESTRICTED) = 5 SPACES	5
ADA (8'X18')	–	–	4
STANDARD (9'X18')	–	–	41
TOTAL SPACES	–	240 – 55* = 185	45
ADDITIONAL SPACES TO BE PROVIDED IN PARKING GARAGE	–	140**	(45+140) =185
*WAIVER FOR COMMERCIAL SPACE TO BE REQUESTED.			
**APPLICANT TO COORDINATE TO CITY PARKING GARAGE ON CURRENT AVAILABILITY			
***1 PARKING SPACE PER UNITS IF DESIGNED EXCLUSIVELY FOR, AND OCCUPANCY IS RESTRICTED TO, SENIOR HOUSING, STUDIO APARTMENTS AND 1–BEDROOM APARTMENTS. OTHERWISE 2 PARKING SPACES PER UNIT			

EASEMENTS:

EXISTING:

1. PROPOSED ACCESS, UTILITY, AND MAINTENANCE EASEMENT A FROM CITY OF BIDDEFORD TO CURRENT AND FUTURE OWNERS OF LOTS 1, 2, 3, & 4.
2. PROPOSED ACCESS, UTILITY, AND MAINTENANCE EASEMENT B FROM THE CITY OF BIDDEFORD TO CURRENT AND FUTURE OWNERS OF LOTS 1, 2, 3, & 4.
3. PROPOSED ACCESS EASEMENT C FROM OWNERS OF LOT 3 TO CITY OF BIDDEFORD FOR FIRE TRUCK ACCESS
4. PROPOSED ACCESS, UTILITY, AND MAINTENANCE EASEMENT D FROM CITY OF BIDDEFORD BENEFITING LOT 1, 2, 3 & 4.
5. PROPOSED ACCESS, AND MAINTENANCE EASEMENT E FROM THE CITY OF BIDDEFORD TO OWNERS OF LOT 3.
6. EXISTING ACCESS, UTILITY, & MAINTENANCE EASEMENT F FROM LOT 1B TO LOT 1A

PROPOSED:

1. NO PROPOSED EASEMENTS.

SURVEY NOTES:

1. OWNER OF RECORD: CITY OF BIDDEFORD
   TAX MAP 71 LOT 2
   Y.C.R.D. BOOK 16838 PAGE 255
   Y.C.R.D. BOOK 16475 PAGE 186
2. BEARINGS ARE BASED ON MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83.
3. ELEVATIONS ARE BASED ON NAVD 88 DATUM.

LOT 3 SPACE AND BULK STANDARDS			
ZONE:	REQUIRED (MSRD3)	REQUIRED (WR)	PROPOSED LOT 3
MINIMUM LOT SIZE	NONE	NONE (WITHIN EX. STRUCTURES ONLY)	2.08 AC
MINIMUM STREET FRONTAGE	NONE	–	322'
MINIMUM FRONT YARD SETBACK	NONE	–	0.57'
MINIMUM REAR YARD SETBACK	NONE	–	27.40'
MINIMUM SIDE YARD SETBACK	NONE	–	1.05'
MINIMUM BUILDING HEIGHT	MIN. 2 STORIES OR 26 FEET	–	SEE ELEVATIONS PER ARCHITECT
MINIMUM SHORE FRONTAGE	–	NONE (WITHIN EX. STRUCTURES ONLY)	N/A
SACO RIVER SETBACK (INCLUDING PARKING AREAS)	–	100' FROM NORMAL HIGH–WATER LINE	116.32'
SACO RIVER NO–CUT ZONE (SRCC)	–	75'	N/A
MAX LOT COVERAGE	100%	70% WITHN SHORELAND ZONE	TOTAL: 76% SHORELAND: 69.7%
MINIMUM LOT AREA PER USE	–	RESIDENTIAL: 425 SF/UNIT COMMERCIAL: 5,000 SF/STRUCTURE	RESIDENTIAL: 638 SF/UNIT COMMERCIAL: 90,629 SF/STRUCTURE

LEGEND

- PROPOSED PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT LINE
- EXISTING RIGHT OF WAY
- IRON ROD TO BE SET
- EXISTING ROD/NAILS FOUND

STATE OF MAINE, YORK, ss
REGISTRY OF DEEDS

RECEIVED _____

AT ____ hr. ____ min. ____ m AND RECORDED

IN PLAN BOOK _____, PAGE _____

ATTEST: _____
REGISTER

LAND OWNER:

CITY OF BIDDEFORD
205 MAIN STREET
BIDDEFORD MAINE 04005

CIVIL/SITE ENGINEER:

ACORN ENGINEERING, INC.
16 MIDDLE STREET, SUITE #302
PORTLAND, MAINE 04103
CONTACT: PETER F. HEIL, P.E.

SURVEYOR

OWEN HASKELL, INC.
390 US ROUTE 1, UNIT 10
FALMOUTH, MAINE 04105
CONTACT: RANDY LOUBIER, P.L.S.

APPROVED: BIDDEFORD PLANNING BOARD

CHAIRPERSON: DATE:

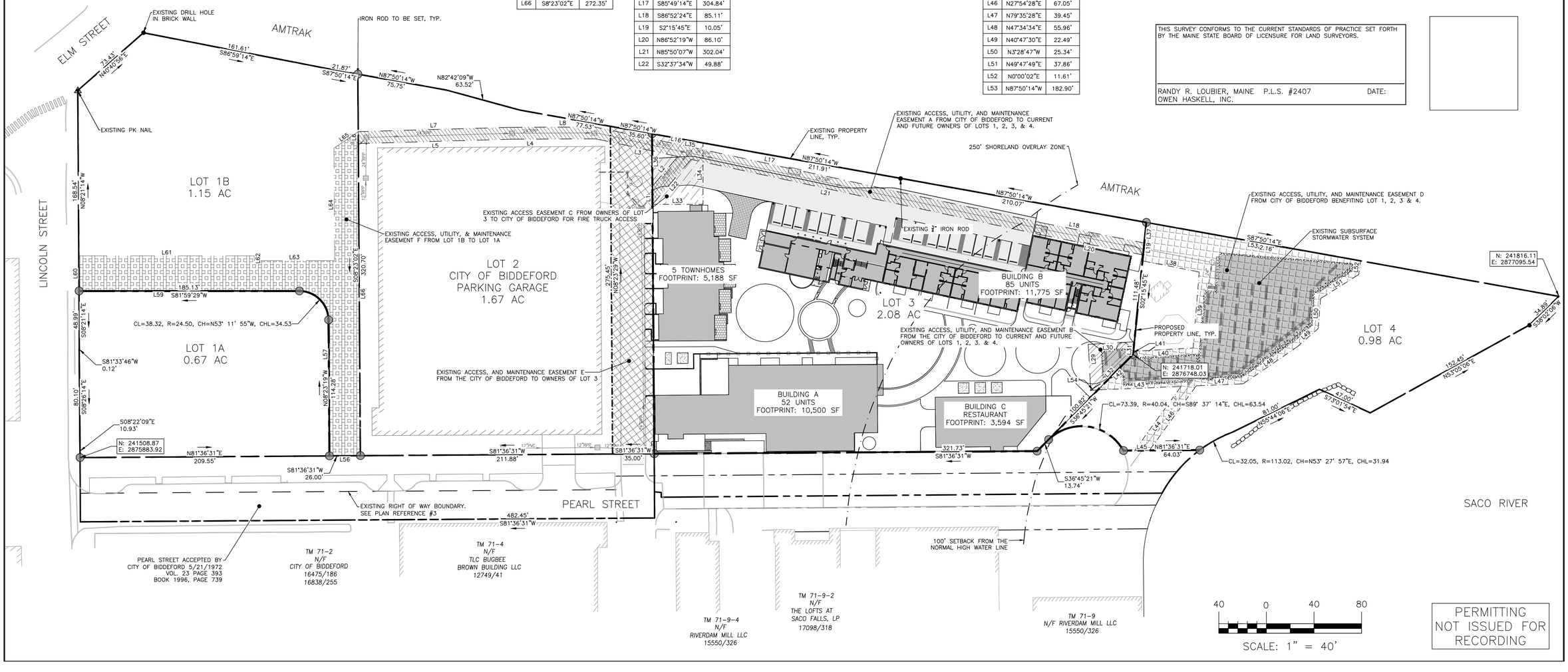
EASEMENT 'F' TABLE		
LINE	BEARING	DISTANCE
L56	S81°36'31"W	26.00'
L57	N8°23'19"W	114.28'
L59	S81°59'29"W	185.13'
L60	N8°21'14"W	29.50'
L61	N81°59'29"E	147.39'
L62	S8°12'43"E	4.00'
L63	N81°58'51"E	67.59'
L64	N8°22'41"W	94.46'
L65	N47°40'36"E	24.71'
L66	S8°23'02"E	272.35'

EASEMENT 'A' TABLE		
LINE	BEARING	DISTANCE
L1	N8°23'29"W	15.24'
L2	N32°37'34"E	32.97'
L3	N85°50'07"W	70.29'
L4	S81°47'23"W	70.50'
L5	S80°21'24"W	129.41'
L6	N8°23'02"W	10.00'
L7	N80°21'24"E	127.02'
L8	N81°43'45"E	71.79'
L16	S86°12'29"E	81.97'
L17	S85°49'14"E	304.84'
L18	S86°52'24"E	85.11'
L19	S2°15'45"E	10.05'
L20	N86°52'19"W	86.10'
L21	N85°50'07"W	302.04'
L22	S32°37'34"W	49.88'

EASEMENT 'B' TABLE		
LINE	BEARING	DISTANCE
L29	S11°07'57"E	38.69'
L30	S78°52'03"W	38.79'
L31	N2°15'45"W	10.60'
L32	N36°45'21"E	42.07'
L54	N78°52'03"E	5.94'

EASEMENT 'C' TABLE		
LINE	BEARING	DISTANCE
L33	N81°59'37"E	42.41'
L34	N8°00'23"W	51.68'
L35	N87°50'14"W	43.49'
L36	S8°23'29"E	59.36'

EASEMENT 'D' TABLE		
LINE	BEARING	DISTANCE
L37	S2°15'45"E	32.46'
L38	S86°52'19"E	48.55'
L39	S3°28'47"E	64.08'
L40	S78°50'33"W	50.30'
L41	S2°15'45"E	2.61'
L42	S36°45'21"W	42.07'
L43	N79°35'28"E	69.98'
L44	S27°54'28"W	66.49'
L45	N81°36'31"E	12.41'
L46	N27°54'28"E	67.05'
L47	N79°35'28"E	39.45'
L48	N47°34'34"E	55.96'
L49	N40°47'30"E	22.49'
L50	N3°28'47"W	25.34'
L51	N49°47'49"E	37.86'
L52	N0°00'02"E	11.61'
L53	N87°50'14"W	182.90'



SCALE: 1" = 40'

THIS SURVEY CONFORMS TO THE CURRENT STANDARDS OF PRACTICE SET FORTH BY THE MAINE STATE BOARD OF LICENSURE FOR LAND SURVEYORS.

RANDY R. LOUBIER, MAINE P.L.S. #2407 DATE:
OWEN HASKELL, INC.

PERMITTING NOT ISSUED FOR RECORDING

ISSUED FOR	BY DATE
SKETCH PLAN	PFH 10/23/24
PRELIMINARY	PFH 10/29/22
DEP SW AMENDMENT	PFH 11/7/22
SRCC	PFH 1/4/23
FINAL SITE PLAN	PFH 7/11/23
SITE PLAN AMENDMENT	PFH 6/11/25

DRAWING NAME: SUBDIVISION PLAT – SECOND AMENDED
PROJECT NAME/ADDRESS: PEARL STREET (LOT 3) REDEVELOPMENT PEARL STREET, BIDDEFORD, MAINE
APPLICANT: 3 LINCOLN, LLC 80 EXCHANGE STREET, SUITE 400, PORTLAND, ME, 04101

THE ACORN ENGINEERING, INC. SEAL SHALL NOT BE AFFIXED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. AND ANY UNAUTHORIZED USE OF THE SEAL OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
16 MIDDLE STREET, SUITE 302
PO BOX 3007 PORTLAND, MAINE 04101
(207) 775–2655

FILE:	1124_CIVIL
JN:	1124
SCALE:	AS NOTED
DESIGNED BY:	PFH
DRAWN BY:	ZMS
CHECKED BY:	WHS

DRAWING NO.

PLAT



FIBER CEMENT PANEL 1:
4' X 8' VERTICAL PANEL



FIBER CEMENT PANEL 2:
2' X 4' VERTICAL PANEL



SLATE STONE TILE:
VERMONT STRUCTURAL SLATE, GRAYSON NATURAL CLEFT FINISH



CAST CONCRETE FORM LINER:
AP SYSTEM #331-C, RANDOM STRIATED RIB PRECAST



1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

Kaplan Thompson Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

SOUTH ELEVATION, BUILDING A

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



FIBER CEMENT PANEL 1:
4' X 8' VERTICAL PANEL



FIBER CEMENT PANEL 2:
2' X 4' VERTICAL PANEL



SLATE STONE TILE:
VERMONT STRUCTURAL SLATE, GRAYSON NATURAL CLEFT FINISH



CAST CONCRETE FORM LINER:
AP SYSTEM #331-C, RANDOM STRIATED RIB PRECAST



1 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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NORTH ELEVATION, BUILDING A

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



FIBER CEMENT PANEL 1:
4' X 8' VERTICAL PANEL



FIBER CEMENT PANEL 2:
2' X 4' VERTICAL PANEL



SLATE STONE TILE:
VERMONT STRUCTURAL SLATE, GRAYSON NATURAL CLEFT FINISH



CAST CONCRETE FORM LINER:
AP SYSTEM #331-C, RANDOM STRIATED RIB PRECAST



2 WEST ELEVATION
SCALE: 1/8" = 1'-0"

0 4' 8' 16'



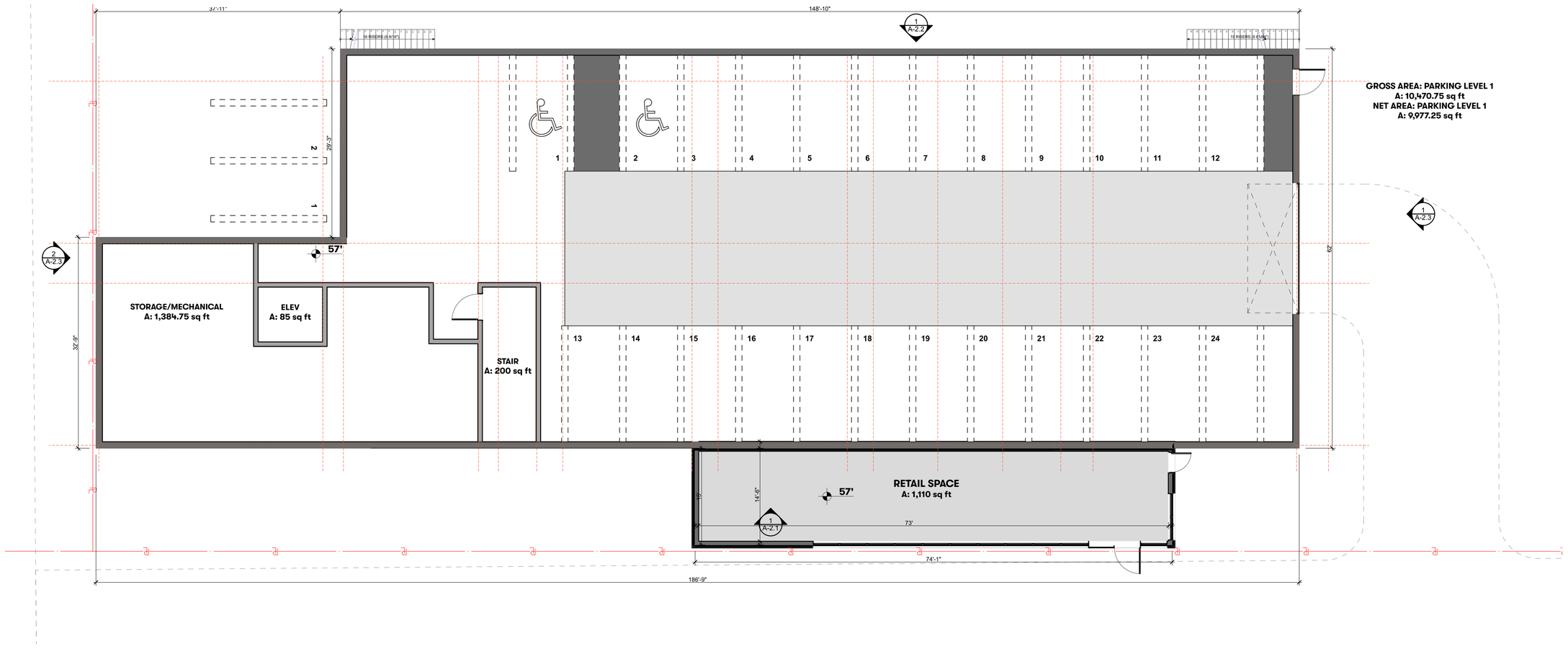
1 EAST ELEVATION
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

EAST & WEST ELEVATIONS, BUILDING A

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Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



1 PARKING LEVEL / RETAIL
SCALE: 1/8" = 1'-0"

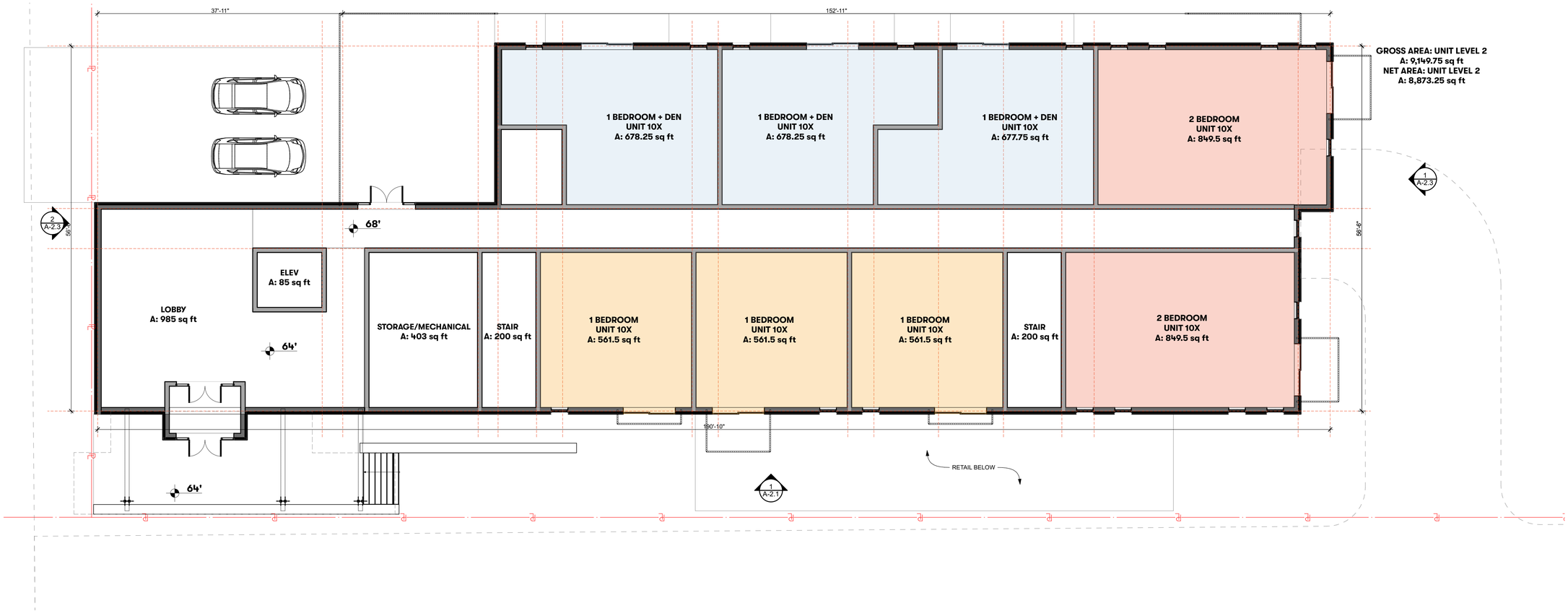
0 4" 8" 16"

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PARKING LEVEL FLOOR PLAN, BUILDING 3A

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



GROSS AREA: UNIT LEVEL 2
A: 9,149.75 sq ft
NET AREA: UNIT LEVEL 2
A: 8,873.25 sq ft

1 GROUND LEVEL
SCALE: 1/8" = 1'-0"

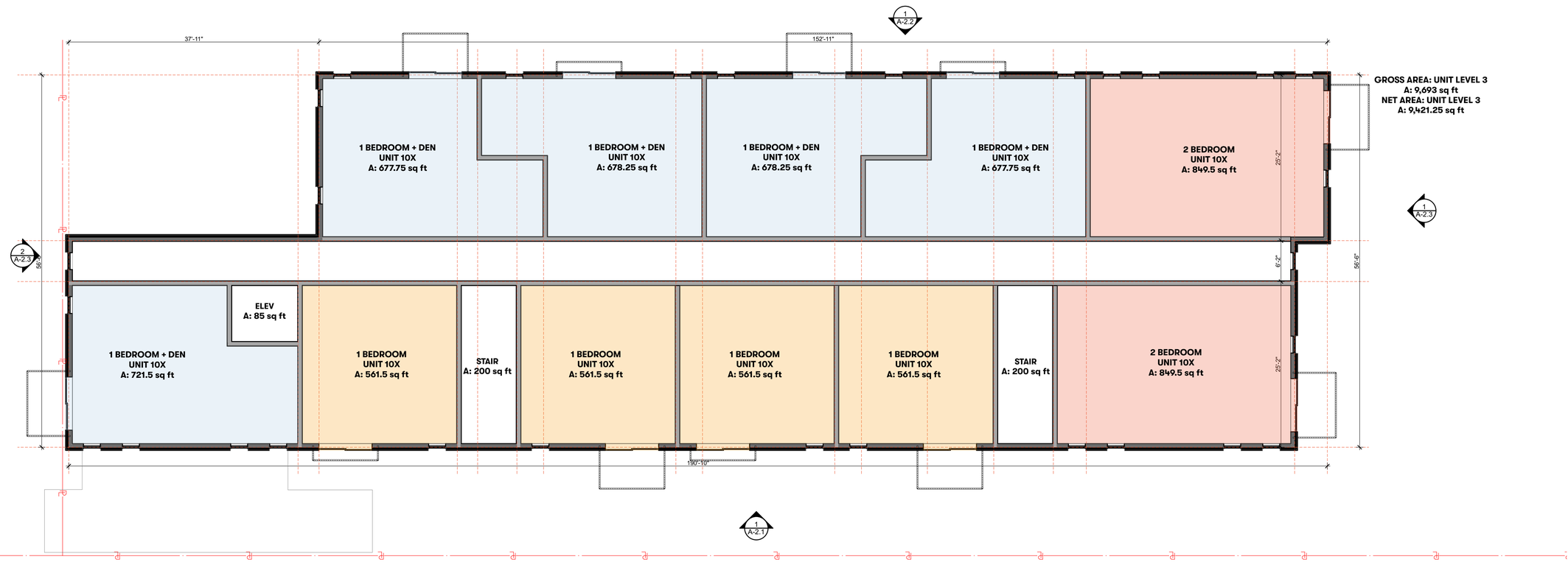
0 4' 8' 16'

GROUND LEVEL FLOOR PLAN, BUILDING 3A

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Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



GROSS AREA: UNIT LEVEL 3
A: 9,693 sq ft
NET AREA: UNIT LEVEL 3
A: 9,421.25 sq ft

1 UPPER LEVELS, TYP.
SCALE: 1/8" = 1'-0"

0 4' 8' 16'

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TYPICAL FLOOR PLAN, UPPER LEVELS BUILDING 3A

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



1 SOUTH ELEVATION

SCALE: 3/32" = 1'-0"

0 8' 16' 24'



2 NORTH ELEVATION

SCALE: 3/32" = 1'-0"

0 8' 16' 24'



WEATHERING STEEL PANEL: ACCENT PANEL, SMOOTH FINISH

WEATHERING STEEL PANEL: CORRUGATED, 1/4" | 1/2" | 7/8", 24 GAUGE

WEATHERING STEEL PANEL: ACCENT PANEL, WESTERN REVEAL

FIBER CEMENT PANEL: 4' X 8' VERTICAL PANEL

THERMALLY MODIFIED WOOD: LUNAWOOD PANEL, NORDIC PINE, OR SIM.

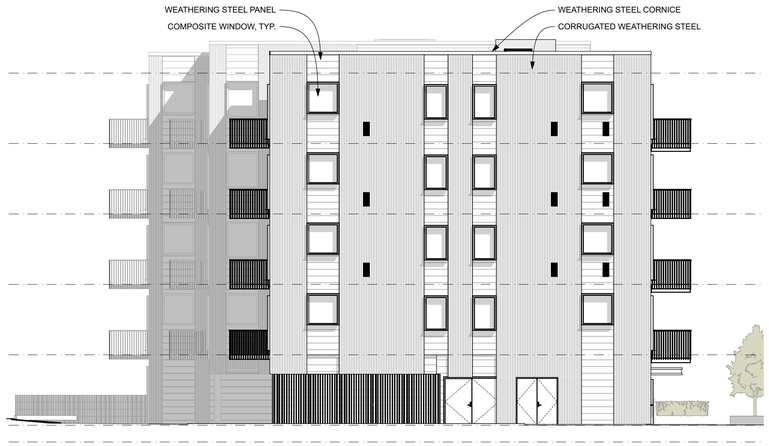
NORTH & SOUTH ELEVATIONS

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Pearl Street 3B

Fathom Companies
Pearl Street Biddeford ME 04003



1 WEST ELEVATION
SCALE: 3/32" = 1'-0"

0 8' 16' 24'



2 EAST ELEVATION
SCALE: 3/32" = 1'-0"

0 8' 16' 24'



WEATHERING STEEL PANEL: ACCENT PANEL, SMOOTH FINISH



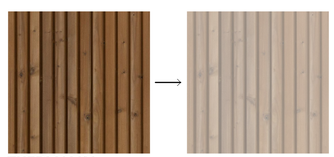
WEATHERING STEEL PANEL: CORRUGATED, 1/4" | 1/2" | 7/8", 24 GAUGE



WEATHERING STEEL PANEL: ACCENT PANEL, WESTERN REVEAL



FIBER CEMENT PANEL: 4' X 8' VERTICAL PANEL



THERMALLY MODIFIED WOOD: LUNAWOOD PANEL, NORDIC PINE, OR SIM.

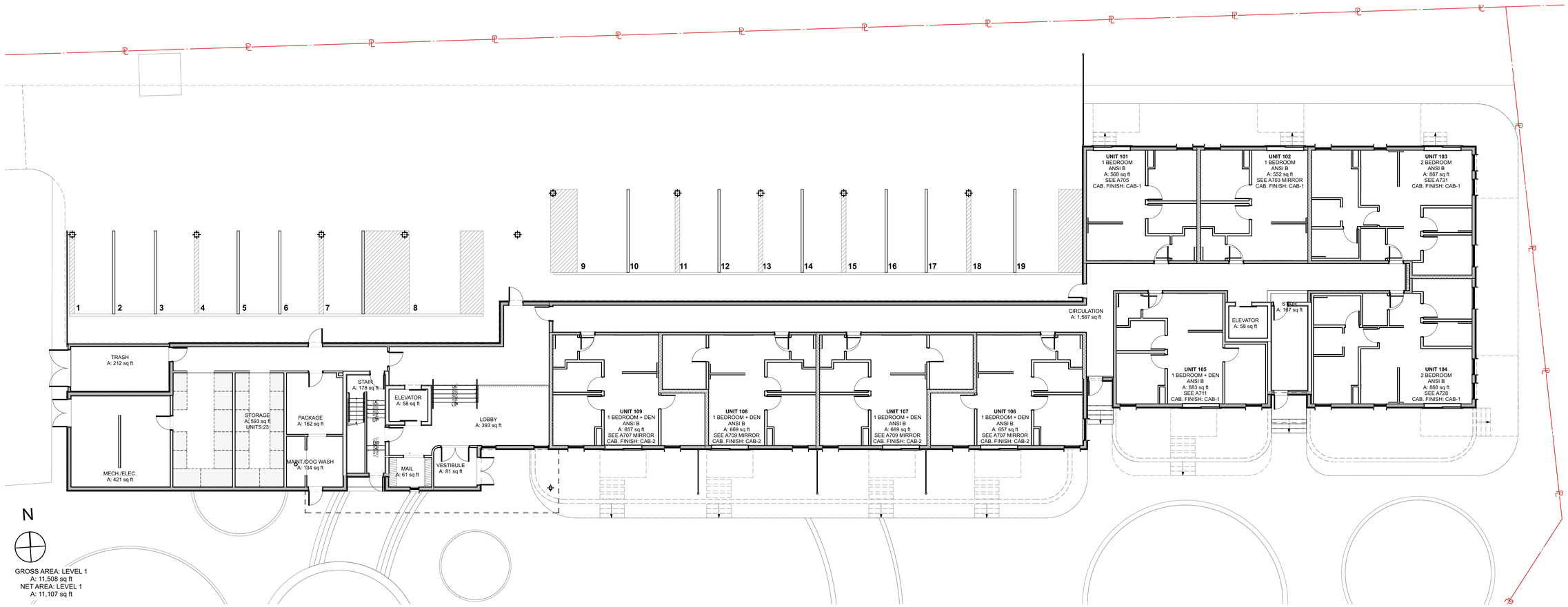
EAST & WEST ELEVATIONS

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Pearl Street 3B

Fathom Companies
Pearl Street Biddeford ME 04003



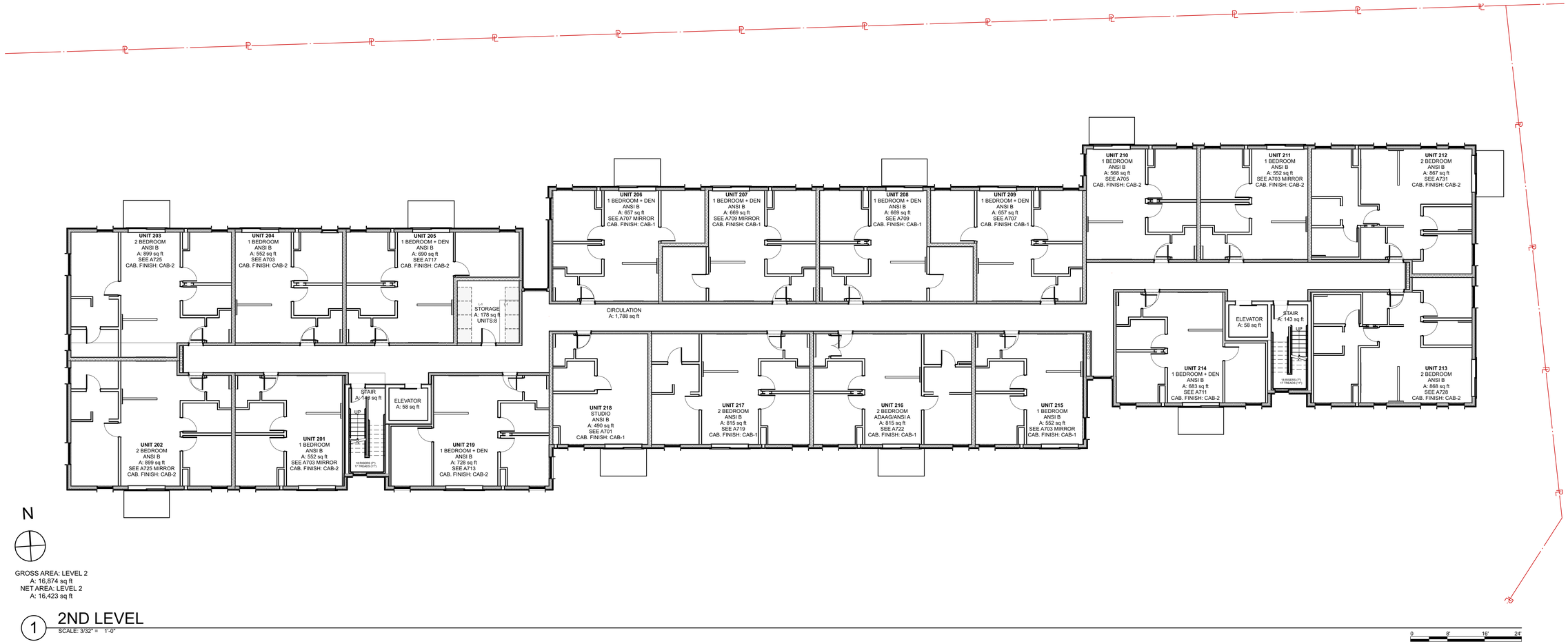
1 GROUND LEVEL
SCALE: 3/32" = 1'-0"

GROUND LEVEL FLOOR PLAN

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(207) 842-2888 kaplanthompson.com

Pearl Street 3B

Fathom Companies
Pearl Street Biddeford ME 04003



GROSS AREA: LEVEL 2
A: 16,874 sq ft
NET AREA: LEVEL 2
A: 16,423 sq ft

1 2ND LEVEL
SCALE: 3/32" = 1'-0"

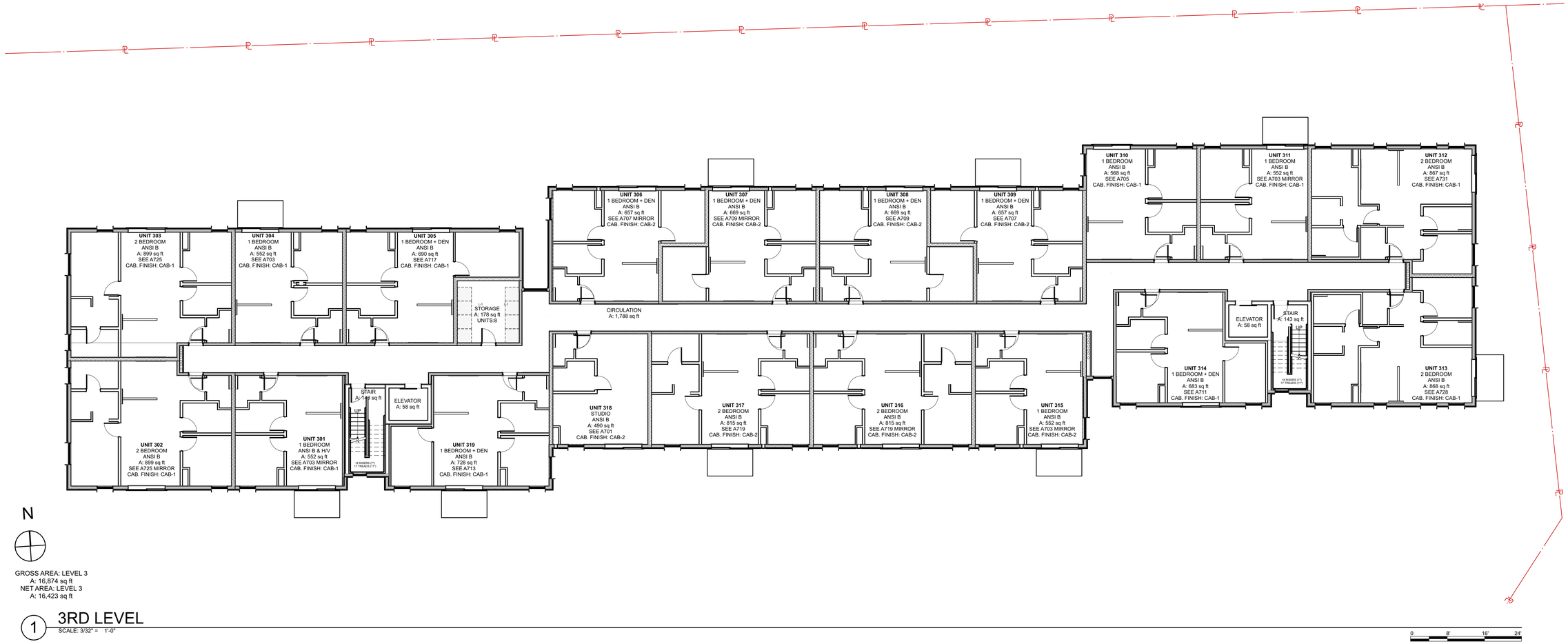
0 8' 16' 24'

2ND LEVEL FLOOR PLAN

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Pearl Street 3B

Fathom Companies
Pearl Street Biddeford ME 04003



GROSS AREA: LEVEL 3
A: 16,874 sq ft
NET AREA: LEVEL 3
A: 16,423 sq ft

1 3RD LEVEL
SCALE: 3/32" = 1'-0"

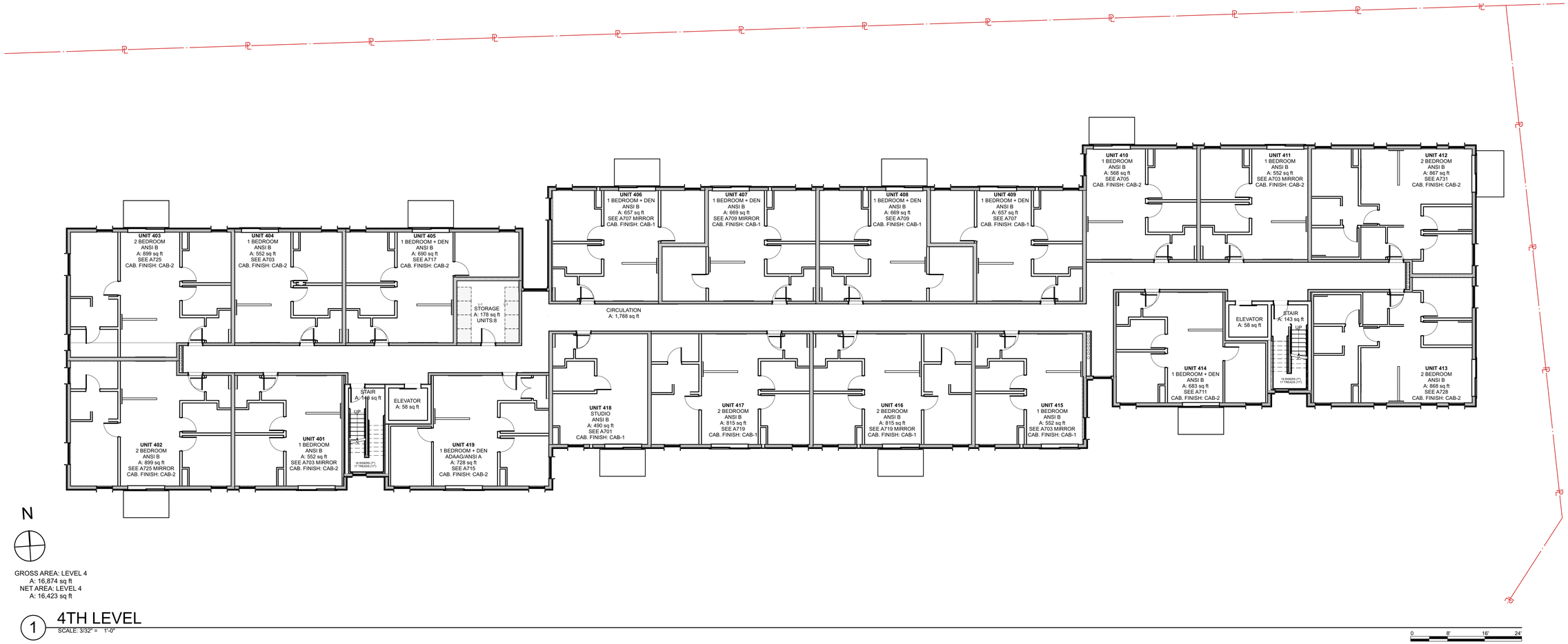
0 8' 16' 24'

3RD LEVEL FLOOR PLAN

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102 Exchange Street Portland, ME 04101
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Pearl Street 3B

Fathom Companies
Pearl Street Biddeford ME 04003



GROSS AREA: LEVEL 4
A: 16,874 sq ft
NET AREA: LEVEL 4
A: 16,423 sq ft

1 4TH LEVEL
SCALE: 3/32" = 1'-0"

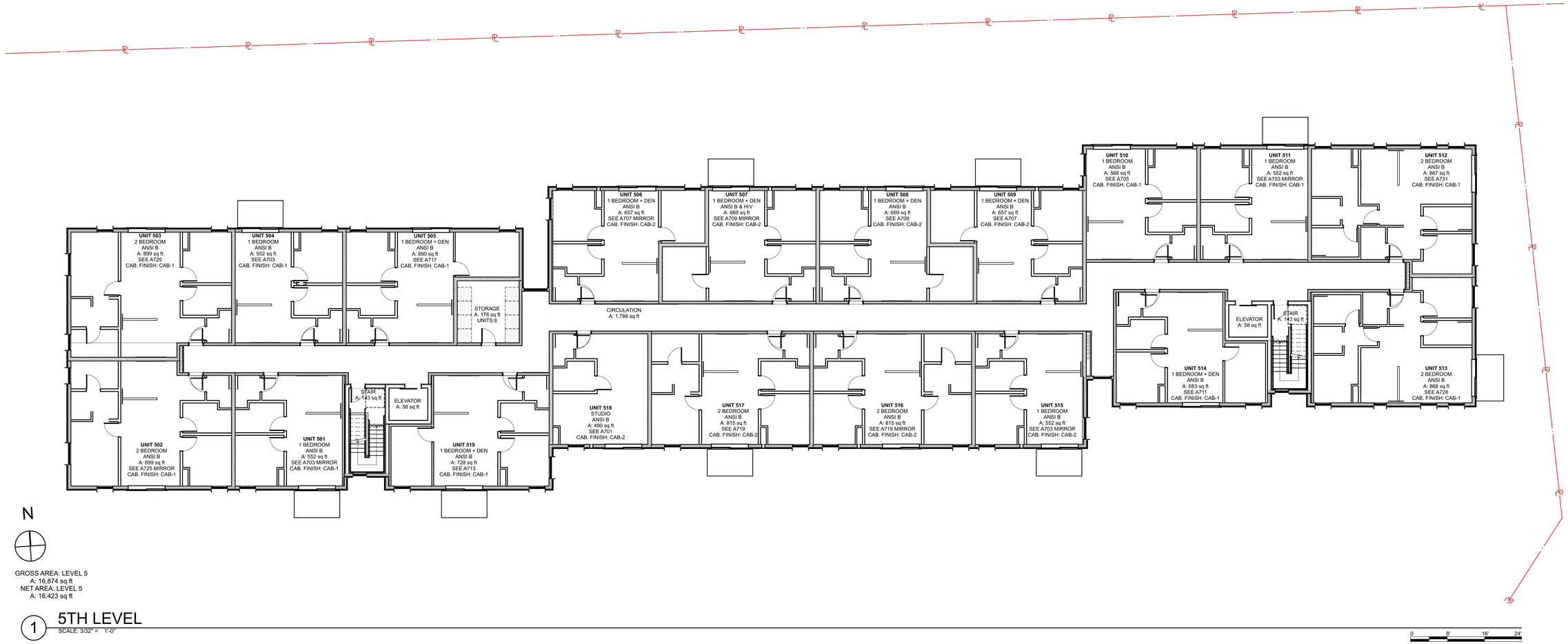
0 8' 16' 24'

4TH LEVEL FLOOR PLAN

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Pearl Street 3B

Fathom Companies
Pearl Street Biddeford ME 04003



GROSS AREA: LEVEL 5
A: 16,874 sq ft
NET AREA: LEVEL 5
A: 16,423 sq ft

1 5TH LEVEL
SCALE: 3/32" = 1'-0"

0 8' 16' 24'

5TH LEVEL FLOOR PLAN

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Pearl Street 3B

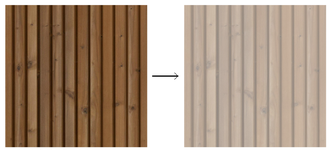
Fathom Companies
Pearl Street Biddeford ME 04003



1 WEST ELEVATION

SCALE: 1/8" = 1'-0"

0 4' 8' 16'



THERMALLY MODIFIED WOOD: LUNAWOOD PANEL, NORDIC PINE, OR SIM.



CAST CONCRETE FORM LINER: AP SYSTEM #407-M, BROOM FINISH PRECAST



2 EAST ELEVATION

SCALE: 1/8" = 1'-0"

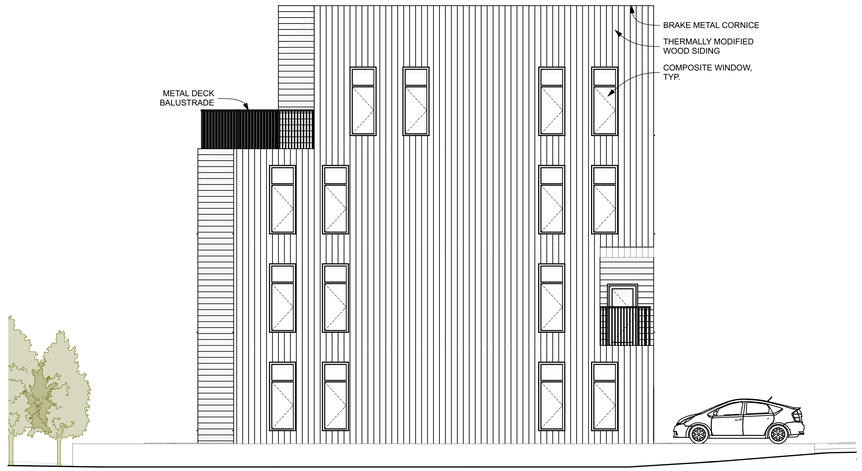
0 4' 8' 16'

EAST & WEST ELEVATIONS, TOWNHOMES

Kaplan Thompson Architects

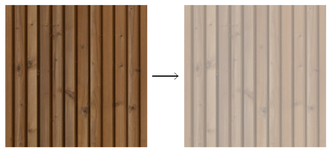
102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



1 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

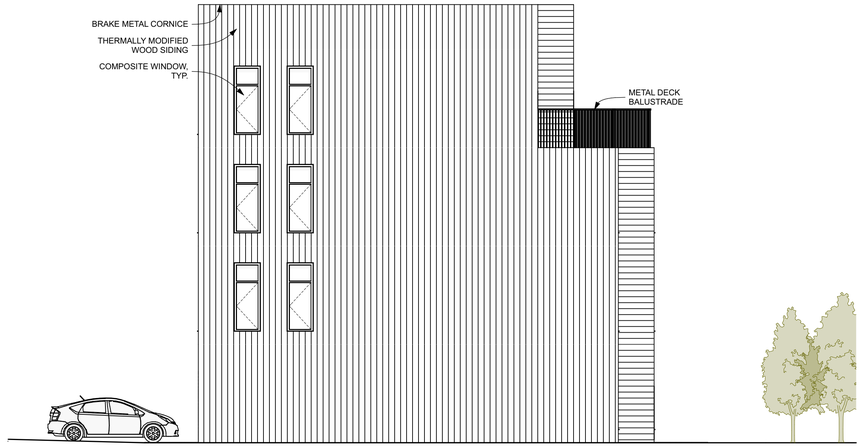
0 4' 8' 16'



THERMALLY MODIFIED WOOD:
LUNAWOOD PANEL, NORDIC PINE, OR SIM.



CAST CONCRETE FORM LINER:
AP SYSTEM #407-M, BROOM FINISH PRECAST



2 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

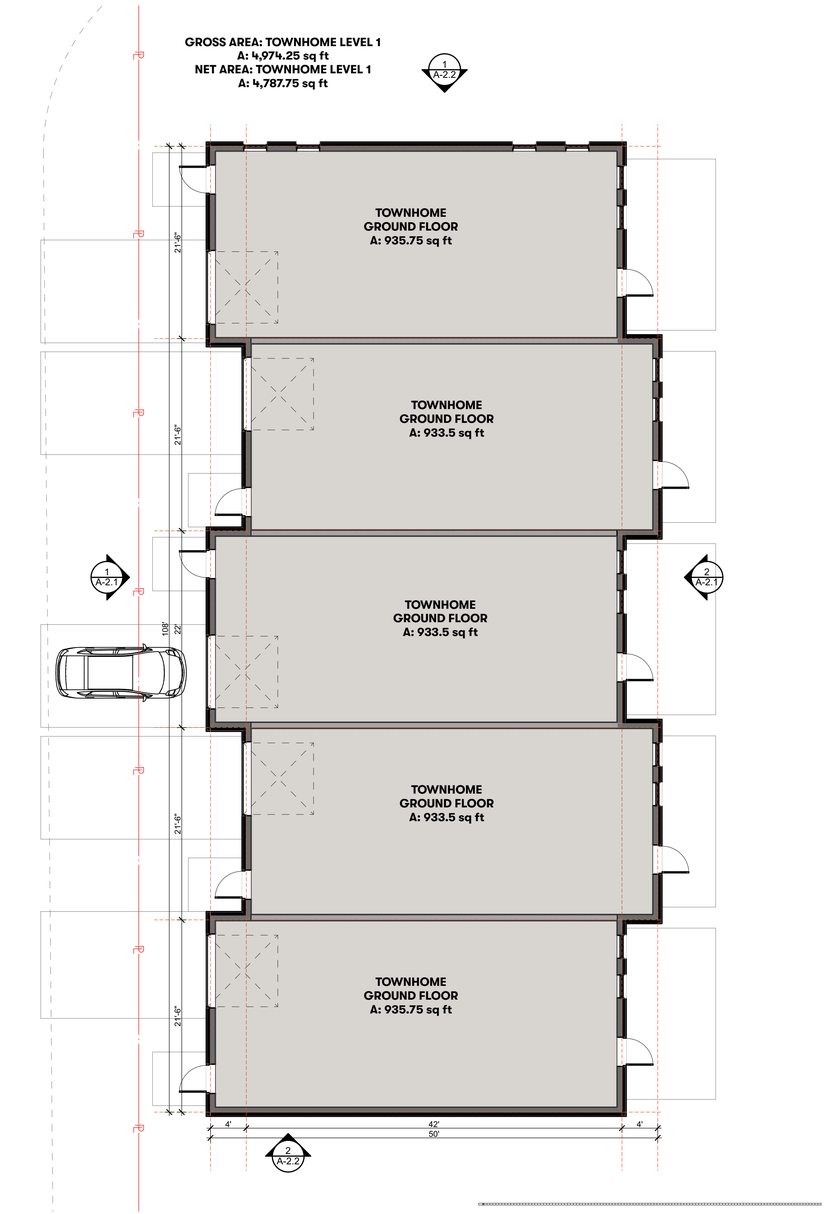
0 4' 8' 16'

Kaplan
Thompson
Architects

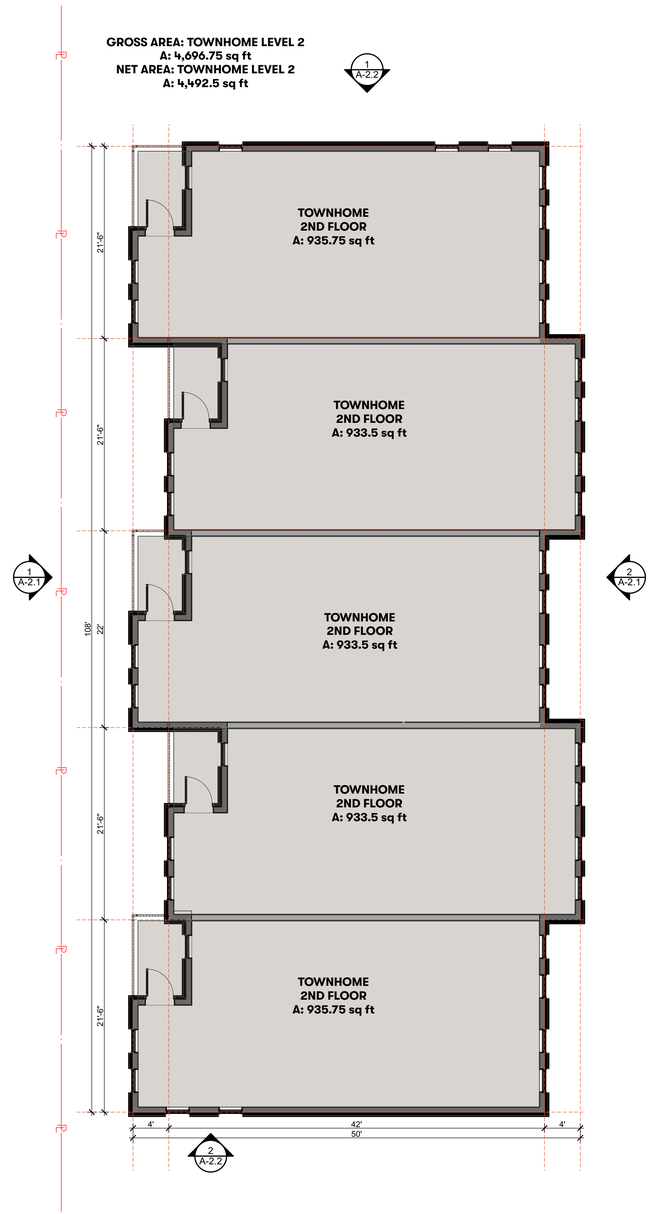
102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

NORTH & SOUTH ELEVATIONS, TOWNHOMES

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005



1 GROUND LEVEL
SCALE: 1/8" = 1'-0"
0 4' 8' 16'



2 SECOND LEVEL
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

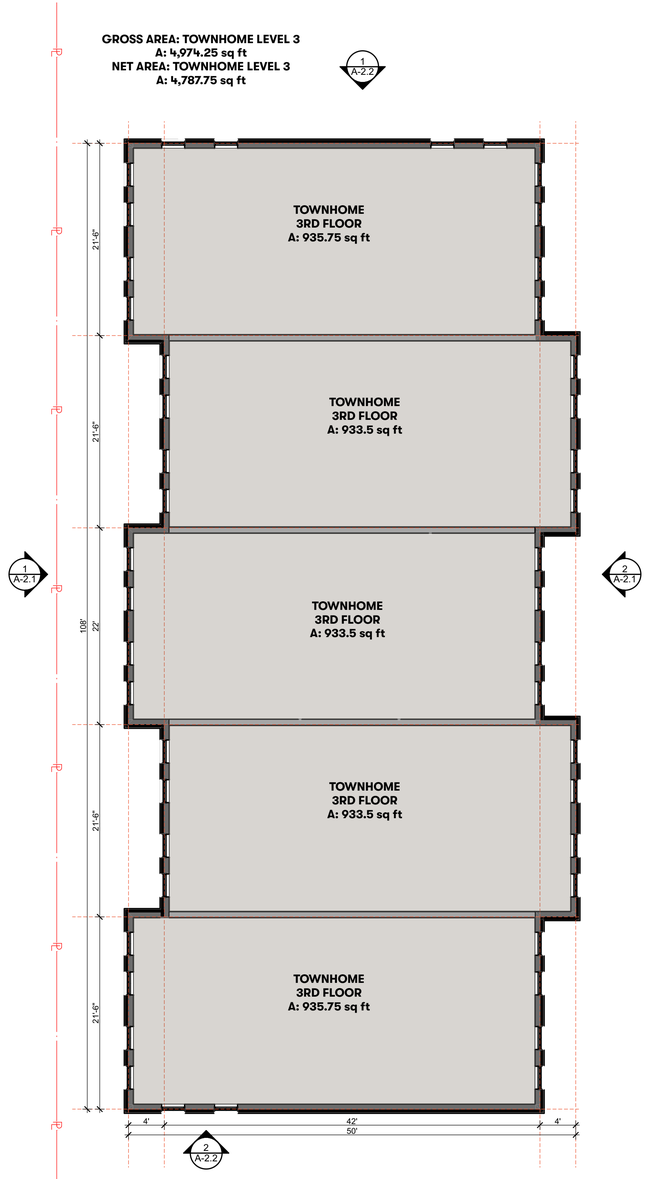
Kaplan Thompson Architects

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GROUND LEVEL & SECOND LEVEL FLOOR PLANS, TOWNHOMES

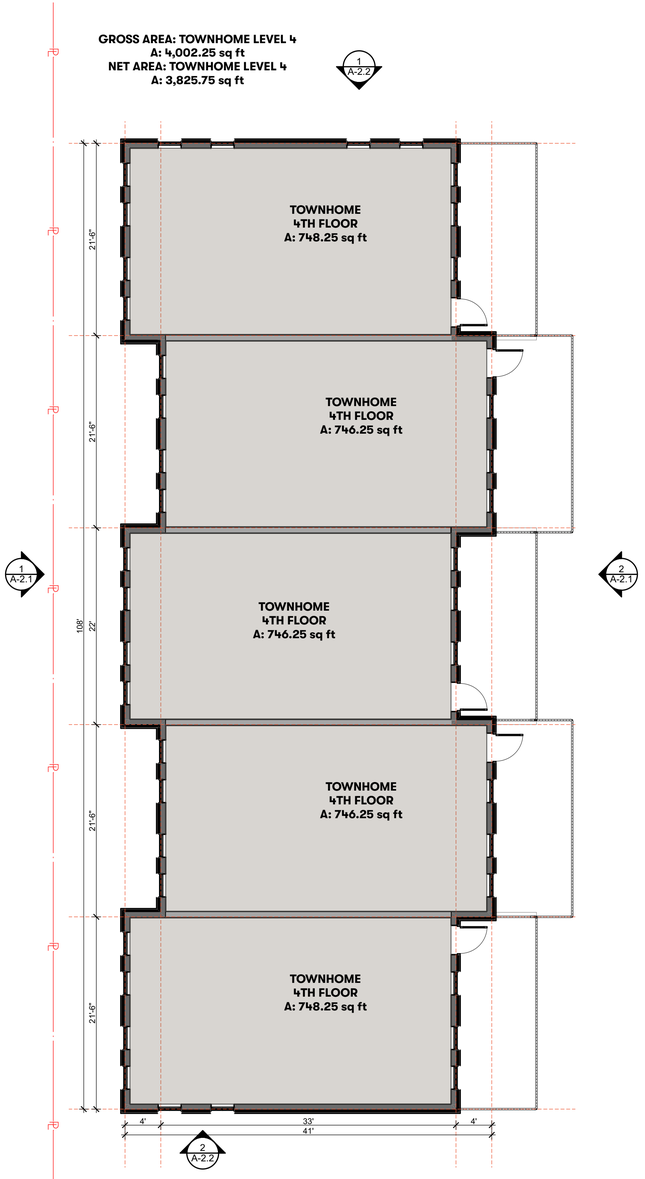
Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005

GROSS AREA: TOWNHOME LEVEL 3
A: 4,974.25 sq ft
NET AREA: TOWNHOME LEVEL 3
A: 4,787.75 sq ft



1 THIRD LEVEL
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

GROSS AREA: TOWNHOME LEVEL 4
A: 4,002.25 sq ft
NET AREA: TOWNHOME LEVEL 4
A: 3,825.75 sq ft



2 FOURTH LEVEL
SCALE: 1/8" = 1'-0"
0 4' 8' 16'

Kaplan
Thompson
Architects

102 Exchange Street Portland, ME 04101
(207) 842-2888 kaplanthompson.com

THIRD LEVEL, FOURTH LEVEL FLOOR PLANS, TOWNHOMES

Lot 3
Fathom Companies
Pearl Street Biddeford ME 04005

Good morning,

With regards to the discussion on Pearl Street, Lot 3:

- Drawing L1.0, Landscape Plan, The Plant Schedule is showing (4) species of deciduous trees. The planting height of these trees is 10'-12', however the mature heights and widths are far greater, some reaching as much a 60' in height and width. The Biddeford Fire Department requests that plantings within the courtyard are be limited to a mature height of 15' to allow for operation of aerial apparatus in this area.

  In all other areas, it should be understood that trees must not encroach on fire department access roads in such a way as to lessen the 13'-6" minimum overhead clearance as set by NFPA 1(2018)18.2.3.5.1.2 or the 20' minimum road width as set by NFPA 1(2018)18.2.3.5.1.1

- The proposed hydrant location within the courtyard does not work for fire department operations. This hydrant should be relocated to the location discussed in SRC on 06-23-2025. This hydrant would serve as the supply for the two buildings accessed by "Smith Lane". FDC locations for these two buildings should be in close proximity to this hydrant.

  Additionally, the two FDC's for the buildings on Pearl Street should be located at the front of those two buildings, with the existing hydrant being used for those.

  The applicant and the Biddeford Fire Department should meet to discuss and confirm all FDC and hydrant locations, other than the one existing hydrant on Pearl Street

- The building that runs alongside the train tracks has a privacy panel located at the end of the drive lane. This panel must be constructed to include an operable panel or door that can remain locked, as long as the lock is accompanied by a KNOX Box or is a KNOX Padlock. This will ensure timely access to all sides of the building.

- The fire depart will need confirmation that the design of the courtyard will support the weight of the aerial apparatus (78,000lbs).

  The fire department will also need clarification on the material being used for the construction of the courtyard area.

- With all of the discussion about the construction of Smith Lane, we need confirmation that the road design is adequate to support the weight of aerial apparatus. (78,000lbs.

- The proposed turnaround design does not meet our requirements. The proposed turnaround must have a minimum paved length of 70' measured from the opposing edge of pavement to the end of the proposed turnaround. We will also need confirmation on the vehicle measurements used for the maneuverability drawings. If they were not provided by AC Dexter previously, they can be upon request. The design must reflect the cities actual apparatus.

CITY OF BIDDEFORD

Planning and Development Department

David C.M. Galbraith
Deputy Director/City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
David.Galbraith@biddefordmaine.org

PLANNING BOARD STAFF REPORT

TO: Chair Plotkin and Members of the Biddeford Planning Board

FROM: David C.M. Galbraith, Deputy Director/City Planner

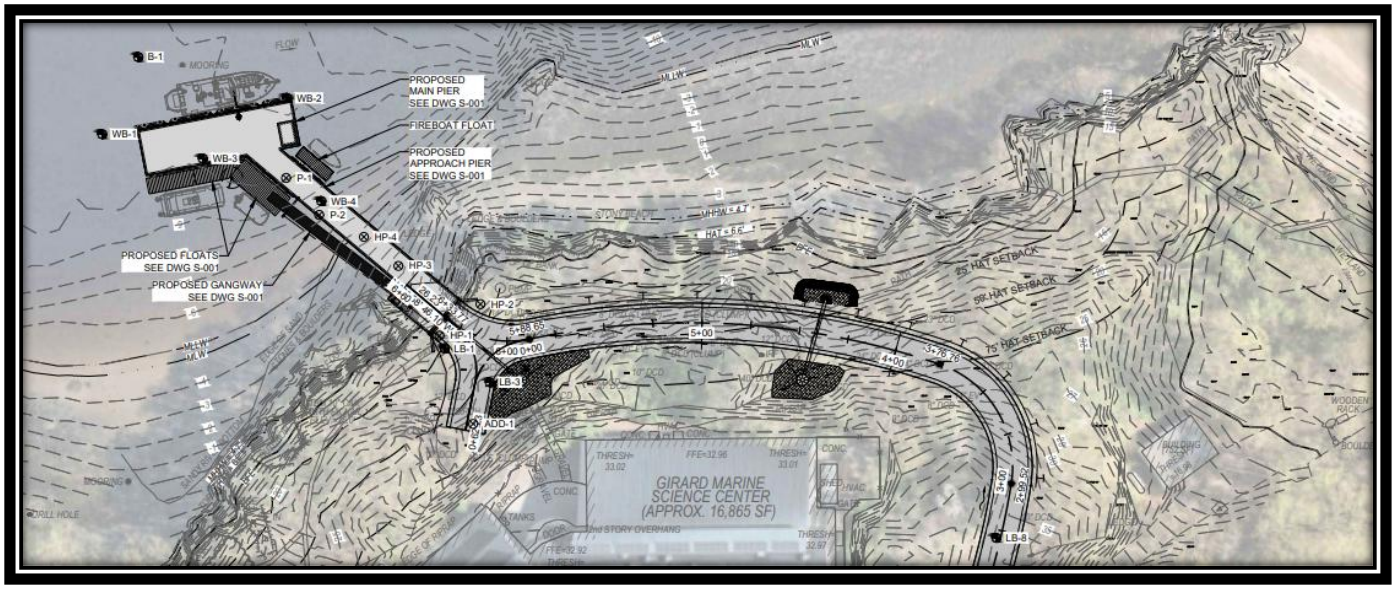
DATE: July 1, 2025

RE: 2024.34 Preliminary Plan Review – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District.

MEETING DATE: July 16, 2025, at 6:00 PM

1. INTRODUCTION

This case was last discussed with the Planning Board on June 18, 2025, where the application was "Tabled", as a number of Planning Board members were unable to attend the site walk on June 9, 2025, and the Board voted to schedule a second site walk which is being held on July 9, 2025. Tom Saucier, PE of Site Design Associates, is representing the University of New England (UNE) who is applying for Preliminary Site Plan Review within the Shoreland Zoning District. The University of New England (UNE) proposes to construct a new pier on the Saco River adjacent to the Girard Marine Science Center (GMSC) to support research and educational programming. The project has been in development for more than 10 years and has gone through extensive planning and alternatives analysis in arriving at the design that is being proposed.

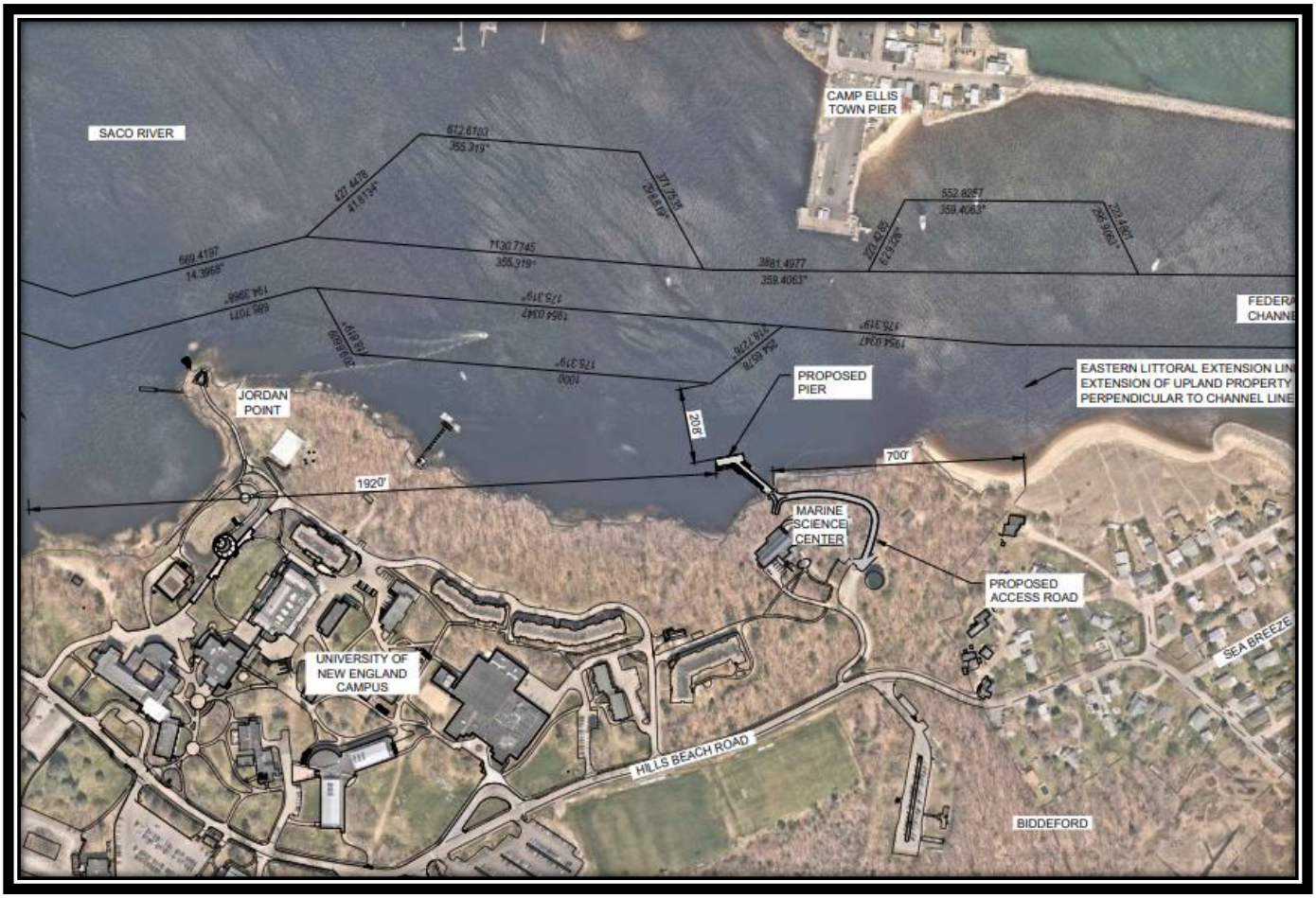


Proposed Marine Science Center Research Pier

RE: Case # 2024.34 Preliminary Plan Review – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District.

MEETING DATE: July 16, 2025, at 6:00 PM

It should be noted that the Planning Department received the formal application for this project on April 16, 2025. However, the case # that was assigned to this project was in 2024 (Case # 2024.34) as that is when the Planning Department started receiving comments from the public on this application (prior to application submittal), and Staff wanted to make certain that any and all correspondence related to this matter be saved within the public record for complete transparency. These submitted emails / letters were forwarded to the Planning Board and the University New England and have been maintained by the Planning Department.

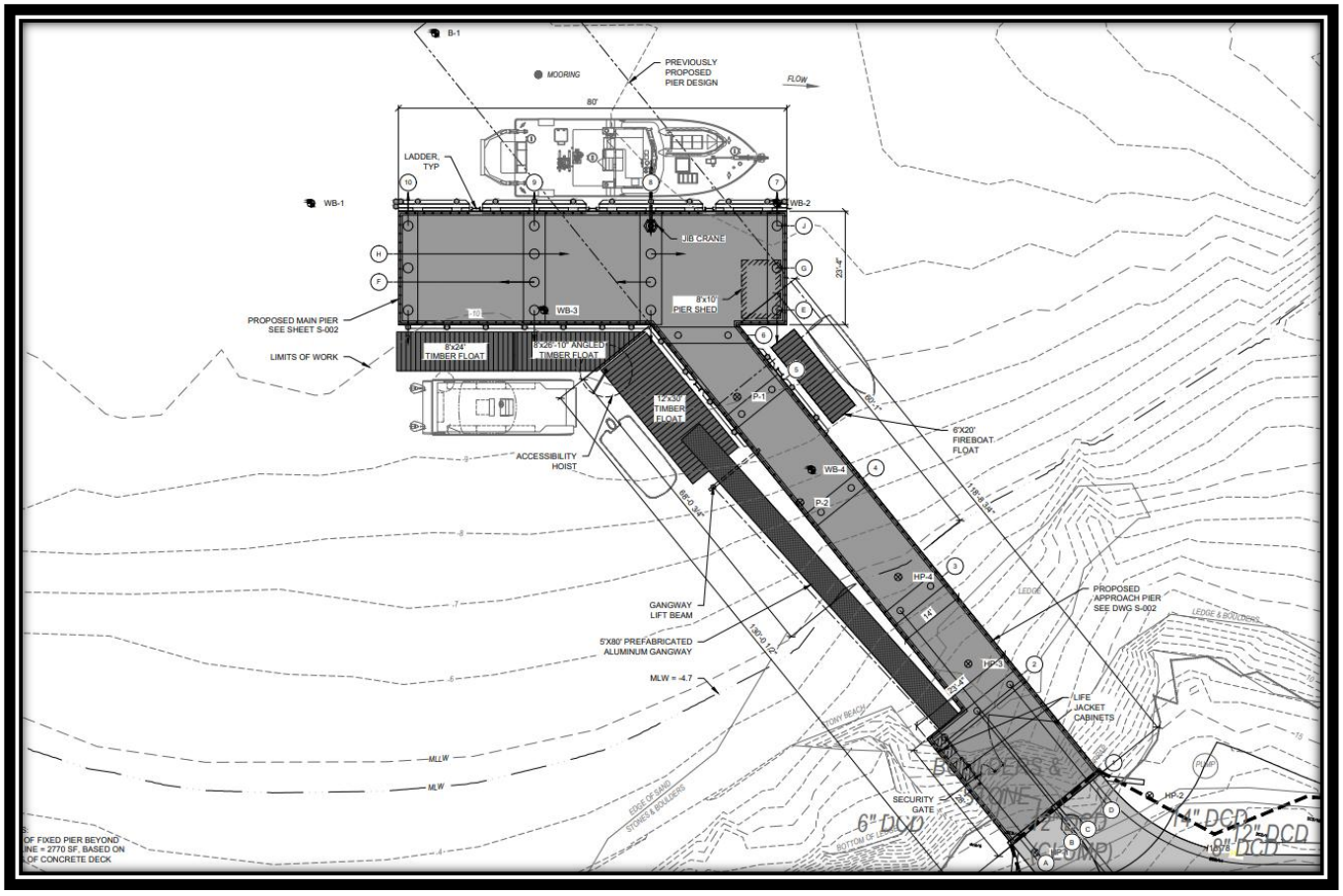


University of New England (UNE) – proposed Marine Science Center Research Pier

The University of New England (UNE) campus is located along the Saco River in Biddeford, ME. The Marine Science Center is located on the waterfront at the easterly end of campus approximately opposite Camp Ellis in Saco. To support MSC research activities, UNE proposes to construct a pier from the shore adjacent to the MSC into the Saco River to provide an all-tide access facility for small and shallow draft vessels (skiffs, landing craft, up to approximately 3-foot draft), with tidally-restricted access for larger vessels.

RE: Case # 2024.34 Preliminary Plan Review – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District.

MEETING DATE: July 16, 2025, at 6:00 PM



Marine Science Center Research Pier Detail

The proposed facility includes the following:

1. A pile supported pier structure extending from shore into the Saco River. The proposed pier includes an approximately 130-foot-long approach section extending from shore and an 80-foot-long pier head section oriented roughly parallel to the direction of flow in the river. The pier consists of a concrete superstructure on steel pipe piles, with timber fender piles for vessel berthing and floating docks, and a pile supported gangway lifting beam to allow the gangway ramp to be temporarily removed from the water. Site 7 (Preferred) Stormwater Management Report UNE Marine Science Center Pier September 2023, Revision B. April 2025 GEI Consultants, Inc.

2. A floating dock system consisting of one 8-foot by 24-foot float, one 8-foot by 26- foot 10-inch float, and one 12-foot by 30-foot gangway landing float to provide alltide vessel access for UNE's vessels on the west side of the pier, and a single 6-foot by 20-foot floating dock to provide a tie-up location for the City of Biddeford Fire Boat on the east side of the pier.

3. An 80-foot by 5-foot gangway, to provide ADA compliant access to the float system.

4. An upland access road connecting the existing road at the MSC to the proposed pier, including associated site grading, drainage, and stormwater management features.

These proposed improvements will result in a total increase in impervious area totaling 0.249 acres. The increase in impervious area will be managed by the two bioretention filter cells to the north of the Girard Marine Science Center. Runoff will be conveyed to the bioretention filter cells via proposed vegetated swales along the low side of the superelevated access road. The bioretention filter cells will slowly release captured stormwater via underground pipe into the Saco River/Atlantic Ocean.

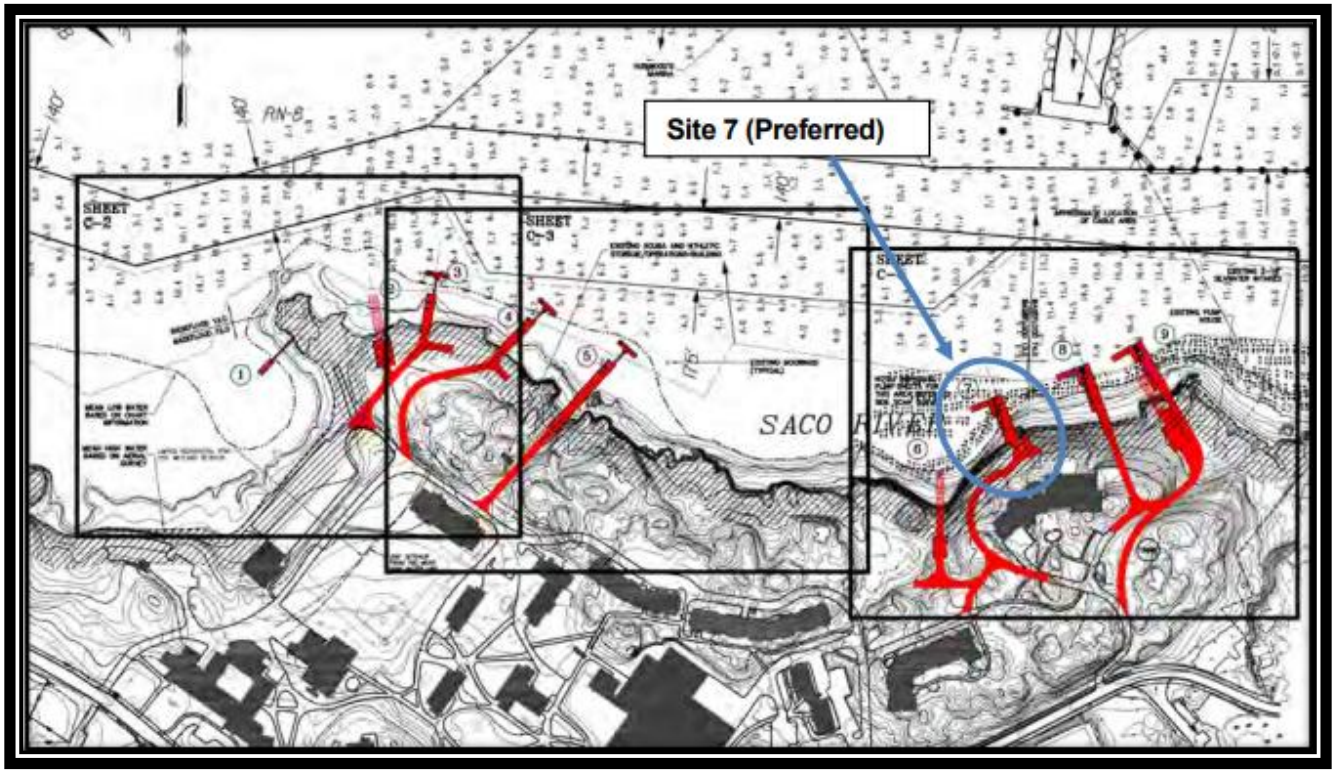


Fig. 1 – Alternative Sites Evaluated in 2008-2010 Study

As outlined in their project narrative, multiple locations for the pier were evaluated Alternative locations *"for more than 10 years and has gone through extensive planning and alternatives analysis in arriving at the design that is proposed"*.

The University's consultants (Daniel Bannon, P.E., CFM and Barney Baker, P.E. of GEI Consultants) evaluated alternate pier locations and concluded that:

> *"GEI has reviewed the concerns raised by the Saco and Biddeford Harbormasters and evaluated their impact on the proposed design, reviewed the history of planning that led to the current design location and layout, and reviewed the potential advantages and disadvantages offered by the suggested alternative pier location. <u>While we respectfully value the input and suggestions for an alternative layout, it is our opinion that the proposed design represents the preferred balance of project requirements and site constraints. Compared to the suggested</u>*

*alternative, the proposed design achieves adequate water depth, provides safe navigation, results in a structure of smaller overall dimensions with less coastal wetland impact, does not appear to be subject to significant sediment deposition, and locates the pier in a location that is less exposed to current and icing impacts. For these reasons, GEI recommends that the current design and pier location be maintained" (*Note: Emphasis added).*

After completing the pier feasibility study and identifying Site 7 as the preferred pier location, UNE undertook additional effort in 2015-2016 to study alternative pier layouts that would address the functional and vessel needs of the marine science curriculum as well as the site exposure, berthing conditions, access requirements, and associated site impacts. During this work, numerous alternative pier layouts were considered. Alternate locations evaluated water depth, exposure to currents, location relative to river sediment deposition, exposure to icing, and impacts to moorings.

2. PROJECT DATA/INFORMATION

1.	Applicant:	University of New England 11 Hills Beach Road Biddeford, ME
2.	Owner of Property:	University of New England 11 Hills Beach Road Biddeford, ME
3.	Agent:	Tom Saucier, P.E. Site Design Associates 23 Whitney Way Topsham, ME 04086
4.	Surveyor:	Tom Saucier, P.E. Site Design Associates 23 Whitney Way Topsham, ME 04086
5.	Project Location:	11 Hills Beach Road
6.	Project Tax Map #/Lot #:	Tax Map 52 Lot 4
7.	Lot Size:	49.9-acres
8.	Base Zoning:	Institutional (IN)
9.	Overlay Zoning:	Shoreland Zoning
10.	Existing Use:	Saco River
11.	Proposed Use:	Marine Research Pier
12.	Approvals Required:	Site Plan and Shoreland Review
13.	Uses in the Vicinity:	University
14.	Waivers Needed:	A. Article XI.II. Section 5.B.1.a. (post development runoff) B. Article XI.II. Section 5.B.1.e.3. (Slopes steeper than 2:1 in ledge)
18.	Waivers Granted:	Pending
22.	Other Non-City Permits Required:	N/A
23.	LDR Attachment A: Fees Paid:	Yes

25.	Planning Board Review History: Sketch Plan Review - May 21, 2025; Site Walk June 9, 2025; Preliminary Review (Tabled)- June 18, 2025; Site Walk #2 – July 9, 2025; Preliminary Review (#2) – July 16, 2025.

3. REVIEW PROCESS

Per City ordinance, this application is subject to Site Plan (Land Development Regulations, Article XI) review and Shoreland Zoning approval by the Planning Board. Below is a list of required agency reviews.

- Saco River Corridor Commission (SRCC) – Approval 9-13-2024 Attached pages # 282-287 of the Applicants application.
- Department of Environmental Protection (MDEP), Findings of Fact (FOF) and Order Pages # 288-295, dated April 11, 2025, of the Applicants application.
- U.S. Army Corps of Engineers, New England District, approval dated March 28, 2025. Pages # 296-298 of the Applicants application.
- Maine Historic Preservation Commission, Approval dated May 15, 2023.
- City of Biddeford letter from Former City Manager (James Bennett) regarding a "Notice to Proceed with External Reviews" / compliance with City Code 74-35, subsections (c) items 1-10, dated August 19, 2025, Pages #302-303 of the Applicants application.

4. SITE PLAN APPROVAL / SITE DESIGN CRITERIA:

A. Drainage:

Applicants' Comments: *A Stormwater Management Report is attached. The report submitted demonstrates compliance with Maine Department of Environmental Protection (DEP) Basic and General standards. The project will include bioretention filters designed to DEP BMP standards for enhancement of stormwater runoff quality. A waiver of Article XI.II.Section 5.B.1. is required for an increase in the rate of runoff. This waiver has historically been granted by the planning board for projects located on the UNE parcel that are directly tributary to tidal receiving waters, which will be the case for this project. There will be no impact on the capacity of a receiving downgradient storm system. The bioretention filters will provide stormwater quality enhancement and cooling of runoff, as well as a level of stormwater detention. Level spreaders will be utilized to evenly distribute runoff from the bioretention filters into sheet flow. Although an increase in the rate of runoff is shown at two-point locations on the drainage plans, the reality is that the stormwater runoff from the subcatchments is distributed over a wide area.*

Staff Comment: This standard has been met, as the project complies with the Maine Department of Environmental Protection (DEP) Basic and General standards and permits from the agency. **The project meets this standard**.

B. Utilities: Power will be fed underground to the pier from the Girard Marine Science Center.
Staff Comment: Power to the proposed pier will be provided from the Girard Marine Science Center building. **The proposed utilities address and meet this standard**.

C. Parking: There will be no formal dedicated parking associated with the project.

Staff Comment: The Girard Marine Science Center provides adequate parking for the associated / "accessory structure (pier)" as the students and faculty of Science Center will be the same users of the proposed pier. **The application meets this standard**.

D. Structural Layout and Design:

a) Design of Buildings:
An 8 ft x 10 ft shed is proposed on the pier. A photo in attachment 12 shows a rendering of the shed; a wood frame structure, with weather resistant siding, and a metal roof.

b) Setbacks:
The research pier is sited in conformance with all setback requirements.

c) Fire Protection & Safety:
Based on input from the fire department, the road width was increased to 20 ft per NFPA standards. The turnaround meets the city required dimensional standards and has been modelled to accommodate fire apparatus.

d) Landscaping:
The revegetation plan has been developed to meet the City of Biddeford's Shoreland Zoning requirements as well as to preserve a visual buffer for the access drive to minimize visibility from the water to the greatest extent possible, while achieving the required clearing and considering functional requirements such as snow plowing at the turnaround. The revegetation plan also meets the requirements of the Saco River Corridor Commission (SRCC) who issued a permit for the project.

Revegetation Plan: The revegetation plan, drawing C-15, is intended to meet the city of Biddeford's shoreland zoning requirements.
Details are as follows:

- 49 trees are being removed with 21 of those within the 50-foot HAT setback
- Approximately 5,850 SF of understory duff later and low growth vegetation (predominantly non-native invasive honeysuckle) is being disturbed within 50 feet of the HAT.
- 5 tree species are proposed in approximate equal quantities with the evergreen trees located between the road shoulder grading and the top of embankment where they are anticipated to fit under the remaining mature forest canopy, and between existing trees and ledge. Field verification during construction will be required to ensure final plant locations are feasible if shallow ledge or significant remaining tree root stock is present.
- 3 shrubs (2 evergreen and 1 deciduous) are proposed to plant at the toe of the road embankment as well as in areas around the turnaround where fitting larger trees will be challenging given limited space and the need to maintain an area for plowed snow.
- Deciduous trees are spread throughout the area.
- The bioretention cells will be filled with a mix of wet, drought and salt tolerant shrubs and perennials which are shown on the plan as a hatched area. The notes on the plan and drawing C-16 plant schedule describe the random pattern mixing of these plants throughout the bio retention cells.
- All other disturbed areas will be planted with a native roadside mix of perennial grasses and flowers. It is recommended that this area be mowed once a year in the fall to maintain the mix of plants. If mowed more often, it will revert to mostly lawn grasses. • Mature plant sizes are listed on the plant list to give a sense of the amount of screening that may occur over time.

Staff Comment: The proposed development meets these standards.

e) Service, Storage, and Utility Areas:

Staff Comment: Not applicable

f) Paving, Parking, and Storage Areas:

No paving, parking, or storage is located within the side or rear setback of the property, nor within the front setback of the property.

Staff Comment: The proposed development meets this standard.

g) Handicapped Accessibility:

Staff Comment: The proposed pier has been designed to meet ADA requirements. **The proposed development meets this standard.**

h) Loading Facilities:

Staff Comment: Standard not applicable.

i) Parking, Loading, and Protective Buffers:

The non-vegetated area of the land being developed will be less than 75% and a minimum of 25% of the land area being developed either remains in its natural state or consists of landscape and lawn areas.

Staff Comment: The proposed development meets this standard.

j) Open Space:

Staff Comment: Not applicable.

k) External Lighting:

An electrical site plan is included in the drawing set which shows the site lighting. Full cut off fixtures will be utilized, and lighting will be the minimum necessary for safety and functionality.

Staff Comment: The proposed development meets this standard.

l) Signs:

Staff Comment: The proposed standard is not applicable.

m) Historic and Archeological Resources:

See attachment 10 for a letter from the Maine Historic Preservation Commission clearing the project.

Staff Comment: The proposed development meets this standard.

5. Shoreland Zoning Land Use Standards:

The project will comply with the applicable standards of Article XIV. Section 15.C. which is listed below:

15 C. Piers, docks, wharfs, bridges and other structures and uses extending over or below the normal high-water line of a water body or within a wetland.

1. ***Except as provided in Section 15C11 and Section 15X7, no more than one pier, dock, wharf or similar structure extending or located below the normal high-water line of a water body or within a wetland is allowed on a single residential lot; except that when a single lot contains at least twice the minimum shore frontage as specified in Section 15A, a second structure may be allowed and may remain as long as the lot is not further divided.***

Staff Comment: Standard not applicable

2. ***Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion.***

Staff Comment: Access from shore will be developed on soils appropriate for the use. A detailed erosion control plan has been prepared for the project. The proposal meets this standard.

3. ***The location shall not interfere with existing developed or natural beach areas.***

Staff Comment: The proposal does not interfere with existing developed or natural beach areas. The application meets this standard.

4. *The facility shall be located so as to minimize adverse effects on fisheries.*

Staff Comment: The facility has been located to minimize adverse effects on fisheries. The plan was reviewed by the National Marine Fisheries Service. The application meets this standard.

5. ***The facility shall be no larger in dimension than necessary to carry on with the activity and be consistent with the surrounding character and uses of the area. A temporary pier, dock, or wharf in non-tidal waters shall not be wider than six feet for non-commercial uses.***

Applicant Comment: The facility size is the minimum necessary to carry out current and future research activities and is consistent with the surrounding character and uses of the area, including the Camp Ellis pier on the opposite side of the river.

Staff Comment: The proposed project meets this standard.

6. *No new structure shall be built on, over or abutting a pier, wharf, dock or other structure extending beyond the normal high-water line of a water body or within a wetland unless the structure requires direct access to the water body or wetland as an operational necessity.*

Staff Comment: Standard not applicable

7. *New permanent piers and docks on nontidal waters shall not be permitted unless it is clearly demonstrated to the Planning Board that a temporary pier or dock is not feasible, and a permit has been obtained from the Department of Environmental Protection, pursuant to the Natural Resources Protection Act.*

Staff Comment: A temporary pier / dock at this location at this location is not feasible for the proposed use. The Applicant has obtained approval from the Department of Environmental Protection (DEP).

8. *No existing structures built on, over or abutting a pier, dock, wharf or other structure extending beyond the normal high-water line of a water body or within a wetland shall be converted to residential dwelling units in any district.*

Staff Comment: Standard not applicable

9. *Except in the General Development District, structures built on, over or abutting a pier, wharf, dock or other structure extending beyond the normal high-water line of a water body or within a wetland shall not exceed 20 feet in height above the pier, wharf, dock or other structure*.

Staff Comment: An 8 ft x 10 ft shed for storage of life jackets, tools, and research equipment is proposed on the pier, and is an operational necessity. The shed will not exceed 20 ft in height. **The proposal meets this standard.**

NOTE: Permanent structures projecting into or over water bodies shall require a permit from the Department of Environmental Protection pursuant to the Natural Resources Protection Act, Title 38 M.R.S.A., Section 480-C.

Staff Comment: The Applicants have received approval for the proposed dock from the Maine Department of Environmental Protection (MDEP)

10. *Vegetation may be removed in excess of the standards in Section 15P of this ordinance in order to conduct shoreline stabilization of an eroding shoreline, provided that a permit is obtained from the Planning Board. Construction equipment must access the shoreline by barge when feasible as determined by the Planning Board.*

Applicant Comments:

a. *When necessary, the removal of trees and other vegetation to allow for construction equipment access to the stabilization site via land must be limited to no more than 12 feet in width. When the stabilization project is complete, the construction equipment accessway must be restored.*

b. Revegetation must occur in accordance with Section 15S.

NOTE: A permit pursuant to the Natural Resource Protection Act is required by the Department of Environmental Protection for shoreline stabilization activities.

Staff Comment: The applicant has submitted a detailed erosion control and revegetation plan for the project which adequately addresses erosion control and site revegetation standards. **The applicant meets this standard.**

11. A deck over a river may be exempted from the shoreland setback requirements if it is part of a downtown revitalization project that is defined in a project plan approved by the legislative body of the municipality, and may include the revitalization of structures formerly used as mills that do not meet the structure setback requirements, if the deck meets the following requirements:

Applicant's Comments:

a. The total deck area attached to the structure does not exceed 700 square feet;

b. The deck is cantilevered over a segment of a river that is located within the boundaries of the downtown revitalization project;

c. The deck is attached to an accessory to an allowed commercial use in a structure that was constructed prior to 1971 and is located within the downtown revitalization project;

d. The construction of the deck complies with all other applicable standards, except the shoreline setback requirements in Section 15B; and

e. The construction of the deck complies with all other state and federal laws.

Staff Comment: The proposal is for a dock/pier, so the above standards related to "decks" are not applicable. **Standard not applicable**.

6. Departmental Review Comments:

E. Planning:

1) No Comments.

F. Code Enforcement:

1. No comments / concerns at this time.

G. Engineering / Public Works:

1. No comments at this time.

H. Police Department:

1. No comments / concerns at this time.

I. Fire Department:

1. The Fire Department has been meeting with representatives of UNE to verify the proposed fire turn-around's design is adequate to maneuver the City's largest fire apparatus.

J. Traffic Peer Review:

1. Not Applicable.

K. Engineering Peer Review:

1. No comments at this time.

7. SITE PLAN APPROVAL CRITERIA: The proposed project will need to meet the standards below at Final Planning Board review:

1) The proposed use meets specific requirements set forth in this ordinance and would be in compliance with applicable state or federal laws;

2) The proposed use would not create fire safety hazards by providing adequate access to the site, or to the buildings on the site, for emergency vehicles and would not create hazards through the storage of chemicals and wastes;

3) The proposed exterior lighting, where allowed, would not create hazards for motorists traveling on adjacent public streets or is adequate for the safety of occupants or users of the site or would not damage the value and diminish the usability of adjacent properties;

4) The provisions for buffers and on-site landscaping provide adequate protection to neighboring properties from detrimental or unsightly features of the development;

5) The proposed use would not have a significant, detrimental effect on the use and peaceful enjoyment of abutting property as the result of noise, vibrations, fumes, odors, dust, glare, hours of operation, or other causes;

6) The provisions for vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets would not create hazards to public safety or traffic congestion;

7) The proposed use would generate a volume of traffic that can reasonably be accommodated by the existing road network, or would not create unreasonable traffic hazards or would not exacerbate an existing traffic hazard, or would not create unreasonable traffic congestion;

8) The proposed use would not have a significant, detrimental effect on the value of adjacent properties which could be avoided by reasonable modification of the proposal;

9) The proposed use would not have an adverse impact on the privacy of the residents of the immediate area (within 500 feet) which could be avoided by reasonable modification of the proposal;

10) The proposed use would be in compliance with Biddeford's Comprehensive Plan;

11) The proposed use would not have an adverse impact on the immediate neighborhood or the community relative to architectural design, scale, bulk and building height, identity and historical character, or visual integrity, which could be avoided by reasonable modification of the proposal;

12) The design of the site would not result in significant flood hazards or flood damage or would be in conformance with applicable flood hazard protection requirements;

13) Adequate provision has been made for the disposal of wastewater or solid waste or for the prevention of ground or surface water contamination;

14) Adequate provision has been made to control erosion or sedimentation;

15) Adequate provision has been made to handle stormwater runoff or other drainage problems on the site; and the proposed development will not unduly burden off-site surface water systems;

16) The proposed water supply would meet the demands of the proposed use for fire protection purposes;

17) Adequate provision has been made for the transportation, storage, and disposal of hazardous substances and materials as defined by state law;

18) The proposed use would not have an adverse impact on scenic vistas or on significant wildlife habitat or wetland areas and water bodies which could be avoided by reasonable modification of the proposal;

19) When located in the Shoreland Zone, the proposed use would meet the purposes of Shoreland Zoning as identified in Article XIV, Section 1 (Purposes) of this ordinance.

8. STAFF REVIEW

APPLICATION COMPLETENESS: This Application is for a "Preliminary Plan" review and in addition to Planning Board review and approval of the project, it also requires approval from:

A. **ZONING:**

The subject property is located within the City's Institutional (IN) zoning district where a university research dock is a permitted use.

B. **REVIEW STANDARDS:**

The major site details being proposed, such as the research dock, access roadway, and landscaped areas have been designed by the Applicant. The submitted application has been in the design process for approximately 10 years, so the "Preliminary Review" application is identical to the "sketch plan" documents as the application was "determined complete" during "Sketch Plan" review. Plans remain unchanged. In reviewing the application, Staff finds that the application satisfies the City's Shoreland Zoning Ordinance and Site Plan criteria.

C. WAIVER REQUESTS:

The Applicants are seeking four (4) waivers, namely:

1) **Waiver Request #1: Article XI.II. Section 5.B.1.a.**
"The rate of post-development runoff shall not exceed that of predevelopment. Details of catch basins, drainage pipes and retention/detention ponds shall be provided as needed with the application. All detail sheets shall bear the seal and signature of a professional engineer, licensed in the State of Maine".

Applicant Waiver Request Rational*:*

A waiver of Article XI.II.Section 5.B.1.a *is required for an increase in the rate of runoff. This waiver has historically been granted by the planning board for projects located on the UNE parcel that are directly tributary to tidal receiving waters, which will be the case for this project. There will be no impact on the capacity of a receiving downgradient storm system. The bioretention filters will provide stormwater quality enhancement and cooling of runoff, as well as a level of stormwater detention. Level spreaders will be utilized to evenly distribute runoff from the bioretention filters into sheet flow. Although an increase in the rate of runoff is shown at two-point locations on the drainage plans, the reality is that the stormwater runoff from the subcatchments is distributed over a wide area.*

2) ***Waiver Request #2: Article XI.II. Section 5.B.1.e.3.:***
No slope shall be created which results in a slope of more than two feet horizontal to one foot vertically unless proper retaining walls are proposed. The design includes slopes which exceed this standard in ledge (1/4H:1V) and along the drive (1H:1V). This waiver has been requested by UNE and granted by the planning board for all projects proposed by UNE on the campus due to the presence of ledge and the desire to minimize impacts of construction on adjacent areas. Based on our experience the ledge in the area is stable at steeper slopes. Turf reinforcement matting specifically designed to stabilize steeper slopes will be utilized along the drive sideslopes.

3) **Waiver Request # 3: Article VI. Section 26.F.:**
No cut or fill slopes that exceed 3 horizontals to 1 vertical. See above for justification.

4) **Waiver Request #4: Article XIV. Section 15.H.4.**

Road and driveway banks shall be no steeper than a slope of two horizontal to one vertical and shall be graded and stabilized in accordance with the provisions for erosion and sedimentation control contained in Section 15T. See above for justification for steeper slopes. The erosion control specified for the project exceeds the standards of Section 15T.

9. SAMPLE WAIVER REQUEST MOTIONS:
The Applicant is seeking four (4) waivers listed below. Waiver #1 relates post vs pre-development runoff. Waivers #2 – 4 relate to steep slopes.

1) **Waiver Request #1: Article XI.II. Section 5.B.1.a. (***post-development runoff shall not exceed that of predevelopment).*
2) ***Waiver Request #2: Article XI.II. Section 5.B.1.e.3. (****No slope shall be created which results in a slope of more than two feet horizontal to one foot vertically unless proper retaining walls are proposed).*
3) **Waiver Request # 3: Article VI. Section 26.F.: (**No cut / fill slopes that exceed 3 horizontal to 1 vertical)
4) **Waiver Request #4: Article XIV. Section 15.H.4. (**driveway banks shall be no steeper than a slope of two horizontal to one vertical)

Staff are supportive of the proposed waivers and recommend approving all of the requested waivers.

A. Motion to Approve: I motion to APPROVE the requested waiver for (insert waiver number and type) for Case # 2024.34 Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District.

B. Motion to Deny: I motion to DENY the requested waiver for (insert waiver number and type) for Case # 2024.34 Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District, for the following reasons:

1) _____.
2) _____.
3) _____.

C. Motion to Table: I motion to TABLE the requested waiver for (insert waiver number and type) for Case # 2024.34 Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District, for the following reasons:

1) _____.
2) _____.
3) _____.

RE: Case # 2024.34 Preliminary Plan Review – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District.

MEETING DATE: July 16, 2025, at 6:00 PM

10. SAMPLE MOTIONS FOR SITE PLAN AND SHORELAND ZONE APPROVAL:

The Application before the Board is a "Preliminary Plan", so a formal vote is required.

A. Motion to Approve: I motion to APPROVE Case # 2024.34 Preliminary Plan – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District.

B. Motion to Deny I motion to DENY Case # 2024.34 Preliminary Plan – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District, for the following reasons:

1)_____.

2)_____.

3)_____.

C. Motion to Table: I motion to TABLE Case # 2024.34 Preliminary Plan – Site Plan and Shoreland Zoning Review for the University of New England (UNE) / Proposed Construction of a Marine Science Center Research Pier to be located at 11 Hills Beach Road (Map #52, Lot 4) located in the City's Institutional (IN) Zoning District, for the following reasons:

1) _____.

2) _____.

3) _____.

APPLICATION FOR MAINE
DEPT OF ENVIRONMENTAL PROTECTION
NATURAL RESOURCES PROTECTION ACT
AND
ARMY CORPS OF ENGINEERS PERMITS
FOR
RESEARCH PIER AND FLOATS

Applicant:

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH ROAD
BIDDEFORD, MAINE 04005

June 17, 2024

Prepared by:

Site Design Associates
23 Whitney Way
Topsham, Maine 04086
Ph: 207-449-4275
Email: info@sitedesignassociates.biz

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APPLICATION FOR
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL RESOURCES PROTECTION ACT
AND
ARMY CORPS OF ENGINEERS PERMIT

NRPA Permit Application Form

Letter of Agent Authorization

Deed

Attachment 1:	Activity Description
Attachment 2:	Alternatives Analysis
Attachment 3:	Location Map
Attachment 4:	Photos
Attachments 5/6:	Plans
Attachment 7:	Construction Plan
Attachment 8:	Erosion Control Plan
Attachment 9:	Wetland Delineation Report/Coastal Wetland Characterization Appendix B
Attachment 10:	Notice of Intent to File
Attachment 11:	MHPC and TRIBE Correspondence
Attachment 12:	MDEP Visual Evaluation Field Survey Checklist Appendix A
Attachment 13:	Appendix D – Project Description Worksheet
Attachment 14:	Species List, MA Consistency Letter, and Correspondence with USFW regarding the Northern Long-eared Bat.
Attachment 15:	Abutter Notifications

Department of Environmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-7688

FOR DEP USE
ATS #_____
L- _____
Total Fees: _____
Date: Received _____

APPLICATION FOR A NATURAL RESOURCES PROTECTION ACT PERMIT

➔**PLEASE TYPE OR PRINT IN *BLACK INK ONLY***

1. Name of Applicant:	University of New England,. Andrew Philippe	**5.Name of Agent:**	Tom Saucier, Site Design Associates
2. Applicant's Mailing Address:	11 Hills Beach Road	**6. Agent's Mailing Address:**	23 Whitney Way Topsham, Maine 04086
3. Applicant's Daytime Phone #:	602-2365	**7. Agent's Daytime Phone #:**	207-449-4275
4. Applicant's Email Address (Required from *either* applicant or agent):	aphilippe@une.edu	**8. Agent's Email Address:**	tsaucier@sitedesignassociates.biz

9. Location of Activity: (Nearest Road, Street, Rt.#)	11 Hills Beach Road	**10. Town:**	Biddeford	**11. County:**	York

12. Type of Resource: (Check all that apply)
- ❑ River, stream or brook
- ❑ Great Pond
- ■ Coastal Wetland
- ❑ Freshwater Wetland
- ❑ Wetland Special Significance
- ❑ Significant Wildlife Habitat
- ❑ Fragile Mountain

13. Name of Resource: Saco River

14. Amount of Impact: (Sq.Ft.)
Fill: 84 sf
Dredging/Veg Removal/Other: NA

15. Type of Wetland: (Check all that apply)
- ❑ Forested
- ❑ Scrub Shrub
- ❑ Emergent
- ❑ Wet Meadow
- ❑ Peatland
- ❑ Open Water
- ■ Other Ledge and soil below HAT

FOR FRESHWATER WETLANDS

Tier 1	*Tier 2*	*Tier 3*
❑ 0 - 4,999 sq ft. ❑ 5,000-9,999 sq ft ❑ 10,000-14,999 sq ft	❑ 15,000 – 43,560 sq. ft.	❑ > 43,560 sq. ft. or ■ smaller than 43,560 sq. ft., not eligible for Tier 1

16. Brief Activity Description: Construction of a research pier, floats, and gangway. See plans and narratives.

17. Size of Lot or Parcel & UTM Locations: ☐ _____square feet, or ☑ 8.6 acres UTM Northing: _____ UTM Easting: _____

18. Title, Right or Interest: ■ own ❑ lease ❑ purchase option ❑ written agreement

19. Deed Reference Numbers:	Book#: 1484 Page: 0145	**20. Map and Lot Numbers:**	Map #: 52	Lot #: 4	
21. DEP Staff Previously Contacted:	Alison Sirois	**22. Part of a larger project:**	❑ Yes ■ No	**After-the-Fact:**	❑ Yes ■ No
23. Resubmission of Application?:	❑ Yes➔ ■ No	**If yes, previous application #**		**Previous project manager:**	
24. Written Notice of Violation?:	❑ Yes ➔ ■ No	**If yes, name of DEP enforcement staff involved:**		**25. Previous Wetland Alteration:**	❑ Yes ■ No

26. Detailed Directions to the Project Site: Route 9 from Biddeford to Hills Beach Road. Proceed on Hills Beach Road for 0.7 miles to the Girard Science center. Drive will be on the left.

27.

TIER 1
- ❒ Title, right or interest documentation
- ❒ Topographic Map
- ❒ Narrative Project Description
- ❒ Plan or Drawing (8 1/2" x 11")
- ❒ Photos of Area
- ❒ Statement of Avoidance & Minimization
- ❒ Statement/Copy of cover letter to MHPC

TIER 2/3 AND INDIVIDUAL PERMITS
- ■ Title, right or interest documentation
- ■ Topographic Map
- ■ Copy of Public Notice/Public Information Meeting Documentation
- ■ Wetlands Delineation Report (Attachment 1) that contains the Information listed under Site Conditions
- ■ Alternatives Analysis (Attachment 2) including description of how wetland impacts were Avoided/Minimized
- ■ Erosion Control/Construction Plan
- ❒ Functional Assessment (Attachment 3), if required
- ❒ Compensation Plan (Attachment 4), if required
- ■ Appendix A and others, if required
- ■ Statement/Copy of cover letter to MHPC
- ❒ Description of Previously Mined Peatland, if required

28. FEES Amount Enclosed: $611 paid on line

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

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

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

DEP SIGNATORY REQUIREMENT

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor a permit be issued.

CORPS SIGNATORY REQUIREMENT

USC Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry shall be fines not more than $10,000 or imprisoned not more than five years or both. I authorize the Corps to enter the property that is subject to this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

DEP SIGNATORY REQUIREMENT

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #4 for the applicant and #8 for the agent)."

SIGNATURE OF AGENT/APPLICANT

Date: 4/11/24

NOTE: Any changes in activity plans must be submitted to the DEP and the Corps in writing and must be approved by both agencies prior to implementation. Failure to do so may result in enforcement action and/or the removal of the unapproved changes to the activity.

(pink)

State of Maine DEP Payment Receipt

Contact Inform Thomas Saucier - 23 Whitney Way, Topsham, ME, 04086

(207) 449-4275

tsaucier@sitedesignassociates.biz

Product	Reference Number	Customer Number	Payment Amount	Comments
Natural Resources Protection Act (Individual Permit)	New Application		$651.00	Processing and licensing fee

Receipt ID: 5822

Transaction Date: 6/17/2024 4:06:45 PM

Transaction Summary

Payment	$651.00
Service Fe	$2.00
Total	**$653.00**

Thank you for your successful transaction.

If you have questions or concerns, please call (207) 287-7688

or Email: Payments.DEP@maine.gov

Print

UNIVERSITY OF NEW ENGLAND

Biddeford Campus
11 Hills Beach Road
Biddeford, ME 04005
(207) 283-0171 T

Portland Campus
716 Stevens Avenue
Portland, ME 04103
(207) 797-7261 T

May 29, 2023

Mr. Tom Saucier
Site Design Associates
23 Whitney Way
Topsham, Maine 04086

TO WHOM IT MAY CONCERN:

This letter authorizes Tom Saucier, Site Design Associates, to serve as an agent for University of New England for the purpose of permitting the proposed installation of a pier and float, on its Biddeford campus.

Sincerely,

Alan Thibeault
Vice president for University Operations

Excepting and reserving, however, from the last parcel described a small triangular parcel of land in the rear of the premises of Charles E. Roberts which triangular lot has a base of about 50 feet in length which is an extension of the northwesterly boundary of said Roberts lot; and has an altitude of about 100 feet in length which is the northeasterly side thereof and is located in the center of a ditch long supposed to be the rear line of the Roberts lot; and which has a hypotenuse which is coincident with the rear line of said Roberts lot and is the southerly side of said triangule, being the same premises conveyed by Blanche T. Beuscher and Olga M. DeHaven to the said Kenneth A. Littlefield and Barbara A. Littlefield, by their deed of mortgage dated on the twentieth (20) day of February 1958 and recorded in York Registry of Deeds, Book 1354, Page 447, but described under the aforementioned reference only as three certain lots or parcels of land, with buildings thereon, and mentioned as being the same premises conveyed on February 20th, 1958, by Kenneth A. and Barbara A. Littlefield to Blance T. Beuscher and Olga M. DeHaven, by Warranty Deed, Recorded Book 1362, Page 112; and that such entry was made and possession taken as aforesaid, for the avowed purpose of foreclosing said mortgage, because of a breach of the condition thereof.

Raymond E. Mealey

Madeline C. Mealey

STATE OF MAINE

COUNTY OF YORK, SS March 24, 1962 Signed and sworn to by the said Raymond E. Mealey and Madeline C. Mealey,

Before me. Maurice L. Shibles Notary Public (L.S.)
My Commission Expires Sept. 2, 1966

Recorded according to the original received April 6, 1962 at 11h. 58m. A. M. EL

KNOW ALL MEN BY THESE PRESENTS, THAT, COUVENT de la PRESENTATION de MARIE, a corporation organized and existing under the laws of the State of Maine and located at Biddeford, in the County of York and said State of Maine, in consideration of One Hundred Fifty Thousand Dollars ($150,000.00) paid by THE FRANCISCAN FATHERS OF MAINE, a corporation duly organized by law and having an established place of business at 605 Pool Road, in said Biddeford, the receipt whereof it does hereby acknowledge, does hereby give, grant, bargain, sell and convey, unto the said The Franciscan Fathers of Maine, its successors or assigns, forever, the following described property: I.R.S. One Hundred and Sixty Five Dollars

Parcel 1

A certain lot or parcel of land, with the buildings thereon, situated in

said Biddeford and bounded and described as follows:

BEGINNING at a point on the Northerly side of the Hill's Beach Road, so-called, in said Biddeford, said point being the Westerly corner of the land herein conveyed and being in the Southerly line of land formerly of one Finney and now of Couvent de la Presentation de Marie, and being marked by an iron stake driven into the ground; thence South eighty-two degrees eight minutes East (S 82° 08' E) two hundred fourteen and forty-six one-hundredths (214.46) feet by said Hill's Beach Road to an iron stake driven into the ground; thence North eighty-one degrees forty-two minutes East (N 81° 42' E) five hundred forty-five and five one-hundredths (545.05) feet by said Hill's Beach Road to an iron stake driven into the ground; thence South fifty degrees thirty-five minutes East (S 50° 35' E) two hundred thirty-eight and forty-seven one-hundredths (238.47) feet by said Hill's Beach Road to an iron stake driven into the ground and other land of this Grantor; thence North eighty-six degrees twenty-seven minutes East (N 86° 27' E) sixteen and ninety-one one-hundredths (16.91) feet by said other land of this Grantor to a drill hole into the ledge and land now or formerly of John J. Traynor; thence North three degrees thirty-three minutes West (N 3° 33' W) one hundred thirty-three and five tenths (133.5) feet by said land of John J. Traynor, land now or formerly of one Michael Reddy and a reserved street as shown on a plan of land of William A. Chadbourne, drawn by Z. G. Staples, July 14, 1874, and recorded in York County Registry of Deeds in Plan Book 2, Page 40, and by the stone wall to an iron stake driven into the ground at the Southwesterly corner of land now or formerly of William Libby; thence North twenty-two degrees forty-one minutes West (N 22° 41' W) one hundred twenty-eight and one-half (128½) feet by said land of William Libby, other land of this Grantor and by the stone wall to an angle in said stone wall; thence North fifty-five degrees fifty-seven minutes East (N 55° 57' E) three hundred ninety-three and nineteen one-hundredths (393.19) feet by said other land of this Grantor, by a reserved street as shown on said plan, and land now or formerly of Thomas Gallagher and by the fence and wall to an iron stake driven into the ground at the top of the bank; thence this same course to Saco River; thence Northerly, Northwesterly and Westerly by said River to an iron stake driven into the ground at a point of ledge and to said other land of this Grantor; thence South forty-one degrees East (S 41° E) three hundred thirty-nine and seven tenths (339.7) feet to an iron stake driven into the ground at the stone wall; thence South sixty-three degrees West (S 63° W) fifty-six and three tenths (56.3)feet by said stone wall to an iron stake driven into the ground; thence South sixty-nine degrees fifteen minutes West (S 69° 15' W) one hundred sixteen and one-half (116½) feet by said

wall to an iron stake driven into the ground; thence South fifty-three degrees forty minutes West (S 53° 40' W) one hundred twenty-eight and five tenths (128.5) feet by said wall to an iron stake driven into the ground; thence South sixty-eight degrees nineteen minutes West (S 68° 19' W) one hundred and four tenths (100.4) feet by said wall to an iron stake driven into the ground; thence North eighty-eight degrees four minutes West (N 88° 04' W) seventy-seven and nine tenths (77.9) feet by said wall to an iron stake driven into the ground; thence South seventy-four degrees twenty-three minutes West (S 74° 23' W) seventy-nine and two tenths (79.2) feet by said wall to an iron stake driven into the ground; thence South fifty-seven degrees nineteen minutes West (S 57° 19' W) ninety-five and one tenth (95.1) feet by said wall to an iron stake driven into the ground; thence South sixty-four degrees ten minutes West (S 64° 10' W) one hundred six and nine tenths (106.9) feet by said wall to an iron stake driven into the ground; thence South sixty-five degrees thirty minutes West (S 65° 30' W) one hundred forty-four and eight tenths (144.8) feet by said wall to the point of beginning. The last ten courses described being bounded by said other land of this Grantor. The above courses refer to the 1931 magnetic meridian.

Parcel 2

Also another certain lot of land, bounded and described as follows:

BEGINNING at an iron stake driven into the ground at the Southerly corner of the above described parcel and on the Northerly side of said Hill's Beach Road; thence North eighty-six degrees twenty-seven minutes East (N 86° 27' E) sixteen and ninety-one one-hundredths (16.91) feet by said above described parcel to a drill hole in the ledge and land now or formerly of John J. Traynor; thence South three degrees thirty-three minutes East (S 3° 33' E) fifteen and seventy-five one-hundredths (15.75) feet by said land of Traynor to said Hill's Beach Road; thence North fifty degrees thirty-five minutes West (N 50° 35' W) twenty-three and eleven one-hundredths (23.11) feet by said road to the point of beginning.

Parcel 3

Also another certain lot or parcel of land, situated at Hill's Beach, so-called, in said Biddeford, and adjoining the first above described parcel, bounded and described as follows:

BEGINNING at the Northwest corner of Lot #18, on a plan of land made by Z. G. Staples for William A. Chadbourne, dated July 14, A. D. 1874, at land of the late Selucus Adams and S. S. Mitchell; thence running Southerly one hundred (100) feet to Lot #17 on said plan; thence Westerly by last named lot fifty (50) feet; thence North forty-eight degrees West (N 48° W) forty-eight (48) feet by land of said Adams; thence North fifty-one and one-half degrees East (N 51½° E) one hundred six (106) feet by land of said Adams and Mitchell to the place of

48
pg 146

Book 1484

beginning, and containing about five thousand four hundred and twenty-four (5,424) square feet, being the same parcel of land as described in deed of James B. Marr and others to Caroline P. Adams, dated April 1, 1891 and recorded in York County Registry of Deeds in Book 443, Page 88.

The above described premises were conveyed to the within Grantor by Les Soeurs de la Presentation de Marie by deed of Warranty, dated September 30, 1932 and recorded in York County Registry of Deeds in Book 834, Page 67.

Parcel 4

Also another certain lot or parcel of land, together with the buildings thereon, situated in said Biddeford and known as the old Ralph Tristram Jordan place situated on the northeasterly side of the Pool Road, so-called, bounded on the southwesterly side by said Pool Road; southeasterly by the road to the beach and land formerly of Mrs. Horace Woodman; on the northeasterly side by the Saco River; and on the northwesterly side by land, now or formerly of J. B. Coolbroth.

For more particular description of the premises hereinabove last described, reference is made to decree of Supreme Judicial Court of Maine in the matter of Hanford E. Finney against claiments known and unknown dated October 3, 1919, and recorded in said York County Registry of Deeds, Book 671, Page 374.

All fixtures and articles of whatever nature permanently attached to said buildings are included in this conveyance.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all privileges and appurtenances thereof to the said The Franciscan Fathers of Maine, its successors or assigns, to its and their use and behoof forever.

AND it does COVENANT with the said Grantee, its successors or assigns, that it is lawfully seized in fee of the premises; that they are free of all encumbrances; that it has good right to sell and convey the same to the said Grantee to hold as aforesaid; and that it shall and will Warrant and Defend the same to the said Grantee, its successors or assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the said Couvent de la Presentation de Marie has caused this instrument to be executed and its corporate seal affixed thereto by - - its Treasurer, thereunto duly authorized, this eighteenth day of April, in the year of our Lord one thousand nine hundred and sixty-two.

Signed, Sealed and Delivered
in Presence of

Harold D. Carroll

COUVENT de la PRESENTATION de MARIE
(Corporate Seal)
By Sister St. Leon of Rome
Leona Lafleur
Its Treasurer, thereunto duly authorized.

Attachment 1 – Activity Description

The Biddeford Campus of the University of New England (UNE), Maine's largest private university, is positioned at the confluence of the Saco River and the Atlantic Ocean. This location, along with state-of-the-art research facilities and world-class faculty, has recently earned UNE's marine programs rankings among the top 10 nationally from *Biology Explorer*, *College Choice*, and *College Magazine*. To expand UNE's unique experiential learning and research opportunities in the marine ecosphere, the University is proposing the construction of a permanent pier which will serve as a four-season research deployment facility directly adjacent to the Arthur P. Girard Marine Science Center on its Biddeford campus

UNE's School of Marine and Environmental Programs, housed in the Girard Marine Science Center, is the academic home of 325 undergraduate and graduate students who are studying marine science, marine policy and management, as well as a wide variety of interdisciplinary fields, including marine ecosystems, conservation, restoration, business, sustainable fisheries and ecological aquaculture, social-ecological systems, and marine sustainability science. Additionally, two programs provide pathways from undergraduate to graduate degrees in Marine Sciences and Maritime Law (a 3+3 partnership with Maine Law).

Three things distinguish UNE's marine programs. The first is the oceanfront location on its core undergraduate campus, which provides direct access to the Gulf of Maine. The second is the multitude of research opportunities available to students starting as early as their first year of undergraduate studies. And the third is how the marine research done by UNE students and faculty directly impacts the people of Maine and beyond.

However, all three of these key assets are limited by the lack of year-round access to the ocean. ***The planned pier will allow students and faculty to be on the water throughout the year, thereby greatly enhancing UNE's groundbreaking research into critical problems facing Maine.***

The jewel of UNE's marine programs is Ram Island, UNE's private one-acre living laboratory two miles from campus in Saco Bay, which was gifted to the University in 2014. The island, which houses a fieldwork station and an experimental kelp farm, provides unparalleled research and field study opportunities for students and faculty. It also creates the potential to develop research partnerships that focus on critical issues facing Maine, making Ram Island home to coastal zone investigations of climate change, marine geology, invasive species, marine mammal ecology and interactions with fisheries and marine aquaculture.

Despite its prime location with direct access to the ocean, UNE currently has floating docks that are removed seasonally, precluding access to Ram Island and other areas of the Gulf of Maine in the critical winter and spring months. Construction of a permanent pier at UNE's Girard Marine Science Center will allow for dynamic, year-round, ocean-going research activities, facilitating scientific and practical exchanges with local, regional, and national marine researchers and industry partners. Additionally, the deep-water access would expand UNE's ability to serve as a collaboration hub for coastal marine and deep-water science and industry. As good stewards of the environment and our coastal neighbors, UNE is committed to ensuring that the planned structure fully adheres to local, state, and national regulations.

Investment in UNE's marine programs is good for Maine taxpayers. With the Gulf of Maine warming faster than almost any other body of water on the planet, marine research afforded by year-round access to the water will allow UNE to gather critical data to guide Maine's response to climate change. These expanded research opportunities will likewise enhance UNE's ability to ensure that its students graduate with the curiosity and experience to both ask and answer the important questions that will inform to the data-driven decisions impacting the expanding fields of aquaculture, fisheries, marine law and policy, marine business and entrepreneurship, ocean food systems, and related fields.

The University of New England (UNE) campus is located along the Saco River in Biddeford, ME. The Marine Science Center (MSC) at UNE is located on the waterfront at the easterly end of campus approximately opposite Camp Ellis in Saco. UNE is proposing to construct a pier from the shore into the Saco River to support MSC research activities and provide an all-tide access facility for small and shallow draft vessels.

The proposed facility includes the following:

1. A pile supported pier structure extending from shore into the Saco River. The proposed pier includes an approximately 130-foot long approach section extending from shore and an 80-foot long pier head section oriented roughly parallel to the direction of flow in the river. The pier consists of a concrete superstructure on steel pipe piles, with timber fender piles for vessel berthing and floating docks, and a pile supported gangway lifting beam to allow the gangway ramp to be temporarily removed from the water.
2. A floating dock system consisting of one 8-foot by 24-foot float, one 8-foot by 26-foot 10-inch float, and one 12-foot by 30-foot gangway landing float to provide all-tide vessel access for UNE's vessels on the west side of the pier, and a single 6-foot by 20-foot floating dock to provide a tie-up location for the City of Biddeford Fire Boat on the east side of the pier.
3. An 80-foot by 5-foot gangway to provide ADA compliant access to the float system.
4. An upland access road connecting the existing road at the MSC to the proposed pier, including associated site grading, drainage, and stormwater management features.

The proposed activities are described in detail in the following sections.

Pier Structure

The proposed vehicle rated pier is supported by twenty-five concrete filled steel pipe piles and a concrete abutment which connects the pier to the proposed access road. All of the piles are located beyond the HAT line, while the abutment is located shoreward of the HAT line. Fourteen, 24-inch diameter steel piles support the pier head portion of the structure and eleven, 16-inch diameter steel piles support the pier approach. The seven piles at the first three pile bents at the pier approach will be socketed to ledge due to a limited soil layer above the ledge surface at these locations. The remaining piles will be driven to ledge but do not require socketing given the sufficient depth of overburden soils. The piles support precast concrete pile caps which support precast concrete deck planks that form the pier deck surface.

The pier includes thirty, 12-inch diameter timber fender piles to provide for vessel berthing at the main face of the pier and to restrain the floating dock system. All new fender piles will be untreated timber, greenheart species. A gangway lifting beam is proposed to lift the gangway out of the water during float

maintenance or in advance of severe weather. The lifting beam is supported by a steel column anchored to the pier on one side and a 10.75-inch diameter concrete filled steel pipe pile on the other.

The total direct impact from all the piles that makeup the pier structure is 84 square feet. The total indirect impact from the pier footprint beyond the HAT line is 3,579 square feet.

Floating Dock System

The proposed floating dock system includes four floating docks. The three timber floats on the west side of the pier are new, while the single float on the east side of the pier is an existing float that wil be relocated from UNE's facility that is located upstream of the proposed pier (note that this facility is proposed to be demolished). The new floats consist of an 8-foot by 24-foot float, an 8-foot by 26-foot 10-inch angled float, and a 12-foot by 30-foot gangway landing float. All new floats will be located on the west side of the pier approach at the south side of the pier head. The existing float is 6-feet by 20-feet and will be located on the east side of the pier approach at the south side of the pier head to provide a tie-up location for the City of Biddeford Fire Boat. The new floats are accessed by the proposed gangway or a fixed ladder, and the fireboat float is accessed solely by a fixed ladder. All the floating docks are located beyond the MLLW line and will be restrained and guided by the timber fender piles. The floats will allow vessels to tie up to the pier at any time during the tide cycle. The total indirect impact from the floating dock system is 848 square feet.

Gangway

The 80-foot by 5-foot gangway provides ADA compliant access to the new floating dock system on the west side of the pier. The gangway connects to the pier near the beginning of the pier approach and lands on the 12-foot by 30-foot floating dock. The total indirect impact from the gangway is 357 square feet (this area excludes the portion of the gangway located above the floating dock).

Pier Buildings

Two pier buildings are proposed to be located on the pier head. At the southeast corner of the pier head is an 8-foot by 10-foot pier shed. This structure will provide storage for small equipment used by MSC staff, as well as an indoor protected location to house certain utility features such as electrical service panels. A 16-foot by 20-foot covered outdoor classroom is proposed on the west end of the pier head. This structure will provide a covered area for students and staff to carry out educational programming on the pier while protected from direct rain or sun exposure.

Access Road

Vehicular and pedestrian access to the pier will be provided by a new single-lane access road that will extend from the existing MSC access road and parking area, around the east side of the MSC building, and to the end of the pier approach. The access road has a 20-foot paved width with a single 16-foot wide lane and 2-foot wide paved shoulders. A turnaround area is provided adjacent the pier approach to allow for vehicles up to and including fire trucks accessing the pier to turn around and drive forward to exit the access road. There is no parking proposed adjacent to the pier. All parking will use the existing parking spaces adjacent to the MSC building. The new road will provide construction access for the project, which will help to limit the amount of work performed from the water and allow more staging to

be achieved from land. The upland work will include stormwater management features that have been designed to meet Maine DEP Chapter 500 standards.

Summary of Impacts

Table 1 provides a tabulation of direct and indirect impacts associated with the proposed facility.

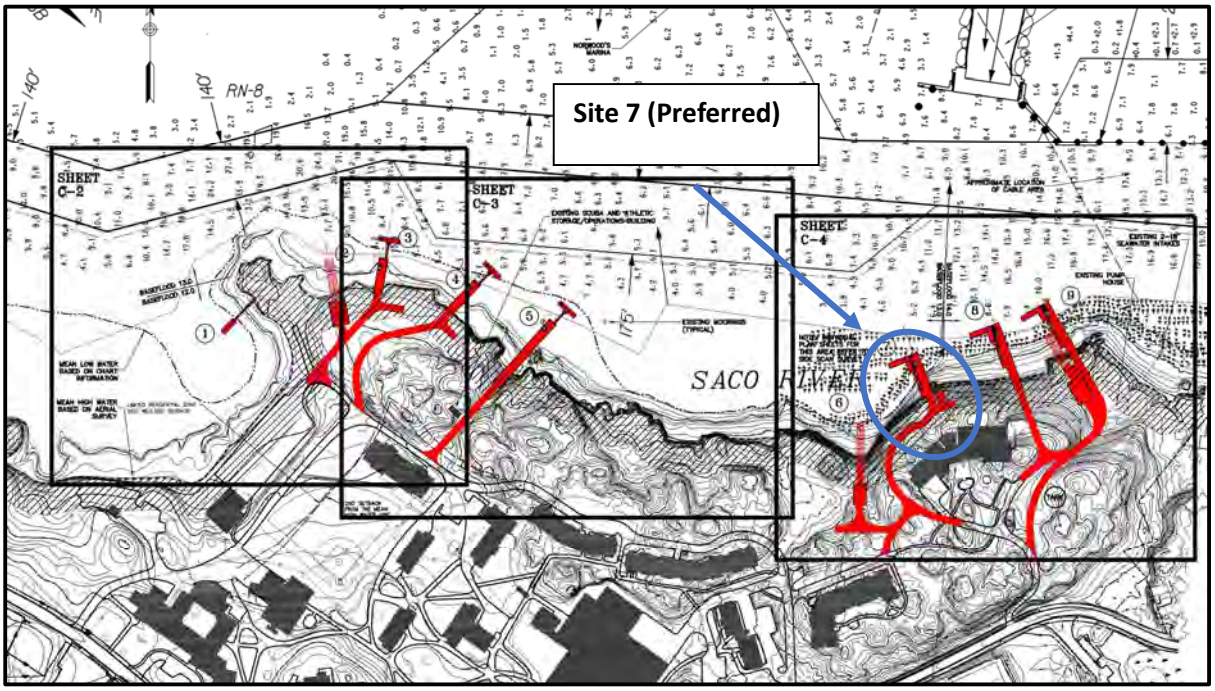
Item		Indirect Impact (SF)	Direct Impact (SF)
1	Pier Structure		
	Pier Support Piles	---	59.3
	Fender Piles	---	24
	Gangway Lifting Beam Support Pile	---	0.6
	Pier Footprint Beyond HAT Line	3579	---
	Total	**3579**	**84**
2	Floating Dock System		
	8-foot by 24-foot float	192	---
	8-foot by 26-foot 10-inch angled float	175	---
	12-foot by 30-foot float	360	---
	6-foot by 20-foot fireboat float	120	---
	Total	**848**	---
3	Gangway		
	5-foot by 80-foot gangway	357	---
	Total	**357**	---
TOTAL IMPACT AREA		4784	84

Attachment 2 – Alternatives Analysis

The Plans provided in attachments 5 and 6 detail the preferred alternative. This design was arrived at after extensive study of alternative locations and layouts for the pier over multiple years time. Alternatives considered in developing the proposed project are briefly described below.

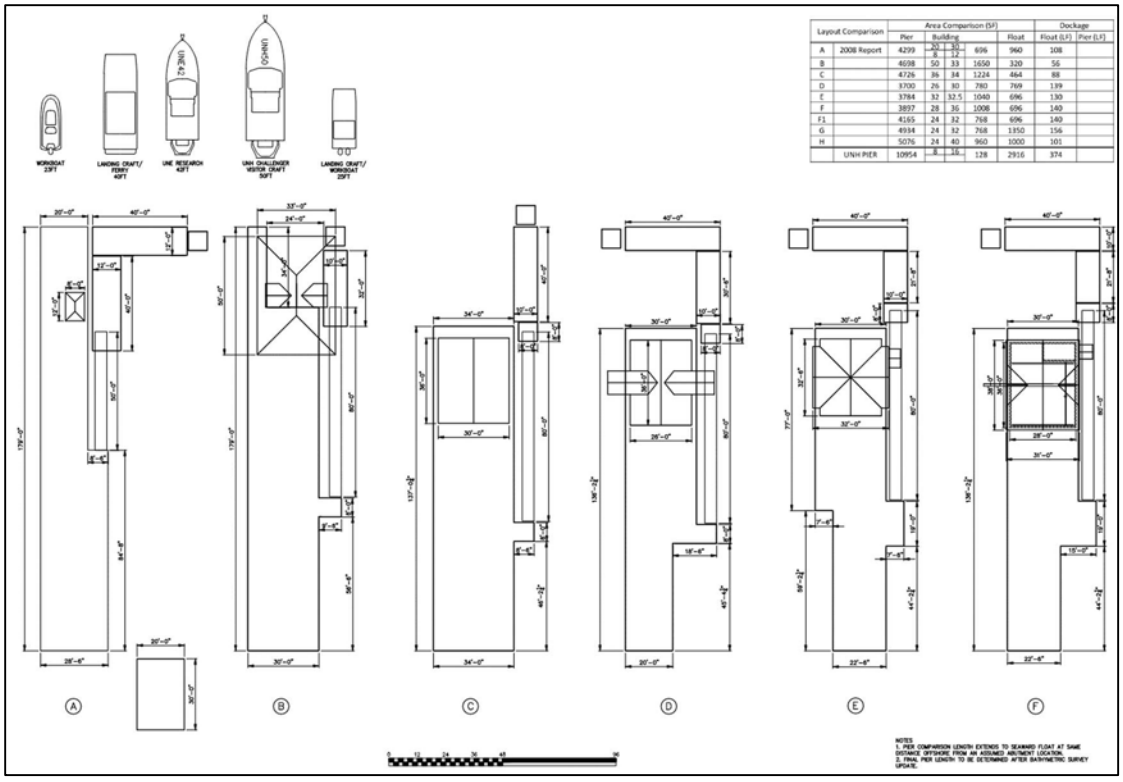
2008-2010 Pier Feasibility Study

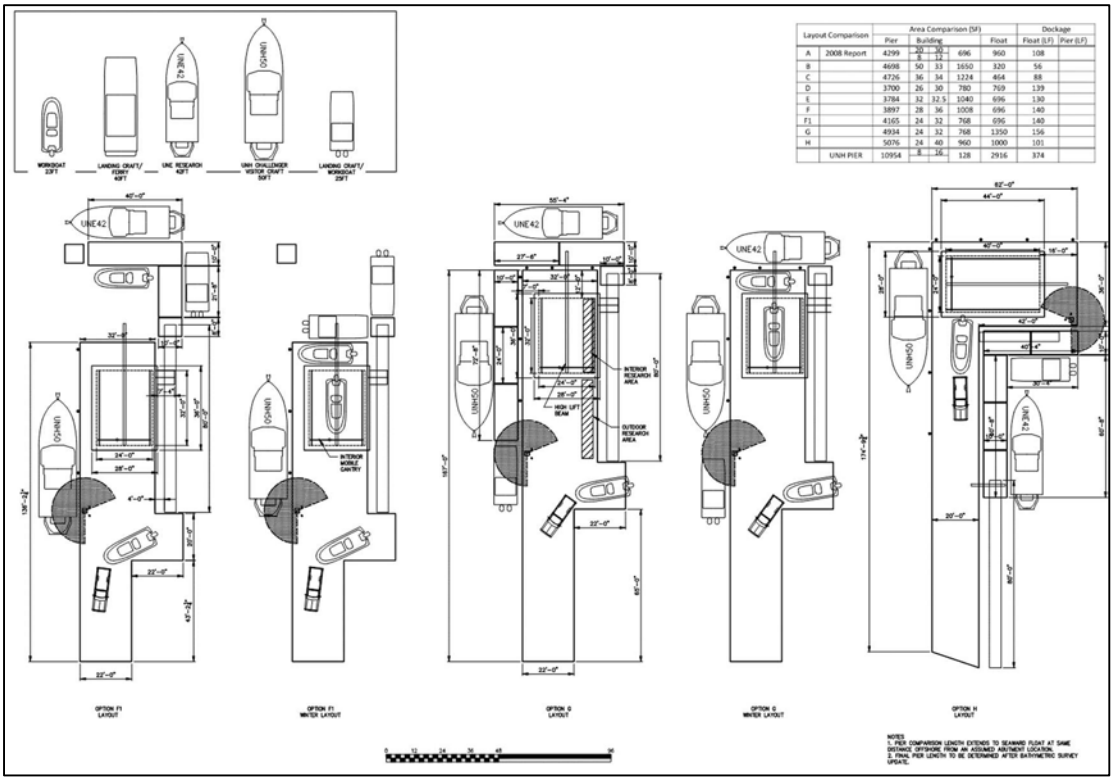
In 2008-2010, UNE completed a concept planning study for the proposed pier. In this study, nine alternative designs were developed for water access facilities along the UNE waterfront consisting of various configurations of piers, boat ramps, and upland access and support facilities. The alternatives were evaluated on a range of criteria including technical criteria, functionality, constructability, regulatory impacts, cost of construction, and others to identify a preferred facility location. The nine alternatives evaluated through this study are shown in the figure below. At the conclusion of this study, Site 7 (directly in front of the Marine Science Center building) was identified as the preferred facility location to develop a new pier facility that would consist of a pile-supported pier extending from shore out into the Saco River. This location is optimal for access to and from the MSC facility and on the water, and allows for all-tide berthing with a smaller structure and less impact than several adjacent alternatives that were considered. At the conclusion of this study it was determined that Site 7 was the preferred alternative to move forward with further planning and design.



2015-2016 Pier Layout Study

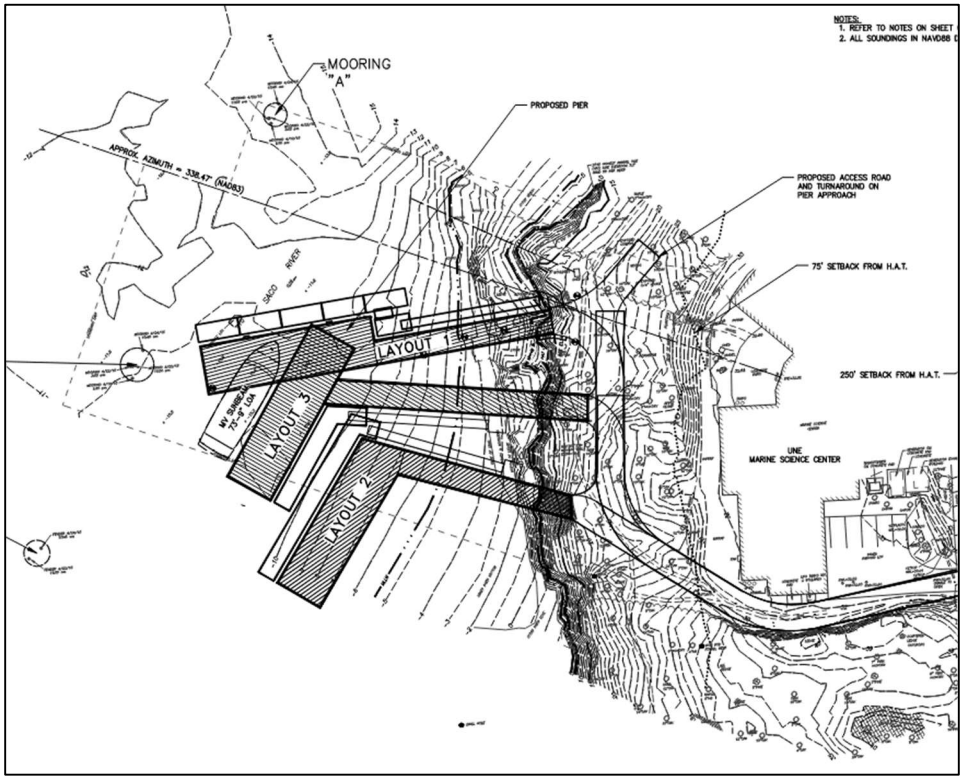
After completion of the pier feasibility study described above, UNE undertook additional effort to study alternative pier layouts that would address the functional needs of the facility as well as the site exposure, berthing conditions, access requirements, and associated site impacts. During this study, numerous alternative pier layouts were considered which are depicted in the two figures that follow.





Further alternative development was completed in 2016 to address a realignment of the pier head parallel to the predominant direction of flow in the River for improved berth functionality. These alternatives considered input of the Biddeford Harbormaster and his knowledge of boating and

conditions on the Saco River after review of earlier layouts during a meeting in early 2016. The figure below depicts three alternatives considered during the study.



2023 Layout Refinement

During design refinement undertaken in 2023, the preferred alternative was identified as a combination of the pier approach from Layout 1, and the pier head from Layout 3, of the 2016 layout study. The Layout 1 pier approach represents the least impactful and most feasible option for upland site access. The Layout 3 pier head provides more desirable berthing conditions by aligning the main berth with flow directions in the River, and reaches sufficient depth to provide all-tide access for the range of vessels anticipated to use the facility. The layout was then refined somewhat to reduce the size of the structure to keep the dimensions to the minimum necessary to accomplish the functional goals of the project. During this refinement, the dimensions of the pier head were reduced from the initially proposed 28-feet wide by 100-feet long, to the currently proposed 23-feet 4 inches wide by 80-feet long. The dimensions of the float dock system were reduced somewhat, and the layout of fender piles was refined to reflect a functional design with minimum necessary dimensions and impacts.

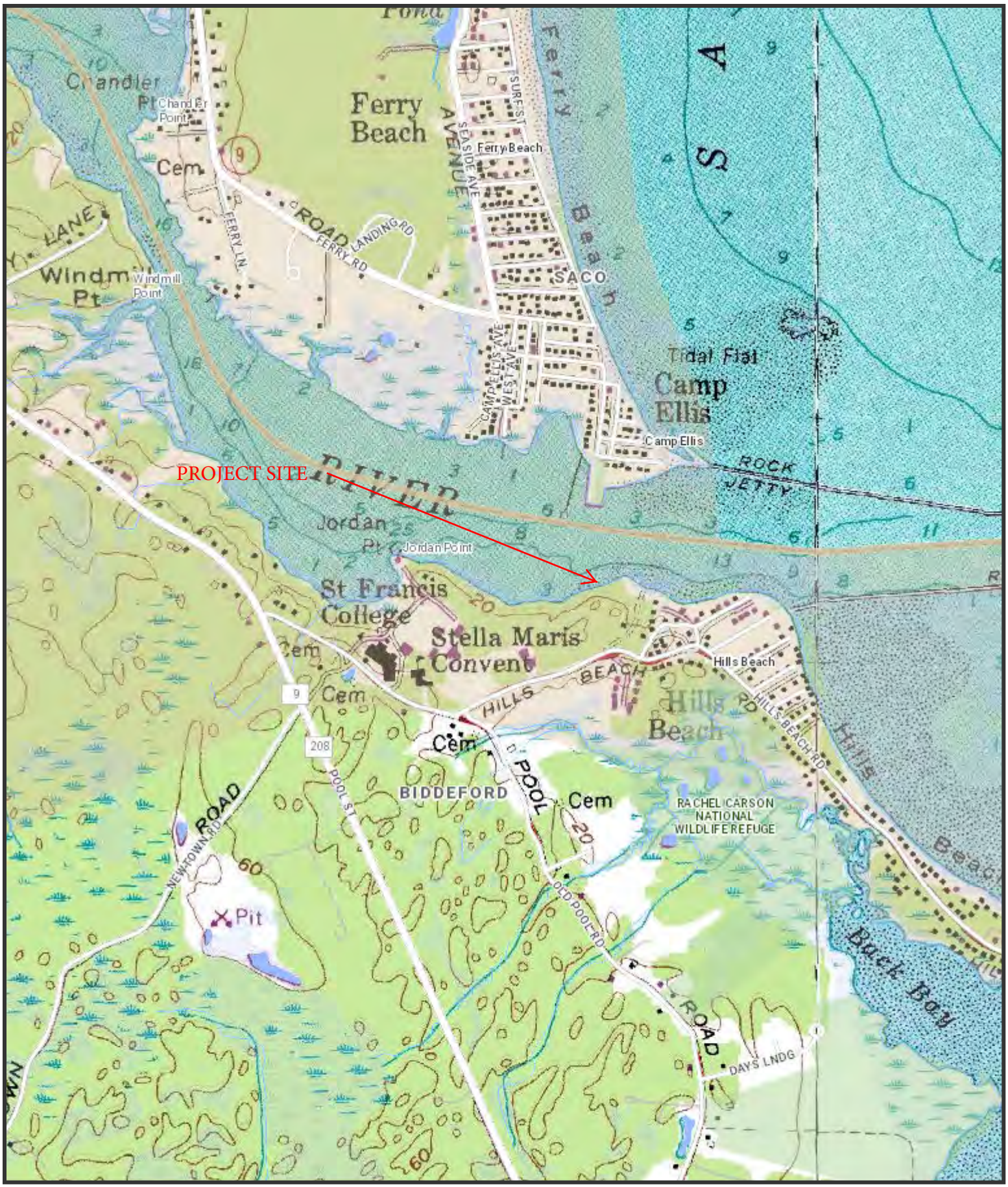
The preferred alternative as currently presented represents a facility of the smallest dimensions possible to provide a functional facility that provides all-tide access for the range of vessels anticipated to use the facility, and ADA compliant access to the floating dock and gangway system and berthed vessels. While it could be possible to further reduce site impacts by further reducing the dimensions of the facility, any reduction beyond the size that is currently proposed would impact the proposed uses of the facility.

Do Nothing Alternative

A Do Nothing Alternative is the least impactful option, but would fail to address the goal of providing all-tide access to support UNE's marine research and educational programming through the marine science center. The existing seasonal floats and gangway located on the UNE campus upstream of the MSC building do not effectively meet these needs. Therefore, a Do Nothing alternative is not considered to be a feasible long-term solution.

ATTACHMENT 3 – LOCATION MAP

ATTACHMENT 3 - LOCATION MAP



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.25 Miles

1 inch = 0.28 miles

Date: 6/8/2023
Time: 3:54:08 PM

ATTACHMENT 4 – PHOTOS



Looking down river



Looking down river.



At site.

ATTACHMENT 5/6 – PLANS

Attachment 7 – Construction Plan

Construction Access

The project occurs on a waterfront site along the Saco River. The proposed activities will require construction access by land and from water. Access by land will be by roads on the UNE campus. The new pier access road will be roughed-in early in the construction to provide an upland route for construction access, material deliveries, and staging. Access to the site by water will be by barge from the Saco River. The contractor will be directed to avoid impacts to the nearby federal navigation channel and adjacent waterfront facilities during site access. Short-term temporary impacts to the federal channel and adjacent facilities may be necessary during various stages of the project. The contractor will be directed to coordinate impacts with adjacent facility owners, the Biddeford and Saco Harbormasters, the Coast Guard, and the Army Corps of Engineers.

Construction Notices

The owner and/or owner's agent will notify abutting property owners when the work starts and will keep them informed of changes in project schedule.

Method of Construction

The work will require mobilization of marine construction equipment (barge, crane, tug, work boat), and upland construction equipment (earthmoving, concrete placement, paving). The pier design uses pre-fabricated components to the greatest extent possible to minimize the required onsite construction time. A summary of the construction process is provided below:

1. Contractor mobilization for upland construction.
2. Rough-in access road and install temporary erosion and sedimentation control measures.
3. Construct concrete pier abutment.
4. Contractor mobilization for marine construction.
5. Drive steel pipe piles.
6. Install precast concrete pile caps using barge mounted crane.
7. Install precast concrete deck planks using barge mounted crane.
8. Install timber fender piles and associated fendering components.
9. Install floating docks and gangway.
10. Complete construction of pier topside components including timber curbs, metal handrails, utilities, pier buildings, jib crane, and ancillary features.
11. Complete construction of access road including paving and permanent erosion and sedimentation control measures
12. Demobilize from site.

Construction Schedule

The construction is proposed to take place during winter 2024-2025. The construction is estimated to take 8-9 months to complete. It is anticipated that the start of upland construction will be scheduled in early fall to allow the access road to be roughed-in prior to the start of marine construction. Marine

construction will be completed in compliance with the standard November 8-April 9 in-water work window. All in-water work will be completed within this window. Topside work on the pier may extend beyond the end of the in-water work window. Final completion of the upland access road is anticipated to be in late spring to early summer 2025, as this will need to be timed to consider local road postings that may impact construction equipment and material access to the site.

ATTACHMENT 8 – EROSION CONTROL PLAN

Erosion control details and specifications are included on the project plans.

ATTACHMENT 9 – WETLAND DELINEATION REPORT/COASTAL WETLAND CHARACTERIZATION APPENDIX B

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
U.N.E. - BIDDEFORD, MAINE

Prepared for

SITE DESIGN ASSOCIATES



Prepared by

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WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
U.N.E. - BIDDEFORD, ME.

REPORT CONTENT

1.0 PROJECT INTRODUCTION
2.0 PROJECT METHODOLOGY
3.0 PROJECT SUMMARY

APPENDIX A: PLAN (REDUCED)
APPENDIX B: WETLAND TOPOGRAPHIC PLAN (REDUCED)
APPENDIX C: PHOTOGRAPHS
APPENDIX D: NATIONAL WETLANDS INVENTORY MAP
APPENDIX E: NRCS SOIL MAP
APPENDIX F: F.E.M.A. FLOOD MAP
APPENDIX G: HIGHEST ASTRONOMICAL TIDE MAP
APPENDIX H: COASTAL SAND DUNE MAP

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April 9, 2023

Mr. Thomas Saucier
Site Design Associates
23 Whitney Way
Topsham, ME. 04086

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
U.N.E. - BIDDEFORD, ME.

Tom,

Please review the following updated Wetland Report for the proposed Pier at the University of New England (UNE) Marine Science Center.

1.0 PROJECT INTRODUCTION

As requested, this report is a summary of a 2023 review of prior wetland surveys for the proposed permanent Pier location at the UNE Marine Science Center in Biddeford originally completed on September 3 and 23, 2015. We have revisited the area several times since the first wetland survey for various efforts and the site is generally unchanged from the 2015 survey. We understand that the current proposed Pier location has shifted alignment slightly toward the northwest from the previous proposed alignment back in 2015. In 2023 the project area was expanded southerly of the 2015 wetland survey to the northerly end of Hill's Beach. We added Wetland D at the transition point from the rocky Saco River ledges to the sandy outwash of Hill's Beach. These areas are not in the immediate vicinity of the proposed Pier and should not be impacted by its construction.

The project area generally consists of uplands with shallow soils over bedrock above short and steep bedrock exposures (ledges) leading down and into the Saco River at some locations. Areas of shaly/gravelly soil exposures are intermixed with silty/sandy flats that are exposed at low tide along the base of these bedrock faces. We did not identify any wetland colonies within the proposed Pier limits however two small colonies of coastal wetland plants (Wetlands A & B) are located in the rocky beach along the original southerly project limits. There is a small "perched" wetland (Wetland C) lying in a narrow shelf of the bedrock cliff northerly of the proposed Pier location.

This spring (2023) we delineated a Coastal Wetland (Wetland D) southerly of the original survey area that was added to the original survey limits and approximately six hundred feet (±600') distant from the

proposed Pier Project. Wetland D is located at the northerly end of Hill's Beach at the transition spot from rocky shoreline along the Saco River to the sandy Hill's Beach.

Lastly, we also noted a small "pocket" of coastal wetlands approximately three hundred feet (±300') northerly of the original survey area. The National Wetlands Inventory (NWI) mapping closely resembles the wetland areas in this area and further described in the following.

2.0 PROJECT METHODOLOGY

We reviewed the Medium Intensity Soil Survey by the Natural Resource Conservation Service (NRCS), Maine G.I.S. website for Aerial Photography, Shorebird Feeding Habitat, Shorebird Roosting Habitat, U.S. Fish & Wildlife's National Wetland Inventory Maps, Topographic/Soundings Survey by Statewide Surveys, Inc and Owen Haskell, Inc, Wetlands/Deep Water Classifications by Cowardin and The Identification and Management of Significant Fish and Wildlife Resources in Southern Maine by the Maine Inland Fisheries and Wildlife and the Coastal Sand Dune Geology Map by the Maine Geological Survey prior to conducting the Wetland Survey.

The project limits were defined by Site Design Associates in 2015 and redefined in 2023. Relative site features were located within the project area using a Trimble® Geo-XH Global Positioning Unit (GPS). The wetlands were reviewed again during topographical and bathymetric surveys. We surveyed the site at low tide conditions during both visits in the spring of 2023 and back in 2015 to thoroughly examine and photograph the site within project limit for wetlands.

We also used hand tools to observe the limited soils available in both the uplands and river floodplain. We documented any clams, mussels and marine worms where soils were observed at intermittent locations within the Low, Mid and High Intertidal Zones. We did not identify any wetland vegetation within the proposed location for the new Pier. However, small wetland communities were documented and mapped where present within the project limits.

Typically, three wetland parameters are required with the Routine Method described in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and its Regional Supplement: North-Central and Northeast Region (Version 2). These environmental parameters include: the presence of hydric soils[1], the predominance of hydrophytes[2] and evidence of wetland hydrology[3].

1. *"Hydric" soils formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (NEIWPCC).*
2. *"Hydrophytes" are plants growing in wetlands that have adapted in one way or another to life in permanently or periodically inundated or saturated soils (USACE).*
3. *"Hydrology" is permanent or periodic inundation, or soil saturation to the surface, at least seasonally is the driving forces behind wetland formation (USACE).*

The project area was expanded in 2023 to include more area southerly of the proposed pier site. We delineated a coastal wetland (Wetland D) along the southerly limits of the newly expanded project area. These coastal wetlands have alluvial and "hydric" soil conditions, presence of hydrology and a prevalence of hydrophytes thereby meeting the required wetland criteria identified in the USACE manual.

The three parameters are not all present at the proposed Pier location and we understand the site would

meet the Maine Department of Environmental Protection (MDEP) Shoreland Zoning-Coastal Wetlands. Specifically, lands below the HAT Line which is determined by elevation 6.6' NAVD-88. A wrack line is evident in the field which is a visual indicator of the daily high tide limits and likely slightly below the HAT elevation.

Coastal Wetlands are defined as: All tidal and sub-tidal areas, including all areas below any identifiable debris line left by tidal action; all areas with vegetation present that is tolerant of saltwater and occurs primarily in a salt water or estuarine habitat and any swamps, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action during the maximum spring tide level as identified in the tide tables published by the National Ocean Service (38 MRSA 480-B).

The 2015 Wetland Survey found small colonies of vegetation commonly found in Coastal Wetlands within the project limits, however these areas are not within the area for the proposed Pier. We designated these areas as Wetlands A, B and C and are all located below the HAT Line within the intertidal zone. We revisited the site in 2023 on two occasions to review wetlands in the expanded area lying southerly of the original project area. We added Coastal Wetlands "D" during these visits and the limits were located during topographical survey work.

Wetlands A & B

Both Wetland A (55 ft^2) & Wetland B (107ft^2) are two small stands of sparsely populated plant colonies that are nearly connected and located in the rocky beach southerly of the project area. The sparsely populated plant species included the sea lettuce (Ulva lactuca) along the water's edge, smooth cordgrass, a few orachs (Atriplex sp.), sea-shore goldenrods (Solidago sempervirens) with some scattered sea plantain. These areas are shallow to refusal in the rocky substrate with less than seven inches of alluvium (<7") consisting of shaly very dark graying brown sandy loams and loamy sands. Both areas are below the HAT line.

Wetland C

Wetland C (41 ft^2) is a small "perched" wetland located on a "shelf" in the ledge exposure northerly of the proposed pier location in the project area. The small area is also below the HAT Line and inhabited with a sparse plant community underlain with shallow alluvial soils. The small colony of herbaceous halophytes and/or hydrophytes are rooted into the shallow alluvial soils with daily tidal inundation being located below the obvious high tide line. The sparse and intermixed vegetation considered hydrophytes and halophytes included: sea lavender (Limonium carolinianum), smooth cordgrass (Spartina alterniflora), seaside goldenrod (Solidago sempervirens) and rockweed. This narrow area was not "flagged" for environmental reasons being underwater at times and flagging will not stand the tidal currents. Please see attached map for wetlands location.

Wetland D

Wetland D is a narrow Coastal Wetlands area along the Back Sand Dune of the reaches of Hill's Beach. This open ended area marginal wetland was added in 2023 with the expansion of the overall Project Limit. Wetland D has an evident wrack line with sparsely populated individual sea-shore goldenrods (Solidago sempervirens), cordgrass (Spartina alterniflora), american beach grass (Amnophila breviliguata) and raspberry (Rubus sp.) stems between the wrack line and upland vegetation. This area has slight characteristics of a back sand dune environment. The sparse vegetation is mainly between the principle

wrack line and the apparent HAT Line. This open ended wetland area begins where the rocky shoreline of the Saco River meets with the flat sands of the northern end of Hills Beach. Our first visit in 2023 found the area saturated from the previous high tide cycle and the wetland limits were readily apparent to the upland vegetation edge. The upland edges are inhabited with freshwater (palustrine) species including: sumac (Rhus sp.), honeysuckle (Lonicera sp.) and oaks (Quercus spp.).

Upland Characteristics

The site is generally gently sloping downward in an easterly direction toward the Saco River. We found the adjacent uplands to be consistent with the NRCS Soil Map where the NRCS identified the area with Lyman Rock-Outcrop Complex in the Soil Survey of York County, Maine. The upland soils are shallow to hard bedrock intermixed with bedrock exposures or outcroppings.

Mature trees are sparsely inhabiting the land in front of the Marine Science Center and the proposed Pier location. These trees include white oak (Quercus alba), red oak (Quercus rubrum) and shagbark hickories (Carya ovata). These hardwoods appear to be mature, however also appear somewhat stunted growth likely from the limited availability of nutrients in the shallow soils.

We did not observe any wildlife in the upland areas during the 2023 review, however there is evidence of remnant squirrel nut casings under the oak trees. In 2015 we observed some bird and animal species using the Saco River while on-site collecting data for the wetlands including: belted kingfisher (Ceryle alcyon), ring billed gull (Laurus delewarensis), great commorant (Phalacrocorax carbo) and a least sand piper (Calidris minutilla). We also observed some invasive green crabs (Carcinus maenas) and sand shrimp (Crongon septemspinosa) in the shallow water along the river's edge. We only observed a breeding (presumed) pair of canadian geese and a loon with winter plumage in 2023.

We did not identify any special wildlife resources such as nesting, rookeries, nesting sites, seal haul outs etc. We reviewed the MDEP website for Shorebird Feeding and Roosting Habitats. None were listed or identified at the proposed project area. Additionally, we referred to The Identification and Management of Significant Fish and Wildlife Resources in Southern Coastal Maine for resources in this area. The document identifies the mouth of the Saco River with Shorebird Feeding and Roosting Areas which is southerly of the project location.

3.0 PROJECT SUMMARY

The 2023 realignment location for the proposed Pier is very close to the 2015 area and along the same ledges as the original location. The 2023 alignment appears to be better positioned in relation to the shoreline and the Saco River flow from our site observations. The site generally consists of bedrock controlled uplands leading down to short steep bedrock cliffs and the rocky shoreline of the Saco River. We reviewed the project study area for wetland habitats as shown on the survey plan. The approximate high tide line is very evident with its intermittent "wrack" or debris line along the bedrock cliff exposures representing fluctuating water levels and tidal events.

The footprint area for the proposed Pier is nearly void of any vegetation except some rockweed (Fucus vesiculosus) along the lower parts of the rocky ledges in the mid-intertidal zone and above the Saco River and the low intertidal zone. The natural scouring effect of the fluctuating tides apparently limits plants with

an opportunity to anchor in the lower-intertidal zone or the subtidal river bottom.

We observed some very dark, mixed alluvial soils (deposited materials) below the apparent high tide lines and along the bottom of the bedrock cliffs and the Saco River's edge. Most of the alluvial soils where present are subtidal or just above being completely submerged at low tide and considered as hydric under flooded conditions. There are also small areas with shallow soil "pockets" that are intermixed among boulders and stones along the bedrock cliffs that "grade" down to mixed coarse and fine shales, gravels, sands and silts of the unconsolidated Saco River bottom.

We did not identify any typical coastal wetlands vegetation within the footprint area for the proposed Pier alignment. We understand that wetland regulations are in effect below the Highest Annual Tide of 6.6' NAVD-88 Datum where typical wetland vegetation is not present. We also understand regulatory setbacks (buffers) including the Shoreland Zone would originate above the HAT Line.

We noted another coastal wetland in the intertidal zone to the north of the project limits and not shown. This small wetland colony should not be impacted from the Pier installation. The NWI maps indicated these findings as well with coastal wetlands located both to the north and south of this project area. Both the north and southerly coastal wetlands have been designated as E2AB1N (Estuarine, intertidal, algae aquatic bed, regularly flooded & tidal fluctuation) on the NWI maps. The Saco River is designated as E1UBL (Estuarine, subtidal with unconsolidated bottom).

The project is subject to regulatory review being located within the Saco River floodplain and the Shoreland Zone at the State & Federal Level by the MDEP and the USACE. We understand regulatory setbacks would be measured from the HAT Line per elevation 6.6' NAVD-88 without a coastal wetland boundary to measure from. We also understand, permitting with the MDEP would be with the Mandatory Shoreland Zoning Act (MSZA) and typically required within 250' of the high water mark of a great pond or river, upland edge of a coastal wetland. We further understand that state regulations are in effect within 75' or 100' of the HAT line depending on the type and size of any proposed impacts to these areas.

We recommend reviewing the MDEP Natural Resources Protection Act (NRPA) Permit Applications and scheduling a Pre-Application meeting with the regulatory agencies to determine the required permits for the proposed permanent Pier. We understand that Resource Permits will be required for the permanent Pier within the intertidal zone and below the HAT Line. Areas below the HAT Line at the site meet the definition for Coastal Wetlands. Coastal Wetlands are also considered as "Wetlands of Special Significance" with the MDEP. Impacts to "Wetlands of Special Significance" could require offsetting mitigation depending on the size and type of impact. Lastly, additional permits with the MDEP are likely for any impacts are proposed in and adjacent to the Sand Dunes at Hill's Beach.

Wetlands are regulated also by the USACE under the provisions of Section 404 of the Clean Water Act below the HAT Line and navigable waters of the United States. The USACE may also review permit applications resulting from wetland impacts. We understand permits will be required to alter the wetland resources on-site below the HAT Line. The Corps will evaluate the Pier project and determine the appropriate permit/s required for impacts to Coastal Wetlands whether they are "Wetlands of Special Significance" or not with the MDEP.

The City of Biddeford also has a Code of Ordinances in effect with regulations over resources including the Saco River. The City should be consulted with regarding any local permits that may be required for work in or adjacent to the resource. This may require a UNE Representative to sign local permitting applications. A

MDEP or USACE or Biddeford Official may be required or helpful to determine the permit/s needed for the proposed project along the Saco River shoreline and working within the Shoreland Zone and its buffer. We can assist with environmental meetings with the City, MDEP or USACE if needed.

We further recommend contacting Dig-Safe for underground utility locations. An independent contractor may be necessary to mark utilities on private property. Lastly, we always recommend implementing Best Management Practices (BMP's), especially for stormwater and erosion control during and after construction until the site becomes stabilized and compliance with all environmental regulations during site work.

In the event you have any questions or need further assistance, please contact me using the office addresses provided or the office number at 207-767-4200.

Respectfully Submitted,

Dale A. Brewer
STATEWIDE SURVEYS, INC
Dale A. Brewer LSS/PLS
President

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - A
PROPOSED PIER PLANS
(REDUCED)



Preliminary

0 30 60
SCALE, FEET

ELEVATION	MLLW	NAVD88*
EPE	+10.0	+14.3
HAT	+11.6	+9.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed: DJB
Drawn: JAM
Checked: BJB
Approved:
P.E. No:
GEI Project 2203703

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11 HILLS BEACH RD.
BIDDEFORD, MAINE

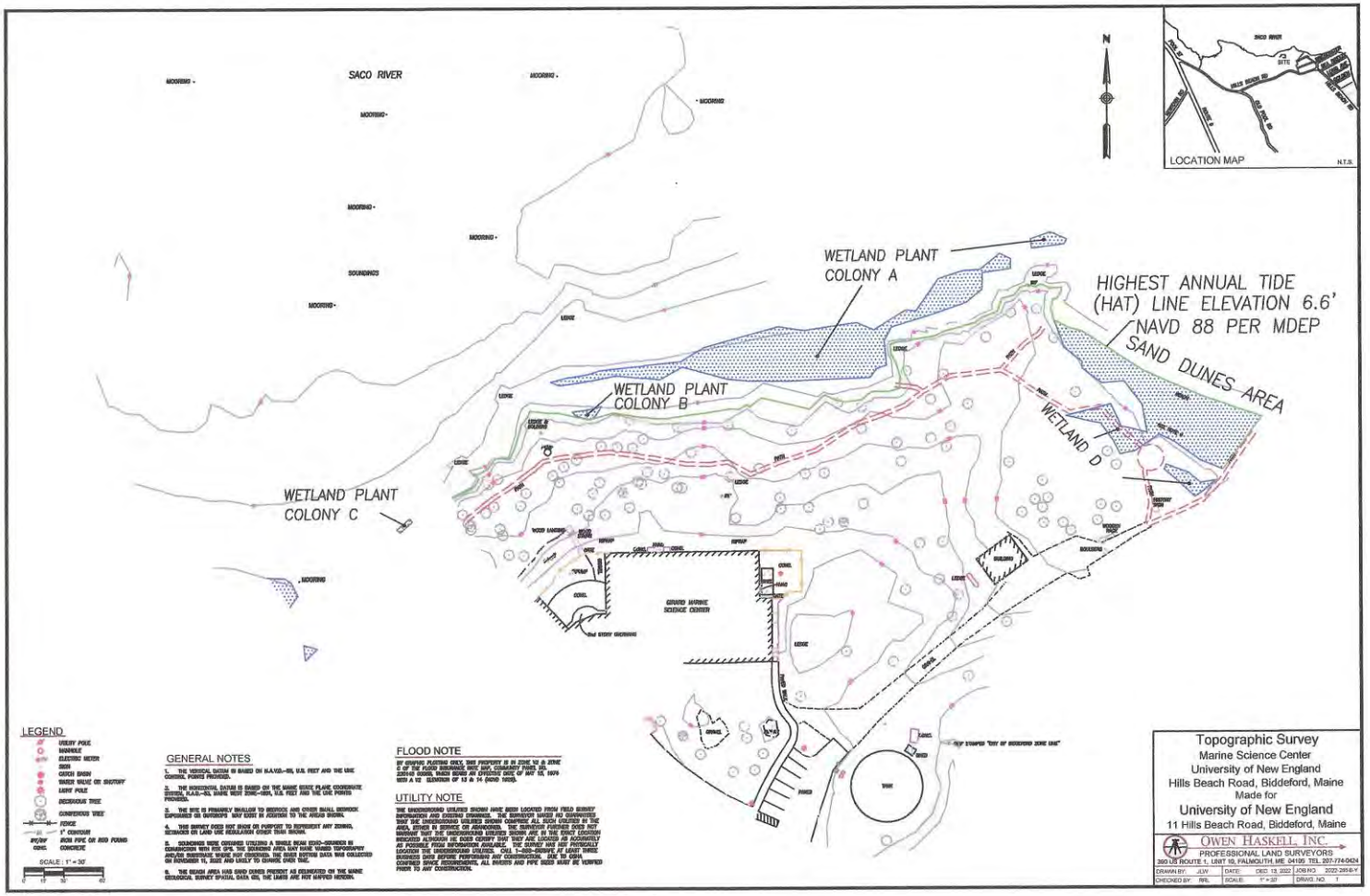
UNIVERSITY OF NEW ENGLAND
MARINE SCIENCE CENTER
PIER
11 HILLS BEACH ROAD
BIDDEFORD, MAINE

NO	DATE	ISSUE/REVISION	APP
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: SITE PLAN
SHEET NO.: C-002

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - B
WETLAND SURVEY PLAN
(REDUCED)


SACO RIVER
MOORING
SOUNDINGS
WETLAND PLANT COLONY A
WETLAND PLANT COLONY B
WETLAND PLANT COLONY C
WETLAND D
HIGHEST ANNUAL TIDE (HAT) LINE ELEVATION 6.6' NAVD 88 PER MDEP
SAND DUNES AREA
GRAVES MARINE SCIENCE CENTER
N
LOCATION MAP
N.T.S.
LEGEND
UTILITY POLE
MANHOLE
ELECTRIC METER
WELL
CATCH BASIN
WATER VALVE OR SHUTOFF
LIGHT POLE
DECIDUOUS TREE
CONIFEROUS TREE
FENCE
1" IRON PIN
IRON PIPE OR ROD FOUND
CONC. CONCRETE
SCALE: 1" = 30'
GENERAL NOTES
1. THE VERTICAL DATUM IS BASED ON N.A.V.D.–88, U.S. FEET AND THE USC CONTROL POINTS PROVIDED.
2. THE HORIZONTAL DATUM IS BASED ON THE MAINE STATE PLANE COORDINATE SYSTEM, N.A.D.–83, MAINE WEST ZONE–1802, U.S. FEET AND THE USC POINTS PROVIDED.
3. THE SITE IS PRIMARILY SHALLOW TO BEDROCK AND OTHER SMALL BEDROCK EXPOSURES ON SURVEYOR'S MAP DOES IN ADDITION TO THE AREAS SHOWN.
4. THIS SURVEY DOES NOT SHOW OR PURPORT TO REPRESENT ANY ZONING, SETBACKS OR LAND USE REGULATION OTHER THAN SHOWN.
5. SOUNDINGS WERE OBTAINED UTILIZING A SINGLE BEAM ECHO–SOUNDER IN CONJUNCTION WITH RTK GPS. THE SOUNDING AREA MAY HAVE VARIED TOPOGRAPHY AND/OR SUBSTRATE WHICH MAY CONTRIBUTE TO THE ECHO SOUNDING DATA WAS COLLECTED ON NOVEMBER 11, 2022 AND LIKELY TO CHANGE OVER TIME.
6. THE BEACH AREA HAS BEEN DENOTED PRESENT AS ESTIMATED BY THE MAINE GEOLOGICAL SURVEY SPATIAL DATA ONLY, THE LIMITS ARE NOT SURVEY MEANS.
FLOOD NOTE
BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE VE & ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 2301450 0008D, WHICH BEARS AN EFFECTIVE DATE OF MAY 16, 1979 WITH A VE ELEVATION OF 13 & 14 (NGVD 1929).
UTILITY NOTE
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MADE NO EXHAUSTIVE ATTEMPT TO LOCATE THE RECORDED OR UNRECORDED UTILITIES ON THE SITE. FURTHER, THE SURVEYOR 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 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.
Topographic Survey
Marine Science Center
University of New England
Hills Beach Road, Biddeford, Maine
Made for
University of New England
11 Hills Beach Road, Biddeford, Maine
OWEN HASKELL, INC.
PROFESSIONAL LAND SURVEYORS
390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424
DRAWN BY: JLW
DATE: DEC. 13, 2022
JOB NO: 2022-269-6-F
CHECKED BY: RRL
SCALE: 1" = 30'
DRWG. NO. 1

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - C
PHOTOGRAPHS



Photograph One. Photograph of the “perched” Wetland “A” located on a “shelf” in the side of the bedrock cliff. Photograph date: 09/03/2015.



Photograph Two. A westerly view of the original site for the proposed pier in 2015. Note the rocky shoreline transitions into a small gravelly sandy flat. The coastal low marsh wetlands in the background are beyond the survey area. Photo date: 09/03/2015.



Photograph Three. An easterly view of Wetland Plant Colony B and the rocky beach. Note the sparsely populated colonies of sea lavender, smooth cordgrasses, plantains, bladder rockweeds. Photograph date 09/03/2015.



Photograph Four. A photo from Wetland Plant Colony C and the rocky beach along the project limits. Note the sparsely populated colonies of sea plantains and Orachs. Photograph date 09/03/2015.



Photograph Five. A northwesterly view of the location for the proposed Pier. Note the line of tidal action on the ledges which is the approximate HAT Line. A narrow band of rockweeds along the bottom ledges and rocky shoreline. Photograph date 04/08/2023.



Photograph Six. A photo looking south at the proposed Pier location and lower, mid and high intertidal zones from the Saco River edge. Note the Girard Marine Science Center in the background. Photograph date 04/08/2023.



Photograph Seven. The mixed coarse and fines along the base of ledges at the proposed Pier site in the lower intertidal zone and above the silty sandy unconsolidated substrate of the Saco River. Photograph date 04/08/2023.



Photograph Eight. A photo of the mixed silty sandy gravelly (unconsolidated) Saco River bottom at the proposed Pier location in the subtidal zone. und. Photograph date 04/08/2023.



Photograph Nine. A easterly view along the Saco River and Wetland Plant Colony A at low tide along the shoreline. This area is approximately 200' southerly from the proposed Pier and should not be impacted from the Pier. Photograph date 04/08/2023.



Photograph Ten. A photo looking northwesterly at a portion of Coastal Wetland D along the back Sand Dune of the northern end of Hills Beach. Photograph date 04/08/2023.



Photograph Eleven. A soft shelled clam was found in the sandy cove approximately 100' northerly of the proposed Pier. This specimen was among other visible siphon breathing holes. Photograph date 04/08/2023.



Photograph Twelve. A marine worm found in the sandy cove approximately 100' northerly of the proposed Pier. This specimen was among other visible clam siphon breathing holes. Photograph date 04/08/2023.

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - D
NATIONAL WETLANDS INVENTORY
MAP

U.S. Fish and Wildlife Service

National Wetlands Inventory

UNE PIER

Sep 21, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

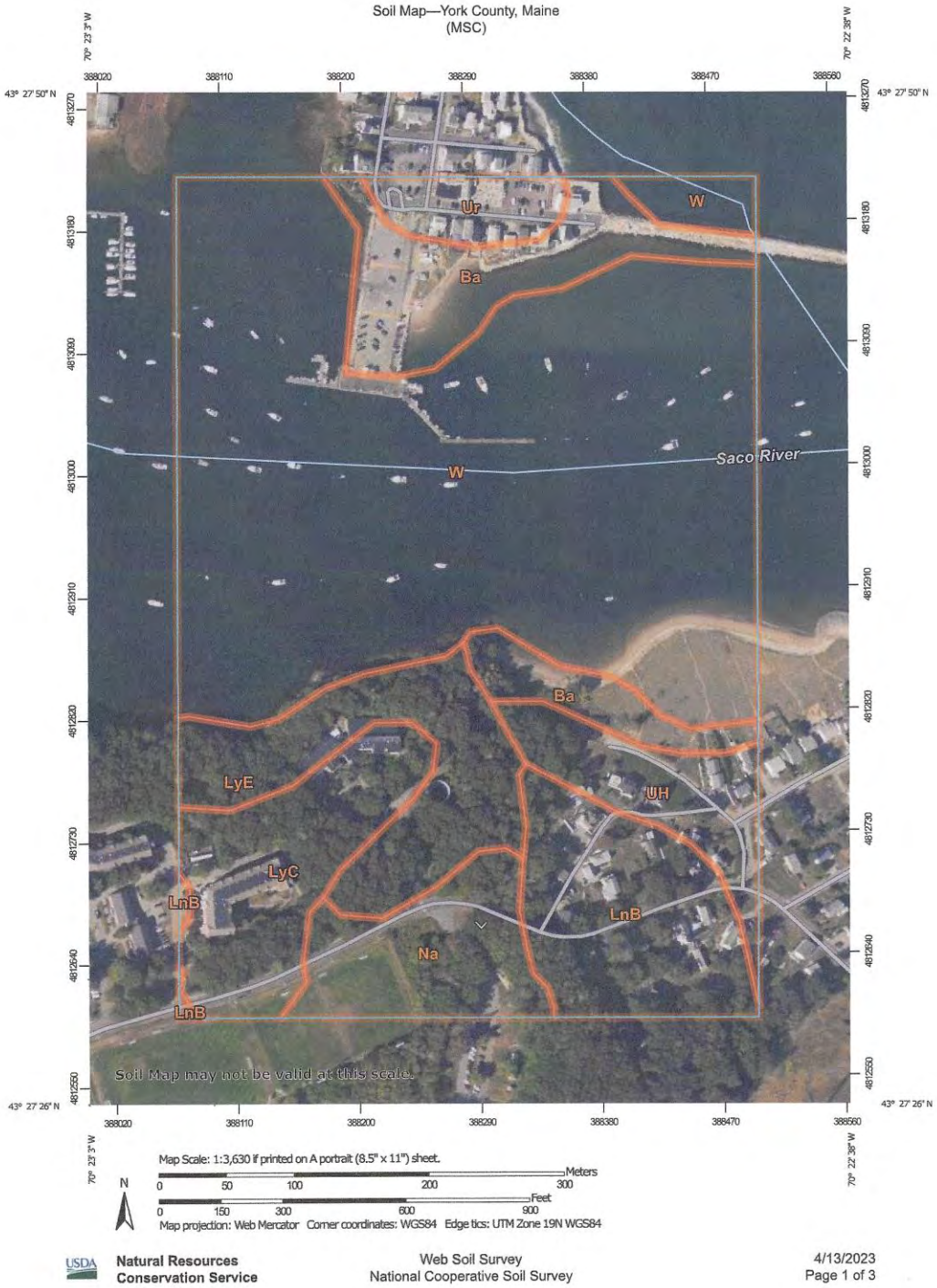
- Digital Data

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - E
NRCS SOIL MAP



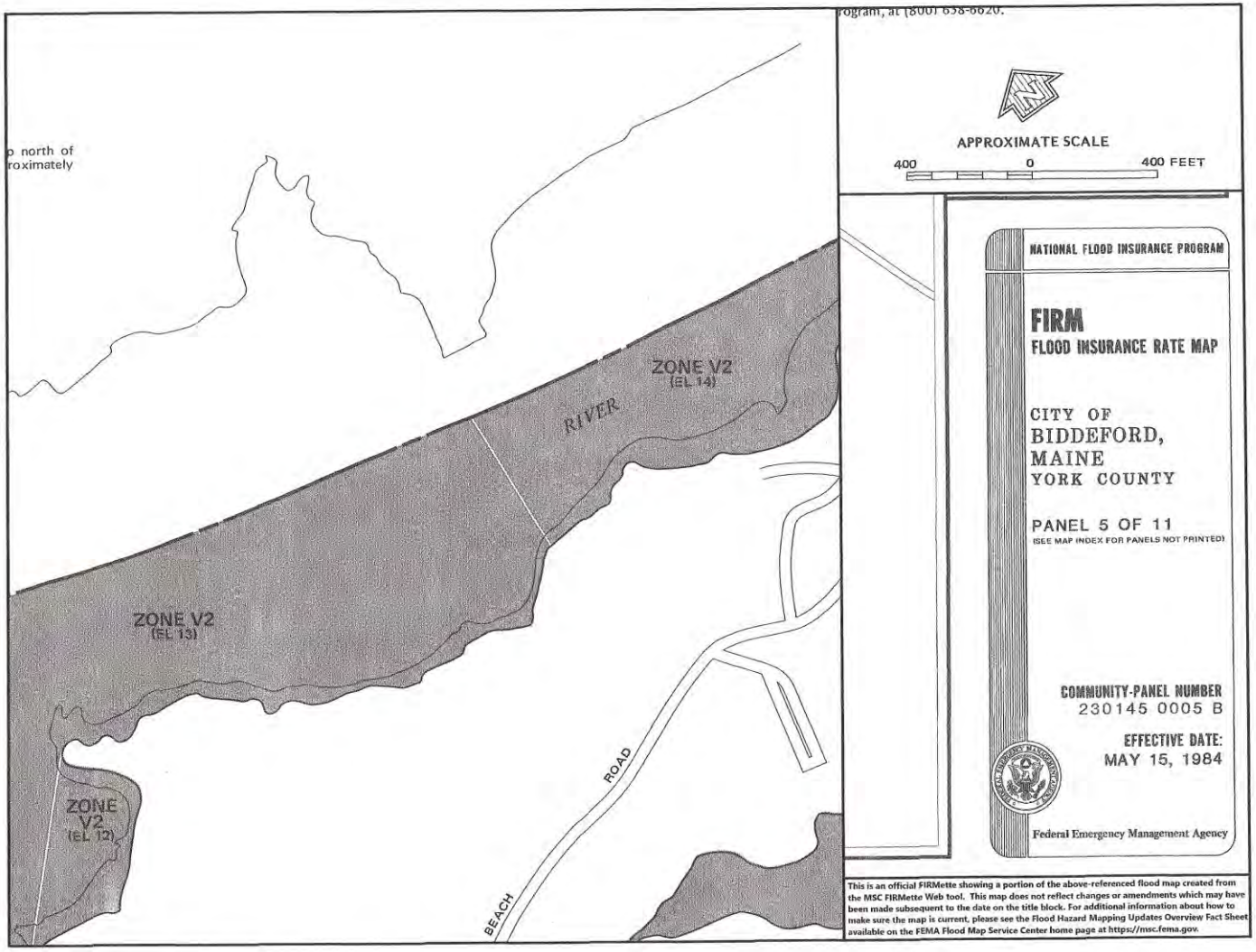
USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

4/13/2023
Page 1 of 3

WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - F
FLOOD MAP


rogram, at (800) 638-6620.
o north of
roximately
APPROXIMATE SCALE
400 0 400 FEET
ZONE V2
(EL 14)
RIVER
ZONE V2
(EL 13)
ZONE
V2
(EL 12)
ROAD
BEACH
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
CITY OF
BIDDEFORD,
MAINE
YORK COUNTY
PANEL 5 OF 11
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
230145 0005 B
EFFECTIVE DATE:
MAY 15, 1984
Federal Emergency Management Agency
This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

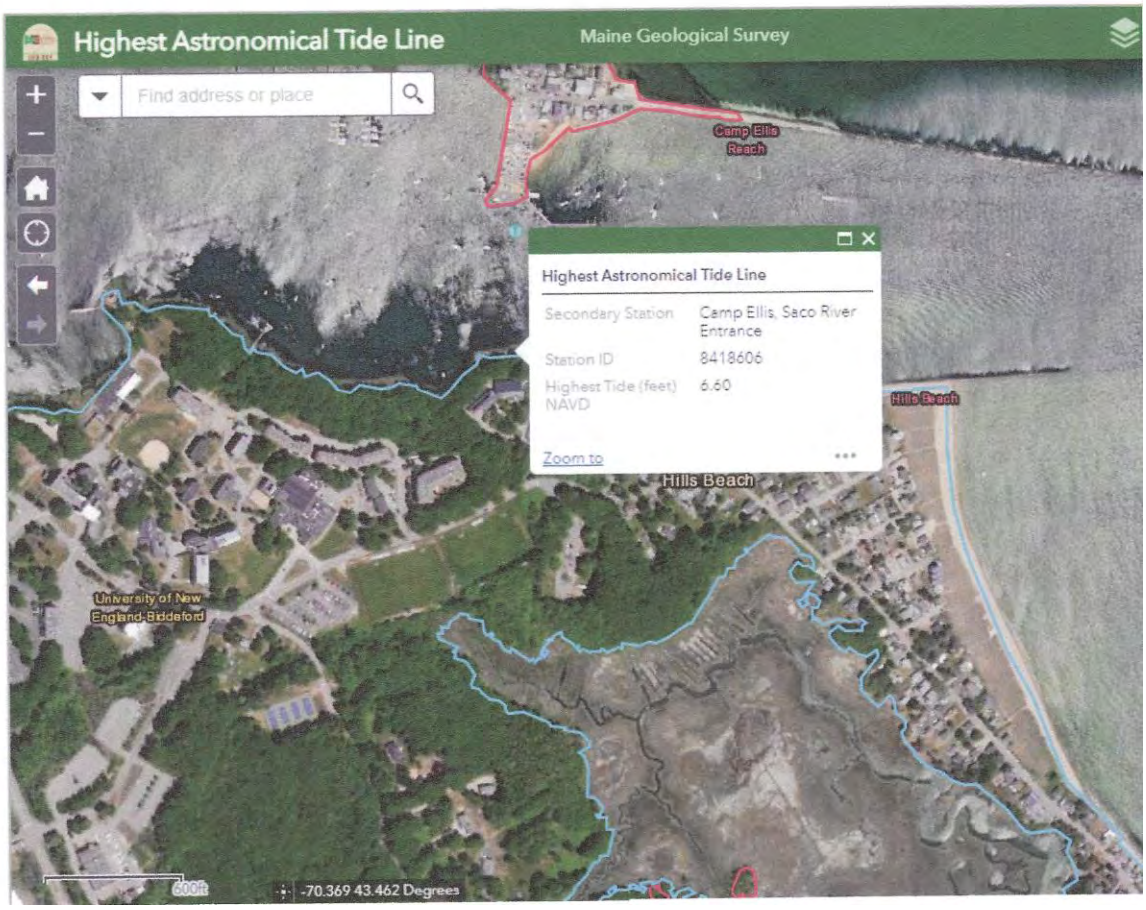
WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - G
HIGHEST ASTRONOMICAL TIDE
MAP

Maine Geological Survey

Highest Astronomical Tide Line

To determine the estimated Highest Astronomical Tide elevation (in feet, NAVD88) and the tidal station used, simply click on coastline of interest.



WETLAND SURVEY UPDATE
PROPOSED PIER MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND
HILL'S BEACH ROAD, BIDDEFORD, ME.

APPENDIX - H
COASTAL SAND DUNE GEOLOGY



Maine Geological Survey

Address: 22 State House Station
Augusta, Maine 04333

Telephone: 207-287-2801
E-mail: mgs@maine.gov

Home page: http://www.maine.gov/doc/nrimc/nrimc.htm

See back for description of map units.

Coastal Sand Dune Geology

Hills Beach, Saco River, Biddeford, Maine

by Peter A. Slovinsky and Stephen M. Dickson

Open-File No. 11-107

2011

APPENDIX B: MDEP COASTAL WETLAND CHARACTERIZATION: INTERTIDAL & SHALLOW SUBTIDAL FIELD SURVEY CHECKLIST

NAME OF APPLICANT: UNIVERSITY NEW ENGLAND PHONE: 207 602 2253
APPLICATION TYPE: N.R.P.A.
ACTIVITY LOCATION: TOWN: BIDDEFORD COUNTY: YORK

ACTIVITY DESCRIPTION: ☐ fill ☒ pier ☐ lobster pound ☐ shoreline stabilization
☐ dredge ☐ other: PERMANENT PIER FOR RESEARCH

DATE OF SURVEY: 3/21/23 & 4/8/23 OBSERVER: DALE BREWER

TIME OF SURVEY: 7:00 - 8:15 A.M. TIDE AT SURVEY: LOW

SIZE OF DIRECT IMPACT OR FOOTPRINT (square feet):
Intertidal area: ± 1302 FT² Subtidal area: ± 5797 FT²

SIZE OF INDIRECT IMPACT, if known (square feet): ESTIMATED
Intertidal area: ± 221 FT² Subtidal area: ± 797 FT²

HABITAT TYPES PRESENT (check all that apply):
☐ sand beach ☒ boulder/cobble beach ☐ sand flat ☒ mixed coarse & fines ☐ salt marsh
☒ ledge ☒ rocky shore ☒ mudflat (sediment depth, if known: ____)

ENERGY: ☐ protected ☐ semi-protected ☐ partially exposed ☒ exposed

DRAINAGE: ☐ drains completely ☐ standing water ☐ pools ☒ stream or channel

SLOPE: ☐ >20% ☒ 10-20% ☐ 5-10% ☐ 0-5% ☐ variable

SHORELINE CHARACTER:
☒ bluff/bank (height from spring high tide: 6') ☐ beach ☒ rocky ☐ vegetated

FRESHWATER SOURCES: ☐ stream ☒ river ☐ wetland ☒ stormwater

MARINE ORGANISMS PRESENT:

	absent	occasional	common	abundant
mussels	☒	☐	☐	☐
clams	☒	☐	☐	☐
marine worms	☒	☐	☐	☐
rockweed	☐	☐	☒	☐
eelgrass	☒	☐	☐	☐
lobsters	☒	☐	☐	☐
other	☒	☐	☐	☐

SIGNS OF SHORELINE OR INTERTIDAL EROSION? ☐ yes ☒ no

PREVIOUS ALTERATIONS? ☐ yes ☒ no

CURRENT USE OF SITE AND ADJACENT UPLAND:
☒ undeveloped ☐ residential ☐ commercial ☐ degraded ☐ recreational

PLEASE SUBMIT THE FOLLOWING:
☒ Photographs ☒ Overhead drawing (pink)

ATTACHMENT 10 – NOTICE OF INTENT TO FILE

Portland Press Herald
Maine Sunday Telegram
pressherald.com

Classified Advertising Proof

Tom Saucier
Site Design Associates
23 Whitney Way

Topsham
Maine
04086
+1 (207) 449-4275

Thank you for placing your advertisement with us.

Your order information and a preview of your advertisement are attached below for your review. If there are changes or questions, please contact the classified department at (207) 791-6100

Thank you

(207) 791-6100 jjensen@mainetoday.com Monday – Friday 8:00 am – 5pm

Order Number	**0503081**	Order Price	**$458.75**
Sales Rep.	**Joan Jensen**	PO No.	**Notice of Intent to File / Tom Saucier**
Account	**30243**	Payment Type	**Invoice**

Publication	**Portland Press Herald**	Number of dates	**1**
First Run Date	**06/14/2024**	Last Run Date	**06/14/2024**

Publication	**Online Upsell PPH**	Number of dates	**1**
First Run Date	**06/14/2024**	Last Run Date	**06/14/2024**

Public Notice

NOTICE OF INTENT TO FILE

Please take notice that University of New England, 11 Hills Beach Road, Biddeford, Maine 04005 is intending to file a Natural Resources Protection Act permit application with the Maine Department of Environmental Protection pursuant

to the provisions of 38 M.R.S. §§ 480-A thru 480-BB on or about June 17, 2024. The application is for a permanent research pier with a ramp and floats at the following location: 11 Hills Beach Road, Biddeford, Maine 04005.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. For Federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act, 16 U.S.C. § 1456. The application will be filed for public inspection at the Department

of Environmental Protection's office in Portland during normal working hours. A copy of the application may also be seen at the municipal offices in Biddeford, Maine. Written public comments may be sent to the regional office in Portland where the application is filed for public inspection:

ATTACHMENT 11 – MHPC AND TRIBE LETTERS

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

May 15, 2023

Mr. Tom Saucier, P.E.
Site Design Associates
23 Whitney Way
Topsham, Maine 04086

Project: MHPC# 0500-23 University of New England; 11 Hills Beach Road
Permanent Pier and Float System

Town: Biddeford, ME

Dear Mr. Saucier:

In response to your recent request, I have reviewed the information received April 13, 2023 to initiate consultation on the above referenced projects in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Dr. Arthur Spiess of my staff has carefully reviewed our February 7, 2000 letter concerning areas of archaeological site significance on the UNE campus, and the Phase III report that formed the background of these recommendations. We note that some of the areas of the proposed access road and the head of the pier fall outside of the areas found not to be contributing to the overall significance of the archaeological site(s) on the UNE campus (specifically areas 99.1, 99.2 and 99.8. Moreover, the intensity of previous archaeological testing along the now-proposed access road (especially within area 99.1).

Based on the information submitted, I have concluded that the proposed work will have **no adverse effect** upon historic properties.

However, our finding is *conditional* upon the following:

1) We recommend that one or more archaeologists monitor the initial clearing of soil from the route of the access road and be allowed enough time to recover information from any subsoil features that are present. It would be most important to monitor the access road from the curve in the road to be located just east of the north wall of the marine science center to the head of the proposed pier.

Please contact Megan M. Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if we can be of further assistance in this matter.

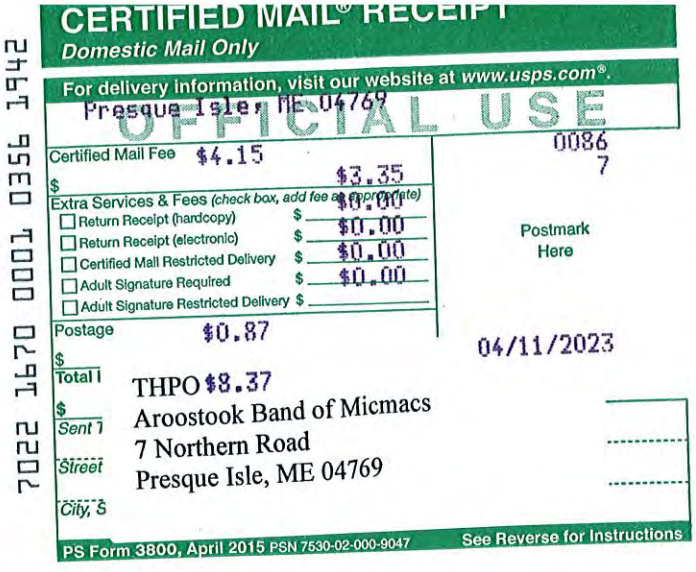
Sincerely,

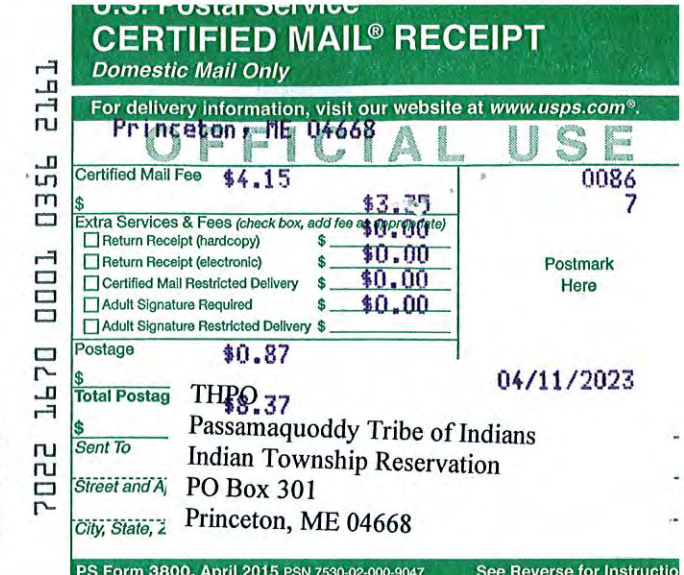
Kirk F. Mohney

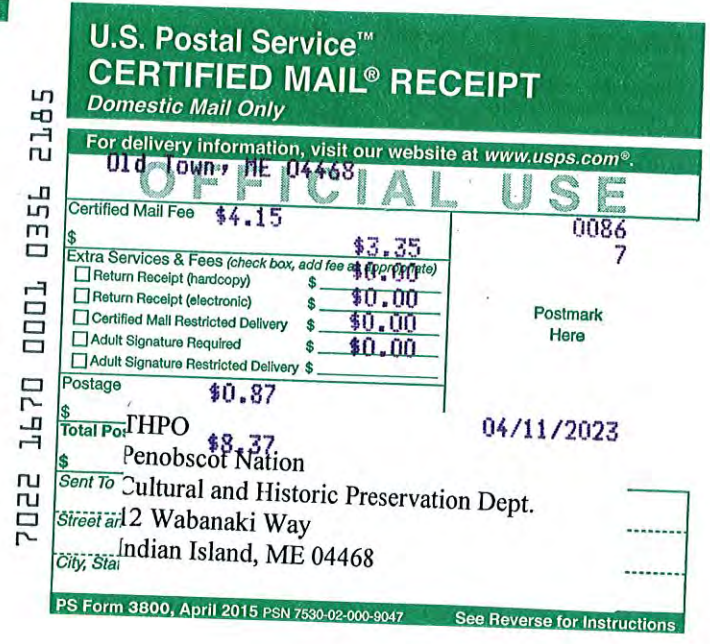
Kirk F. Mohney
State Historic Preservation Officer

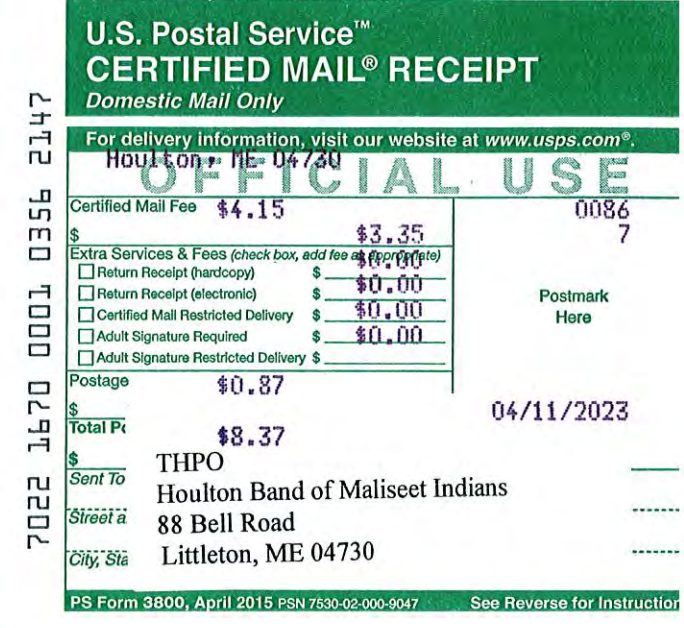
PHONE: (207) 287-2132 FAX: (207) 287-2335


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Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $0.87
Postmark Here
04/11/2023
Total Postag THPO $8.37
Sent To Passamaquoddy Tribe of Indians
Street and Ap Pleasant Point Reservation
PO Box 343
City, State, Z Perry, ME 04667
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7022 1670 0001 0356 2178


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Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $0.87
Postmark Here
04/11/2023
Total I THPO $8.37
Sent T Aroostook Band of Micmacs
Street 7 Northern Road
City, S Presque Isle, ME 04769
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7022 1670 0001 0356 1942


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Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $0.87
Postmark Here
04/11/2023
Total Postag THPO $8.37
Sent To Passamaquoddy Tribe of Indians
Street and A Indian Township Reservation
PO Box 301
City, State, Z Princeton, ME 04668
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructio
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Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $0.87
Postmark Here
04/11/2023
Total Po THPO $8.37
Penobscot Nation
Sent To Cultural and Historic Preservation Dept.
Street an 12 Wabanaki Way
City, Sta Indian Island, ME 04468
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
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0086
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Return Receipt (hardcopy) $0.00
Return Receipt (electronic) $0.00
Certified Mail Restricted Delivery $0.00
Adult Signature Required $0.00
Adult Signature Restricted Delivery $
Postage $0.87
Postmark Here
04/11/2023
Total Pc $8.37
Sent To THPO
Houlton Band of Maliseet Indians
Street a 88 Bell Road
City, Sta Littleton, ME 04730
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructio
7022 1670 0001 0356 2147

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO and Environmental Planner
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

On behalf of our client, University of New England (UNE), we are assisting with the preparation of Maine Department of Environmental Protection Natural Resources Protection Act and U.S. Army Corps of Engineers Permit applications. The applications are for the installation of a permanent pier and float system on UNE's campus at 11 Hills Beach Road in Biddeford.

This letter and the enclosed materials serve as a means to notify you of the project and give you an opportunity to determine whether the proposed development would affect properties of religious and/or cultural significance. If the Tribe has concerns in this area, please notify us by letter to the address below, contact me at 207-449-4275 or via email at tsaucier@sitedesignassociates.biz.

Thank you for your assistance and the generosity of your time to review this project in reference to the Tribe's concerns.

Sincerely,

Site Design Associates

Tom Saucier, P.E.
President

Enclosures

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, ME 04769

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

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Sincerely,

Site Design Associates

Tom Saucier, P.E.
President

Enclosures

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Passamaquoddy Tribe of Indians
Pleasant Point Reservation
PO Box 343
Perry, Maine 04667

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

On behalf of our client, University of New England (UNE), we are assisting with the preparation of Maine Department of Environmental Protection Natural Resources Protection Act and U.S. Army Corps of Engineers Permit applications. The applications are for the installation of a permanent pier and float system on UNE's campus at 11 Hills Beach Road in Biddeford.

This letter and the enclosed materials serve as a means to notify you of the project and give you an opportunity to determine whether the proposed development would affect properties of religious and/or cultural significance. If the Tribe has concerns in this area, please notify us by letter to the address below, contact me at 207-449-4275 or via email at tsaucier@sitedesignassociates.biz.

Thank you for your assistance and the generosity of your time to review this project in reference to the Tribe's concerns.

Sincerely,

Site Design Associates

Tom Saucier, P.E.
President

Enclosures

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Passamaquoddy Tribe of Indians
Indian Township Reservation
PO Box 301
Princeton, Maine 04668

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

On behalf of our client, University of New England (UNE), we are assisting with the preparation of Maine Department of Environmental Protection Natural Resources Protection Act and U.S. Army Corps of Engineers Permit applications. The applications are for the installation of a permanent pier and float system on UNE's campus at 11 Hills Beach Road in Biddeford.

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Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Penobscot Nation
Cultural and Historic Preservation Dept.
12 Wabanaki Way
Indian Island, Maine 04468

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

On behalf of our client, University of New England (UNE), we are assisting with the preparation of Maine Department of Environmental Protection Natural Resources Protection Act and U.S. Army Corps of Engineers Permit applications. The applications are for the installation of a permanent pier and float system on UNE's campus at 11 Hills Beach Road in Biddeford.

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Tom Saucier, P.E.
President

Enclosures

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

PENOBSCOT NATION
CULTURAL & HISTORIC PRESERVATION
12 WABANAKI WAY, INDIAN ISLAND, ME 04468

CHRIS SOCKALEXIS – TRIBAL HISTORIC PRESERVATION OFFICER
E-MAIL: chris.sockalexis@penobscotnation.org

NAME	Tom Saucier
ADDRESS	Site Design Associates 23 Whitney Way Topsham, ME 04086
OWNER'S NAME	University of New England
TELEPHONE	201-449-4275
EMAIL	tsaucier@sitedesignassociates.biz
PROJECT NAME	Marine Science Center Pier – 11 Hills Beach Road
PROJECT SITE	Biddeford, ME
DATE OF REQUEST	April 10, 2023
DATE REVIEWED	October 19, 2023

Thank you for the opportunity to comment on the above referenced project. This project appears to have no impact on a structure or site of historic, architectural or archaeological significance to the Penobscot Nation as defined by the National Historic Preservation Act of 1966, as amended.

If there is an inadvertent discovery of Native American cultural materials during the course of the project, please contact my office at (207) 817-7471. Thank you for consulting with the Penobscot Nation Tribal Historic Preservation Office with this project.

Chris Sockalexis, THPO
Penobscot Nation

ATTACHMENT 12 – MDEP VISUAL EVALUATION FIELD SURVEY CHECKLIST APPENDIX A

APPENDIX A: MDEP VISUAL EVALUATION
FIELD SURVEY CHECKLIST
(Natural Resources Protection Act, 38 M.R.S. §§ 480 A - Z)

Name of applicant: University of New England Phone: 207-602-2365

Application Type: NRPA

Activity Type: (brief activity description) Pier, gangway and float

Activity Location: Town: Biddeford County: York

GIS Coordinates, if known: _____ _____

Date of Survey: 05/01/23 Observer: Tom Saucier Phone: 207-449-4275

1. Would the activity be visible from:	**Distance Between the Proposed Visibility Activity and Resource (in Miles)** 0-¼	¼-1	1+
A. A National Natural Landmark or other outstanding natural feature?	☐	☐	☒
B. A State or National Wildlife Refuge, Sanctuary, or Preserve or a State Game Refuge?	☐	☐	☒
C. A state or federal trail?	☐	☐	☒
D. A public site or structure listed on the National Register of Historic Places?	☐	☐	☒
E. A National or State Park?	☐	☐	☒
F. 1) A municipal park or public open space?	☐	☐	☒
2) A publicly owned land visited, in part, for the use, observation, enjoyment and appreciation of natural or man-made visual qualities?	☐	☐	☒
3) A public resource, such as the Atlantic Ocean, a great pond or a navigable river?	☒	☐	☐
2. What is the closest estimated distance to a similar activity?	☒	☐	☐
3. What is the closest distance to a public facility intended for a similar use?	☐	☐	☒

4. Is the visibility of the activity seasonal? ☐Yes ☒No
(i.e., screened by summer foliage, but visible during other seasons)

5. Are any of the resources checked in question 1 used by the public during the time of year during which the activity will be visible? ☒Yes ☐No

A listing of National Natural Landmarks and other outstanding natural features in the State of Maine can be found at: www.nature.nps.gov/nnl/Registry/USA_map/states/Maine/maine.htm . In addition, unique natural areas are listed in the Maine Atlas and Gazetteer published by DeLorme.

(pink)

ATTACHMENT 13 – PROJECT DESCRIPTION WORKSHEET APPENDIX D

Natural Resource Protection Act Application

APPENDIX D: Project Description Worksheet for a Dock, Pier or Wharf Application.

Help us process your application more efficiently by completing this worksheet, which is supplemental to a NRPA application for a dock, pier or wharf. A completed Appendix D may be substituted for Block 14 of the application page.

THIS IS AN APPLICATION FOR A.....

☐ Commercial wharf

If yes, indicate type of commercial activity: _____

License number: _____

Number of fishermen using this wharf: _____

☐ Public pier, dock or wharf

☐ Common or shared recreational pier, dock or wharf

☐ Private recreational pier, dock or wharf

☐ Expansion or modification of an existing structure

☒ Other, please indicate: Research pier, gangway, and floats

TELL US ABOUT YOUR BOAT....

My boat(s) requires a draft of up to 5 feet.

My boat(s) is 60' max feet long.

TELL US ABOUT YOUR PROJECT SITE.... For coastal piers and wharves, please complete Appendix B of the NRPA application. For freshwater docks, please describe the substrate and any vegetation: See appendix B

SCENIC CONSIDERATIONS... Please complete Appendix A of the NRPA application.

WHAT FACILITIES ARE NEARBY?

The nearest public boat launch is located in Biddeford (town) approximately 2 (distance) miles from the project location.

The nearest public, commercial, or private marina is located in Saco (town) approximately 0.04 (distance) miles from the project location.

☐ I have inquired about slip or mooring availability at the nearest marina or public facility.

☐ Yes, a slip or mooring is available. ☐ No, a slip or mooring is not available.

Approximate expected time on waiting list: _____

☒ I have contacted the local Harbor Master.

Name: University of New England Phone: 207-602-2365

I currently use the following for my boat: ☐ Mooring ☐ Marina

TELL US ABOUT YOUR PROPOSED PIER, DOCK OR WHARF...

MATERIALS:

☒ The structure will be supported by pilings.
14 pilings of 24 inches in diameter
and 11 pilings of 16 inches in diameter

☐ The structure will be supported by stacked, flow-through granite cribs.
_____ blocks, measuring _____ feet by _____ feet

☐ The structure will be supported by solid fill.
_____ square feet of solid fill

☒ Other: (30) 12" diameter timber fender piles will be installed around perimeter of pier head, and (1) 10.75" diameter steel pile will support the outer side of the gangway lifting gantry

DIMENSIONS:

Length of fixed section: Refer to plans.
Width of fixed section: Pier head 23'-4" x 80'-0"
Length of ramp: Pier approach 123'+/- x 14'-0" to 23'-4"
Dimensions of float: 80 feet
Refer to plans. (1) 12'x30', (1) 8'x24', (1) 8'x26'-10", (1) 6'x20'
Distance the structure will extend below mean low water (MLW): +/-115 feet
Depth of water at the fixed end of the structure: +/-5 to 6 feet
Depth of water at the float at low tide: +/-3.5 to 5 feet
Depth of water at the float at high tide: +/-13.2 to 14.7 feet
Dimensions of any proposed buildings (e.g. bait shed):
<12 feet high by 8 feet wide by 12 feet long storage shed
<20 feet high by 16 feet wide by 30 feet long outdoor covered classroom

ACCESS:

During construction, my project site will be accessed via:

☒ Land

☐ Beach/intertidal area

☒ Water/barge

ATTACHMENT 14 – Species List, MA Consistency Letter, and Correspondence with USFW regarding the Northern Long-eared Bat.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588

In Reply Refer To: 04/03/2024 12:50:39 UTC
Project Code: 2023-0081325
Project Name: University of New England Pier Revised

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

PROJECT SUMMARY

Project Code: 2023-0081325
Project Name: University of New England Pier Revised
Project Type: Boatlift/Boathouse/Dock/Pier/Piles - New Construction
Project Description: The project involves construction of a permanent pier on the Saco River and an access road to support the University of New England Marine Sciences program. The project will involve clearing approximately 0.3 acres of mixed forested upland and disturbance of 85 square feet intertidal and deep water habitat for pier piles.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.4599768,-70.38240099961078,14z



Counties: York County, Maine

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Department of Commerce
Name: Ian Broadwater
Address: 18 Grand Street
City: South Portland
State: ME
Zip: 04106
Email ian@broadwaterenvironmental.com
Phone: 2075239029

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Commerce

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588

In Reply Refer To: May 12, 2023
Project code: 2023-0081325
Project Name: University of New England Pier Revised

Federal Nexus: yes
Federal Action Agency (if applicable): Department of Commerce

Subject: Technical assistance for 'University of New England Pier Revised'

Dear Ian Broadwater:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on May 12, 2023, for “University of New England Pier Revised” (here forward, Project). This project has been assigned Project Code 2023-0081325 and all future correspondence should clearly reference this number.

The Service developed the IPaC system and associated species’ determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northeast Determination Key (Dkey), invalidates this letter. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative effect(s)), to a federally listed species or designated critical habitat.

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17). Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no further consultation with, or concurrence from, the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Service concurs, in writing, that a proposed action "is

not likely to adversely affect (NLAA)" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13]).

The IPaC results indicated the following species is (are) potentially present in your project area and, based on your responses to the Service's Northeast DKey, you determined the proposed Project will have the following effect determinations:

Species	**Listing Status**	**Determination**
Piping Plover (*Charadrius melodus*)	Threatened	No effect
Red Knot (*Calidris canutus rufa*)	Threatened	No effect
Roseate Tern (*Sterna dougallii dougallii*)	Endangered	May affect

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect". Please contact our Maine Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and are not covered by this conclusion:

- Monarch Butterfly *Danaus plexippus* Candidate
- Northern Long-eared Bat *Myotis septentrionalis* Endangered

Please Note: If the Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or PermitsR5MB@fws.gov, with any questions regarding potential impacts to Eagles.

If you have any questions regarding this letter or need further assistance, please contact the Maine Ecological Services Field Office and reference the Project Code associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

University of New England Pier Revised

2. Description

The following description was provided for the project 'University of New England Pier Revised':

> The project involves construction of a permanent pier on the Saco River and an access road to support the University of New England Marine Sciences program. The project will involve clearing approximately 0.3 acres of mixed forested upland and disturbance of 85 square feet intertidal and deep water habitat for pier piles.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.4599768,-70.38240099961078,14z



QUALIFICATION INTERVIEW

1. As a representative of this project, do you agree that all items submitted represent the complete scope of the project details and you will answer questions truthfully?

   Yes

2. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed species?

   Note: This question could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered, or proposed species.

   No

3. Is the action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) the lead agency for this project?

   No

5. Are you including in this analysis all impacts to federally listed species that may result from the entirety of the project (not just the activities under federal jurisdiction)?

   Note: If there are project activities that will impact listed species that are considered to be outside of the jurisdiction of the federal action agency submitting this key, contact your local Ecological Services Field Office to determine whether it is appropriate to use this key. If your Ecological Services Field Office agrees that impacts to listed species that are outside the federal action agency's jurisdiction will be addressed through a separate process, you can answer yes to this question and continue through the key.

   Yes

6. Are you the lead federal action agency or designated non-federal representative requesting concurrence on behalf of the lead Federal Action Agency?

   Yes

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)?

   No

8. Will the proposed project involve the use of herbicide where listed species are present?

   No

9. Are there any caves or anthropogenic features suitable for hibernating or roosting bats within the area expected to be impacted by the project?

   No

10. Does any component of the project associated with this action include structures that may pose a collision risk to **birds** (e.g., land-based or offshore wind turbines, communication towers, high voltage transmission lines, any type of towers with or without guy wires)?

    Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

    No

11. Does any component of the project associated with this action include structures that may pose a collision risk to **bats** (e.g., land-based wind turbines)?

    Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

    No

12. Will the proposed project result in permanent changes to water quantity in a stream or temporary changes that would be sufficient to result in impacts to listed species?

    For example, will the proposed project include any activities that would alter stream flow, such as water withdrawal, hydropower energy production, impoundments, intake structures, diversion structures, and/or turbines? Projects that include temporary and limited water reductions that will not displace listed species or appreciably change water availability for listed species (e.g. listed species will experience no changes to feeding, breeding or sheltering) can answer "No". Note: This question refers only to the amount of water present in a stream, other water quality factors, including sedimentation and turbidity, will be addressed in following questions.

    No

13. Will the proposed project affect wetlands where listed species are present?

    This includes, for example, project activities within wetlands, project activities within 300 feet of wetlands that may have impacts on wetlands, water withdrawals and/or discharge of contaminants (even with a NPDES).

    Yes

14. Will the proposed project activities (including upland project activities) occur within 0.5 miles of the water's edge of a stream or tributary of a stream where listed species may be present?

    Yes

15. Will the proposed project directly affect a streambed (below ordinary high water mark (OHWM)) of the stream or tributary where listed species may be present?

    Yes

16. Will the proposed project bore underneath (directional bore or horizontal directional drill) a stream where listed species may be present?

    No

17. Will the proposed project involve a new point source discharge into a stream or change an existing point source discharge (e.g., outfalls; leachate ponds) where listed species may be present?

    No

18. Will the proposed project involve the removal of excess sediment or debris, dredging or in-stream gravel mining where listed species may be present?

    No

19. Will the proposed project involve the creation of a new water-borne contaminant source where listed species may be present?

    Note New water-borne contaminant sources occur through improper storage, usage, or creation of chemicals. For example: leachate ponds and pits containing chemicals that are not NSF/ANSI 60 compliant have contaminated waterways. Sedimentation will be addressed in a separate question.

    No

20. Will the proposed project involve perennial stream loss, in a stream of tributary of a stream where listed species may be present, that would require an individual permit under 404 of the Clean Water Act?

    No

21. Will the proposed project involve blasting where listed species may be present?

    No

22. Will the proposed project include activities that could result in an increase to recreational fishing or potentially affect fish movement temporarily or permanently (including fish stocking, harvesting, or creation of barriers to fish passage)?

    No

23. Will the proposed project involve earth moving that could cause erosion and sedimentation, and/or contamination along a stream or tributary of a stream where listed species may be present?

    NoteAnswer "Yes" to this question if erosion and sediment control measures will be used to protect the stream.

    Yes

24. Will the proposed project involve vegetation removal within 200 feet of a perennial stream bank where listed species may be present?

    Yes

25. Will erosion and sedimentation control Best Management Practices (BMPs) associated with applicable state and/or Federal permits, be applied to the project? If BMPs have been provided by and/or coordinated with and approved by the appropriate Ecological Services Field Office, answer "Yes" to this question.

    Yes

26. Will the proposed project result in changes to beach dynamics that may modify formation of habitat over time?

    Note: Examples of projects that result in changes to beach dynamics include 1) construction of offshore breakwaters and groins; 2) mining of sand from an updrift ebb tidal delta; 3) removing or adding beach sands; and 4) projects that stabilize dunes (including placement of sand fences or planting vegetation).

    No

27. [Hidden Semantic] Is the project area located within the piping plover AOI?

    Automatically answered
    Yes

28. If you have determined that the piping plover is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the piping plover, you may wish to make a "no effect" determination for the piping plover. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review ; MEFO: https://www.fws.gov/office/maine-ecological-services ; NJFO: https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide ; NEFO: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5 ; WVFO: https://www.fws.gov/office/west-virginia-ecological-services/project-planning. If you are unsure, answer "No" and continue through the key.

    Would you like to make a no effect determination for the piping plover?

    Yes

29. [Hidden Semantic] Is the project area located within the piping plover AOI?

    Automatically answered
    Yes

30. [Hidden Semantic] Is the project area located within the red knot AOI?

    Automatically answered
    Yes

31. If you have determined that the red knot is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the red knot, you may wish to make a "no effect" determination for the red knot. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review ; MEFO: https://www.fws.gov/office/maine-ecological-services ; NJFO: https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide ; NEFO: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5 ; WVFO: https://www.fws.gov/office/west-virginia-ecological-services/project-planning. If you are unsure, answer "No" and continue through the key.

    Would you like to make a no effect determination for the red knot?

    Yes

32. [Hidden Semantic] Is the project area located within the roseate tern AOI?

    Automatically answered
    Yes

33. If you have determined that the roseate tern is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the roseate tern, you may wish to make a "no effect" determination for the roseate tern. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review ; MEFO: https://www.fws.gov/office/maine-ecological-services ; NJFO: https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide ; NEFO: https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5 ; WVFO: https://www.fws.gov/office/west-virginia-ecological-services/project-planning. If you are unsure, answer "No" and continue through the key.

    Would you like to make a no effect determination for the roseate tern?

    No

34. [Semantic] Does the project intersect the Virginia big-eared bat critical habitat?

    Automatically answered
    No

35. [Semantic] Does the project intersect the Indiana bat critical habitat?

    Automatically answered
    No

36. [Semantic] Does the project intersect the candy darter critical habitat?

    Automatically answered
    No

37. [Semantic] Does the project intersect the diamond darter critical habitat?

    Automatically answered
    No

38. [Semantic] Does the project intersect the Big Sandy crayfish critical habitat?

    Automatically answered
    No

39. [Hidden Semantic] Does the project intersect the Guyandotte River crayfish critical habitat?

    Automatically answered
    No

40. Do you have any other documents that you want to include with this submission?

    Yes

    SUBMITTED DOCUMENTS

    - *UNE MSC APPENDIX B.pdf* *https://ipac.ecosphere.fws.gov/project/5OEXZ4IMIRGHTN6NWQ6DFNIBIY/projectDocuments/126368373*
    - *Photos of bank and shore at pier.pdf* *https://ipac.ecosphere.fws.gov/project/5OEXZ4IMIRGHTN6NWQ6DFNIBIY/projectDocuments/126368441*

PROJECT QUESTIONNAIRE

1. Approximately how many acres of trees would the proposed project remove?

   0.3

2. Approximately how many total acres of disturbance are within the disturbance/ construction limits of the proposed project?

   0.3

3. Briefly describe the habitat within the construction/disturbance limits of the project site.

   The access road area is forested upland with sparse ground cover and trres generally between 3 inches and 10 inches in diameter. The upland comes to a rock face with a drop of approximately 6 to 8 feet high to a cobble beach below that is within the intertidal zone. The cobbles are covered with rock weed growing between the cobbles. Photos of the upland and cobble intertidal zone have been uploaded.

IPAC USER CONTACT INFORMATION

Agency: Department of Commerce
Name: Ian Broadwater
Address: 18 Grand Street
City: South Portland
State: ME
Zip: 04106
Email ian@broadwaterenvironmental.com
Phone: 2076538737

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Commerce

Tom Saucier

From: Ian <ian@broadwaterenvironmental.com>
Sent: Friday, May 19, 2023 9:58 AM
To: Tom Saucier
Subject: FW: [EXTERNAL] UNE Pier Project

From: Mahaney, Wende <wende_mahaney@fws.gov>
Sent: Friday, May 19, 2023 8:34 AM
To: Ian <ian@broadwaterenvironmental.com>
Cc: Glon, Mael G <mael_glon@fws.gov>
Subject: Re: [EXTERNAL] UNE Pier Project

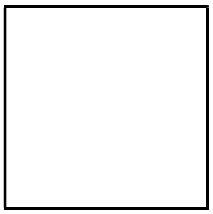
Hi Ian,

So I looked at the letter you generated from using the NLEB determination key. You reached a "not likely to adversely affect" determination, which would then have to be "submitted" to USFWS by the Corps project manager through IPaC once you submit the permit application and supporting materials.

But, you really could have made a "no effect" determination at Question 2 in the dkey since NLEB really are not expected to occur at the project site. I suspect the Corps PM may change the answers in the dkey and go that route. That's their decision to make. You can leave things as is in IPaC and let the Corps make the final decision on no effect or not likely to adversely affect. Either way, section 7 consultation for the NLEB can be completed quickly by the Corps through use of IPaC.

Thanks for your coordination.

Wende



Wende S. Mahaney, C.W.B. (she/her/hers)
U.S. Fish and Wildlife Service
Maine Field Office
P.O. Box A (mailing address)
306 Hatchery Road (physical address)
East Orland, Maine 04431

Telephone: (207) 902-1569 (direct line)
Fax: (207) 902-1588
Cellular Phone: 207-944-2991

From: Ian <ian@broadwaterenvironmental.com>
Sent: Thursday, May 18, 2023 11:20 AM
To: Mahaney, Wende <wende_mahaney@fws.gov>
Subject: [EXTERNAL] UNE Pier Project

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Wende,

I have revised the iPAC for this project. I added "revised" onto the title and will archive the old version. I needed to revise some answers that I couldn't edit in the old version. I also added additional information that I gathered from the engineer and by visiting the site in person. In the revised iPAC we have the Rosate tern and NLEB showing up as "may effect".

When I visited the site, I took pictures from the approximate center of the pier looking down at the shore. They are attached. The shore is all intertidal where the pier is going . The intertidal zone meets a vertical rock face of 6 to 8 feet high. At this location, the intertidal zone has cobbles covering 80% of the area and rock weed covering much of the cobbles (and non-cobble areas). Due to this condition, we felt that the Piping plover and the Red knot would not frequent nor nest in this type of setting. We did feel like there was a potential for the Rosate tern to potentially nest in the rock face. The rock face does face north and does not receive much in the way of sun. The upland at the top of the rock face is forested with a sparse herbaceous cover.

We were wondering if you can take a look at the revised iPAC and give us advice on how to proceed. I have added you to the project. Evidently, the permit application is going in next week.

Thanks in advance,

Ian

Ian Broadwater MECSS, MELSE, NHCWS
Broadwater Environmental, LLC
1-207-653-8737
www.broadwaterenvironmental.com



Photo 1-Upalnd at center of proposed pier

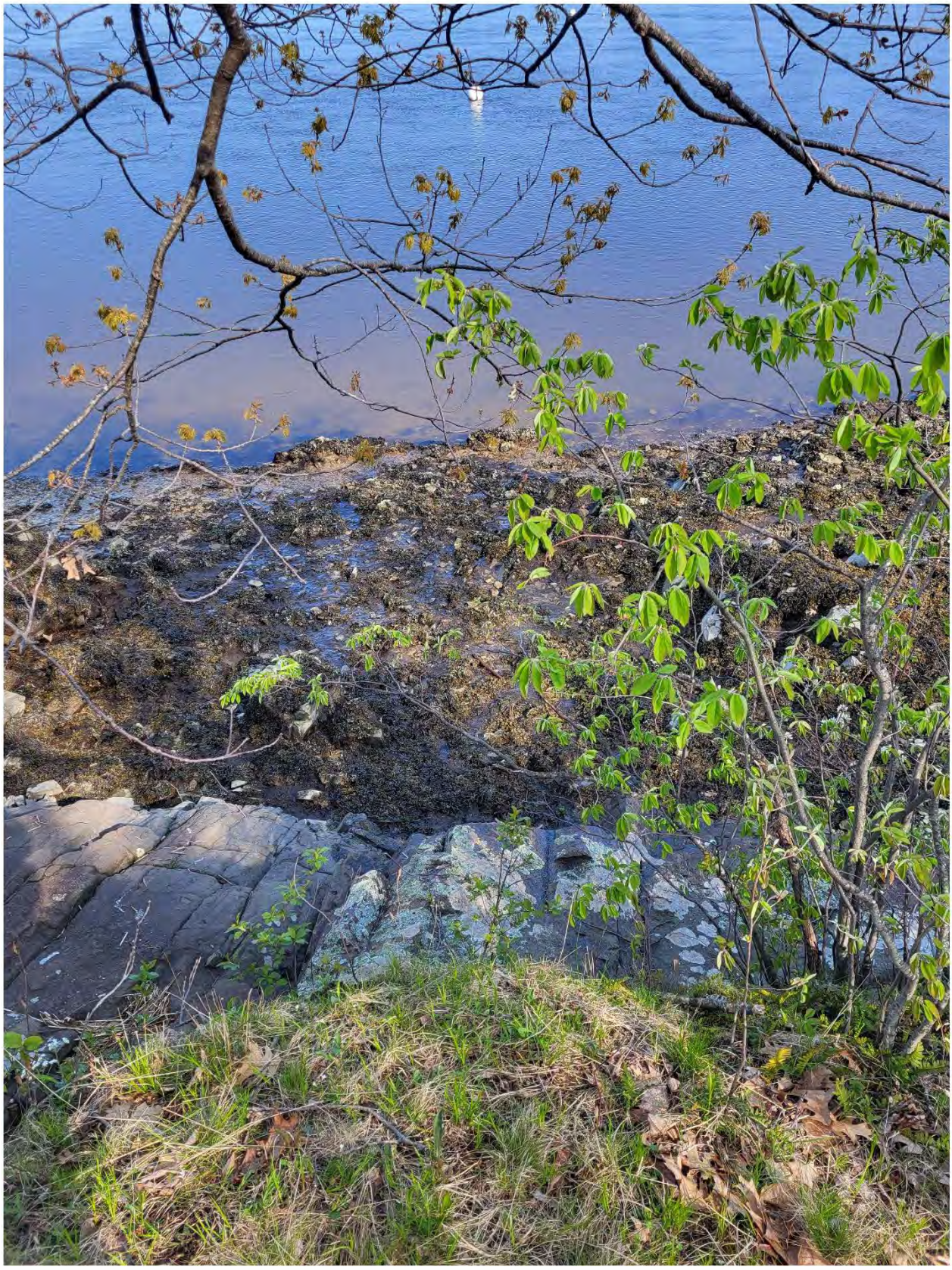


Photo 2-Rocky shore at center of proposed pier



Photo3-Looking east at point from center of pier



Photo 4-Looking west from center of proposed pier

ATTACHMENT 15 – ABUTTER NOTIFICATIONS

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Biddeford, ME 04005

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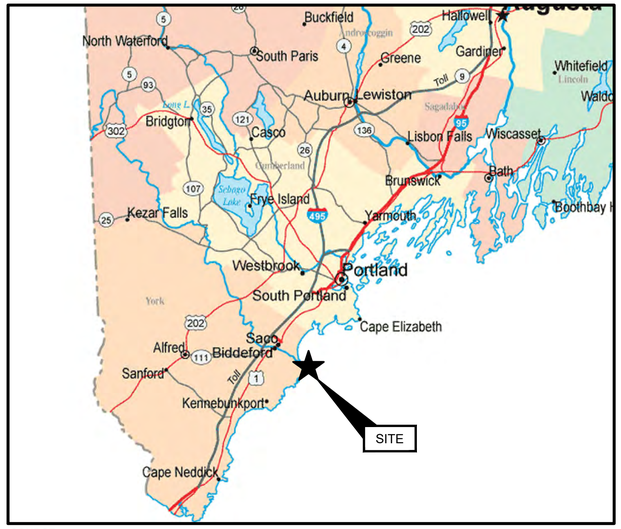
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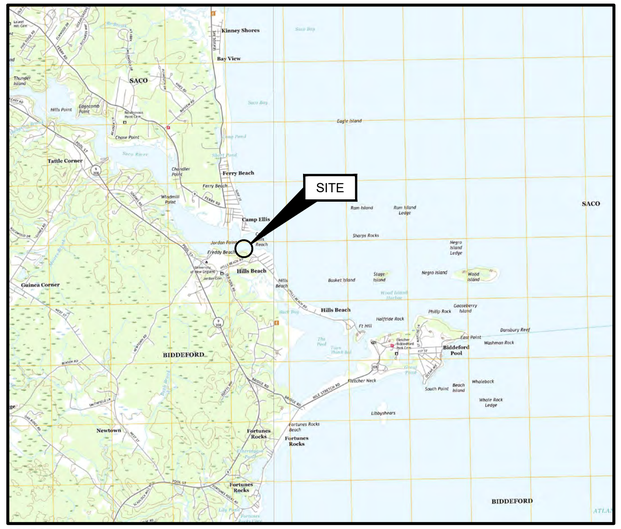
UNIVERSITY OF NEW ENGLAND
MARINE SCIENCE CENTER PIER

BIDDEFORD, MAINE



SOURCE:
MAINE ROAD MAP, GOOGLE IMAGES, ACCESSED SEPTEMBER 2023.

STATE MAP
(NOT TO SCALE)



SOURCE:
USGS TOPOGRAPHICAL MAP OF BIDDEFORD, MAINE 2022

SITE LOCATION MAP
(NOT TO SCALE)

SHEET INDEX

SHEET NO.	DRAWING NO.	TITLE
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES
3	G-003	VICINITY PLAN
4	B-001	BORING LOCATION PLAN
5	B-002	BORING LOGS (1 OF 3)
6	B-003	BORING LOGS (2 OF 3)
7	B-004	BORING LOGS (3 OF 3)
8	B-005	INTERPRETIVE SUBSURFACE PROFILE
9	C-001	EXISTING CONDITIONS PLAN
10	C-002	DEMOLITION AND CONSTRUCTION STAGING
11	C-003	SITE PLAN
12	C-004	GRADING AND DRAINAGE PLAN
13	C-005	EROSION CONTROL PLAN
14	C-006	ACCESS ROAD PLAN AND PROFILE STA 1+00 TO MATCHLINE STA 4+00
15	C-007	ACCESS ROAD PLAN AND PROFILE MATCHLINE STA 4+00 TO STA 6+60
16	C-008	ACCESS ROAD TYPICAL SECTION
17	C-009	ACCESS ROAD SECTIONS 2+00 TO 3+75
18	C-010	ACCESS ROAD SECTIONS 4+00 TO 5+75
19	C-011	SITE DETAILS I
20	C-012	EROSION CONTROL NOTES
21	C-013	EROSION CONTROL DETAILS I
22	C-014	EROSION CONTROL DETAILS II
23	S-001	PIER LAYOUT PLAN
24	S-002	PIER PLANS AND ELEVATIONS
25	S-003	TYPICAL PIER SECTIONS (1 OF 2)
26	S-004	TYPICAL PIER SECTIONS (2 OF 2)
27	S-005	PILE PLAN
28	S-006	PRECAST PILE CAP PLAN (1 OF 2)
29	S-007	PRECAST PILE CAP PLAN (1 OF 2)
30	S-008	PRECAST DECK PLANK PLAN
31	S-009	MISCELLANEOUS DETAILS (1 OF 5)
32	S-010	MISCELLANEOUS DETAILS (2 OF 5)
33	S-011	MISCELLANEOUS DETAILS (3 OF 5)
34	S-012	MISCELLANEOUS DETAILS (4 OF 5)
35	S-013	MISCELLANEOUS DETAILS (5 OF 5)
36	S-014	ABUTMENT DETAILS
37	F-001	FLOAT PLAN AND DETAILS

PREPARED FOR:

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH ROAD
BIDDEFORD, MAINE
(207)283-0171

PREPARED BY:

GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

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GEI PROJECT NO. 2203703

PRELIMINARY - NOT FOR CONSTRUCTION - FOR PERMIT

NO.	DATE	ISSUE/REVISION	APP
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSION, REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED PROFESSIONAL ENGINEER
April 22, 2024

DWG. NO.
G-001

SHEET NO.
1 OF 37

COORDINATION OF WORK:

1. THE CONTRACTOR SHALL SCHEDULE ALL ACTIVITIES SO AS TO LIMIT IMPACT TO MARINE AND LANDSIDE USES.
2. WORK SHALL BE COORDINATED WITH THE OWNER AND THEIR REPRESENTATIVES:

UNE:A:A:A:	ANDREW PHILIPPE	207-602-2365 (OFFICE)	207-400-6166 (CELL)
GEI:A:A:B:	DANIEL BANNON	207-347-2372 (OFFICE)	207-671-2583 (CELL)
SDA:A:A:C:	TOM SAUCIER	207-449-4275	

3. WORK IS SUBJECT TO THE FOLLOWING TIME OF YEAR AND TIMING OF ACTIVITY RESTRICTIONS:
   - TO BE DEFINED UPON PERMIT APPROVAL.
4. CONTRACTOR ACCESS TO THE SITE BY WATER SHALL AT NO TIME IMPACT USE OF THE ADJACENT FEDERAL NAVIGATION CHANNEL.
5. THE OWNER WILL PERMIT THE CONTRACTOR TO HAVE A LAYDOWN AREA ON THE UPLAND PROPERTY FOR USE DURING CONSTRUCTION. AN APPROXIMATE LAYDOWN AREA IS SHOWN ON SHEET C-005. THE FINAL LOCATION AND DIMENSIONS OF THE LAYDOWN AREA SHALL BE APPROVED BY THE OWNER.

SITE ENVIRONMENTAL CONTROLS:

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CITY, STATE, AND FEDERAL PERMITS. COPIES OF PERMIT APPROVALS ARE PROVIDED IN THE PROJECT MANUAL.

OSHA REQUIREMENTS:

1. PURSUANT TO 26 M.R.S.A. §565, THE CONTRACTOR SHALL ADHERE TO THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS AS PROMULGATED BY THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AT 29-CFR PART 1926 AS MOST RECENTLY AMENDED.

EROSION CONTROL:

1. EROSION AND SEDIMENTATION CONTROL MEASURES ARE PROPOSED TO CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE ADVERSE IMPACTS FROM RUNOFF AND EROSION AT THE WORK SITE.
2. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MAINE EROSION AND SEDIMENT CONTROL BMP'S PUBLISHED BY MAINE DEP AND AVAILABLE AT: HTTPS://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/
3. THE WORK SHALL BE PERFORMED BY A CONTRACTOR THAT IS CERTIFIED BY MAINE DEP IN EROSION AND SEDIMENT CONTROL MEASURES. A CERTIFIED INDIVIDUAL SHALL BE ONSITE DURING ALL CONSTRUCTION ACTIVITY.
4. EROSION AND SEDIMENTATION DUE TO RUNOFF, TIDAL EXPOSURE, AND WAVE ACTION SHALL BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY TO MINIMIZE AREA AND TIME OF DISTURBANCE, APPLICATION OF SILT FENCE, BOOMS, BARRIERS, AND OTHER EROSION CONTROL MEASURES, AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
5. THE CONTRACTOR'S SEQUENCE OF OPERATIONS AND SCHEDULE FOR WORK ACTIVITIES SHALL ACT TO MINIMIZE EXPOSURE TO EROSION.
6. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A SILTATION BOOM AROUND THE PERIMETER OF THE WORK AREA FOR THE NEW PIER FOR THE DURATION OF WORK.
7. THE CONTRACTOR SHALL TAKE CARE TO LIMIT THE AREA OF SOIL DISTURBANCE TO THE MINIMUM NECESSARY TO COMPLETE THE WORK.
8. EROSION CONTROL MEASURES, SEEDING, AND VEGETATION SHALL BE INSPECTED WEEKLY AND AFTER RAINSTORMS, RUNOFF EVENTS, AND STORM EVENTS UNTIL FINAL ACCEPTANCE. REPAIRS SHALL BE MADE WHEN NO LONGER SERVICEABLE DUE TO DAMAGE OR ACCUMULATION OF SEDIMENT.
9. AT THE COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS.

SITE PREPARATION:

1. CONTRACTOR SHALL INSTALL ALL SIGNAGE PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES. INCLUDE OWNER PROJECT SIGNAGE AND FEDERAL AND STATE MANDATED WORK PLACE SIGNAGE.
2. CONTRACTOR SHALL HAVE IN-PLACE TRASH AND SANITARY FACILITIES FOR THE WORK PLACE.
3. DISCOVERY OF INCONSISTENT SITE INFORMATION OR CONDITIONS ARE TO BE IMMEDIATELY CONVEYED TO THE OWNER AND ENGINEER PRIOR TO COMMENCING OR CONTINUING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY DIG SAFE PRIOR TO COMMENCING ANY WORK.
5. LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY LOCATIONS OF UTILITIES AS MAY BE REQUIRED. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES OCCURRING AS A RESULT OF THE CONTRACTOR'S FAILURE TO LOCATE AND PROTECT UNDERGROUND UTILITIES. ALL REPAIRS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
6. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING UTILITIES AND DRAINAGE AT ALL TIMES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AND RESTORE TO THE PRE-EXISTING CONDITION AT NO COST TO THE OWNER.
7. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES AND SHALL PERFORM THE WORK IN A MANNER THAT AVOIDS DAMAGE TO EXISTING STRUCTURES. STRUCTURES INCLUDE, BUT ARE NOT LIMITED TO, BUILDINGS, PIERS, BULKHEADS, FLOATS, PIER UTILITIES AND FIXTURES, AND RIPRAP SLOPES. CONTRACTOR SHALL REPAIR ANY DAMAGE AT NO ADDITIONAL COST TO THE CITY.
8. CONTRACTOR SHALL SUPPLY ALL NECESSARY TEMPORARY UTILITIES FOR CONSTRUCTION INCLUDING, BUT NOT LIMITED TO; WATER, POWER, LIGHTING, DATA, AND TELEPHONE.
9. CONTRACTOR SHALL READ AND UNDERSTAND ALL REGULATORY CONDITIONS ASSOCIATED WITH THE PROJECT AND SHALL COMPLY WITH ALL ENVIRONMENTAL REQUIREMENTS AND PERMIT CONDITIONS.
10. CONTRACTOR SHALL PROVIDE A CONFINED CONCRETE TRUCK WASHDOWN AREA AT A LOCATION TO BE APPROVED BY THE ENGINEER. WASHDOWN AREA SHALL INCLUDE PROTECTION TO PAVEMENT, A PERIMETER WALL AND A FILTER FABRIC LINER. NO RUNOFF CONTAINING CEMENT OR OTHER SUSPENDED SOLIDS WILL BE PERMITTED. ALL MATERIALS SHALL BE COMPLETELY REMOVED UPON COMPLETION OF CONSTRUCTION AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION.

CODES:

1. MAINE DOT STANDARD SPECIFICATIONS, MARCH 2020 ED. WITH SUPPLEMENTAL SPECIFICATIONS THROUGH JUNE 16,2023.
2. MAINE UNIFORM BUILDING AND ENERGY CODE (MUBEC).
3. AMERICAN CONCRETE INSTITUTE (ACI) 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014 ED.
4. CONCRETE REINFORCING STEEL INSTITUTE (CRSI):
5. AMERICAN INSTITUTE FOR STEEL CONSTRUCTION (AISC) STEEL CONSTRUCTION MANUAL, 15TH ED.
6. ALUMINUM ASSOCIATION, ALUMINUM DESIGN MANUAL, 2015 ED.
7. AMERICAN WOOD COUNCIL, NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION, 2015 ED.

SITE CONTROL AND BASELINES:

1. PROJECT BASE PLAN HAS BEEN DEVELOPED FROM A COMPILATION OF MULTIPLE SURVEYS AS DESCRIBED UNDER "SURVEY AND PROPERTY NOTES".
2. ELEVATIONS ARE PROVIDED IN NAVD88 VERTICAL DATUM UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL INSTALL SURVEY CONTROL AS NECESSARY TO PERFORM THE WORK. PERMANENT SURVEY CONTROL (AT LEAST 2 POINTS) SHALL BE ESTABLISHED FOR THE PROJECT AND PROTECTED FROM DAMAGE DURING CONSTRUCTION AND PROVIDED ON AS-BUILT DRAWINGS.
4. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN PROJECT BASELINES AND CONTROL AS REQUIRED TO ENSURE ACCURATE LOCATION OF ALL ELEMENTS OF THE PROJECT.

SURVEY AND PROPERTY NOTES:

1. LOCUS PARCEL IS DEPICTED ON CITY OF BIDDEFORD, TAX MAP 52, LOT 4 AND IS LOCATED IN THE INSTITUTIONAL (IN) ZONE. A PORTION OF THE SITE IS LOCATED IN THE LIMITED RESIDENTIAL (LR) SHORELAND OVERLAY DISTRICT.
2. THE RECORD OWNER IS THE UNIVERSITY OF NEW ENGLAND, BY DEED DATED APRIL 18, 1962, RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 1484, PAGE 0145.
3. UPLAND TOPOGRAPHY AND BASE SURVEY INFORMATION DEPICTED HEREON ARE BASED ON THE FOLLOWING SURVEYS:
   - "TOPOGRAPHIC SURVEY, MARINE SCIENCE CENTER, UNIVERSITY OF NEW ENGLAND" BY OWEN HASKELL, INC. DATED DEC. 13, 2022.
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5. FEDERAL CHANNEL LIMITS ARE DEPICTED BASED ON THE PLAN. "SACO RIVER, SACE AND BIDDEFORD, MAINE, CONDITION SURVEY" PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS, DATED JULY 3, 2021.
6. HORIZONTAL COORDINATES ARE BASED ON NAD83 MAINE STATE PLANE WEST ZONE-1801 AND ARE EXPRESSED IN FEET. ELEVATIONS ARE BASED ON NAVD88 VERTICAL DATUM AND CONTROL POINTS PROVIDED BY UNE.
7. UTILITY INFORMATION DEPICTED HEREON IS BASED ON FEBRUARY 2023 UTILITY LOCATION SURVEY PERFORMED BY BLOOD HOUND, LLC UNDERGROUND UTILITY LOCATORS AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTACT DIG SAFE (1-888-DIG-SAFE) AND VERIFY EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION OR EXCAVATION.
8. PORTIONS OF THE PROPERTY ARE DEPICTED AS BEING IN A SPECIAL FLOOD HAZARD AREA BASED ON FEMA PRELIMINARY FIRM 23031C0459G DATED APRIL 14, 2017. THE SITE IS LOCATED IN A VE ZONE HAVING BASE FLOOD ELEVATION OF 14 FT NAVD88.
9. SUBSURFACE INFORMATION IS BASED ON EXPLORATIONS PERFORMED IN 2015 AND 2022 CONSISTING OF BORINGS, PROBES, AND TEST PITS. REFER TO SHEETS B-001 - B-005 FOR SUBSURFACE INFORMATION.

CONCRETE

1. CAST IN PLACE CONCRETE SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS BASED ON THE MAINE DOT STANDARD SPECIFICATION:

LOCATION	MDOT CLASS	f'c
ALL CONCRETE	CLASS LP	5,000 PSI

2. ALL REINFORCEMENT SHALL BE NEW DEFORMED BARS, GRADE 60 CONFORMING TO ASTM A615, HOT DIP GALVANIZED ACCORDING TO ASTM A767/A767M OR ASTM A1094/A1094M.
3. REINFORCEMENT ACCESSORIES SHALL BE DIELECTRIC COATED STEEL OR APPROVED PLASTIC.
3. GROUT SHALL BE A HIGH STRENGTH, NON-SHRINK GROUT WITH SALT WATER RESISTANCE.
4. CONCRETE COVER SHALL BE A MINIMUM OF 3 INCHES UNLESS NOTED OTHERWISE.
5. ALL EXPOSED EDGES OF CONCRETE AT COLD JOINTS SHALL HAVE A ROUGHENED FINISH AND BE COATED WITH EPOXY BONDING AGENT PRIOR TO CASTING ADJACENT POUR.
6. PROVIDE 1 INCH CHAMFER ON ALL EXPOSED EDGES UNLESS NOTED OR DIRECTED OTHERWISE.
7. TOP SURFACE OF EXPOSED CONCRETE SHALL RECEIVE A BROOM FINISH.
8. COAT FINISHED SURFACES OF CONCRETE WITH A 100% SILANE PENETRATING CONCRETE SEALER SUITABLE FOR USE IN A MARINE ENVIRONMENT. SEALER SHALL BE LISTED ON THE MAINE DOT QUALIFIED PRODUCTS LIST.
9. REINFORCEMENT DEVELOPMENT AND LAP SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH ACI 318.
10. CONCRETE MIX DESIGN SHALL INCLUDE THE USE OF CORROSION INHIBITING ADMIXTURE AT DOSAGE SUITABLE FOR USE IN AN AGGRESSIVE MARINE ENVIRONMENT. CORROSION INHIBITOR SHALL BE LISTED ON THE MAINE DOT QUALIFIED PRODUCTS LIST.

EPOXY ANCHORS

1. ANCHOR ROD, WASHERS, AND NUTS SHALL CONFORM TO ASTM F1554, GRADE 36, AND SHALL BE HOT DIP GALVANIZED.
2. THE MINIMUM EDGE DISTANCE AND MINIMUM SPACING FOR ALL ANCHORS SHALL BE 6 BOLT DIAMETERS.
3. ALL HOLES SHALL BE DRILLED TO THE RECOMMENDED DIAMETER PER MANUFACTURERS REQUIREMENTS USING CARBIDE DRILL BITS MEETING ANSI B212.5-1994.
4. HOLES SHALL BE BRUSHED WITH NYLON BRUSH AND BLOWN CLEAN USING OIL-FREE COMPRESSED AIR A MINIMUM OF TWO TIMES.
5. ALL HOLES SHALL BE FREE OF STANDING WATER BEFORE INSTALLING ANCHORS.
6. EPOXY SHALL HAVE MINIMUM BOND STRENGTH OF 1,600 PSI @ 14 DAYS.

EARTHWORK

1. EARTHWORK MATERIALS SHALL MEET THE FOLLOWING SPECIFICATIONS:

AGGREGATE BASE	TYPE A (MDOT 703.06A)
AGGREGATE SUBBASE	TYPE D (MDOT 703.06C)
WALL BACKFILL	CRUSHED STONE $\frac{3}{4}$" (MDOT 703.13)
DRAINAGE STONE	CRUSHED STONE 2 INCH (MDOT 703.31)
ORDINARY BORROW	SEE #2 BELOW.

2. ORDINARY BORROW SHALL BE EXISTING GRANULAR SOIL WITH MAXIMUM 4 INCH STONE SUBJECT TO APPROVAL BY THE ENGINEER. ALL DEBRIS OR OTHER DELETERIOUS MATERIALS SHALL BE REMOVED FROM ORDINARY BORROW PRIOR TO REUSE.

STEEL

1. STEEL ANGLE, STRAPS, AND MISCELLANEOUS FABRICATIONS SHALL BE ASTM A36 HOT DIP GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED.
2. ALL FASTENERS SHALL BE HOT-DIP GALVANIZED OR STAINLESS STEEL.
3. ALL BOLTS SHALL CONFORM TO ASTM A307. MINIMUM SIZE SHALL BE $\frac{5}{8}$ INCH UNLESS OTHERWISE NOTED.

HEAVY TIMBER

1. UNLESS OTHERWISE SPECIFIED, ALL TIMBER FRAMING TO BE USED SHALL BE NO. 1 AND BETTER SOUTHERN PINE AS GRADED BY SPIB AND WITH DESIGN VALUES PER NDS 2015.
2. ALL TIMBER SHALL BE NEW AND SUPPLIED WITH NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED.
3. ALL NEW SOUTHERN YELLOW PINE TIMBER MEMBERS TO WHICH THE PUBLIC MAY BE EXPOSED SHALL BE TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) IN ACCORDANCE WITH AWPA & AWPB W/ MINIMUM RETENTION OF 0.60 LBS. PER CUBIC FOOT. ALL OTHER SOUTHERN YELLOW PINE MEMBERS SHALL BE CCA TREATED TO 2.5 PCF RETENTION.
4. ALL EXPOSED EDGES SHALL BE PLANED OR SANDED TO PROVIDE SMOOTH SURFACE FREE OF ROUGH EDGES OR DEFECTS.
5. ALL EXPOSED FASTENERS SHALL BE COUNTERSUNK.
6. DOCK WASHERS SHALL BE PROVIDED BENEATH NUT OR BOLT HEAD OF ALL TIMBER BOLTED CONNECTIONS. TIMBER BOLTS SHALL BE CONSIDERED AN ACCEPTABLE ALTERNATIVE TO HEX HEADED BOLTS WITH DOCK WASHERS.
7. STANDARD WASHERS SHALL BE PERMISSIBLE WHERE CONNECTED PARTS INCLUDE STEEL PLATES, ANGLES, BRACKETS, OR BACKER PLATES.

TIMBER PILES

1. TIMBER PILES SHALL BE TROPICAL GREENHEART AND SHALL CONFORM TO ASTM D25.
2. PROVIDE PROTECTION TO PILE TIP AND BUTT TO AVOID DAMAGE DURING DRIVING.
3. PILES SHALL BE ORDERED MINIMUM 5 FT LONGER THAN TABULATED LENGTHS TO ALLOW FOR INSTALLATION VARIABILITY AND CUTOFF.
4. ALL TIMBER PILES SHALL BE DRIVEN TO THE MINIMUM EMBEDMENT OR CAPACITY CRITERIA INDICATED IN THE PILE SCHEDULE. FENDER PILES MAY BE INSTALLED TO THE REQUIRED DEPTH USING A VIBRATORY HAMMER. IN THE EVENT THAT A VIBRATORY HAMMER IS UNABLE TO ACHIEVE THE MINIMUM REQUIRED EMBEDMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING FINAL SET USING AN IMPACT HAMMER.
5. GREENHEART PILES SHALL BE BANDED WITH $1\frac{1}{2}$ INCH STAINLESS STEEL UTILITY STRAPPING PRIOR TO CUTOFF. REFER TO DETAIL ON SHEET S-009.

ASPHALT

1. PAVING GRADES SHALL PITCH TO EXISTING STRUCTURES.
2. PAVEMENT SHALL CONSIST OF 4" OF HOT MIX ASPHALT PLACED IN TWO COURSES, SEE DETAIL.
3. CONTRACTOR TO SAW CUT PAVEMENT AT LIMIT OF REMOVAL.
4. CONTRACTOR TO PROVIDE SMOOTH TRANSITIONS BETWEEN NEW AND EXISTING ASPHALT.
5. CONTRACTOR TO SEAL JOINT BETWEEN NEW AND EXISTING ASPHALT WITH BITUMINOUS JOINT SEALANT.

GEOTEXTILE

1. GEOTEXTILE SEPARATION FABRIC SHALL BE MIRAFI FW700 OR EQUIVALENT.
2. OVERLAP ALL SEAMS MINIMUM 2 FT.
3. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

STEEL PIPE PILES

1. STEEL PIPE PILES SHALL CONFORM TO ASTM A252, GRADE 3.
2. ALL PILES SHALL BE SEAMLESS.
3. AN OPEN CUTTING SHOE IS REQUIRED.
4. PIPE PILES SHALL BE COATED WITH FUSION BONDED EPOXY, COLOR BROWN. MINIMUM COATING THICKNESS SHALL BE 18-20 MIL. COATING SHALL EXTEND FROM TOP OF PILE DOWN TO MINIMUM 5-FEET BELOW GRADE.
5. DAMAGE TO ANY STEEL COATING SHALL BE TOUCHED UP BY THE CONTRACTOR USING APPROVED MATERIALS AND METHODS.
6. ALL PILES SHALL BE FILLED TO THE TOP WITH CONCRETE AFTER INSTALLATION. ROCK-SOCKETED PILES SHALL BE CLEANED OUT AND FILLED FOR THEIR ENTIRE LENGTH PRIOR TO CONCRETE FILLING. DRIVEN PILES SHALL BE CLEANED OUT TO MINIMUM 10-FEET BELOW ADJACENT MUDLINE.
7. REFER TO PILE SCHEDULE ON SHEET S-005 FOR ESTIMATED PILE LENGTHS, COATING LENGTHS, SIZES, AND SOCKETING REQUIREMENTS.

TIMBER FLOATS

1. FLOAT MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A MAINE LICENSED PROFESSIONAL ENGINEER. MANUFACTURER SHALL BE RESPONSIBLE FOR FINAL DETERMINATION OF FLOAT FRAMING AND DRUM LAYOUT TO MEET BOUYANCY, LOADING, AND ENVIRONMENTAL EXPOSURE REQUIREMENTS IN ACCORDANCE WITH THE SPECIFICATIONS.
2. UNLESS OTHERWISE SPECIFIED, ALL TIMBER TO BE USED SHALL BE NO. 1 AND BETTER SOUTHERN PINE AS GRADED BY SPIB AND WITH DESIGN VALUES PER NFPA NATIONAL DESIGN SPECIFICATION OR THE EQUIVALENT FOR DOUGLAS FIR AS GRADED BY WCLIB AND WWPA.
3. ALL TIMBER SHALL BE NEW AND SUPPLIED WITH NOMINAL DIMENSIONS.
4. ALL TIMBER MEMBERS TO WHICH THE PUBLIC MAY BE EXPOSED SHALL BE TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) IN ACCORDANCE WITH AWPA & AWPB W/ MINIMUM RETENTION OF 0.40 LBS. PER CUBIC FOOT. ALL OTHER SOUTHERN YELLOW PINE MEMBERS SHALL BE CCA TREATED TO 2.5 PCF RETENTION.
5. DECKING SHALL BE NO. 1 SOUTHERN PINE, MINIMUM SIZE 2X6.
6. MISC. HARDWARE: GALVANIZED STEEL PLATES AND ALL BOLTS AND RELATED HARDWARE SHALL BE FASHIONED FROM STEEL AND GALVANIZED AFTER FABRICATION AND IN ACCORDANCE WITH REQUIREMENTS OF ASTM A123, AND/OR A153. BOLTS AND NUTS SHALL CONFORM TO ASTM A307.
7. CONNECTION HARDWARE SHALL BE FABRICATED FROM ASTM-A36 GRADE STEEL WITH MINIMUM THICKNESS ¼".
8. PROVIDE GUIDE/WEARING BRACKETS AT GANGWAY LANDING ON FLOAT 'C' PER DETAIL A ON SHEET S-012. BRACKETS SHALL BE LOCATED IN FIELD TO BE CENTERED ON GANGWAY RANGE OF TRAVEL AT MID-TIDE ELEVATION.
9. TRANSITIONS BETWEEN FLOATING DOCKS SHALL INCLUDE ADA COMPLIANT TRANSITION PLATES ACROSS GAPS AT HINGE LOCATIONS.
10. FLOATING DOCKS SHALL MEET THE FOLLOWING LOADING AND FREEBOARD CRITERIA:

DEAD LOAD	20 INCH FREEBOARD
20 PSF UNIFORM LIVE LOAD	MINIMUM 8 INCH FREEBOARD
40 PSF UNIFORM LIVE LOAD	MINIMUM ZERO FREEBOARD

DEAD LOADS SHALL INCLUDE ALL COMPONENTS AND ATTACHMENTS INCLUDING WEIGHT OF ALUMINUM GANGWAY BEARING ON FLOAT 'C'.

ALUMINUM GANGWAY

1. GANGWAY MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A MAINE LICENSED PROFESSIONAL ENGINEER. MANUFACTURER SHALL BE RESPONSIBLE FOR FINAL DETERMINATION OF GANGWAY FRAMING AND CONFIGURATION TO MEET STRUCTURAL, PERFORMANCE, AND ACCESSIBILITY REQUIREMENTS IN ACCORDANCE WITH THE SPECIFICATIONS.
2. GANGWAY SHALL MEET THE FOLLOWING LOADING AND DEFLECTION CRITERIA:
   - DEAD LOAD SHALL CONSIST OF WEIGHT OF THE ENTIRE GANGWAY STRUCTURE PLUS ANY UTILITIES AND ATTACHMENTS.
   - ALLOWABLE STRESSES IN DECK SURFACE, GANGWAY FRAMING, AND MOUNTING COMPONENTS SHALL NOT BE EXCEEDED AT A UNIFORM LIVE LOAD OF 100 PSF.
   - 50 PSF UNIFORM LIVE LOAD MAX. DEFLECTION L/360
   - 100 PSF UNIFORM LIVE LOAD MAX. DEFLECTION NOT TO EXCEED GANGWAY CAMBER
   - ALL HANDRAIL AND POSTS SHALL BE DESIGNED TO WITHSTAND A 200 LB LOAD APPLIED IN ANY DIRECTION OR A 50 LB/FT LOAD APPLIED ALONG THE HANDRAIL LENGTH.
3. GANGWAY HINGES SHALL BE CAPABLE OF TRAVELING FREELY AND WITHOUT BINDING THROUGH THE ENTIRE RANGE OF WATER LEVELS FROM MLLW TO BASE FLOOD ELEVATION PLUS TWO-FEET OF ADDITIONAL ELEVATION IN EITHER DIRECTION.

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
PROFESSIONAL LICENSED ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
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(207)797-8901

UNE
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11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND
MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
GENERAL NOTES

SHEET NO.
G-002

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0 200 400
SCALE, FEET

FOR PERMIT

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LICENSED PROFESSIONAL ENGINEER
April 22, 2024

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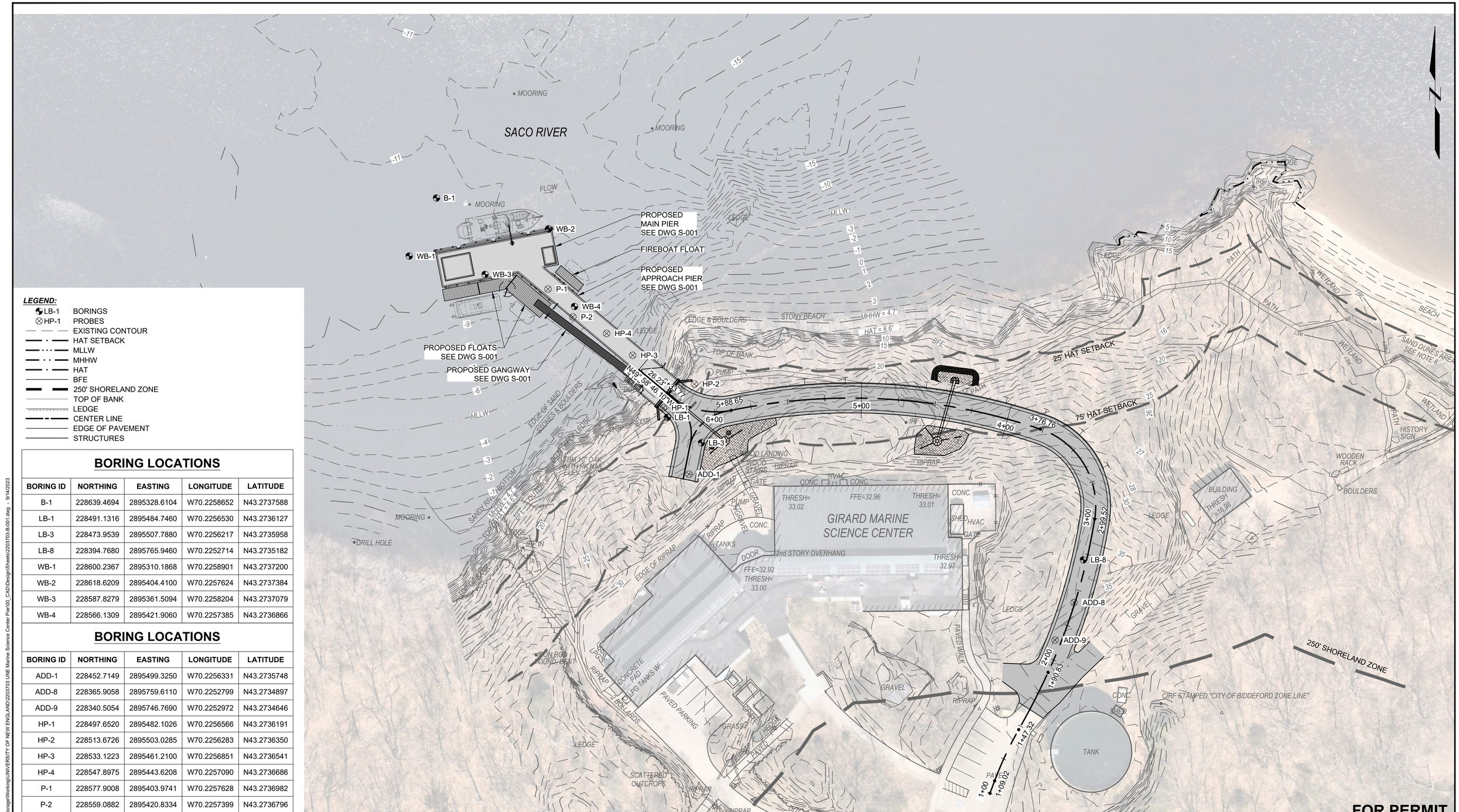
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
5	4/22/2024	REV. SHT. G-003	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **VICINITY PLAN**

SHEET NO.: **G-003**

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LEGEND:

- LB-1 BORINGS
- HP-1 PROBES
- EXISTING CONTOUR
- HAT SETBACK
- MLLW
- MHHW
- HAT
- BFE
- 250' SHORELAND ZONE
- TOP OF BANK
- LEDGE
- CENTER LINE
- EDGE OF PAVEMENT
- STRUCTURES

BORING LOCATIONS

BORING ID	NORTHING	EASTING	LONGITUDE	LATITUDE
B-1	228639.4694	2895328.6104	W70.2258652	N43.2737588
LB-1	228491.1316	2895484.7460	W70.2256530	N43.2736127
LB-3	228473.9539	2895507.7880	W70.2256217	N43.2735958
LB-8	228394.7680	2895765.9460	W70.2252714	N43.2735182
WB-1	228600.2367	2895310.1868	W70.2258901	N43.2737200
WB-2	228618.6209	2895404.4100	W70.2257624	N43.2737384
WB-3	228587.8279	2895361.5094	W70.2258204	N43.2737079
WB-4	228566.1309	2895421.9060	W70.2257385	N43.2736866

BORING LOCATIONS

BORING ID	NORTHING	EASTING	LONGITUDE	LATITUDE
ADD-1	228452.7149	2895499.3250	W70.2256331	N43.2735748
ADD-8	228365.9058	2895759.6110	W70.2252799	N43.2734897
ADD-9	228340.5054	2895746.7690	W70.2252972	N43.2734646
HP-1	228497.6520	2895482.1026	W70.2256566	N43.2736191
HP-2	228513.6726	2895503.0285	W70.2256283	N43.2736350
HP-3	228533.1223	2895461.2100	W70.2256851	N43.2736541
HP-4	228547.8975	2895443.6208	W70.2257090	N43.2736686
P-1	228577.9008	2895403.9741	W70.2257628	N43.2736982
P-2	228559.0882	2895420.8334	W70.2257399	N43.2736796

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

0 30 60
SCALE, FEET

Attention:
0 1"
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STATE OF MAINE
DANIEL J. BANNON
No. 13033
REGISTERED PROFESSIONAL ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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SHEET NAME
BORING LOCATION PLAN

SHEET NO.
B-001

FOR PERMIT

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LEGEND:

- EXISTING CONTOUR
- HAT SETBACK
- MLLW
- MHHW
- HAT
- BFE
- 250' SHORELAND ZONE
- TOP OF BANK
- LEDGE
- STRUCTURES

SURVEY AND PROPERTY NOTES:

1. LOCUS PARCEL IS DEPICTED ON CITY OF BIDDEFORD, TAX MAP 52, LOT 4 AND IS LOCATED IN THE INSTITUTIONAL (IN) ZONE. A PORTION OF THE SITE IS LOCATED IN THE LIMITED RESIDENTIAL (LR) SHORELAND OVERLAY DISTRICT.
2. THE RECORD OWNER IS THE UNIVERSITY OF NEW ENGLAND, BY DEED DATED APRIL 18, 1962, RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 1484, PAGE 0145.
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10. BENCHMARKS:

0 30 60
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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STATE OF MAINE DANIEL J. BANNON No. 13033 PROFESSIONAL LICENSED ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
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GEI Project	2203703

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SHEET NAME
EXISTING CONDITIONS PLAN

SHEET NO.
C-001

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REMOVE LEDGE
SEE NOTE 2

MHHW = 4.7'

HAT = 6.6'

25' HAT SETBACK

75' HAT SETBACK

BFE

LEDGE

LEDGE & BOULDERS

STONY BEACH

TOP OF BANK

RIPRAP

PUMP

EXPOSED CONDUIT

BOULDERS & STONE

PATH

EDGE OF SAND STONES & BOULDERS

TOP OF LEDGE

MLLW

IRF

8" HORNBEAM

WOOD LANDING

WOOD STAIRS

GATE

CONC.

HVAC

THRESH= 33.02

FFE=32.96

THRESH= 33.01

RIM=32.35

SHED HVAC

GIRARD MARINE SCIENCE CENTER

2nd STORY OVERHANG

THRESH= 32.97

FFE=32.92

THRESH= 33.00

DOOR

TANKS

GRAVEL

BUILDING THRESH =16.98

WOODEN RACK

BOULDERS

LEDGE

WETLAND

WET

30'

EDGE OF RIPRAP

FBM 10" OAK WITH PK NAIL ELEV=16.0'

MHHW = 4.7'

MOORING

SANDY RIVER BOTTOM

TOP OF BANK

EDGE

IRF

OUTCROP

IRON ROD FOUND, BENT

FAN

DOG LOG

CONCRETE PAD

LPG TANKS W/ RAIL

2 BOLLARDS

PAVED PARKING

RIM=32.52

RIM=32.63

RIM=32.66

TRANSFORMER ON CONCRETE

GENERATOR ON CONCRETE PAD

GENERATOR EXHAUST BUILDING

GRAVEL

HEDGE

GRASS

PAVED

12" PLASTIC INV. = 32.05

12" RCP INV. = 30.91

15" RCP INV. = 31.19

12" RCP INV. = 30.99

SCATTERED OUTCROPS

RIM = 32.65
UNABLE TO OPEN

ELECTRIC MANHOLE

PAVED WALK

12"RCP INV.=33.20

RIPRAP

LEDGE

GRAVEL

PAVED

CONC.

SHED

RIM=35.16

RIM=34.08

RIM=34.10

TANK

CIRA STAMPED "CITY OF BIDDEFORD ZONE LINE"

REMOVE/DEMOLISH TREE & STUMP, TYP OF (49)

250' SHORELAND ZONE

FOR PERMIT

LEGEND:

— — — LIMIT OF WORK

TREE TO BE REMOVED

NOTES:

1. CONTRACTOR SHALL COORDINATE STAGING OF ALL EQUIPMENT AND MATERIALS OUTSIDE OF THE LIMITS OF WORK AT OFF-SITE LOCATIONS AS APPROVED BY OWNER.
2. FIELD VERIFY EXTENTS OF EXPOSED LEDGE AND REVIEW WITH ENGINEER PRIOR TO REMOVAL.

0 20 40
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
PROFESSIONAL LICENSED ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME

DEMOLITION AND CONSTRUCTION STAGING

SHEET NO.

C-002

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PROPOSED PIER SYSTEM
(SEE SHEETS S-001 - S-004).

REROUTE BEACH
ACCESS PATH
(BY OTHERS).

LEDGE & BOULDERS

LEDGE

STONY BEACH

TOP OF BANK

25' HAT SETBACK

PUMP

RIPRAP

R= 40'

N49°58'46"W

26.23'

6+33.77

6+00

5+88.65

5+00

4+00

3+76.76

75' HAT SETBACK

INSTALL 300 LF
GUARDRAIL (SEE DETAIL).

LIMITS OF VEGETATION
CLEARING, TYP.

PROPOSED STORMWATER
COLLECTION RAIN GARDENS

R=20'

R=20'

EDGE OF SAND
STONES & BOULDERS

BOTTOM OF LEDGE

TOP OF BANK

TBM 10" OAK
WITH PK NAIL
ELEV.=16.0'

ACCESS ROAD
TURNAROUND.

WOOD LANDING

WOOD
STAIRS

RIPRAP

GATE

CONC.

HVAC

CONC.

PROPOSED (2) "NO VEHICULAR
ACCESS BEYOND THIS POINT"
SIGNS, TYP. (SEE DETAIL)

PUMP

GRAVEL

THRESH=
33.02

FFE=32.96

THRESH=
33.01

CONC.

SHED
HVAC

GATE

GIRARD MARINE
SCIENCE CENTER

TANKS

CONC.

2nd STORY OVERHANG

DOOR

FFE=32.92

THRESH=
33.00

THRESH=
32.97

SANDY RIVER BOTTOM

OUTCROP

TOP OF BANK

LEDGE

IRF IN

EDGE OF RIPRAP

IRON ROD
FOUND, BENT

DOOR
LEGS

CONCRETE
PAD

LPG TANKS W/

RIPRAP

PAVED PARKING

GRAVEL

GRASS

HEDGE

RIPBAP

PAVED

RIPRAP

PROPOSED R-1-1 30"X 30"
STOP SIGN, TYP
(SEE DETAIL).

LEDGE

PAVED WALK

8'
TYP

8'
TYP

2' WIDE
SHOULDER,
TYP.

GRAVEL

PROPOSED PAVED
ACCESS ROAD
(SEE DETAIL, SHEET C-008).

250' SHORELAND ZONE

2+00

R2'

R10'

1+90.83

PROPOSED 24" WIDE WHITE
STOP BAR, TYP (SEE DETAIL).

GRAVEL

PROPOSED SAWCUT AND
SEALING OF EXISTING
PAVEMENT. MATCH INTO
EXISTING PAVEMENT TYP.

RIPRAP

CONC.

SHED

CIRF STAMPED "CITY OF BIDDEFORD ZONE LINE"

1+47.32

TANK

PAVED

1+00

1+09.02

N: 228236.91
E: 2895702.79

RIPRAP

3+00

2+99.52

LEDGE

BUILDING
THRESH
=16.98

WOODEN
RACK

BOULDERS

WETLAND

PATH

WETLAND

PATH

LEDGE

'OORING

IRON ROD
FOUND, BENT

0 20 40
SCALE, FEET

CENTERLINE ALIGNMENT TABLE

SEGMENT ID	START	END	LENGTH (FEET)	CHORD LENGTH (FEET)	CURVE RADIUS (FEET)	DELTA ANGLE (DEGREES, MIN, SEC)
1	1+00	1+09.02	9.02			
2	1+09.02	1+47.32	38.30	38.26	241.93	9d4'13"
3	1+47.32	1+90.83	43.51	43.50	500.00	4d59'10"
4	1+90.83	2+99.52	108.69	108.35	400.00	15d34'5"
5	2+99.52	3+76.76	77.24	71.05	55.00	80d27'50"
6	3+76.76	5+88.65	211.89	209.42	400.00	30d21'2"
7	5+88.65	6+33.77	45.13	43.61	50.00	51d42'47"
8	6+33.77	6+60	26.23			

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
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DANIEL J. BANNON
No. 13033
PROFESSIONAL ENGINEER
LICENSED
April 22, 2024

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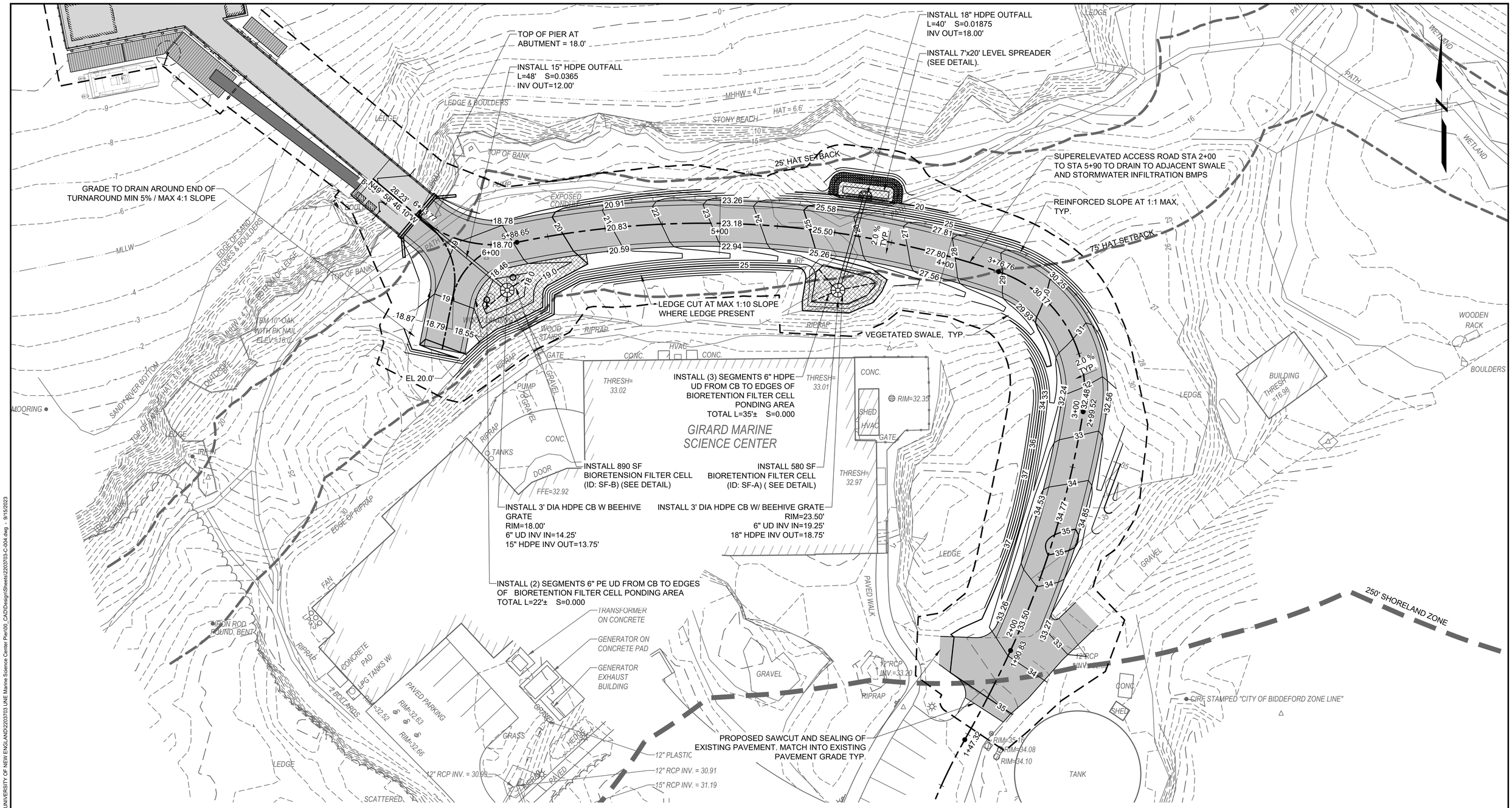
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SHEET NAME
SITE PLAN

SHEET NO.
C-003

FOR PERMIT

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PLAN

SCALE: 1" = 20'

FOR PERMIT

Attention:

0 1"

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0 20 40

SCALE, FEET

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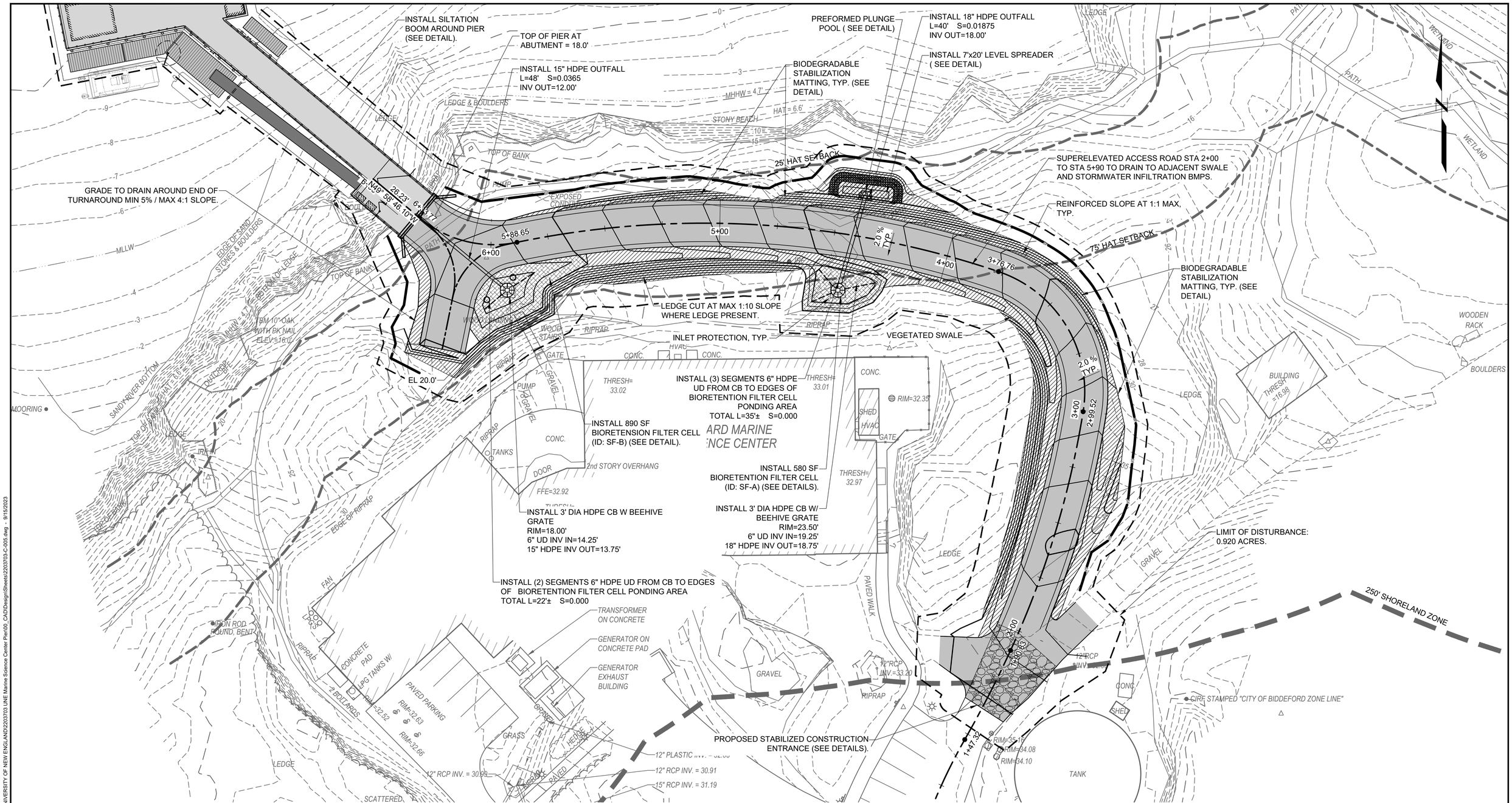
SHEET NAME

GRADING AND DRAINAGE PLAN

SHEET NO.

C-004

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PLAN
SCALE: 1" = 20'

NOTE:
CONTRACTOR SHALL INSTALL BIODEGRADABLE STABILIZATION MATTING WHEREVER PROPOSED SLOPES EXCEED 5H:1V.

0 20 40
SCALE, FEET

FOR PERMIT

Attention:
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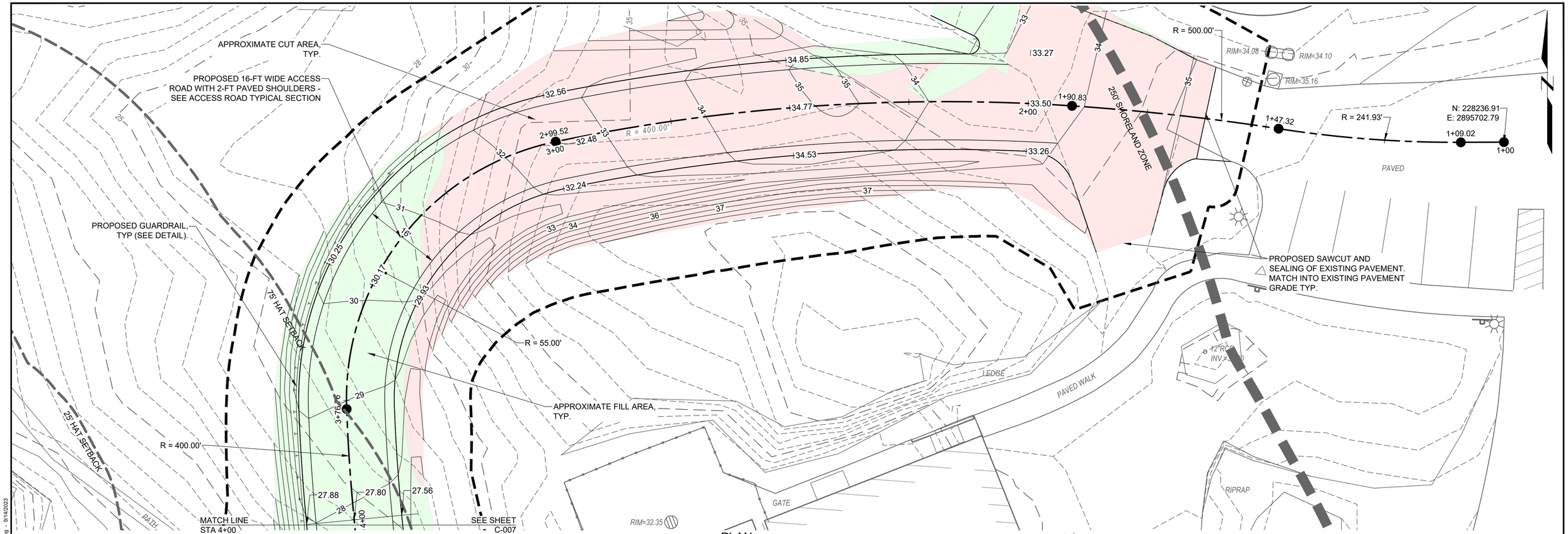
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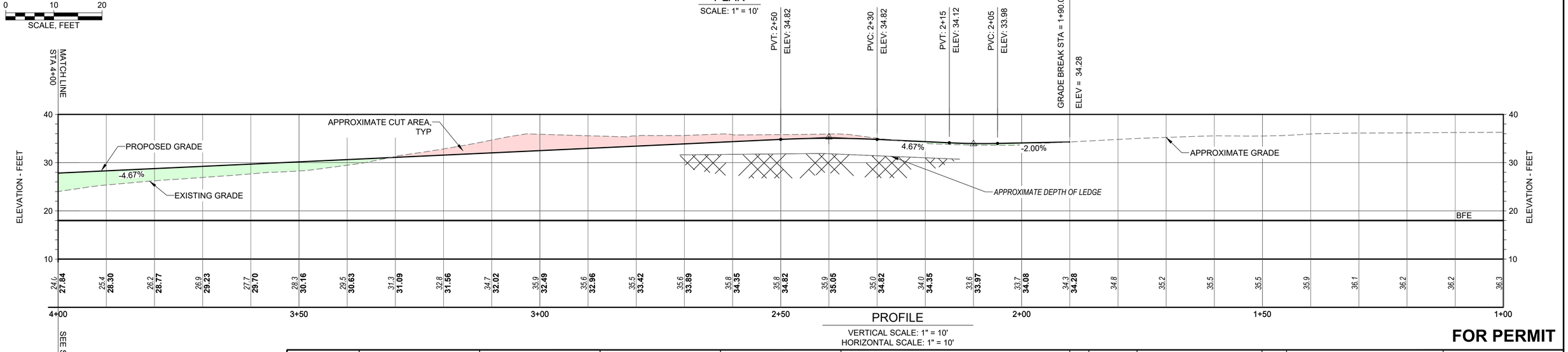
SHEET NAME: **EROSION CONTROL PLAN**
SHEET NO.: **C-005**

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PLAN

SCALE: 1" = 10'



PROFILE

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'

FOR PERMIT

Attention:

0 1"

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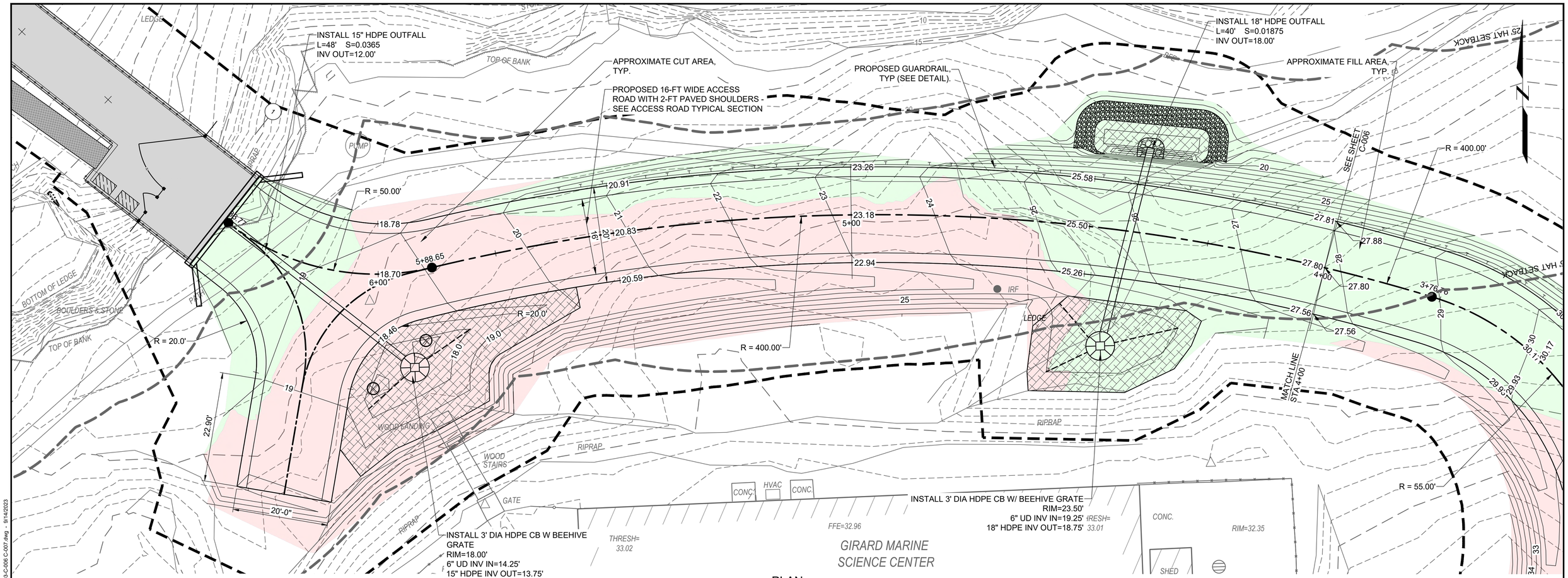
SHEET NAME

ACCESS ROAD PLAN AND PROFILE STA 1+00 TO 4+00

SHEET NO.

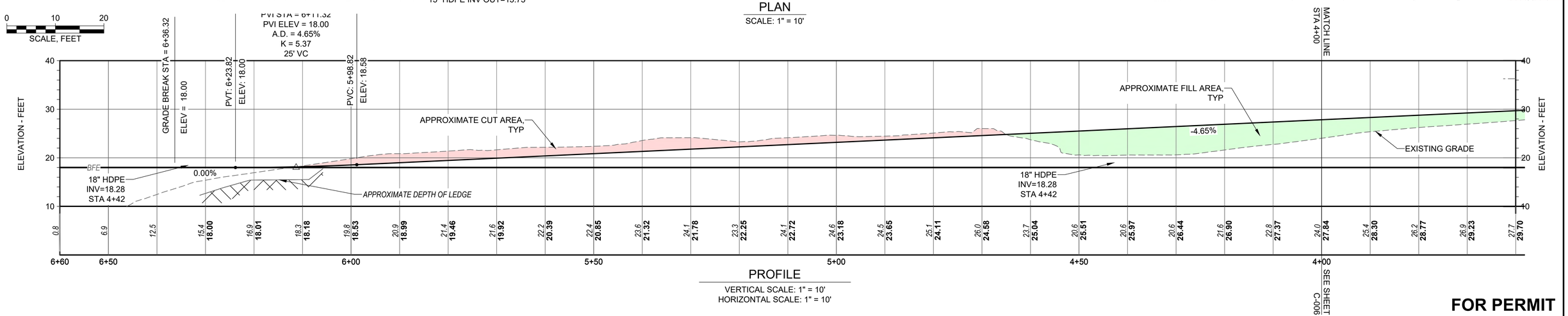
C-006

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PLAN

SCALE: 1" = 10'



PROFILE

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'

FOR PERMIT

Attention:

0 1"

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STATE OF MAINE — DANIEL J. BANNON No. 13033 — LICENSED PROFESSIONAL ENGINEER

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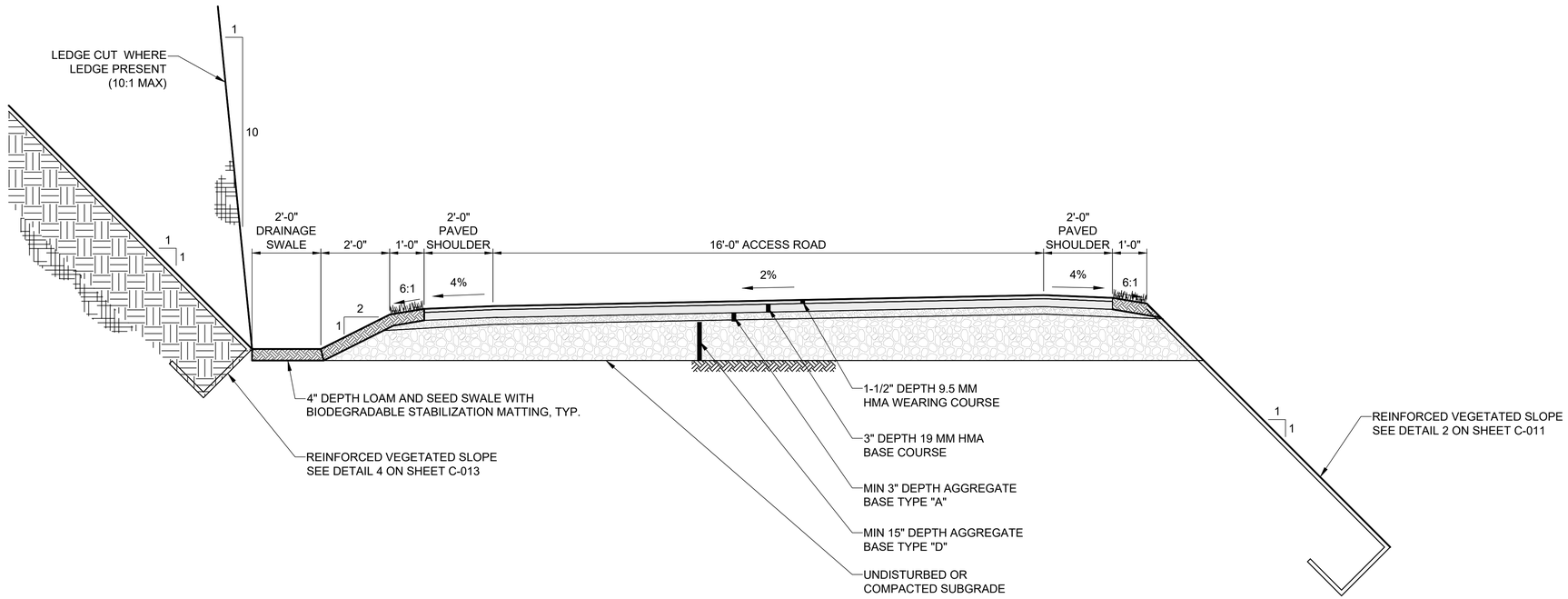
SHEET NAME

ACCESS ROAD PLAN AND PROFILE STA 4+00 TO STA 6+60

SHEET NO.

C-007

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TYPICAL ACCESS ROAD SECTION

SCALE: NTS

FOR PERMIT

Attention:

0 1"

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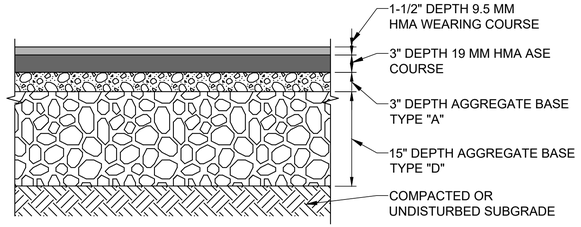
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SHEET NAME
ACCESS ROAD TYPICAL SECTION

SHEET NO.
C-008

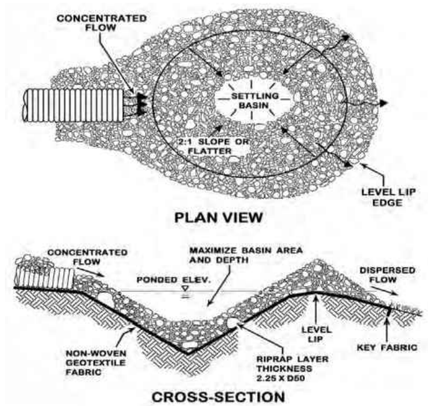
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NOTES:
1. PAVEMENT DESIGN SHALL HAVE A MAINEDOT APPROVED JOB MIX FORMULA (JMF) WITHIN THE LATEST CALENDAR YEAR UNLESS OTHERWISE APPROVED BY OWNER.

1 HMA TRAVELWAY/SHOULDER TYPICAL SECTION

NO SCALE



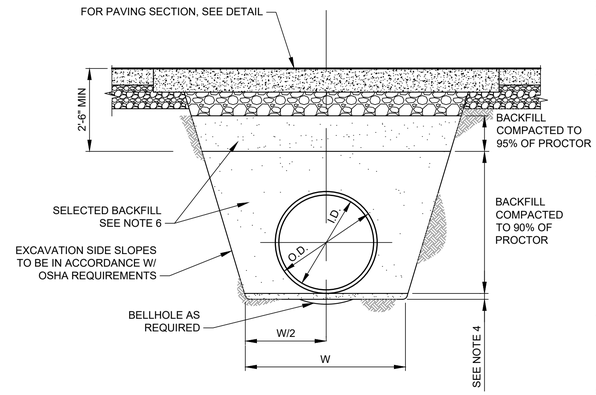
PLUNGE POOL SIZING (minimum)				
SIZE	RIPRAP SIZING (D_{50})	WIDTH At the narrow end of pipe	LENGTH For slow flows (no pressure head)	LENGTH For high flows (with pressure head)
12"	5"	3-4'	4-6'	8-10'
18"	8"	4-6'	6-8'	12-18'
24"	10"	6-8'	8-10'	18-22'
30"	12"	8-10'	12-14'	22-28'
36"	14"	10-12'	14-16'	28-32'

The diameter of the largest stone size in the mix should be about 1.5 times the D_{50} and the smallest one about one half the size. The thickness of riprap should never be less than 2 times the rock D_{50}.

NOTES:
1. IF THE PIPE DISCHARGES ONTO A FLAT AREA, THE APRON SHOULD HAVE A WIDTH THAT IS THREE TIMES THE OUTLET PIPE'S DIAMETER. IF THE PIPE FLOWS HAVE THE POTENTIAL OF CAUSING A GULLY, A LEVEL SPREADER SHOULD BE PROVIDED.
2. THE CHANNEL SIDE SLOPES SHOULD BE NO STEEPER THAN 2:1. RIPRAP ON THE SIDES OF THE PLUNGE POOL SHOULD EXTEND TO THE TOP OF THE CHANNEL.
3. THE PLUNGE POOL SIZING AND THE MEDIAN SIZED RIPRAP CAN BE DETERMINED FROM THE FOLLOWING TABLE. THE THICKNESS OF RIPRAP SHOULD NOT BE LESS THAN 2 TIMES THE ROCK D50.
4. A GEOTEXTILE OR APPROPRIATE GRAVEL FILTER SHOULD BE USED TO PROTECT AGAINST PIPING OF SOIL FINES FROM BENEATH THE ROCK.
5. IN A CHANNEL THAT CAN BE REVEGETATED, SEED AND MULCH SHOULD BE APPLIED WITHIN 7 DAYS FROM FINAL CONSTRUCTION..

2 PLUNGE POOL

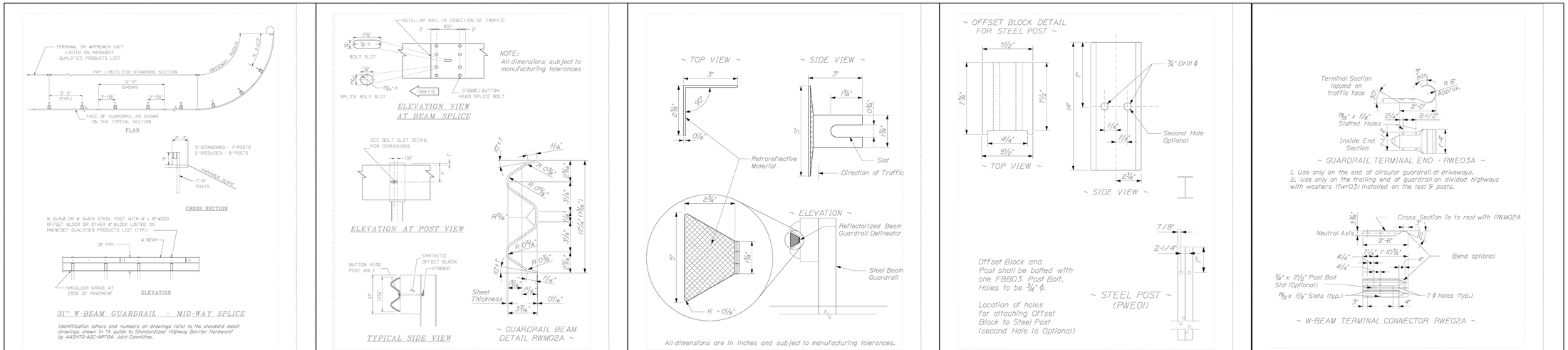
NO SCALE



NOTES:
1. TRENCH BOTTOM OR BEDDING FOR ALL PIPE SHALL BE GRADED TO PROVIDE UNIFORM SUPPORT FOR THE ENTIRE LENGTH OF THE PIPE EXCEPT AT BELLHOLES.
2. BELLHOLES FOR PIPES SHALL HAVE A CLEARANCE OF 3" BETWEEN THE BOTTOM OF THE BELLHOLE AND THE EXTERIOR OF THE PIPE BARREL, BUT IN NO CASE SHALL BELLHOLES BE SMALLER THAN REQUIRED TO FACILITATE PLACING OF THE PIPE OR PROPER JOINING OF THE PIPE.
3. COMPACTION BACKFILL SHALL BE COMPACTED TO A DEGREE AT LEAST EQUIVALENT TO THE EXISTING DEGREE OF COMPACTING OF ADJACENT IN-PLACE EARTH MATERIALS AGAINST WHICH SUCH COMPACTED BACKFILL IS TO BE PLACED, OR TO A MIN OF 95% OF THE LABORATORY STANDARD MAX ASTM D698 DENSITY, WHICHEVER IS GREATER.
4. MIN 3" DEEP LAYER OF SCARIFIED MATERIAL WHEN IN HARD MATERIAL. IN UNSUITABLE MATERIAL, OVER EXCAVATE AS DIRECTED BY ENGINEER (6" MIN) AND REPLACE WITH COMPACTED BACKFILL.
5. W = PIPE O.D. + 24" MIN
6. ALL SELECTED BACKFILL IS TO BE IN CONFORMANCE WITH STATE STANDARD SPECIFICATION.

3 TRENCH

NO SCALE



4 GUARD RAIL DETAILS

NO SCALE

FOR PERMIT

Attention: 0 1" — If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE — DANIEL J. BANNON No. 13033 — REGISTERED PROFESSIONAL ENGINEER — April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
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BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **SITE DETAILS**

SHEET NO.: **C-011**

MORICI, ANTHONY \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-DETAILS.dwg - 9/14/2023

EROSION AND SEDIMENTATION CONTROL NOTES:

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE MAINE EROSION & SEDIMENT CONTROL BMPS MANUAL, OCTOBER 2016, AND MAINE EROSION AND SEDIMENT CONTROL PRACTICE FIELD GUIDE FOR CONTRACTORS, REVISED 2014, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THESE PUBLICATIONS AND ADHERE TO THEM AND THE PRACTICES PRESENTED HEREIN REFERENCE IS MADE TO THE EROSION CONTROL PLANS AND DETAILS (C-005 AND C-013) WITHIN THE PLAN SET, SHOWING THE LOCATIONS AND TYPES OF PROPOSED MEASURES TO BE IMPLEMENTED.

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION AND SEDIMENTATION CONTROL MEASURES ARE PROPOSED TO CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE ADVERSE IMPACTS FROM RUNOFF AND EROSION AT THE WORK SITE.
2. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MAINE EROSION AND SEDIMENT CONTROL BMP'S PUBLISHED BY MAINE DEP AND AVAILABLE AT: HTTPS://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/
3. THE WORK SHALL BE PERFORMED BY A CONTRACTOR THAT IS CERTIFIED BY MAINE DEP IN EROSION AND SEDIMENT CONTROL MEASURES. A CERTIFIED INDIVIDUAL SHALL BE ONSITE DURING ALL CONSTRUCTION ACTIVITY.
4. EROSION AND SEDIMENTATION DUE TO RUNOFF, TIDAL EXPOSURE, AND WAVE ACTION SHALL BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY TO MINIMIZE AREA AND TIME OF DISTURBANCE, APPLICATION OF SILT FENCE, BOOMS, BARRIERS, AND OTHER EROSION CONTROL MEASURES, AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
5. THE CONTRACTOR'S SEQUENCE OF OPERATIONS AND SCHEDULE FOR WORK ACTIVITIES SHALL ACT TO MINIMIZE EXPOSURE TO EROSION.
6. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A SILTATION BOOM AROUND THE PERIMETER OF THE WORK AREA FOR THE NEW PIER FOR THE DURATION OF WORK.
7. THE CONTRACTOR SHALL TAKE CARE TO LIMIT THE AREA OF SOIL DISTURBANCE TO THE MINIMUM NECESSARY TO COMPLETE THE WORK.
8. EROSION CONTROL MEASURES, SEEDING, AND VEGETATION SHALL BE INSPECTED WEEKLY AND AFTER RAINSTORMS, RUNOFF EVENTS, AND STORM EVENTS UNTIL FINAL ACCEPTANCE. REPAIRS SHALL BE MADE WHEN NO LONGER SERVICEABLE DUE TO DAMAGE OR ACCUMULATION OF SEDIMENT.
9. AT THE COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:

LIMIT DISTURBANCE AND, HENCE, EROSION

1. CORRECT ANY EROSION PROBLEMS IMMEDIATELY.
2. REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL.
3. REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION.
4. CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE SITE'S MAINE DEP EROSION & SEDIMENT CONTROL BMP MANUAL.

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWN GRADIENT SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES WHERE SLOPES EXCEED 8% OR THERE IS FLOWING WATER BOTH SILT FENCE AND EROSION CONTROL MATTING BERMS SHALL BE USED.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADIENT CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES AND IN ALL ONSITE CATCH BASINS UNTIL SITE HAS BEEN COMPLETELY STABILIZED.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. EROSION AND SEDIMENTATION CONTROL BMPS SHALL BE INTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES.
2. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. AN AREA NO LARGER THAN WHAT CAN BE MULCHED IN ONE DAY MAY BE OPEN AT ONCE. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO "POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 15 DAYS OF COMPLETING CONSTRUCTION IN THE AREA. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.
3. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADIENT PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.
4. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 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. STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPILING COMMENCES.
5. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1000 SQUARE FEET FROM 4/16 TO 10/1, OR AT A RATE OF 150-200 LBS. PER 1000 SQUARE FEET FROM 10/1 TO 4/15.
   B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1000 SQ.FT.) AND MULCHED IMMEDIATELY. FROM 10/1 TO 4/15, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SUB-SECTION 4.D. OF THE "POST CONSTRUCTION REVEGETATION" SECTION.
   C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.
6. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION).
7. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
8. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEPT AND VACUUMED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.
9. ALL AREAS DRAINING TO A STORMWATER FILTER OR BMP SHALL BE STABILIZED PRIOR TO CONSTRUCTION OF FILTER MEDIA TO PREVENT SEDIMENT FROM CLOGGING MEDIA.

DEWATERING

1. ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 75' FROM STREAMS AND 25' FROM WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING AND SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL BMPS G-1, G-2, AND G-3.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.
2. LAWN AREAS: "PARK MIX" GRASS SEED BY ALLEN, STERLING & LOTHROP (FALMOUTH, MAINE), OR APPROVED EQUAL.
3. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COURSE MATERIALS.
   A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
   B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
   C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.
4. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 10/1 AND 4/15.
5. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
   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 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.
   F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, SHALL BE DOUBLE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.
6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE 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. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL, AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.
2. CONSTRUCTION ENTRANCE SHALL BE VISUALLY INSPECTED AND REPAIRED AS NEEDED. ANY AREAS SUBJECT TO RUTTING SHALL BE STABILIZED IMMEDIATELY. IF THE VOIDS OF THE CONSTRUCTION ENTRANCE BECOME FILLED WITH MUD, MORE CRUSHED STONE SHALL BE ADDED AS NEEDED. THE PUBLIC ROADWAY SHALL BE SWEPT AND VACUUMED SHOULD MUD BE DEPOSITED/TRACKED ONTO THEM.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD:

1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING AT TWICE THE RATE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.
   B. STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:IV) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   C. STABILIZE THE SLOPE WITH STONE RIPRAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL 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, 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
   B. STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR 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.
   C. STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 90% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE: SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.
2. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED ONCE THE COMPACTED ROADWAY BASE IN IN PLACE. STONE AND SEDIMENT FROM THE CONSTRUCTION ENTRANCE SHALL BE REDISTRIBUTED TO AN AREA UNDERGOING GRADING OR REMOVED AND RELOCATED OFFSITE.
3. MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE. CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS AND THE STANDARDS OF THE NATURAL RESOURCES PROTECTION ACT, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM ROM THE PROJECT.

MAINE CONSTRUCTION GENERAL PERMIT REQUIRED

SUBMISSION OF A MAINE CONSTRUCTION GENERAL PERMIT (MCGP) IS REQUIRED PRIOR TO COMMENCEMENT OF ANY EXCAVATION ACTIVITIES.

INSPECTION AND MAINTENANCE (APPENDIX B)

1. INSPECTION AND MAINTENANCE REQUIREMENTS: INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A SIGNIFICANT STORM EVENT (0.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD) AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS IN THE MCGP AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THE MCGP, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE STARTED BY THE END OF THE NEXT WORKIN DAY AND COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS AREA PERMANENTLY STABILIZED. DOCUMENTATION OF CORRECTION ACTIONS SHALL BE MAINTAINED WITH THE INSPECTION FORMS.
2. INSPECTION LOG (REPORT): A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE INSPECTION LOG THE CORRECT ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE PERMANENT STABILIZATION.

HOUSEKEEPING (APPENDIX C)

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING AN INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DEWATERING: EXCAVATION DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

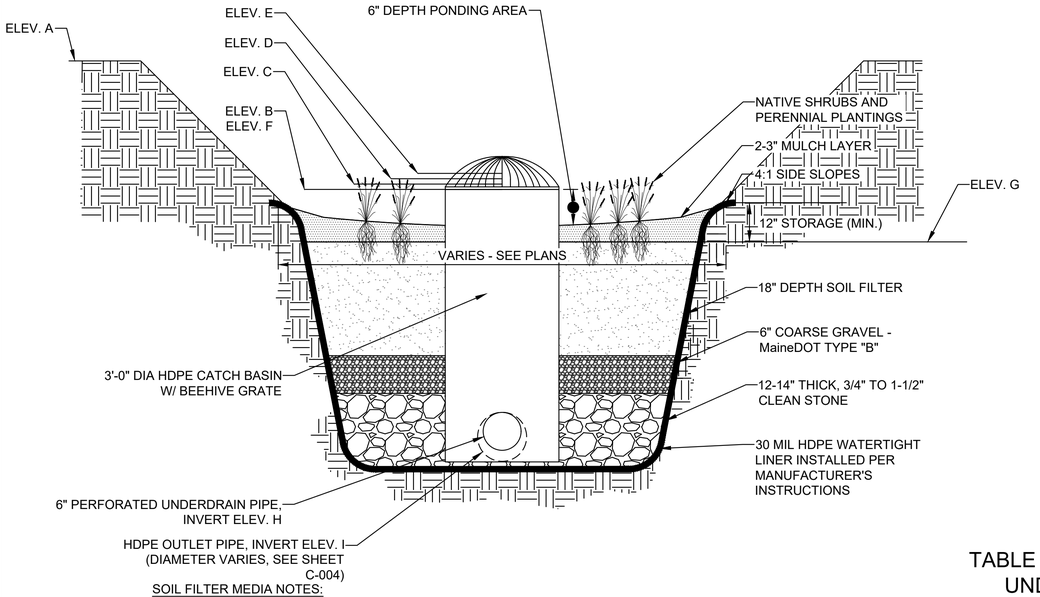
NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:.
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE, AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

CONSTRUCTION OVERSITE

THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION FOR ALL STORMWATER MANAGEMENT STRUCTURES. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ON



SOIL FILTER MEDIA NOTES:

SOIL FILTER MEDIA SHALL CONFORM TO MAINE DEP SOIL FILTER MEDIA OPTION 1, PER MAINE DEP STORMWATER BMP MANUAL CHAPTER 7.1. AS FOLLOWS:

1.1. SOIL FILTER MEDIA SHALL CONSIST OF A SILTY SAND SOIL OR SOIL MIXTURE COMBINED WITH A MATURE, MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH.
1.2. THE RESULTING MIX SHALL CONTAIN NO LESS THAN 10% BY DRY WEIGHT ORGANIC MATERIAL.
1.3. THE RESULTING MIX SHALL CONTAIN 8% TO 12% PASSING THE NO. 200 SIEVE.
1.4. THE RESULTING MIX SHALL CONTAIN A MAXIMUM CLAY CONTENT OF 2%.

UNDERDRAIN OUTLET VALVE CALIBRATION NOTES:

AFTER THE COMPLETION OF INSTALLATION OF THE SOIL FILTER MEDIA, THE CONTRACTOR SHALL PERFORM THE FOLLOWING PROCEDURE TO CALIBRATE THE UNDERDRAIN OUTLET VALVE TO ACHIEVE THE 0.75"/HOUR DESIGN FLOW RATE.

1. BEGIN WITH VALVE HALF-OPEN.
2. CAREFULLY FLOOD THE BASIN UNTIL THERE IS 18" OF WATER STORED ABOVE THE SOIL FILTER MEDIA (UP TO THE HEIGHT OF OUTLET STRUCTURE RIM) WITHOUT CAUSING EROSION OF THE SOIL FILTER MEDIA.
3. RECORD THE TIME IT TAKES FOR THE 18" OF WATER TO DRAIN TO THE TOP OF THE SOIL FILTER MEDIA. THE TARGET DRAINDOWN TIME IS 24 HOURS.
4. IF THE 18" OF WATER DRAINS IN LESS THAN 24 HOURS, CLOSE THE VALVE SLIGHTLY AND REPEAT STEPS 2 & 3 ABOVE.
5. IF THE 18" OF WATER DRAINS IN MORE THAN 24 HOURS, OPEN THE VALVE SLIGHTLY AND REPEAT STEPS 2 & 3 ABOVE.
6. REPEAT THIS PROCESS UNTIL THE 18" OF WATER DRAINS IN 24 HOURS.

TABLE 1: MDOT SPECIFICATIONS FOR UNDERDRAINS (MDOT #703.22)

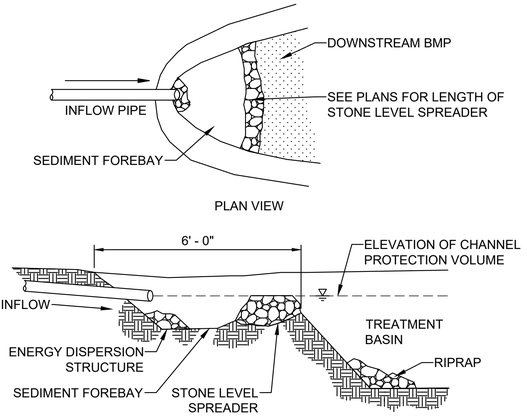
SIEVE SIZE	% BY WEIGHT
UNDERDRAIN TYPE B	
0'-1"	90-100
0'-0 1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

GRASSED UNDERDRAINED SOIL FILTER SCHEDULE

GRASSED UNDERDRAINED SOIL FILTER ID	EMBKMT. ELEV. [A]	WATER QUALITY STORM ELEV. [B]	2-YR STORM ELEV. [C]	10-YR STORM ELEV. [D]	25-YR STORM ELEV. [E]	TOP OF OUTLET STRUCT ELEV. [F]	BOTTOM OF STORAGE ELEV. [G]	INTERIOR UNDERDRAIN INVERT (START) [H]	UNDERDRAIN OUTLET INVERT [I]	FILTER AREA (SQ. FT.)
SF-A	24.50	23.50	23.62	23.67	23.71	23.50	23.00	19.25	18.75	580
SF-B	18.50	18.00	18.11	18.16	18.19	18.00	17.50	14.25	13.75	890

2 BIORETENTION FILTER CELL

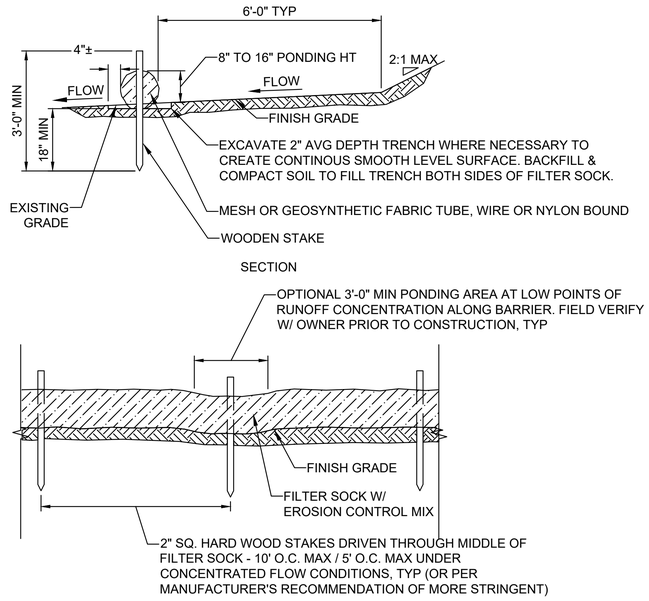
NO SCALE



NOTES:
1. STONE SHALL BE AASHTO #3 STONE, UNIFORMLY GRADED, CLEAN.

3 LEVEL SPREADER DESIGN

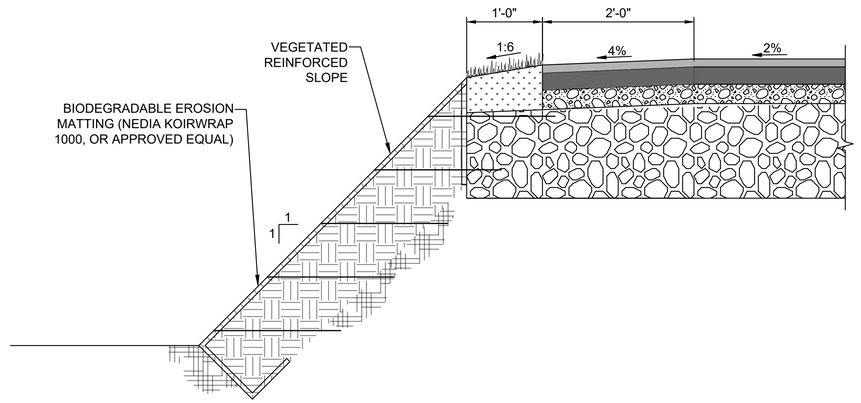
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NOTES:
1. FILTER SOCKS SHALL BE INSTALLED IN CONTINUOUS SEGMENT AND IN FULL CONTACT WITH THE GROUND ON A SMOOTH LEVEL SURFACE.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR INSTALLATION, MAINTENANCE AND REMOVAL OF FILTER SOCK MATERIALS.
3. AREAS DISTURBED BY EROSION BARRIERS SHALL BE STABILIZED AFTER REMOVAL.

1 SEDIMENT BARRIER - FILTER SOCK

NO SCALE



4 1:1 VEGETATED REINFORCED SLOPE

NO SCALE

FOR PERMIT

Attention: 0 1" — If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE — DANIEL J. BANNON No. 13033 — LICENSED PROFESSIONAL ENGINEER — APRIL 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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BIDDEFORD, MAINE

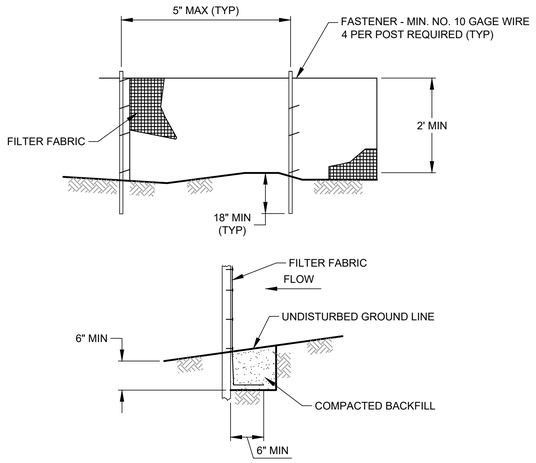
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11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **EROSION CONTROL DETAILS I**

SHEET NO.: **C-013**

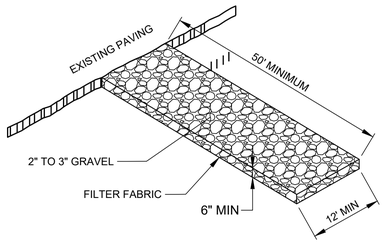
MORICI, ANTHONY \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-DETAILS.dwg - 9/15/2023



NOTES:
1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS L WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3 SQ. IN. OR A STANDARD STEEL POST.

5 SILT FENCE

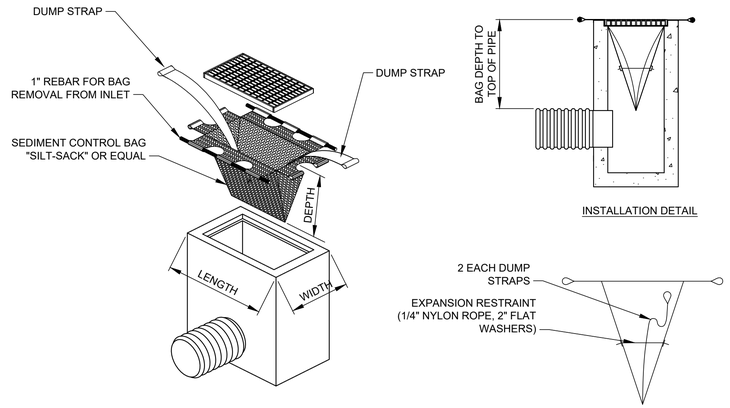
NO SCALE



8 STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

NOTES:
1. THE ENTRANCE/EXIT PAD SHOULD HAVE A LENGTH OF 50 FEET OR MORE AND A 12-FOOT MINIMUM WIDTH (OR AS APPROPRIATE TO CONTAIN THE WHEEL BASE OF CONSTRUCTION VEHICLES PLUS 3 FEET ON EITHER SIDE).
2. THE PAD SHOULD BE 6 INCHES OR MORE THICK WITH ANGULAR AGGREGATE (2-3 INCH DIAMETER). APPROPRIATE RECLAIMED CONCRETE MATERIAL MAY BE USED.
3. THE AGGREGATE SHOULD BE PLACED OVER A GEOTEXTILE FILTER TO PREVENT THE STONES FROM PUSHING INTO THE NATIVE SOIL.
4. AT THE BOTTOM OF SLOPES, A DIVERSION RIDGE SHOULD BE PROVIDED TO INTERCEPT RUNOFF.
5. BERMS MAY BE NECESSARY TO DIVERT WATER AROUND ANY EXPOSED SOIL, AND RUNOFF SHOULD BE DIRECTED TO A SEDIMENT TRAP.
6. THE WHEELS OF CONSTRUCTION EQUIPMENT MAY BE WASHED PRIOR TO EXITING THE SITE. WASHING SHOULD BE PERFORMED IN AN AREA THAT DRAINS TO A SEDIMENT TRAP OR BASIN.
7. THE PAD SHOULD BE INSPECTED WEEKLY, AND BEFORE AND AFTER EACH STORM. THE PAD MAY HAVE TO BE REPLACED IF THE VOIDS BECOME FILLED WITH SEDIMENT. STREET SWEEPING MAY BE NECESSARY

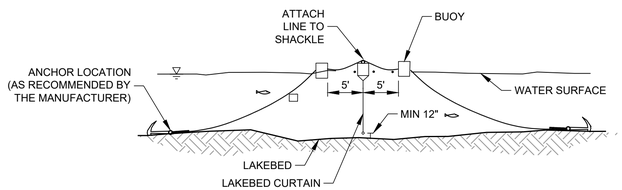


CB STYLE	LENGTH	WIDTH	DEPTH
TYPE 1 CB	2'-0"	1'-8"	VARIES
TYPCE 1 CCI	2'-5 1/2"	2'-0"	VARIES
USA G2	2'-8 1/2"	2'-3 1/2"	VARIES

NOTES:
1. THE DIMENSION CHART ABOVE IS FOR STANDARD CATCH BASINS AND INLETS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CORRECT SIZE DEVICE FOR EACH INLET.
2. FOR NON-STANDARD CATCH BASINS AND INLETS, THE CONTRACTOR SHALL MEASURE DIMENSIONS IN THE FIELD AND ORDER THE APPROPRIATE SIZE(S).
3. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL/MIN/FT), AS PER THE MANUFACTURER'S SPECS.
4. THE SEDIMENT CONTROL DEVICE SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED A MINIMUM ONCE PER MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT. FILTER SHALL BE CLEANED IN A MANNER WHICH ENSURES THAT ALL SEDIMENT REMAINS ON SITE.
5. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED.
6. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS, SIZE OF FILTER INLET SACK TO BE DETERMINED BY MANUFACTURER.
7. THE FILTER SHALL BE REPLACED OR CLEANED WHEN THE BAG BECOMES HALF FULL.
8. SEE INLET PROTECTION NOTES STD. DETAIL E3.

6 SILT SACK INLET PROTECTION

SCALE: N.T.S.

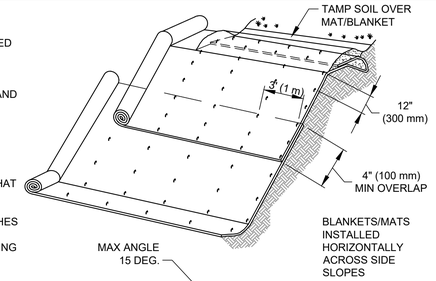


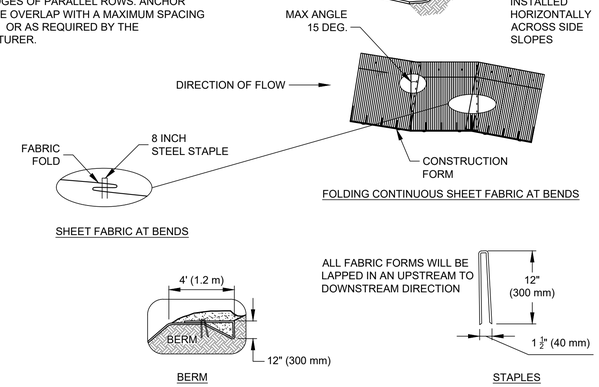
NOTES:
1. FLOATING TURBIDITY BARRIER CONSTRUCTION SHALL CONFORM WITH RELEVANT LOCAL AND STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
2. FLOATING TURBIDITY BARRIER WILL BE INSPECTED AND MAINTAINED DAILY.

9 FLOATING TURBIDITY BARRIER

SCALE: N.T.S.

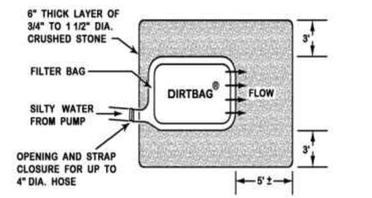
NOTES:
1. THE SOIL SURFACE SHOULD BE FINELY GRADED AND SMOOTH FOR THE BLANKET TO HAVE DIRECT CONTACT WITH THE SOIL AND TO PREVENT UNDERMINING. EROSION CONTROL BLANKETS PERFORM BEST ON LOAMY SOILS AND SHOULD NOT BE USED ON ROCKY SITES OR SHALLOW SOILS.
2. SEED SHOULD BE SOWN BEFORE INSTALLING THE EROSION CONTROL BLANKET.
3. ALWAYS UNROLL THE BLANKET DOWNHILL WITHOUT STRETCHING AND ANCHOR THE UPSLOPE EDGE IN A 12 INCH DEEP TRENCH THAT IS BACKFILLED AND TAMPED.
4. OVERLAP SHINGLE STYLE A MINIMUM OF 12 INCHES AT THE TOP OF EACH ROW AND 4 INCHES AT THE EDGES OF PARALLEL ROWS. ANCHOR ALONG THE OVERLAP WITH A MAXIMUM SPACING OF 3 FEET OR AS REQUIRED BY THE MANUFACTURER.

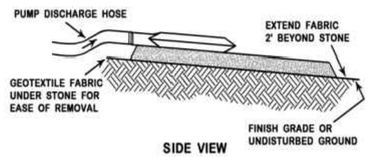




7 BIODEGRADABLE STABILIZATION MATTING

NO SCALE





NOTES:
1. INSTALL THE FILTER BAG PRIOR TO INITIATING ANY ACTIVITIES WHICH WILL REQUIRE DEWATERING.
2. THE TYPE OF FABRIC SHOULD BE BASED ON THE SIZE OF SOIL PARTICLES TO BE TRAPPED (I.E. A WOVEN MATERIAL FOR COARSE PARTICLES AND A NONWOVEN MATERIAL FOR FINER PARTICLES).
3. A FILTER BAG SHOULD BE LOCATED IN AN AREA MOSTLY LEVEL (WITH LESS THAN 5% SLOPE). A PAD OF CRUSHED GRAVEL MAY BE PROVIDED.
4. AVOID DISCHARGING TO AN AREA THAT IS BARE OF VEGETATION OR NEWLY VEGETATED. ANY SIGN OF EROSION OR CHANNELIZATION FROM THE DISCHARGED WATER REQUIRES IMMEDIATELY CORRECTION.
5. FILTER BAGS HAVE A FINITE CAPACITY FOR SEDIMENT COLLECTION AND MAY BE PRONE TO PLUGGING. AVOID OVER-PRESSURIZING THE BAG OR IT MAY BURST.

10 GEOTEXTILE FILTER BAG

NO SCALE

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED
PROFESSIONAL ENGINEER
April 22, 2024

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Approved:	BMM
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GEI Project	2203703

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BIDDEFORD, MAINE

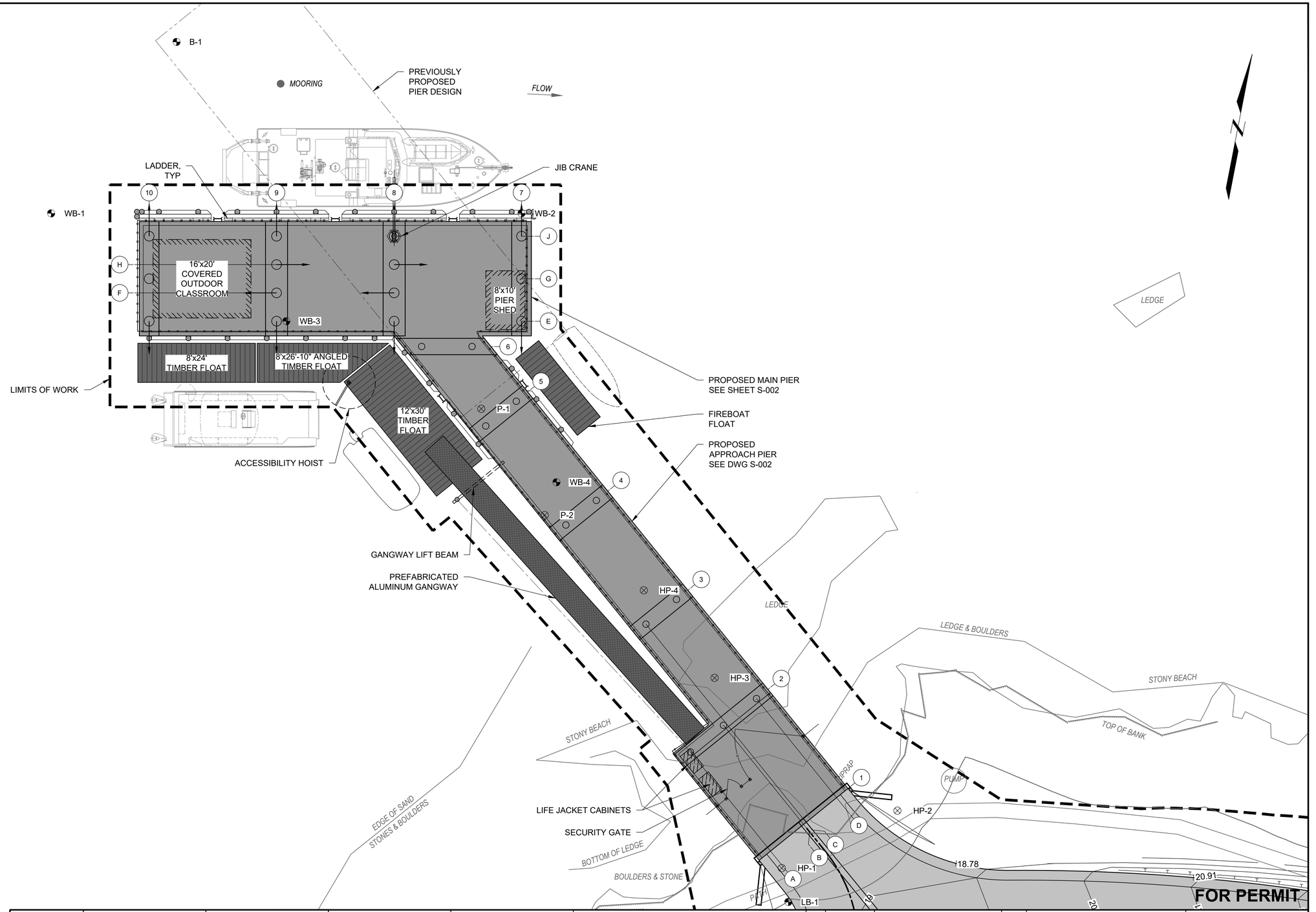
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
EROSION CONTROL DETAILS II

SHEET NO.
C-014

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ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

0 10 20
SCALE, FEET

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
REGISTERED PROFESSIONAL ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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BIDDEFORD, MAINE

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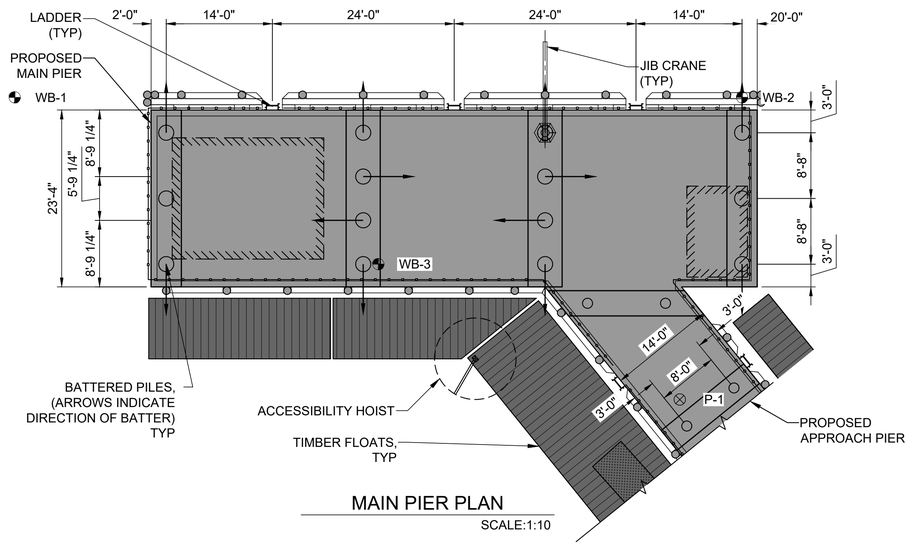
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SHEET NAME
PIER LAYOUT PLAN

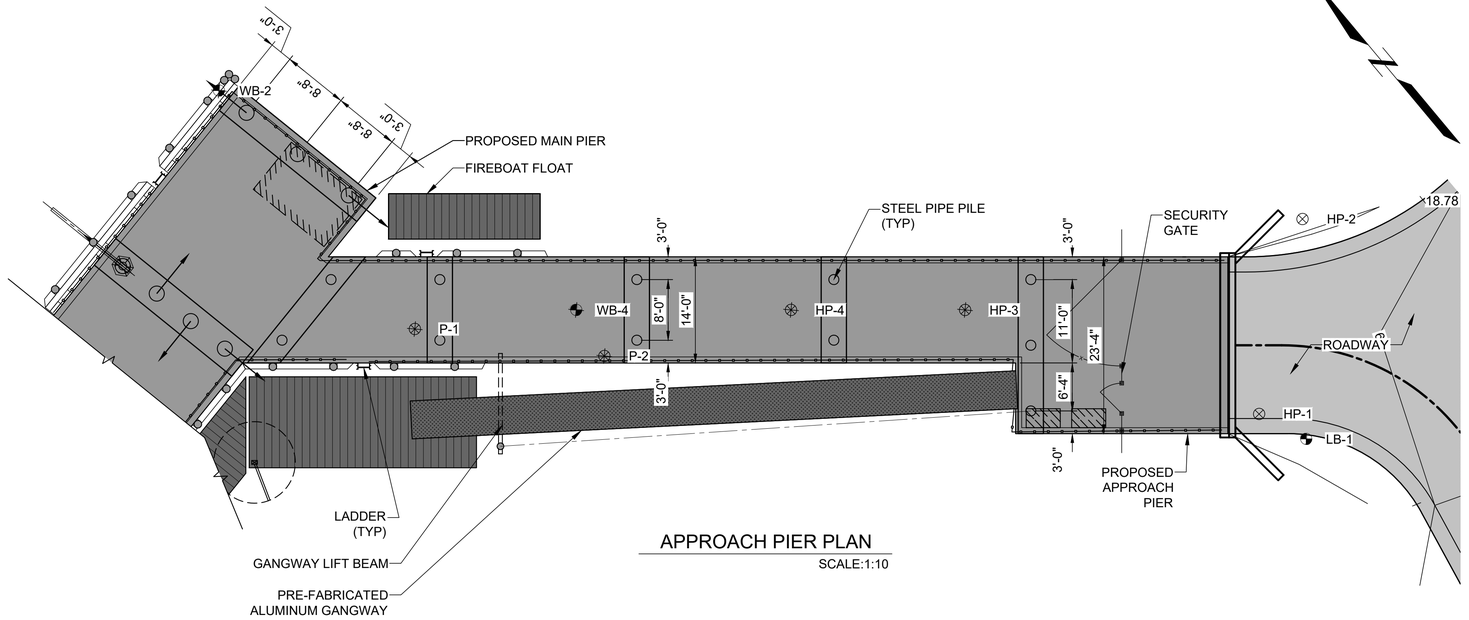
SHEET NO.
S-001

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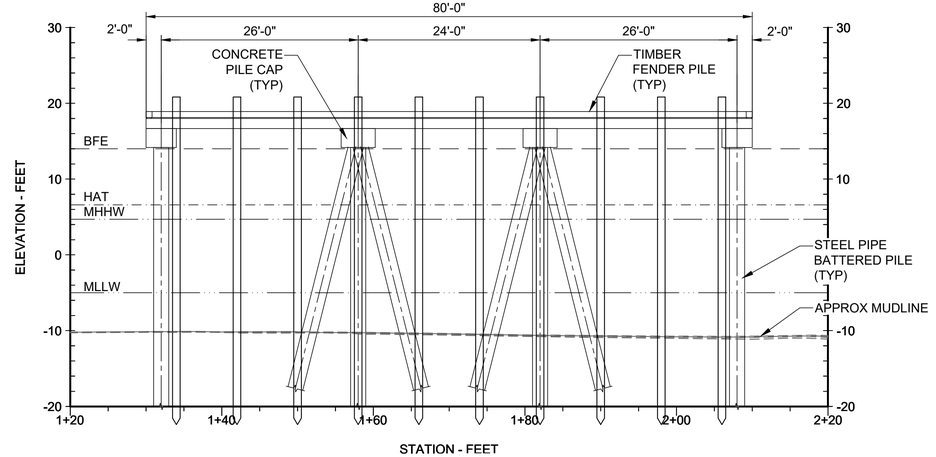
MAIN PIER PLAN

SCALE:1:10



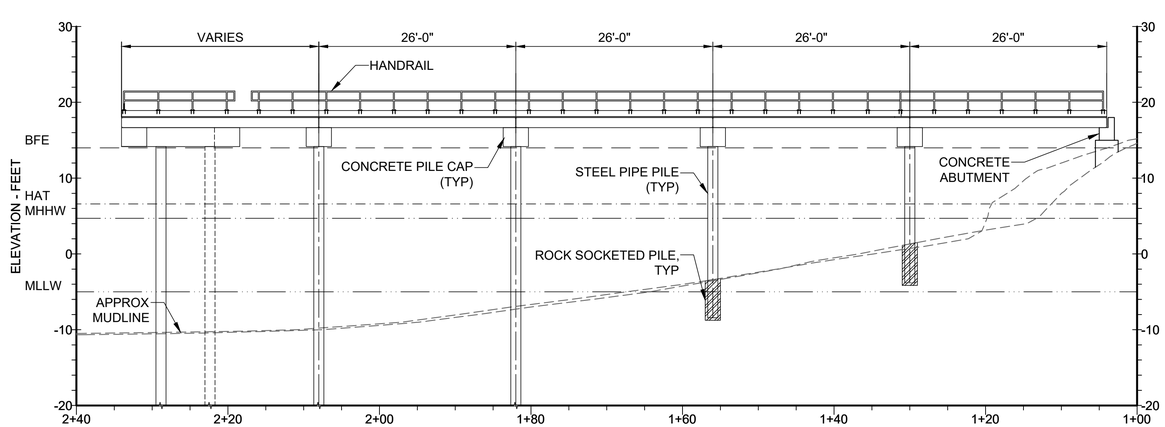
APPROACH PIER PLAN

SCALE:1:10



MAIN PIER ELEVATION

SCALE:1:10



APPROACH PIER ELEVATION

SCALE:1:10

0 10 20

SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE · DANIEL J. BANNON No. 13033 · REGISTERED PROFESSIONAL ENGINEER

April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND

11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
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3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

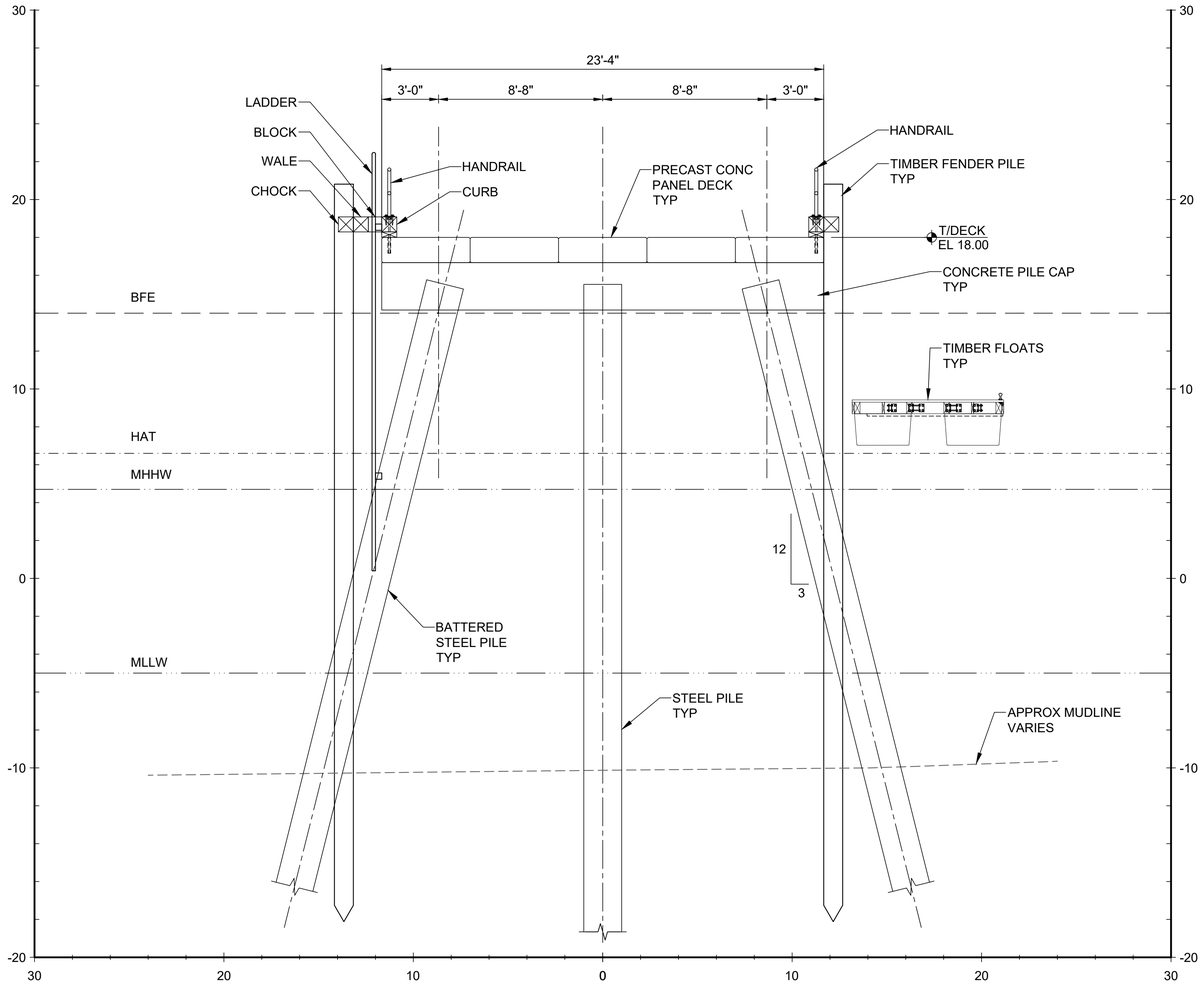
SHEET NAME

PIER PLANS AND ELEVATIONS

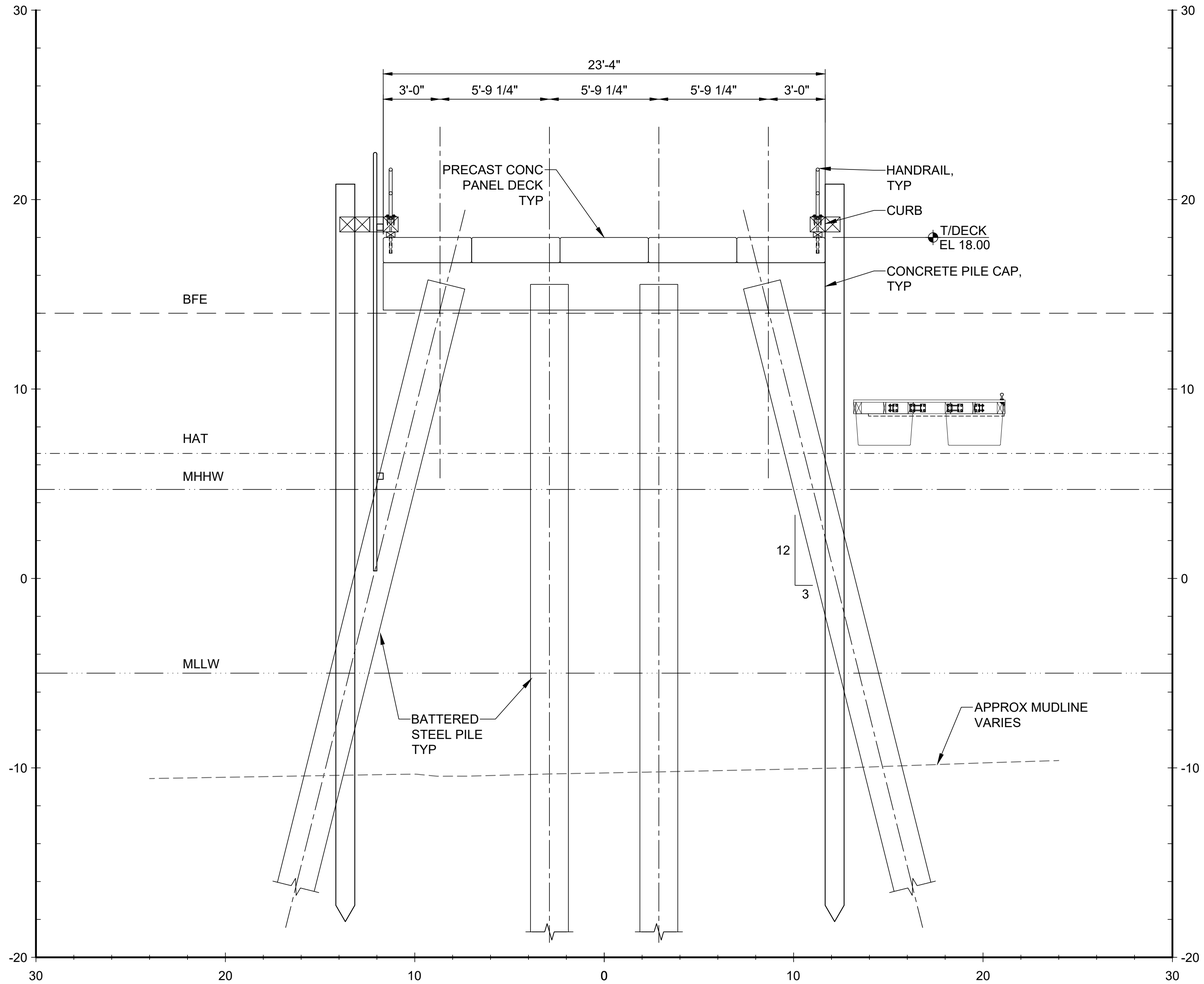
SHEET NO.

S-002

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SECTION
MAIN PIER AT BENT 10 SCALE: 1"=4'



SECTION
MAIN PIER AT BENT 9 SCALE: 1"=4'

0 2 4 8
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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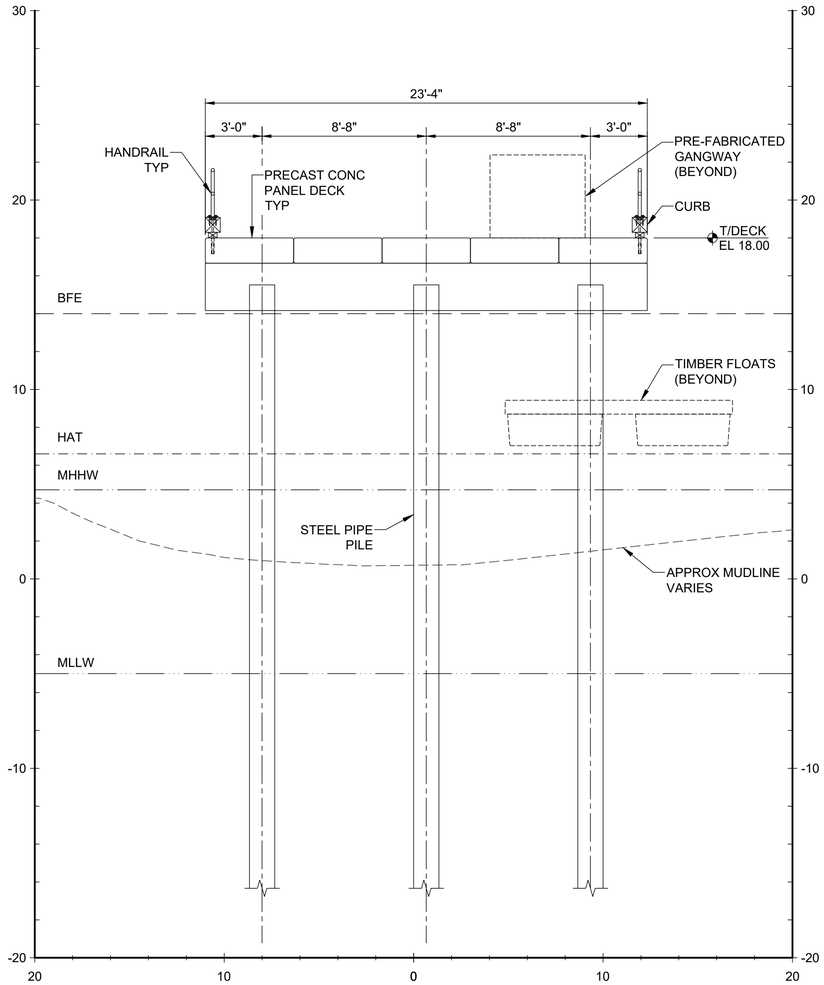
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BIDDEFORD, YORK COUNTY, MAINE

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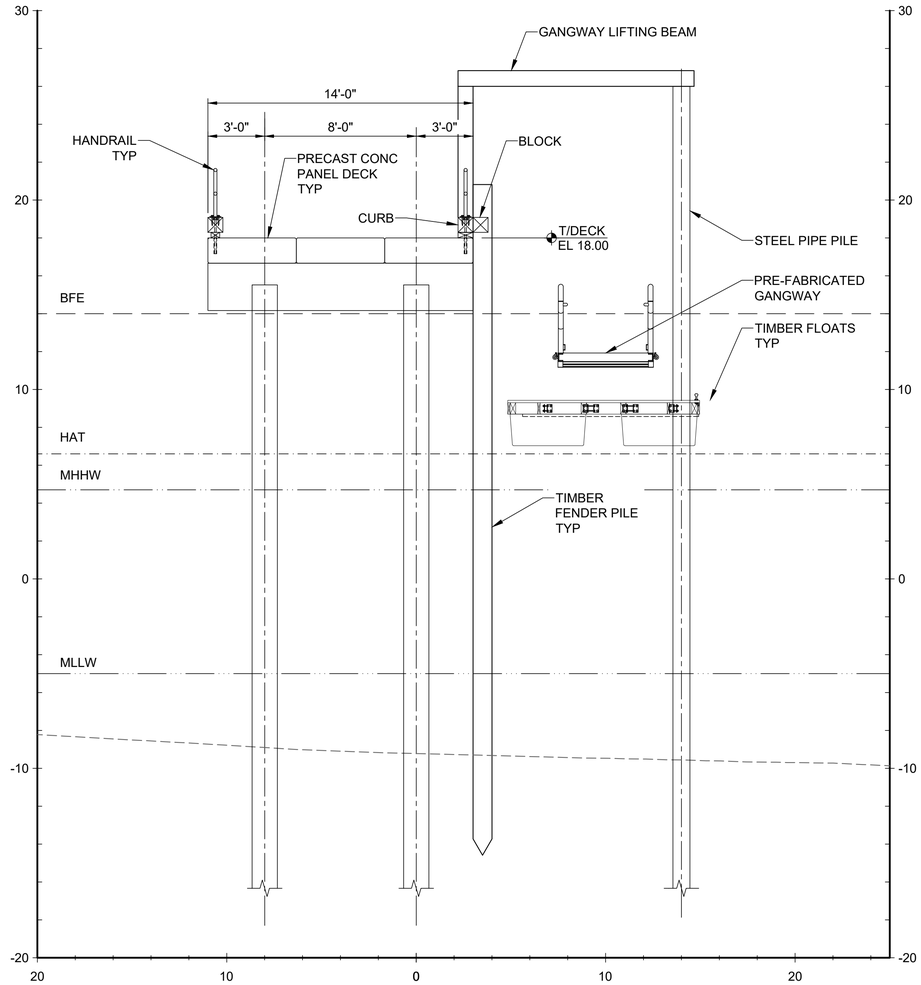
SHEET NAME
TYPICAL PIER SECTIONS (1 OF 2)

SHEET NO.
S-003

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SECTION
28' WIDE APPROACH PIER AT BENT 2 SCALE: 1"=4'



SECTION
14' WIDE APPROACH PIER AT GANGWAY HOIST SCALE: 1"=4'

0 2 4 8
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

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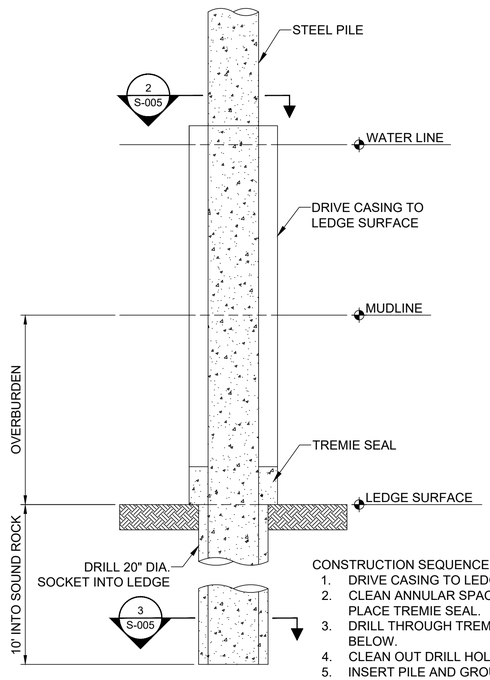
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
TYPICAL PIER SECTIONS (2 OF 2)

SHEET NO.
S-004

FOR PERMIT

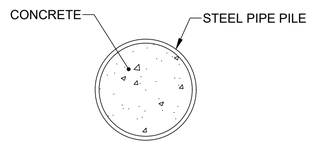
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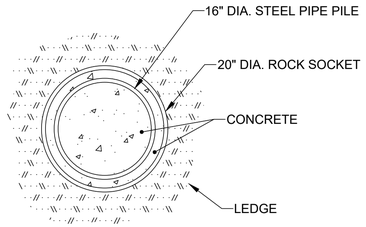
CONSTRUCTION SEQUENCE

1. DRIVE CASING TO LEDGE SURFACE.
2. CLEAN ANNULAR SPACE TO LEDGE SURFACE, PLACE TREMIE SEAL.
3. DRILL THROUGH TREMIE INTO SOUND ROCK BELOW.
4. CLEAN OUT DRILL HOLE.
5. INSERT PILE AND GROUT TO SURFACE.
6. REMOVE CASING.
7. FILL STEEL PIPE PILE TO TOP WITH CONCRETE.

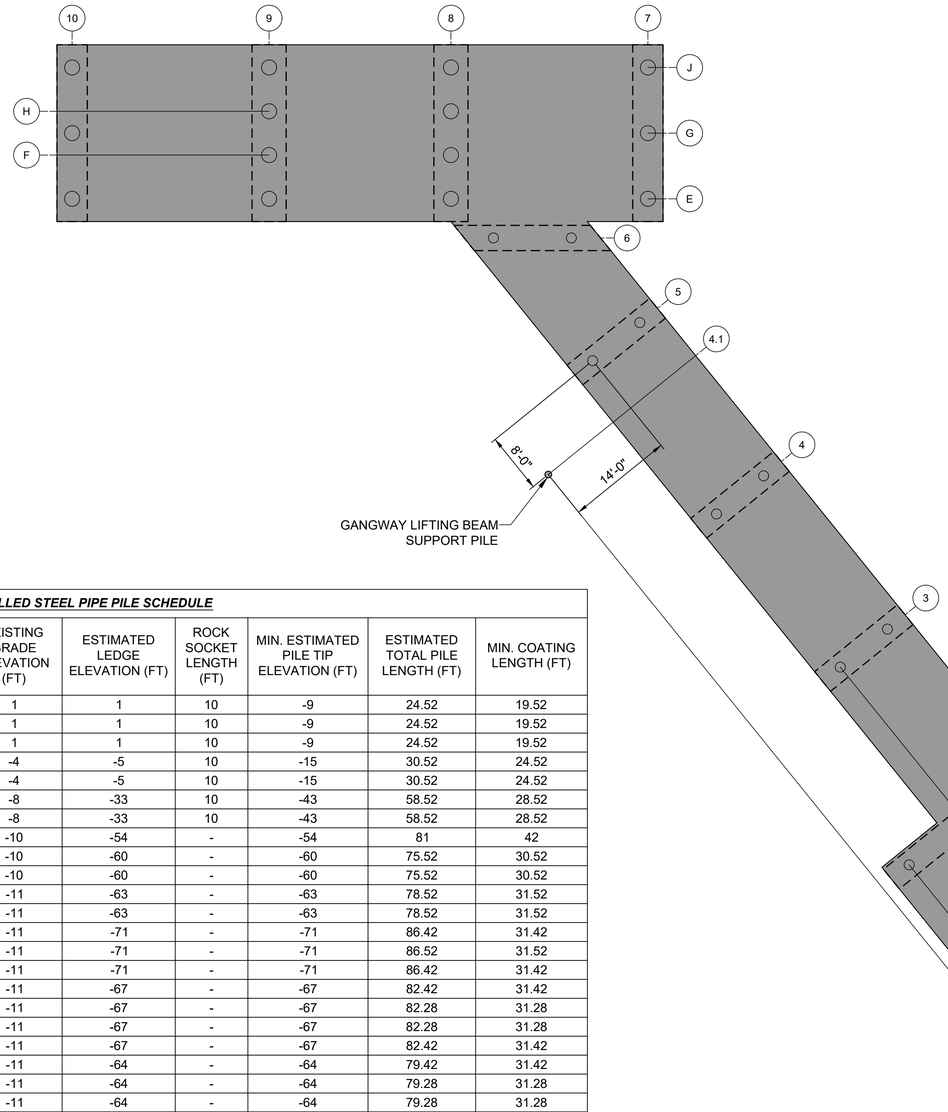
1 DETAIL
PILE SOCKET SCALE: 1" = 2'



2 SECTION
CONCRETE FILLED STEEL PIPE PILE SCALE: 1" = 1'



3 SECTION
ROCK SOCKET SCALE: 1" = 1'



DETAIL
MAIN PIER SCALE: 1" = 10"

CONCRETE FILLED STEEL PIPE PILE SCHEDULE

PILE DESIGNATION	PILE SIZE (INCHES)	BATTER	CUTOFF ELEVATION (FT)	EXISTING GRADE ELEVATION (FT)	ESTIMATED LEDGE ELEVATION (FT)	ROCK SOCKET LENGTH (FT)	MIN. ESTIMATED PILE TIP ELEVATION (FT)	ESTIMATED TOTAL PILE LENGTH (FT)	MIN. COATING LENGTH (FT)
2A	16x5/8	VERTICAL	15.52	1	1	10	-9	24.52	19.52
2B	16x5/8	VERTICAL	15.52	1	1	10	-9	24.52	19.52
2D	16x5/8	VERTICAL	15.52	1	1	10	-9	24.52	19.52
3C	16x5/8	VERTICAL	15.52	-4	-5	10	-15	30.52	24.52
3D	16x5/8	VERTICAL	15.52	-4	-5	10	-15	30.52	24.52
4C	16x5/8	VERTICAL	15.52	-8	-33	10	-43	58.52	28.52
4D	16x5/8	VERTICAL	15.52	-8	-33	10	-43	58.52	28.52
4.1-A.1	10.75x5/8	VERTICAL	27	-10	-54	-	-54	81	42
5C	16x5/8	VERTICAL	15.52	-10	-60	-	-60	75.52	30.52
5D	16x5/8	VERTICAL	15.52	-10	-60	-	-60	75.52	30.52
6C	16x5/8	VERTICAL	15.52	-11	-63	-	-63	78.52	31.52
6D	16x5/8	VERTICAL	15.52	-11	-63	-	-63	78.52	31.52
7E	24x5/8	3:12	15.42	-11	-71	-	-71	86.42	31.42
7G	24x5/8	VERTICAL	15.52	-11	-71	-	-71	86.52	31.52
7J	24x5/8	3:12	15.42	-11	-71	-	-71	86.42	31.42
8E	24x5/8	3:12	15.42	-11	-67	-	-67	82.42	31.42
8F	24x5/8	3:12	15.28	-11	-67	-	-67	82.28	31.28
8H	24x5/8	3:12	15.28	-11	-67	-	-67	82.28	31.28
8J	24x5/8	3:12	15.42	-11	-67	-	-67	82.42	31.42
9E	24x5/8	3:12	15.42	-11	-64	-	-64	79.42	31.42
9F	24x5/8	3:12	15.28	-11	-64	-	-64	79.28	31.28
9H	24x5/8	3:12	15.28	-11	-64	-	-64	79.28	31.28
9J	24x5/8	3:12	15.42	-11	-64	-	-64	79.42	31.42
10E	24x5/8	3:12	15.42	-11	-66	-	-66	81.42	31.42
10G	24x5/8	VERTICAL	15.52	-11	-66	-	-66	81.52	31.52
10J	24x5/8	3:12	15.42	-11	-66	-	-66	81.42	31.42
							TOTAL	1821.5	

SCHEDULE NOTES

1. ALL ELEVATIONS REFERENCED IN TABLE ARE IN NAVD88 DATUM.

0 10 20
SCALE, FEET

0 1 2 4
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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LICENSED PROFESSIONAL ENGINEER
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BIDDEFORD, YORK COUNTY, MAINE

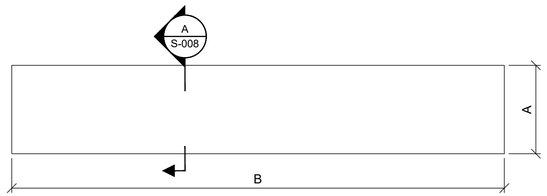
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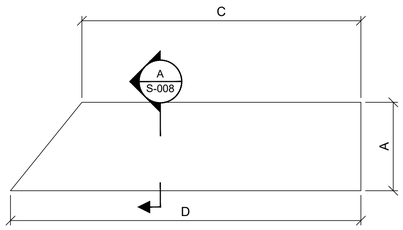
SHEET NAME
PILE PLAN

SHEET NO.
S-005

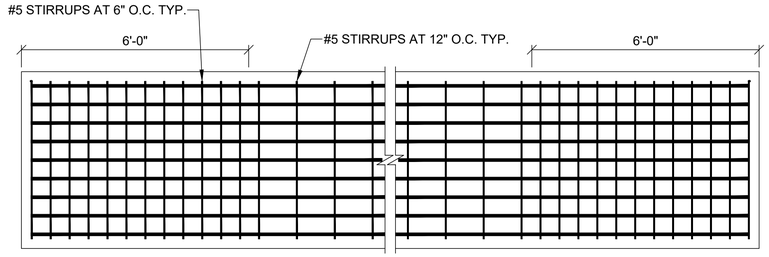
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PRECAST DECK PANEL SCHEDULE					
PANEL ID	A	B	C	D	QTY.
A	4'-8"	25'-2"	-	-	5
B	4'-8"	24'-3"	-	-	9
C	4'-8"	-	13'-3"	17'-0"	1
D	4'-8"	-	17'-0"	20'-9 1/2"	1
E	4'-8"	-	20'-9 1/2"	24'-7"	1
F	4'-8"	26'-0"	-	-	10
G	4'-8"	22'-0"	-	-	5

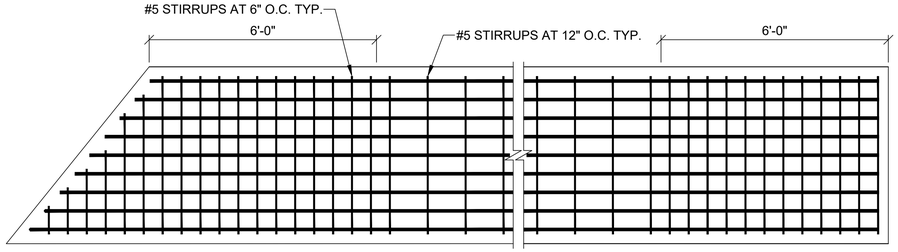




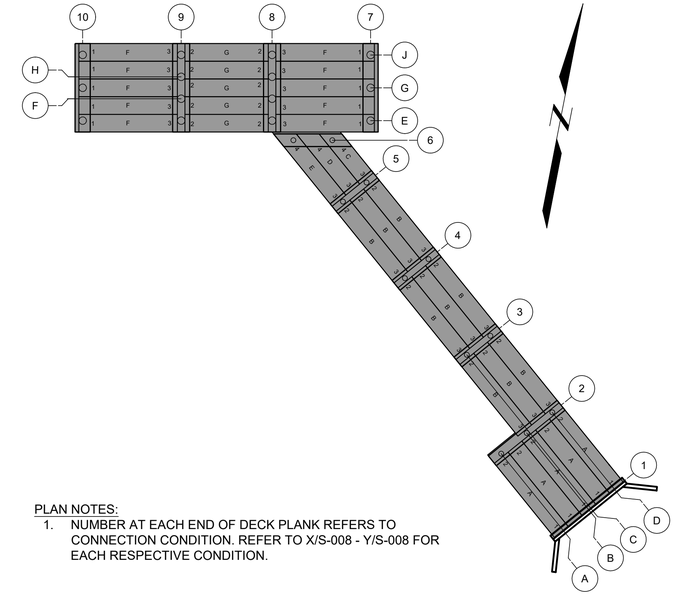
1 DETAIL-PLAN
PRECAST DECK PANEL SCALE: 1"=4'



3 DETAIL-PLAN PLANKS A, B, F, & G
PRECAST DECK PANEL
STIRRUP SPACING SCALE: 1"=2'

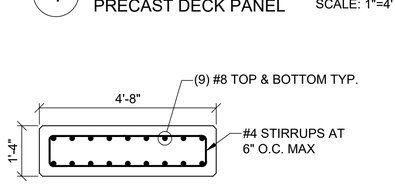


4 DETAIL-PLAN PLANKS C, D, & E
PRECAST DECK PANEL
STIRRUP SPACING SCALE: 1"=2'

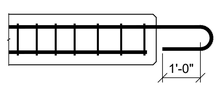


PLAN NOTES:
1. NUMBER AT EACH END OF DECK PLANK REFERS TO CONNECTION CONDITION. REFER TO X/S-008 - Y/S-008 FOR EACH RESPECTIVE CONDITION.

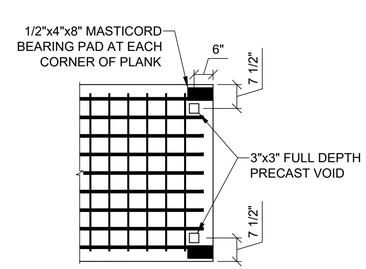
9 DETAIL
PIER DECK PANELS N.T.S.



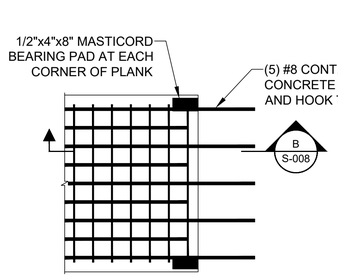
A SECTION
PRECAST DECK PANEL SCALE: 1"=2'



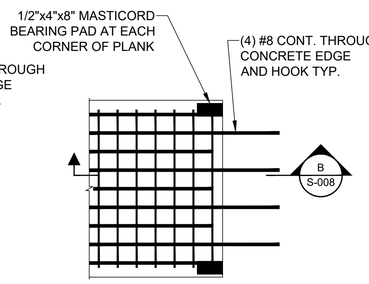
B SECTION
PRECAST DECK PANEL
CONNECTION END 2 & 3 SCALE: 1"=2'



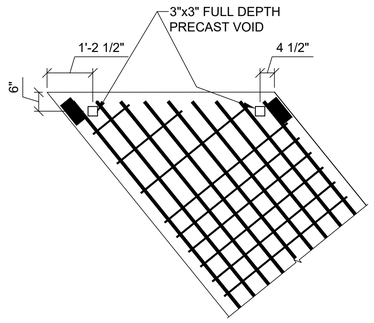
5 DETAIL - PLAN
DECK PANEL
CONNECTION 1 SCALE: 1"=2'



6 DETAIL - PLAN
DECK PANEL
CONNECTION 2 SCALE: 1"=2'



7 DETAIL - PLAN
DECK PANEL
CONNECTION 3 SCALE: 1"=2'



8 DETAIL - PLAN
DECK PANEL
CONNECTION 1 SCALE: 1"=2'

0 10 20
SCALE, FEET

0 1 2 4
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
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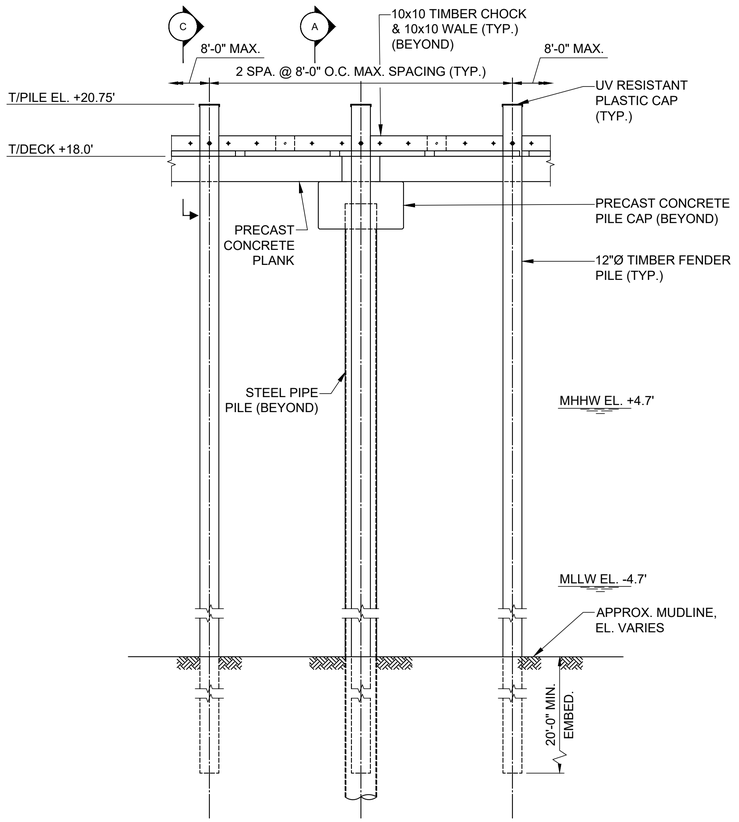
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SHEET NAME
PRECAST DECK PANEL PLAN

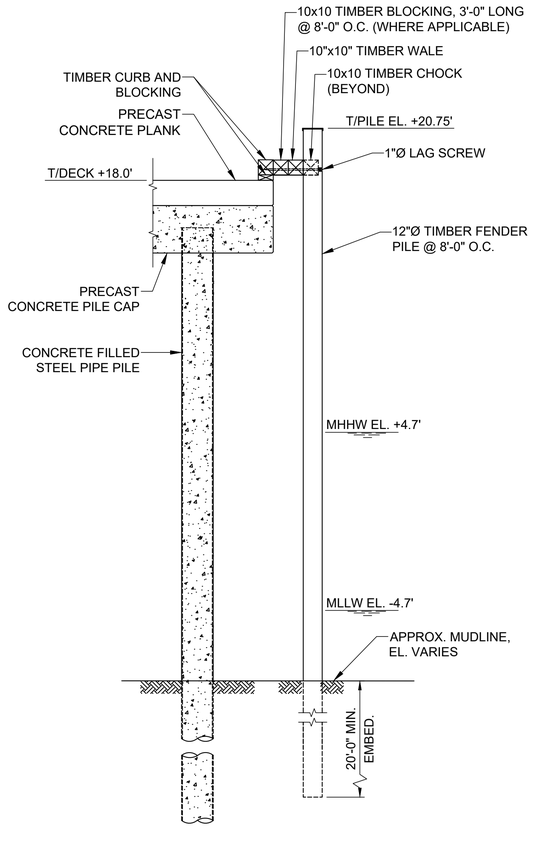
SHEET NO.
S-008

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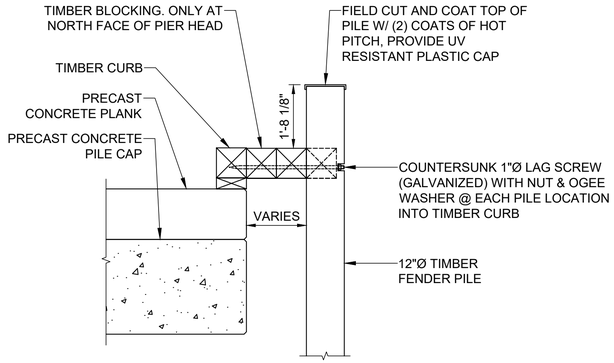
TIMBER FENDER DETAIL

SCALE: 1/4" = 1'-0"



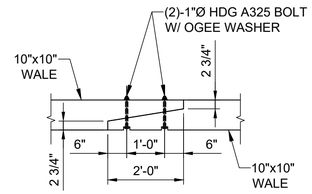
A TIMBER FENDER SECTION

SCALE: 1/4" = 1'-0"



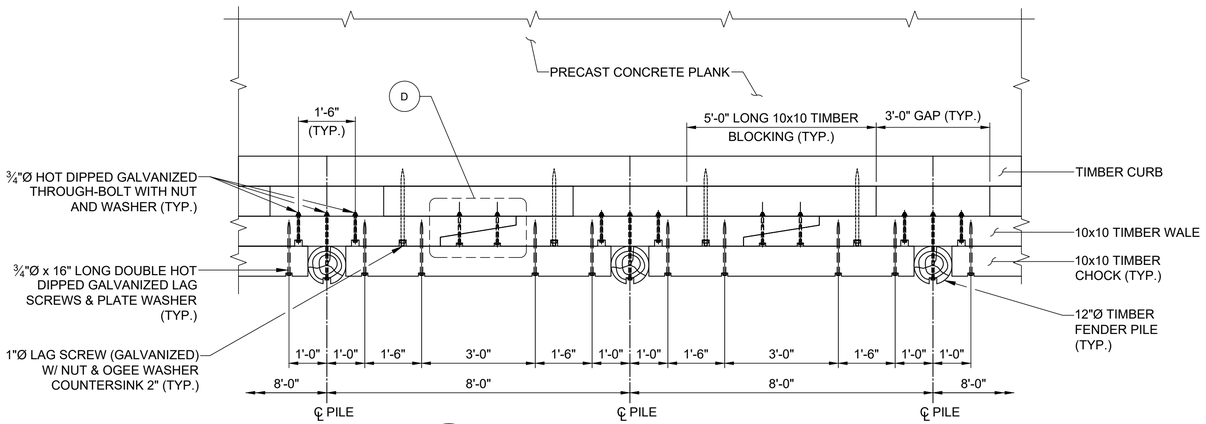
C FENDER PILE CONNECTION

SCALE: 1/2" = 1'-0"



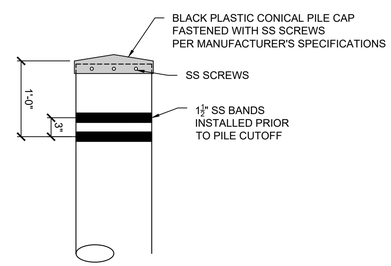
D WALE SPLICE DETAIL

SCALE: 1/2" = 1'-0"



B TIMBER FENDER PARTIAL PLAN

SCALE: 1/2" = 1'-0"



E PILE BANDING DETAIL

SCALE: 1" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:

0 1"

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STATE OF MAINE — DANIEL J. BANNON No. 13033 — LICENSED PROFESSIONAL ENGINEER

April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants

GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND

11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

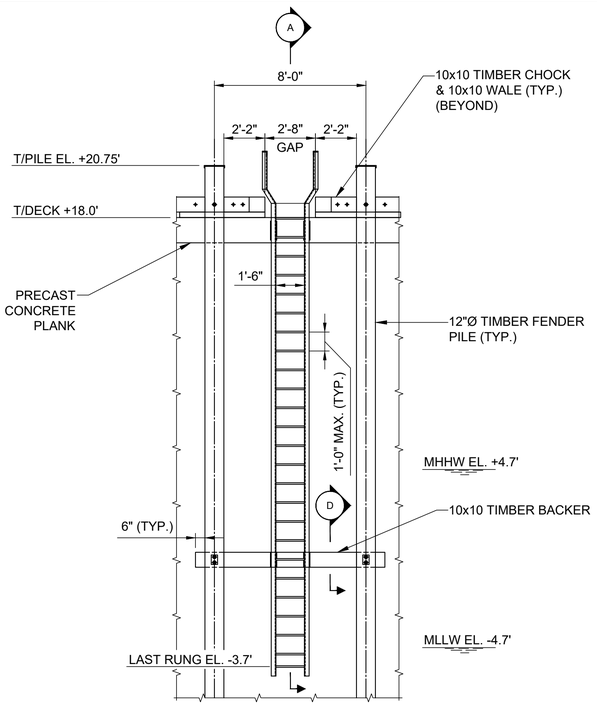
SHEET NAME

MISCELLANEOUS DETAILS (1 OF 5)

SHEET NO.

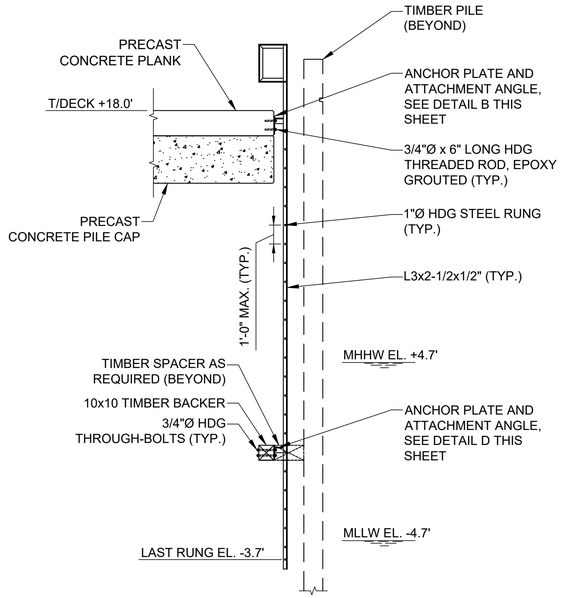
S-009

MORICI, ANTHONY \\ost1-fs02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-009.dwg - 9/14/2023



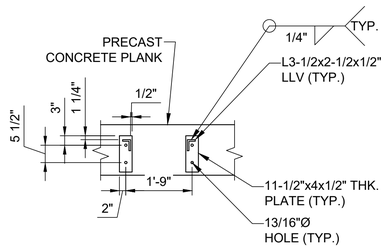
LADDER DETAIL

SCALE: 1/4" = 1'-0"



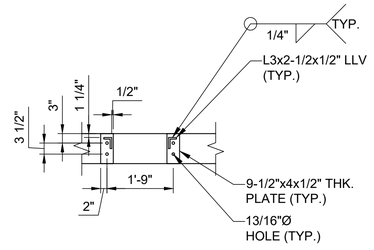
A LADDER SECTION

SCALE: 1/4" = 1'-0"



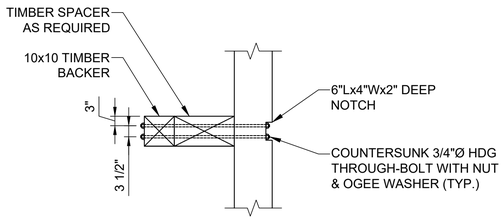
B LADDER CONNECTION (TOP)

SCALE: 1/2" = 1'-0"



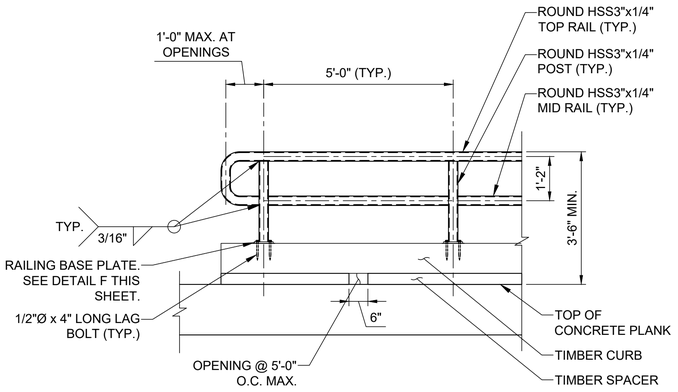
C LADDER CONNECTION (BOTTOM)

SCALE: 1/2" = 1'-0"



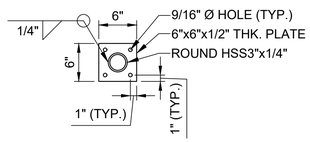
D TIMBER BACKER CONNECTION

SCALE: 1/2" = 1'-0"



E RAILING SECTION

SCALE: 1/2" = 1'-0"



F RAILING BASEPLATE DETAIL

SCALE: 1" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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STATE OF MAINE
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LICENSED
PROFESSIONAL ENGINEER
April 22, 2024

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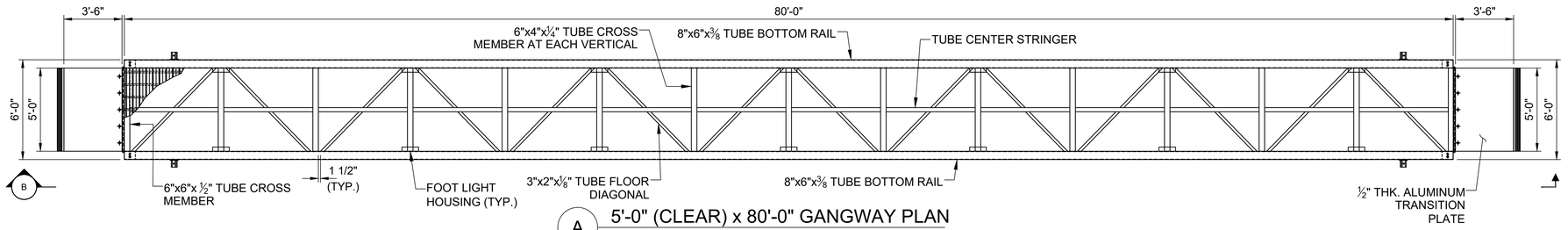
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
MISCELLANEOUS DETAILS (2 OF 5)

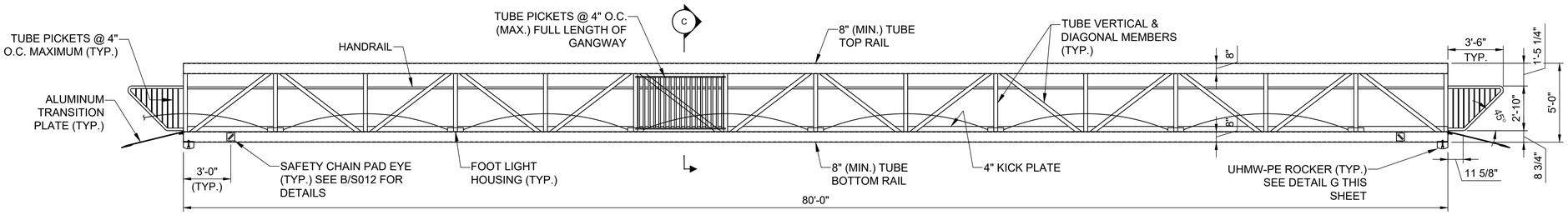
SHEET NO.
S-010

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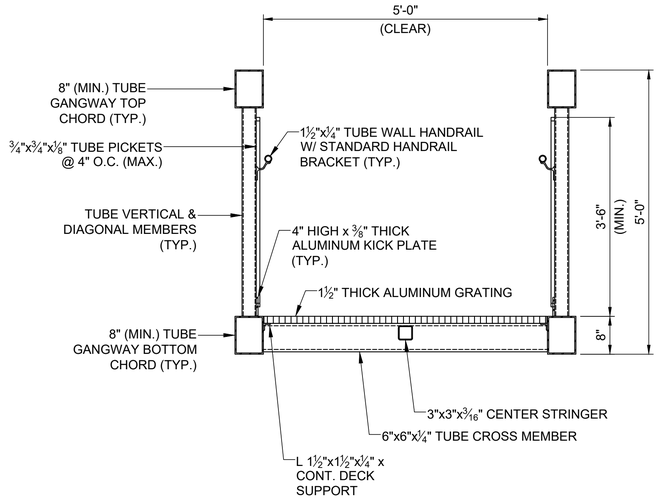
A 5'-0" (CLEAR) x 80'-0" GANGWAY PLAN

SCALE: 1/4" = 1'-0"



B GANGWAY ELEVATION

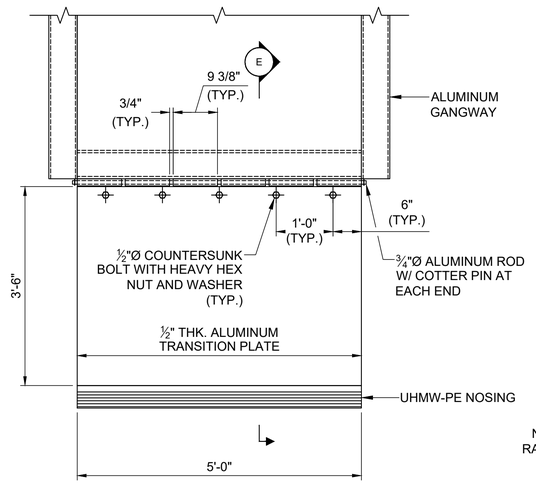
SCALE: 1/4" = 1'-0"



C TYPICAL GANGWAY SECTION

SCALE: 3/4" = 1'-0"

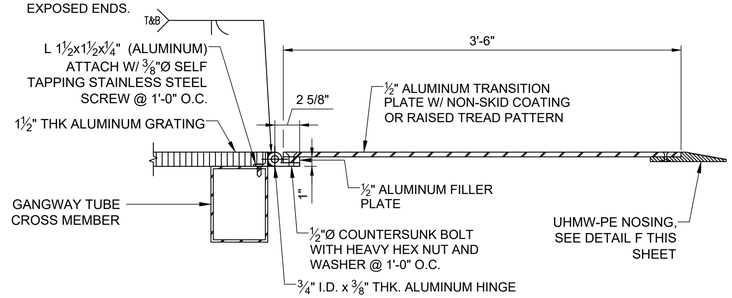
NOTE(S):
1. CONTRACTOR AND GANGWAY MANUFACTURER SHALL DETERMINE FINAL GANGWAY MEMBER SIZES AND SUBMIT TO ENGINEER FOR REVIEW AND APPROVAL.
2. ALUMINUM GRATING SHALL MEET ADA REQUIREMENTS.



D TRANSITION PLATE DETAIL

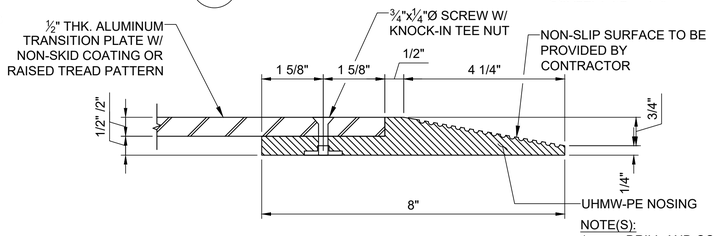
SCALE: 3/4" = 1'-0"

NOTES:
1. CONTRACTOR SHALL DETERMINE FINAL GANGWAY MEMBER SIZES. MEMBERS ONLY SHOWN SCHEMATICALLY FOR REFERENCE.
2. CONTRACTOR SHALL SUBMIT FINAL GANGWAY SHOP DRAWINGS AND CALCULATION PACKAGE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE.
3. ALL GANGWAY TUBE MEMBERS SHALL BE 6061-T6 ALUMINUM.
4. ALL GANGWAY TUBE MEMBERS SHALL BE CAPPED AND SEALED W/ ALUMINUM PLATES AT EXPOSED ENDS.



E GANGWAY TRANSITION PLATE SECTION

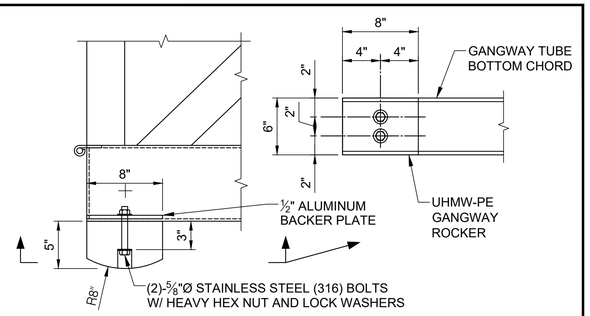
SCALE: 1-1/2" = 1'-0"



F UHMW-PE NOSING DETAIL

SCALE: 6" = 1'-0"

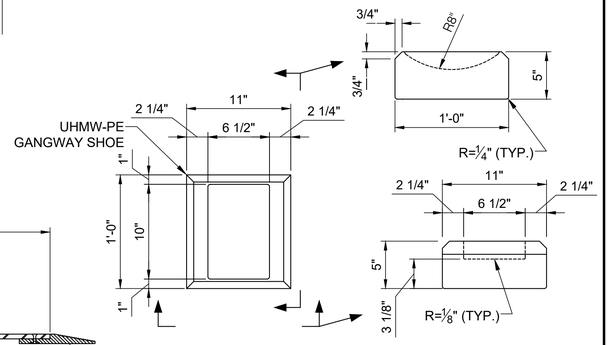
NOTE(S):
1. DRILL AND COUNTER BORE TRANSITION PLATES. COUNTERSINK HOLES FOR TEE NUTS TO TWICE BASE THICKNESS. SCREWS TO BE COUNTERSUNK INTO PLATE. INSTALL NEW SCREWS OVER SILICONE TO COVER EXPOSED ALUMINUM.
2. UHMW-PE NOSING DETAILS TO BE DETERMINED AFTER TRANSITION PLATE INSTALLATION AND SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN ADA.



G GANGWAY ROCKER DETAIL

SCALE: 1-1/2" = 1'-0"

NOTES:
1. ROCKER MATERIAL SHALL BE VIRGIN UHMW-PE, BLACK IN COLOR.
2. ALUMINUM BACKER PLATE PLAN DIMENSIONS SHALL MATCH ROCKER PLAN DIMENSIONS.



J GANGWAY SHOE DETAIL

SCALE: 1-1/2" = 1'-0"

NOTE: SHOE MATERIAL SHALL BE VIRGIN UHMW-PE, BLACK IN COLOR.

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:

0 1"

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STATE OF MAINE — DANIEL J. BANNON No. 13033 — LICENSED PROFESSIONAL ENGINEER

April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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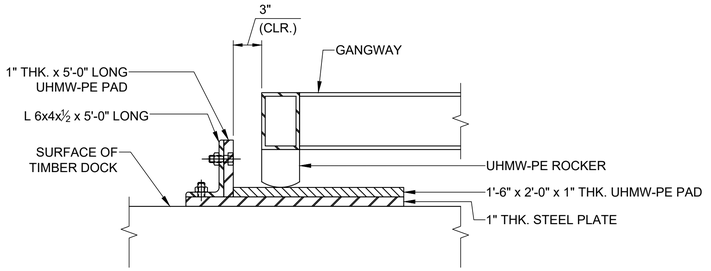
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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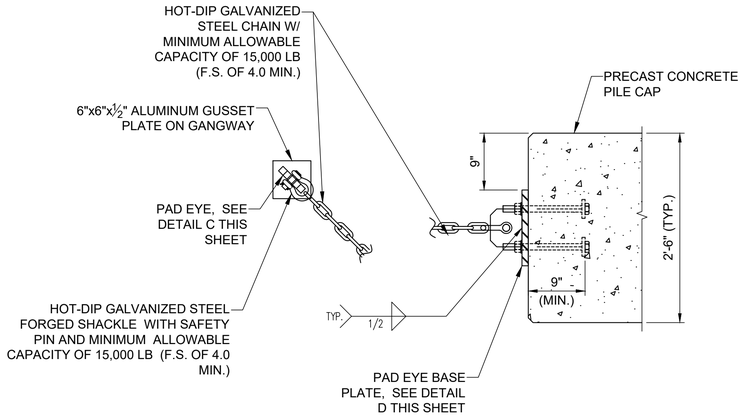
SHEET NAME: **MISCELLANEOUS DETAILS (3 OF 5)**

SHEET NO.: **S-011**

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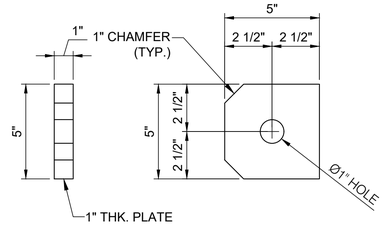


A GANGWAY LANDING AT DOCKS
SCALE: 1-1/2" = 1'-0"



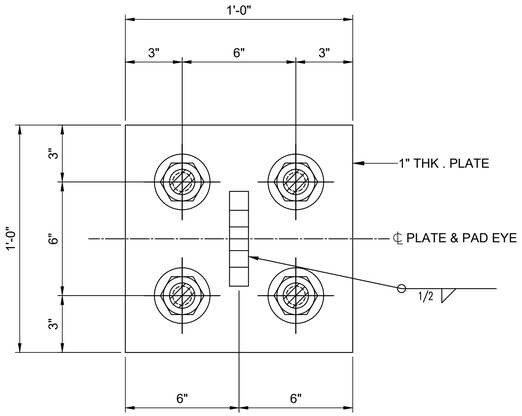
B SAFETY CHAIN ASSEMBLY
SCALE: 1" = 1'-0"

NOTE: CONTRACTOR TO DETERMINE ASSEMBLY LENGTH BASED ON PAD EYE LOCATION ON GANGWAY SUCH THAT UHMW-PE SHOE CANNOT MOVE OFF THE SUPPORTING PLATE.

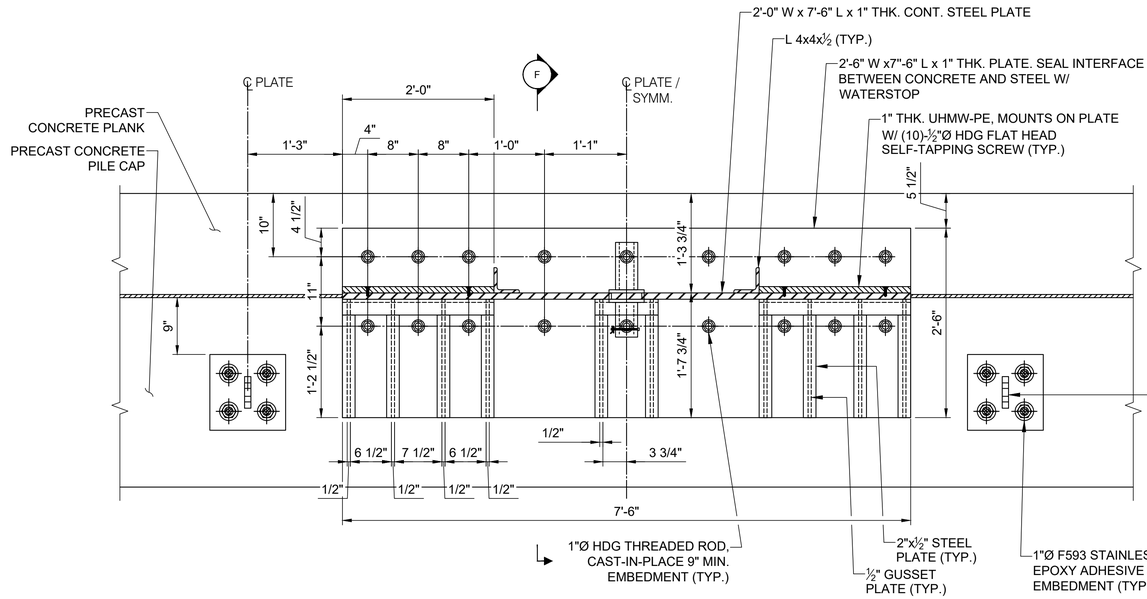


C PAD EYE DETAIL
SCALE: 3" = 1'-0"

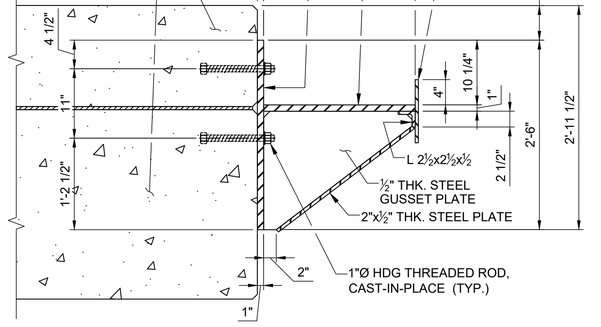
NOTE: PAD EYE ON GANGWAY SHALL BE ALUMINUM. PAD EYE ON PILE CAP SHALL BE HDG STEEL.



D PAD EYE BASE PLATE DETAIL
SCALE: 3" = 1'-0"



E FIFTH WHEEL ASSEMBLY - ELEVATION
SCALE: 1" = 1'-0"



F FIFTH WHEEL ASSEMBLY - TYPICAL SECTION
SCALE: 1" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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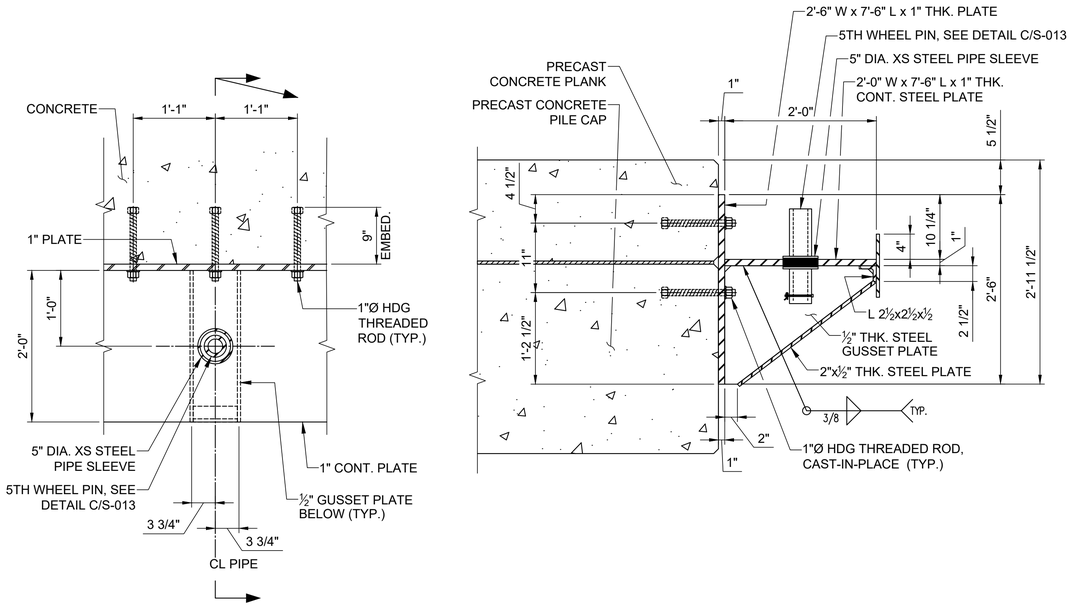
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SHEET NAME
MISCELLANEOUS DETAILS (4 OF 5)

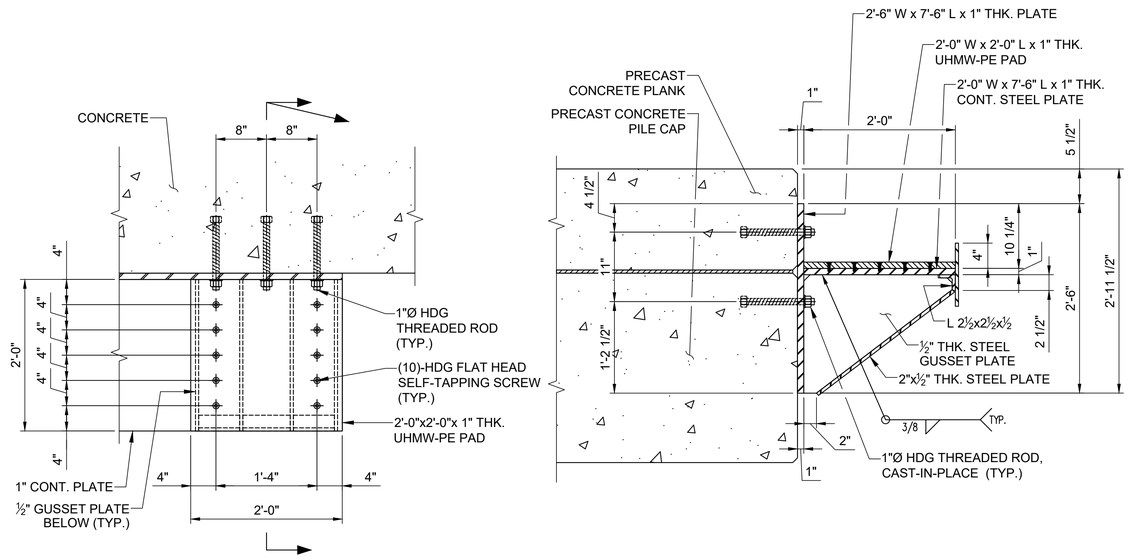
SHEET NO.
S-012

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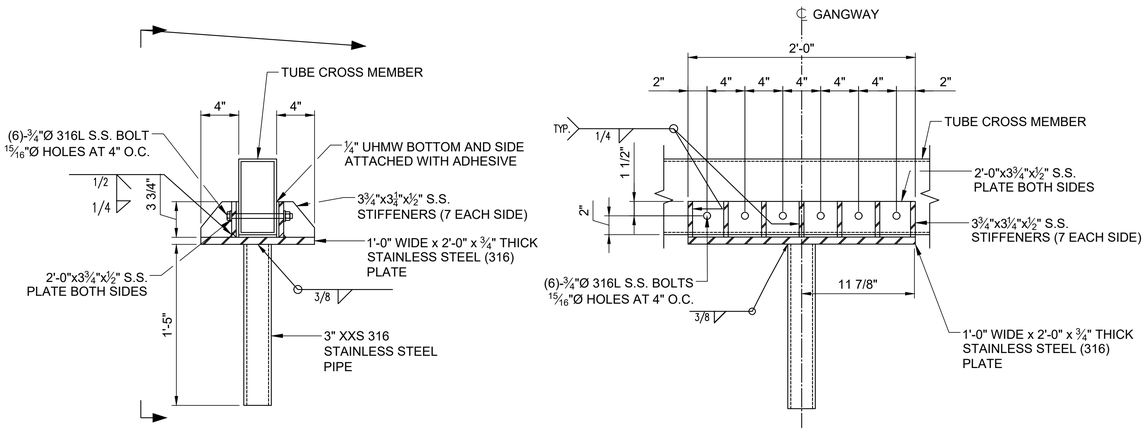
A TYPICAL 5TH WHEEL PLAN AND SECTION

SCALE: 1" = 1'-0"



B TYPICAL UHMW-PE PAD DETAIL

SCALE: 1" = 1'-0"



C 5TH WHEEL PIN DETAIL

SCALE: 1-1/2" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

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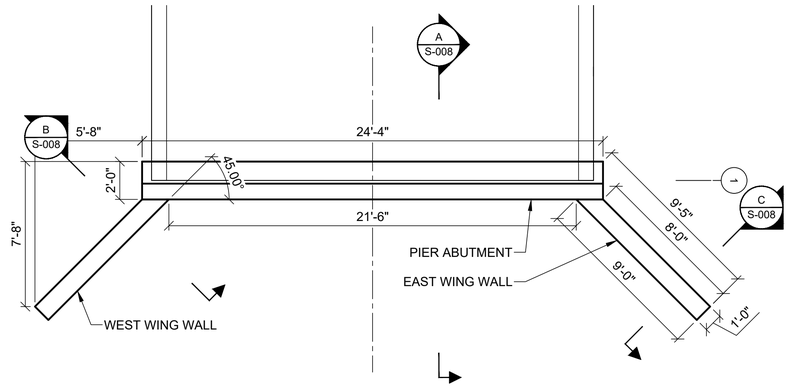
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1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
MISCELLANEOUS DETAILS (5 OF 5)

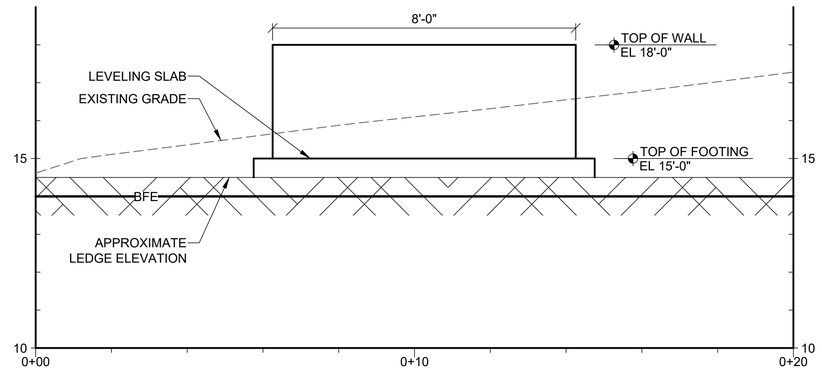
SHEET NO.
S-013

FOR PERMIT

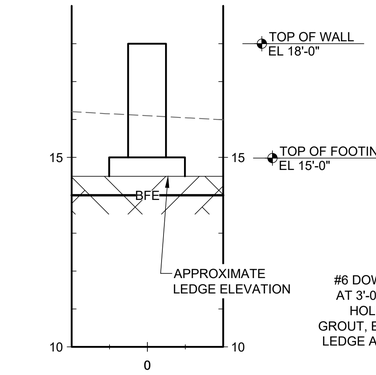
MCRICI, ANTHONY \\bos1vlk02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-013.dwg - 9/14/2023



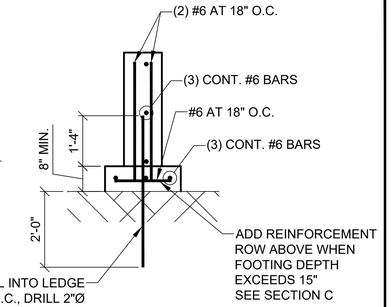
ABUTMENT PLAN
SCALE: SCALE: 3" = 1'-0"



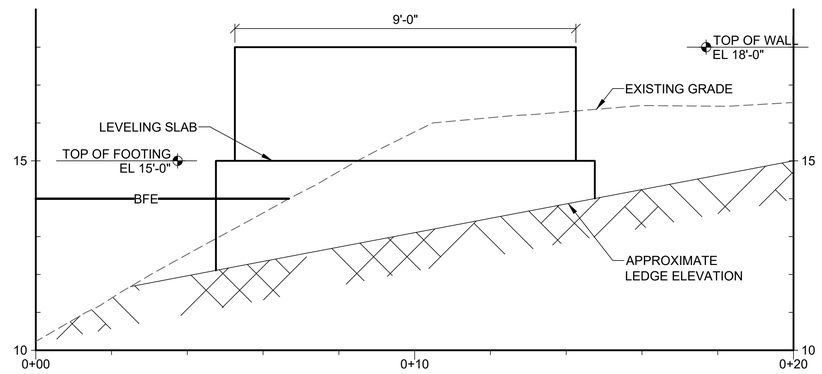
WEST WING WALL ELEVATION
SCALE: 6" = 1'-0"



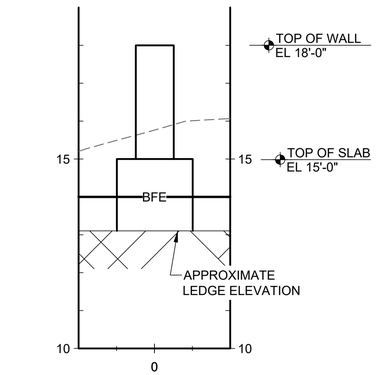
B WEST WING WALL SECTION
SCALE: 6" = 1'-0"



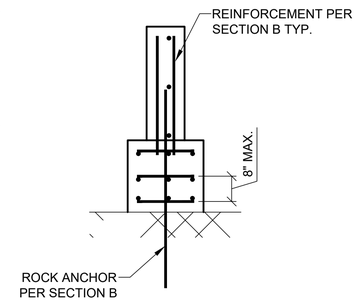
B SECTION
WEST WING WALL REINFORCEMENT
SCALE: 6" = 1'-0"



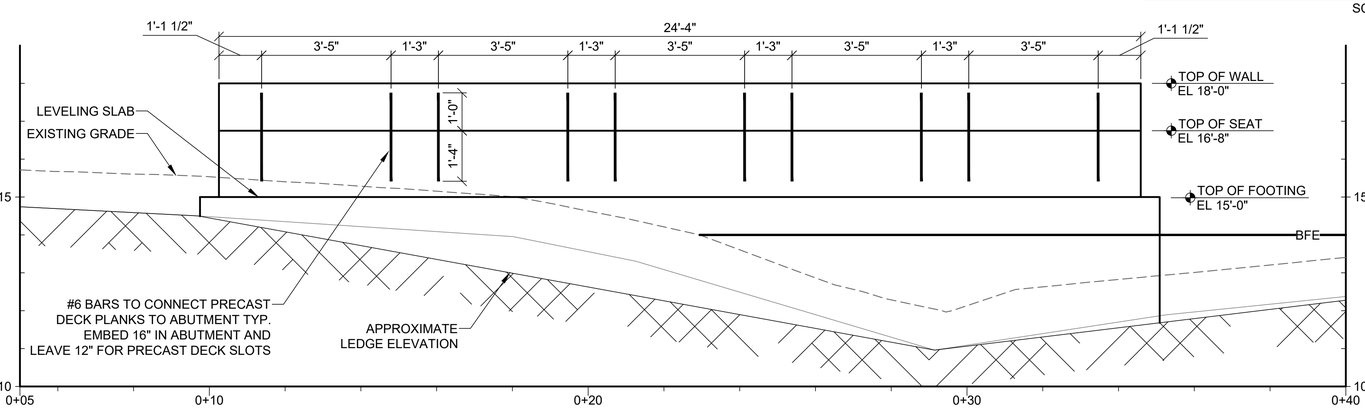
EAST WING WALL ELEVATION
SCALE: 6" = 1'-0"



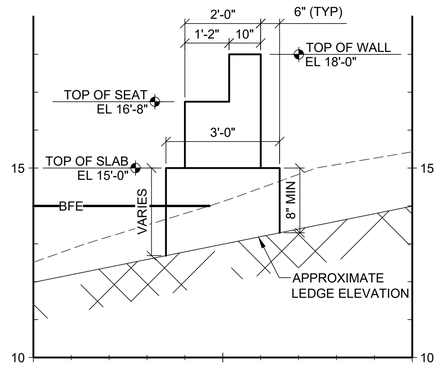
C EAST WING WALL SECTION
SCALE: 6" = 1'-0"



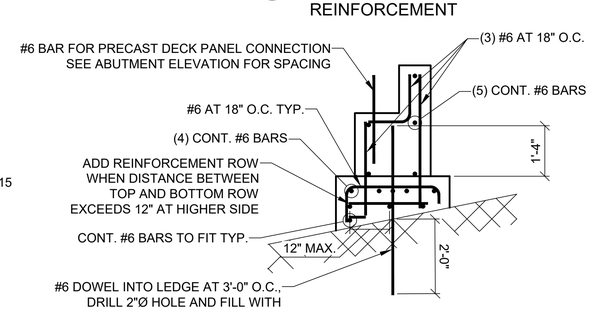
C SECTION
EAST WING WALL REINFORCEMENT
SCALE: 6" = 1'-0"



ABUTMENT ELEVATION A
SCALE: 3" = 1'-0"



A ABUTMENT SECTION
SCALE: 6" = 1'-0"



A SECTION
ABUTMENT REINFORCEMENT
SCALE: 6" = 1'-0"

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED PROFESSIONAL ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

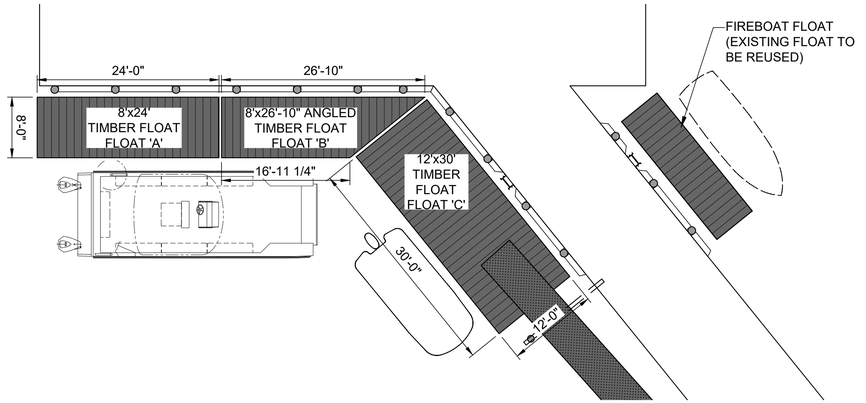
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
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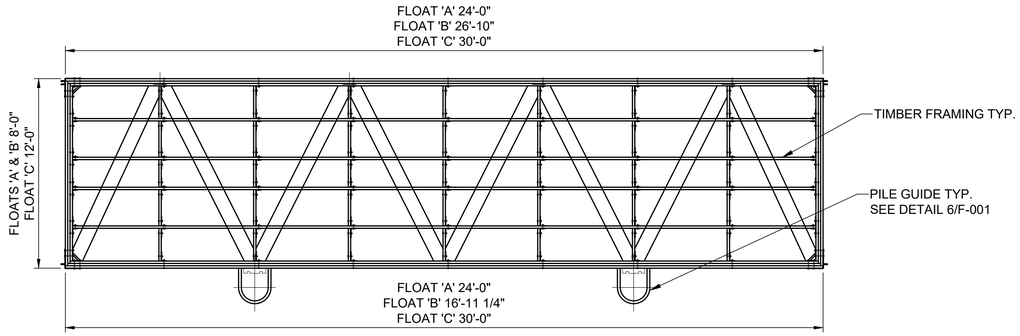
SHEET NAME: **ABUTMENT DETAILS**

SHEET NO.: **S-014**

MORICI, ANTHONY \\ost1-fs02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-014.dwg - 9/14/2023

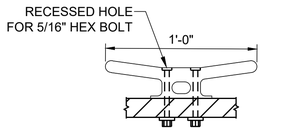


1 PLAN
FLOAT LAYOUT SCALE: 1" = 10'



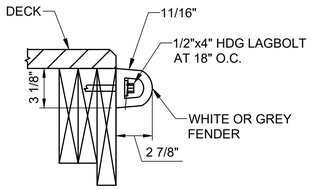
NOTES:
1. CONTRACTOR/FABRICATOR TO DETERMINE ACTUAL MEMBER SIZES PER LOADING REQUIREMENTS.

2 PLAN
TYP. FLOATING DOCK SCALE: 1" = 4'

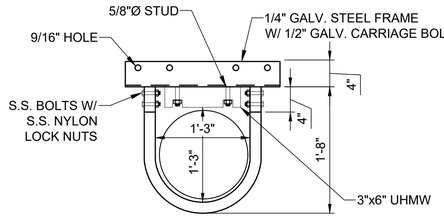


CLEAT LAYOUT:
FLOAT 'A' (4) @ EQ. SP ON SOUTH FACE
FLOAT 'B' (3) @ EQ. SP ON SOUTH FACE
FLOAT 'C' (4) @ EQ. SP ON WEST FACE

4 DETAIL
12" CLEAT SCALE: 2:1

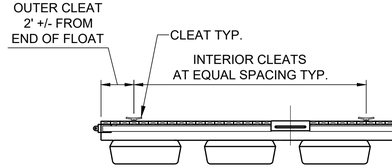


5 DETAIL
DOCK FENDER SCALE: 2:1



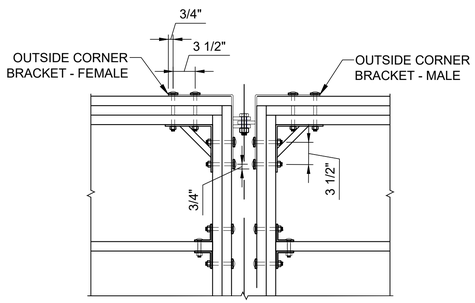
PILE GUIDE LAYOUT:
PROVIDE PILE GUIDES AT ALL TIMBER PILE LOCATIONS
FLOAT 'A' (3) REQ
FLOAT 'B' (4) REQ
FLOAT 'C' (4) REQ

6 DETAIL
PILE GUIDE SCALE: 1:1

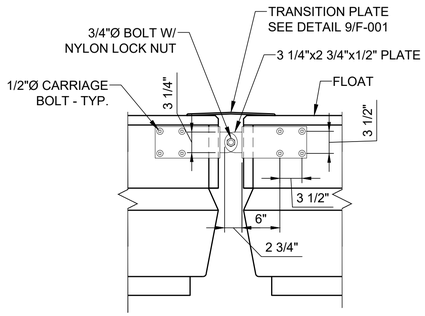


NOTES:
1. FLOTATION UNITS SHOWN ARE FOR GRAPHIC REPRESENTATION ONLY, CONTRACTOR/MANUFACTURER SHALL DETERMINE SIZE AND QUANTITY PER LOADING REQUIREMENTS.

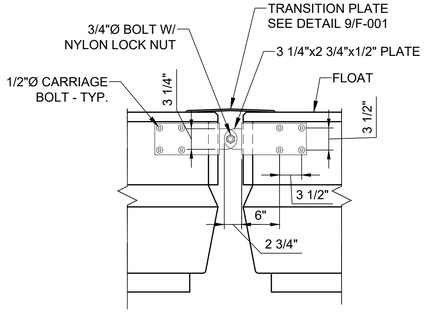
3 ELEVATION
TYP. FLOATING DOCK SCALE: 1" = 4'



7 DETAIL
FLOAT CONNECTION SCALE: 1:1



8 SECTION
FLOAT CONNECTION SCALE: 1:1



9 DETAIL
TRANSITION PLATE SCALE: 1:1

0 10 20
SCALE, FEET

0 1 2 4
SCALE, FEET

0 40 80
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED PROFESSIONAL ENGINEER
April 22, 2024

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
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UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
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UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
FLOAT PLAN AND DETAILS

SHEET NO.
F-001

MCRICI, ANTHONY \\gisconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-F-001.dwg - 9/14/2023

CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST *LAST REVISED: 11/26/2024*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant and included on all preliminary and final Site Plan & Subdivision submittals. No checklist is required for sketch submittals.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have adequate reasoning to justify their absence.
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal information with non-acceptable reasoning will be rejected and required to resubmit.
4. Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval.
5. Items in **BLUE** are only required for 'Final' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	University of New England (UNE) Marine Science Center Research Pier
Planning Board # (if available):	2024.34
Applicant Name/Info:	University of New England
Submittal #/Type (Prelim/Final):	Preliminary
Submittal Date:	6/10/2025

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE			CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	**GENERAL PLAN REQUIREMENTS**	YES				
A	Drawing specific legends (linetypes, hatches, etc.)	YES	C-001, C-002			
B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan)	YES	ALL			
C	North arrows, standard engineering scale viewports, scale bars, dated revision blocks	YES	ALL			
D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical)	YES	ALL			
E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	YES	ALL			
2	**COVER SHEET**	YES				
A	Project Name & Property Address	YES	G-001			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	G-001, G-002	Contractor contact info to be added at a later date		
C	Site Location Map	YES	G-001			
D	Sheet Set List of Drawings	YES	G-001			
E	Tax Map and Lot ID	YES	C-001			
F	Zoning & Shoreland Zone Information	YES	C-001			
G	Existing Use Description	YES	C-001			
H	Proposed Use Description	YES	C-003			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES	G-001			
J	Name of Drainage Watershed	YES	C-001			
K	Within the MS4 Urbanized Area (Yes/No)	YES	C-001			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	C-001			
M	Within the 100-year Flood Zone (Yes/No)	YES	C-001			
N	Public Road Proposed (Yes/No)	NO	N/A	There are no public roads onsite.		
O	Private Road Proposed (Yes/No)	YES	C-001			
P	Public Sewer Connection (Yes/No)	YES	C-001	There are no proposed improvements to the public sewer		
Q	Public Storm Drain Connection (Yes/No)	NO	N/A	There are no public storm drains onsite.		
R	Limits of Disturbance in square feet and acres	YES	C-005			
S	Pervious Land Cover square footage, existing and proposed	YES	C-003			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	C-003			
U	Building Roof square footage, existing and proposed	YES	C-001			
V	Assigned Planning Board Number	YES	G-001			
W	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)	YES	C-007, C-007			
3	**EXISTING CONDITIONS PLAN**					
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	YES	C-001			
B	Property & Right-of-Way Lines	YES	C-001			
C	Boundary line information (bearings, distances, etc.)	YES	C-001			
D	Property pin and monumentation locations	YES	C-001			
E	Existing easements with proper ownership identified	YES	C-001			
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	C-001			
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-001			
H	100-year Flood Zone Limits & Elevation	YES	C-001			
I	Existing contours with adequate contour labelling; minimum 1' contour interval	YES	C-001			
J	Existing building FFEs annotated	YES	C-001			
K	Spot elevations for all tie-in locations (curb cuts, property line)	YES	C-001			
L	Existing buildings & structures	YES	C-001			
M	Existing pavement areas & number of parking spaces	YES	C-001			
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	YES	C-001			
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	C-001			
P	Existing signage and striping	YES	C-001			
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	C-001			
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C-001			
S	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	YES	C-001			
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	YES	C-001			
U	Location of any borings, drinking wells, and monitoring wells	YES	C-001			
4	**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**					
A	Limits-of-disturbance outlined and acreage annotated	YES	C-005			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-001			
C	100-year Flood Zone Limits	YES	C-001			
D	Callout existing site features to be demolished/removed/replaced	YES	C-002			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES	C-002			
F	Hatch existing buildings and pavement to be removed	YES	C-002			
G	Construction Entrance location(s)	YES	C-005			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	C-005			
I	Stockpile and staging area(s) identified (with proper perimeter control)	YES	C-005			
J	Inlet protection location(s)	YES	C-005			
K	Note requiring contractor to implement dust control measures throughout construction	YES	C-012			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	N/A	N/A	No utilties proposed within right-of-way		
M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing	YES	C-014			

N	If large development is proposed with an extensive underground stormwater conveyance network, identify how SWM infrastructure and BMPs will be protected during construction and if sediment traps/basins are needed	N/A		No extensive underground SWM infrastructure is proposed.		
5	**SITE PLAN/SUBDIVISION PLAN**	YES				
A	Partial Site Plans needed for any viewport scale greater than 1"=20'	YES	C-003			
B	Existing property and right-of-way lines	YES	C-003			
C	Proposed subdivision lot lines and labels	YES	C-003			
D	Required Zoning Setbacks shown with dimensions and annotation	YES	C-003			
E	Bulk requirement summary table (zoning/parking calculations)	YES	C-003			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-003			
G	100-year Flood Zone Limits	YES	C-003			
H	Proposed building outlines, door entrances and loading docks	YES	C-003			
I	Proposed building labels	YES	C-003			
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C-003			
K	Proposed parking and accessible parking locations; annotate parking space counts	YES	C-003			
L	Proposed signage, parking striping, and traffic striping	YES	C-003			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	NO		No ADA ramps or parking are proposed		
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C-003, C-004, C-006, C-007			
O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	C-015, C-016			
P	Designated snow storage areas	NO		No snow storage areas are proposed		
Q	Proposed dumpster locations and trash removal access	NO		No dumpsters or trash removal are proposed.		
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	C-003, C-006, C-007			
S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	C-003			
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	YES	C-003, C-006, C-007			
U	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	NO		Will be provided at a later date		
V	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	NO		Will be provided at a later date		
W	Planning Board signature block for final recording	YES	G-001			
6	**GRADING PLAN**	YES				
A	Partial Grading Plans needed for any viewport greater than 1"=20'	YES	C-004, C-006, C-007			
B	Limits-of-disturbance outlined and acreage annotated	YES	C-004, C-006, C-007			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs)	YES	C-004, C-006, C-007			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	C-004, C-006, C-007			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	C-004, C-006, C-007			
F	Detailed grading for all ditches, swales, outfalls, and riprap	YES	C-004, C-006, C-007			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	C-004, C-006, C-007			
H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	C-004, C-006, C-007			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C-004, C-006, C-007			
J	100-year Flood Zone Limits	YES	C-004, C-006, C-007			
K	Proposed spot elevations for all important roadway geometric points (including but not limited to: parking/drive aisles, building corners/entrances, retaining walls, loading docks, EOP/curblines)	YES	C-004, C-006, C-007			
L	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points	N/A	No new ADA proposed			
M	Proposed % slope arrows for all ADA parking spaces and sidewalks	N/A	No new parking proposed			
N	Proposed longitudinal % slope arrows for drainage ditch centerlines	YES	C-004, C-006, C-007			
O	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas	YES	C-004, C-006, C-007			
P	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone)	YES	C-004, C-006, C-007			
7	**ROAD PROFILES (if public/private road proposed)**	YES				
A	Existing surface; dashed and screened	YES	C-006, C-007			
B	Proposed surface; continuous and bold	YES	C-006, C-007			
C	Road design speed must be clearly identified	YES	C-006, C-007			
D	Corresponding centerline stationing and curve data annotation	YES	C-006, C-007			
E	All vertical curves must identify the proposed 'K' values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-35 & 3-37	YES	C-006, C-007			
F	Clear annotation if proposed road will be public or private	YES	C-006, C-007			
G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptance	YES	C-003			
H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	YES	C-003			
8	**UTILITY PLAN**					
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C-004			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C-004			
C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls)	YES	C-004			
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	C-004, ES1.1			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C-004			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	C-004 to C-007			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C-004 to C-007			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C-004 to C-007	Additional information can be found in the SWM Report		
I	Flow directional arrows for storm & sewer pipes	YES	C-004 to C-007			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	C-004 to C-007			
K	All storm drains must be sized to convey the 25-year storm	YES	C-004 to C-007	See SWM Report		
L	Sewer force main sizes and invert elevations	NO	N/A	No force main proposed		
M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W); additional details and hydraulic calculations required for any Public pump station proposed.	NO	N/A	No pump stations proposed		
N	Locations, sizes, and elevations of any: grease traps, oil-water separators, septic systems, drinking wells	NO	N/A	None proposed		
O	Proposed water sizes labelled	NO	N/A	None Proposed		
9	**UTILITY PROFILES**					

A	Utility profiles required for **all** gravity storm drain and sewer pipes proposed: within the right-of-way, within private or public roads, for non-driveway culverts, and for any public infrastructure tie-ins	NO	N/A	No utilties proposed in ROW		
B	Existing surface; dashed and screened	NO	N/A	No utilties proposed in ROW		
C	Proposed surface; continuous and bold	NO	N/A	No utilties proposed in ROW		
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	NO	N/A	No utilties proposed in ROW		
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	NO	N/A	No utilties proposed in ROW		
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated	NO	N/A	No pipe crossing proposed		
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotated	YES	ES1.1			
10	**DETAILS**					
A	Road section detail, including pavement/gravel depths & cross slopes	YES	C-008, C-009, C-010			
B	Sidewalk, paver, crosswalk, and any other pavement section details	N/A	None proposed			
C	Pavement sawcut & shiplap details	YES	C-003, C-006, C-007			
D	Utility trench/backfill detail	YES	C-011			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	C-011, C-013, C-014			
F	Signage, striping, and ADA details	N/A	N/A	No signage or striping proposed		
G	E&S notes and details	YES	C-012, C-013, C-014			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	C-013, C-014			
I	Storm outfall & riprap details	YES	C-011			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	NO	C-013, C-014			
K	Pump station, grease trap, oil-water separator, septic, drinking well details	N/A	N/A	None Proposed		
L	Conduit section details	N/A	N/A	None Proposed		
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**					
A	As required by ordinance; at a minimum: locations, counts, lighting models, and landscaping species must be identified	YES	C-015, C-016, ES1.1			
B	Landscaping & lighting details	YES	C-015, C-016, ES1.1			
12	**DOCUMENTS/REPORTS/CALCULATIONS**					
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction v. Site Punchlist/As-Built Inspections post-construction	Yes				
B	Stormwater Management Report, including: 1. Predevelopment & Post-development Drainage Area Maps, including: a. Subdrainage areas delineated and labeled b. Points of Interest/Analysis shown and labeled c. Hatching for different land cover areas (impervious, pervious, gravel) within each applicable USDA soil boundary d. Time of concentration (Tc) paths & durations e. Four City-standardized stormwater summary tables 2. If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies 3. Sizing calculations for any SWM water quality BMP or detention facility 4. A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: a. Annual maintenance requirements b. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed c. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	Yes				
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	N/A		No new buildings/sewer conveyance proposed		
D	A Performance Guarantee Cost Estimate utilizing Planning's template	YES				
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	YES				
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified	YES				
K	Public sewer pump station sizing calculations and maintenance plan	N/A	No pump stations proposed	No pump stations proposed		
M	Grease trap sizing calculations	N/A	No grease traps proposed	No grease traps proposed		
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more	N/A	No HOA	No HOA		
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals	YES				

CITY OF BIDDEFORD, MAINE

SHORELAND AND SITE PLAN REVIEW APPLICATION

Project:
RESEARCH PIER

Applicant:

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH ROAD
BIDDEFORD, MAINE 04005

June 9, 2025

Prepared by:

Site Design Associates
23 Whitney Way
Topsham, Maine 04086
Ph: 207-449-4275
Email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

June 9, 2025

David Galbraith, City Planner
City of Biddeford
P.O. Box 586
205 Main Street
Biddeford, ME 04005

RE: University of New England
Proposed Research Pier

Dear David and Planning Board Members:

University of New England is pleased to submit the enclosed application for site plan review and shoreland permits for a proposed research pier and floats at 11 Hills Beach Road in Biddeford. Enclosed are 10 copies of the site plan, and the following information submitted electronically per the direction from your office:

- Letter responding to May 13, 2025 staff comments – Attachment A
- Letter responding to Planning Board Member Comments - Attachment B
- City Application
- Letter of Agent Authorization
- Site Plan Drawing Checklist
- Location Map
- Deed
- Letter of Financial Capacity
- Stormwater Management Report
- Alternatives Analysis and Memo
- ACOE, DEP, and SRCC Permits
- Letter from the Maine Historic Preservation Commission clearing the project
- Notice to Proceed with external reviews from the city
- Typical shed photo
- Light fixture cuts
- Drawing Set

We understand the application fee has been paid in full.

The project is located in the city Institutional (IN) zone and the Limited Residential District shoreland zone. The project was included on the most recent version of the city approved campus master plan.

The Biddeford Campus of the University of New England (UNE), Maine's largest private university, is positioned on the confluence of the Saco River and the Atlantic Ocean. This location, along with state-of-the-art research facilities and world-class faculty, has recently earned UNE's marine programs rankings among the top 10 nationally from *Biology Explorer*, *College Choice*, and *College Magazine*. To expand UNE's unique

experiential learning and research opportunities in the marine ecosphere, the University is proposing the construction of a permanent pier which will serve as a four-season research deployment facility directly adjacent to the Arthur P. Girard Marine Science Center (GMSC) on its Biddeford campus

UNE's School of Marine and Environmental Programs, housed in the GMSC, is the academic home of 325 undergraduate and graduate students who are studying marine science, marine policy and management, as well as a wide variety of interdisciplinary fields, including marine ecosystems, conservation, restoration, business, sustainable fisheries and ecological aquaculture, social-ecological systems, and marine sustainability science. Additionally, two programs provide pathways from undergraduate to graduate degrees in Marine Sciences and Maritime Law (a 3+3 partnership with Maine Law).

Three things distinguish UNE's marine programs. The first is the oceanfront location on its core undergraduate campus, which provides direct access to the Gulf of Maine. The second is the multitude of research opportunities available to students starting as early as their first year of undergraduate studies. And the third is how the marine research done by UNE students and faculty directly impacts the people of Maine and beyond.

However, all three of these key assets are limited by the lack of year-round access to the ocean. ***The planned pier will allow students and faculty to be on the water throughout the year, thereby greatly enhancing UNE's groundbreaking research into critical problems facing Maine.***

The jewel of UNE's marine programs is Ram Island, UNE's private one-acre living laboratory two miles from campus in Saco Bay, which was gifted to the University in 2014. The island, which houses a fieldwork station and an experimental kelp farm, provides unparalleled research and field study opportunities for students and faculty. It also creates the potential to develop research partnerships that focus on critical issues facing Maine, making Ram Island home to coastal zone investigations of climate change, marine geology, invasive species, marine mammal ecology and interactions with fisheries and marine aquaculture.

Despite its prime location with direct access to the ocean, UNE currently has floating docks that are removed seasonally, precluding access to Ram Island and other areas of the Gulf of Maine in the critical winter and spring months. Construction of a permanent pier at UNE's Girard Marine Science Center will allow for dynamic, year-round, ocean-going research activities, facilitating scientific and practical exchanges with local, regional, and national marine researchers and industry partners. Additionally, the deep-water access would expand UNE's ability to serve as a collaboration hub for coastal marine and deep-water science and industry. As good stewards of the environment and our coastal neighbors, UNE is committed to ensuring that the planned structure fully adheres to local, state, and federal regulations.

Investment in UNE's marine programs is good for Maine taxpayers. With the Gulf of Maine warming faster than almost any other body of water on the planet, marine research

afforded by year-round access to the water will allow UNE to gather critical data to guide Maine's response to climate change. These expanded research opportunities will likewise enhance UNE's ability to ensure that its students graduate with the curiosity and experience to both ask and answer the important questions that will inform to the data-driven decisions impacting the expanding fields of aquaculture, fisheries, marine law and policy, marine business and entrepreneurship, ocean food systems, and related fields.

In order to determine the optimum location for the pier, an extensive alternatives analysis and studies were undertaken. This was not only for due diligence, but was required by the state and federal regulators. The regulators concluded that this exhaustive analysis was satisfactory to establish the proposed pier location. A copy of the alternatives analysis is included as Attachment 8.

The proposed facility includes the following:

1. A pile supported pier structure extending from shore into the Saco River. The proposed pier includes an approximately 130-foot long approach section extending from shore and an 80-foot long pier head section oriented roughly parallel to the direction of flow in the river. The pier consists of a concrete superstructure on steel pipe piles, with timber fender piles for vessel berthing and floating docks, and a pile supported gangway lifting beam to allow the gangway ramp to be temporarily removed from the water.
2. A floating dock system consisting of one 8-foot by 24-foot float, one 8-foot by 26-foot 10-inch float, and one 12-foot by 30-foot gangway landing float to provide all-tide vessel access for UNE's vessels on the west side of the pier, and a single 6-foot by 20-foot floating dock to provide a tie-up location for the City of Biddeford Fire Boat on the east side of the pier.
3. An 80-foot by 5-foot gangway to provide ADA compliant access to the float system.
4. An upland access road connecting the existing road at the MSC to the proposed pier, including associated site grading, drainage, and stormwater management features.

The proposed activities are described in detail in the following sections.

Pier Structure

The proposed vehicle rated pier is supported by twenty-five concrete filled steel pipe piles and a concrete abutment which connects the pier to the proposed access road. All of the piles are located beyond the Highest Annual Tide (HAT) line, while the abutment is located shoreward of the HAT line. Fourteen, 24-inch diameter steel piles support the pier head portion of the structure and eleven, 16-inch diameter steel piles support the pier approach. The seven piles at the first three pile bents at the pier approach will be socketed to ledge due to a limited soil layer above the ledge surface at these locations. The remaining piles will be driven to ledge but do not require socketing given the sufficient

depth of overburden soils. The piles support precast concrete pile caps which support precast concrete deck planks that form the pier deck surface.

The pier includes thirty, 12-inch diameter timber fender piles to provide for vessel berthing at the main face of the pier and to restrain the floating dock system. All new fender piles will be untreated timber, greenheart species. A gangway lifting beam is proposed to lift the gangway out of the water during float maintenance or in advance of severe weather. The lifting beam is supported by a steel column anchored to the pier on one side and a 10.75-inch diameter concrete filled steel pipe pile on the other.

Floating Dock System

The proposed floating dock system includes four floating docks. The three timber floats on the west side of the pier are new, while the single float on the east side of the pier is an existing float that will be relocated from UNE's facility that is located upstream of the proposed pier (note that this facility is proposed to be demolished). The new floats consist of an 8-foot by 24-foot float, an 8-foot by 26-foot 10-inch angled float, and a 12-foot by 30-foot gangway landing float. All new floats will be located on the west side of the pier approach at the south side of the pier head. The existing float is 6-feet by 20-feet and will be located on the east side of the pier approach at the south side of the pier head to provide a tie-up location for the City of Biddeford Fire Boat. The new floats are accessed by the proposed gangway or a fixed ladder, and the fireboat float is accessed solely by a fixed ladder. All the floating docks are located beyond the MLLW line and will be restrained and guided by the timber fender piles. The floats will allow vessels to tie up to the pier at any time during the tide cycle. The depths of water at the floats are adequate to meet UNE's needs.

Gangway

The 80-foot by 5-foot gangway provides ADA compliant access to the new floating dock system on the west side of the pier. The gangway connects to the pier near the beginning of the pier approach and lands on the 12-foot by 30-foot floating dock. The total indirect impact from the gangway is 357 square feet (this area excludes the portion of the gangway located above the floating dock).

Pier Building

One pier building, an 8 ft x 10 ft shed, is proposed to be located at the southeast corner of the pier head. This structure will provide storage for small equipment used by MSC staff, as well as an indoor protected location to house certain utility features such as electrical service panels.

Access Drive

Vehicular and pedestrian access to the pier will be provided by a new 20 ft wide access road that will extend from the existing GMSC access road and parking area, around the east side of the GMSC building, and to the end of the pier approach. A turnaround area is

provided adjacent to the pier approach to allow for vehicles up to and including fire trucks accessing the pier to turn around and drive forward to exit the access road. There is no parking proposed adjacent to the pier. All vehicles will use the existing parking spaces adjacent to the GMSC building. The new road will provide construction access for the project, which will help to limit the amount of work performed from the water and allow more staging to be achieved from land. The upland work will include stormwater management features that have been designed to meet Maine DEP Chapter 500 standards.

The following addresses Site Plan Approval/ Site Design Criteria and Shoreland Zoning Land Use standards for piers.

Site Plan Approval/Site Design Criteria

1. **Drainage**

   A Stormwater Management Report is attached. The report submitted demonstrates compliance with Maine Department of Environmental Protection (DEP) Basic and General standards. The project will include bioretention filters designed to DEP BMP standards for enhancement of stormwater runoff quality.

   A waiver of Article XI.II.Section 5.B.1. is required for an increase in the rate of runoff. This waiver has historically been granted by the planning board for projects located on the UNE parcel that are directly tributary to tidal receiving waters, which will be the case for this project. There will be no impact on the capacity of a receiving downgradient storm system. The bioretention filters will provide stormwater quality enhancement and cooling of runoff, as well as a level of stormwater detention. Level spreaders will be utilized to evenly distribute runoff from the bioretention filters into sheet flow. Although an increase in the rate of runoff is shown at two point locations on the drainage plans, the reality is that the stormwater runoff from the subcatchments is distributed over a wide area. Note that the peer review engineer supports this waiver.

2. **Utilities**

   Power will be fed underground to the pier from the Girard Marine Science Center.

3. **Parking**

   There will be no formal dedicated parking associated with the project.

4. **Structural Layout and Design**

a) Design of Buildings

An 8 ft x 10 ft shed is proposed on the pier. A photo in attachment 12 shows a rendering of the shed; a wood frame structure, with weather resistant siding, and a metal roof.

b) Setbacks

The research pier is sited in conformance with all setback requirements.

c) Fire Protection & Safety

Based on input from the fire department, the road width was increased to 20 ft per NFPA standards. The turnaround meets the city required dimensional standards and has been modelled to accommodate fire apparatus.

d) Landscaping

The revegetation plan has been developed to meet the City of Biddeford's Shoreland Zoning requirements as well as to preserve a visual buffer for the access drive to minimize visibility from the water to the greatest extent possible, while achieving the required clearing and considering functional requirements such as snow plowing at the turnaround. The revegetation plan also meets requirements of the Saco River Corridor Commission (SRCC) who has issued a permit for the project.

Revegetation Plan

The revegetation plan, drawing C-15, is intended to meet the city of Biddeford's shoreland zoning requirements. Details are as follows:

- 49 trees are being removed with 21 of those within the 50-foot HAT setback
- Approximately 5,850 SF of understory duff later and low growth vegetation (predominantly non-native invasive honeysuckle) is being disturbed within 50 feet of the HAT.
- 5 tree species are proposed in approximate equal quantities with the evergreen trees located between the road shoulder grading and the top of embankment where they are anticipated to fit under the remaining mature forest canopy, and between existing trees and ledge. Field verification during construction will be required to ensure final plant locations are feasible if shallow ledge or significant remaining tree root stock is present.
- 3 shrubs (2 evergreen and 1 deciduous) are proposed to plant at the toe of the road embankment as well as in areas around the turnaround where fitting larger trees will be challenging given limited space and the need to maintain an area for plowed snow.
- Deciduous trees are spread throughout the area.

- The bioretention cells will be filled with a mix of wet, drought and salt tolerant shrubs and perennials which are shown on the plan as a hatched area. The notes on the plan and drawing C-16 plant schedule describe the random pattern mixing of these plants throughout the bio retention cells.
- All other disturbed areas will be planted with a native roadside mix of perennial grasses and flowers. It is recommended that this area be mowed once a year in the fall to maintain the mix of plants. If mowed more often, it will revert to mostly lawn grasses.
- Mature plant sizes are listed on the plant list to give a sense of the amount of screening that may occur over time.

e) Service, Storage, and Utility Areas

Not applicable

f) Paving, Parking, and Storage Areas

No paving, parking, or storage is located within the side or rear setback of the property, nor within the front setback of the property.

g) Handicapped Accessibility

The pier is designed to meet ADA requirements.

h) Loading Facilities

Not applicable.

i) Parking, Loading, and Protective Buffers

The non-vegetated area of the land being developed will be less than 75% and a minimum of 25% of the land area being developed either remains in its natural state or consists of landscape and lawn areas.

j) Open Space

Not applicable.

k) External Lighting

An electrical site plan is included in the drawing set which shows the site lighting. Full cut off fixtures will be utilized and lighting will be the minimum necessary for safety and functionality.

l) Signs

Not applicable.

m) Historic and Archeological Resources.

See attachment 10 for a letter from the Maine Historic Preservation Commission clearing the project.

Shoreland Zoning Land Use Standards

The project will comply with the applicable standards of Article XIV. Section 15.C.

- Access from shore will be developed on soils appropriate for the use. A detailed erosion control plan has been prepared for the project.
- The location does not interfere with existing beach areas.
- The facility has been located to minimize adverse effects on fisheries. The plan was reviewed be the National Marine Fisheries Service.
- The facility size is the minimum necessary to carry out current and future research activities, and is consistent with the surrounding character and uses of the area, including the Camp Ellis pier on the opposite side of the river.
- An 8 ft x 10 ft shed for storage of life jackets, tools, research equipment is proposed on the pier, and is an operational necessity. The shed will not exceed 20 ft in height.

Waivers:

Four waivers are requested:

- Article XI. II. Section 5.B.1.a. – The rate of post development runoff shall not exceed that of pre-development. As noted in the cover letter for the previous submission, this waiver has historically been granted by the planning board for projects located on the UNE parcel that are directly tributary to tidal receiving waters, which will be the case for this project. There will be no impact on the capacity of a receiving downgradient storm system. The bioretention filters will provide stormwater quality enhancement and cooling of runoff, as well as a level of stormwater detention. Level spreaders will be utilized to evenly distribute runoff from the bioretention filters into sheet flow. Although an increase in the rate of runoff is shown at two point locations on the drainage plans, the reality is that the stormwater runoff from the subcatchments is distributed over a wide area.

  Note that the peer review engineer has indicated support for this waiver.

- Article XI.II. Section 5.B.1.e.3. - No slope shall be created which results in a slope of more than two feet horizontal to one foot vertical unless proper retaining walls are proposed. The design includes slopes which exceed this standard in ledge (1/4H:1V) and along the drive (1H:1V). This waiver has been requested by UNE and granted by the planning board for all projects proposed by UNE on the campus due to the presence of ledge and the desire to

minimize impacts of construction on adjacent areas. Based on our experience the ledge in the area is stable at steeper slopes. Turf reinforcement matting specifically designed to stabilize steeper slopes will be utilized along the drive sideslopes.

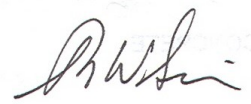
- Article VI. Section 26.F. - No cut or fill slopes that exceed 3 horizontal to 1 vertical. See above for justification.

- Article XIV. Section 15.H.4. Road and driveway banks shall be no steeper than a slope of two horizontal to one vertical, and shall be graded and stabilized in accordance with the provisions for erosion and sedimentation control contained in Section 15T. See above for justification for steeper slopes. The erosion control specified for the project exceeds the standards of Section 15T.

We are in hopes the planning board will find that the proposal is consistent with city regulations and approval standards. We look forward to meeting with the planning board on June 18.

If you have any questions or comments, please contact me.

Sincerely,
Site Design Associates



Tom Saucier, P.E.
President

cc: Alan Thibeault, UNE, Vice President for University Operations

Attachment A
Letter responding to May 13, 2025 staff comments

Site Design Associates
Consulting Engineering and Land Planning

June 9, 2025

David C.M. Galbraith, City Planner
City of Biddeford
P.O. Box 586
205 Main Street
Biddeford, ME 04005

RE: University of New England
Proposed Research Pier

Dear David and Planning Board Members:

On behalf of University of New England (UNE), Site Design Associates (SDA) is pleased to submit this response to staff and peer review comments dated May 13, 2025. The comments are included below in italics, with our responses.

A. Staff Review Comments

Comment: *The Preliminary Application shall include copies of the required notification letters provided to the various Native American Tribes listed above in Section 3*

Response: **The letters to the tribes, the plan included with the letters, the certified mail receipts, and the two responses received are attached at the end of this letter. This information was included in the DEP NRPA, ACOE and Harbor Master applications previously submitted to the city. In all cases the information was deemed complete and the DEP and ACOE permits issued.**

Note that the plan that was included with the letters reflected the pier in the currently proposed location. The purpose of the request for tribal review is to give them the opportunity to review the location of proposed projects to verify whether the proposed development would affect known properties of religious and/or cultural significance. It is not intended to seek approval of any design.

Comment: *Limited information was provided by the Applicant on the checklist. Applicant should fully complete the checklist for the next submission, including column D (list drawing sheet number where information is provided) and* column E (reason not provided/comment).

23 Whitney Way – Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Response:

An updated copy of the checklist is provided with this submission.

Comment:

Section 74-35 Construction of Wharf, Pier, or Landing Regulated states that new piers require permission from the Harbormaster

Response:

Refer to the attached letter addressing the Planning Board Members comments.

Comment:

Section 74-36 Floats requires permission from the Harbormaster for floats that are an integral part of a pier.

Response:

Section 74-36 is not applicable to this project. Section 74-36 addresses floats that are *not* an integral part of a pier.

Comment:

The application lists two (2) project waivers being sought. The application didn't include a narrative or rational for Staff or the Board to evaluate the requested waivers. This information shall be included in the Preliminary application package.

Response:

Four waivers are requested:

- **Article XI. II. Section 5.B.1.a. – The rate of post development runoff shall not exceed that of pre-development. As noted in the cover letter for the previous submission, this waiver has historically been granted by the planning board for projects located on the UNE parcel that are directly tributary to tidal receiving waters, which will be the case for this project. There will be no impact on the capacity of a receiving downgradient storm system. The bioretention filters will provide stormwater quality enhancement and cooling of runoff, as well as a level of stormwater detention. Level spreaders will be utilized to evenly distribute runoff from the bioretention filters into sheet flow. Although an increase in the rate of runoff is shown at two point locations on the drainage plans, the reality is that the stormwater runoff from the subcatchments is distributed over a wide area.**

  Note that the peer review engineer has indicated support for this waiver.

- **Article XI.II. Section 5.B.1.e.3. - No slope shall be created which**

results in a slope of more than two feet horizontal to one foot vertical unless proper retaining walls are proposed. The design includes slopes which exceed this standard in ledge (1/4H:1V) and along the drive (1H:1V). This waiver has been requested by UNE and granted by the planning board for all projects proposed by UNE on the campus due to the presence of ledge and the desire to minimize impacts of construction on adjacent areas. Based on our experience the ledge in the area is stable at steeper slopes. Turf reinforcement matting and geosynthetic reinforcement specifically designed to stabilize steeper slopes will be utilized along the drive sideslopes.

- **Article VI. Section 26.F. - No cut or fill slopes that exceed 3 horizontal to 1 vertical. See above for justification.**

- **Article XIV. Section 15.H.4. Road and driveway banks shall be no steeper than a slope of two horizontal to one vertical, and shall be graded and stabilized in accordance with the provisions for erosion and sedimentation control contained in Section 15T. See above for justification for steeper slopes. The erosion control specified for the project exceeds the standards of Section 15T.**

B. Peer Review Comments

Comment:

The Fire Department has expressed that the length of the turnaround does not meet their needs of a 70- foot-long turnaround at the end of the access road. The provided turnaround is approximately 40 feet long.

Response:

We analyzed the turning movements of the aerial apparatus and the results were provided to E. Dexter, Ass. Chief BFD for review. The results demonstrate there is adequate space for the aerial apparatus to maneuver. Additionally, we have adjusted the location of the security gate on the pier to provide additional space for turning maneuvers. We have enclosed an updated Vehicle Circulation Exhibit to convey the safe turn around of an emergency vehicle, at the end of this letter.

E. Dexter has indicated the design could be approved with a condition of approval that both Truck 32 and SH-34 are able to maneuver the turnaround post construction, and prior to final sign off they should be taken to the location for testing.

Mandating a turnaround larger than that shown would result in more clearing of trees and more impervious surface in the shoreland zone adjacent to the river, neither of which would be looked at favorably by the regulators if an alternative exists. The regulators had asked whether a narrower drive could be provided and we indicated that NFPA rules require 20 ft of width.

Comment:

Access road width has been increased to 20 feet, as requested by the Fire Department.

Response:

Acknowledged.

Comment:

Additional coordination items for the City are indicated within the Review Comments below in red font.

Response:

Acknowledged.

Comment:

Section 74-35 Construction of Wharf, Pier, or Landing Regulated states that new piers require permission from the Harbormaster.

Response:

Refer to response above.

Comment:

Section 74-36 Floats requires permission from the Harbormaster for floats that are an integral part of a pier.

Response:

Refer to response above.

Comment:

What erosion and sedimentation controls will be utilized for the construction of the pier abutment and pier? A turbidity curtain detail is included and assumed to be used for the pier but the location of this is not shown in plan view.

Response:

Turbidity from the project is anticipated to be limited and temporal associated with the installation of piles for the pier. Neither the State or Federal permits require the use of a turbidity curtain. The turbidity curtain detail has been removed from the plans. Areas of upland soil disturbance will utilize erosion

control BMP's as identified in the Erosion Control Notes and Details on sheets C-012, C-013, and C-014.

Comment:

A stabilized construction entrance, silt fence, biodegradable stabilization matting, and plunge pool are proposed for the construction of the proposed access road.

Response:

Acknowledged.

Comment:

A revegetation plan has been submitted showing tree, shrub, and perennial plantings within the shoreland zone and upland areas. The plan has been reviewed and approved by the Saco River Corridor Commission.

Response:

Acknowledged.

Comment:

The Inspection and Maintenance Plan of Stormwater Management Facilities includes a recertification requirement, which includes a five-year recertification to Maine DEP. This reference should be removed, since there is no DEP Stormwater Permit.

Response:

We have removed the language regarding the recertification to Maine DEP from the Inspection and Maintenance Plan.

Comment:

See Land Development Regulations, Article XI Site Plan Review, comments 1-5 below. A waiver of Section 61.A.12 will also be required.

Response:

We are unclear regarding the referenced section, since there is no section 61 in Article XI. If the intent was to reference Article VI, section 61.A.1-2 we do not believe a waiver is required. All new construction and development, is designed to reflect or resemble, as nearly as possible, natural runoff conditions in terms of volume, velocity and location of runoff. As noted previously, the rate of runoff after development will slightly exceed predevelopment runoff conditions, and the impact was evaluated in terms of potential soil erosion and sedimentation, drainage capacity, and the land use/land cover characteristics. The impact was determined to be minimal; therefore, a waiver of Article XI.

II. Section 5.B.1.a. was requested, which is supported by the peer review engineer.

Comment:

Subsection A states that any project involving parcels of land of greater than five acres, or any portion of a larger parcel greater than five acres, shall be required to conduct a wildlife study by a certified wildlife biologist. This provision may be waived, if a letter from the Maine Department of Inland Fisheries and Wildlife (MDIFW) indicates there are no significant habitat areas involved in the project area or abutting adjacent land. The Maine DEP Natural Resource Protection Act (NRPA) permit states that "according to the Department s Geologic Information System (GIS) database there are no mapped Essential or Significant Wildlife Habitats at the site. The Maine Department of Inland Fisheries and Wildlife (MDIFW) reviewed the proposed project and stated that the project is located adjacent to but outside of Tidal Waterfowl and Wading Bird Habitat (TWWH), a designated significant wildlife habitat. MDIFW stated that minimal impacts to piping plover and Blanding's turtle habitat are anticipated and provided general recommendations including minimizing vegetation removal and soil disturbance, and that time spent in the water should be minimized to the greatest extent practicable." Given the supporting information in the NRPA permit, we believe this requirement is met.

Response:

Acknowledged.

Comment:

The applicant has requested a waiver of Article XI.II Section 5.B.1 to allow a small increase in peak stormwater runoff rates. The applicant has stated they are requesting this waiver since stormwater discharges directly to a tidal receiving water and there will be no impact on a downgradient storm system. Since there's only a small increase in peak runoff rate and Chapter 500 does allow for a waiver of this requirement for sites discharging to coastal wetlands/rivers, we recommend granting this waiver.

Response:

Acknowledged.

Comment:

Bioretention systems are proposed to provide stormwater treatment. 76% of the new impervious area and 72% of the new developed area are treated, which meets the Maine DEP General Standard water quality treatment requirements for linear developments.

Response:

Acknowledged.

Comment:

The Grading and Drainage Plan and HydroCAD model refers to the stormwater treatment practices as Bioretention Filter Cells; however, the details for stormwater practices refer to them as Grassed Underdrained Soil Filters. All notations should be updated to be consistent between plan, details, and model.

Response:

We have revised the plans, details, and hydrology model for consistency. Moving forward, these BMPs will be referred to as Bioretention Filter Cells.

Comment:

A detail should be included in the plans for the 3' diameter catch basin with beehive grate.

Response:

We have revised the plans to include the details mentioned above. The Bioretention Filter Cell detail has been revised to call out an ADS Nyloplast Drain Basin (See Sheet C-103) and the ADS Nyloplast 18" Drain Basin W/Beehive Grate Detail can be found on Sheet C-014.

Comment:

The 3' diameter catch basins are modeled with 18" horizontal orifices (beehive grates). The Grassed Underdrained Soil Filter detail and Granding and Drainage Plan show the beehive grate as the entire catch basin diameter. Please clarify what size the grate is and update the plans and model as needed.

Response:

See response above.

Comment:

The applicant has requested a waiver of Article XI.II Section 5.B.1.e.3 to allow for slopes steeper than 2:1 because of ledge. 1:1 vegetated reinforced slopes are proposed where there is no ledge and 1:10 max slopes are proposed where there is ledge.

Has the ledge cut been reviewed by a geotechnical engineer for stability?

Additional information about the vegetated reinforced slopes is

needed. A 1:1 slope is steep and difficult to vegetate, even with matting. The slope detail on C-013 shows horizontal lines into the slope that are not labeled. Are these additional stabilization measures?

Article XIV, 15.H.4 also prohibits road and driveway banks to be steeper than 2:1, and a waiver would be needed based on the proposed slopes.

Response:

The proposed ledge cuts reflect the same conditions used along the existing access road to the Marine Science Center which has been in place and stable for over 20 years. Conditions will be reviewed in the field by a geotechnical engineer and any loose material will be removed to result in a stable finished slope which may be between 1:1 and 1:10 depending on the conditions encountered.

The slope protection has been specified as a turf reinforcement mat, suitable for stabilization of the slopes shown. Additionally, geosynthetic reinforcement will be incorporated into the reinforced slope to provide stability. Details will be incorporated into the final construction plans for the project.

A waiver of article XIV. Section 15.H.4. has been requested. See previous discussion.

Comment:

North arrow provided on C-006 is incorrect and should be reoriented.

Response:

We have revised the north arrow on Sheet C-006 to properly show the orientation of the drawing.

Comment:

Proposed spot grades along access road do not match proposed contours or vertical profile. For example, see Sta. 4+00. All proposed elevations should correlate between plan view, profile view, cross sections.

Response:

We have revised the plans, profiles, and cross-sections to properly correlate between the sheets.

Comment:

Typical Section provided on sheet C-008 shows the 1:1 embankment starting behind the proposed guardrail. However, Plan View (C-006/007) shows the 1:1 embankment starting in front of the guardrail. The typical section and

plan view should correlate. Additionally, an adequate guardrail "shelf" should be provided behind the guardrail posts for support.

Response:

Plans have been revised such that the guardrail is within the shelf that is above the 1:1 reinforced slope.

Comment:

Vertical curve data is only partially shown in the access road profile (C-006/007). Adjust viewports so all data is legible.

Response:

Plan sheets have been corrected to show all vertical curve data.

Comment:

Proposed pipes missing from access road profile (C-006/007) and storm drain callouts/leader lines pointing to incorrect location. Clarify where storm drain pipes are in profile.

Response:

We have revised the viewports in Sheets C-006 and C-007 to properly show storm drain pipes in the access road profiles.

Comment:

Article XIV, 15.H.1 requires roads and driveways within the shoreland zone to be set back at least 100 feet, horizontal distance, from the normal high-water line of a great pond classified GPA or a river that flows to a great pond classified GPA, and 75 feet, horizontal distance, from the normal high-water line of other water bodies, tributary steams, or the upland edge of a wetland unless no reasonable alternative exists as determined by the Planning Board. However, Section 15.H.1 does not apply to roads or driveways that provide access permitted structures and facilities located nearer to the shoreline due to operational necessity. Since the pier is a permanent structure with operational necessity to the shoreline and the access road is providing access to the pier, we believe the proposed access road is allowed by the Ordinance.

Response:

Acknowledged.

Comment:

The pier is proposed in the Institutional (IN) zone and Limited Residential (LR) shoreland zoning overlay district. An 8'x10' shed is also proposed on the pier to store life jackets, tools, and research equipment and is stated to be an operational necessity. Although the Shoreland Zoning Ordinance does not allow structures within 75' of the normal high-water line in the Limited Residential overlay district, the setbacks do not apply to structures that are

an operational necessity for direct water access. Based on the information provided, we believe the proposed structure is allowed by the Ordinance.

Response:

Acknowledged.

Comment:

The cover letter for the application indicates the plan was reviewed by the National Marine Fisheries Service. Have review comments from the National Marine Fisheries Service been provided to the City?

Response:

The Army Corps of Engineers requests comments and input from NMFS as a component of their review. The comments we received were verbal during a Teams meeting with NMFS and the ACOE on February 5, 2025. The meeting was held to discuss whether construction activity and/or the project would be likely to affect Atlantic Sturgeon, and how to best go about making that determination. The final determination made as a result of that meeting was that the project was not likely to adversely affect Atlantic Sturgeon, and the ACOE permit was issued.

Comment:

A submerged lands lease or easement is required for structures, such as piers, located on publicly-owned submerged lands. Has a submerged lands lease or easement been secured for the project through the Maine Department of Agriculture, Conservation & Forestry, Bureau of Parks and Lands.

Response:

We will be requesting that the planning board condition any approval on receiving a submerged lands lease from the Submerged Lands Program.

Comment:

Applicant should provide comments about how the pier and shed comply with Article XII Floodplain Management Ordinance requirements and specifically Section R, Coastal Floodplains. Please be sure to include how pier, shed, and utility elevation were selected and if sea level rise was considered.

Response:

It is not clear to us that the Floodplain Management Ordinance is applicable to the pier and floats. From the code: The City of Biddeford has chosen to become a participating community in the National Flood Insurance Program and agreed to comply with the

requirements of the National Flood Insurance Act of 1968, through the establishment of its Floodplain Management Ordinance. The National Flood Insurance Act of 1968, which established the National Flood Insurance Program (NFIP), primarily focuses on insuring improved real property or mobile homes located within designated Special Flood Hazard Areas (SFHA). Essentially, the program covers structures that are walled and roofed, principally above ground, and affixed to a permanent site. This includes residential, industrial, commercial, and agricultural buildings. Piers and floats, specifically those used for "boat-related purposes", are generally not covered under the NFIP standard flood insurance policy.

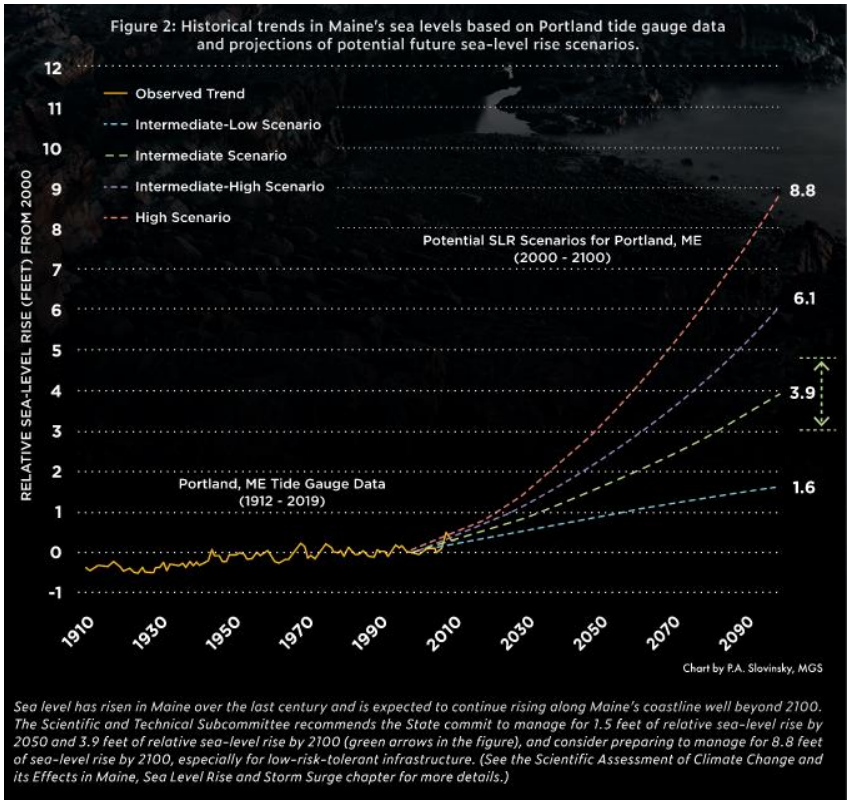
In regards to compliance with section R, Coastal Floodplains:

- **The bottom of all electrical work and permanent fixtures and components, will be elevated to at least one foot above the base flood elevation.**
- **The bottom of the shed will be 4 feet above the base flood elevation.**
- **The project was designed by a professional engineer.**

Regarding sea level rise, GEI conducted a flood risk analysis to assess the potential exposure of the pier to floodwaters in current conditions and under various scenarios of Sea Level Rise that may potentially occur throughout the structure life. For the analysis, GEI utilized the scenarios put forth by the Maine Climate Council (MCC) in their 2020 report "Maine Won't Wait: A Four-Year Plan for Climate Action." The MCC recommends consideration of sea level rise based on two separate scenarios:

- **Commit to Manage Scenario – This reflects the "intermediate" sea level rise curve from the 2017 NOAA model, with a relative sea level rise of 3.9 feet in 2100 (relative to 2000 mean sea level)**
- **Prepare to Manage – This reflects the "high" sea level rise curve from the 2017 NOAA model, with a relative sea level rise of 8.8 feet in 2100 (relative to 2000 mean sea level)**

Sea level rise curves published in the referenced MCC report are shown below for reference:



GEI uses these scenarios to project future water elevations throughout the tidal range and in flood/storm events, throughout the design life of the structure, and compares those elevations to the proposed elevations of various assets to assess the level of risk from exposure to floodwaters.

The design life for the pier is assumed to be approximately 75 years, so the end of life would be approximately 2100. GEI has designed the structure for uplift and lateral loading assuming water elevations associated with the storm surge and wave action during 100-year recurrence interval coastal storm events under the Commit to Manage scenario. This reflects an appropriate design condition that reasonably balances structure risk throughout the design life, project functionality, adjacent site impacts, and project cost. The pier is designed to accommodate conditions through the end of life under the Commit to Manage scenario (3.9 feet of SLR).

Comment:

The cover letter for the application indicates the plan was reviewed by the National Marine Fisheries Service. Have review comments from the National Marine Fisheries Service been provided to the City?

Response:

The Army Corps of Engineers requests comments and input from NMFS as a component of their review. The comments we received were verbal during a Teams meeting with NMFS and the ACOE on February 5, 2025. The meeting was held to discuss whether construction activity and/or the project would be likely to affect Atlantic Sturgeon, and how to best go about making that determination. The final determination made as a result of that meeting was that the project was not likely to adversely affect Atlantic Sturgeon, and ACOE issued their permit.

Comment:

Article XIV, 15.H.1 requires roads and driveways within the shoreland zone to be set back at least 100 feet, horizontal distance, from the normal high-water line of a great pond classified GPA or a river that flows to a great pond classified GPA, and 75 feet, horizontal distance, from the normal high-water line of other water bodies, tributary steams, or the upland edge of a wetland unless no reasonable alternative exists as determined by the Planning Board. However, Section 15.H.1 does not apply to roads or driveways that provide access to permitted structures and facilities located nearer to the shoreline due to operational necessity. Since the pier is a permanent structure with operational necessity to the shoreline and the access road is providing access to the pier, we believe the proposed access road is allowed by the Ordinance.

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Response:

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Comment:

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Response:

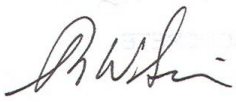
We will be requesting that the planning board condition any approval on receiving a submerged lands lease from the Submerged Lands Program.

In closing, we note that based on the city staff report dated May 13, 2025 staff found the application satisfies the City's Shoreland Zoning Ordinance and Site Plan criteria.

We believe that City Staff and Planning Board will also find that the project conforms to the UNE Institutional Zone Master Plan submission, with regards to the project location, design, and applicable standards. We believe we have satisfactorily addressed staff comments. If you have any additional questions or comments, or require additional information, please do not hesitate to contact Alan Thibeault, (602-2253) or me (449-4275).

We look forward to meeting with the Planning Board on June 18 to further discuss this project.

Sincerely,
Site Design Associates



Tom Saucier, P.E.
President

cc: Alan Thibeault, UNE, Vice President for University Operations

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO and Environmental Planner
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

On behalf of our client, University of New England (UNE), we are assisting with the preparation of Maine Department of Environmental Protection Natural Resources Protection Act and U.S. Army Corps of Engineers Permit applications. The applications are for the installation of a permanent pier and float system on UNE's campus at 11 Hills Beach Road in Biddeford.

This letter and the enclosed materials serve as a means to notify you of the project and give you an opportunity to determine whether the proposed development would affect properties of religious and/or cultural significance. If the Tribe has concerns in this area, please notify us by letter to the address below, contact me at 207-449-4275 or via email at tsaucier@sitedesignassociates.biz.

Thank you for your assistance and the generosity of your time to review this project in reference to the Tribe's concerns.

Sincerely,

Site Design Associates

Tom Saucier, P.E.
President

Enclosures

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, ME 04769

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

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President

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Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Passamaquoddy Tribe of Indians
Pleasant Point Reservation
PO Box 343
Perry, Maine 04667

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

On behalf of our client, University of New England (UNE), we are assisting with the preparation of Maine Department of Environmental Protection Natural Resources Protection Act and U.S. Army Corps of Engineers Permit applications. The applications are for the installation of a permanent pier and float system on UNE's campus at 11 Hills Beach Road in Biddeford.

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Enclosures

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Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Passamaquoddy Tribe of Indians
Indian Township Reservation
PO Box 301
Princeton, Maine 04668

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

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Sincerely,

Site Design Associates

Tom Saucier, P.E.
President

Enclosures

23 Whitney Way Topsham, Maine 04086
Phone: (207) 449-4275 email: info@sitedesignassociates.biz

Site Design Associates
Consulting Engineering and Land Planning

April 10, 2023

THPO
Penobscot Nation
Cultural and Historic Preservation Dept.
12 Wabanaki Way
Indian Island, Maine 04468

RE: Proposed Marine Science Center Pier
11 Hills Beach Road
Biddeford, Maine

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Site Design Associates

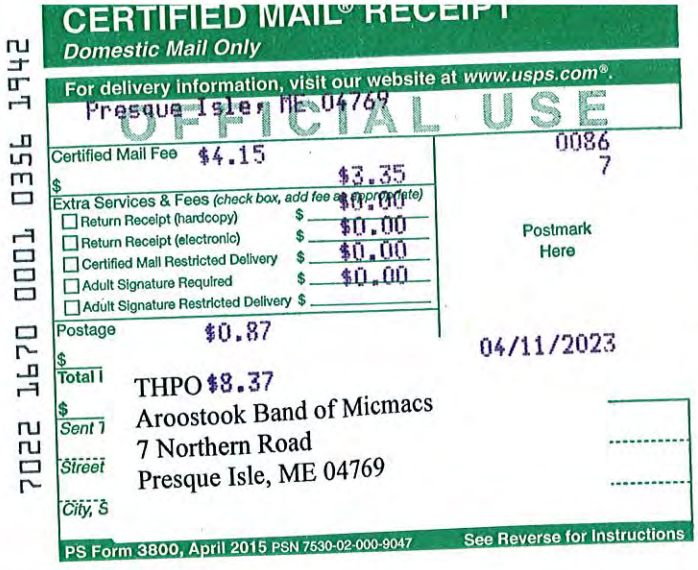
Tom Saucier, P.E.
President

Enclosures

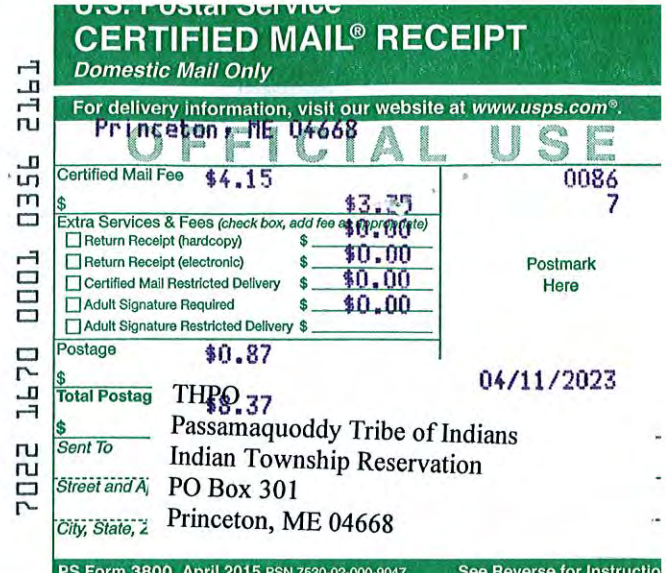
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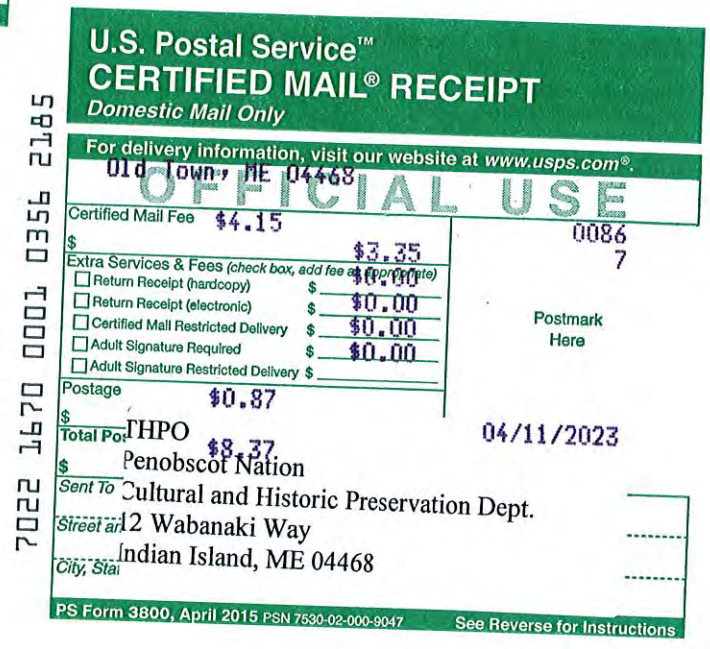
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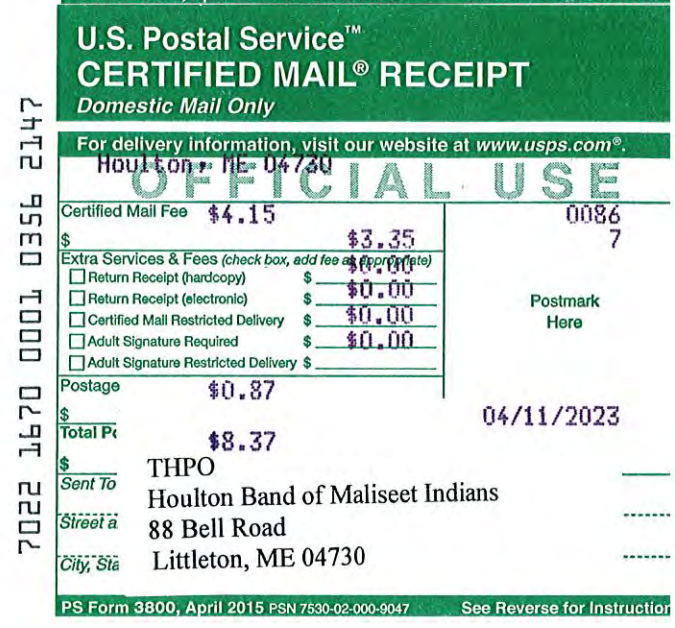
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Street 7 Northern Road
City, S Presque Isle, ME 04769
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Houlton Band of Maliseet Indians
Street a 88 Bell Road
City, Sta Littleton, ME 04730
0086 7
Postmark Here
04/11/2023
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructio
7022 1670 0001 0356 2147


SACO
NORWOOD MARINA
CAMP ELLIS TOWN PIER
SACO RIVER
SACO BAY
FEDERAL CHANNEL
JORDAN POINT
PROPOSED PIER
PROPOSED ACCESS ROAD
MARINE SCIENCE CENTER
UNIVERSITY OF NEW ENGLAND CAMPUS
ROUTE 9
NEWTON ROAD
HILLS BEACH ROAD
SEA BREEZE AVE
LONG AVE
HILLS BEACH
BIDDEFORD
612.6103
355.319°
427.4478
41.8134°
377.7595
299.819°
552.8257
359.4063°
223.4801
299.9063°
223.4285
62.8128°
1130.7745
355.319°
3881.4977
359.4063°
669.4197
14.3968°
371.5988
342.6475°
685.7071
194.3968°
1954.0347
175.319°
453.549
162.6475°
209.8809
118.819°
1000
175.319°
254.6578
218.7276°



SOURCE:
USGS TOPOGRAPHICAL MAP OF BIDDEFORD, MAINE 2022

SITE LOCATION MAP

(NOT TO SCALE)

PENOBSCOT NATION
CULTURAL & HISTORIC PRESERVATION
12 WABANAKI WAY, INDIAN ISLAND, ME 04468

CHRIS SOCKALEXIS – TRIBAL HISTORIC PRESERVATION OFFICER
E-MAIL: chris.sockalexis@penobscotnation.org

NAME	Tom Saucier
ADDRESS	Site Design Associates 23 Whitney Way Topsham, ME 04086
OWNER'S NAME	University of New England
TELEPHONE	201-449-4275
EMAIL	tsaucier@sitedesignassociates.biz
PROJECT NAME	Marine Science Center Pier – 11 Hills Beach Road
PROJECT SITE	Biddeford, ME
DATE OF REQUEST	April 10, 2023
DATE REVIEWED	October 19, 2023

Thank you for the opportunity to comment on the above referenced project. This project appears to have no impact on a structure or site of historic, architectural or archaeological significance to the Penobscot Nation as defined by the National Historic Preservation Act of 1966, as amended.

If there is an inadvertent discovery of Native American cultural materials during the course of the project, please contact my office at (207) 817-7471. Thank you for consulting with the Penobscot Nation Tribal Historic Preservation Office with this project.

Chris Sockalexis, THPO
Penobscot Nation

Tribal Historic Preservation Office
Passamaquoddy Tribe
PO Box 159 Princeton, Me. 04668
207-214-4051

Site Design

23 Whitney Way

Topsham, Me

Re: Biddeford – 11 Hills Beach Rd

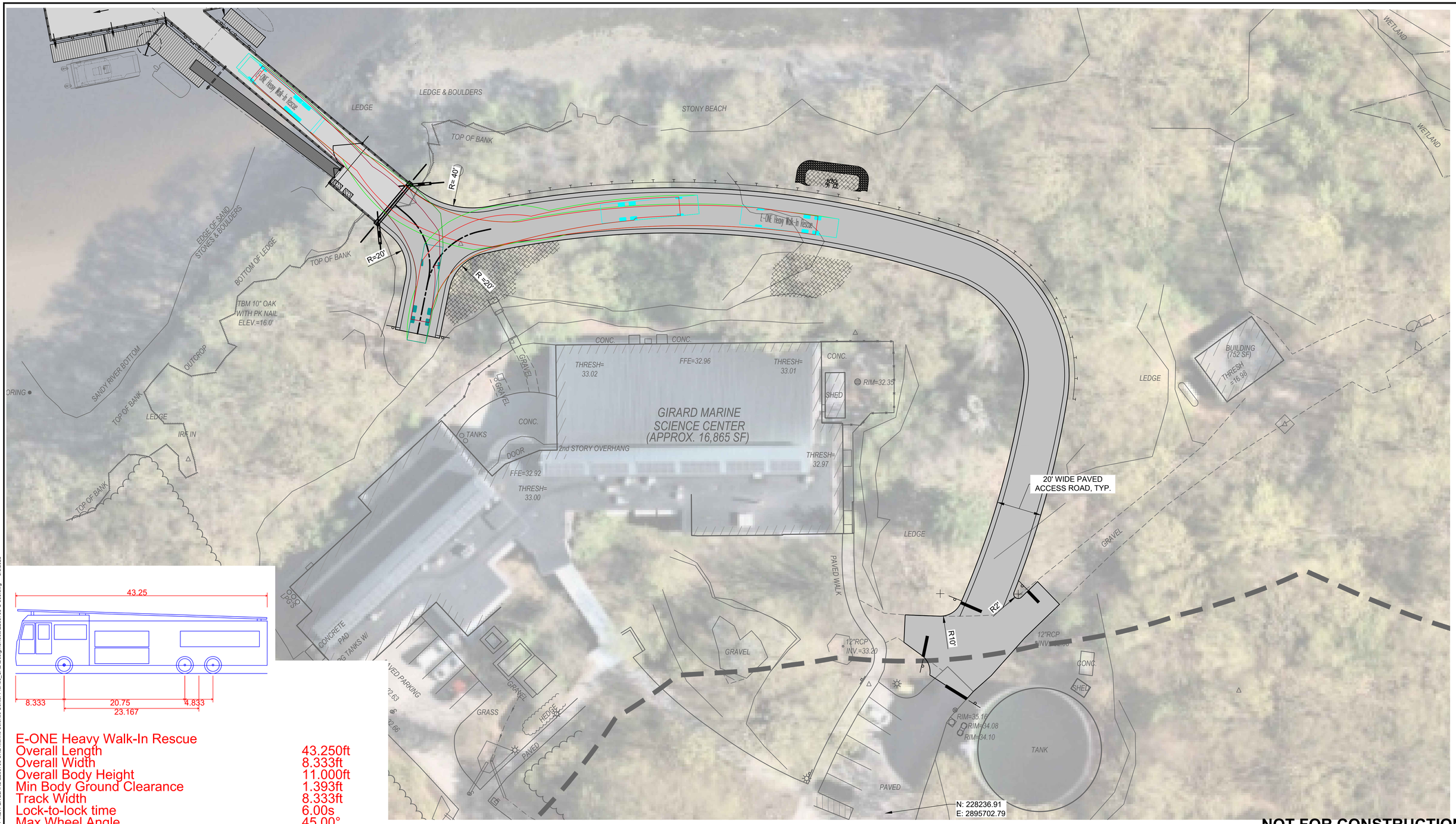
Dear Tom;

The Passamaquoddy THPO has reviewed the following applications regarding the historic properties and significant religious and cultural properties in accordance with NHPA, NEPA, AIRFA, NAGPRA, ARPA, Executive Order 13007 Indian Sacred Sites, Executive Order 13175 Consultation and Coordination with Indian Tribal Governments, and Executive Order 12898 Environmental Justice.

The Pier Project listed above will not have any impact on cultural and historical concerns of the Passamaquoddy Tribe but is concerned about the road work, will there be archeological work . Should buried artifacts, human remains, cultural sites or ground features be unexpectedly unearthed during ground disturbing activities, all construction should immediately cease and the resources be examined by a professional archaeologist. Additionally, all appropriate authorities- including all pertinent tribal entities should be notified.

Sincerely;

Donald Soctomah
Soctomah@gmail.com
THPO
Passamaquoddy Tribe



E-ONE Heavy Walk-In Rescue

Overall Length	43.250ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

NOT FOR CONSTRUCTION

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	VD
Drawn:	VD
Checked:	BMM
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
0			

SHEET NAME: **VEHICLE CIRCULATION EXHIBIT**

SHEET NO.: 1 OF 1

DICASTELNUOVO, VINNIE B:\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-003.dwg - 6/6/2025

Attachment 14
UNE Response Letter Addressing
Planning Board Member Comments

UNIVERSITY OF NEW ENGLAND

INNOVATION FOR A HEALTHIER PLANET

June 11, 2025

David Galbraith, City Planner
City of Biddeford
P.O. Box 586
205 Maine Street
Biddeford, Maine 04005

RE: University of New England
Proposed Research Pier

Dear David and Planning Board Members:

In response to the questions and deliberations of the Planning Board after the presentation and public comments, UNE is pleased to submit the following:

After all of the discussion at the last meeting, is was clear that there was confusion on what city ordinances and regulations are applicable to this project and the pending Site Plan review.

Review Criteria
Toward the end of the May 21, 2025 Planning Board meeting and then in writing after the meeting, the City Solicitor, Harry Center, stated that the Planning Board process was governed by the City's Ordinances relating to Site Plan review and Shoreland Zoning Ordinance standards. The Site Plan criteria are found in Article XI.II Section 5.B of the City Ordinance while the Shoreland Zoning standards are found in Article XIV Section 15(c).

On May 27, 2025, Attorney Center wrote to the Planning Board reiterating what criteria the Planning Board's decision was governed by. He wrote, in part: "At this time, I see no basis for the City's Planning Board to deny this permit based upon the water depth at the location, the current, or any of the accusations made at the last meeting- as there are no standards within the City's Code of Ordinances/Shoreland Zoning Ordinance that would justify or support the denial of a pier based on such claims by the opponents." See attached, *EXT: UNE Research Pier*, at the end of this letter.

Prior to the May 21 meeting, Planning Office staff issued its report, *Planning Board Staff Report,* dated May 13, 2025, in regards to this project, in which it indicated that the Site Plan and Shoreland Zoning Review criteria applied to UNE's application for site plan approval. From a Zoning perspective, this project should be reviewed against the Institutional Zone and Shoreland Zone standards. This project was included on the

Planning Board approved University of New England Institutional Zone Master Plans on February 9, 2009, February 3, 2016, and again on the current plan approved April 19, 2023. In the aforementioned report, the City Planner wrote, in part: "Staff find that the application satisfies the City's Shoreland Zoning Ordinance and Site Plan criteria."

In light of the fact that there continues to be uncertainty about the Harbormaster's role in the approval of UNE's proposed pier. UNE's obligations and the Harbormaster's role are set forth in Section 74-35 of the City Ordinance. It is very important to understand that Section 74-35 was amended in September 2023 in order to clarify the role of the Harbormaster in the process as well as to clarify what an applicant must do to obtain permission. The amendments were drafted by John Schafer and presented to the City Council's Policy Committee by John Schafer on August 7, 2023. Essentially, the amendments created subsections with almost all new language becoming Sections 74-35(c) and (d).

As one can see in Section 74-35, there is no requirement or authority for the Harbormaster to evaluate a pier design or location and no standards or criteria by which any such evaluation would be done. There are no dimensional or design standards for the construction or location of a pier in any city ordinance. Nowhere does the Ordinance state that permission to construct a pier is contingent upon location, orientation, size, depth of water, current, or materials.

The Ordinance begins with **Section 74-35(a)**, which states: "No additions, alterations, new construction or/or changes to an existing wharf, pier or landing shall be made without prior permission of the Harbormaster."

Section 74-35(b) then states: "Permission for the construction of any new wharf or pier within the jurisdictional limits of the City shall not be granted without approval of the Harbormaster, along with federal, state and local governing authorities."

So that applicants can understand what they need to do, **Section 74-35(c)(1)-(10)** provides the detail of what an applicant must do to "obtain permission for any new wharf or pier." In June of 2024, UNE submitted the required information, including all items listed in subsections 1-10.

On August 19, 2024, UNE was notified by the City Manager that "Based on this information and in harmony with my earlier communications, please consider this as formal notification from the City of Biddeford that the application has been found in compliance with the above-mentioned City Code." *See* attached, scan_jbennett_2024-08-19-10-06-53.pdf.

That letter of course did not mean that UNE could begin building the pier. Rather, under Section 74-35, UNE is required to obtain regulatory approvals from entities such as the Army Corps of Engineers, the Maine Department of Environmental Protection, the Saco River Corridor Commission, and the Planning Board (referred to in the Ordinance as Biddeford Code Enforcement).

So that applicants and the Harbormaster would be clear about the Harbormaster's role, **Section 74-35(d)** provides the details of the Harbormaster's role and states: "The process to obtain permission for any new wharf or pier shall be facilitated by the Harbormaster. Initially, the Harbormaster shall be available to guide the applicant through the application process and finally, to sign off that all regulatory approvals have been obtained for construction."

Consistent with practice prior to the 2023 amendments, UNE engaged the Harbormasters and Chair of the Harbor Commission back in 2016 and sought their counsel on the proposed pier project. Their input was considered with some of it incorporated into the design that has been presented to the Planning Board. UNE engaged again with the current Harbormaster in later 2023 and listened to his stated concerns. Both Harbormasters' 2016 and 2023 input is described in detail in the memos from GEI, dated November 28, 2023, and from Baker Design Consultants (later merged into GEI), dated March 22, 2016. These two documents are included in the original Site Plan Application. In its staff report, the Planning Staff recognized the 2023 memo and quoted from it in its staff report.

To date, UNE has obtained required regulatory approvals from the Saco River Corridor Commission, Maine Department of Environmental Protection and the Army Corp of Engineers, which approvals have been provided to the Planning Board in the original UNE submission. The only remaining regulatory approval required under Section 74-35(c)(10) is the Site Plan Review Approval. Once all required regulatory approvals are obtained, the Harbormaster can finally "sign off that all regulatory approvals have been obtained," resulting in UNE having permission from the City to build the pier.

For anybody who still has questions, it could be helpful for them to watch John Schafer's August 7, 2023 discussion with the Policy Committee about the amendments to Section 74-35 that he drafted. A video of the meeting can be found on the City website at https://biddefordme.portal.civicclerk.com/event/1607/media

As one can see for themselves, during that meeting, Mr. Schafer told the Committee that the Harbormaster is "nothing but a facilitator" of the process and that the Harbormaster does not approve piers or issue permits. Mr. Schafer stated that Section 74-35(c)(1) - (10) is "nothing but a blueprint" for achieving approval from other regulators. When pressed by Committee members for clarification, Mr. Schafer emphasized that the Harbormaster is "nothing but a facilitator" and that the Harbormaster only affirms that approvals have been obtained and makes sure that the "blueprint is followed."

Moorings

The Planning Board deliberations also reflected on the potential impacts to moorings. While this is **not** a criterion of the Site Plan review ordinance, UNE will work with the City to mitigate any impacts and has offered to pay for any moorings relocations that may be required.

To clarify the consideration of ownership, as per the Maine State Statue, Title 38, Waters and Navigation, Chapter 1.1.3, Mooring Sites, "Assignment of these mooring privileges does not confer any right, title or interest in the submerged or intertidal lands owned by the state". This statue further clarifies "the harbor master shall assign and indicate only to the masters or owners of boats and vessels the location that they may occupy for mooring purposes and shall change the location of those moorings from time to time when the crowded condition of that harbor or great pond, the need to conform to section 7-A or other conditions render the change desirable".

The actual mooring balls and their associated tackle are the responsibility of the boat owner. The Biddeford Mooring Permit Application clearly states "The location is subject to change at any time at the discretion of Harbor Master or Deputy as conditions dictate.", in coordination with the state statute. Thus, the land is owned by the state, the moorings by the boat owners, and the harbor master has the reasonability to assign and relocate these moorings.

To better understand the potential impacts to moorings, UNE requested from the city it's mooring map, but was informed one was not available. In consultation with the Maine State Bureau of Parks and Recreation, we again requested a copy of the Biddeford Mooring Map. The Submerged Lands Coordinator informed UNE that they had spoken with the harbormaster and confirmed no mooring map was available. They were are to confirm from the harbormaster that two mooring were impacted by the proposed UNE Research Pier development.

In comparison of historical, 09/18/2013, Google Earth imagery, as compared to 2024, there appears to be several unoccupied mooring locations in this general area that could meet the need of relocating the impacted moorings. Additionally, UNE has offered to "swap" one of its current mooring locations for one of the impacted mooring locations. The owners of these moorings do not have a dingy on UNE's abutting shoreline and are already motoring to the moorings from other locations, so depending on where they are coming from, the relocated moorings might be closer to their point of origin.

Analysis documentation
In 2008 and 2009, UNE initiated an analysis of 9 sites along its shoreland to evaluate options for a new pier. Based on the criteria reviewed and UNE's programmatic needs, Site 7 was chosen as the optimal site for UNE. This site then was scrutinized for additional considerations utilized in the ultimate design. This included geotechnical surveys on both land and in water. Contour surveys were conducted twice in the water and then again on land. Evaluations of current and its impacts were conducted. Wetlands were surveyed and impacts analyzed. Initial discussions were had with all regulatory bodies in 2015 and 2016. This included conducting a site visit in 2016, with the harbormasters and chair of the Harbor Commission, whose input was incorporated into the design.

The results of the investigatory process were presented to City staff, including the City Manager, City Planner, Harbormasters, Chair of the Harbor Commission/Planning Board

member and Development staff. That presentation is attached at the end of this letter. The site option plan with the 9 sites and the subsequent evaluation matrix are contained within the presentation. It is important to note that while the estimates of cost are relative, they are 15 years old and a thus not relevant to today's market. Additionally, the size of the pier has direct correlation to the environmental impact. A larger pier requires additional pilings and results in additional shading of the bottom of the river. This is a much more significant consideration of the regulatory agencies in marshy areas, like site 8, as compared to the smaller rock/rubble intertidal zone at site 7.

It is also important to note that the current at site 7 is slower than further out towards the channel, resulting is easier and more controlled docking and less impacts from ice flowing in the spring runoff. This was also recognized in the consultations with the harbor masters during the site visit in 2016, where they advised "*Relocate pier further upstream and change orientation to reduce current exposure. The Harbormasters confirmed that the channel restriction located just seaward of the pier created fast currents that ran parallel to shore. Based on their knowledge of the harbor, they suggested the pier would be better rotated upstream parallel to the current and moved upstream and inshore from the Layout 1 location. This would put the pier in water with less tidal current and make docking easier and safer".* The area just seaward of site 7 is site 8.

Request for NIST application
The National Institute of Standards and Technology, NIST, was solicited for funding by UNE to construct the pier. The application is directly related to financing and it is not in any way related to regulatory permitting. The application does not seek approval of the pier design nor location.

In closing, we hope this helps to address some of the questions related to application. We are confident that our submission conforms to the required city standards and ordinances. We look forward to reviewing the Site plan Review Criteria with you in greater detail at the June 18th meeting.

Sincerely,



Alan Thibeault
Vice President for University Operations

cc: Tom Saucier, Site Design Associates
Dan Bannon, GEI

From: Galbraith, David
To: Alan Thibeault; Plotkin, Alexa; Patoine, Larry; Dubois, Matthew; Angers, Roch; Susan Deschambault; Deschambault, Susan; Lewis, Kayla; Beaudette, Stephen
Cc: Center, Harry; Whitten, Nan
Subject: EXT: UNE Research Pier
Date: Wednesday, May 28, 2025 11:51:19 AM
Attachments: Shoreland Zone Ordinance Relating to Piers Docks Wharfs.pdf

This email originated from outside of UNE.

All, this email was sent to me by the City Solicitor (Harry Center) late last night. In his email Harry states *"I will provide this advice/opinion to the Planning Board before the June 18, 2925 meeting and I would ask the Planning Department to please forward this email to all members of the planning board and the designated official from UNE".* As such, I am forwarding the entire email string and Harry's response.

As always, please do not respond to this email or discuss this matter with other Board members. I have also copied Alan Thibeault of UNE.

Thanks all & looking forward to seeing you all at the site walk on June 9th.
David

From: Harry Center <hcenter@woodedlaw.com>
Sent: Tuesday, May 27, 2025 8:31 PM
To: Matthew Haas <matthew1@maine.rr.com>; Whitten, Nan <Nan.Whitten@Biddefordmaine.org>
Cc: Galbraith, David <David.Galbraith@biddefordmaine.org>
Subject: RE: Public notice

> **Caution:**This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

Mr. Hass:
Attached is the provision of the City's Shoreland Zoning Ordinance relating to "approval" of piers. There are no standards for "local knowledge"; depth, current, moorings or any other complaints by the opponents of the UNE project.
These are the standards and provisions that the City Planning Board must apply to the application.
Additionally, because this is a non-residential development, site review is also required--however, none of the standards in that provision of the City Code of Ordinances relate to telling an applicant where the location of a pier should be located.
I will provide this advice/opinion to the Planning Board before the June 18, 2925 meeting and I would ask the Planning Department to please forward this email to all members of the planning board and the designated official from UNE. I will continue to follow the law and due process requirements to all parties.
At this time, I see no basis for the City's Planning Board to deny this permit based upon the water depth at the location, the current, or any of the accusations made at the last meeting-as there are no standards within the City's Code of Ordinances/Shoreland Zoning Ordinance that would justify or support the denial of a pier based on such claims by the opponents. If someone can point to a Shoreland Zoning Ordinance provision, City land use standard or other ordinance within the City's jurisdiction to deny this request for approval,

then the Planning Board should consider any such provision and decide. Further if an opponent can point to a City Ordinance provision that allows the City to dictate the location of the pier, I will be happy to review it.
I made that statement at the meeting, in good faith, that after the Planning Board heard from the public, I would give them legal advice regarding my opinion as to the legal standards the Planning Board must apply, as many of the public comments related to issues that are not within the Planning Board's jurisdiction. However I will respond to your email now.
The Planning Board will make its decision based on the standards set forth in the attached Ordinance. I have not located any other City of Biddeford Land Use Ordinance provision related to docks, piers, wharfs and City staff has not alerted me to any others. If you or anyone else are aware of anything within the City's Code (available online at the City's website) please feel free to raise such provisions and staff and I will review them.
Thank you,
Harry B. Center, II Esq.
City Attorney

From: Matthew Haas <matthew1@maine.rr.com>
Sent: Tuesday, May 27, 2025 4:52 PM
To: Nan Whitten <Nan.Whitten@biddefordmaine.org>
Cc: David Galbraith <David.Galbraith@biddefordmaine.org>; Harry Center <hcenter@woodedlaw.com>
Subject: Re: Public notice

During the meeting near the end there was a discussion on the limits of the boards review . harry center stated he has and will issue them some guidance on the extent and limits of their review. and he said it was available to the public.

Matthew Haas
Sent from my iPhone

> On May 27, 2025, at 1:57 PM, Whitten, Nan <Nan.Whitten@biddefordmaine.org> wrote:
>
> ***Guidance, do you mean the ordinance or do you have something specific in mind?***
>
> ---
>
> **From:** matthew1@maine.rr.com <matthew1@maine.rr.com>
> **Sent:** Tuesday, May 27, 2025 1:51 PM
> **To:** Whitten, Nan <Nan.Whitten@Biddefordmaine.org>
> **Subject:** RE: Public notice
>
> **Caution:**This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department
>
> Good afternoon, Can I get copies of the guidance the planning board was

issued by city legal council?

From: "Whitten, Nan"
To: "Matthew Haas"
Cc:
Sent: Tuesday May 27 2025 7:46:38AM
Subject: RE: Public notice

Thank you Matthew, you are on the list

From: Matthew Haas <matthew1@maine.rr.com>
Sent: Thursday, May 22, 2025 6:33 PM
To: Whitten, Nan <Nan.Whitten@Biddefordmaine.org>
Subject: Re: Public notice

> **Caution:**This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

Matthew haas
36 meeting house road
Biddeford maine
297-590-3889

Matthew Haas
Sent from my iPhone

> On May 22, 2025, at 2:34 PM, Whitten, Nan <Nan.Whitten@biddefordmaine.org> wrote:
>
> ***Happy to do so. May I please have your full name and mailing address?***
>
> ***Thank you for reaching out***
>
> ***Nan Whitten***
> ***City of Biddeford***
> ***Office Manager***
> ***Planning & Development***
> ***207-284-9115***

From: matthew1@maine.rr.com <matthew1@maine.rr.com>
Sent: Thursday, May 22, 2025 2:32 PM
To: Whitten, Nan <Nan.Whitten@Biddefordmaine.org>
Subject: Public notice

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

Please add me to the public notice roster for the UNE pier project. Thank you

City of Biddeford, Maine

The Office of
City Manager
James A. Bennett
Email: james.bennett@biddefordmaine.org

August 19, 2024

University of New England
11 Hills Beach Road
Biddeford, Maine 04005

Attention: Mr. Alan Thibeault, VP of University Operations

RE: Notice to Proceed with External Reviews

Dear Mr. Thibeault,

On August 9, 2024, I received written clarification from Mr. Wayne Duffett, PE of TECAssociates that UNE's proposed Research Pier and Float System has complied with City Code 74-35 subsections (c) 1-10. Those sections are as follows:

(1) A formal boundary survey that has been documented at the Registry of Deeds.
(2) A copy of the boundary survey showing the littoral zone, established by extending property lines seaward.
(3) A location map from a portion of a USGS topographic map or coastal chart.
(4) Distance to navigable channels or any federal navigation project.
(5) Mean high- and low-water boundary.
(6) A plan view on the drawing(s) that shows the location and dimensions of the applicant's structure(s) in relation to the applicant's property lines.
(7) A typical cross section/side view of the applicant's structures on the drawing(s).
(8) Evidence that owners of abutting properties have been notified of the applicant's intended project.
(9) Evidence that the 1) Maine Historic Preservation Commission, 2) Aroostook Band of Micmac, 3) Passamaquoddy Tribe of Indians: Pleasant Point; Indian Township, 4) Houlton Band of Maliseet Indians, and 5) Penobscot Indian Nation have been notified of the applicant's intended project.
(10) Completed applications to the Army Corps of Engineers, Department of Environmental Protection and Biddeford Code Enforcement. A regulatory permit from the Saco River Corridor Commission may also be required in some instances.

Based on this information and in harmony with my earlier communications, please consider this as formal notification from the City of Biddeford that the application has been found in compliance with

the above mention City Code. That finding allows the application to proceed in the next steps of the review process; namely formal review by all agencies except those that are part of the City of Biddeford. After each and all of those processes are complete, the City will move forward with the final review(s) by agents and Committees of the City.

While I don't believe it is necessary, let me empathically state that this communication does not in any form, imply that the City has in any way made a determination that the location submitted has been approved. Said approval will considered after completion of all process and in compliance with applicable laws, regulations. This includes all local ordinances.

Please feel free to reach out to me if you have any questions

Sincerely,

James A. Bennett
City Manager

CC: Biddeford Mayor and City Council

University of New England Pier
Biddeford, Maine

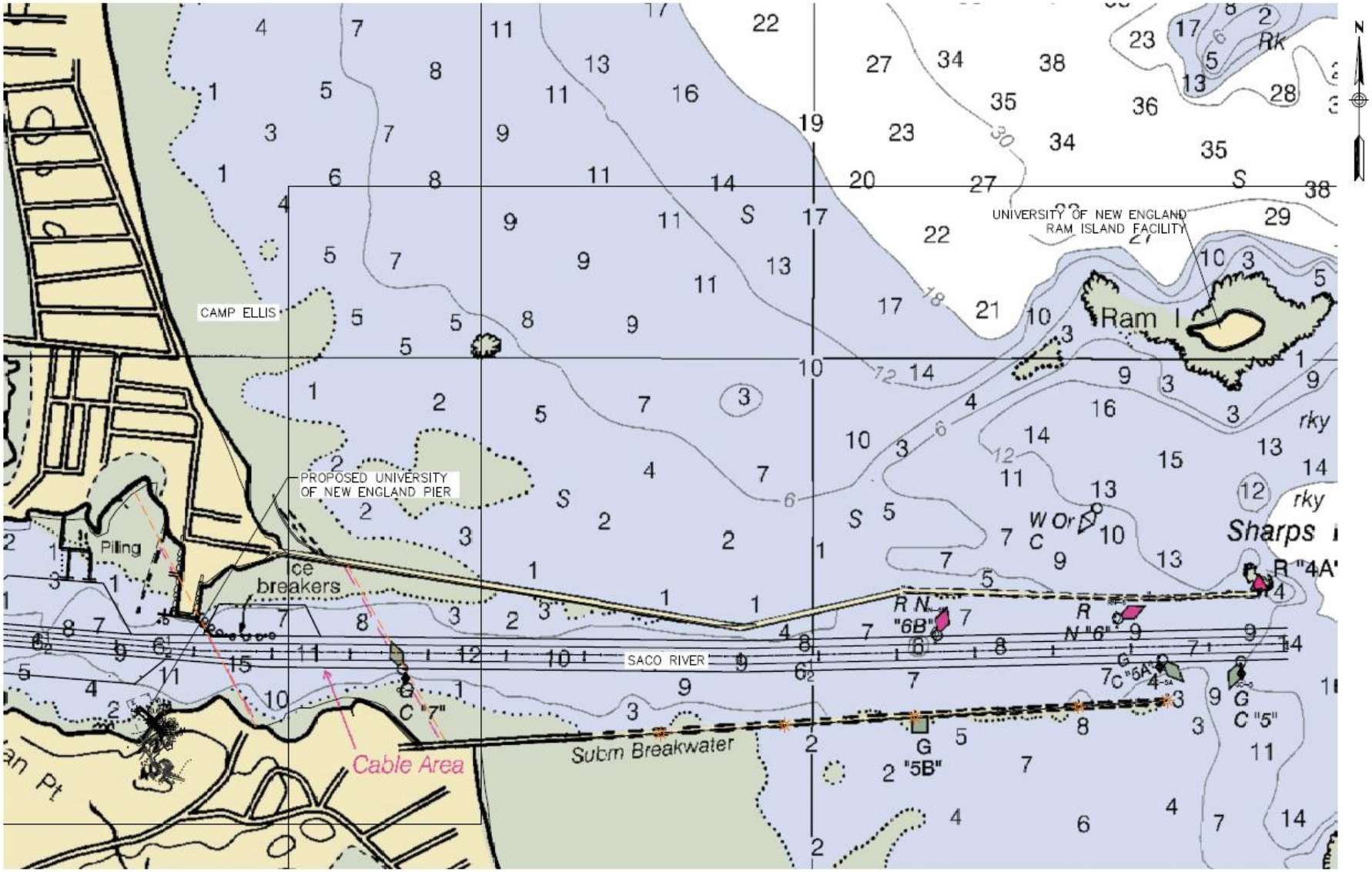


Baker Design Consultants
Civil, Marine & Structural Engineering
7 Spruce Road, Freeport, ME 04032
b.baker@bakerdesignconsultants.com

January 26, 2016

Site Mapping & Plans

NOAA CHART



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

NO.	DATE	
A	6-25-15	BJB
	PROGRESS REVIEW SUBMISSION	INT.

DESIGNED BY: JJC
DRAWN BY:
CHECKED BY: BJB
SCALE: AS SHOWN

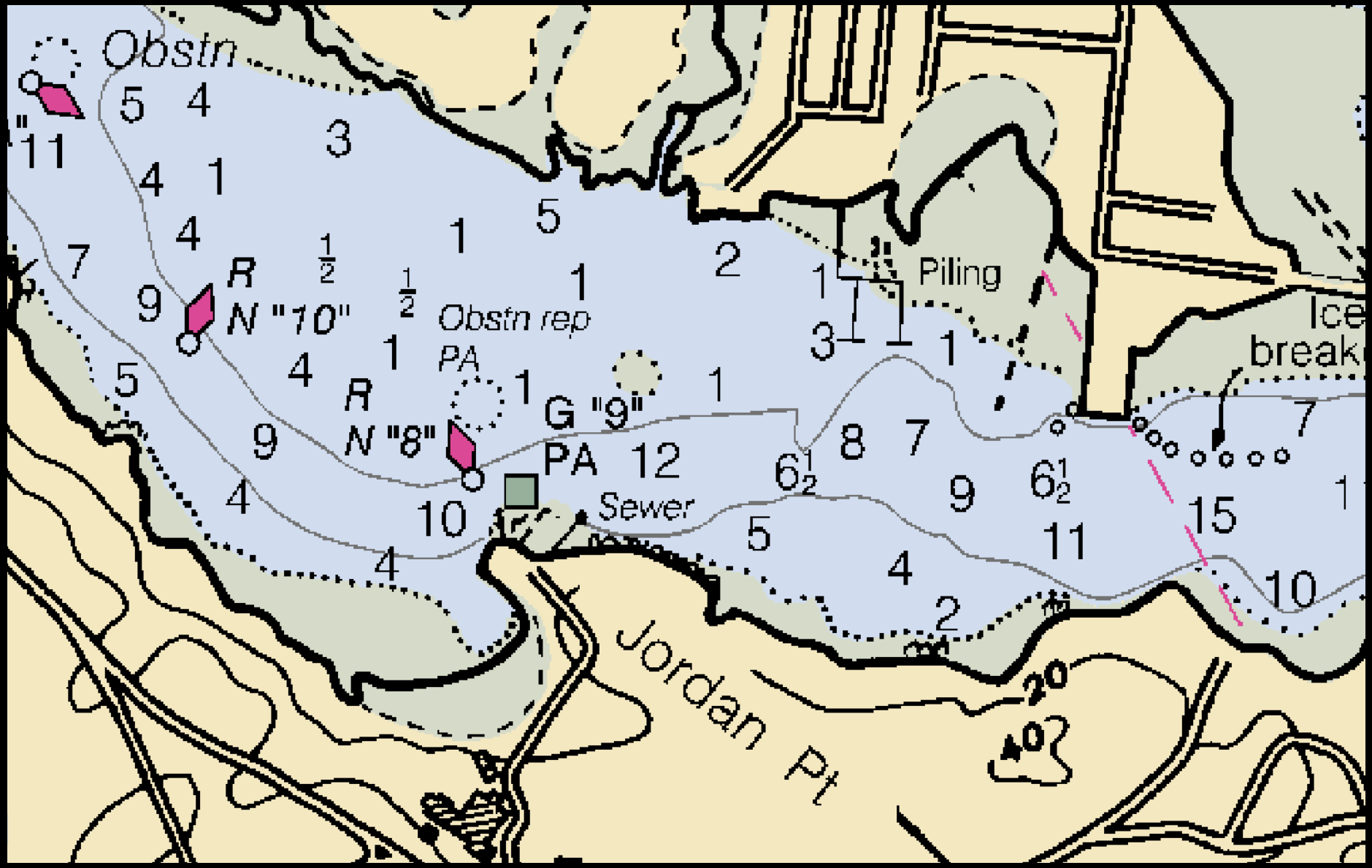
SHEET TITLE: PROJECT VICINITY PLAN
PROJECT: UNIVERSITY OF NEW ENGLAND UNE MSC WATERFRONT BIDDEFORD, MAINE

DATE: FEBRUARY 2015
CONTRACT NO. 15-07
SHEET NO. SK-1
REV. A

Site Selection Study



Site Selection Study



Site Selection Study

TABLE 1 SITE DEVELOPMENT CRITERIA		SITE 1 Existing Pier Improved	SITE 2 New Boat House & Ramp	SITE 3. New Pier with gangway extension	SITE 4 New Pier with gangway extension	SITE 5 Replacement Pier- gangway ext	SITE 6 New Boat House & Ramp	SITE 7 New Pier to deep water	SITE 8 New Pier to deep water	SITE 9 New Pier, Boat House & Ramp.
General Description		Improvements to existing shallow access site	No Pier. Dedicated launching &storage.	Dedicated Pier with Vehicle Access	Dedicated Pier with Vehicle Access	Replaces existing shallow access at recreation site	Steep access . No Pier. Dedicated launching & storage.	Dedicated Pier with Vehicle Access	Dedicated Pier with Vehicle Access	Dedicated Pier , Boathouse and Ramp.
Key Feature		Protected tidal Cove. Seasonal icing prevents year-round use	Tidal ramp requires hydraulic trailer rental or purchase for vessel. Floats installed on ramp to facilitate use.	Floats and Gangway removed for winter. Limited access to pier at Mid to high tide.	Floats and Gangway removed for winter. Limited access to pier at Mid to high tide.	Limited access to pier at Mid to high tide. Shared with recreational program. Pier length dictated by shallow water.	Tidal ramp requires hydraulic trailer rental or purchase for vessel. Floats installed on ramp to facilitate use.	Provides Pier to deep water. Natural protection behind escarpment. Close to Marine Science Bldg.	Avoids any blasting adjacent to the mammal tank. Close to Marine Science Bldg.	Shorefront topography allows for Pier and boat ramp. Close proximity to Neighboring properties.
Primary Affiliation with Marine Science Program		INFREQUENT Use	DEDICATED Waterfront	DEDICATED Waterfront	DEDICATED Waterfront	SHARED with Recreation	DEDICATED Waterfront	DEDICATED Waterfront	DEDICATED Waterfront	DEDICATED Waterfront
Type of Access		Seasonal	Tidal Ramp	Limited Year-round	Limited Year-round	Limited Year-round	Tidal Ramp	Year-round	Year-round	Year-round
Shared Users		UNE Staff/Students	None	None	None	UNE Recreation	None	None	None	None
LOCATION (Sheet Reference)		D-1	D-2	D-3	D-4	D-5	D-6	D-7	D-8	D-9
Distance from Marine Science Ctr	LF	2000	1500	1500	1250	1150	400	200	250	300
Setback from ACOE Channel	LF	Jordon Cove	200	175	215	450	500	350	310	250
Distance to Abutting Property	LF	600	800	1000	1075	1300	650	600	400	250
Base Flood Elev (FEMA '84-NGVD)	NGVD	12.0 (Zone V2)	13.0 (Zone V2)	13.0 (Zone V2)	13.0 (Zone V2)	13.0 (Zone V2)	13.0 (Zone V2)	13.0 (Zone V2)	14.0 (Zone V2)	14.0 (Zone V2)
Wind Exposure		W to NW	NW to N to E	NW to N to E	NW to N to E	NW to N to E	NW to N to NE	NW to N to E	NW to N to E	NW to N to E
Pier Deck Elevation	NGVD	12.0	13.0	13.0	13.0	13.0	13.0	13.0	14.0	14.0
MLW Depth at Float	FT	0-2	NA	6	6	3	NA	6	6	6
PIER GEOMETRY		$16,500.00	$0.00	$202,000.00	$224,000.00	$444,000.00	$0.00	$334,200.00	$444,200.00	$400,200.00
Length of Pier	FT	25	NA	90	100	200	NA	115	165	145
Width of Pier	FT	6	NA	20	20	20	NA	20	20	20
Jib Crane	EA	NA	NA	1	1	1	NA	1	1	1
Wave Barrier	LF	NA	NA	NA	NA	NA	NA	60	60	60
Transfer Pen (Pier Mounted)	EA	NA	NA	NA	NA	NA	NA	1	1	1
Pier Building (12x8 Marine Related)	SF	NA	NA	96	96	96	NA	96	96	96
SITE IMPROVEMENTS		$2,000.00	$45,950.00	$48,000.00	$55,000.00	$34,500.00	$37,500.00	$143,000.00	$144,000.00	$171,000.00
Access Road 16-ft w/turnaround	LF	NA	285	400	500	350	250	600	400	700
Ledge Removal	LF	NA	100	NA	NA	NA	NA	400	400	500
Utility Route (estimate ?)	LF	NA	285	400	500	350	250	300	400	700
Shore Support Building	SF	NA	NA	NA	NA	NA	NA	600	600	600
Landscaping	LS	0.1	1	1	1	0.5	1	1	1	1
FLOAT SYSTEM		$36,700.00	$0.00	$43,000.00	$43,000.00	$43,000.00	$0.00	$60,900.00	$60,900.00	$60,900.00
Gangway	FT	50	NA	40	40	40	NA	50	50	50
Unit Float Length	FT	40	NA	20	20	20	NA	40	40	40
Unit Float Width	FT	12	NA	10	10	10	NA	12	12	12
No. of Floats	EA	1	NA	3	3	3	NA	2	2	2
Fishery Cage (in Float)	EA	NA	NA	1	1	1	NA	1	1	1
BOAT RAMP		$0.00	$107,500.00	$0.00	$0.00	$0.00	$98,600.00	$0.00	$0.00	$84,600.00
Length of Ramp	FT	NA	90	NA	NA	NA	90	NA	NA	70
Width of Ramp	FT	NA	20	NA	NA	NA	20	NA	NA	20
Guide Piles	EA	NA	5	NA	NA	NA	4	NA	NA	4
Unit Float Length	FT	NA	20	NA	NA	NA	20	NA	NA	20
Unit Float Width	FT	NA	8	NA	NA	NA	8	NA	NA	8
No. of Floats	EA	NA	5	NA	NA	NA	4	NA	NA	4
BOAT HOUSE		$0.00	$460,000.00	$0.00	$0.00	$0.00	$460,000.00	$0.00	$0.00	$460,000.00
Setback from shore	FT	NA	25	NA	NA	NA	75	NA	NA	50
No. of Vessel Bays	EA	NA	2	NA	NA	NA	2	NA	NA	2
Footprint SF	SF	NA	2400	NA	NA	NA	2400	NA	NA	2400
Floor Slab Elevation	NGVD	NA	13	NA	NA	NA	13	NA	NA	13
Hydraulic Trailer	Ea	NA	1	NA	NA	NA	1	NA	NA	1

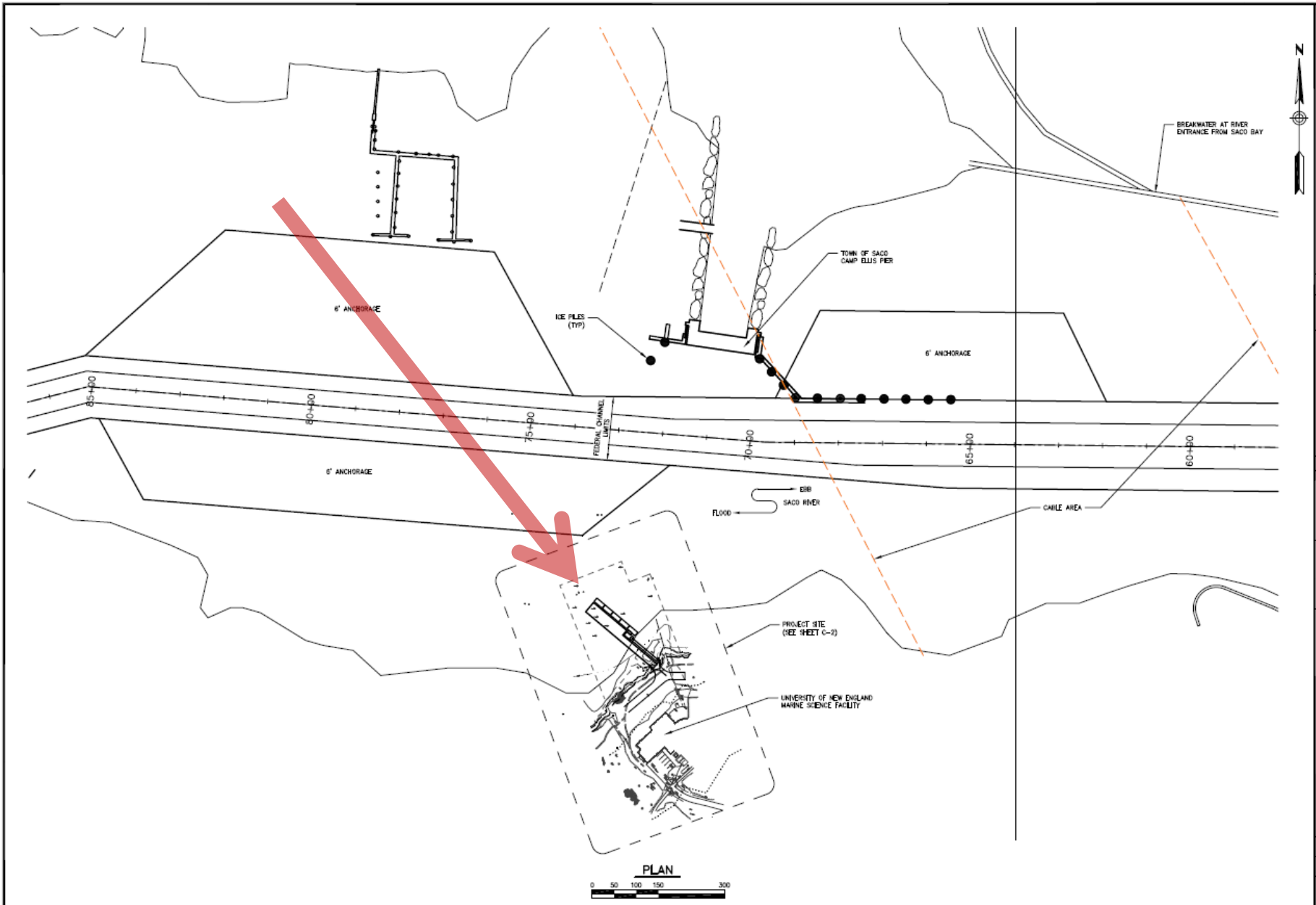
Site Selection Study

TABLE 2 REGULATORY CONSIDERATIONS	SITE 1 Existing Pier Improved	SITE 2 New Boat House & Ramp	SITE 3. New Pier with gangway extension	SITE 4 New Pier with gangway extension	SITE 5 Replacement Pier- gangway ext	SITE 6 New Boat House & Ramp	SITE 7 New Pier to deep water	SITE 8 New Pier to deep water	SITE 9 New Pier, Boat House & Ramp.
PERMIT AGENCIES									
ACOE Dept of the Army	☑	☑	☑	☑	☑	☑	☑	☑	☑
ME DEP NRPA/Site Location	☑	☑	☑	☑	☑	☑	☑	☑	☑
ME DOC Submerged Lands	NA	NA	☑	☑	☑	NA	☑	☑	☑
Saco River Corridor	☑	☑	☑	☑	☑	☑	☑	☑	☑
City of Biddeford	☑	☑	☑	☑	☑	☑	☑	☑	☑
HABITAT IMPACTS									
Upland	Minimal Change to existing access and grading.	Marine related facility (Boathouse and ramp) constructed within 75-ft setback.	Minor grading to create road. Turn around within 75-ft setback.	Road follows natural gradient. Turn around within 75-ft setback.	Access road improves existing route.	Marine related facility (Boathouse and ramp) constructed within 75-ft setback.	Major grading to create access road within 75-ft setback.	Major grading to create access road within 75-ft setback.	Marine related facility (Boathouse and ramp) constructed within 75-ft setback.
Shoreline	Stub Pier Constructed. Minimal shading	Cut/fill to create boathouse pad and ramp gradient.	Pier extends to low water.	Pier extends to low water.	New pier replaces existing facility	Cut/fill to create boathouse pad and ramp gradient.	Pier extends to Deep water with L-shaped float system.	Pier extends to Deep water with L-shaped float system.	Pier extends to Deep water with L-shaped float system.
Benthic	Characterization Required. Float sits on seabed at extreme low tide.	Intertidal impacts associated with ramp construction.	Shading from new floats.	Pier extends to MLW. Shading from floats	Pier extends to MLW. Shading from floats	Intertidal impacts associated with ramp construction.	Shading from pier/floats.	Shading from pier/floats.	Shading from pier/floats.
Water Quality	Shading from float.	Buffer to control ramp/building runoff.	Fishery Cage.	Fishery Cage.	Fishery Cage.	Buffer to control ramp/building runoff.	Fishery cage and mammal pen.	Fishery cage and mammal pen.	Runoff, fishery cage and mammal pen.
ADA ISSUES									
Pier	ADA access to Pier head	15% grade required to launch boats.	ADA access to Pier head	ADA access to Pier head	ADA access to Pier head	15% grade required to launch boats.	ADA access to Pier head	ADA access to Pier head	ADA access to Pier head
Gangway	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail	NA	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail	NA	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail	Does not meet ADA Guidelines for length (80-ft). ADA width and handrail
VISUAL IMPACT									
From River Corridor	On Jordon Cove. Not directly exposed to the river corridor.	Building and Ramp will be visible from the river corridor.	Pier extends into river corridor.	Pier extends into river corridor.	Pier extends into river corridor.	Building and Ramp will be visible from the river corridor.	Pier extends into river corridor.	Pier extends into river corridor.	Building and Ramp and Pier visible from the river corridor.
SPECIAL CONSIDERATIONS									
Noise	No change from current conditions.	No change from current conditions.	Minimal Impact.	Minimal Impact.	Minimal Impact.	Minimal Impact.	Minimal Impact.	Minimal Impact.	Considers proximity to Neighboring properties.
Navigation	No Impact to existing Mooring Field.	No Impact to existing Mooring Field.	Approximately 2 moorings displaced.	Approximately 2 moorings displaced.	Approximately 2 moorings displaced.	Approximately 2 moorings displaced.	Approximately 2 moorings displaced.	Approximately 2 moorings displaced.	Approximately 2 moorings displaced.
Water Quality	No change from current conditions.	No change from current conditions.	Minimal or No Impact.	Minimal or No Impact.	Minimal or No Impact.	Minimal or No Impact.	Minimal or No Impact.	Minimal or No Impact.	Minimal or No Impact.
Winter Icing	Not an issue with seasonal facility	Boat ramp use will be impacted by ice.	Pier must resist ice buildup.	Pier must resist ice buildup.	Pier must resist ice buildup.	Boat ramp use will be impacted by ice.	Pier must resist ice buildup.	Pier must resist ice buildup.	Pier must resist ice buildup.
River Current	Not directly on river.	Cross current with some protection from Jordan Point.	Cross current.	Cross current.	Cross current.	Maximum setback from Channel.	Cost estimate includes wave barrier for protection	Cost estimate includes wave barrier for protection	Cost estimate includes wave barrier for protection
Mitigation	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

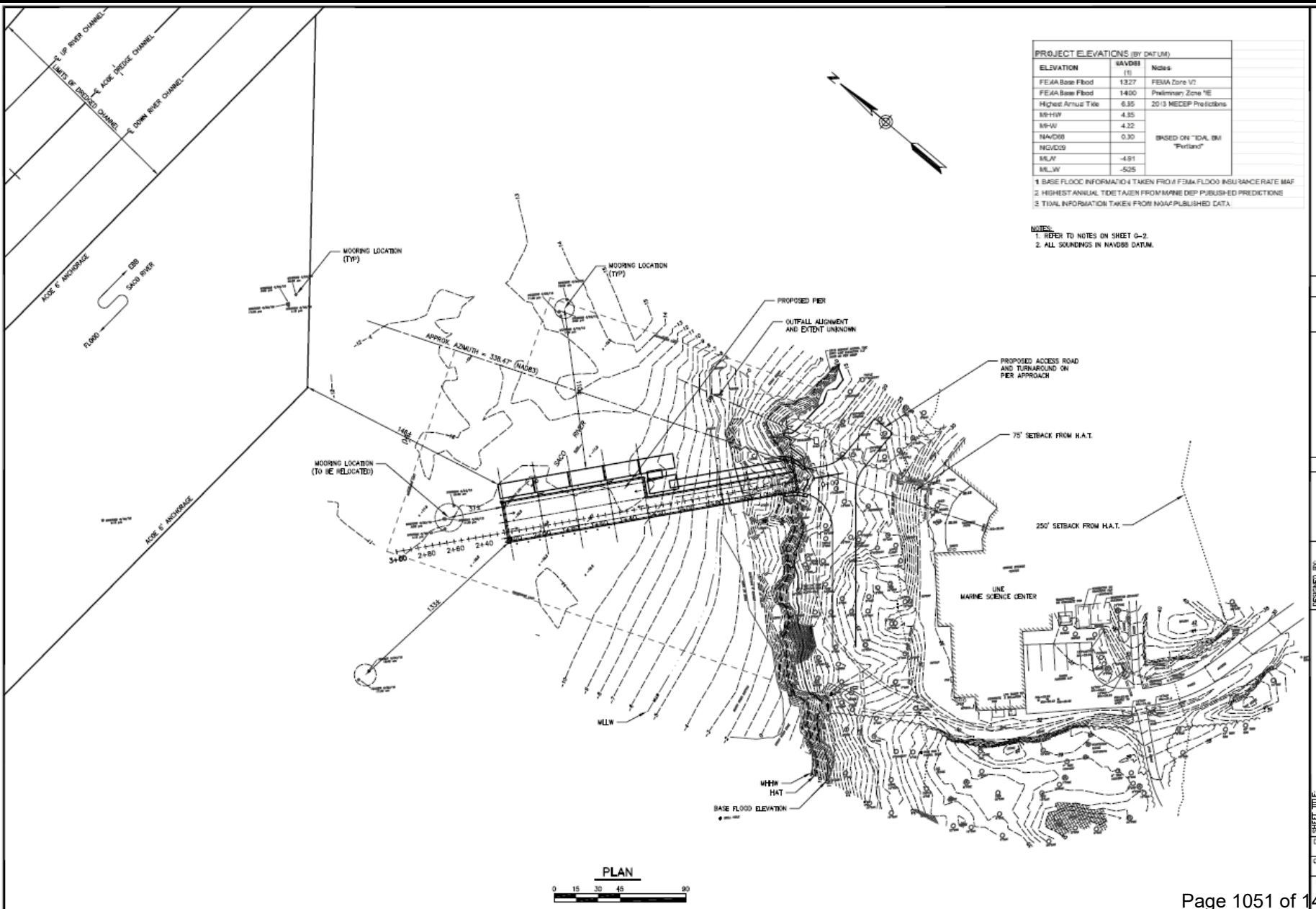
Site Selection Study

TABLE 3 SITE CONCEPT COST ESTIMATE			SITE 1 Existing Pier Improved	SITE 2 New Boat House & Ramp	SITE 3. New Pier with gangway extension	SITE 4 New Pier with gangway extension	SITE 5 Replacement Pier- gangway ext	SITE 6 New Boat House & Ramp	SITE 7 New Pier to deep water	SITE 8 New Pier to deep water	SITE 9 New Pier, Boat House & Ramp.
Description	Unit Cost	Unit									
Mob Demobilization		5%	NA	$37,655	$17,985	$19,765	$32,011	$36,590	$33,030	$39,843	$72,229
Bonds & Insurance		1%	NA	$3,766	$1,799	$1,977	$3,201	$3,659	$3,303	$3,984	$7,223
PIER											
Fixed Pier	$110.00	SF	$16,500.00	NA	$198,000.00	$220,000.00	$440,000.00	NA	$253,000.00	$363,000.00	$319,000.00
Jib Crane	$4,000.00	EA	NA	NA	$4,000.00	$4,000.00	$4,000.00	NA	$4,000.00	$4,000.00	$4,000.00
Wave Barrier	$1,000.00	LF	NA	NA	NA	NA	NA	NA	$60,000.00	$60,000.00	$60,000.00
Transfer Pen	$10,000.00	LS	NA	NA	NA	NA	NA	NA	$10,000.00	$10,000.00	$10,000.00
Pier Building	$75.00	LF	NA	NA	NA	NA	NA	NA	$7,200.00	$7,200.00	$7,200.00
SITE IMPROVEMENTS											
Access Road 16-ft	$20.00	LF	NA	$5,700.00	$8,000.00	$10,000.00	$7,000.00	$5,000.00	$12,000.00	$8,000.00	$14,000.00
Ledge Removal	$60.00	LF	NA	$6,000.00	NA	NA	NA	NA	$24,000.00	$24,000.00	$30,000.00
Utility Route (est ?)	$50.00	LF	NA	$14,250.00	$20,000.00	$25,000.00	$17,500.00	$12,500.00	$15,000.00	$20,000.00	$35,000.00
Shore Support Bldg	$120.00	SF	NA	NA	NA	NA	NA	NA	$72,000.00	$72,000.00	$72,000.00
Landscaping	$20,000.00	LS	$2,000.00	$20,000.00	$20,000.00	$20,000.00	$10,000.00	$20,000.00	$20,000.00	$20,000.00	$20,000.00
FLOAT SYSTEM											
Gangway	$350.00	EA	$17,500.00	NA	$14,000.00	$14,000.00	$14,000.00	NA	$17,500.00	$17,500.00	$17,500.00
Floats	$40.00	SF	$19,200.00	NA	$24,000.00	$24,000.00	$24,000.00	NA	$38,400.00	$38,400.00	$38,400.00
Fishery Cage (in Float)	$5,000.00	EA	NA	NA	$5,000.00	$5,000.00	$5,000.00	NA	$5,000.00	$5,000.00	$5,000.00
BOAT RAMP											
Boat Ramp	$35.00	SF	NA	$63,000.00	NA	NA	NA	$63,000.00	NA	NA	$49,000.00
Guide Piles	$2,500.00	EA	NA	$12,500.00	NA	NA	NA	$10,000.00	NA	NA	$10,000.00
Floats	$40.00	SF	NA	$32,000.00	NA	NA	NA	$25,600.00	NA	NA	$25,600.00
BOAT HOUSE											
Footprint SF	$150.00	SF	NA	$360,000	NA	NA	NA	$360,000	NA	NA	$360,000
Hydraulic Trailer	$100,000.00	Ea	NA	$100,000	NA	NA	NA	$100,000	NA	NA	$100,000
Construction Subtotal			$55,200	$654,871	$312,784	$343,742	$556,712	$636,349	$574,433	$692,928	$1,256,152
Cost Adjustment for existing site@		40%	-$22,080								
Contingency @		15%	$8,280	$98,231	$46,918	$51,561	$83,507	$95,452	$86,165	$103,939	$188,423
Construction Total			**$41,400**	**$753,101**	**$359,701**	**$395,303**	**$640,219**	**$731,801**	**$660,598**	**$796,867**	**$1,444,574**
Survey and Testing											
Geotechnical Investigation		Est.	$0	$5,000	$15,000	$15,000	$15,000	$5,000	$15,000	$15,000	$20,000
Environmental Survey		Est.	$750	$10,000	$10,000	$10,000	$10,000	$5,000	$10,000	$10,000	$10,000
Topographic Survey/Bathymetry		Est.	$1,500	$1,500	$2,500	$2,500	$2,500	$1,500	$2,500	$2,500	$2,500
Permitting		Est.	w/design services	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
Design Development		10%	$4,140	$75,310	$35,970	$39,530	$64,022	$73,180	$66,060	$79,687	$144,457
Bid Phase Services		0.5%	$207	$3,766	$1,799	$1,977	$3,201	$3,659	$3,303	$3,984	$7,223
Construction Admin @ Monitoring		2%	$828	$15,062	$7,194	$7,906	$12,804	$14,636	$13,212	$15,937	$28,891
Consultant Services Total			**$7,425**	**$135,638**	**$97,463**	**$101,913**	**$132,527**	**$127,975**	**$135,075**	**$152,108**	**$238,072**
PROJECT BUDGET			**$48,000**	**$888,000**	**$457,000**	**$497,000**	**$772,000**	**$859,000**	**$795,000**	**$948,000**	**$1,682,000**

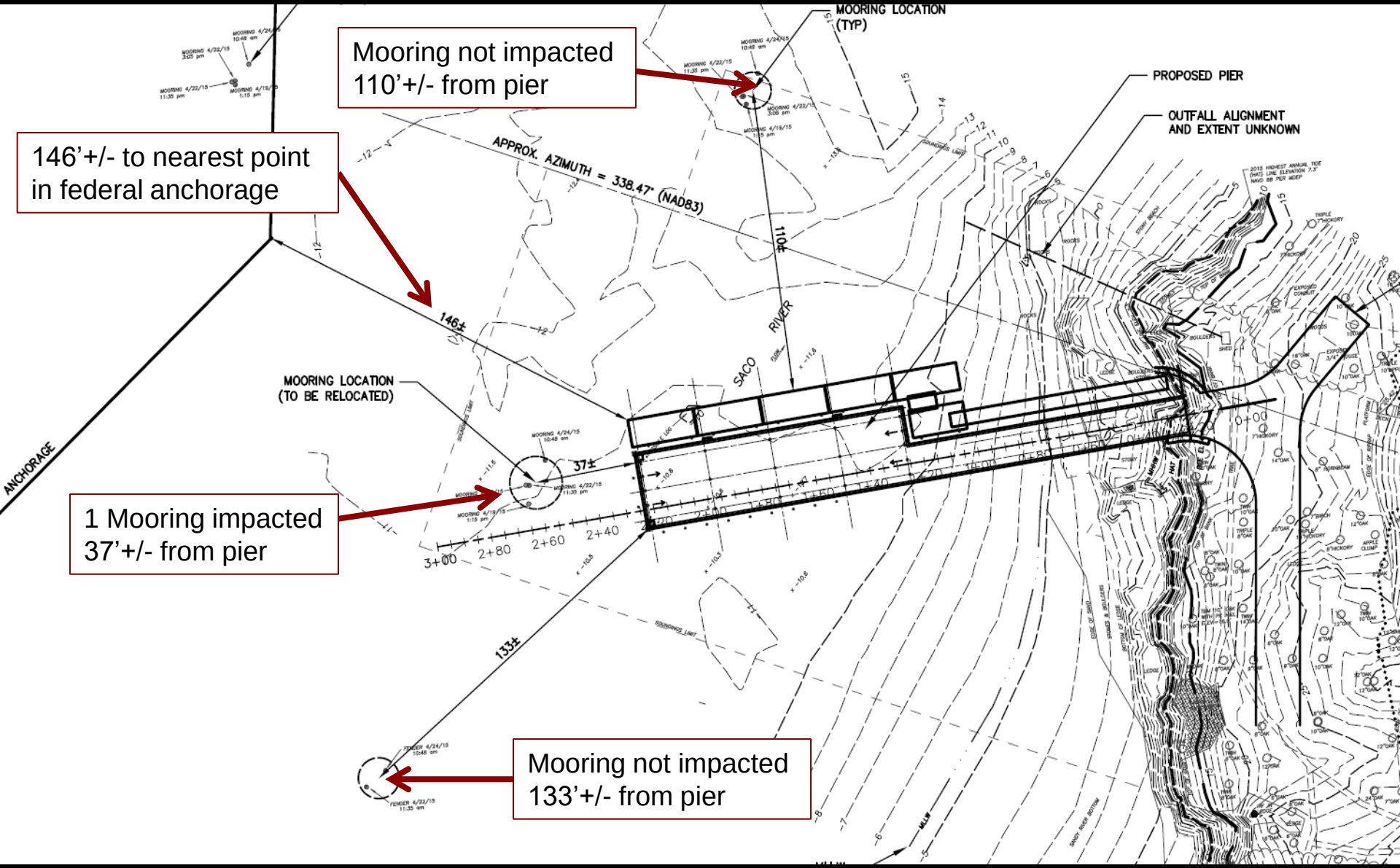
Preferred Site (#7)



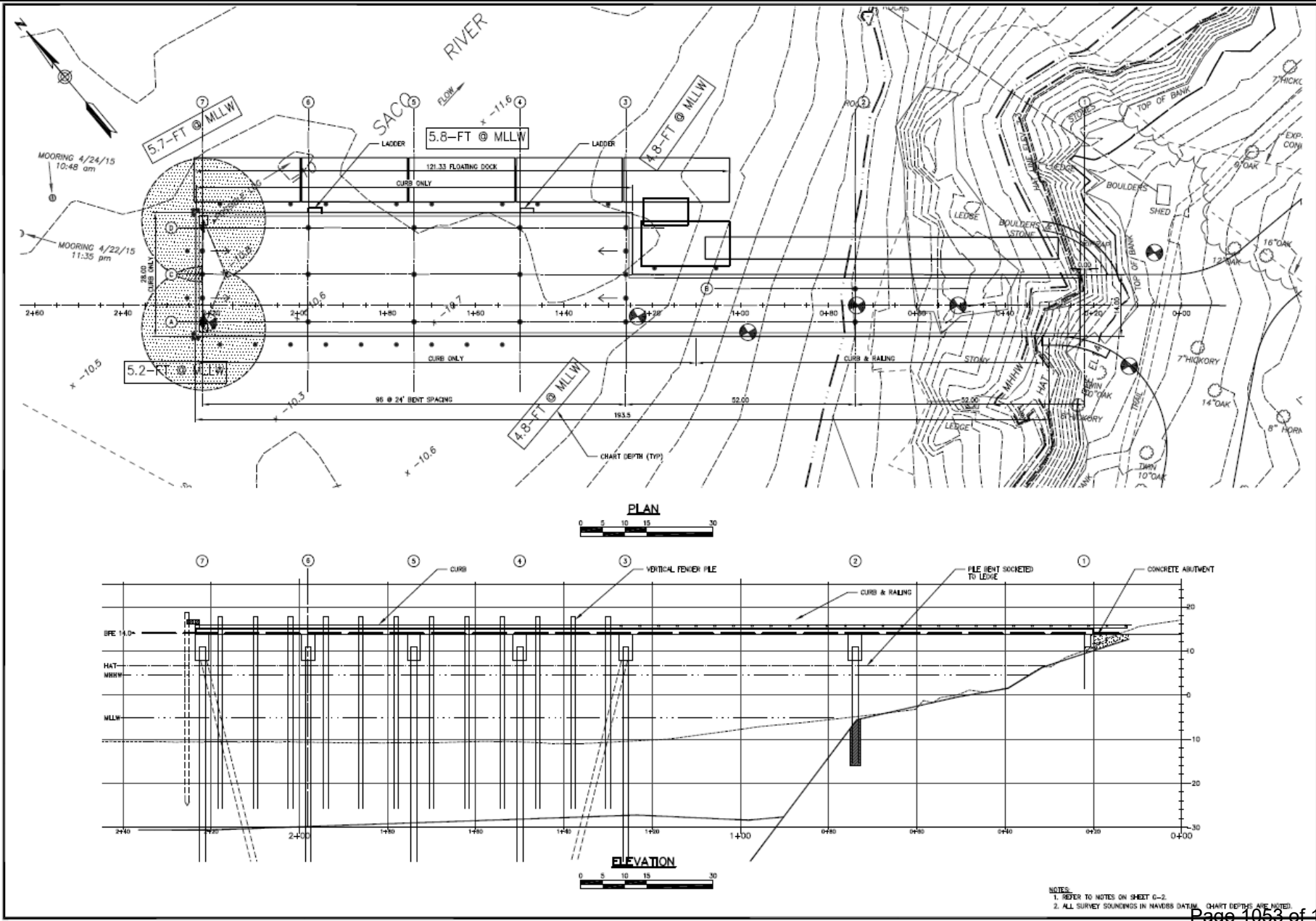
Pier Site Plan



Pier Site Plan - Impacts



Pier Plan & Elevation



NOTES:
1. REFER TO NOTES ON SHEET G–2.
2. ALL SURVEY SOUNDINGS IN NAVD88 DATUM. CHART DEPTHS ARE NOTED.

BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering
7 Spruce Road • Freeport • Maine • (207) 865-4724 • mail@bakerdesignconsultants.com

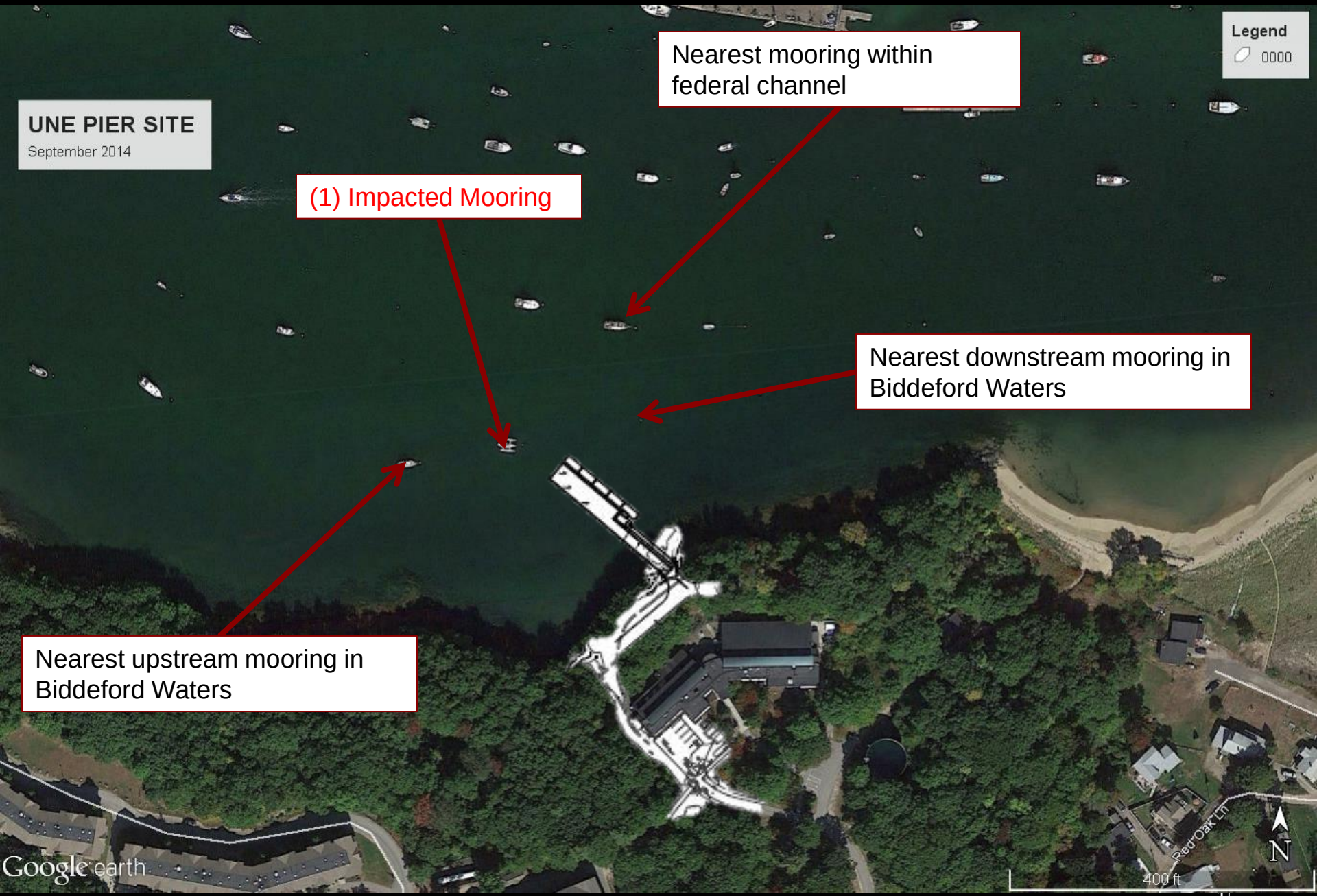
NO.	REVISION / SUBSTRUCTURE	DATE	INIT.
D	REVISED SUBSTRUCTURE	12–4–15	BJB
C	REVISED LAYOUT	9–15–15	BJB
B	PROGRESS REVIEW	7–22–15	BJB
A	PROGRESS REVIEW	6–25–15	BJB
	SUBMISSION		

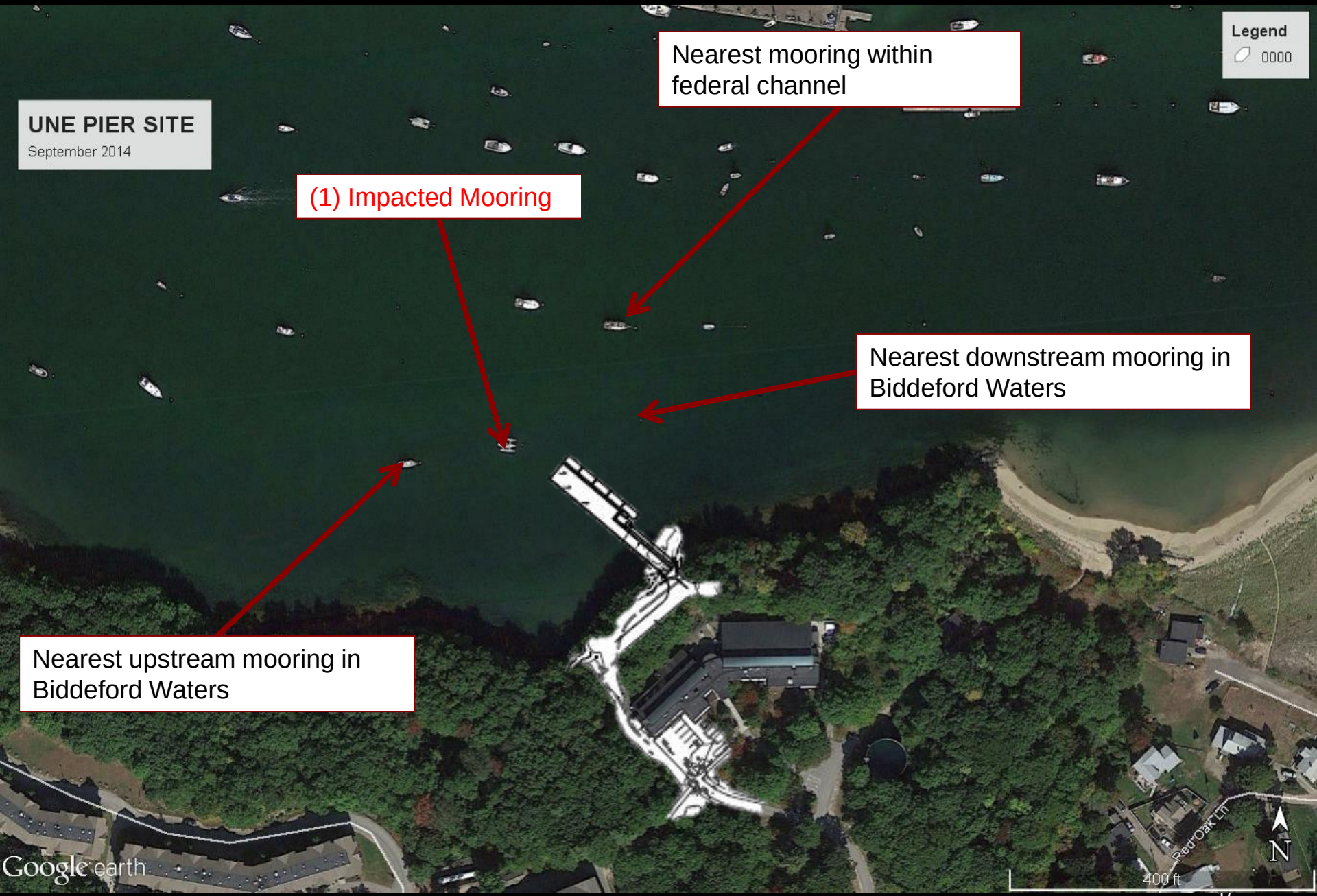
DESIGNED BY: JJC
DRAWN BY:
CHECKED BY: BJB
SCALE: AS SHOWN

SHEET TITLE: PIER PLAN & ELEVATION
PROJECT: UNIVERSITY OF NEW ENGLAND UNE MSC WATERFRONT BIDDEFORD, MAINE
DATE: FEBRUARY 2015
CONTRACT NO. 15–07
SHEET NO. S-1
REV. D

Aerial Photos


UNE PIER SITE
September 2014
Legend
0000
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
September 2014
Legend
0000
Nearest mooring within federal channel
(1) Impacted Mooring
Nearest downstream mooring in Biddeford Waters
Nearest upstream mooring in Biddeford Waters
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
September 2014
Legend
0000
Nearest mooring within federal channel
(1) Impacted Mooring
Nearest downstream mooring in Biddeford Waters
Nearest upstream mooring in Biddeford Waters
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
September 2013
Legend
0000
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
May 2012
Legend
0000
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
April 2012
Legend
0000
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
November 2011
Legend
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Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
May 2010
Legend
0000
Red Oak Ln
N
400 ft
Google earth

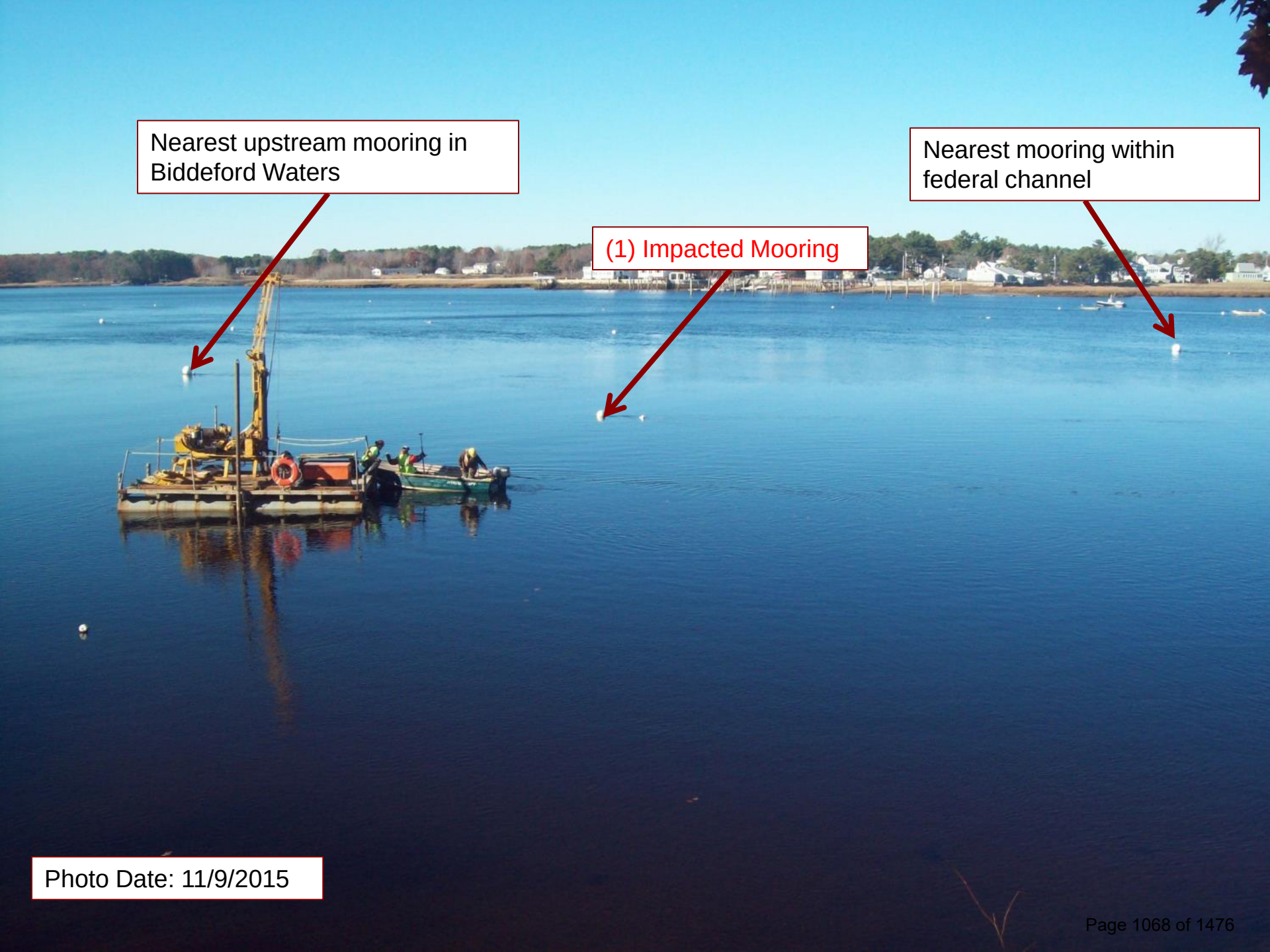

UNE PIER SITE
September 2007
Legend
0000
Red Oak Ln
N
400 ft
Google earth

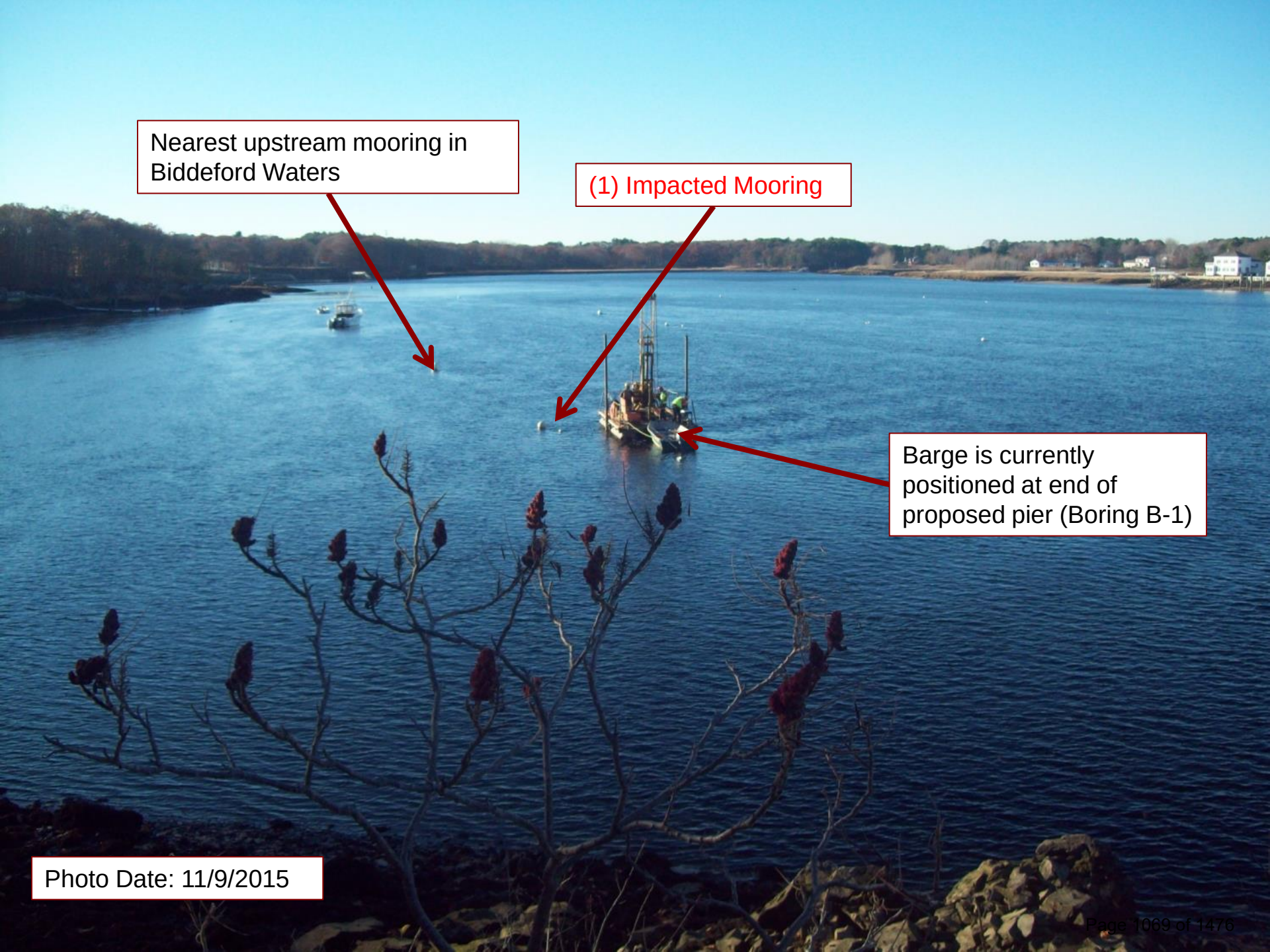

Legend
0000
UNE PIER SITE
October 2006
Red Oak Ln
N
400 ft
Google earth


UNE PIER SITE
April 2006
Legend
0000
Red Oak Ln
N
400 ft
Google earth

Site Photos


Approximate Pier Location
Photo Date: 11/9/2015


Nearest upstream mooring in Biddeford Waters
(1) Impacted Mooring
Nearest mooring within federal channel
Photo Date: 11/9/2015

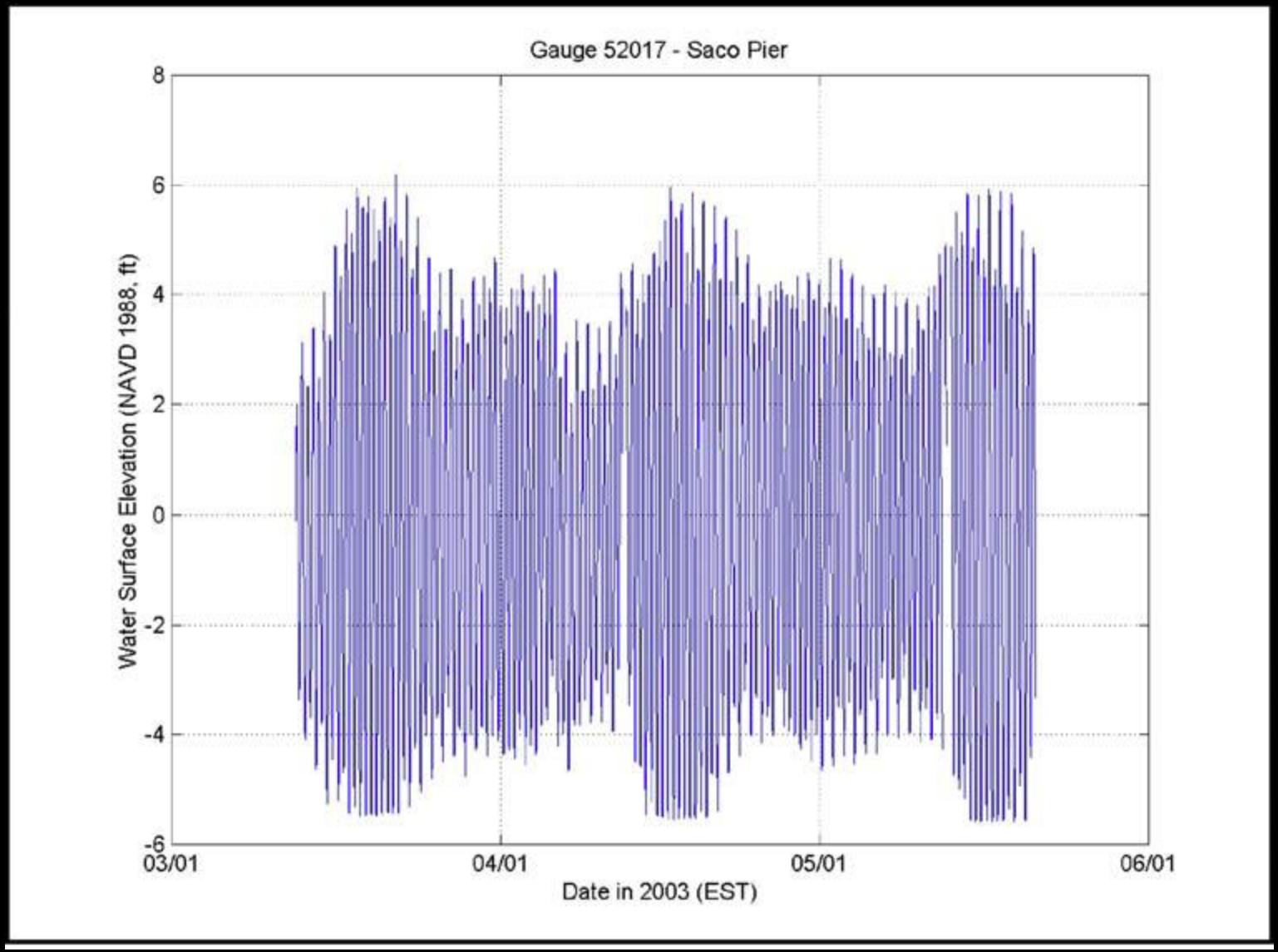

Nearest upstream mooring in Biddeford Waters
(1) Impacted Mooring
Barge is currently positioned at end of proposed pier (Boring B-1)
Photo Date: 11/9/2015


Nearest downstream mooring in Biddeford Waters
Photo Date: 11/9/2015

Tidal & Current Study

Source:

Saco River and Camp Ellis Beach Section 111 Shore Damage Mitigation Study, Appendix C – Data Collection and Modeling Report, prepared by Woods Hole Group and Aubrey Consulting for the US Army Corps of Engineers, October 2006

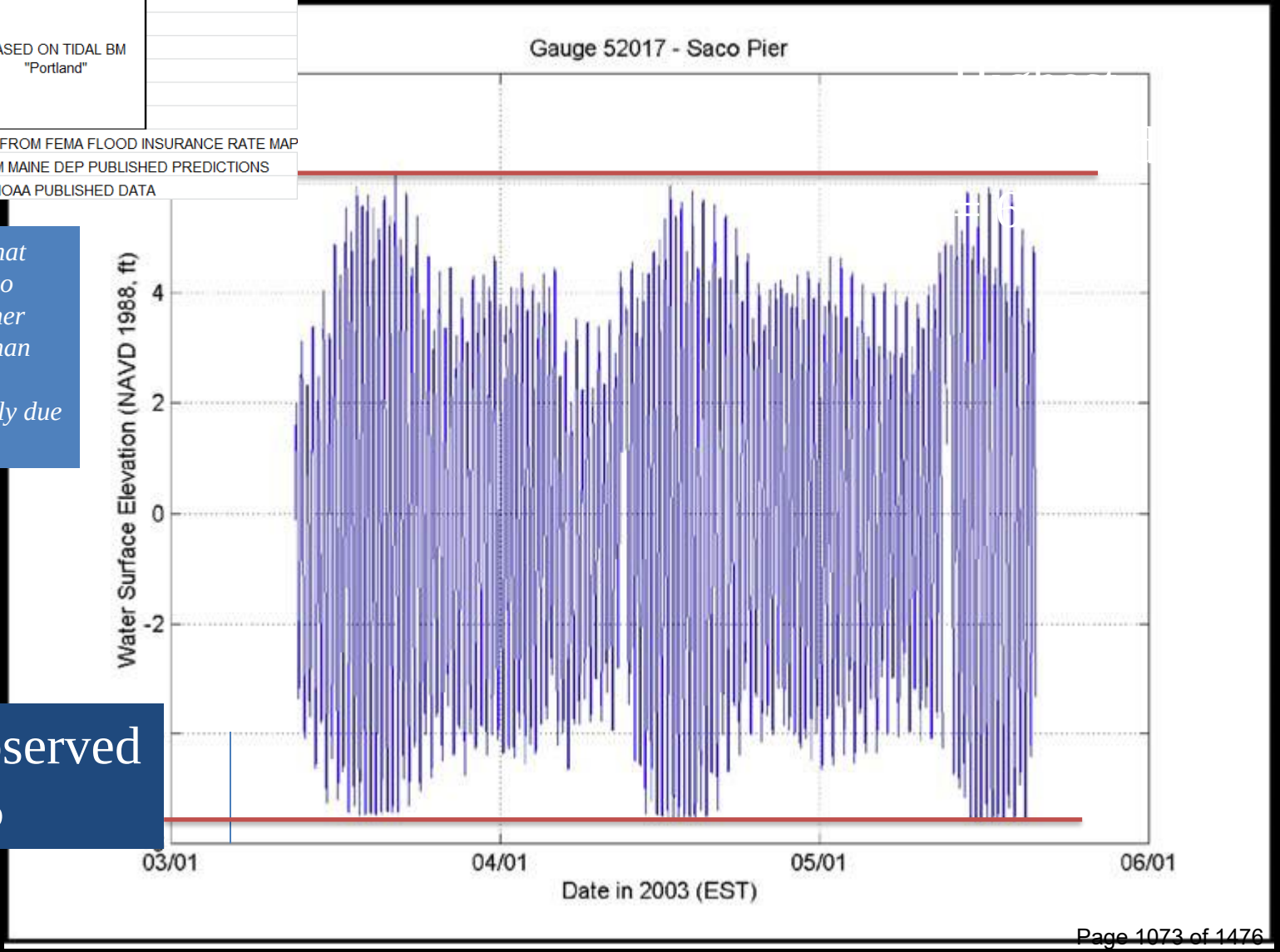

Gauge 52017 - Saco Pier
Water Surface Elevation (NAVD 1988, ft)
8
6
4
2
0
-2
-4
-6
03/01
04/01
05/01
06/01
Date in 2003 (EST)

PROJECT ELEVATIONS (BY DATUM)

ELEVATION	NAVD88 (ft)	Notes
FEMA Base Flood	13.27	FEMA Zone V2
FEMA Base Flood	14.00	Preliminary Zone VE
Highest Annual Tide	6.65	2013 MEDEP Predictions
MHHW	4.65	BASED ON TIDAL BM "Portland"
MHW	4.22	
NAVD88	0.00	
NGVD29		
MLW	-4.91	
MLLW	-5.25	

1. BASE FLOOD INFORMATION TAKEN FROM FEMA FLOOD INSURANCE RATE MAP
2. HIGHEST ANNUAL TIDE TAKEN FROM MAINE DEP PUBLISHED PREDICTIONS
3. TIDAL INFORMATION TAKEN FROM NOAA PUBLISHED DATA

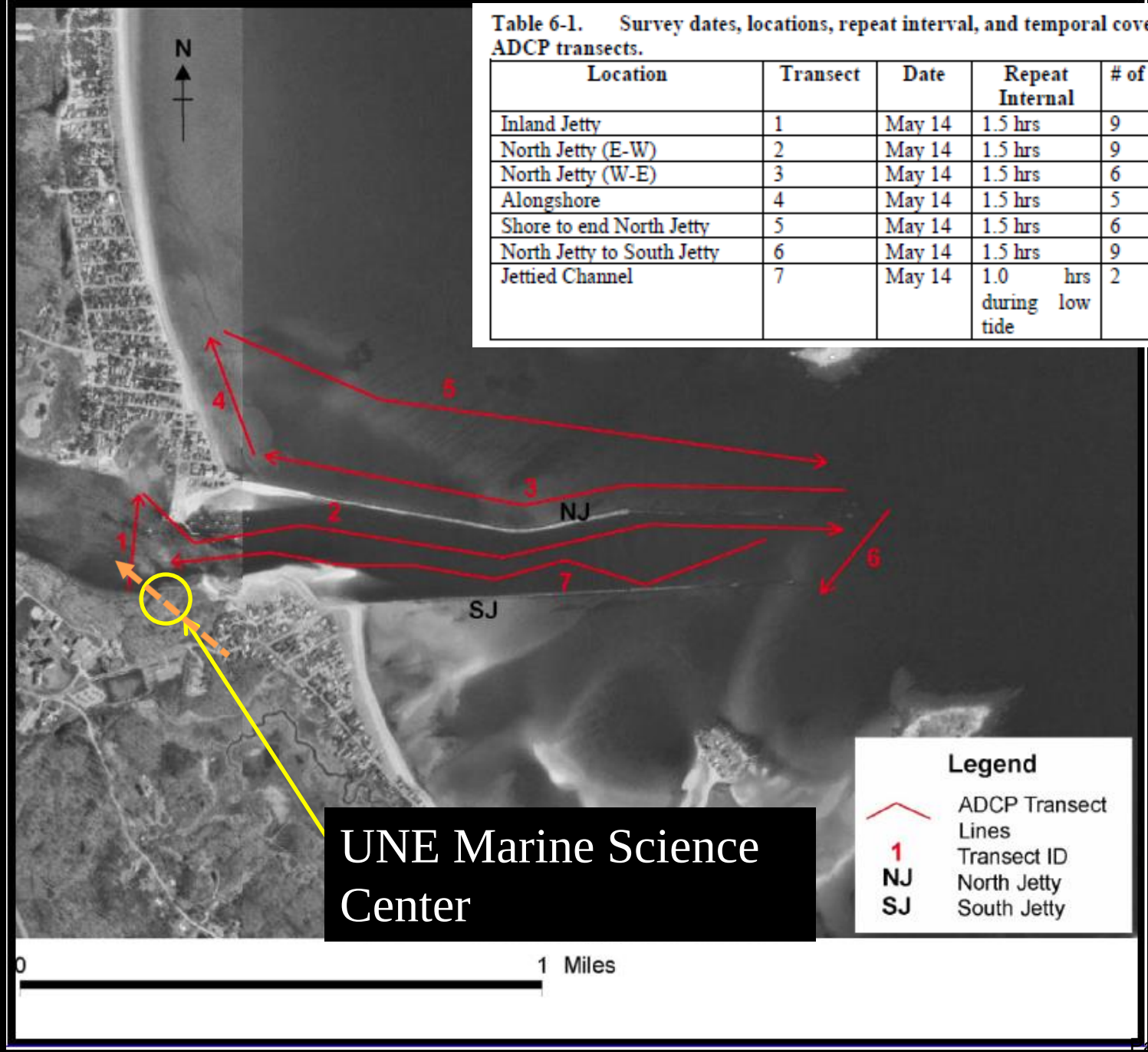
Observations suggest that this location on the Saco River at times sees higher highs and lower lows than the Portland gage for a given tide cycle, possibly due to river influence.

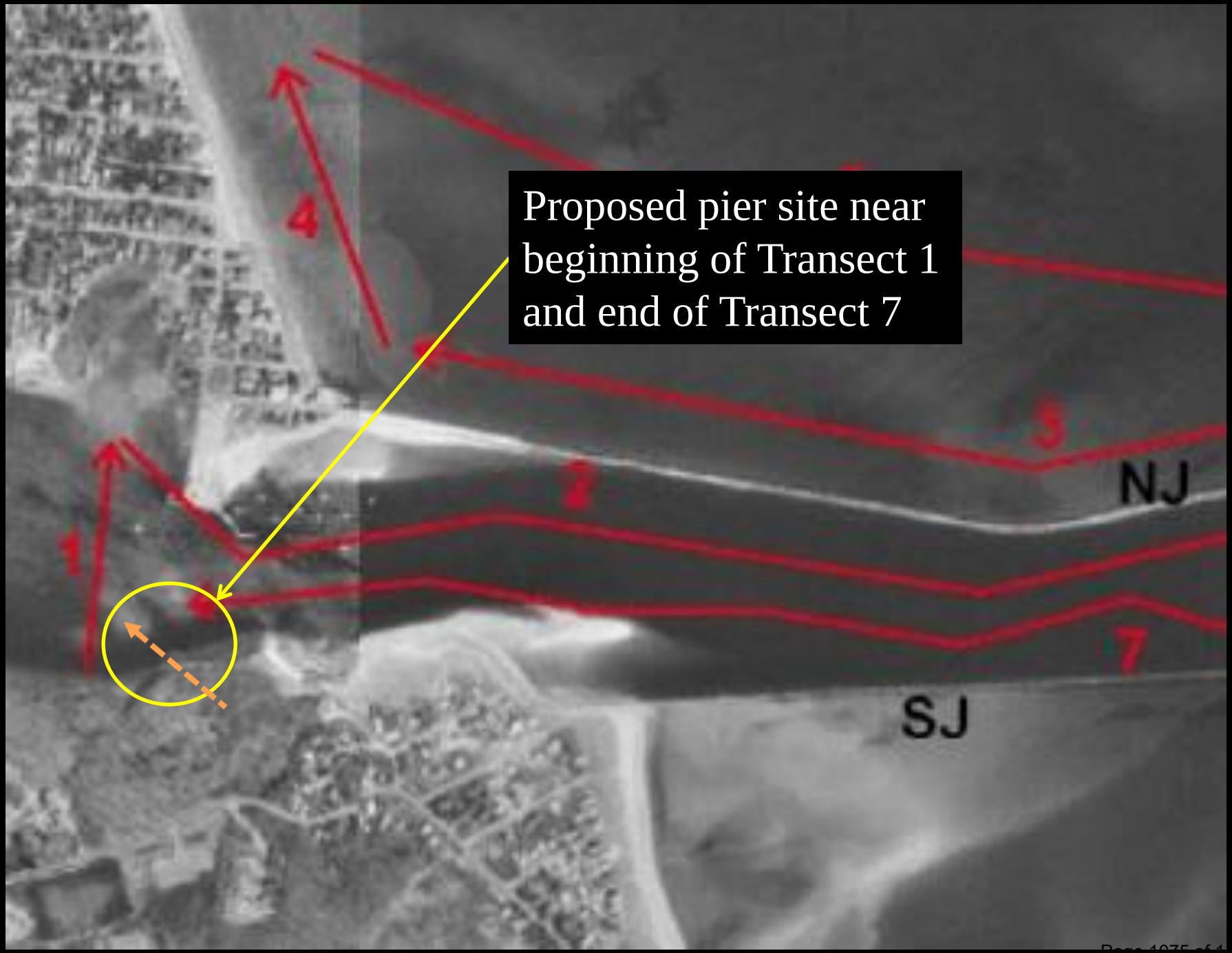


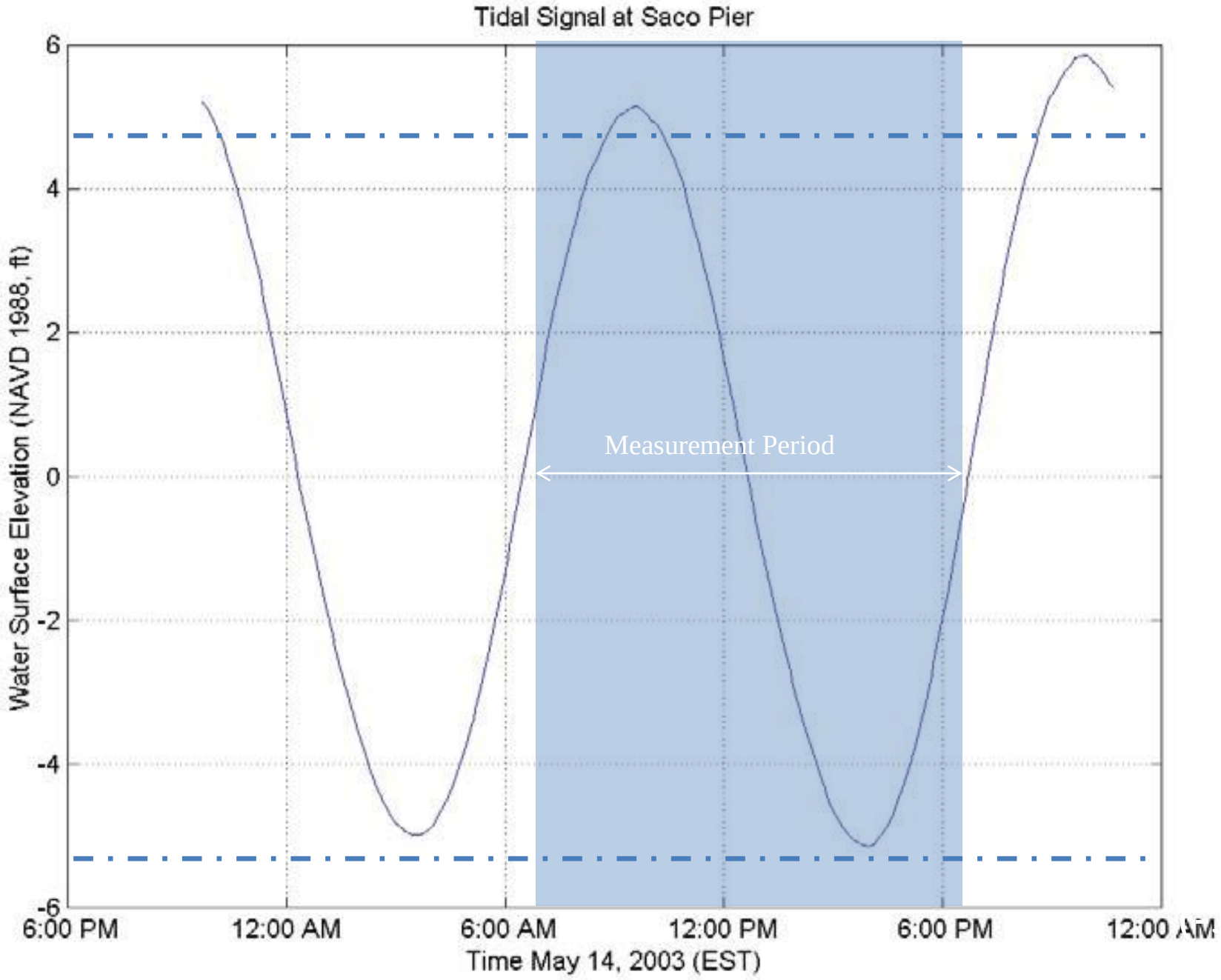
Lowest Observed Tide = -5.6

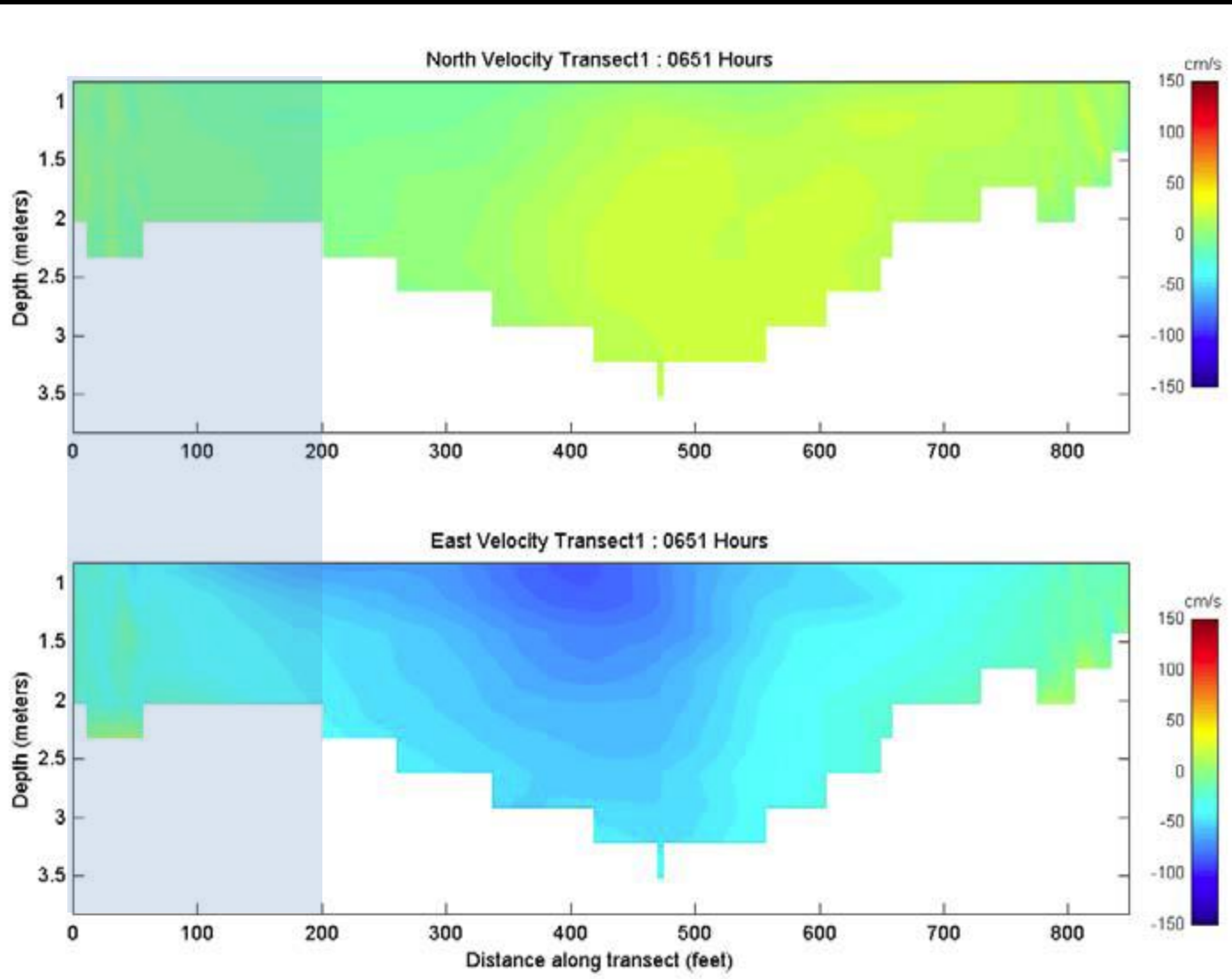
Table 6-1. Survey dates, locations, repeat interval, and temporal coverage of the ADCP transects.

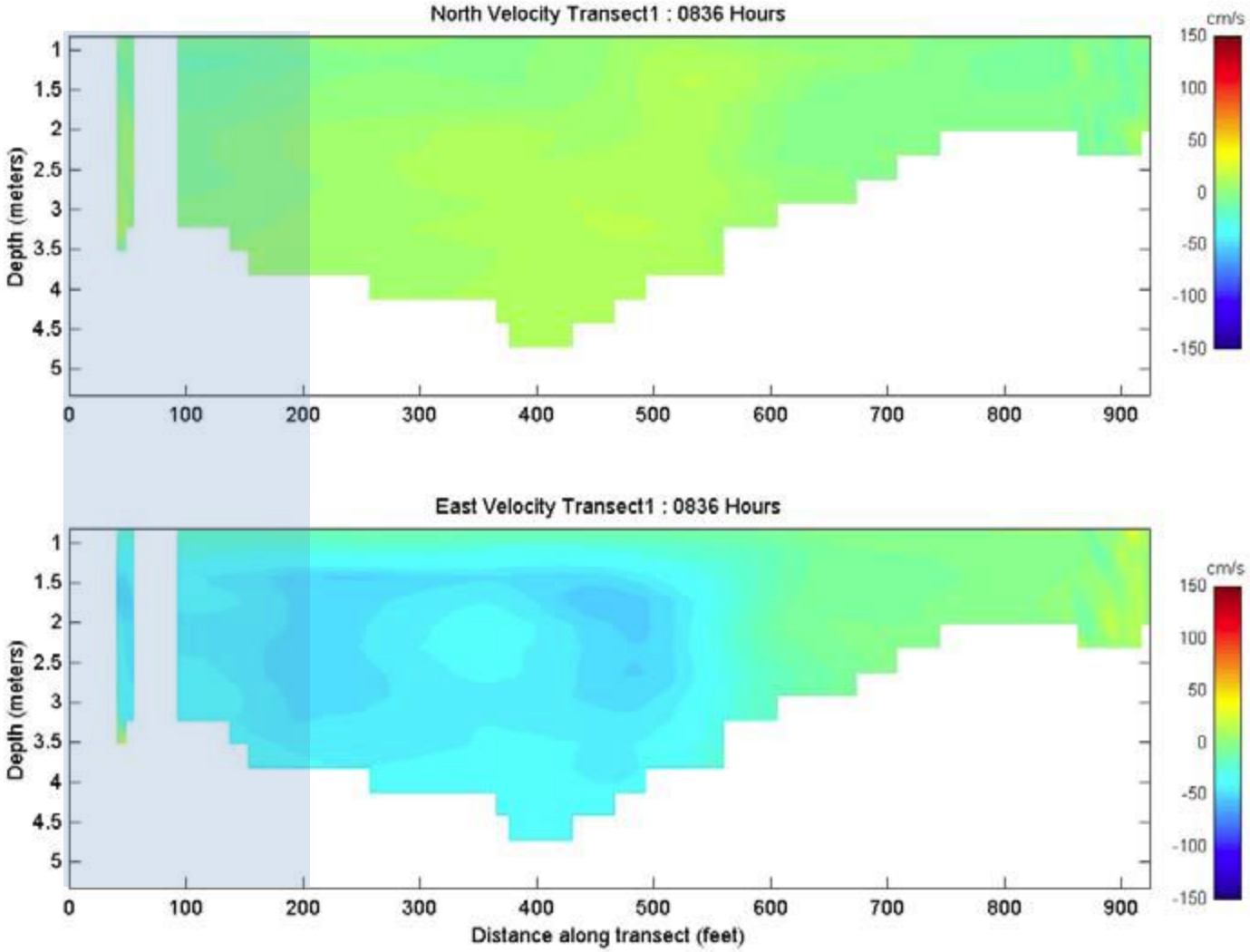
Location	Transect	Date	Repeat Internal	# of Transects
Inland Jetty	1	May 14	1.5 hrs	9
North Jetty (E-W)	2	May 14	1.5 hrs	9
North Jetty (W-E)	3	May 14	1.5 hrs	6
Alongshore	4	May 14	1.5 hrs	5
Shore to end North Jetty	5	May 14	1.5 hrs	6
North Jetty to South Jetty	6	May 14	1.5 hrs	9
Jettied Channel	7	May 14	1.0 hrs during low tide	2

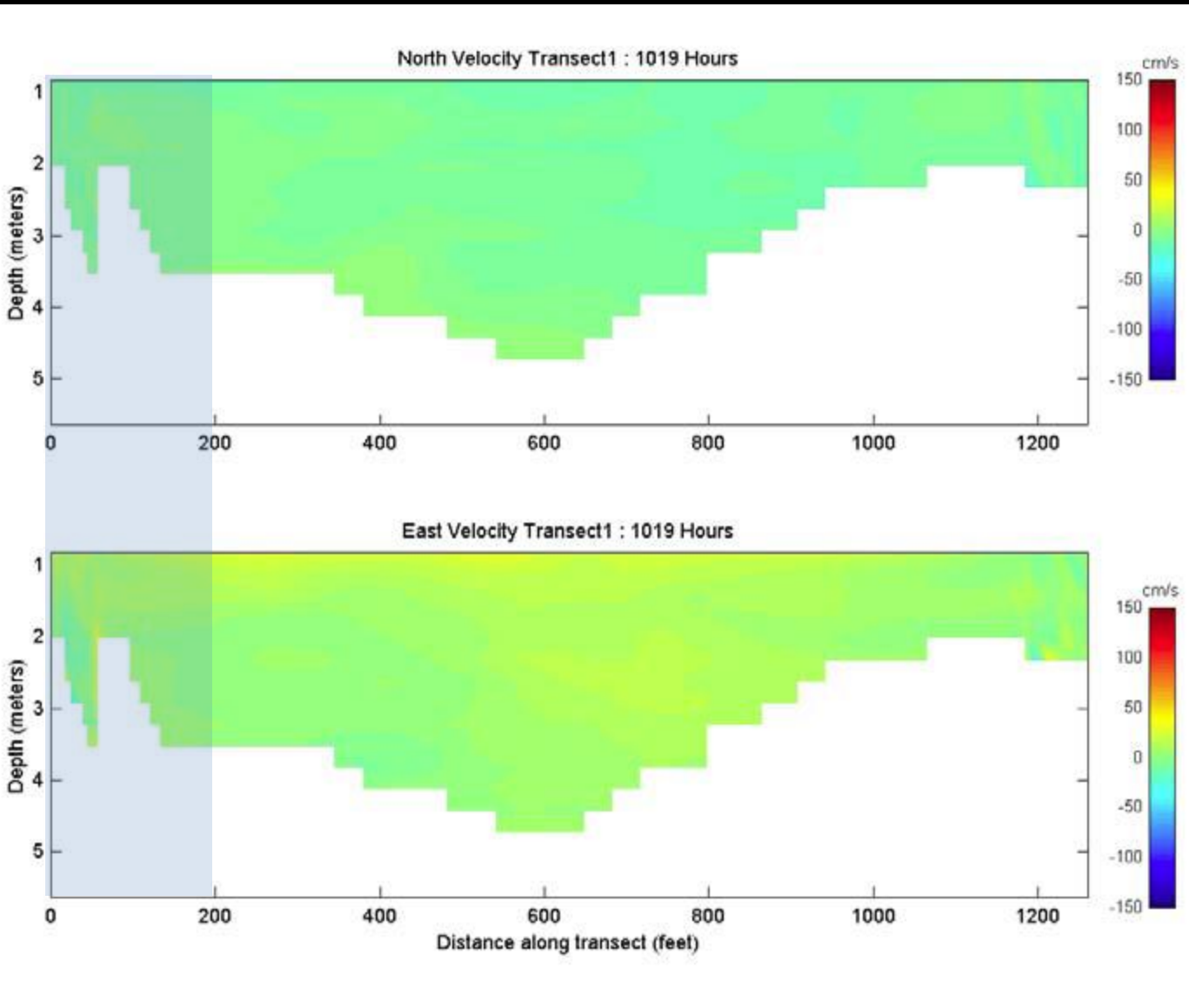


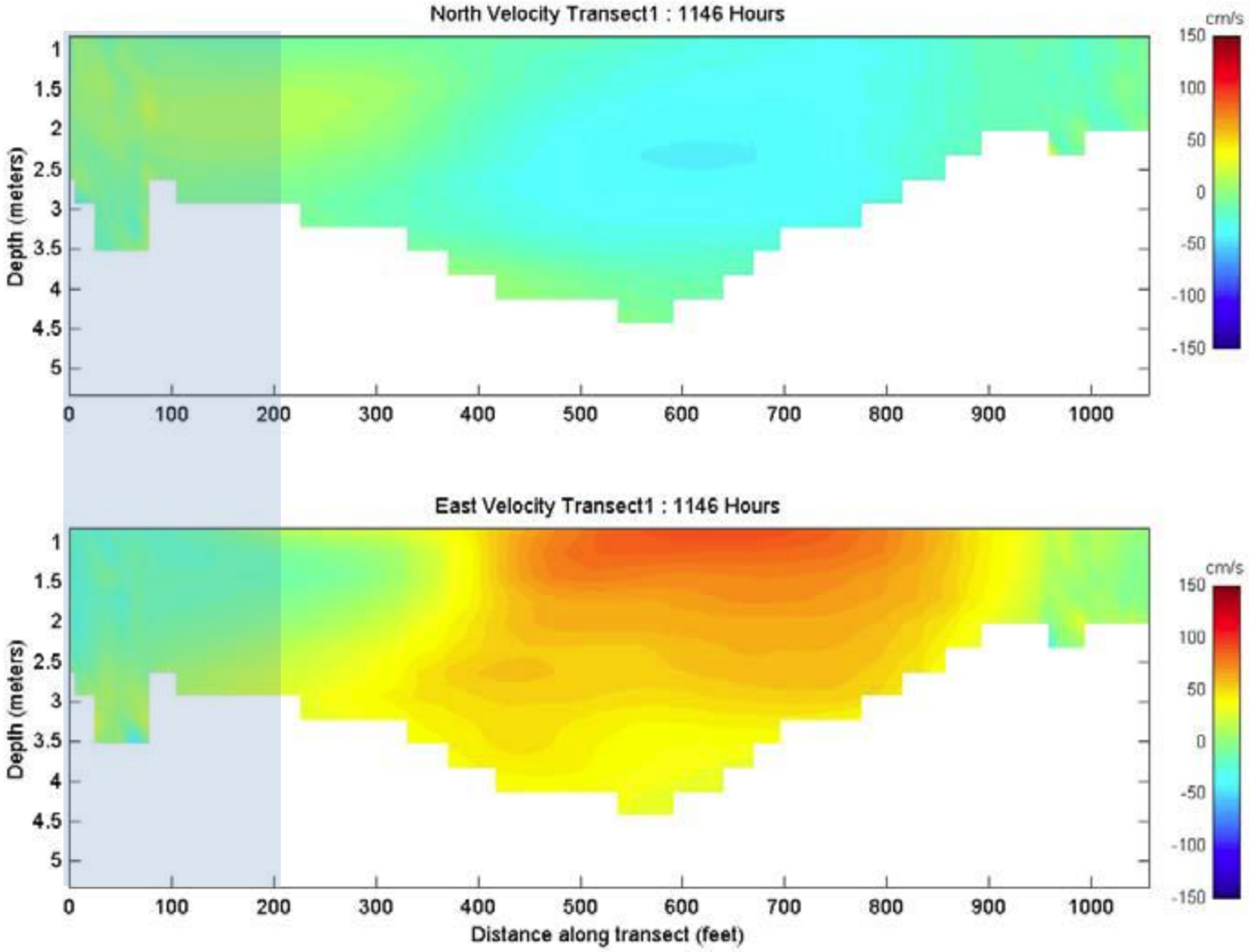

Proposed pier site near beginning of Transect 1 and end of Transect 7
NJ
SJ
1
3
4
7

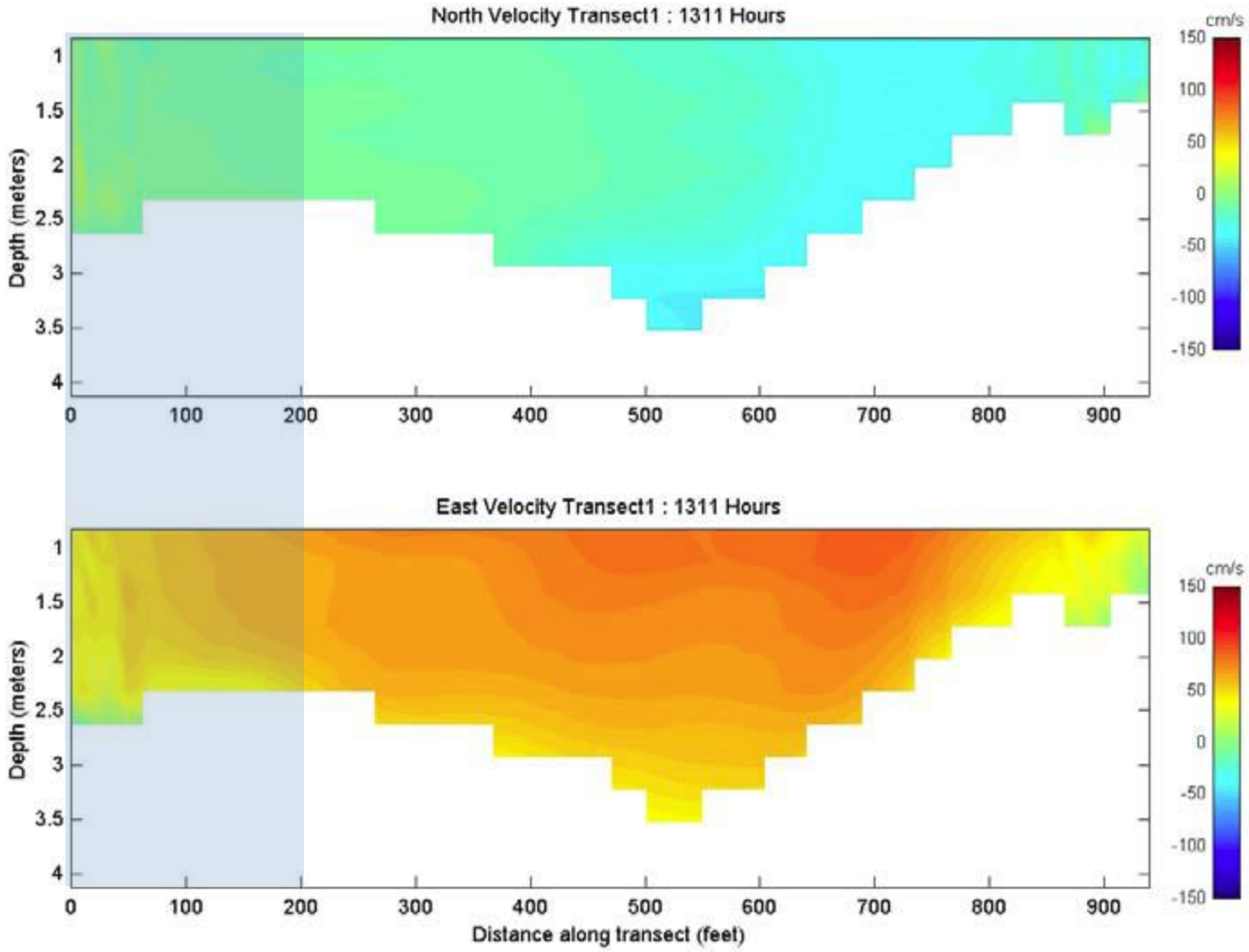

Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6
4
2
0
-2
-4
-6
Measurement Period
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)

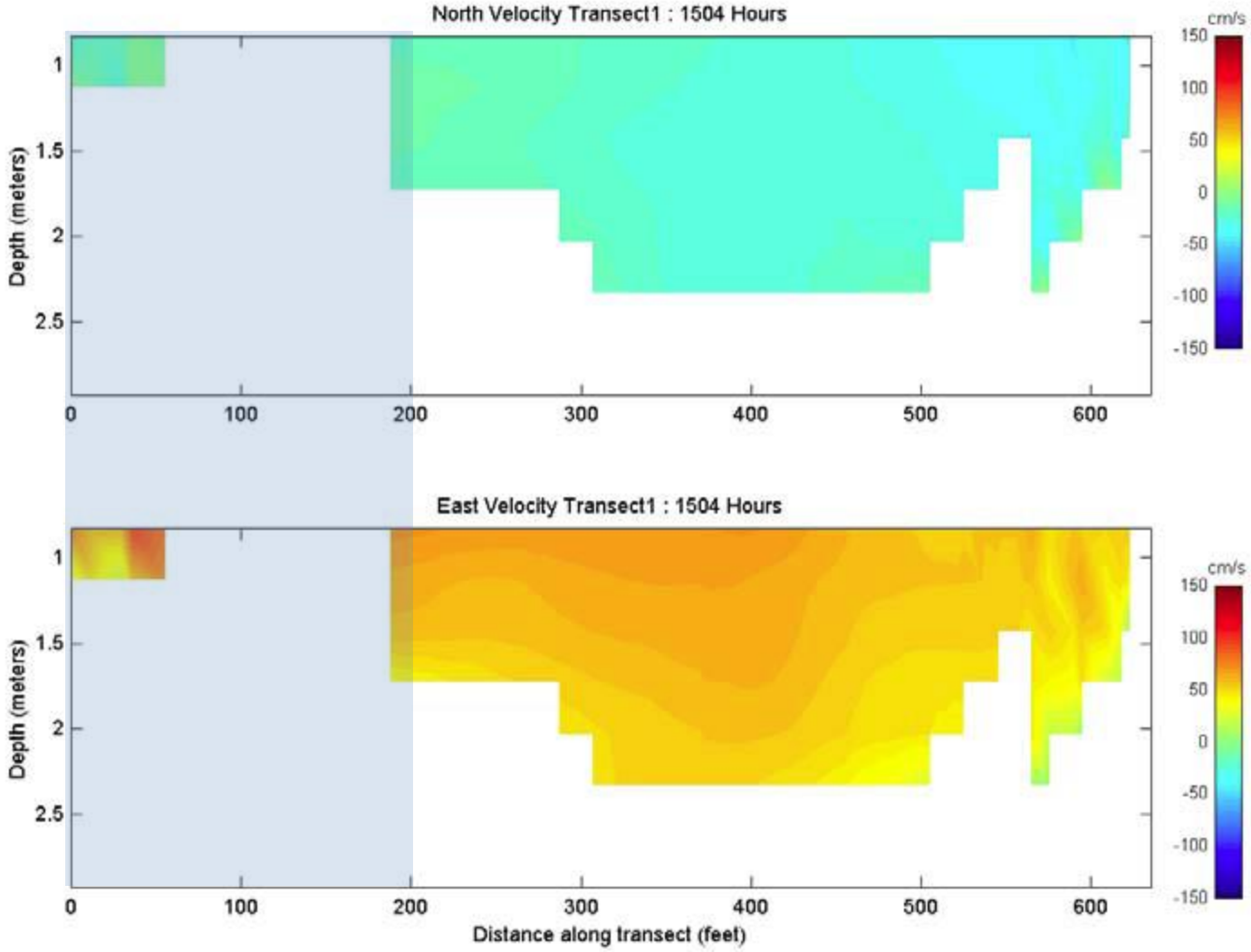

North Velocity Transect1 : 0651 Hours
Depth (meters)
1
1.5
2
2.5
3
3.5
0
100
200
300
400
500
600
700
800
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 0651 Hours
Depth (meters)
Distance along transect (feet)

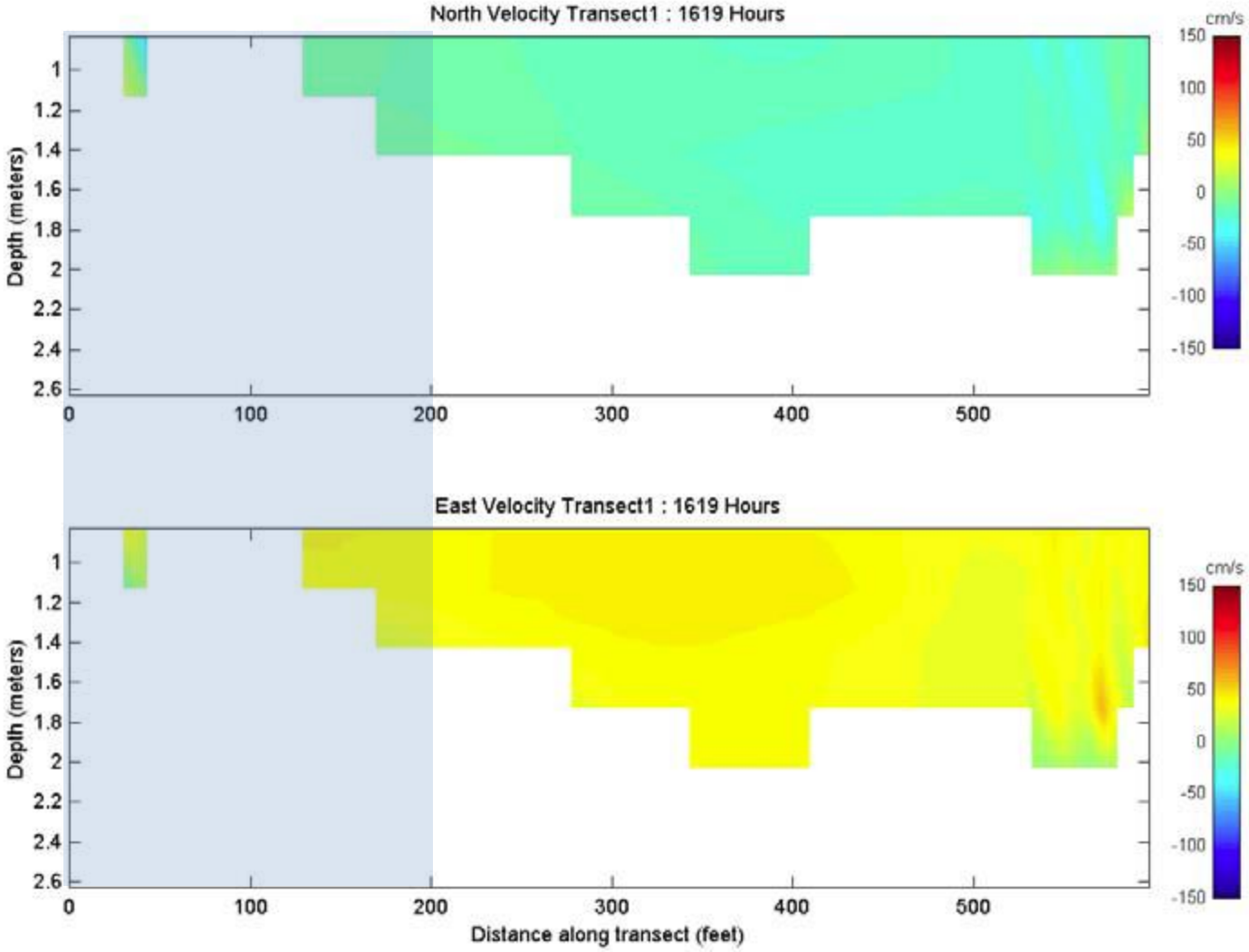

North Velocity Transect1 : 0836 Hours
Depth (meters)
1
1.5
2
2.5
3
3.5
4
4.5
5
0
100
200
300
400
500
600
700
800
900
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 0836 Hours
Depth (meters)
Distance along transect (feet)

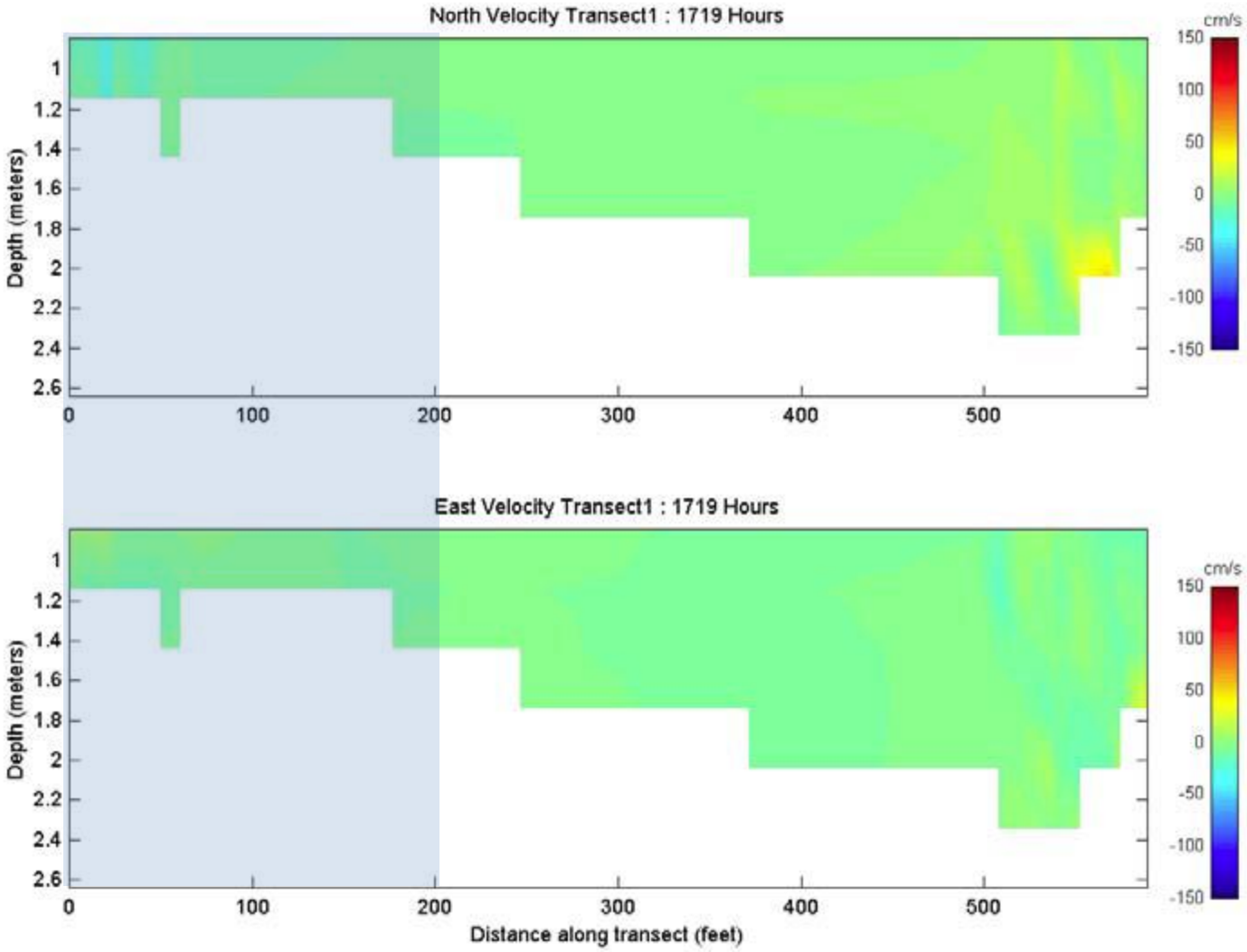

North Velocity Transect1 : 1019 Hours
Depth (meters)
1
2
3
4
5
0
200
400
600
800
1000
1200
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 1019 Hours
Depth (meters)
Distance along transect (feet)

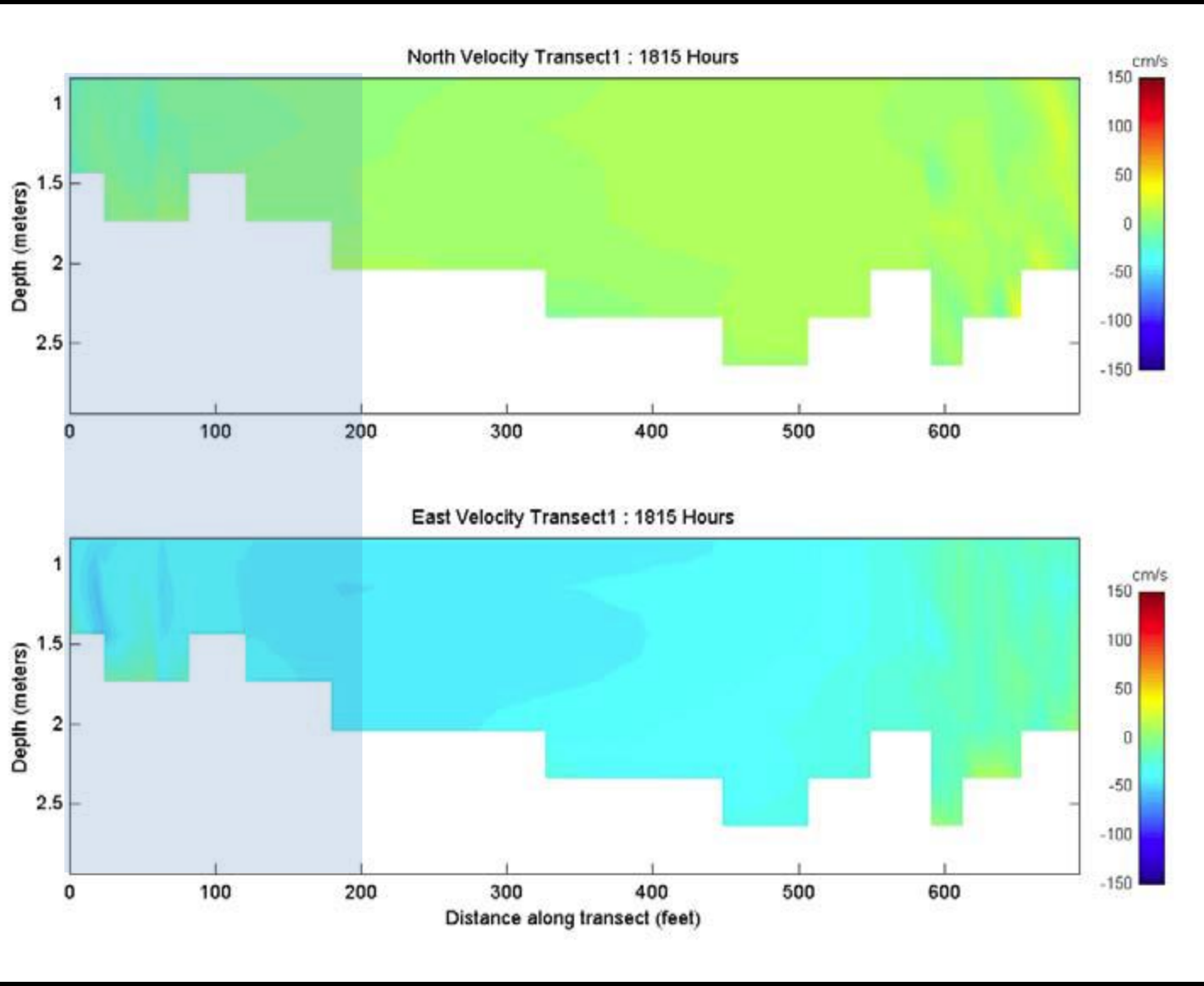

North Velocity Transect1 : 1146 Hours
East Velocity Transect1 : 1146 Hours
Depth (meters)
Distance along transect (feet)
cm/s
150
100
50
0
-50
-100
-150
1
1.5
2
2.5
3
3.5
4
4.5
5
0
100
200
300
400
500
600
700
800
900
1000

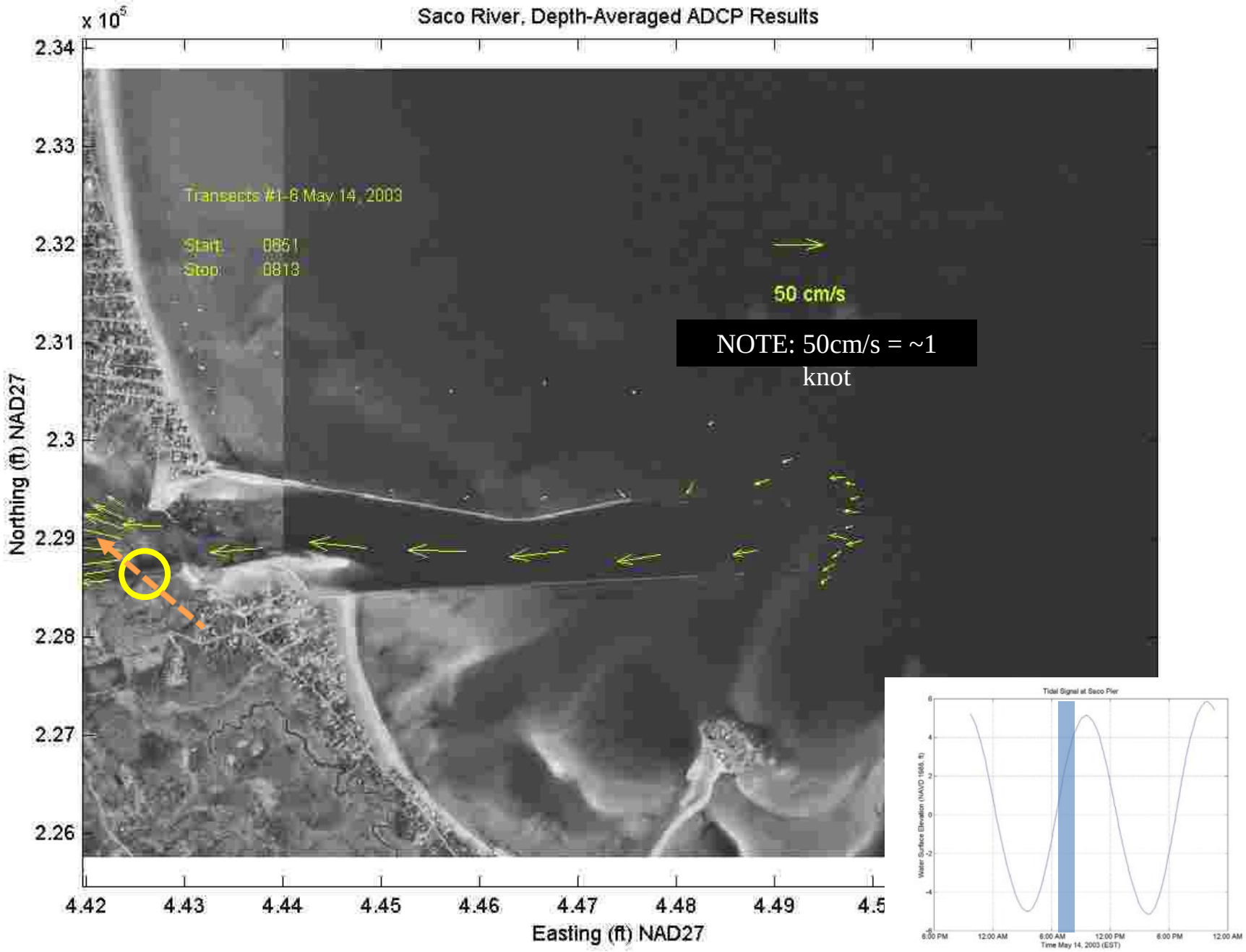

North Velocity Transect1 : 1311 Hours
Depth (meters)
1
1.5
2
2.5
3
3.5
4
0
100
200
300
400
500
600
700
800
900
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 1311 Hours
Depth (meters)
Distance along transect (feet)

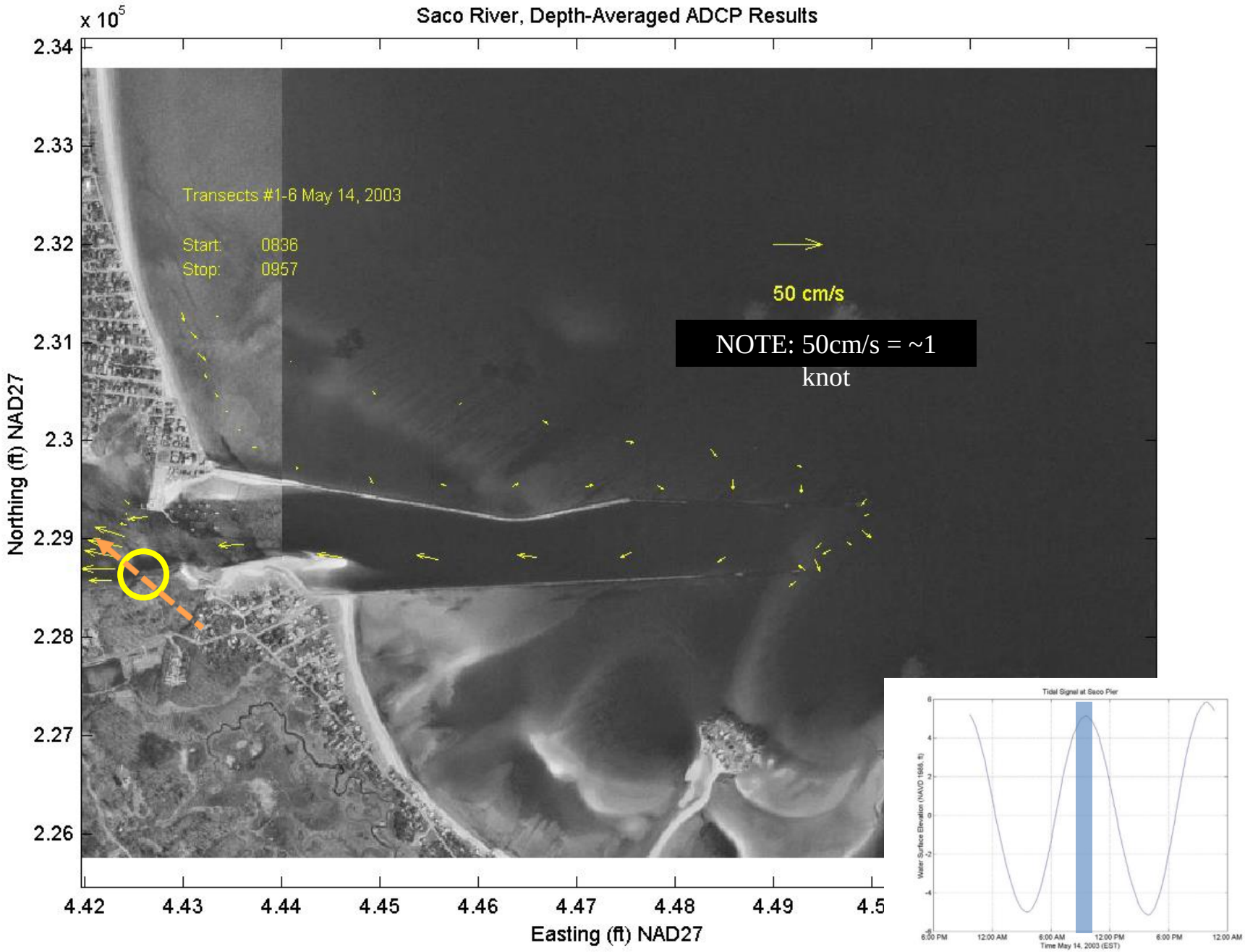

North Velocity Transect1 : 1504 Hours
Depth (meters)
1
1.5
2
2.5
0
100
200
300
400
500
600
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 1504 Hours
Depth (meters)
1
1.5
2
2.5
0
100
200
300
400
500
600
Distance along transect (feet)
cm/s
150
100
50
0
-50
-100
-150

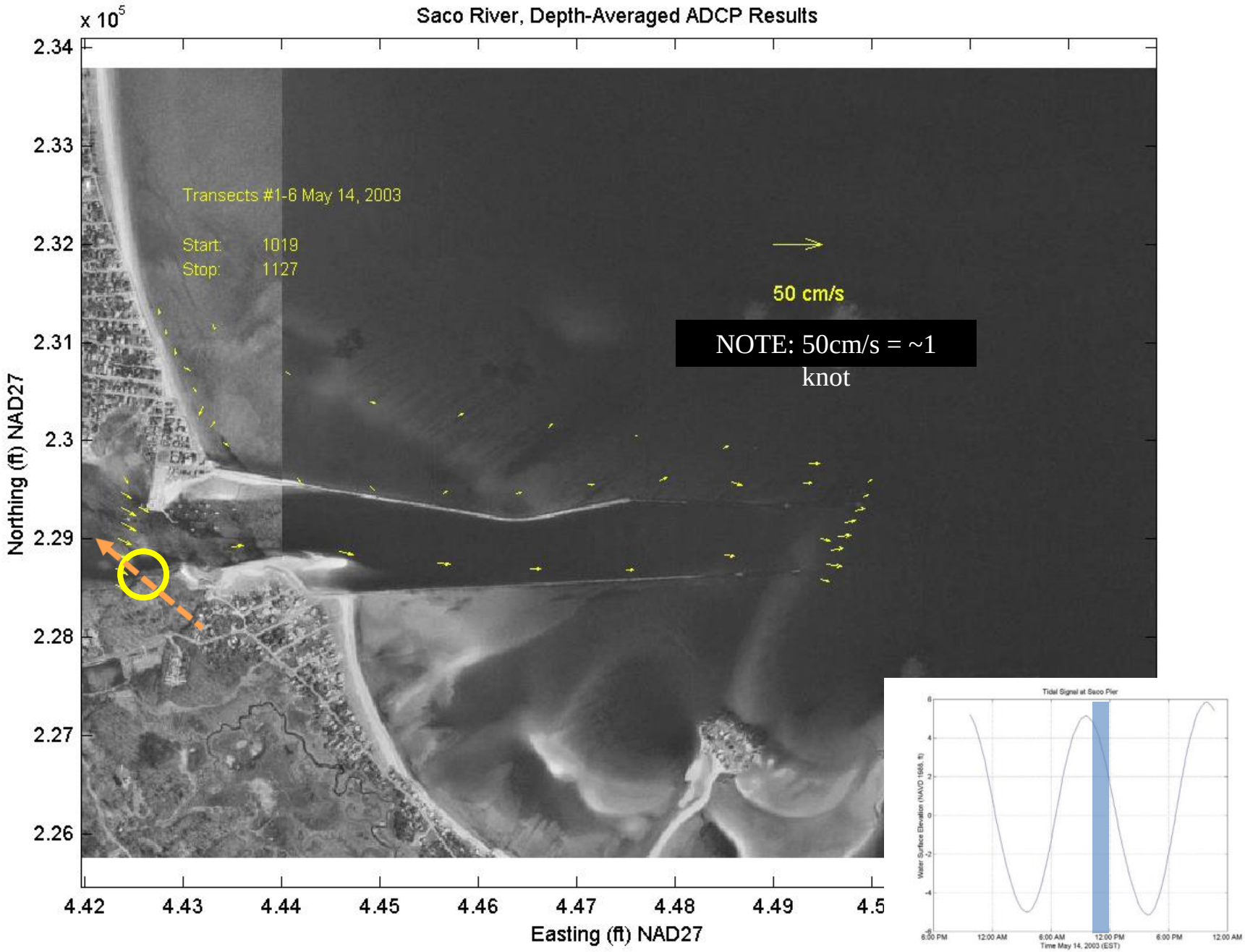

North Velocity Transect1 : 1619 Hours
Depth (meters)
1
1.2
1.4
1.6
1.8
2
2.2
2.4
2.6
0
100
200
300
400
500
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 1619 Hours
Depth (meters)
Distance along transect (feet)

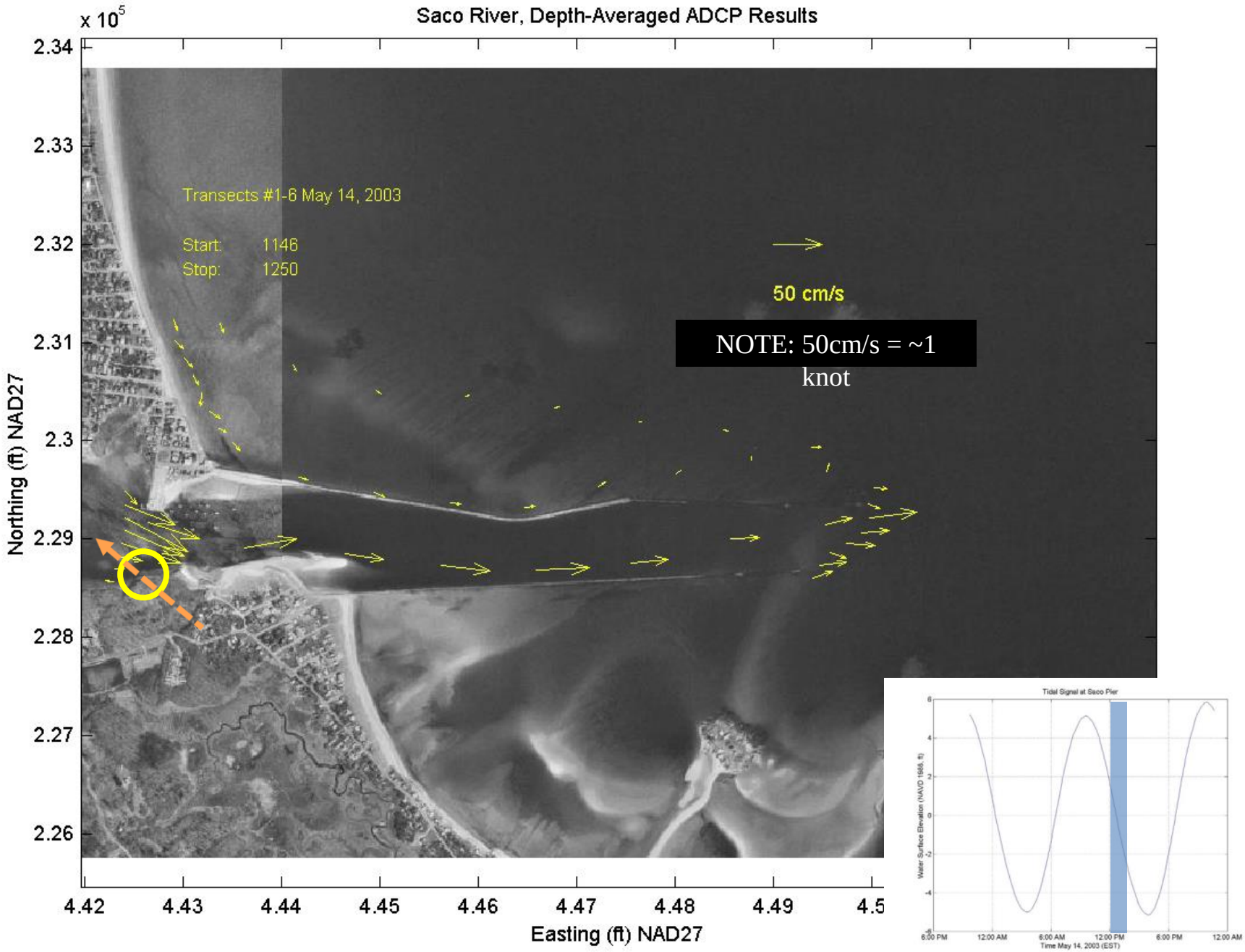

North Velocity Transect1 : 1719 Hours
Depth (meters)
1
1.2
1.4
1.6
1.8
2
2.2
2.4
2.6
0
100
200
300
400
500
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 1719 Hours
Depth (meters)
Distance along transect (feet)

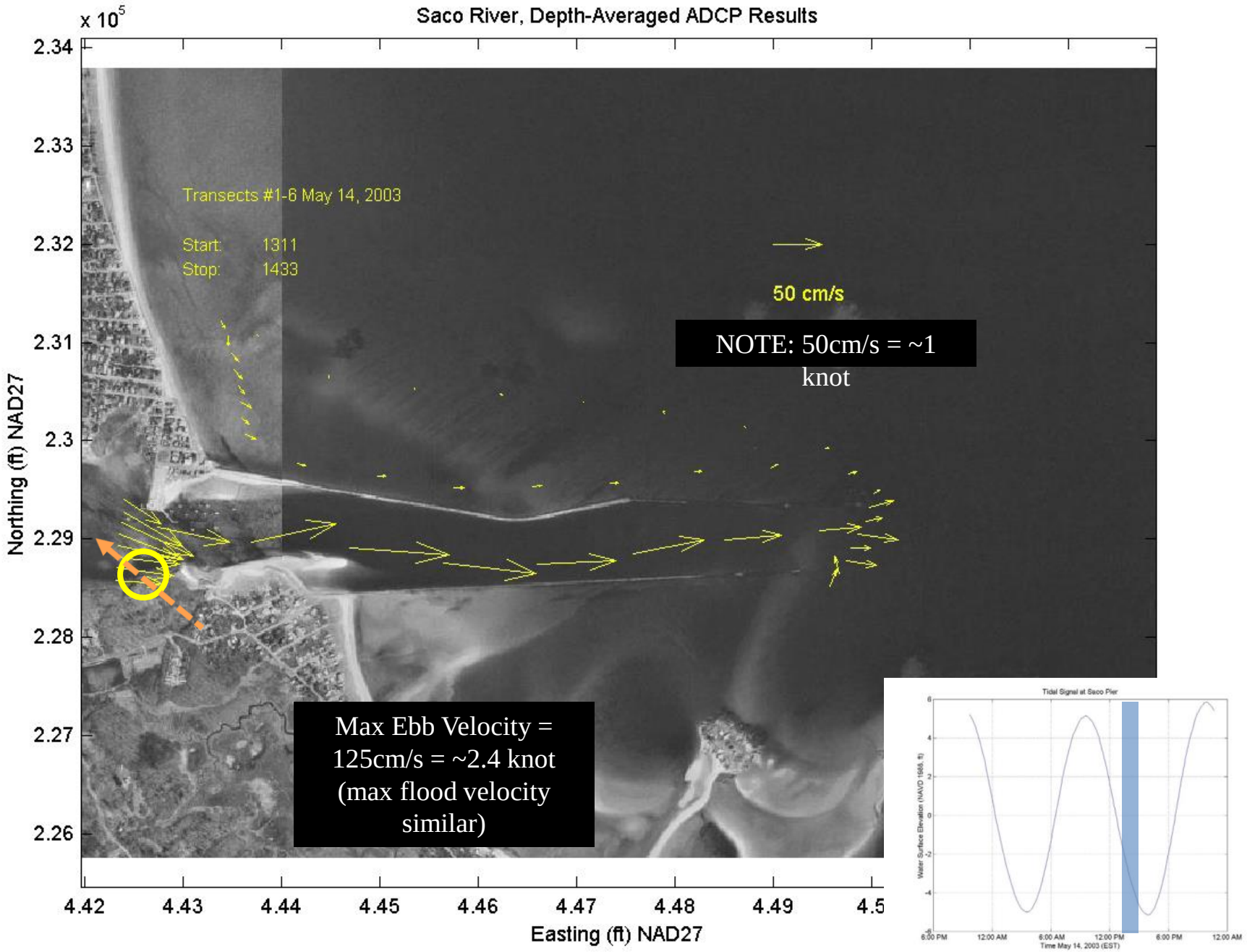

North Velocity Transect1 : 1815 Hours
Depth (meters)
1
1.5
2
2.5
0
100
200
300
400
500
600
cm/s
150
100
50
0
-50
-100
-150
East Velocity Transect1 : 1815 Hours
Depth (meters)
Distance along transect (feet)

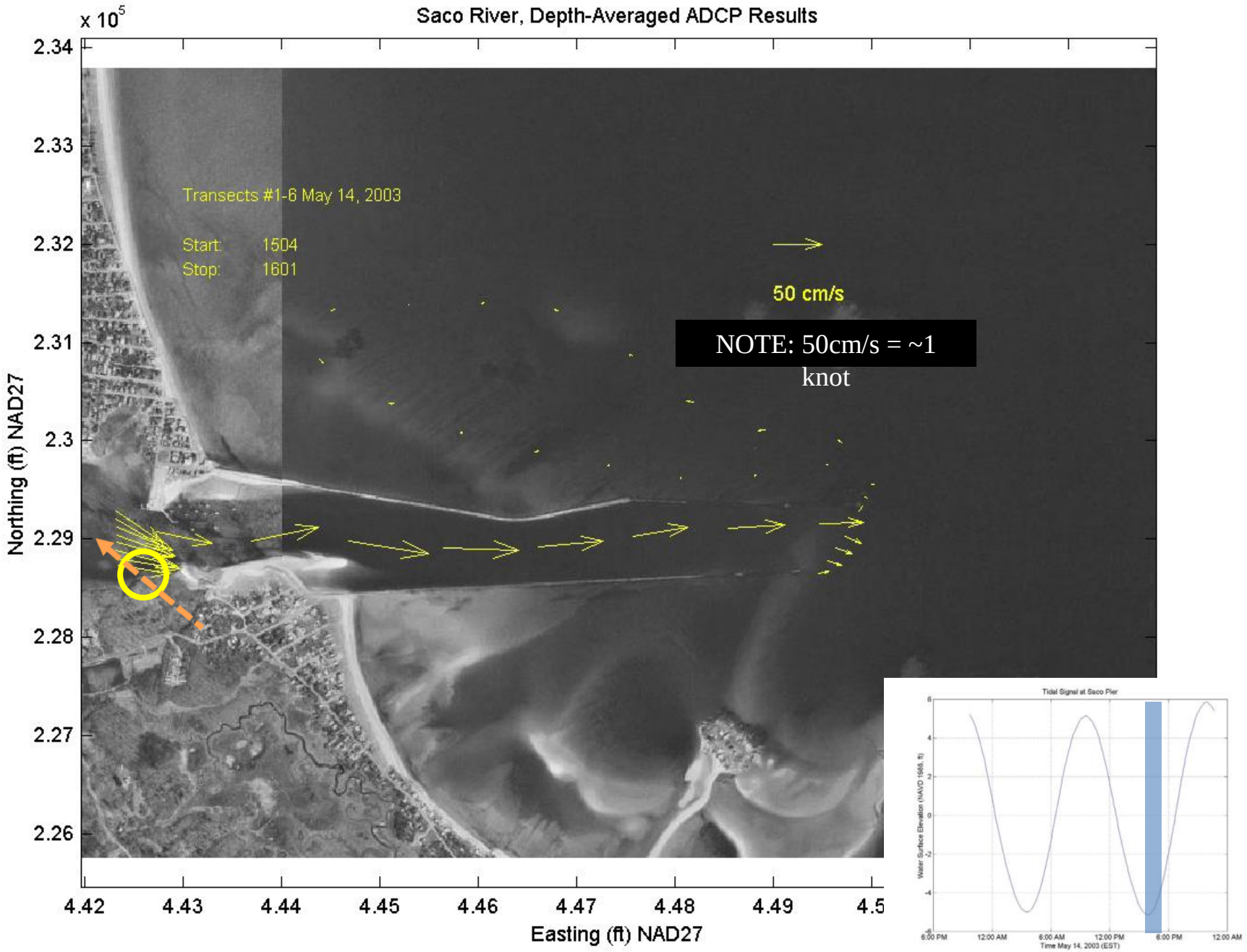

Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-8 May 14, 2003
Start 0851
Stop 0813
50 cm/s
NOTE: 50cm/s = ~1 knot
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6
4
2
0
-2
-4
-6
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)

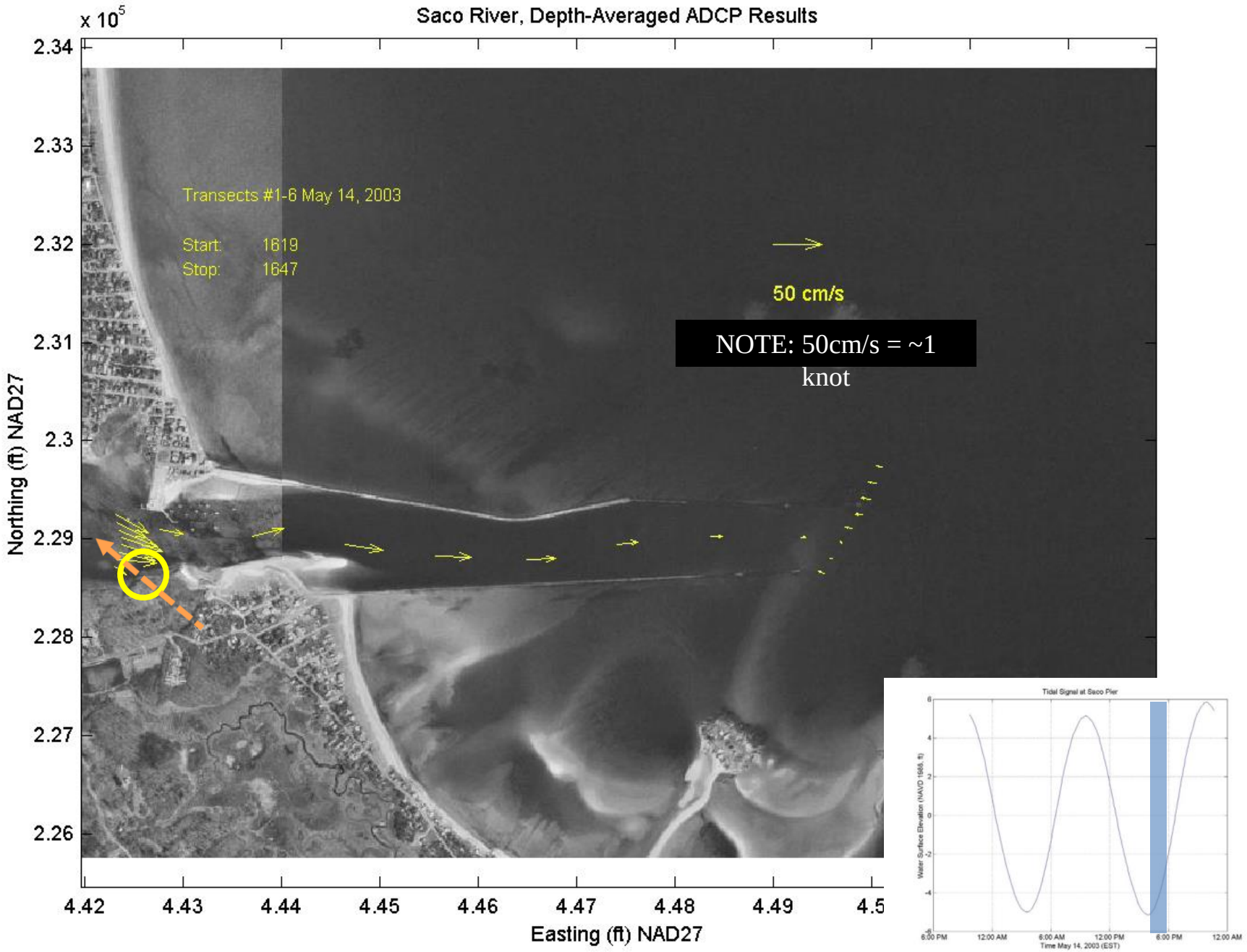

Saco River, Depth-Averaged ADCP Results
x 10^5
Transects #1-6 May 14, 2003
Start: 0836
Stop: 0957
50 cm/s
NOTE: 50cm/s = ~1 knot
Northing (ft) NAD27
Easting (ft) NAD27
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)

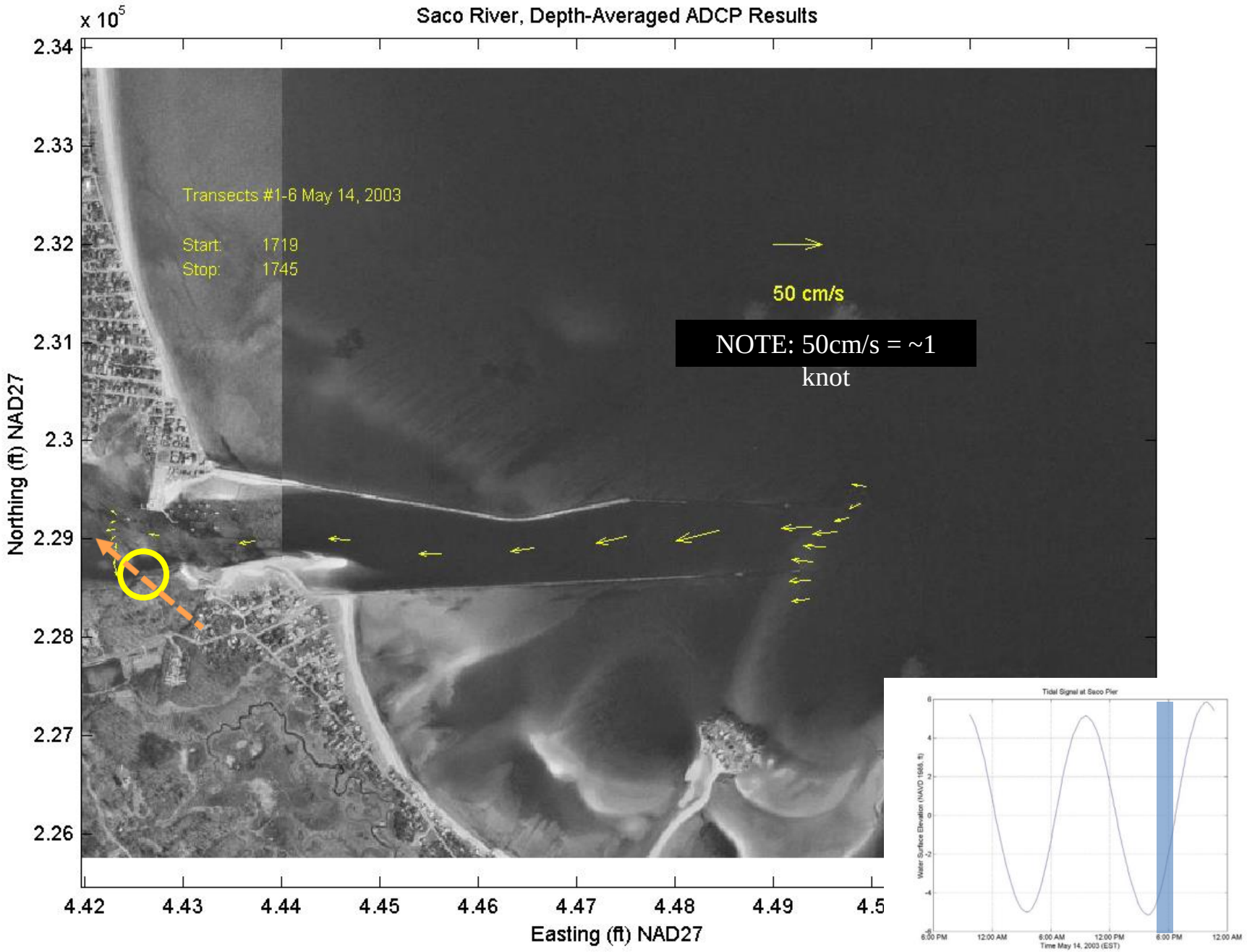

Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-6 May 14, 2003
Start: 1019
Stop: 1127
50 cm/s
NOTE: 50cm/s = ~1 knot
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6
4
2
0
-2
-4
-6
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)

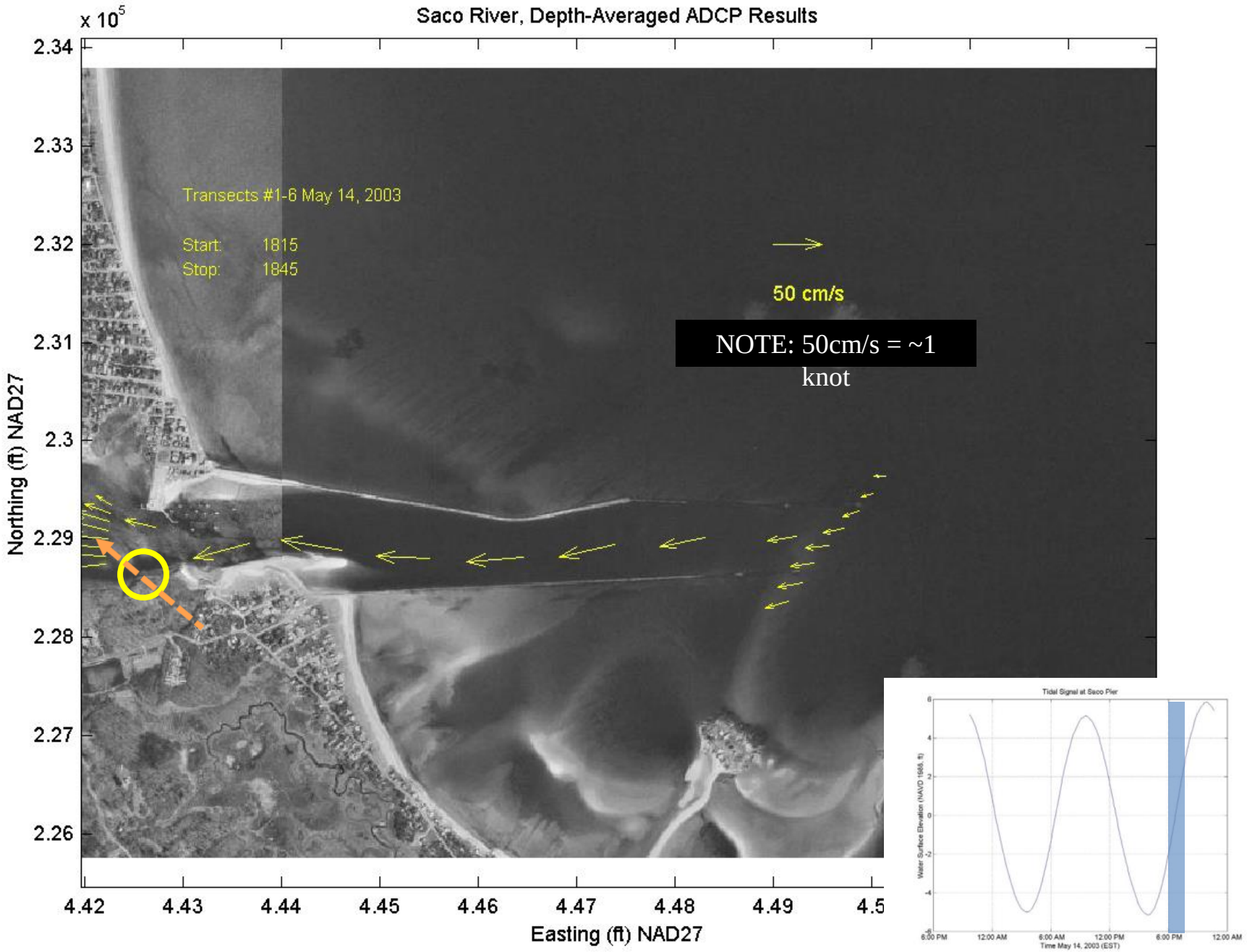

Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-6 May 14, 2003
Start: 1146
Stop: 1250
50 cm/s
NOTE: 50cm/s = ~1 knot
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)

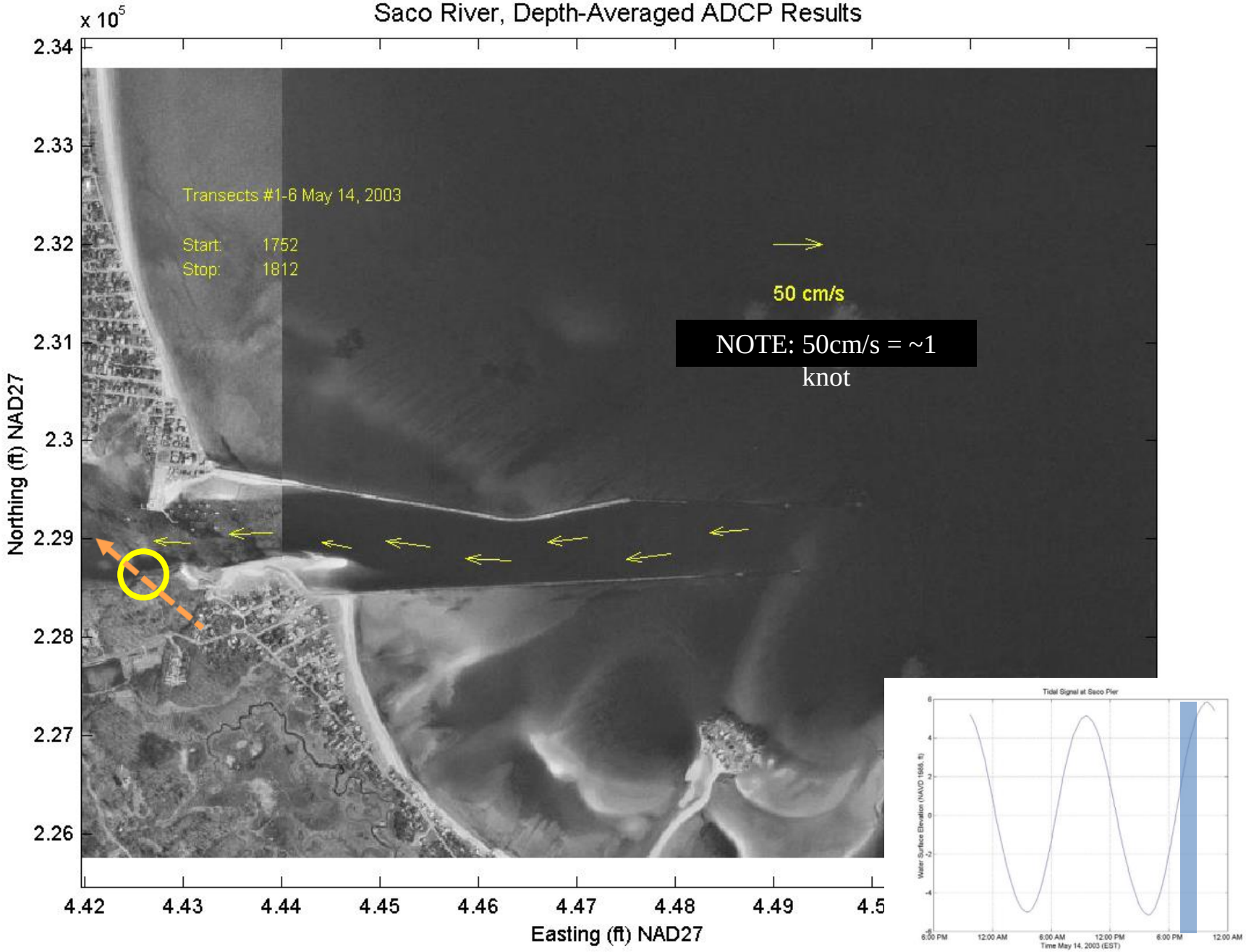

Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-6 May 14, 2003
Start: 1311
Stop: 1433
50 cm/s
NOTE: 50cm/s = ~1 knot
Max Ebb Velocity = 125cm/s = ~2.4 knot (max flood velocity similar)
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)


Saco River, Depth-Averaged ADCP Results
x 10^5
Transects #1-6 May 14, 2003
Start: 1504
Stop: 1601
50 cm/s
NOTE: 50cm/s = ~1 knot
Northing (ft) NAD27
Easting (ft) NAD27
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)


Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-6 May 14, 2003
Start: 1619
Stop: 1647
50 cm/s
NOTE: 50cm/s = ~1 knot
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)


Saco River, Depth-Averaged ADCP Results
x 10^5
Transects #1-6 May 14, 2003
Start: 1719
Stop: 1745
50 cm/s
NOTE: 50cm/s = ~1 knot
Northing (ft) NAD27
Easting (ft) NAD27
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)


Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-6 May 14, 2003
Start: 1815
Stop: 1845
50 cm/s
NOTE: 50cm/s = ~1 knot
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)


Saco River, Depth-Averaged ADCP Results
x 10^5
2.34
2.33
2.32
2.31
2.3
2.29
2.28
2.27
2.26
Northing (ft) NAD27
Transects #1-6 May 14, 2003
Start: 1752
Stop: 1812
50 cm/s
NOTE: 50cm/s = ~1 knot
4.42
4.43
4.44
4.45
4.46
4.47
4.48
4.49
4.5
Easting (ft) NAD27
Tidal Signal at Saco Pier
Water Surface Elevation (NAVD 1988, ft)
6:00 PM
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
Time May 14, 2003 (EST)

- ***6.5.1 Transect 1***
- The channel geometry along Transect 1 consists of a single, relatively shallow channel. The transect is located just east of the Saco Pier, where a significant reduction in channel width occurs. Maximum depths in the channel at this location are approximately 5m (16.4 ft). The maximum recorded flood velocities were approximately 100-125 cm/s (3.3-4.1 ft/s). The maximum flood currents run in a west to west northwest direction throughout the entire water column. In addition to the westward flow, northward flow occurred on the northern portion of the channel indicating likely eddying around the point on the northern shore. The east/west flow also indicates some eastward flow in the northern extent of the transect, supporting the eddy structure. As the flood tide progressed, the stronger western currents were confined to the southern part of the channel. High tide occurred at 0905 hours and reversal of the flow direction was observed throughout the channel by 1019 hours. The maximum recorded ebb velocities were approximately 100-125 cm/s (3.3-4.1 ft/s) and occurred between 1100 and 1330 hours. These southeasterly ebb currents appear to favor the north side of the channel during the start of the ebb where the strongest currents are confined to the upper 2m of the water column. As the tide progresses, these currents spread to the entire channel area depth and breadth. During the majority of the ebb and flood phases of the tide, the color contour plots show increased turbulence and related eddy formation adjacent to the north shore (between 500 ft [152 m] and the end of transect). The increased turbulence is a result of the protrusion of the northern point (near Saco Harbor) into the channel. This narrowing prevents direct flow into or out of the river channel producing eddies as water tries to enter or exit the reduced-width channel.

Permit Requirements and Timing

- Maine DEP NRPA
- ACOE
- Saco River Corridor Commission
- City of Biddeford
- Harbor Commission
- February 2016 grant funding
- Construction spring 2017

Attachment 1
Formal Site Plan Review Application

City of Biddeford – Planning Department
Planning Board Application
P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

Type of Application:

_x_ Shoreland Zoning Permit
_x_ Site Plan Review (Please include checklist)
__ Extraction
__ Conditional Use Permit
__ Subdivision (Please include Checklist)
__ Private Way
__ Other: _____

Applicant Information:

Name: University of New England
Mailing Address: 11 Hills Beach Road Biddeford, Maine
Telephone: 207-602-2365
Email: aphilippe@une.edu

What is your legal interest in the property?

_x_ Owner __ Potential Buyer with Contract __ Lease/Rental Agreement

Owner's Information:

Name: Applicant
Mailing Address: _____
Telephone: _____
Email: _____

Agent's Information:

Name: Tom Saucier, P.E. Site design Associates
Mailing Address: 23 Whitney Way Topsham, Maine 04086
Telephone: 207-449-4275
Email: tsaucier@sitedesignassociates.biz

Engineer/Surveyor's Information:

Name: Agent
Mailing Address: _____
Telephone: _____
Email: _____

Project Location and Lot Information:

Street Address: 11 Hills Beach Road Drainage Watershed: Tidal portion of Saco River
Tax Map: 52 Lot: 4
Current Zoning: IN Shoreland Zoning: Limited Residential
Size of Lot: 49.9 (x)acres ( )s.f. Lot Frontage: 1,489 ft +\-
Existing Use of Property: University use - Girard Marine Science Center

Property currently serviced by:

_x_ City Road __ Public Sewer _x_ Public Water __ Public Trash
__ Private Road __ Septic System __ Private Well _x_ Private Hauler

Slope Conditions in Area of Construction (if applicable):

__Flat (0-3% slope) __Rolling (3-8% slope) _x_ Hilly (8-15% slope) _x_ Steep (15%+ Slope)

Are there any wetlands or waterbodies on the site? _x_ (Yes)__(No) if yes attach information
Is the project within the 100-year floodplain? __ (Yes) _x_ (No) if yes attach information
Do you plan to bring fill onto the lot? _x_ (Yes) __(No) If yes attach information

Description of proposed use of property:

Project/Proposed Use:

University use - Research Pier

Property to be Serviced by:

x City Road __ Public Sewer x Public Water __ Public Trash

__ Private Road __ Septic System __ Private Well x Private Hauler

Limits of Disturbance: 0.5 (x)acres ( )s.f.

Net change in impervious cover: 0.249 (x)acres ( )s.f.

Is this project part of a larger project? __(Yes) x (No)

Is the project proposing a new Private or Public Road? __(Yes, Private) __(Yes, Public) x (No)

Is this project within the Urbanized Area/MS4 (*see City Drainage Map*) x (Yes) __(No)

Is the project proposing any Stormwater facilities/BMPs? x (Yes) __(No)

Will a Traffic Movement Permit (TMP) be required?: __(Yes) x (No)

x **If in a Shoreland Zone:**

Percent of residential lot coverage (Max 20%): N/A

Percent of structure expansion (Max 30%): N/A

__ **If Subdivision Review, number of lots proposed:** _____

__ **If a Private Way is proposed, number of lots served:** _____

If Site Plan Review, you must provide the following information:

Total new square feet footprint of structure: _____

Total new square feet paving/parking: 10,850 +/-

Waiver Requests (attach details):

1. See cover letter and June 9, 2025 responses to comments
2. _____
3. _____
4. _____
5. _____

Required Submittal Attachments:

A. Letters of Approval

x Fire Department – Contact Chief or Deputy Chief – 282-9986 (Request sent; previously revised plans

__ Ability to Serve for Water Service – Maine Water – 282-1543 in response to BFD comments.)

__ Ability to Serve for Sewer Service – Engineering Department – Tom Milligan 284-9118

__ Police Department – e-911 Road Name Designation – Contact Joanne Fisk 282-5127

__ Ability to Serve for Electrical Service-CMP-1-866-225-4200

x Letter to Planning Board describing project, Waiver requests, proposed improvements, addressing permit requirements, etc.

B. Photographs of Site.

C. Architectural renderings/drawings of proposed buildings, as required.

D. Engineering Plans, as required.

E. Stormwater Management Report, as required.

Fees (Due at time of Submission):

- $75 Nonrefundable Administration Fee is required for every application.
- Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

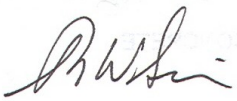
By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and its attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of the review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting an application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

Will the proposed project cause 1 acre or more of site disturbance? __(Yes) _x_(No)

- **If Yes, applicant is responsible for any required Maine Construction General Permits and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.**

Signature of Applicant: ___  **_____Date ___06/09/25_____**

Signature of Property Owner: ____  **_____Date ___06/09/25_____**

DIGITAL SUBMITTAL REQUIREMENTS FOR ALL SUBMITTALS:

A) PDF OF SIGNED APPLICATION

B) PDFs OF ALL DRAWING SETS AND OTHER REQUIRED SUBMITTAL ATTACHMENTS NOTED ABOVE

HARD-COPY SUBMITTAL REQUIREMENTS FOR PLANNING BOARD APPLICATIONS:

A) SEVEN (7) FULL-SIZE PAPER COPIES OF DRAWING SETS

DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)

- Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVDUAL DRAWING NAME.pdf'

B) PDF COPIES OF ALL PERMIT APPROVALS, APPLICATIONS, REPORTS, NARRATIVES, LETTERS, ETC.

C) FINAL CAD REFERENCE FILES IN DWG FORMAT (SURVEY & PROPOSED DESIGN LINEWORK)

- All drawings & CAD reference files must be to-scale and within the following coordinate systems:

- MAINE STATE PLANE WEST NAD83 (Horizontal Datum) & NAVD88 (Vertical Datum)

HARD-COPY SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

A) THREE (3) FULL-SIZE PAPER COPIES OF INDIVIUDAL DRAWINGS REQUIRING BOARD SIGNATURE

B) ONE (1) FULL-SIZE PAPER COPY OF ENTIRE DRAWING SET FOR ENGINEERING RECORDS

PLEASE CONFIRM WITH PLANNING STAFF FOR CLARIFICATION

Attachment 2
Letter of Agent Authorization

UNIVERSITY OF NEW ENGLAND

Biddeford Campus
11 Hills Beach Road
Biddeford, ME 04005
(207) 283-0171 T

Portland Campus
716 Stevens Avenue
Portland, ME 04103
(207) 797-7261 T

May 29, 2023

Mr. Tom Saucier
Site Design Associates
23 Whitney Way
Topsham, Maine 04086

TO WHOM IT MAY CONCERN:

This letter authorizes Tom Saucier, Site Design Associates, to serve as an agent for University of New England for the purpose of permitting the proposed installation of a research pier and float on its Biddeford campus.

Sincerely,

Alan Thibeault
Vice president for University Operations

Attachment 3
Site Plan Checklist

CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST *LAST REVISED: 11/26/2024*

CHECKLIST DIRECTIONS:

1. The following checklist must be completely filled out by the applicant and included on all preliminary and final Site Plan & Subdivision submittals. No checklist is required for sketch submitta
2. Applicant to confirm all of the items listed are included within the submittal Any missing items must have adequate reasoning to justify their absence
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal information with non-acceptable reasonir will be rejected and required to resubmit
4. Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval
5. Items in **BLUE** are only required for 'Final' approval

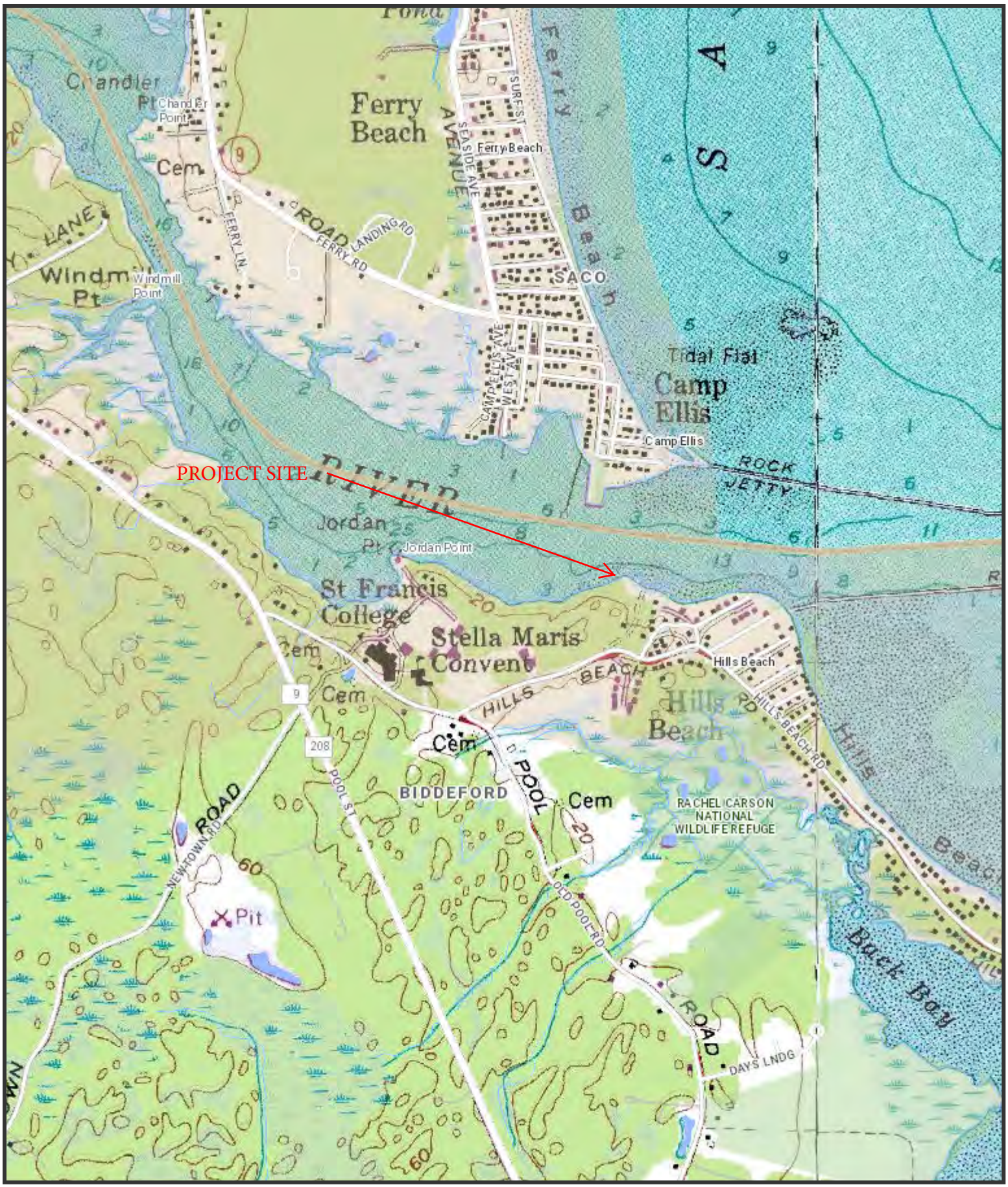
SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	University of New England (UNE) Marine Science Center Research Pie
Planning Board # (if available):	2024.34
Applicant Name/Info:	University of New England
Submittal #/Type (Prelim/Final):	Preliminary
Submittal Date:	6/10/2025

SUBMITTAL REQUIREMENT			APPLICANT RESPONSE			CITY REVIEW RESPONSE	
ITEM NUMBER		DESCRIPTION	INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1		**GENERAL PLAN REQUIREMENTS**	YES				
	A	Drawing specific legends (linetypes, hatches, etc.	YES	C-001, C-002			
	B	Individual drawing layer control should be utilized: freeze/thawing, changing lineweights, and screening (i.e. screen existing layers on a proposed plan, freeze topography and underground utilities on a proposed site plan	YES	ALL			
	C	North arrows, standard engineering scale viewports, scale bars, dated revision block	YES	ALL			
	D	All drawings and surveys must be in the following coordinate systems: NAD83 Maine State Plane West (Horizontal) and NAVD88 (Vertical	YES	ALL			
	E	Drawings need to be designed, signed & sealed by a Maine licensed professional engineer (PE); all boundary survey data needs to be performed by a licensed professional land surveyor (PLS)	YES	ALL			
2		**COVER SHEET**	YES				
	A	Project Name & Property Address	YES	G-001			
	B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	G-001, G-002	Contractor contact info to be added at a later date		
	C	Site Location Map	YES	G-001			
	D	Sheet Set List of Drawings	YES	G-001			
	E	Tax Map and Lot ID	YES	C-001			
	F	Zoning & Shoreland Zone Information	YES	C-001			
	G	Existing Use Description	YES	C-001			
	H	Proposed Use Description	YES	C-003			
	I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES	G-001			
	J	Name of Drainage Watershed	YES	C-001			
	K	Within the MS4 Urbanized Area (Yes/No)	YES	C-001			
	L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	C-001			
	M	Within the 100-year Flood Zone (Yes/No)	YES	C-001			
	N	Public Road Proposed (Yes/No)	NO	N/A	There are no public roads onsite		
	O	Private Road Proposed (Yes/No)	YES	C-001			
	P	Public Sewer Connection (Yes/No)	YES	C-001	There are no proposed improvements to the public sewer		
	Q	Public Storm Drain Connection (Yes/No)	NO	N/A	There are no public storm drains onsite		
	R	Limits of Disturbance in square feet and acres	YES	C-005			
	S	Pervious Land Cover square footage, existing and propose	YES	C-003			
	T	Impervious Land Cover square footage (Pavement/Gravel), existing and propose	YES	C-003			
	U	Building Roof square footage, existing and propose	YES	C-001			
	V	Assigned Planning Board Numbe	YES	G-001			
	W	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone	YES	C-007, C-007			
3		**EXISTING CONDITIONS PLAN**					
	A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	YES	C-001			
	B	Property & Right-of-Way Lines	YES	C-001			
	C	Boundary line information (bearings, distances, etc.	YES	C-001			
	D	Property pin and monumentation locations	YES	C-001			
	E	Existing easements with proper ownership identifie	YES	C-001			
	F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage	YES	C-001			
	G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc	YES	C-001			
	H	100-year Flood Zone Limits & Elevation	YES	C-001			
	I	Existing contours with adequate contour labelling; minimum 1' contour interva	YES	C-001			
	J	Existing building FFEs annotate	YES	C-001			
	K	Spot elevations for all tie-in locations (curb cuts, property line	YES	C-001			
	L	Existing buildings & structure	YES	C-001			
	M	Existing pavement areas & number of parking space	YES	C-001			
	N	Existing ADA ramp geometry, detectable warning plates, and ADA parking space	YES	C-001			
	O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	C-001			
	P	Existing signage and striping	YES	C-001			
	Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tel	YES	C-001			
	R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C-001			
	S	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls	YES	C-001			
	T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	YES	C-001			
	U	Location of any borings, drinking wells, and monitoring well	YES	C-001			
4		**SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN**					
	A	Limits-of-disturbance outlined and acreage annotate	YES	C-005			
	B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc	YES	C-001			
	C	100-year Flood Zone Limits	YES	C-001			
	D	Callout existing site features to be demolished/removed/replace	YES	C-002			
	E	Callout existing utilities to be demolished/removed/abandoned-in-plac	YES	C-002			
	F	Hatch existing buildings and pavement to be remove	YES	C-002			
	G	Construction Entrance location(s)	YES	C-005			
	H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix	YES	C-005			
	I	Stockpile and staging area(s) identified (with proper perimeter contro	YES	C-005			
	J	Inlet protection location(s)	YES	C-005			
	K	Note requiring contractor to implement dust control measures throughout constructio	YES	C-012			
	L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	N/A	N/A	No utilties proposed within right-of-way		
	M	If groundwater expected, show dewatering/silt bag location(s); show temporary pumping routing	YES	C-014			

	N	If large development is proposed with an extensive underground stormwater conveyance network, identify how SWM infrastructure and BMPs will be protected during construction and if sediment traps/basins are needed	N/A		No extensive underground SWM infrastructure is proposed.		
5		**SITE PLAN/SUBDIVISION PLAN**	YES				
	A	Partial Site Plans needed for any viewport scale greater than 1"=20	YES	C-003			
	B	Existing property and right-of-way lines	YES	C-003			
	C	Proposed subdivision lot lines and labels	YES	C-003			
	D	Required Zoning Setbacks shown with dimensions and annotation	YES	C-003			
	E	Bulk requirement summary table (zoning/parking calculations	YES	C-003			
	F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.	YES	C-003			
	G	100-year Flood Zone Limits	YES	C-003			
	H	Proposed building outlines, door entrances and loading docks	YES	C-003			
	I	Proposed building labels	YES	C-003			
	J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C-003			
	K	Proposed parking and accessible parking locations; annotate parking space count	YES	C-003			
	L	Proposed signage, parking striping, and traffic striping	YES	C-003			
	M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	NO		No ADA ramps or parking are proposed		
	N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C-003, C-004, C-006, C-007			
	O	Proposed landscaping; detailed landscaping design should be shown on separate plan	YES	C-015, C-016			
	P	Designated snow storage areas	NO		No snow storage areas are proposed		
	Q	Proposed dumpster locations and trash removal access	NO		No dumpsters or trash removal are proposed.		
	R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading dock	YES	C-003, C-006, C-007			
	S	Radial dimensions for all curbs, landscaped islands, sidewalk	YES	C-003			
	T	Public/private road centerline stationing shown, labelled every 0+50' with curve dat	YES	C-003, C-006, C-007			
	U	If Private Road is proposed, final recorded plans must clearly note that proposed private roads will not be submitted in the future for public acceptanc	NO		Will be provided at a later date		
	V	If Private Road is proposed, final recorded plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private roads	NO		Will be provided at a later date		
	W	Planning Board signature block for final recording	YES	G-001			
6		**GRADING PLAN**	YES				
	A	Partial Grading Plans needed for any viewport greater than 1"=20	YES	C-004, C-006, C-007			
	B	Limits-of-disturbance outlined and acreage annotated	YES	C-004, C-006, C-007			
	C	Proposed Building Labels with Individual Finished Floor Elevations (FFEs	YES	C-004, C-006, C-007			
	D	Existing contours with adequate contour labelling, screened; minimum 1' contour interva	YES	C-004, C-006, C-007			
	E	Proposed contours with adequate contour labelling; minimum 1' contour interva	YES	C-004, C-006, C-007			
	F	Detailed grading for all ditches, swales, outfalls, and ripra	YES	C-004, C-006, C-007			
	G	All proposed contours tie-into existing contours at limits-of-disturbance outlin	YES	C-004, C-006, C-007			
	H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in location	YES	C-004, C-006, C-007			
	I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.	YES	C-004, C-006, C-007			
	J	100-year Flood Zone Limits	YES	C-004, C-006, C-007			
	K	Proposed spot elevations for all important roadway geometric points (including but not limited to: parking/drive aisles, building corners/entrances, retaining walls, loading docks, EOP/curblines)	YES	C-004, C-006, C-007			
	L	Proposed spot elevations for all ADA ramp/landing/parking stall geometry point	N/A	No new ADA proposed			
	M	Proposed % slope arrows for all ADA parking spaces and sidewalk	N/A	No new parking proposed			
	N	Proposed longitudinal % slope arrows for drainage ditch centerline	YES	C-004, C-006, C-007			
	O	Proposed % slope arrows for roads, parking areas, and landscape tie-in area	YES	C-004, C-006, C-007			
	P	Estimated cut/fill earthwork volumes. If disturbing within the Flood Zone, a separate set of earthwork volumes required (overall site vs. within flood zone	YES	C-004, C-006, C-007			
7		**ROAD PROFILES (if public/private road proposed)**	YES				
	A	Existing surface; dashed and screened	YES	C-006, C-007			
	B	Proposed surface; continuous and bold	YES	C-006, C-007			
	C	Road design speed must be clearly identified	YES	C-006, C-007			
	D	Corresponding centerline stationing and curve data annotation	YES	C-006, C-007			
	E	All vertical curves must identify the proposed 'K' values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-35 & 3-3	YES	C-006, C-007			
	F	Clear annotation if proposed road will be public or private	YES	C-006, C-007			
	G	If Private Road is proposed, plans must clearly note that proposed private roads will not be submitted in the future for public acceptanc	YES	C-003			
	H	If Private Road is proposed, plans must clearly note that the City is not responsible for any maintenance, repair, plowing, or trash removal of proposed private road	YES	C-003			
8		**UTILITY PLAN**					
	A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C-004			
	B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C-004			
	C	Rim, invert in, invert out, pipe size, cardinal direction (N, E, S, W) information for any existing utility infrastructure being tied into (upstream/downstream/outfalls	YES	C-004			
	D	Proposed underground utility locations; bold (storm, sewer, force main, watergas, electric, telecom, lighting)	YES	C-004, ES1.1			
	E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C-004			
	F	Proposed storm culverts, outfalls, and riprap locations and size	YES	C-004 to C-007			
	G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C-004 to C-007			
	H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slop	YES	C-004 to C-007	Additional information can be found in the SWM Report		
	I	Flow directional arrows for storm & sewer pipes	YES	C-004 to C-007			
	J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails	YES	C-004 to C-007			
	K	All storm drains must be sized to convey the 25-year storm	YES	C-004 to C-007	See SWM Report		
	L	Sewer force main sizes and invert elevations	NO	N/A	No force main proposed		
	M	Sewer pump station locations, model, rim, inverts, pipe sizes, cardinal directions (N,E,S,W); additional details and hydraulic calculations required for any Public pump station proposed.	NO	N/A	No pump stations proposed		
	N	Locations, sizes, and elevations of any: grease traps, oil-water separators, septic systems, drinking wells	NO	N/A	None proposed		
	O	Proposed water sizes labelled	NO	N/A	None Proposed		
9		**UTILITY PROFILES**					
	A	Utility profiles required for**all** gravity storm drain and sewer pipes proposed: within the right-of-way, within private or public roads, for non-driveway culverts, and for any public infrastructure tie-ins	NO	N/A	No utilties proposed in ROW		

B	Existing surface; dashed and screened	NO	N/A	No utilties proposed in ROW		
C	Proposed surface; continuous and bold	NO	N/A	No utilties proposed in ROW		
D	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	NO	N/A	No utilties proposed in ROW		
E	Storm/sewer pipe labels must include: linear footage, pipe size, material, slop	NO	N/A	No utilties proposed in ROW		
F	Existing and proposed gravity pipe crossings shown; sizes labelled and depths/clearance annotated	NO	N/A	No pipe crossing proposed		
G	Existing and proposed electric/water/telecom/gas crossings shown at approximate depths; sizes labelled and depths/clearance annotatec	YES	ES1.1			
10	**DETAILS**					
A	Road section detail, including pavement/gravel depths & cross slope	YES	C-008, C-009, C-010			
B	Sidewalk, paver, crosswalk, and any other pavement section detail:	N/A	None proposed			
C	Pavement sawcut & shiplap details	YES	C-003, C-006, C-007			
D	Utility trench/backfill detai	YES	C-011			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, et	YES	C-011, C-013, C-014			
F	Signage, striping, and ADA details	N/A	N/A	No signage or striping proposec		
G	E&S notes and details	YES	C-012, C-013, C-014			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	C-013, C-014			
I	Storm outfall & riprap details	YES	C-011			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	NO	C-013, C-014			
K	Pump station, grease trap, oil-water separator, septic, drinking well detail	N/A	N/A	None Proposed		
L	Conduit section details	N/A	N/A	None Proposed		
11	**LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS**					
A	As required by ordinance; at a minimum: locations, counts, lighting models, and landscaping species must be identifiec	YES	C-015, C-016, ES1.1			
B	Landscaping & lighting details	YES	C-015, C-016, ES1.1			
12	**DOCUMENTS/REPORTS/CALCULATIONS**					
A	On initial preliminary submittal applications, applicant must submit a development review and inspection fee. Applicant to coordinate fee amount with City Planner prior to submittal. This fee will be drawn against to cover the following type of services throughout the project life cycle (and may require replenishing): i. 3rd Party City Peer-Review ii. Site Inspections during the permitting process iii. Erosion & Sediment Control Inspections during construction iv. Right-of-Way Inspections during construction	Yes				
B	Stormwater Management Report, including: 1. Predevelopment & Post-development Drainage Area Maps, including: a. Subdrainage areas delineated and labeled b. Points of Interest/Analysis shown and labeled c. Hatching for different land cover areas (impervious, pervious, gravel) within each applicable USDA soil boundary d. Time of concentration (Tc) paths & durations e. Four City-standardized stormwater summary tables 2. If any SWM water quality BMP or detention facility is proposed, hydrologic model exports/hydrographs must be submitted for the for the 2, 10, 25, & 100-year storm frequencies 3. Sizing calculations for any SWM water quality BMP or detention facility 4. A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: a. Annual maintenance requirements b. Annual inspection requirements by a licensed PE; noting that all inspection reports/logs need to be submitted to the Engineering Department by March 1st each following year, identifying what on-going maintenance has occurred and what remedial repairs are needed c. Signed Property Owner Agreement: including the current property owner's contact information and signature; it must be noted that all stormwater BMP maintenance requirements are linked to the property for perpetuity and transfer to any new ownership	Yes				
C	An approved 'Sewer Ability-to-Serve Letter' from the Engineering Department: i. Applicant to submit proposed sewer flow calculations per Maine's Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C	N/A		No new buildings/sewer conveyance proposed		
D	A Performance Guarantee Cost Estimate utilizing Planning's templat	YES				
E	For any Site Location of Development (SLODA) project, the applicant's submittal must mimic a formal submittal to DEP. Submit must abide to DEP's SLODA application and include DEP's SLODA Submittal Checklist (Form D)	YES				
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identifie	YES				
K	Public sewer pump station sizing calculations and maintenance plai	N/A	No pump stations proposed	No pump stations proposed		
M	Grease trap sizing calculations	N/A	No grease traps proposed	No grease traps proposed		
N	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more	N/A	No HOA	No HOA		
O	Summary list & copy of any required DOT/DEP/USACE permits & approvals	YES				

Attachment 4
Location Map



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.25 Miles

1 inch = 0.28 miles

Date: 6/8/2023
Time: 3:54:08 PM

Attachment 5
Deed

Excepting and reserving, however, from the last parcel described a small triangular parcel of land in the rear of the premises of Charles E. Roberts which triangular lot has a base of about 50 feet in length which is an extension of the northwesterly boundary of said Roberts lot; and has an altitude of about 100 feet in length which is the northeasterly side thereof and is located in the center of a ditch long supposed to be the rear line of the Roberts lot; and which has a hypotenuse which is coincident with the rear line of said Roberts lot and is the southerly side of said triangule, being the same premises conveyed by Blanche T. Beuscher and Olga M. DeHaven to the said Kenneth A. Littlefield and Barbara A. Littlefield, by their deed of mortgage dated on the twentieth (20) day of February 1958 and recorded in York Registry of Deeds, Book 1354, Page 447, but described under the aforementioned reference only as three certain lots or parcels of land, with buildings thereon, and mentioned as being the same premises conveyed on February 20th, 1958, by Kenneth A. and Barbara A. Littlefield to Blance T. Beuscher and Olga M. DeHaven, by Warranty Deed, Recorded Book 1362, Page 112; and that such entry was made and possession taken as aforesaid, for the avowed purpose of foreclosing said mortgage, because of a breach of the condition thereof.

Raymond E. Mealey

Madeline C. Mealey

STATE OF MAINE

COUNTY OF YORK, SS March 24, 1962 Signed and sworn to by the said Raymond E. Mealey and Madeline C. Mealey,

Before me. Maurice L. Shibles Notary Public (L.S.)
My Commission Expires Sept. 2, 1966

Recorded according to the original received April 6, 1962 at 11h. 58m. A. M. EL

KNOW ALL MEN BY THESE PRESENTS, THAT, COUVENT de la PRESENTATION de MARIE, a corporation organized and existing under the laws of the State of Maine and located at Biddeford, in the County of York and said State of Maine, in consideration of One Hundred Fifty Thousand Dollars ($150,000.00) paid by THE FRANCISCAN FATHERS OF MAINE, a corporation duly organized by law and having an established place of business at 605 Pool Road, in said Biddeford, the receipt whereof it does hereby acknowledge, does hereby give, grant, bargain, sell and convey, unto the said The Franciscan Fathers of Maine, its successors or assigns, forever, the following described property: I.R.S. One Hundred and Sixty Five Dollars

Parcel 1

A certain lot or parcel of land, with the buildings thereon, situated in

said Biddeford and bounded and described as follows:

BEGINNING at a point on the Northerly side of the Hill's Beach Road, so-called, in said Biddeford, said point being the Westerly corner of the land herein conveyed and being in the Southerly line of land formerly of one Finney and now of Couvent de la Presentation de Marie, and being marked by an iron stake driven into the ground; thence South eighty-two degrees eight minutes East (S 82° 08' E) two hundred fourteen and forty-six one-hundredths (214.46) feet by said Hill's Beach Road to an iron stake driven into the ground; thence North eighty-one degrees forty-two minutes East (N 81° 42' E) five hundred forty-five and five one-hundredths (545.05) feet by said Hill's Beach Road to an iron stake driven into the ground; thence South fifty degrees thirty-five minutes East (S 50° 35' E) two hundred thirty-eight and forty-seven one-hundredths (238.47) feet by said Hill's Beach Road to an iron stake driven into the ground and other land of this Grantor; thence North eighty-six degrees twenty-seven minutes East (N 86° 27' E) sixteen and ninety-one one-hundredths (16.91) feet by said other land of this Grantor to a drill hole into the ledge and land now or formerly of John J. Traynor; thence North three degrees thirty-three minutes West (N 3° 33' W) one hundred thirty-three and five tenths (133.5) feet by said land of John J. Traynor, land now or formerly of one Michael Reddy and a reserved street as shown on a plan of land of William A. Chadbourne, drawn by Z. G. Staples, July 14, 1874, and recorded in York County Registry of Deeds in Plan Book 2, Page 40, and by the stone wall to an iron stake driven into the ground at the Southwesterly corner of land now or formerly of William Libby; thence North twenty-two degrees forty-one minutes West (N 22° 41' W) one hundred twenty-eight and one-half (128½) feet by said land of William Libby, other land of this Grantor and by the stone wall to an angle in said stone wall; thence North fifty-five degrees fifty-seven minutes East (N 55° 57' E) three hundred ninety-three and nineteen one-hundredths (393.19) feet by said other land of this Grantor, by a reserved street as shown on said plan, and land now or formerly of Thomas Gallagher and by the fence and wall to an iron stake driven into the ground at the top of the bank; thence this same course to Saco River; thence Northerly, Northwesterly and Westerly by said River to an iron stake driven into the ground at a point of ledge and to said other land of this Grantor; thence South forty-one degrees East (S 41° E) three hundred thirty-nine and seven tenths (339.7) feet to an iron stake driven into the ground at the stone wall; thence South sixty-three degrees West (S 63° W) fifty-six and three tenths (56.3)feet by said stone wall to an iron stake driven into the ground; thence South sixty-nine degrees fifteen minutes West (S 69° 15' W) one hundred sixteen and one-half (116½) feet by said

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wall to an iron stake driven into the ground; thence South fifty-three degrees forty minutes West (S 53° 40' W) one hundred twenty-eight and five tenths (128.5) feet by said wall to an iron stake driven into the ground; thence South sixty-eight degrees nineteen minutes West (S 68° 19' W) one hundred and four tenths (100.4) feet by said wall to an iron stake driven into the ground; thence North eighty-eight degrees four minutes West (N 88° 04' W) seventy-seven and nine tenths (77.9) feet by said wall to an iron stake driven into the ground; thence South seventy-four degrees twenty-three minutes West (S 74° 23' W) seventy-nine and two tenths (79.2) feet by said wall to an iron stake driven into the ground; thence South fifty-seven degrees nineteen minutes West (S 57° 19' W) ninety-five and one tenth (95.1) feet by said wall to an iron stake driven into the ground; thence South sixty-four degrees ten minutes West (S 64° 10' W) one hundred six and nine tenths (106.9) feet by said wall to an iron stake driven into the ground; thence South sixty-five degrees thirty minutes West (S 65° 30' W) one hundred forty-four and eight tenths (144.8) feet by said wall to the point of beginning. The last ten courses described being bounded by said other land of this Grantor. The above courses refer to the 1931 magnetic meridian.

Parcel 2

Also another certain lot of land, bounded and described as follows:

BEGINNING at an iron stake driven into the ground at the Southerly corner of the above described parcel and on the Northerly side of said Hill's Beach Road; thence North eighty-six degrees twenty-seven minutes East (N 86° 27' E) sixteen and ninety-one one-hundredths (16.91) feet by said above described parcel to a drill hole in the ledge and land now or formerly of John J. Traynor; thence South three degrees thirty-three minutes East (S 3° 33' E) fifteen and seventy-five one-hundredths (15.75) feet by said land of Traynor to said Hill's Beach Road; thence North fifty degrees thirty-five minutes West (N 50° 35' W) twenty-three and eleven one-hundredths (23.11) feet by said road to the point of beginning.

Parcel 3

Also another certain lot or parcel of land, situated at Hill's Beach, so-called, in said Biddeford, and adjoining the first above described parcel, bounded and described as follows:

BEGINNING at the Northwest corner of Lot #18, on a plan of land made by Z. G. Staples for William A. Chadbourne, dated July 14, A. D. 1874, at land of the late Selucus Adams and S. S. Mitchell; thence running Southerly one hundred (100) feet to Lot #17 on said plan; thence Westerly by last named lot fifty (50) feet; thence North forty-eight degrees West (N 48° W) forty-eight (48) feet by land of said Adams; thence North fifty-one and one-half degrees East (N 51½° E) one hundred six (106) feet by land of said Adams and Mitchell to the place of

48
pg 146

Book 1484

beginning, and containing about five thousand four hundred and twenty-four (5,424) square feet, being the same parcel of land as described in deed of James B. Marr and others to Caroline P. Adams, dated April 1, 1891 and recorded in York County Registry of Deeds in Book 443, Page 88.

The above described premises were conveyed to the within Grantor by Les Soeurs de la Presentation de Marie by deed of Warranty, dated September 30, 1932 and recorded in York County Registry of Deeds in Book 834, Page 67.

Parcel 4

Also another certain lot or parcel of land, together with the buildings thereon, situated in said Biddeford and known as the old Ralph Tristram Jordan place situated on the northeasterly side of the Pool Road, so-called, bounded on the southwesterly side by said Pool Road; southeasterly by the road to the beach and land formerly of Mrs. Horace Woodman; on the northeasterly side by the Saco River; and on the northwesterly side by land, now or formerly of J. B. Coolbroth.

For more particular description of the premises hereinabove last described, reference is made to decree of Supreme Judicial Court of Maine in the matter of Hanford E. Finney against claiments known and unknown dated October 3, 1919, and recorded in said York County Registry of Deeds, Book 671, Page 374.

All fixtures and articles of whatever nature permanently attached to said buildings are included in this conveyance.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all privileges and appurtenances thereof to the said The Franciscan Fathers of Maine, its successors or assigns, to its and their use and behoof forever.

AND it does COVENANT with the said Grantee, its successors or assigns, that it is lawfully seized in fee of the premises; that they are free of all encumbrances; that it has good right to sell and convey the same to the said Grantee to hold as aforesaid; and that it shall and will Warrant and Defend the same to the said Grantee, its successors or assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, the said Couvent de la Presentation de Marie has caused this instrument to be executed and its corporate seal affixed thereto by - - its Treasurer, thereunto duly authorized, this eighteenth day of April, in the year of our Lord one thousand nine hundred and sixty-two.

Signed, Sealed and Delivered
in Presence of

Harold D. Carroll

COUVENT de la PRESENTATION de MARIE
(Corporate Seal)
By Sister St. Leon of Rome
Leona Lafleur
Its Treasurer, thereunto duly authorized.

Attachment 6
Letter of Financial Capacity

UNIVERSITY OF NEW ENGLAND

Biddeford Campus
11 Hills Beach Road
Biddeford, ME 04005
(207) 283-0171 T

Portland Campus
716 Stevens Avenue
Portland, ME 04103
(207) 797-7261 T

April 14, 2025

To Whom It May Concern:

The University of New England plans to construct a research pier facility, along with an associated access road, on its Biddeford Campus. This new facility will have an estimated total project cost of $5,500,000. The University of New England has received a federal appropriation for $3,500,000 for this project, a and another $1,000,000 has already been received in private donations. The remainder of the project will be financed by the university.

Sincerely,

Alan Thibeault
Vice President for University Operations

Attachment 7
Stormwater Management Report



Stormwater Management Report

UNE Marine Science Center Pier

Submitted to:
University of New England
11 Hills Beach Road
Biddeford, ME 04005

Submitted by:
GEI Consultants, Inc.
5 Milk Street
Portland, ME 04101
207-797-8901

September 2023
Revision C. June 2025
Project 2203703

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED PROFESSIONAL ENGINEER
6/9/2025



Brian McDevitt, P.E.
Senior Civil Engineer

Daniel J. Bannon, P.E. CFM
Project Manager / Sr. Waterfront Engineer

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B. Pre-Development HydroCAD Calculations
C. Post-Development HydroCAD Calculations
D. Inspection and Maintenance Plan

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SW-03 TREATMENT AREA PLAN

C-001 EXISTING CONDITIONS PLAN
C-002 DEMOLITION AND CONSTRUCTION STAGING
C-003 SITE PLAN
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C-005 EROSION CONTROL PLAN
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C-007 ACCESS ROAD PLAN AND PROFILE MATCHLINE STA 4+00 TO STA 6+60
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C-009 ACCESS ROAD SECTIONS 2+00 TO 3+75
C-010 ACCESS ROAD SECTIONS 4+00 TO 5+75
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C-013 EROSION CONTROL DETAILS I
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C-016 REVEGETATION NOTES, DETAILS, AND SCHEDULES

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1. Introduction

The University of New England (UNE) campus is located along the Saco River in Biddeford, ME. The Marine Science Center is located on the waterfront at the easterly end of campus (Fig. 1) approximately opposite Camp Ellis in Saco. To support MSC research activities, UNE proposes to construct a pier from the shore adjacent to the MSC into the Saco River to provide an all-tide access facility for small and shallow draft vessels (skiffs, landing craft, up to approximately 3-foot draft), with tidally-restricted access for larger vessels.



Fig. 1. Aerial Photo of University of New England Marine Science Center Waterfront

In 2008-2010, UNE worked with Baker Design Consultants (BDC) to undertake a concept planning study for the proposed pier. In this study, nine alternative designs were developed for water access facilities along the UNE waterfront consisting of various configurations of piers, boat ramps, and upland access and support facilities. The alternatives were evaluated on a range of criteria including technical criteria, functionality, constructability, cost and others to identify a preferred facility location. The nine alternatives evaluated through this study are shown in Fig. 2. At the conclusion of this study, Site 7 (directly in front of the Marine Science Center building) was identified as the preferred facility location (Site) to develop a new pier facility that would consist of a pile-supported pier extending from shore out into the Saco River.

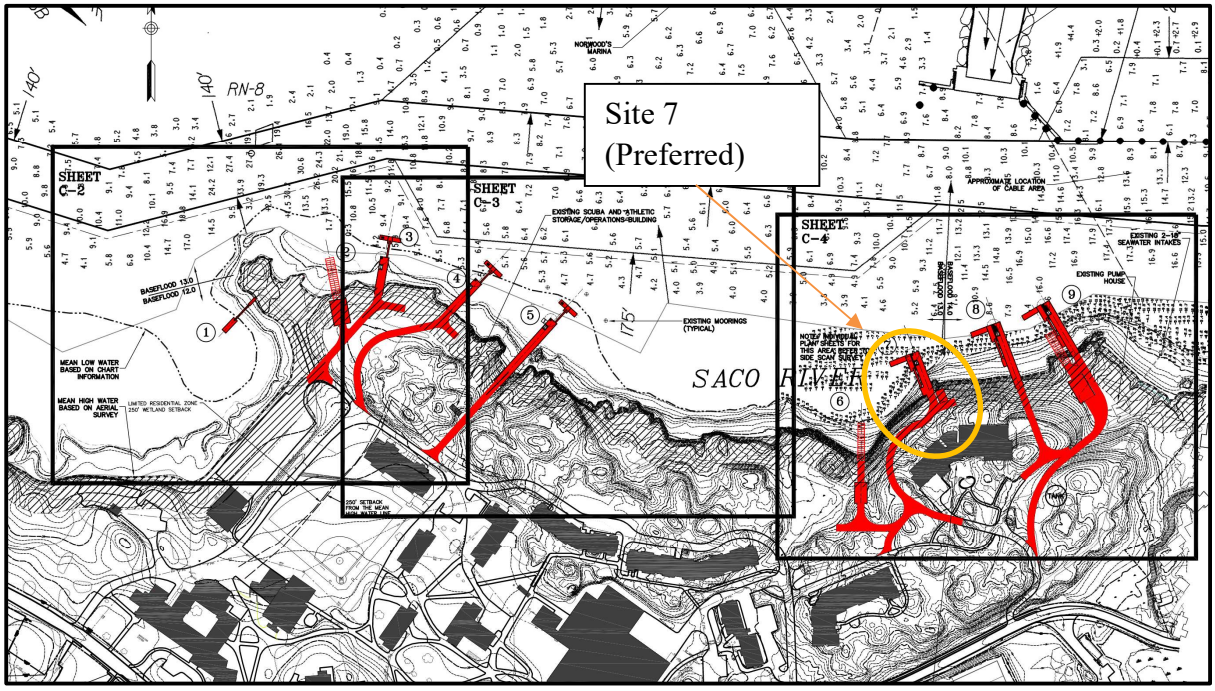


Fig. 2. Pier Location Alternatives from BDC Feasibility Study

In 2015-2016, UNE worked with BDC to undertake further design studies for a pier at the preferred location to investigate structure dimensions, orientation, rough order of magnitude costs, and impacts to coastal resources and features. As part of this evaluation, a preliminary geotechnical investigation was undertaken by GZA Geoenvironmental that included one water boring, two probes, and four test pits. At the conclusion of this phase of work, three alternative layouts were developed and reviewed with staff from UNE, the City of Biddeford, and the Saco River Corridor Commission and memorialized in a memo from BDC dated March 22, 2016.

In February 2022, UNE resumed design of the new proposed pier working with GEI Consultants to confirm conceptual layout for the pier and access road, and undertake design through 100% design and bid documents, as well as coordinate with UNE's consultant Site Design Associates for permitting of the proposed facility.

The proposed facility includes the following:

1. A pile supported pier structure extending from shore into the Saco River. The proposed pier includes an approximately 130-foot-long approach section extending from shore and an 80-foot long pier head section oriented roughly parallel to the direction of flow in the river. The pier consists of a concrete superstructure on steel pipe piles, with timber fender piles for vessel berthing and floating docks, and a pile supported gangway lifting beam to allow the gangway ramp to be temporarily removed from the water.

2. A floating dock system consisting of one 8-foot by 24-foot float, one 8-foot by 26-foot 10-inch float, and one 12-foot by 30-foot gangway landing float to provide all-tide vessel access for UNE's vessels on the west side of the pier, and a single 6-foot by 20-foot floating dock to provide a tie-up location for the City of Biddeford Fire Boat on the east side of the pier.
3. An 80-foot by 5-foot gangway to provide ADA compliant access to the float system.
4. An upland access road connecting the existing road at the MSC to the proposed pier, including associated site grading, drainage, and stormwater management features.

2. Methodology

Technical Release No. 22 (TR20) was used to calculate the existing and developed runoff from the project area. Hydrographs have been generated for the 2, 10, and 25-year frequency design storm events utilizing the NRCS Type III storm distribution and the 24-hour regional data from York County's rainfall data as required by MaineDEP. The rainfall amounts for York County are listed below:

Table 1-Existing 24 Hour Rainfall Frequency			
Rainfall amounts in Inches			
Design Storm	***2-Year***	***10-Year***	***25-Year***
	3.21	4.83	6.11

The following guidelines were utilized in the design of the Site's stormwater measures and BMPs (MaineDEP Stormwater Guidelines, Chapter 500):

1. Waiver of the flooding standard. A project is eligible for a waiver from the flooding standard if it discharges to a coastal wetland, a great pond, or a major river segment. A waiver is available for a project in the watershed of a coastal wetland, a great pond, or a major river segment provide the applicant demonstrates that the project convey stormwater exclusively in sheet flow, in a manmade open channel or in a piped system directly into one of these resources.
2. The redistribution of stormwater discharges standard will be met by discharging to a level spreader. The peak stormwater flow rate to a level spreader due to runoff from a 10-year, 24-hours storm must be less that 0.25 cubic feet per second (0.25 cfs) per foot length of level spreader.
3. Project will meet the erosion and sedimentation control standards found in Maine Department of Environmental Protection Guidelines, Chapter 500, Appendix A.

3. Pre-Development Conditions

1. Land Use

   Presently, the Site is the location of the University of New England Girard Marine Science Center. However, the existing buildings and parking lots exist outside of the limits of this project. Runoff generated from the buildings and parking lots in conveyed via underground pipes to the south, away from the Saco River.

   The proposed project limits currently consists of predominantly wooded areas. The southeast corner of the Site contains gravel path.

2. Topography

   The Site is mainly comprised of steeply sloped wooded areas with slopes near 20% for most of the Site. The Site mostly slopes to the north towards the Saco River/Atlantic Ocean. Per the NRCS WebSoil Survey, the Site is comprised almost completely of sandy, stony soil. These sandy soils are rated as Hydrologic Group D. A copy of the Web Soil Survey can be found in the Appendices.

3. Existing Drainage Area

   Presently, the runoff from the Site flows via overland flow to three different points of analysis, hereafter known as DP1, DP2 and DP3, with associated drainage areas 1S, 2S and 3S, respectively. The predevelopment drainage areas are described below:

   A map entitled Pre-Development Drainage Plan is included in the Drawings section of this report. Additionally, the HydroCAD model and calculations can also be found in the Appendix.

   Predevelopment Area 1S is the smallest of the existing drainage areas and is ±0.460 acres which consists of wooded areas. Runoff from Predevelopment Area 1S flows overland from the rear of the Girard Marine Science Center to the northeast and directly into the Saco River/Atlantic Ocean at DP1.

   Predevelopment Area 2S is ±0.637 acres and can be found in the middle of the Site. Predevelopment Area 2S consists of all wooded areas. Runoff from Predevelopment Area 2S flows via overland flow from a ledge in the middle of the Site to the north to the Saco River/Atlantic Ocean at DP2.

Predevelopment Area 3S is ±1.461 acres and comprises the eastern most portion of the Site. Predevelopment Areas 3S consists mostly of wooded areas and contains a gravel path leading to the lower lying wetlands and sand beaches along the Saco River/Atlantic Ocean. Runoff from Predevelopment Area 3S from the paved walkway at the Girard Marine Science Center to the northeast to the Saco River/Atlantic Ocean at DP3.

Tables 2A, 2B and 2C below list the total runoff for each Predevelopment Area:

Table 2A-Predevelopment Area 1S Runoff
Rainfall amounts in cubic feet per second

Pre-Development Total	***2-Year***	***10-Year***	***25-Year***	***100-Year***
Peak Runoff Rate (cfs)	0.71	1.44	2.07	3.31

Table 2B-Predevelopment Area 2S Runoff
Rainfall amounts in cubic feet per second

Pre-Development Total	***2-Year***	***10-Year***	***25-Year***	***100-Year***
Peak Runoff Rate (cfs)	0.74	1.51	2.17	3.50

Table 2C-Predevelopment Area 3S Runoff
Rainfall amounts in cubic feet per second

Pre-Development Total	***2-Year***	***10-Year***	***25-Year***	***100-Year***
Peak Runoff Rate (cfs)	2.39	4.58	6.44	10.05

4. Post Development Conditions

1. Land Use

When fully developed, the Site will contain the following improvements:

a. A pile supported pier structure extending from shore into the Saco River. The proposed pier includes an approximately 130-foot-long approach section extending from shore and an 80-foot long pier head section oriented roughly parallel to the direction of flow in the river. The pier consists of a concrete superstructure on steel pipe piles, with timber fender piles for vessel berthing and floating docks, and a pile supported gangway lifting beam to allow the gangway ramp to be temporarily removed from the water.
b. A floating dock system consisting of one 8-foot by 24-foot float, one 8-foot by 26-foot 10-inch float, and one 12-foot by 30-foot gangway landing float to provide all-tide vessel access for UNE's vessels on the west side of the pier, and a single 6-foot by 20-foot floating dock to provide a tie-up location for the City of Biddeford Fire Boat on the east side of the pier.
c. An 80-foot by 5-foot gangway to provide ADA compliant access to the float system.
d. An upland superelevated access road connecting the existing road at the MSC to the proposed pier, including associated site grading, drainage, and stormwater management features.

These improvements will result in a total increase in impervious area of 0.249 acres. The increase in impervious area will be managed by the two bioretention filter cells to the north of the Girard Marine Science Center. Runoff will be conveyed to the bioretention filter cells via proposed vegetated swales along the low side of the superelevated access road.

The bioretention filter cells will slowly release captured stormwater via underground pipe into the Saco River/Atlantic Ocean.

2. Drainage Areas

The map entitled Post-Development Drainage Plan delineating all developed drainage areas can be found in the Drawings section of this report. For analysis, the Site was broken up into 5 different drainage areas hereafter known as 1S, 2S, 3S, 4S, and 5S.

Post Development Area 1S contains the area that conveys runoff to the western Bioretention Filter Cell B. This area contains impervious areas from the access road and the proposed vegetated areas behind the Girard Marine Science Center. Runoff is conveyed to the Bioretention Filter Cell B via vegetated swale. Runoff captured by the bioretention filter cell will be treated and slowly released via underground pipe to the outfall under the proposed pier and into the Saco River/Atlantic Ocean near DP1.

Post Development Area 2S contains the areas to the northwest of the Site that conveys runoff via over land flow from the Girard Marine Science Center to DP1. This area contains small impervious areas as it contains the northern shoulder of the access road and the transition from access road to pier. Runoff from this area will not be managed for water quality or peak rate reduction.

Post Development Area 3S contains the area that conveys runoff to the eastern Bioretention Filter Cell A. This area contains impervious area from the access road and the proposed vegetated areas behind and to the east of the Girard Marine Science Center. Runoff is conveyed to the Bioretention Filter Cell A via vegetated swale. Runoff captured by the bioretention filter cell will be treated and slowly released via underground pipe to the outfall to the north where it will run through a level spreader to further reduce peak flow rate. Runoff will leave the level spreader and reach the Saco River/Atlantic Ocean via overland flow near DP2.

Post Development Area 4S contains the area to the northeast of the Site that conveys runoff via over land flow from the Girard Marine Science Center to DP2. This area contains small impervious areas as it contains the northern shoulder of the access road and the level spreader. Runoff from this area will not be managed for water quality or peak rate reduction.

Post Development Drainage Area 5S contains the area to the eastern portion of the Site. This this area contains the southernmost portion of the proposed access road and the existing gravel path. Runoff from this area will be conveyed via overland flow to the Saco River/Atlantic Ocean at DP3.

5. Stormwater Management

1. Stormwater Quantity

The bioretention filter cells are proposed to reduce the peak runoff rate of the 2, 10, and 25-year storms to treat stormwater runoff from the Site in accordance with DEP standards. Despite this, efforts were made to minimize the peak runoff rate from the Site. The tables below summarize the peak rate of runoff for the Site:

TABLE No. 3A
Managed Total Peak Discharge Summary of the Proposed Conditions to Discharge Point DP1

Storm Event	2-Year		10-Year		25-Year		100-Year	
	Existing	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**
Peak Runoff Rate (cfs)	0.71	1.02	1.44	1.85	2.07	2.54	3.31	3.88

TABLE No. 3B
Managed Total Peak Discharge Summary of the Proposed Conditions to Discharge Point DP2

Storm Event	2-Year		10-Year		25-Year		100-Year	
	Existing	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**
Peak Runoff Rate (cfs)	0.74	1.24	1.51	2.31	2.17	3.22	3.50	4.98

TABLE No. 3C
Managed Total Peak Discharge Summary of the Proposed Conditions to Discharge Point DP3

Storm Event	2-Year		10-Year		25-Year		100-Year	
	Existing	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**	**Existing**	**Proposed**
Peak Runoff Rate (cfs)	2.39	2.23	4.58	4.26	6.44	5.99	10.05	9.35

The tables above show a relatively minor increase in the peak rate of stormwater runoff subsequent to development. The northern most outfall will discharge to a level spreader which will create sheet flow into the Saco River/Atlantic Ocean. The western most outfall will outlet through the pier concrete abutment. Because the area downgradient of the outlets is stable rock, there will be no impacts due to the minor

increase in runoff. Stormwater runoff from each of the subcatchments adjacent to the river is not considered a point discharge in either the existing or proposed conditions, and is dispersed over the entire frontage along the river.

Since this development outlets directly to a major river segment/ocean, the flooding standard is typically waived by DEP (Chapter 500-Section F.3.a). The City also typically waives the need to provide detention of stormwater runoff from this parcel of UNE's property due to the tidal nature of the receiving waters. A waiver has been requested.

2. Stormwater Quality

The project proposes to treat 76% of impervious development and 72% of all new development. As discussed in the preapplication meeting, the proposed development will be treated as a linear portion of the project. For a linear project, the minimum treatment level required is 70% for impervious development and 50% of all new development. Water Quality treatment level are found in the tables below.

TABLE No. 4

Water Quality Treatment Level

Subcatchment Area	Impervious Area (SF)	Landscaped Area (SF)	Developed Area (SF)	Filter Area Required (SF)	Filter Area Provided (SF)	Water Quality Volume Required (CF)	Water Quality Volume Provided (CF)	Sediment Forebay Volume Required (CF)	Sediment Forebay Volume Provided (CF)	BMP
1S	4,917	4,915	9,832	344	854	574	200			Bioretention Filter
2S	1,238	10,250	11,488	267	-	445	-			-
3S	4,476	8,889	13,365	402	565	669	380	144	115	Bioretention Filter
4S	295	17,234	17,529	359	-	599	-			-
5S	6,273	52,906	59,179	1,372	-	2,286	-			-
Total Treated	**13,071**	**13,804**	**80,203**	930	-	1,549				
Total Developed Impervious Area	**17,199**									
Total Developed Area	**111,393**									
Percent Developed Area Treated	**72%**									
Percent Developed Impervious Area Treated	**76%**									

3. Erosion and Sedimentation Control

BMP's such as stabilized construction entrance, silt fence and/or filter berms of erosion control mix, riprap pipe inlet and outlet protection, turf reinforcement matting, mulch and permanent seeding will be used to prevent erosion and downstream migration of sediment during construction. The locations of temporary and permanent erosion control measures are erosion and sedimentation control notes

and details are shown on the design drawing set.

4. Inspection and Maintenance

   The University of New England will be responsible for maintaining the stormwater facilities for the project. An Inspection and Maintenance Plan is included in the Appendix. The plan includes a draft of the Stormwater Drainage System Maintenance Agreement, to be finalized and recorded as a condition of approval.

6. Conclusions

The stormwater management for this project included a variety of BMPs to control both the quantity and quality of stormwater runoff. The HydroCAD calculations show a minimal increase in the stormwater runoff from the proposed Site however the Stormwater Quantity requirement can be waved since this development discharges directly to a major river segment/ocean, the flooding standards can be waived (Chapter 500-Section F.3.a).

Stormwater treatment BMPs have been designed to treat stormwater runoff from more than 70% of the developed impervious area with additional treatment credit from the implementation of Low Impact Development Measures. Based on the information provided, no adverse impacts to downstream receiving bodies are anticipated.

Appendix A

NRCS Web Soil Survey Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for York County, Maine



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map


70° 23' 1" W
70° 22' 46" W
388070
388100
388130
388160
388190
388220
388250
388280
388310
388340
388370
388400
43° 27' 38" N
43° 27' 31" N
4812900
4812870
4812840
4812810
4812780
4812750
4812720
4812690
W
Ba
UH
LyE
LyC
Soil Map may not be valid at this scale.
Map Scale: 1:1,520 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 20 40 80 120
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: York County, Maine
Survey Area Data: Version 21, Aug 30, 2022

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ba	Beaches, sand	0.3	5.5%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	1.7	27.7%
LyE	Lyman-Rock outcrop complex, 15 to 80 percent slopes	3.3	54.8%
UH	Urban land-Hooksan complex, 0 to 8 percent slopes	0.2	3.1%
W	Water bodies	0.5	8.9%
Totals for Area of Interest		**6.1**	**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.

York County, Maine

Ba—Beaches, sand

Map Unit Setting

National map unit symbol: 2y080
Elevation: 0 to 20 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: Not prime farmland

Map Unit Composition

Beaches, sandy surface: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Beaches, Sandy Surface

Setting

Landform: Back-barrier beaches, barrier beaches, beaches, shores
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Beach sand

Typical profile

C1 - 0 to 10 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Runoff class: Negligible
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 0 to 12 inches
Frequency of flooding: Very frequent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 0.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

LyC—Lyman-Rock outcrop complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2trqj
Elevation: 0 to 790 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman, very stony, and similar soils: 62 percent
Rock outcrop: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Very Stony

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY701ME - Shallow Till
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest
Down-slope shape: Convex

Across-slope shape: Convex
Parent material: Igneous and metamorphic rock

Typical profile
R - 0 to 10 inches: bedrock

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Ecological site: F144BY801ME - Rockland (reserved)
Hydric soil rating: Unranked

LyE—Lyman-Rock outcrop complex, 15 to 80 percent slopes

Map Unit Setting
National map unit symbol: 2trqp
Elevation: 0 to 980 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 60 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Lyman, very stony, and similar soils: 60 percent
Rock outcrop: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Very Stony

Setting
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile
Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 80 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144BY701ME - Shallow Till
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank, side slope, crest, free face
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 15 to 80 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Ecological site: F144BY801ME - Rockland (reserved)
Hydric soil rating: Unranked

UH—Urban land-Hooksan complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2x1l1
Elevation: 0 to 50 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land, coastal: 50 percent
Hooksan and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Coastal

Setting

Landform: Dunes
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Frequency of flooding: Rare
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Hooksan

Setting

Landform: Dunes
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, base slope, crest
Down-slope shape: Convex
Across-slope shape: Convex, linear
Parent material: Sandy eolian deposits

Typical profile

C1 - 0 to 20 inches: sand
C2 - 20 to 30 inches: sand
C3 - 30 to 64 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (14.17 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R149BY002MA - Coastal Dunes
Hydric soil rating: No

W—Water bodies

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

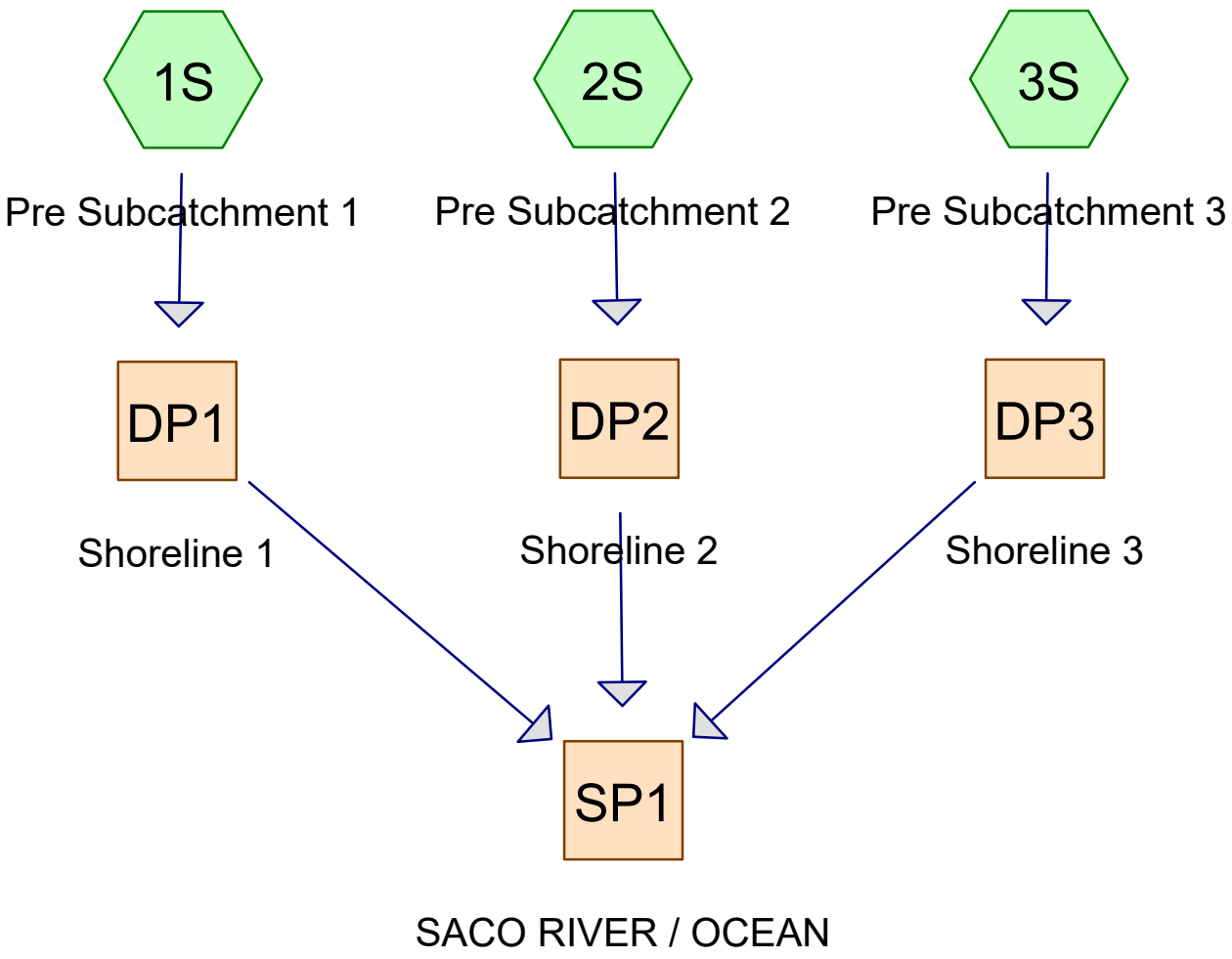
Description of Water

Setting

Landform: Hills

Appendix B

Pre Development HydroCAD Calculations



Subcat Reach Pond Link

Routing Diagram for UNE-PreDrainage
Prepared by GEI Consultants, Printed 7/9/2024
HydroCAD® 10.20-3c s/n 01250 © 2023 HydroCAD Software Solutions LLC

Project Notes

Defined 3 rainfall events from ME-York IDF

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.30	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.90	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.20	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.70	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.110	96	Gravel surface, HSG D (3S)
0.017	98	Roofs, HSG D (3S)
0.160	88	Sand Beach, HSG D (3S)
2.270	77	Woods, Good, HSG D (1S, 2S, 3S)
2.557	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.557	HSG D	1S, 2S, 3S
0.000	Other	
2.557		**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
0.000	0.000	0.000	0.110	0.000	0.110	Gravel surface	3S
0.000	0.000	0.000	0.017	0.000	0.017	Roofs	3S
0.000	0.000	0.000	0.160	0.000	0.160	Sand Beach	3S
0.000	0.000	0.000	2.270	0.000	2.270	Woods, Good	1S, 2S, 3S
0.000	**0.000**	**0.000**	**2.557**	**0.000**	**2.557**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Subcatchment 1 Runoff Area=20,023 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=138' Tc=4.0 min CN=77 Runoff=0.71 cfs 0.045 af

Subcatchment 2S: Pre Subcatchment 2 Runoff Area=27,744 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=198' Tc=12.7 min CN=77 Runoff=0.74 cfs 0.062 af

Subcatchment 3S: Pre Subcatchment 3 Runoff Area=63,622 sf 1.18% Impervious Runoff Depth>1.37"
Flow Length=445' Tc=7.0 min CN=80 Runoff=2.39 cfs 0.166 af

Reach DP1: Shoreline 1 Inflow=0.71 cfs 0.045 af
Outflow=0.71 cfs 0.045 af

Reach DP2: Shoreline 2 Inflow=0.74 cfs 0.062 af
Outflow=0.74 cfs 0.062 af

Reach DP3: Shoreline 3 Inflow=2.39 cfs 0.166 af
Outflow=2.39 cfs 0.166 af

Reach SP1: SACO RIVER / OCEAN Inflow=3.63 cfs 0.274 af
Outflow=3.63 cfs 0.274 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.274 af Average Runoff Depth = 1.29"
99.33% Pervious = 2.540 ac 0.67% Impervious = 0.017 ac

Summary for Subcatchment 1S: Pre Subcatchment 1

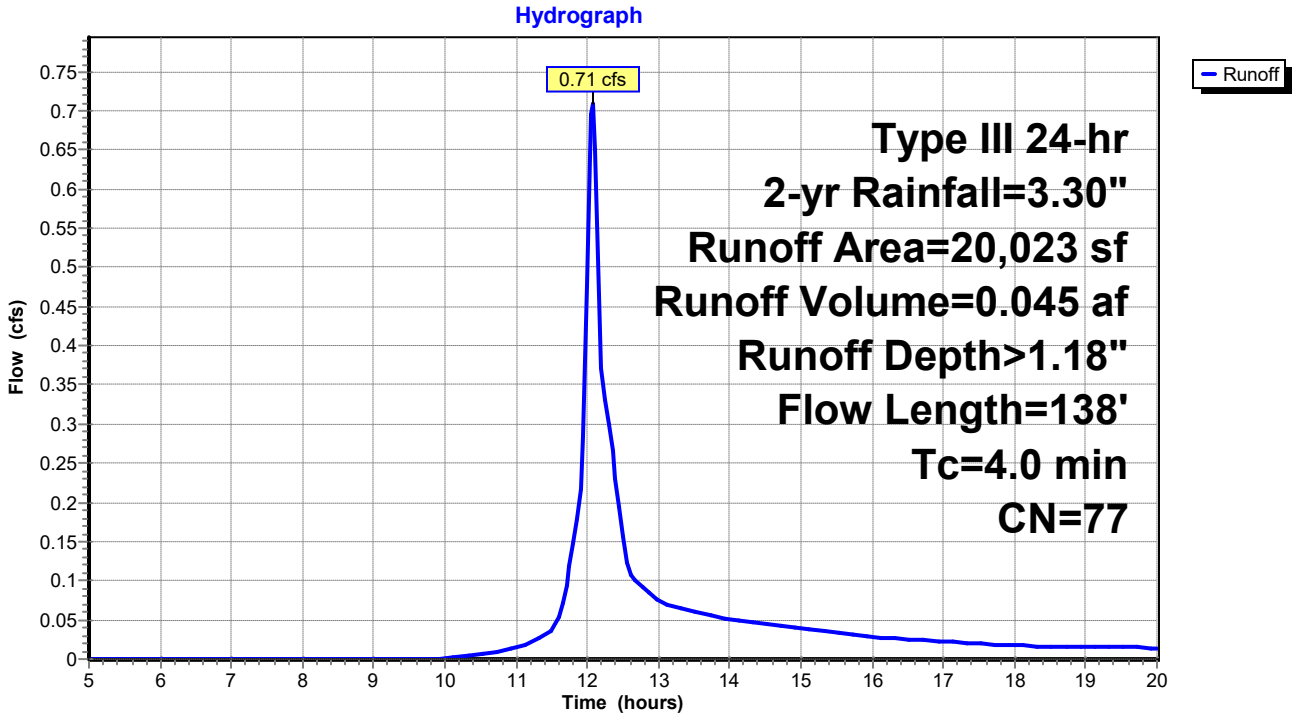
Runoff = 0.71 cfs @ 12.07 hrs, Volume= 0.045 af, Depth> 1.18"
Routed to Reach DP1 : Shoreline 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

Area (sf)	CN	Description
20,023	77	Woods, Good, HSG D
20,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	20	0.1000	0.11		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	118	0.1780	2.11		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
4.0	138	Total			

Subcatchment 1S: Pre Subcatchment 1



Summary for Subcatchment 2S: Pre Subcatchment 2

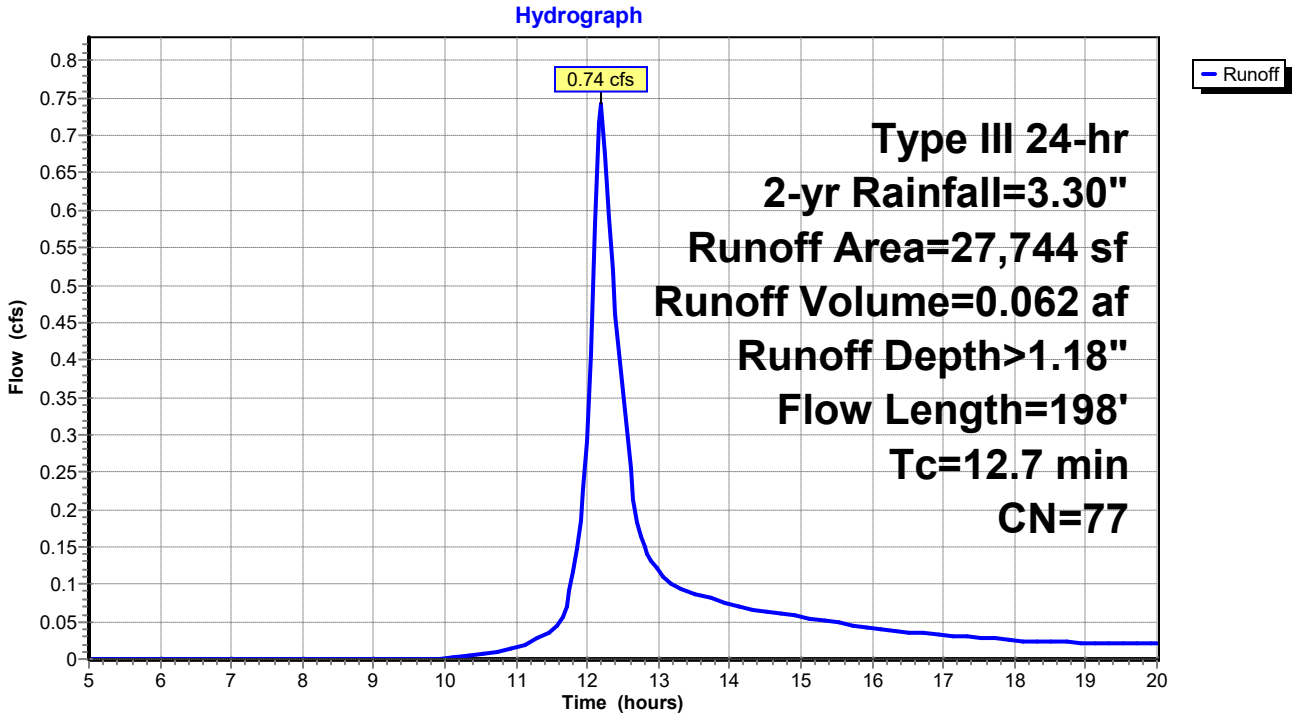
Runoff = 0.74 cfs @ 12.19 hrs, Volume= 0.062 af, Depth> 1.18"
Routed to Reach DP2 : Shoreline 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

Area (sf)	CN	Description
27,744	77	Woods, Good, HSG D
27,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	148	0.1689	0.20		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	50	0.1800	2.12		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
12.7	198	Total			

Subcatchment 2S: Pre Subcatchment 2



Summary for Subcatchment 3S: Pre Subcatchment 3

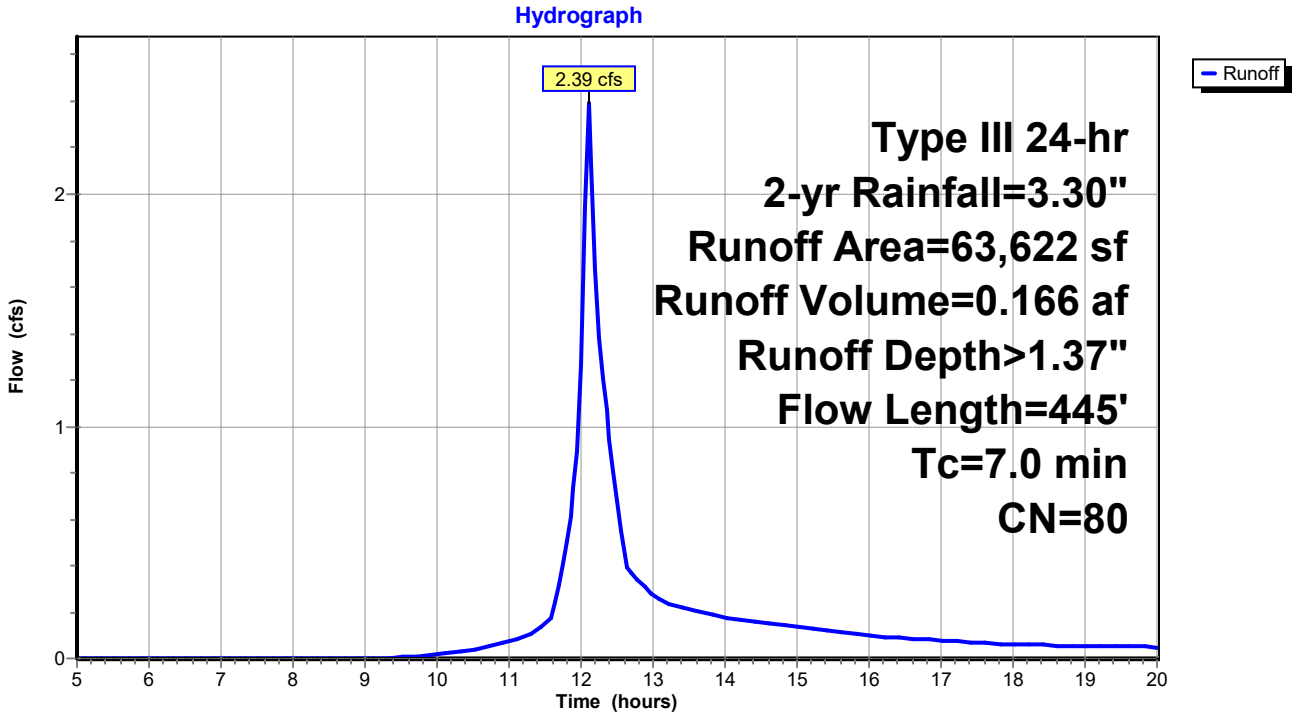
Runoff = 2.39 cfs @ 12.11 hrs, Volume= 0.166 af, Depth> 1.37"
Routed to Reach DP3 : Shoreline 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

	Area (sf)	CN	Description
	51,121	77	Woods, Good, HSG D
	751	98	Roofs, HSG D
	4,795	96	Gravel surface, HSG D
*	6,955	88	Sand Beach, HSG D
	63,622	80	Weighted Average
	62,871		98.82% Pervious Area
	751		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0571	1.19		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-4** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 3S: Pre Subcatchment 3

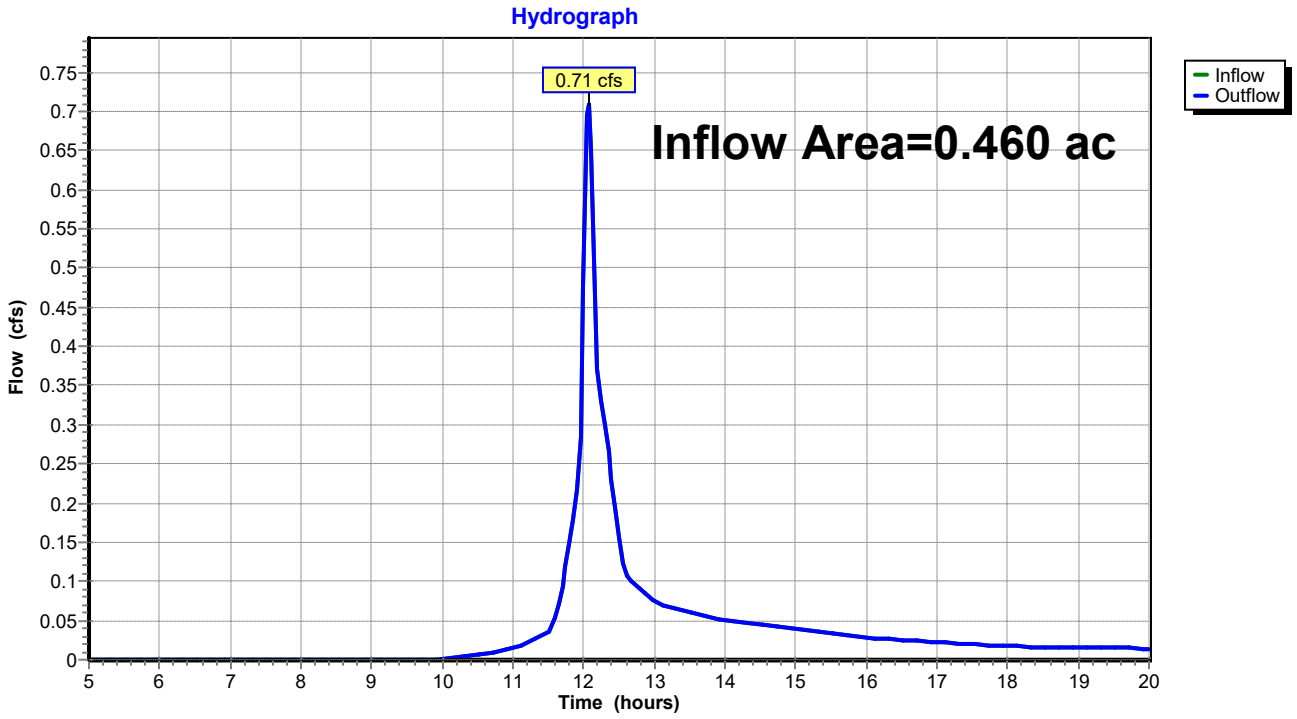


Summary for Reach DP1: Shoreline 1

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth > 1.18" for 2-yr event
Inflow = 0.71 cfs @ 12.07 hrs, Volume= 0.045 af
Outflow = 0.71 cfs @ 12.07 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP1: Shoreline 1

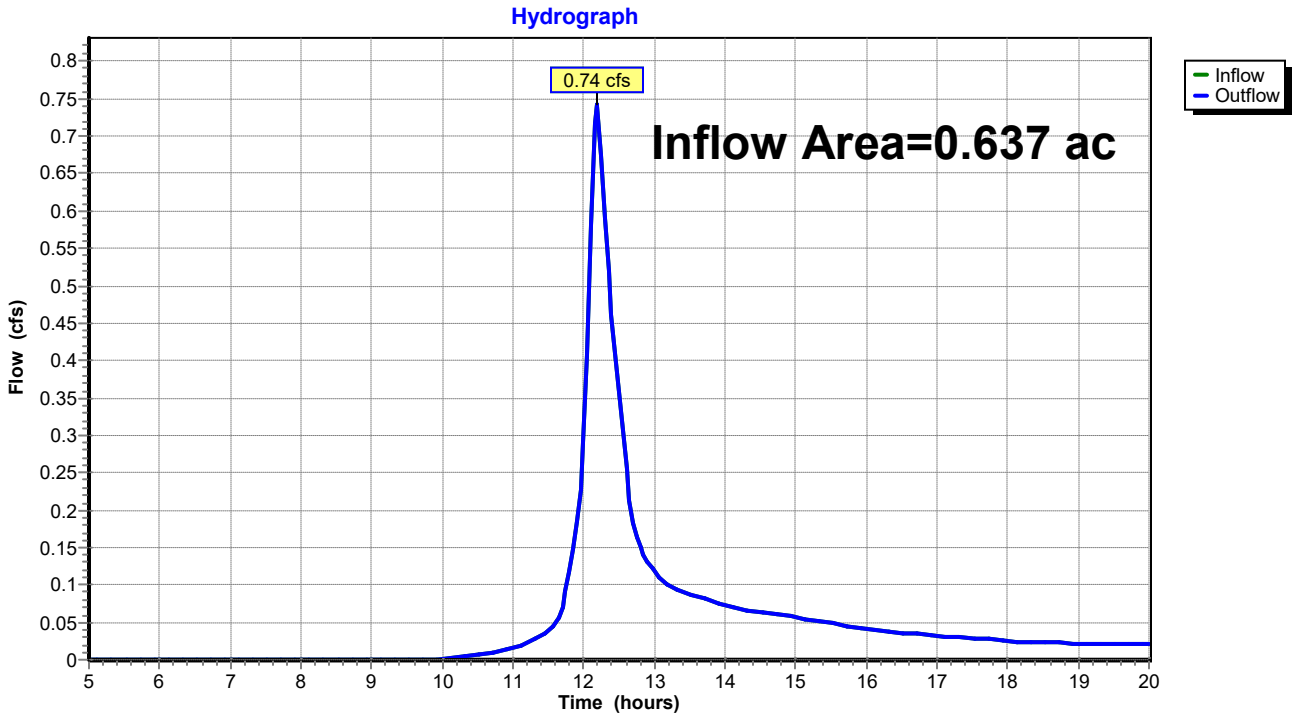


Summary for Reach DP2: Shoreline 2

Inflow Area = 0.637 ac, 0.00% Impervious, Inflow Depth > 1.18" for 2-yr event
Inflow = 0.74 cfs @ 12.19 hrs, Volume= 0.062 af
Outflow = 0.74 cfs @ 12.19 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP2: Shoreline 2

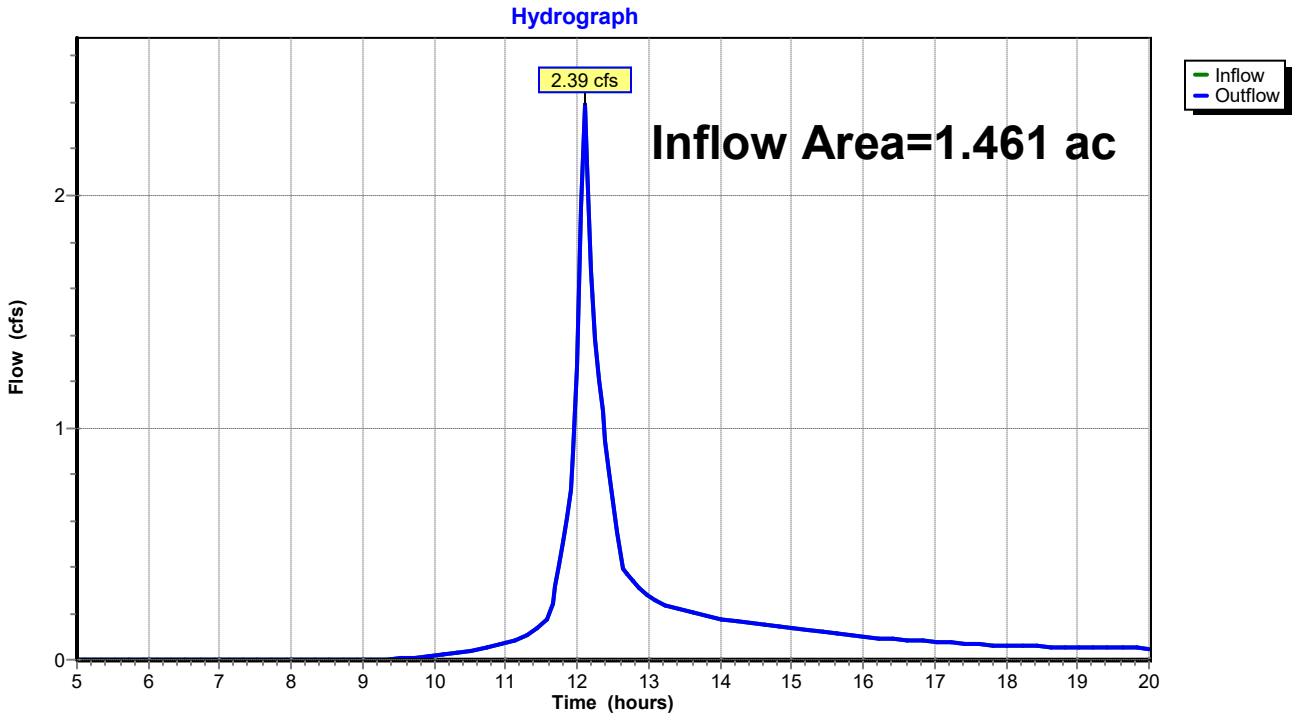


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.461 ac, 1.18% Impervious, Inflow Depth > 1.37" for 2-yr event
Inflow = 2.39 cfs @ 12.11 hrs, Volume= 0.166 af
Outflow = 2.39 cfs @ 12.11 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

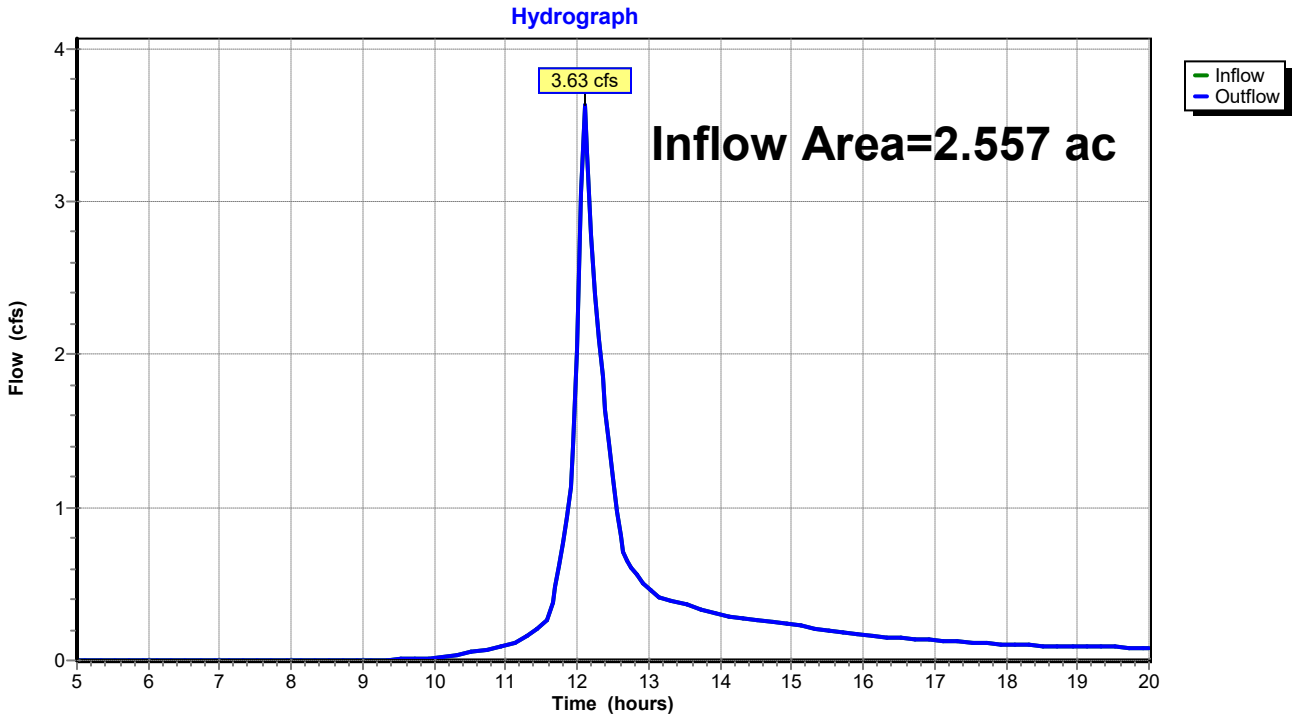


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 0.67% Impervious, Inflow Depth > 1.29" for 2-yr event
Inflow = 3.63 cfs @ 12.11 hrs, Volume= 0.274 af
Outflow = 3.63 cfs @ 12.11 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Subcatchment 1 Runoff Area=20,023 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=138' Tc=4.0 min CN=77 Runoff=1.44 cfs 0.091 af

Subcatchment 2S: Pre Subcatchment 2 Runoff Area=27,744 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=198' Tc=12.7 min CN=77 Runoff=1.51 cfs 0.125 af

Subcatchment 3S: Pre Subcatchment 3 Runoff Area=63,622 sf 1.18% Impervious Runoff Depth>2.62"
Flow Length=445' Tc=7.0 min CN=80 Runoff=4.58 cfs 0.319 af

Reach DP1: Shoreline 1 Inflow=1.44 cfs 0.091 af
Outflow=1.44 cfs 0.091 af

Reach DP2: Shoreline 2 Inflow=1.51 cfs 0.125 af
Outflow=1.51 cfs 0.125 af

Reach DP3: Shoreline 3 Inflow=4.58 cfs 0.319 af
Outflow=4.58 cfs 0.319 af

Reach SP1: SACO RIVER / OCEAN Inflow=7.10 cfs 0.534 af
Outflow=7.10 cfs 0.534 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.534 af Average Runoff Depth = 2.51"
99.33% Pervious = 2.540 ac 0.67% Impervious = 0.017 ac

Summary for Subcatchment 1S: Pre Subcatchment 1

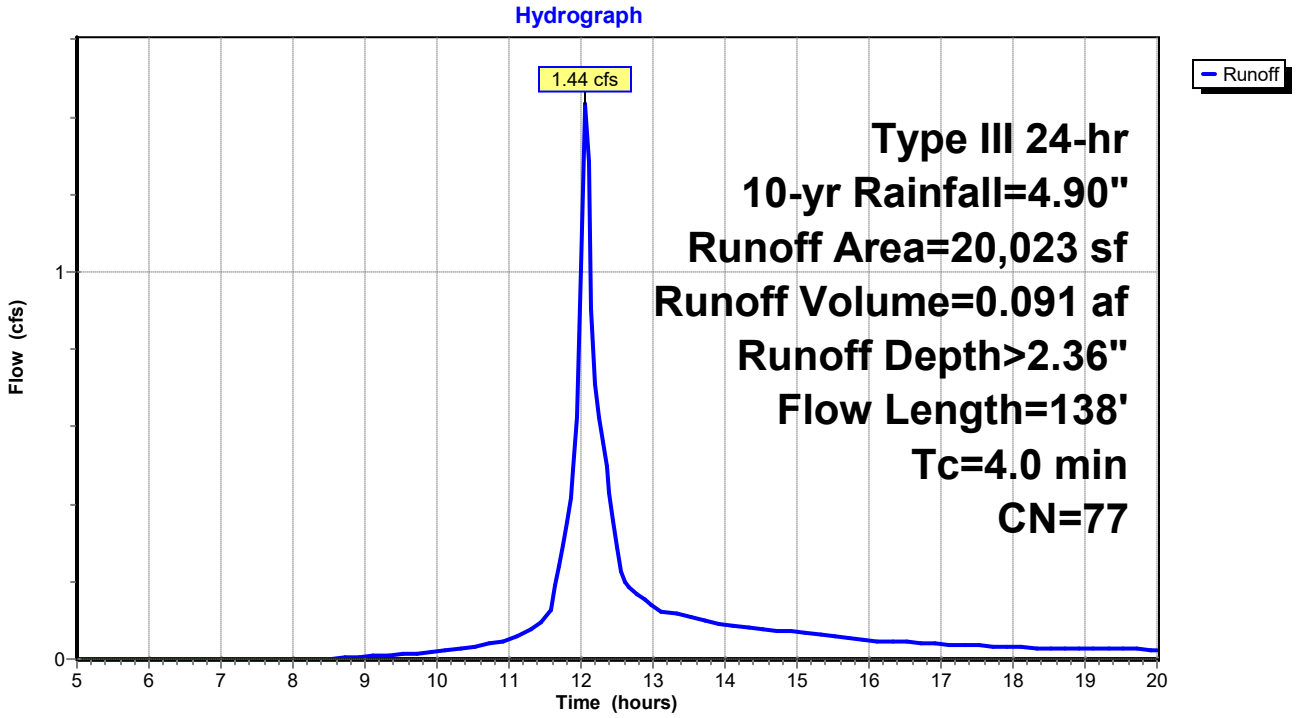
Runoff = 1.44 cfs @ 12.06 hrs, Volume= 0.091 af, Depth> 2.36"
Routed to Reach DP1 : Shoreline 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

Area (sf)	CN	Description
20,023	77	Woods, Good, HSG D
20,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	20	0.1000	0.11		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	118	0.1780	2.11		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
4.0	138	Total			

Subcatchment 1S: Pre Subcatchment 1



Summary for Subcatchment 2S: Pre Subcatchment 2

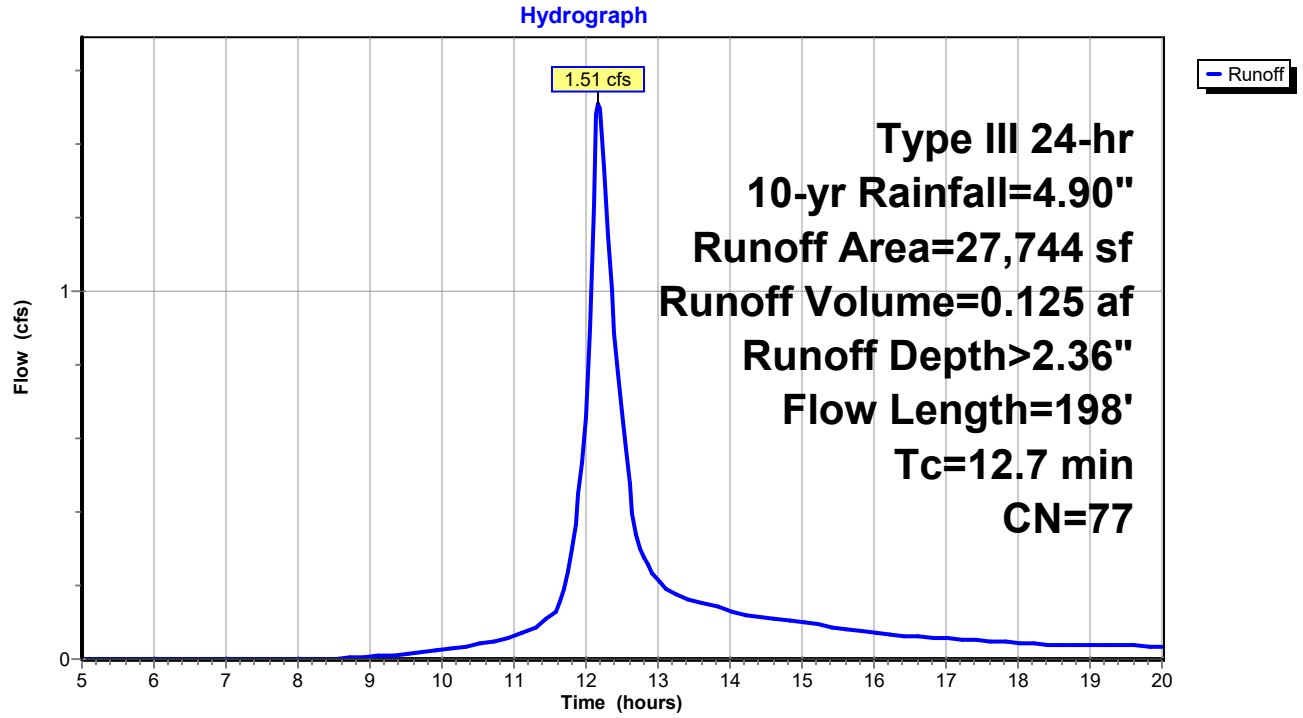
Runoff = 1.51 cfs @ 12.18 hrs, Volume= 0.125 af, Depth> 2.36"
Routed to Reach DP2 : Shoreline 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

Area (sf)	CN	Description
27,744	77	Woods, Good, HSG D
27,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	148	0.1689	0.20		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	50	0.1800	2.12		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
12.7	198	Total			

Subcatchment 2S: Pre Subcatchment 2



Summary for Subcatchment 3S: Pre Subcatchment 3

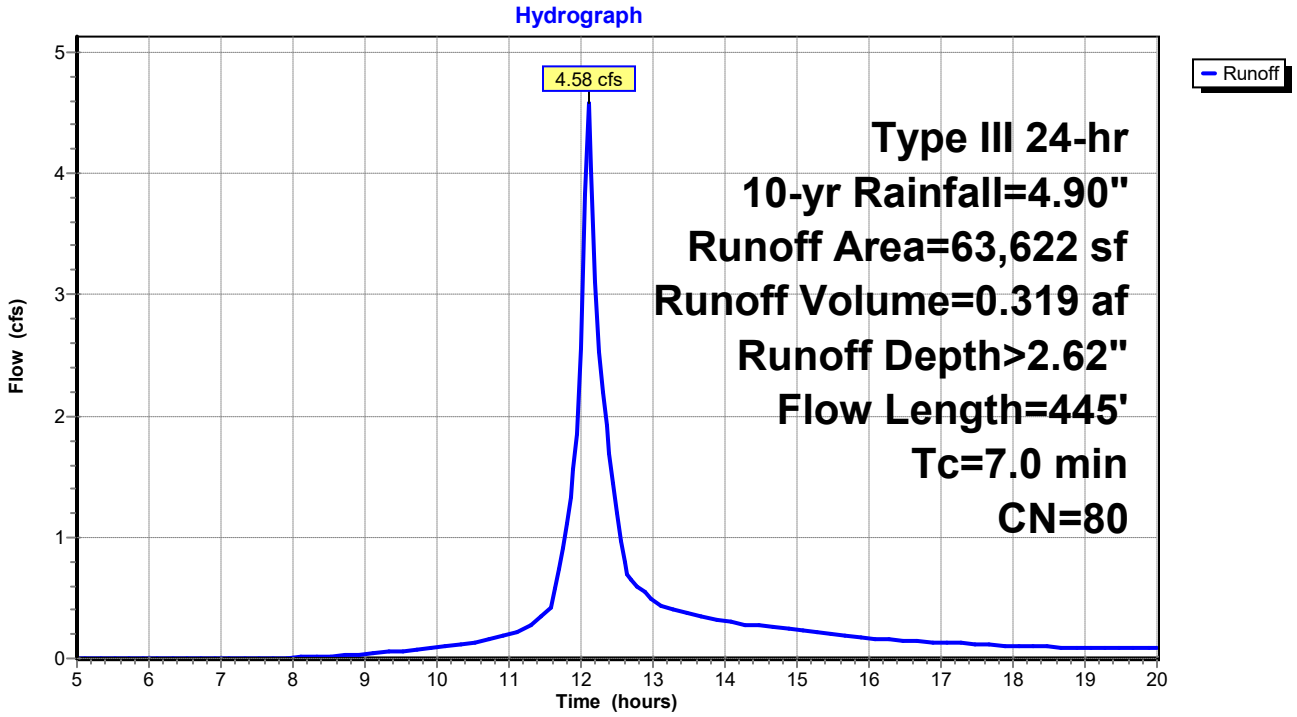
Runoff = 4.58 cfs @ 12.10 hrs, Volume= 0.319 af, Depth> 2.62"
Routed to Reach DP3 : Shoreline 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

	Area (sf)	CN	Description
	51,121	77	Woods, Good, HSG D
	751	98	Roofs, HSG D
	4,795	96	Gravel surface, HSG D
*	6,955	88	Sand Beach, HSG D
	63,622	80	Weighted Average
	62,871		98.82% Pervious Area
	751		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0571	1.19		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-4** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 3S: Pre Subcatchment 3

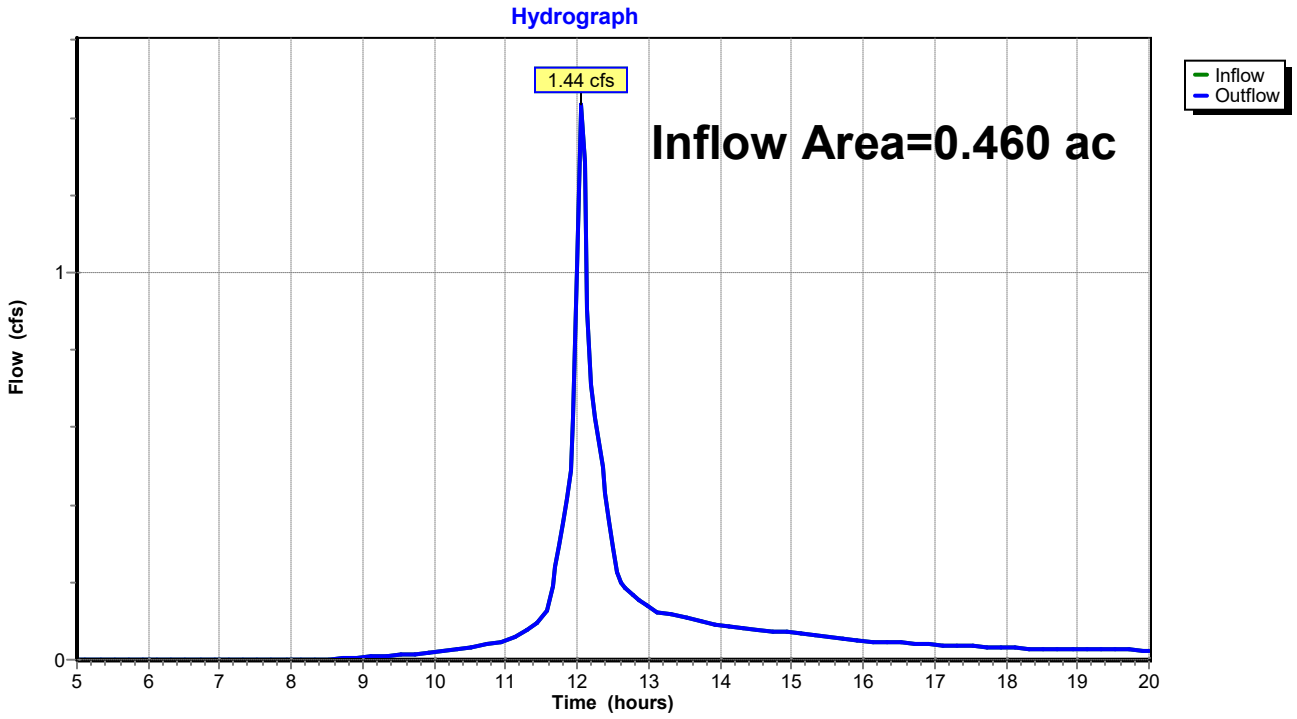


Summary for Reach DP1: Shoreline 1

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10-yr event
Inflow = 1.44 cfs @ 12.06 hrs, Volume= 0.091 af
Outflow = 1.44 cfs @ 12.06 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP1: Shoreline 1

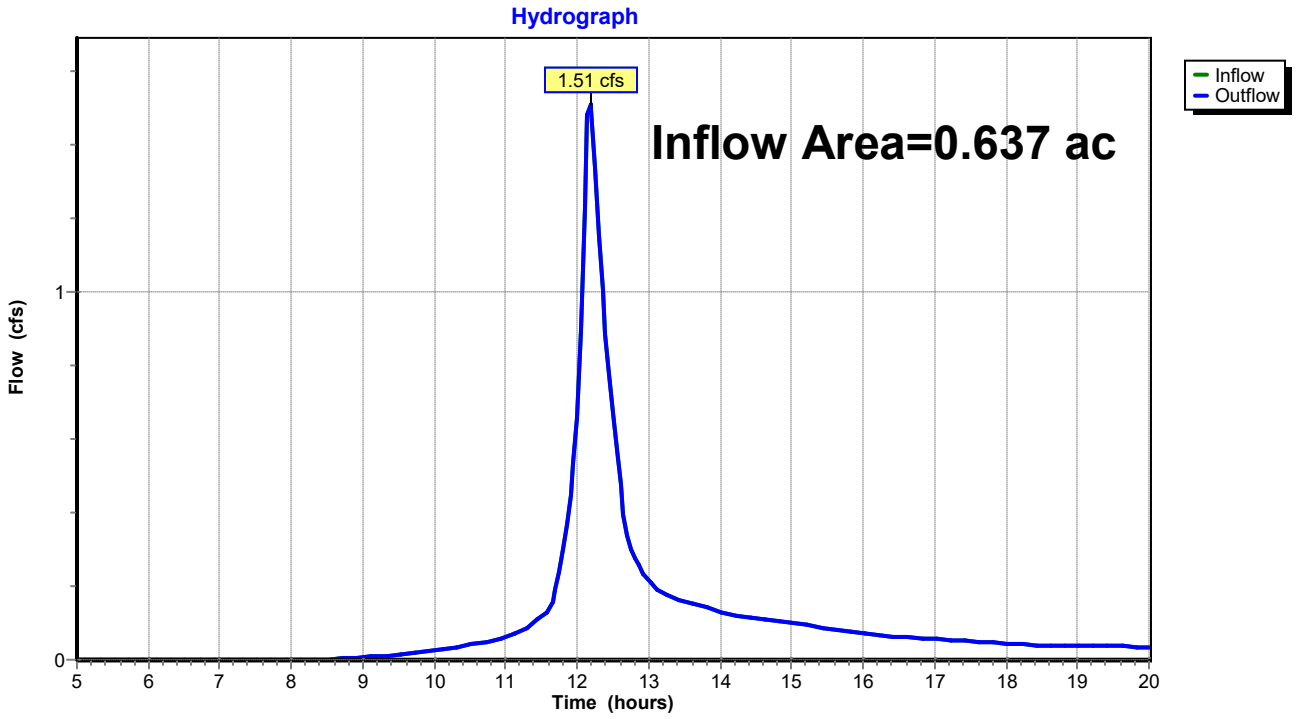


Summary for Reach DP2: Shoreline 2

Inflow Area = 0.637 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10-yr event
Inflow = 1.51 cfs @ 12.18 hrs, Volume= 0.125 af
Outflow = 1.51 cfs @ 12.18 hrs, Volume= 0.125 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP2: Shoreline 2

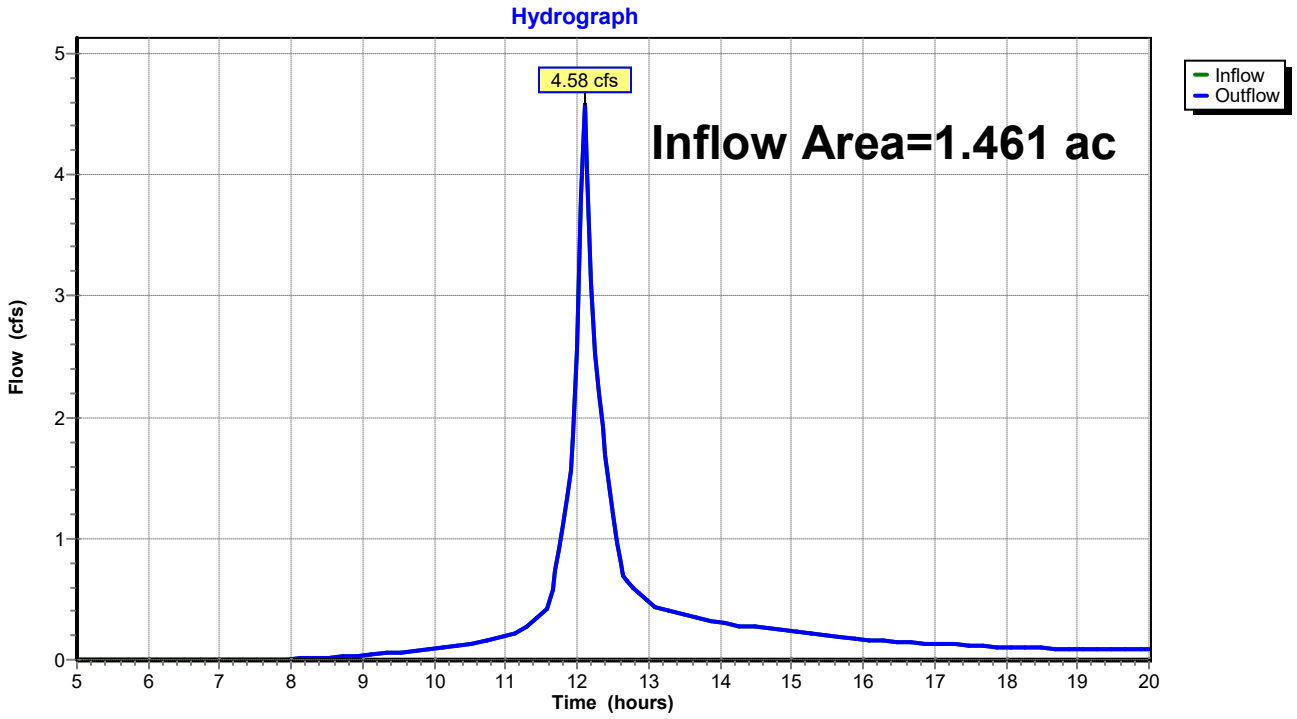


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.461 ac, 1.18% Impervious, Inflow Depth > 2.62" for 10-yr event
Inflow = 4.58 cfs @ 12.10 hrs, Volume= 0.319 af
Outflow = 4.58 cfs @ 12.10 hrs, Volume= 0.319 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

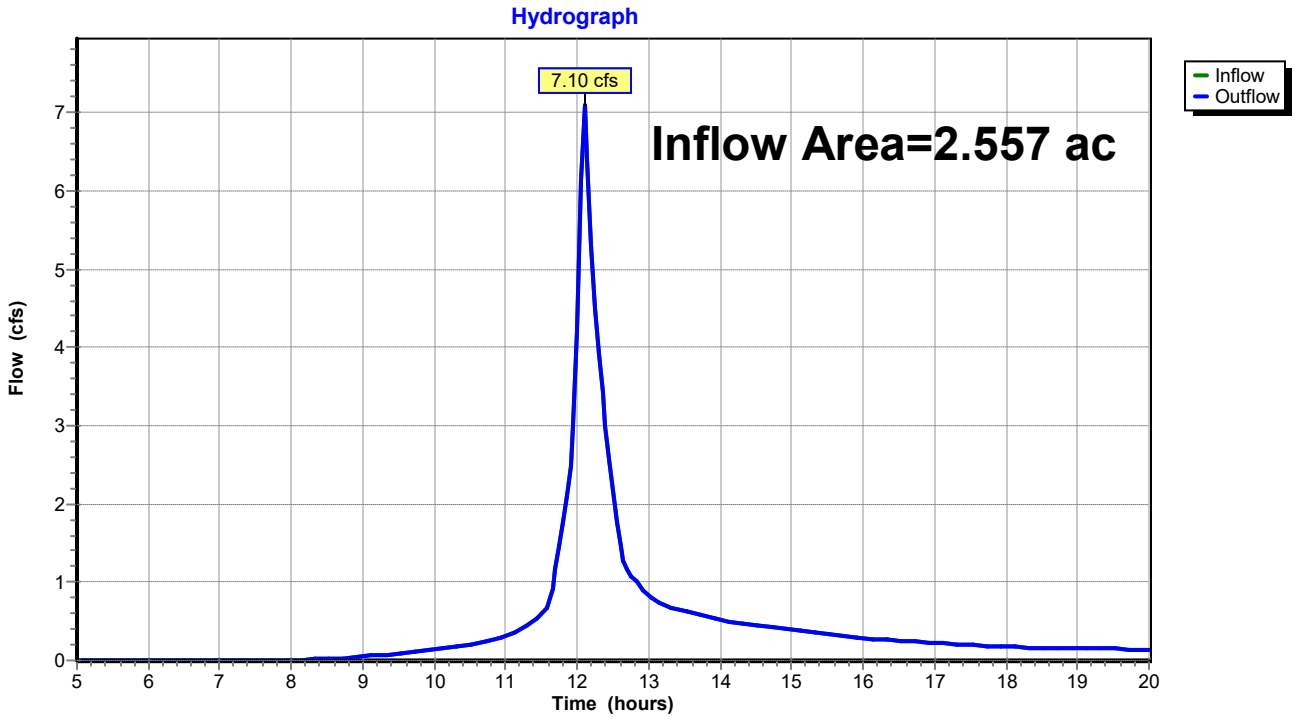


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 0.67% Impervious, Inflow Depth > 2.51" for 10-yr event
Inflow = 7.10 cfs @ 12.10 hrs, Volume= 0.534 af
Outflow = 7.10 cfs @ 12.10 hrs, Volume= 0.534 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Subcatchment 1 Runoff Area=20,023 sf 0.00% Impervious Runoff Depth>3.42"
Flow Length=138' Tc=4.0 min CN=77 Runoff=2.07 cfs 0.131 af

Subcatchment 2S: Pre Subcatchment 2 Runoff Area=27,744 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=198' Tc=12.7 min CN=77 Runoff=2.17 cfs 0.181 af

Subcatchment 3S: Pre Subcatchment 3 Runoff Area=63,622 sf 1.18% Impervious Runoff Depth>3.72"
Flow Length=445' Tc=7.0 min CN=80 Runoff=6.44 cfs 0.452 af

Reach DP1: Shoreline 1 Inflow=2.07 cfs 0.131 af
Outflow=2.07 cfs 0.131 af

Reach DP2: Shoreline 2 Inflow=2.17 cfs 0.181 af
Outflow=2.17 cfs 0.181 af

Reach DP3: Shoreline 3 Inflow=6.44 cfs 0.452 af
Outflow=6.44 cfs 0.452 af

Reach SP1: SACO RIVER / OCEAN Inflow=10.07 cfs 0.764 af
Outflow=10.07 cfs 0.764 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.764 af Average Runoff Depth = 3.59"
99.33% Pervious = 2.540 ac 0.67% Impervious = 0.017 ac

Summary for Subcatchment 1S: Pre Subcatchment 1

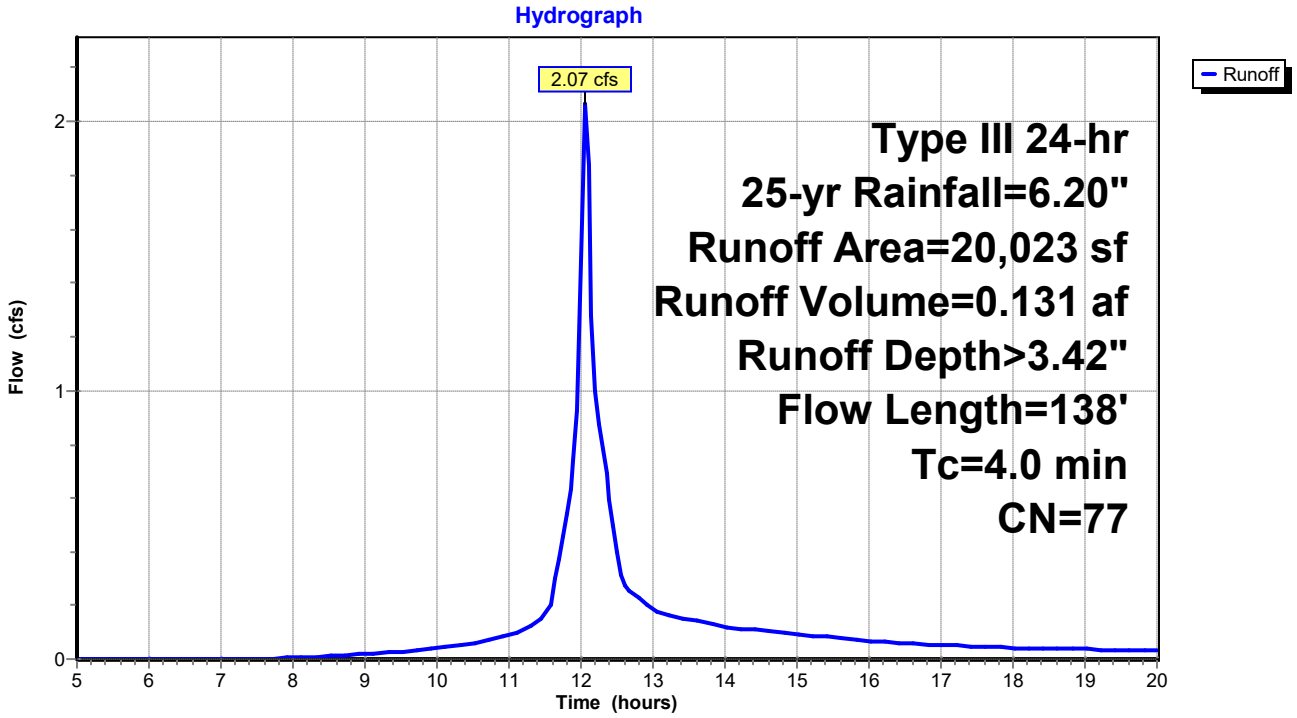
Runoff = 2.07 cfs @ 12.06 hrs, Volume= 0.131 af, Depth> 3.42"
Routed to Reach DP1 : Shoreline 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

Area (sf)	CN	Description
20,023	77	Woods, Good, HSG D
20,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	20	0.1000	0.11		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	118	0.1780	2.11		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
4.0	138	Total			

Subcatchment 1S: Pre Subcatchment 1



Summary for Subcatchment 2S: Pre Subcatchment 2

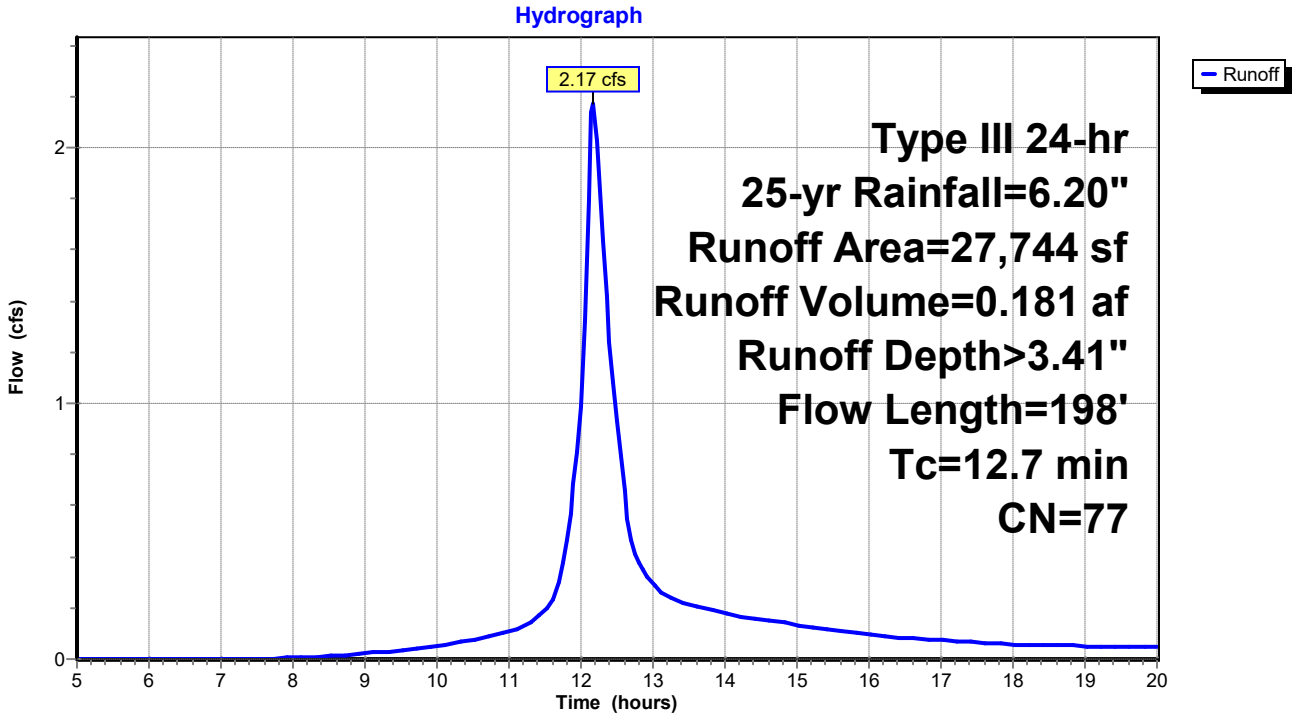
Runoff = 2.17 cfs @ 12.18 hrs, Volume= 0.181 af, Depth> 3.41"
Routed to Reach DP2 : Shoreline 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

Area (sf)	CN	Description
27,744	77	Woods, Good, HSG D
27,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	148	0.1689	0.20		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	50	0.1800	2.12		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
12.7	198	Total			

Subcatchment 2S: Pre Subcatchment 2



Summary for Subcatchment 3S: Pre Subcatchment 3

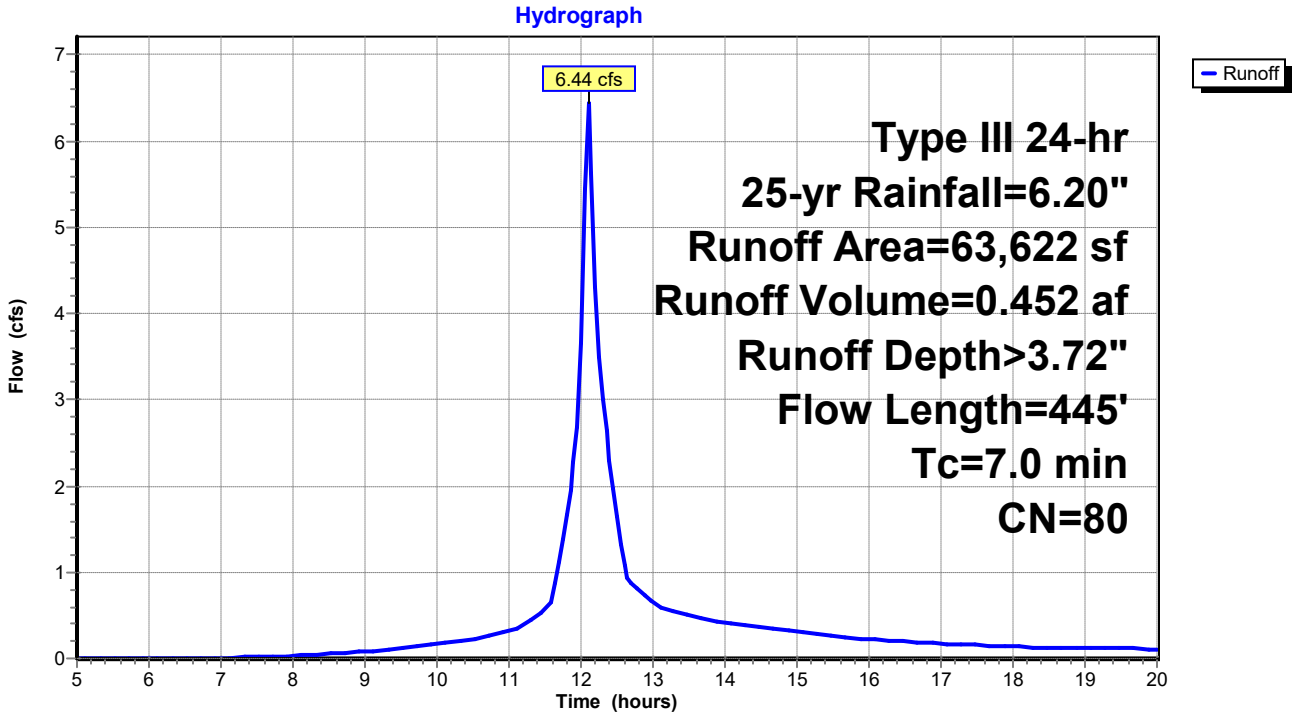
Runoff = 6.44 cfs @ 12.10 hrs, Volume= 0.452 af, Depth> 3.72"
Routed to Reach DP3 : Shoreline 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

	Area (sf)	CN	Description
	51,121	77	Woods, Good, HSG D
	751	98	Roofs, HSG D
	4,795	96	Gravel surface, HSG D
*	6,955	88	Sand Beach, HSG D
	63,622	80	Weighted Average
	62,871		98.82% Pervious Area
	751		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0571	1.19		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-4** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 3S: Pre Subcatchment 3

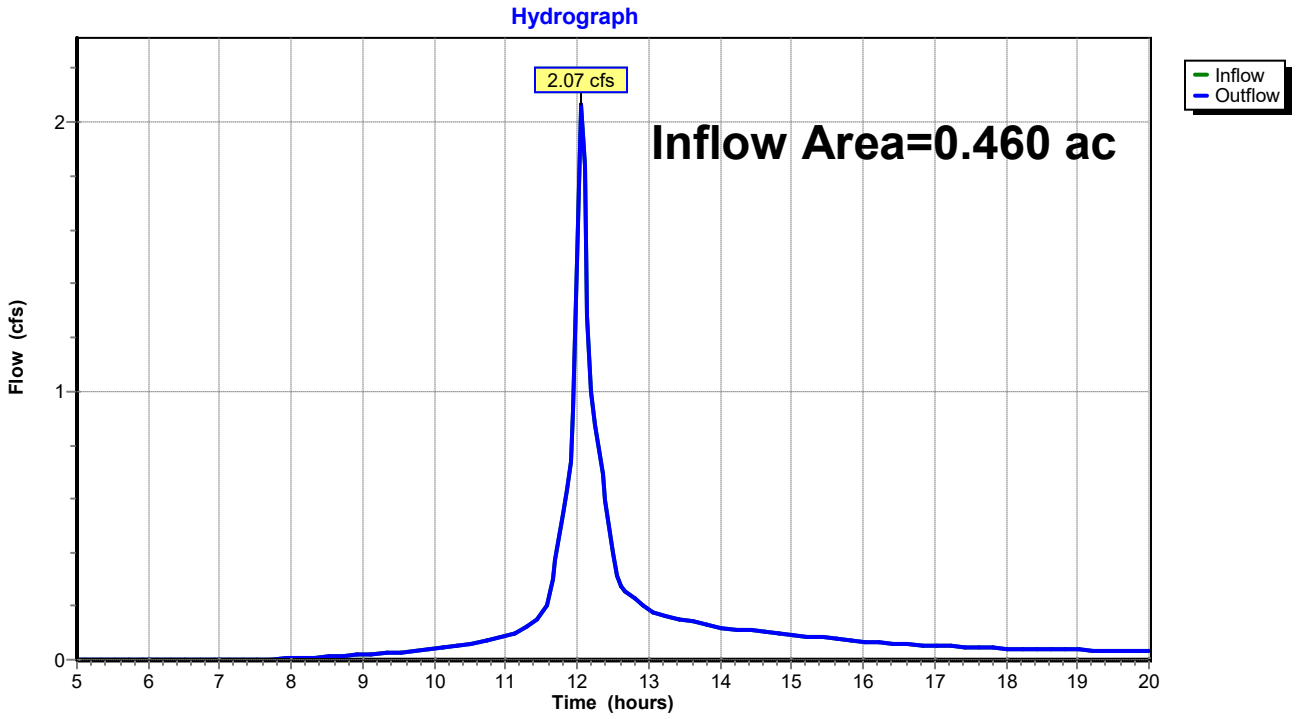


Summary for Reach DP1: Shoreline 1

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth > 3.42" for 25-yr event
Inflow = 2.07 cfs @ 12.06 hrs, Volume= 0.131 af
Outflow = 2.07 cfs @ 12.06 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP1: Shoreline 1

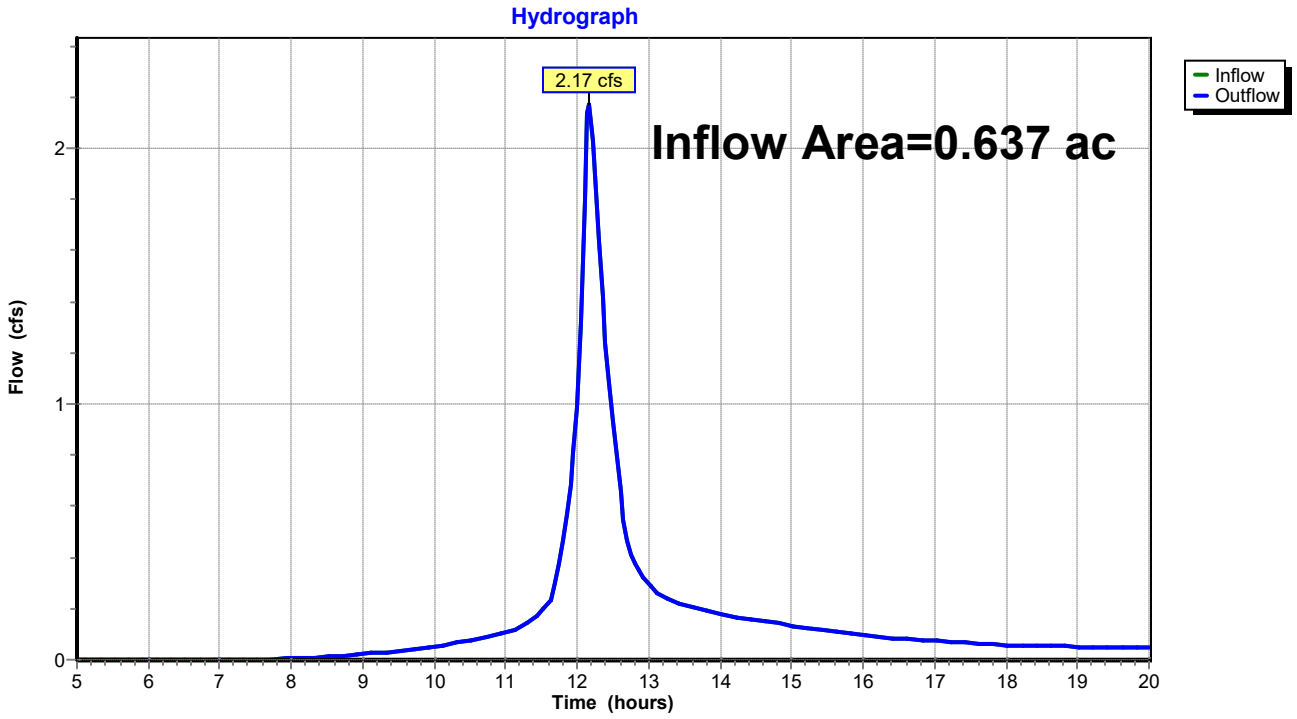


Summary for Reach DP2: Shoreline 2

Inflow Area = 0.637 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25-yr event
Inflow = 2.17 cfs @ 12.18 hrs, Volume= 0.181 af
Outflow = 2.17 cfs @ 12.18 hrs, Volume= 0.181 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP2: Shoreline 2

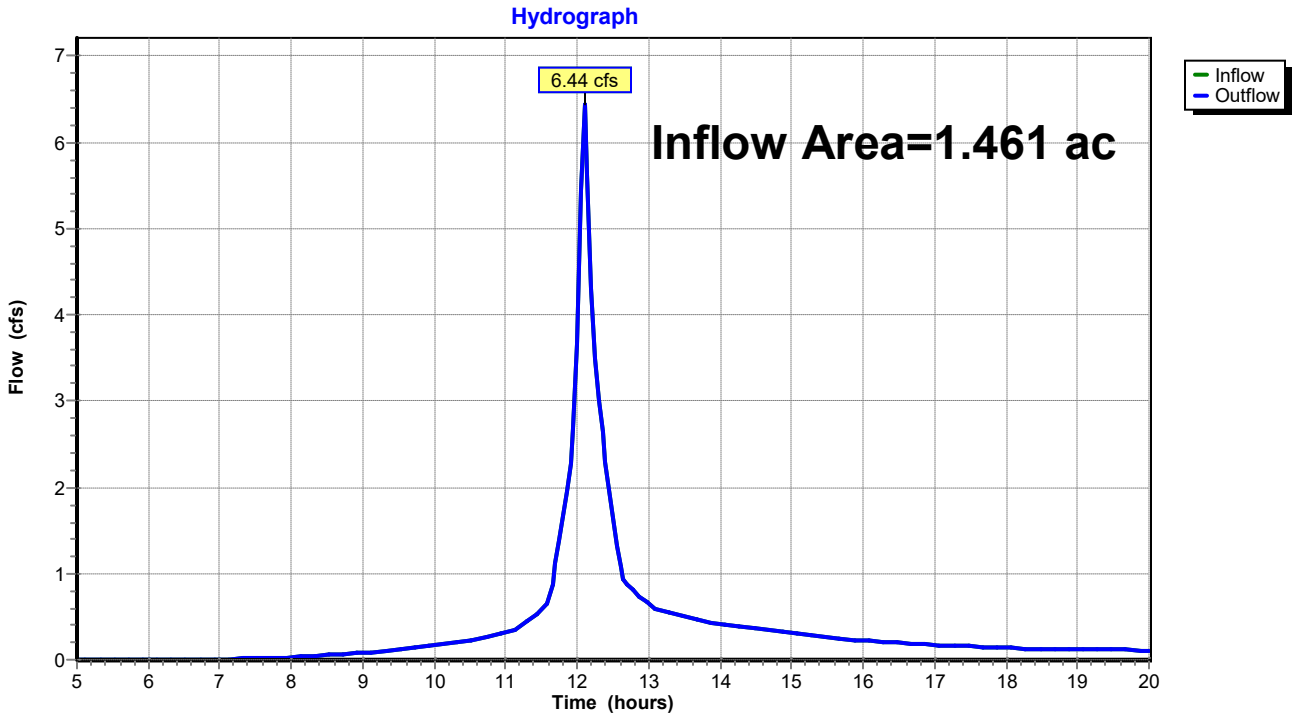


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.461 ac, 1.18% Impervious, Inflow Depth > 3.72" for 25-yr event
Inflow = 6.44 cfs @ 12.10 hrs, Volume= 0.452 af
Outflow = 6.44 cfs @ 12.10 hrs, Volume= 0.452 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

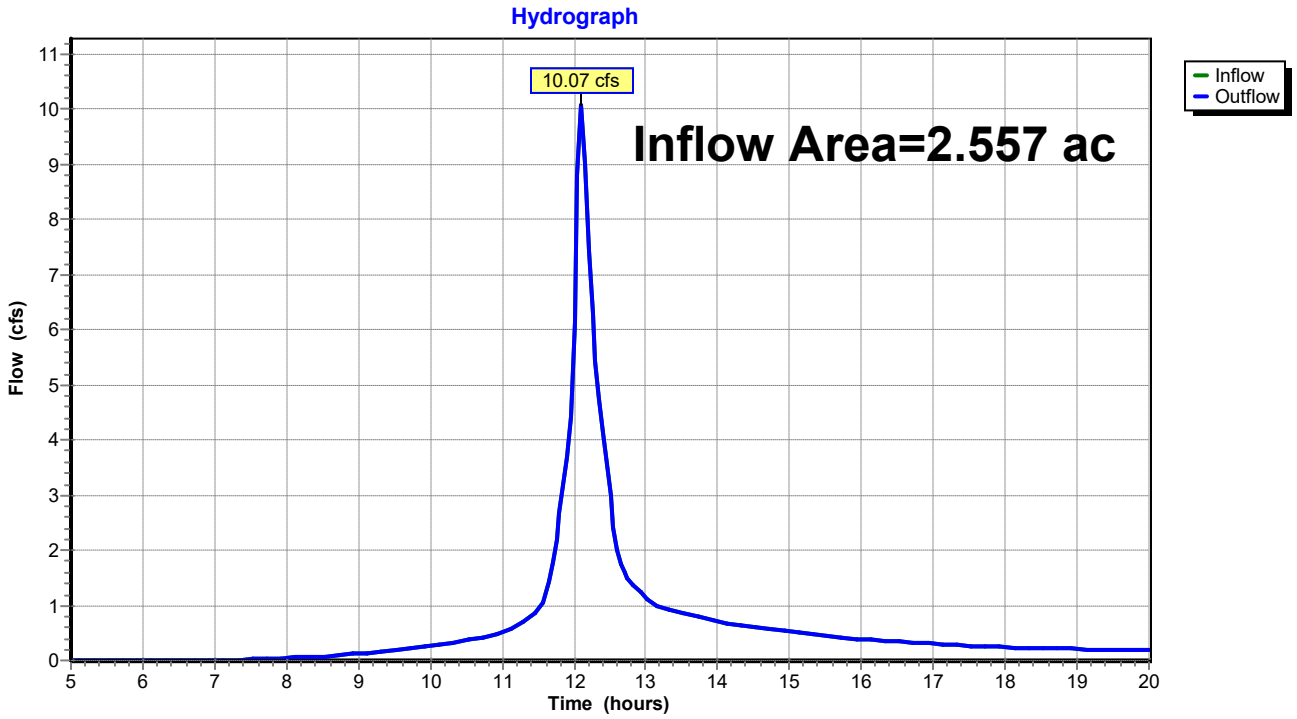


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 0.67% Impervious, Inflow Depth > 3.59" for 25-yr event
Inflow = 10.07 cfs @ 12.10 hrs, Volume= 0.764 af
Outflow = 10.07 cfs @ 12.10 hrs, Volume= 0.764 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Subcatchment 1 Runoff Area=20,023 sf 0.00% Impervious Runoff Depth>5.57"
Flow Length=138' Tc=4.0 min CN=77 Runoff=3.31 cfs 0.213 af

Subcatchment 2S: Pre Subcatchment 2 Runoff Area=27,744 sf 0.00% Impervious Runoff Depth>5.56"
Flow Length=198' Tc=12.7 min CN=77 Runoff=3.50 cfs 0.295 af

Subcatchment 3S: Pre Subcatchment 3 Runoff Area=63,622 sf 1.18% Impervious Runoff Depth>5.92"
Flow Length=445' Tc=7.0 min CN=80 Runoff=10.05 cfs 0.721 af

Reach DP1: Shoreline 1 Inflow=3.31 cfs 0.213 af
Outflow=3.31 cfs 0.213 af

Reach DP2: Shoreline 2 Inflow=3.50 cfs 0.295 af
Outflow=3.50 cfs 0.295 af

Reach DP3: Shoreline 3 Inflow=10.05 cfs 0.721 af
Outflow=10.05 cfs 0.721 af

Reach SP1: SACO RIVER / OCEAN Inflow=15.89 cfs 1.229 af
Outflow=15.89 cfs 1.229 af

Total Runoff Area = 2.557 ac Runoff Volume = 1.229 af Average Runoff Depth = 5.77"
99.33% Pervious = 2.540 ac 0.67% Impervious = 0.017 ac

Summary for Subcatchment 1S: Pre Subcatchment 1

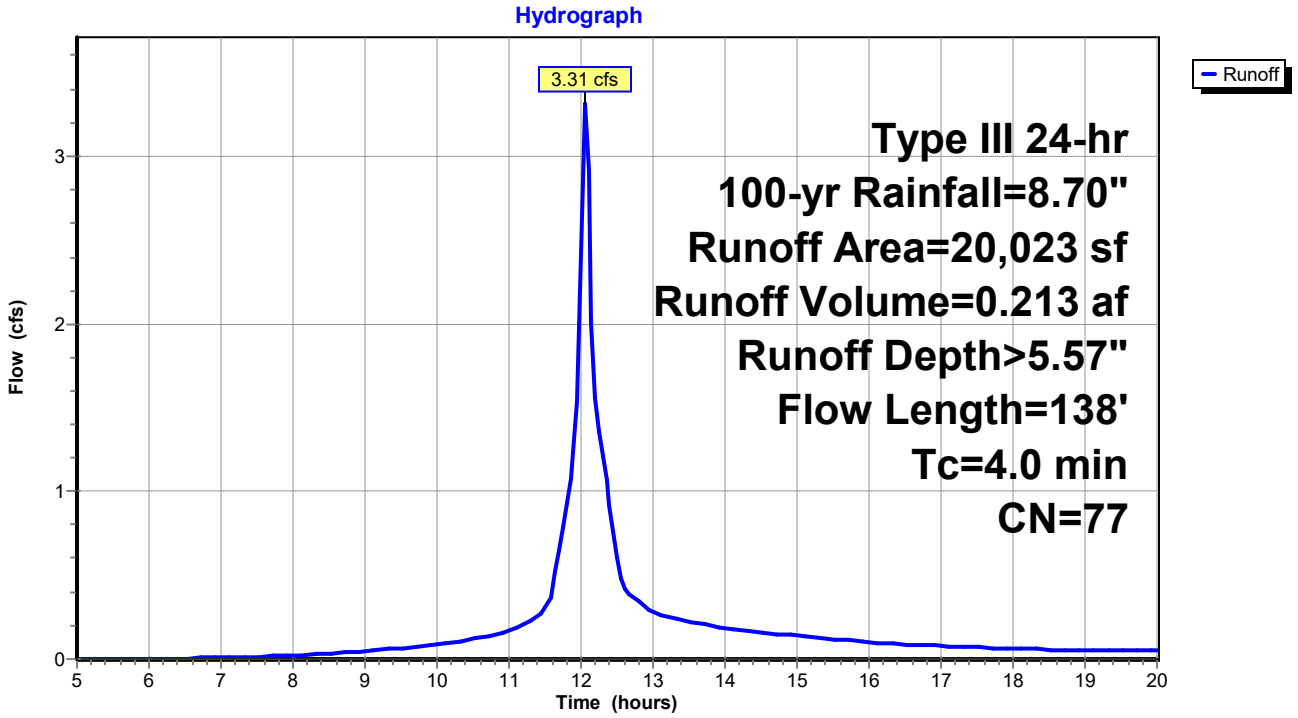
Runoff = 3.31 cfs @ 12.06 hrs, Volume= 0.213 af, Depth> 5.57"
Routed to Reach DP1 : Shoreline 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.70"

Area (sf)	CN	Description
20,023	77	Woods, Good, HSG D
20,023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	20	0.1000	0.11		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	118	0.1780	2.11		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
4.0	138	Total			

Subcatchment 1S: Pre Subcatchment 1



Summary for Subcatchment 2S: Pre Subcatchment 2

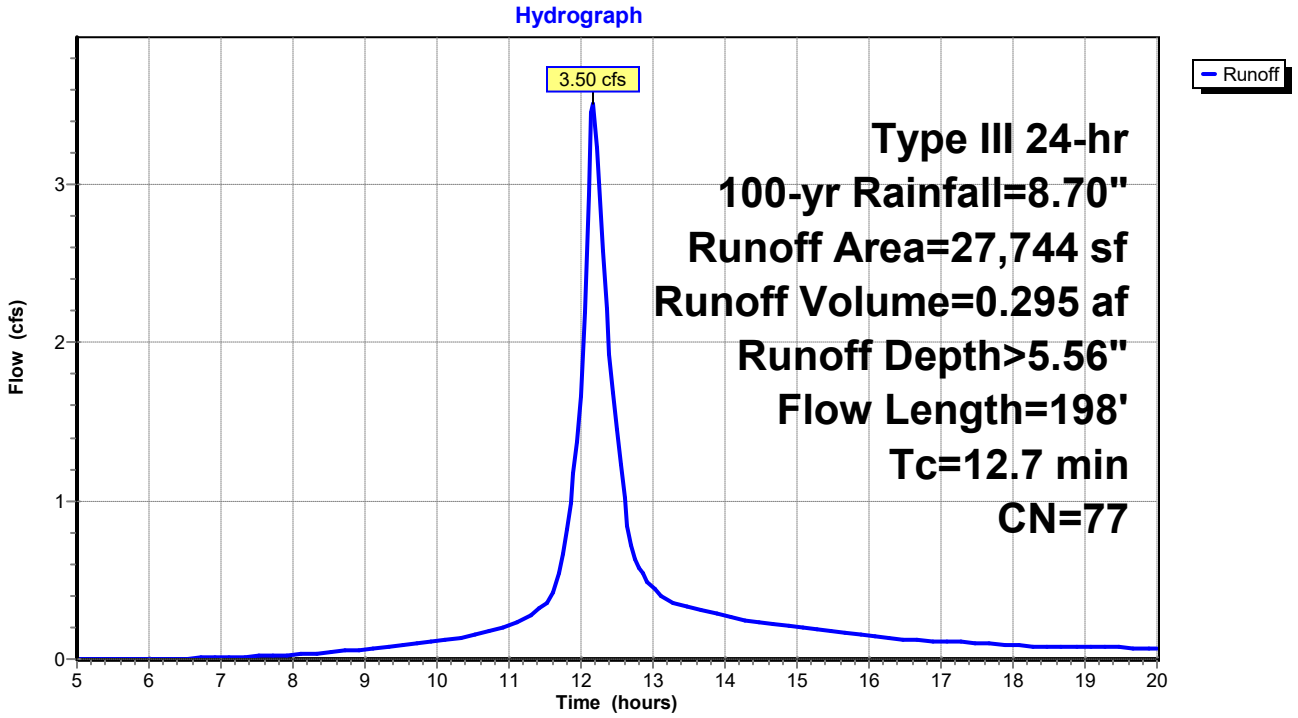
Runoff = 3.50 cfs @ 12.17 hrs, Volume= 0.295 af, Depth> 5.56"
Routed to Reach DP2 : Shoreline 2

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 100-yr Rainfall=8.70"

Area (sf)	CN	Description
27,744	77	Woods, Good, HSG D
27,744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	148	0.1689	0.20		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	50	0.1800	2.12		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
12.7	198	Total			

Subcatchment 2S: Pre Subcatchment 2



Summary for Subcatchment 3S: Pre Subcatchment 3

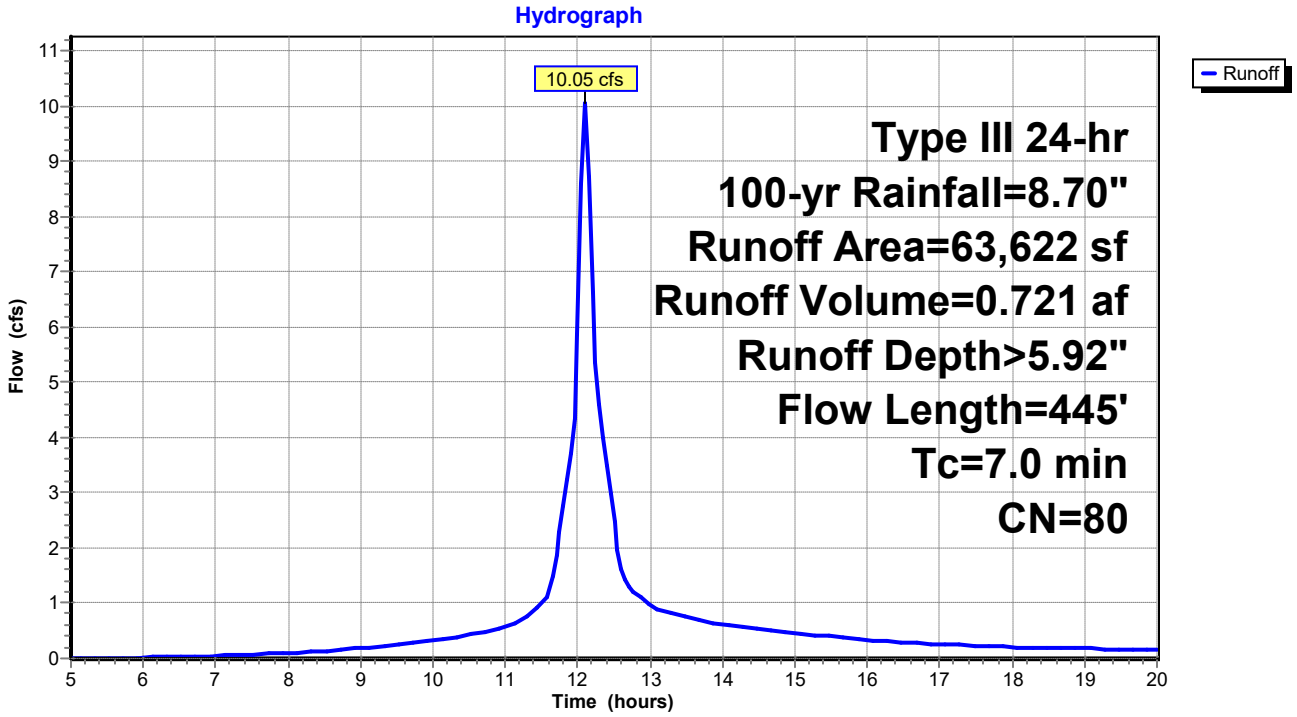
Runoff = 10.05 cfs @ 12.10 hrs, Volume= 0.721 af, Depth> 5.92"
Routed to Reach DP3 : Shoreline 3

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 100-yr Rainfall=8.70"

	Area (sf)	CN	Description
	51,121	77	Woods, Good, HSG D
	751	98	Roofs, HSG D
	4,795	96	Gravel surface, HSG D
*	6,955	88	Sand Beach, HSG D
	63,622	80	Weighted Average
	62,871		98.82% Pervious Area
	751		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0571	1.19		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-4** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 3S: Pre Subcatchment 3

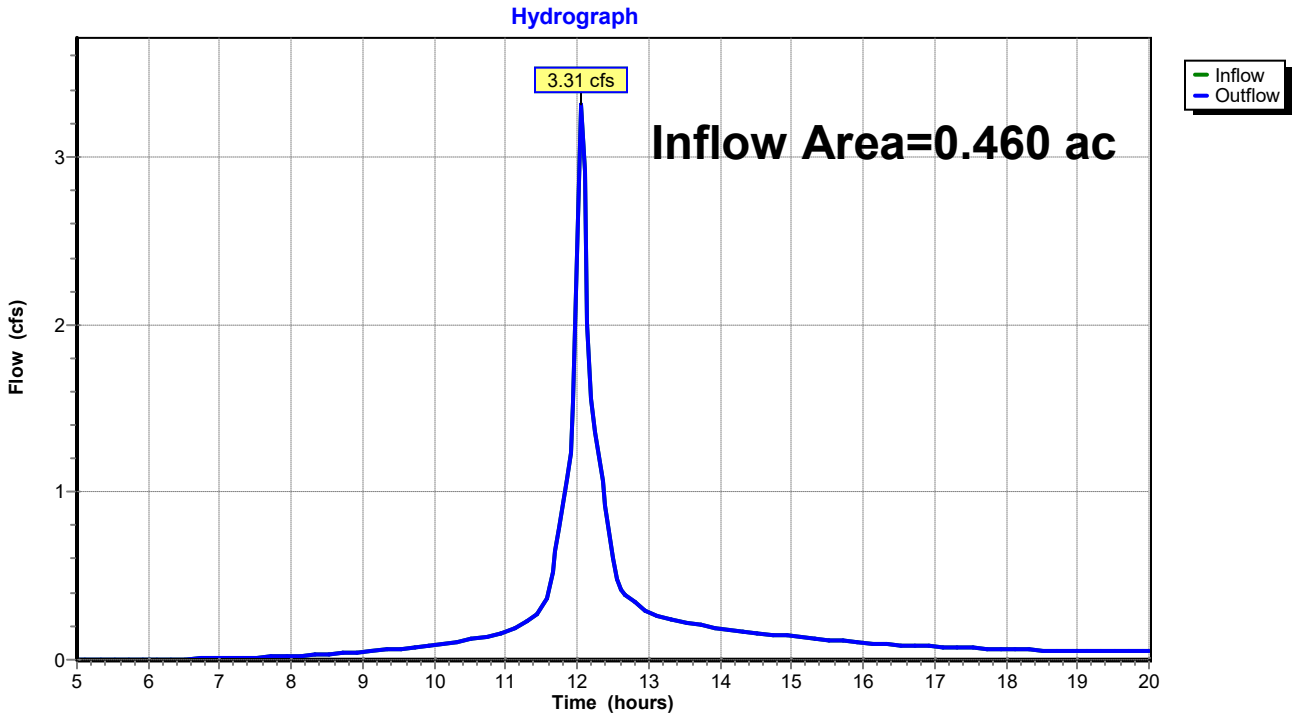


Summary for Reach DP1: Shoreline 1

Inflow Area = 0.460 ac, 0.00% Impervious, Inflow Depth > 5.57" for 100-yr event
Inflow = 3.31 cfs @ 12.06 hrs, Volume= 0.213 af
Outflow = 3.31 cfs @ 12.06 hrs, Volume= 0.213 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP1: Shoreline 1

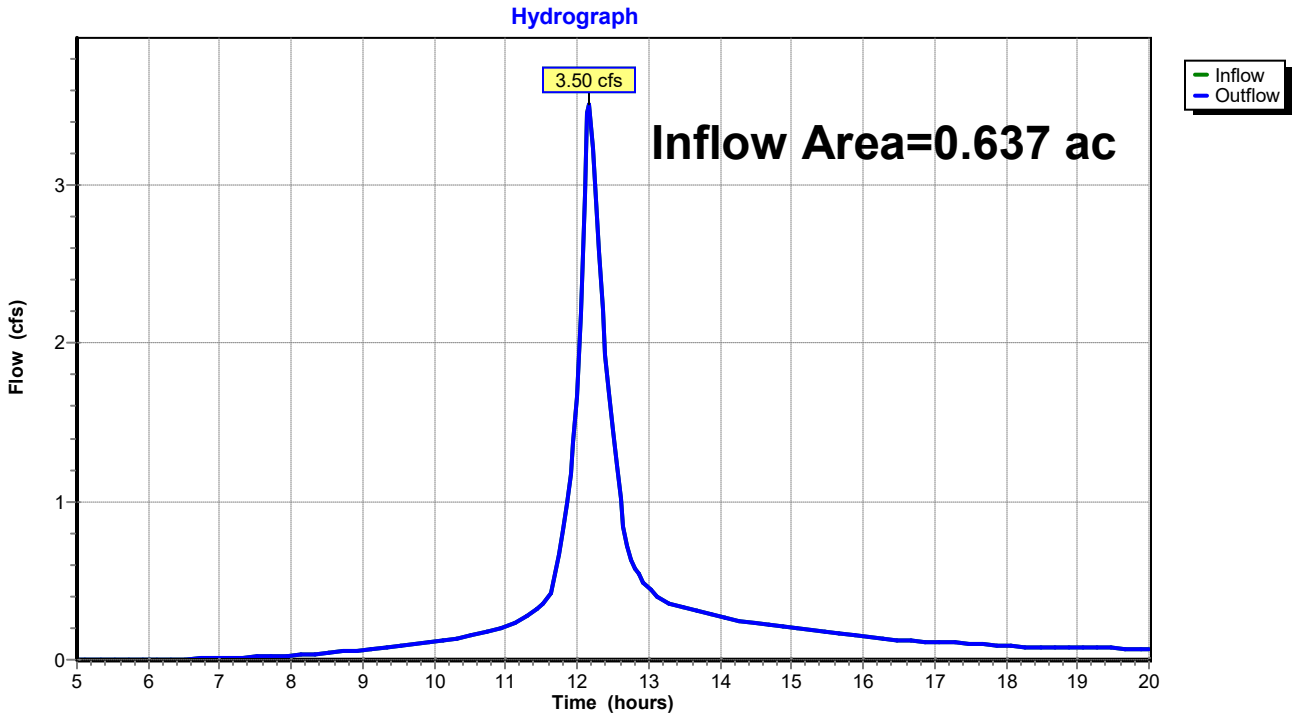


Summary for Reach DP2: Shoreline 2

Inflow Area = 0.637 ac, 0.00% Impervious, Inflow Depth > 5.56" for 100-yr event
Inflow = 3.50 cfs @ 12.17 hrs, Volume= 0.295 af
Outflow = 3.50 cfs @ 12.17 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP2: Shoreline 2

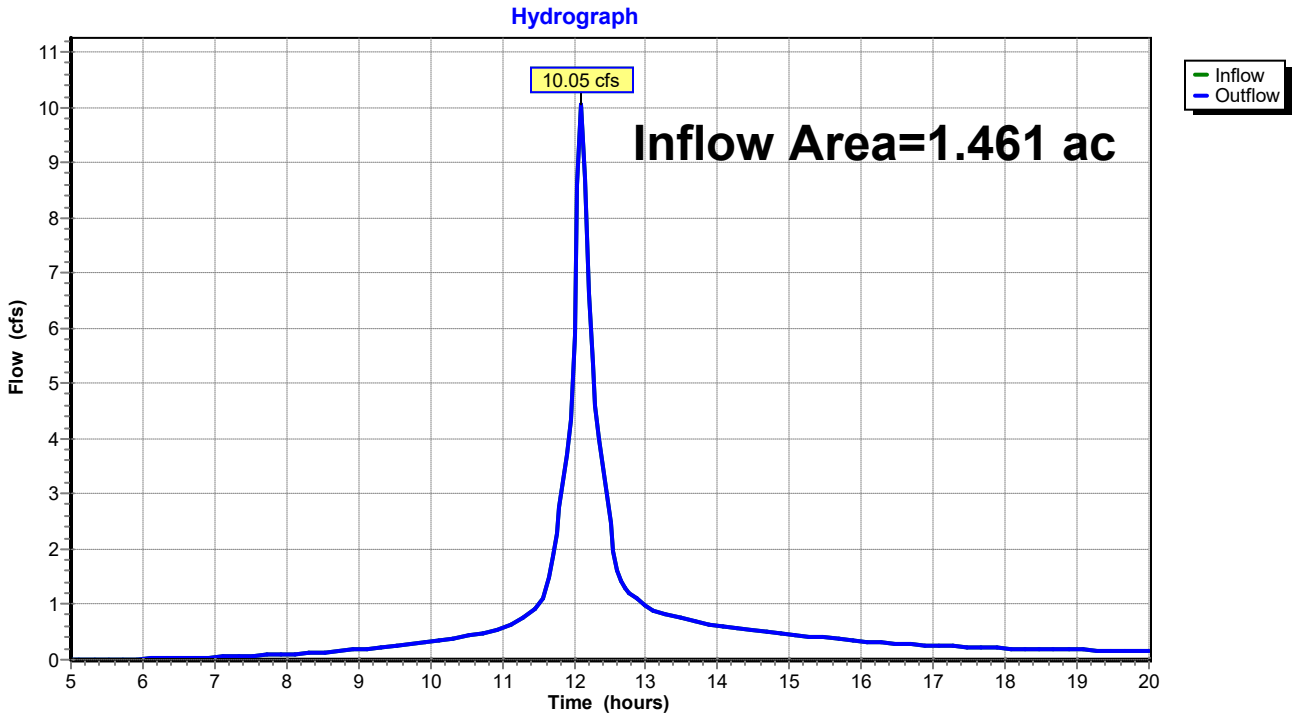


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.461 ac, 1.18% Impervious, Inflow Depth > 5.92" for 100-yr event
Inflow = 10.05 cfs @ 12.10 hrs, Volume= 0.721 af
Outflow = 10.05 cfs @ 12.10 hrs, Volume= 0.721 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3



Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 0.67% Impervious, Inflow Depth > 5.77" for 100-yr event
Inflow = 15.89 cfs @ 12.10 hrs, Volume= 1.229 af
Outflow = 15.89 cfs @ 12.10 hrs, Volume= 1.229 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN

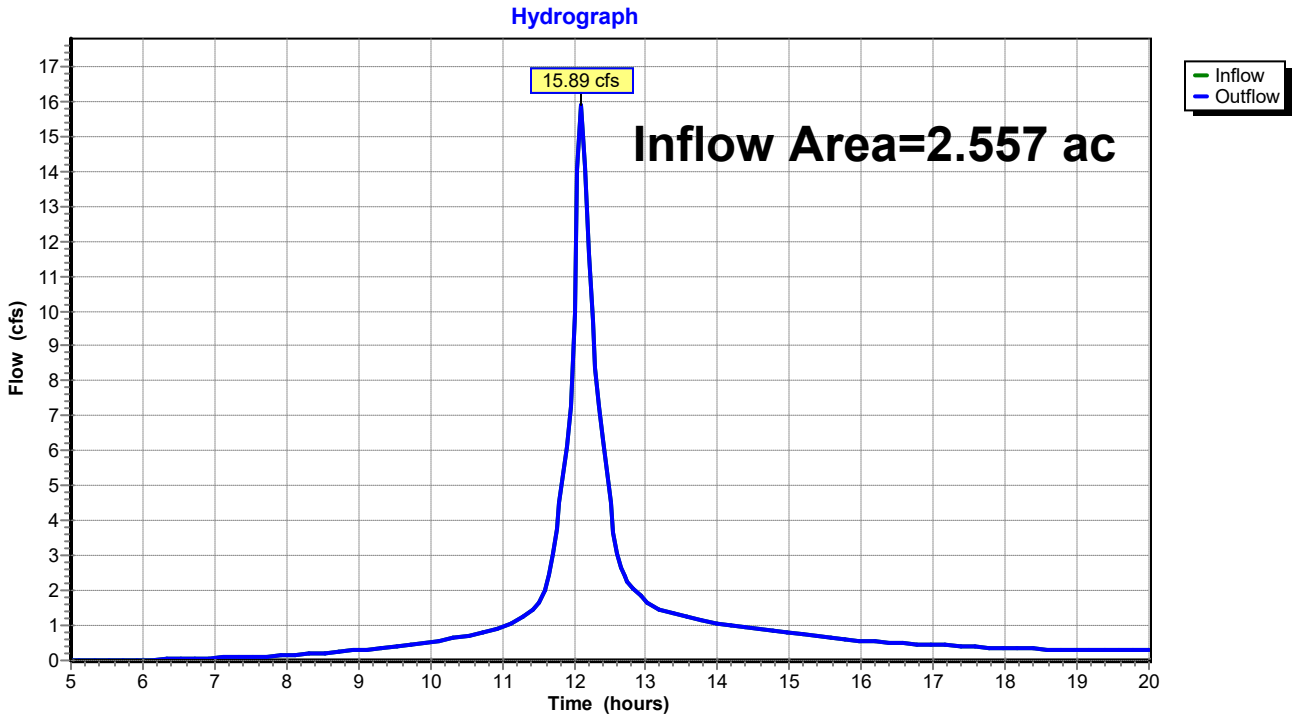


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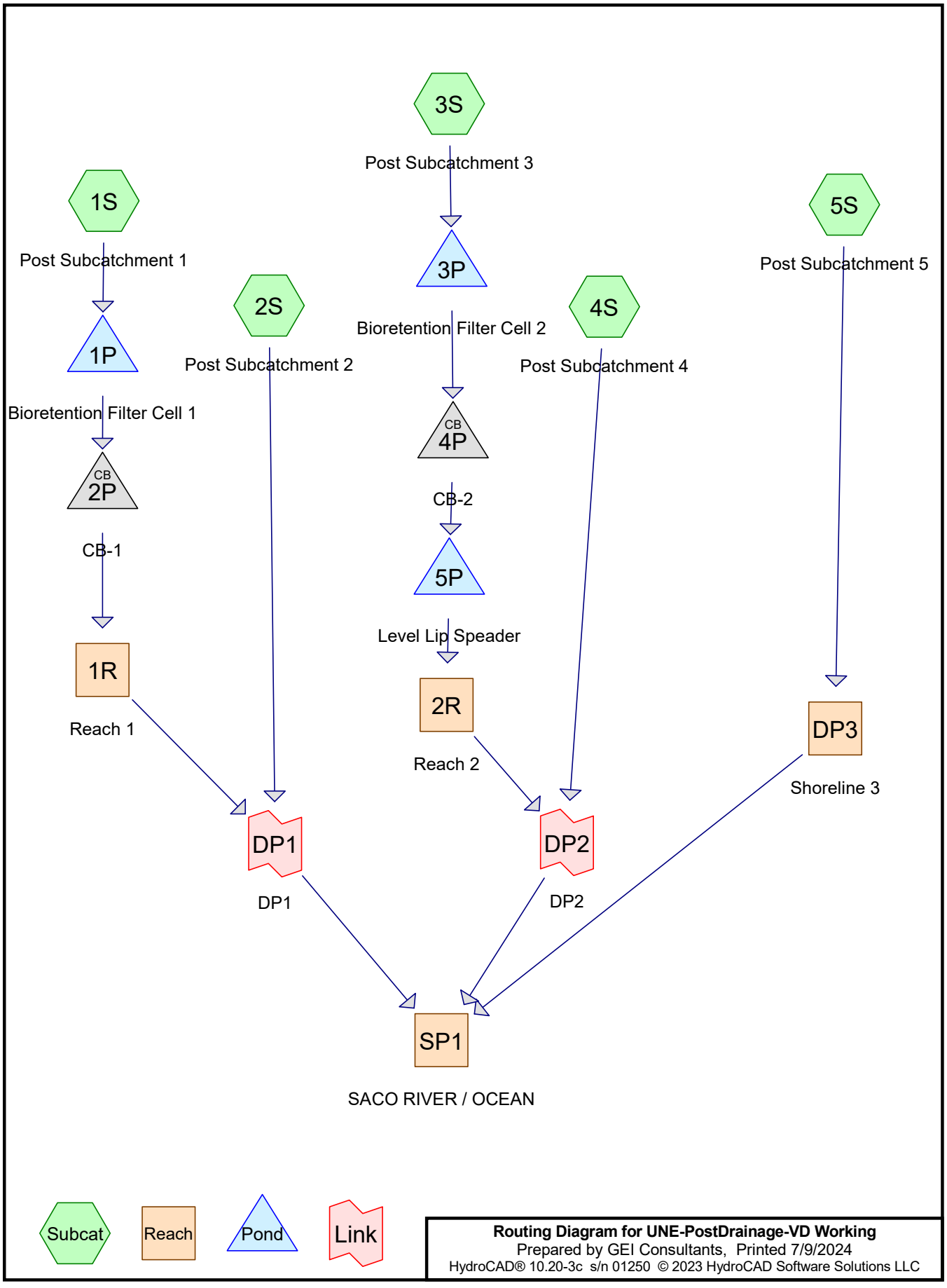
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Appendix C

Post Development HydroCAD Calculations


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Routing Diagram for UNE-PostDrainage-VD Working
Prepared by GEI Consultants, Printed 7/9/2024
HydroCAD® 10.20-3c s/n 01250 © 2023 HydroCAD Software Solutions LLC

Project Notes

Defined 3 rainfall events from ME-York IDF

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.30	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.90	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.20	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.70	2
5	WQ	Type III 24-hr		Default	24.00	1	1.00	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.081	80	>75% Grass cover, Good, HSG D (1S, 3S, 4S)
0.013	73	Biofiltration cell, Good, HSG D (3S)
0.020	73	Bioretention Filter Cell, Good, HSG D (1S)
0.089	96	Gravel surface, HSG D (5S)
0.039	98	Ledge, HSG D (1S, 3S)
0.090	98	Paved Access Drive, HSG D (1S)
0.038	98	Paved acccess drive, HSG D (5S)
0.093	98	Paved access drive, HSG D (3S, 4S)
0.028	98	Paved parking, HSG D (2S)
0.017	98	Roofs, HSG D (5S)
0.160	88	Sand beach, HSG D (5S)
0.362	79	Woods, Fair, HSG D (4S)
1.526	77	Woods, Good, HSG D (1S, 2S, 3S, 5S)
2.557	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
2.557	HSG D	1S, 2S, 3S, 4S, 5S
0.000	Other	
2.557		**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
0.000	0.000	0.000	0.081	0.000	0.081	>75% Grass cover, Good	1S, 3S, 4S
0.000	0.000	0.000	0.013	0.000	0.013	Biofiltration cell, Good	3S
0.000	0.000	0.000	0.020	0.000	0.020	Bioretention Filter Cell, Good	1S
0.000	0.000	0.000	0.089	0.000	0.089	Gravel surface	5S
0.000	0.000	0.000	0.039	0.000	0.039	Ledge	1S, 3S
0.000	0.000	0.000	0.090	0.000	0.090	Paved Access Drive	1S
0.000	0.000	0.000	0.038	0.000	0.038	Paved acccess drive	5S
0.000	0.000	0.000	0.093	0.000	0.093	Paved access drive	3S, 4S
0.000	0.000	0.000	0.028	0.000	0.028	Paved parking	2S
0.000	0.000	0.000	0.017	0.000	0.017	Roofs	5S
0.000	0.000	0.000	0.160	0.000	0.160	Sand beach	5S
0.000	0.000	0.000	0.362	0.000	0.362	Woods, Fair	4S
0.000	0.000	0.000	1.526	0.000	1.526	Woods, Good	1S, 2S, 3S, 5S
0.000	**0.000**	**0.000**	**2.557**	**0.000**	**2.557**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	2P	13.75	12.00	48.0	0.0365	0.013	0.0	15.0	0.0	
2	4P	18.75	18.00	40.0	0.0187	0.013	0.0	18.0	0.0	

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 method - Pond routing by Stor-Ind method

Subcatchment 1S: Post Subcatchment 1 Runoff Area=9,832 sf 50.01% Impervious Runoff Depth>1.88"
Flow Length=172' Tc=0.8 min CN=87 Runoff=0.59 cfs 0.035 af

Subcatchment 2S: Post Subcatchment 2 Runoff Area=11,488 sf 10.78% Impervious Runoff Depth>1.30"
Flow Length=133' Tc=3.4 min CN=79 Runoff=0.46 cfs 0.029 af

Subcatchment 3S: Post Subcatchment 3 Runoff Area=13,365 sf 33.49% Impervious Runoff Depth>1.65"
Flow Length=262' Tc=4.9 min CN=84 Runoff=0.64 cfs 0.042 af

Subcatchment 4S: Post Subcatchment 4 Runoff Area=17,529 sf 1.68% Impervious Runoff Depth>1.30"
Flow Length=126' Tc=7.2 min CN=79 Runoff=0.62 cfs 0.044 af

Subcatchment 5S: Post Subcatchment 5 Runoff Area=59,179 sf 4.06% Impervious Runoff Depth>1.37"
Flow Length=445' Tc=7.0 min CN=80 Runoff=2.23 cfs 0.155 af

Reach 1R: Reach 1 Inflow=0.58 cfs 0.034 af
Outflow=0.58 cfs 0.034 af

Reach 2R: Reach 2 Inflow=0.61 cfs 0.038 af
Outflow=0.61 cfs 0.038 af

Reach DP3: Shoreline 3 Inflow=2.23 cfs 0.155 af
Outflow=2.23 cfs 0.155 af

Reach SP1: SACO RIVER / OCEAN Inflow=4.22 cfs 0.300 af
Outflow=4.22 cfs 0.300 af

Pond 1P: Bioretention Filter Cell 1 Peak Elev=18.11' Storage=79 cf Inflow=0.59 cfs 0.035 af
Outflow=0.58 cfs 0.034 af

Pond 2P: CB-1 Peak Elev=14.15' Inflow=0.58 cfs 0.034 af
15.0" Round Culvert n=0.013 L=48.0' S=0.0365 '/' Outflow=0.58 cfs 0.034 af

Pond 3P: Bioretention Filter Cell 2 Peak Elev=23.62' Storage=64 cf Inflow=0.64 cfs 0.042 af
Outflow=0.64 cfs 0.041 af

Pond 4P: CB-2 Peak Elev=19.15' Inflow=0.64 cfs 0.041 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0187 '/' Outflow=0.64 cfs 0.041 af

Pond 5P: Level Lip Speader Peak Elev=18.00' Storage=115 cf Inflow=0.64 cfs 0.041 af
Outflow=0.61 cfs 0.038 af

Link DP1: DP1 Inflow=1.02 cfs 0.063 af
Primary=1.02 cfs 0.063 af

Link DP2: DP2 Inflow=1.24 cfs 0.082 af
Primary=1.24 cfs 0.082 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.305 af Average Runoff Depth = 1.43"
88.04% Pervious = 2.251 ac 11.96% Impervious = 0.306 ac

Summary for Subcatchment 1S: Post Subcatchment 1

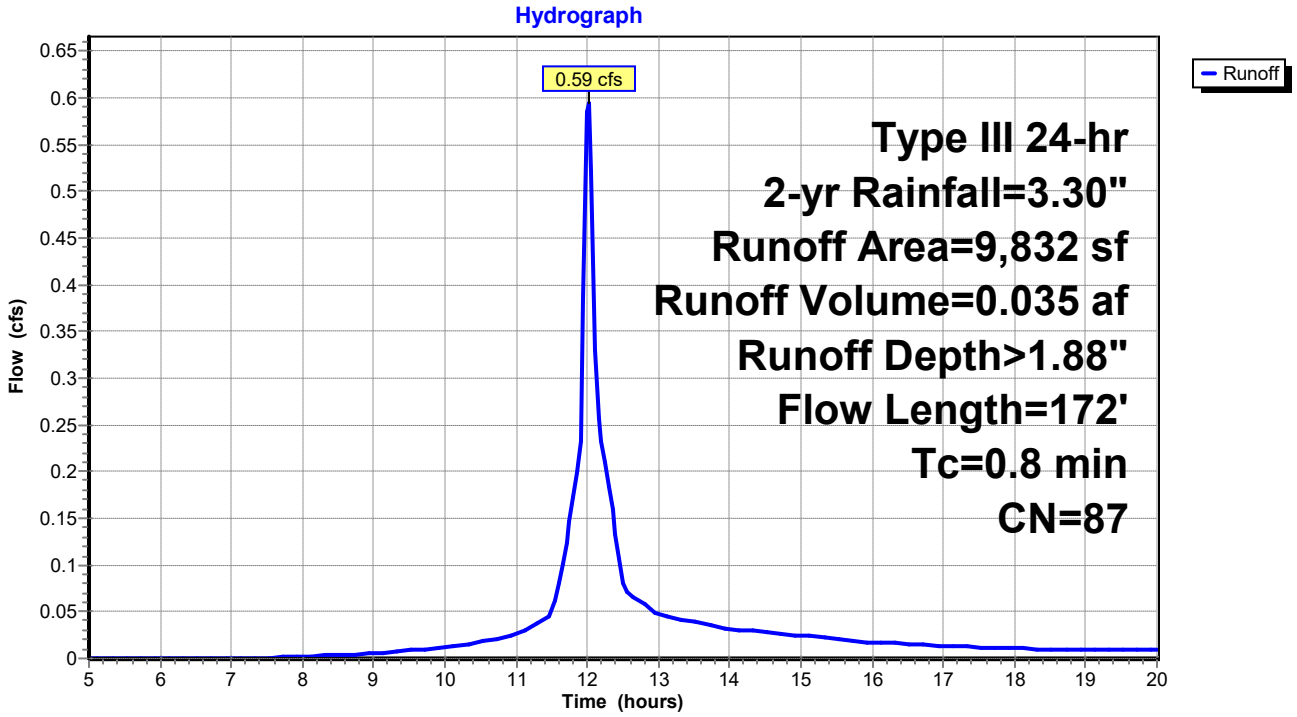
Runoff = 0.59 cfs @ 12.01 hrs, Volume= 0.035 af, Depth> 1.88"
Routed to Pond 1P : Bioretention Filter Cell 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

	Area (sf)	CN	Description
	3,430	77	Woods, Good, HSG D
*	982	98	Ledge, HSG D
	595	80	>75% Grass cover, Good, HSG D
*	3,935	98	Paved Access Drive, HSG D
*	890	73	Bioretention Filter Cell, Good, HSG D
	9,832	87	Weighted Average
	4,915		49.99% Pervious Area
	4,917		50.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0500	1.73		**Sheet Flow, Tc-1** Smooth surfaces n= 0.011 P2= 3.30"
0.3	102	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.1	24	0.0625	3.75		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
0.8	172	Total			

Subcatchment 1S: Post Subcatchment 1



Summary for Subcatchment 2S: Post Subcatchment 2

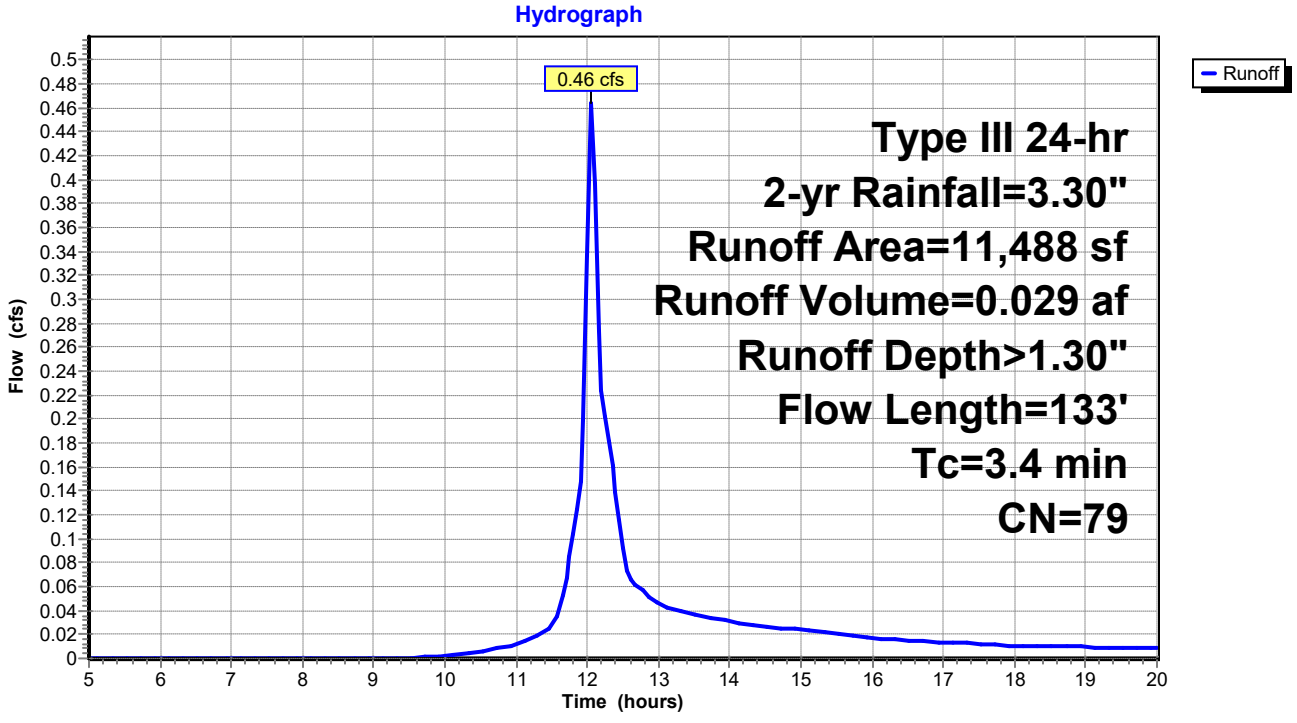
Runoff = 0.46 cfs @ 12.06 hrs, Volume= 0.029 af, Depth> 1.30"
Routed to Link DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

Area (sf)	CN	Description
10,250	77	Woods, Good, HSG D
1,238	98	Paved parking, HSG D
11,488	79	Weighted Average
10,250		89.22% Pervious Area
1,238		10.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	21	0.1905	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	112	0.1696	2.06		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
3.4	133	Total			

Subcatchment 2S: Post Subcatchment 2



Summary for Subcatchment 3S: Post Subcatchment 3

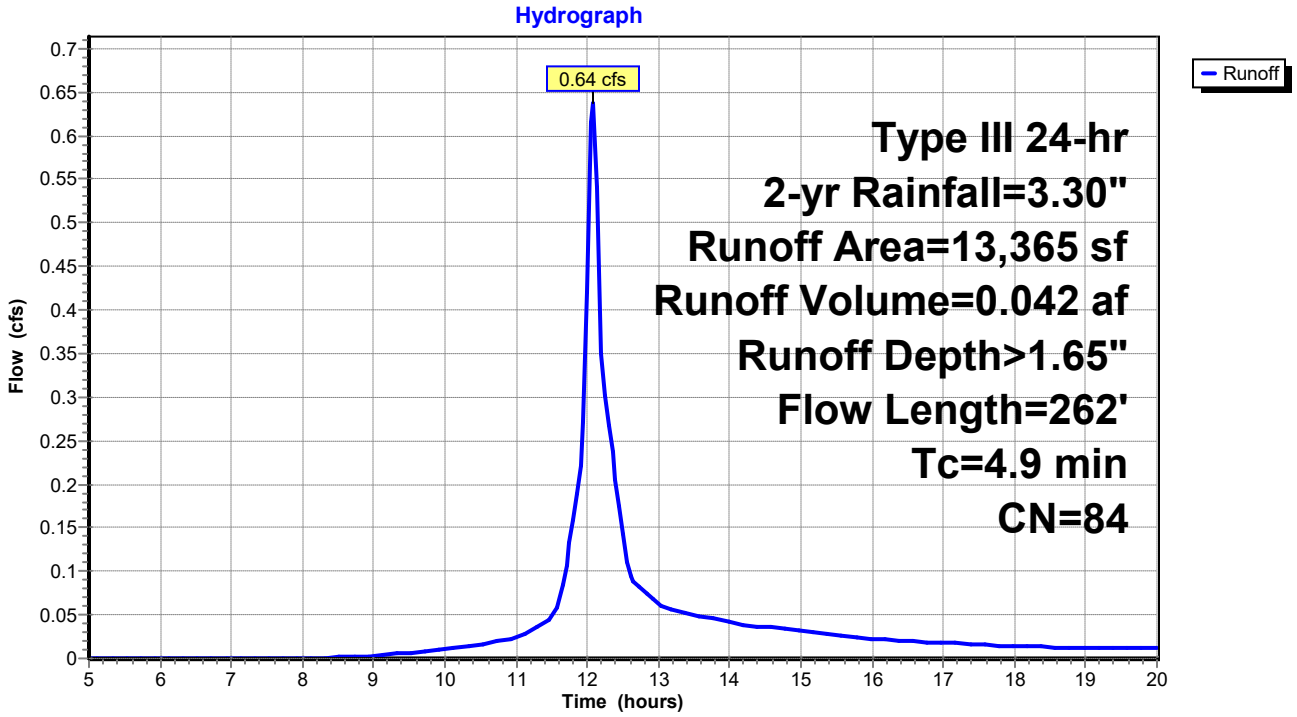
Runoff = 0.64 cfs @ 12.08 hrs, Volume= 0.042 af, Depth> 1.65"
Routed to Pond 3P : Bioretention Filter Cell 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

	Area (sf)	CN	Description
	6,822	77	Woods, Good, HSG D
*	580	73	Biofiltration cell, Good, HSG D
*	3,768	98	Paved access drive, HSG D
	1,487	80	>75% Grass cover, Good, HSG D
*	708	98	Ledge, HSG D
	13,365	84	Weighted Average
	8,889		66.51% Pervious Area
	4,476		33.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	43	0.2093	0.17		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.7	214	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.0	5	0.0500	3.35		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
4.9	262	Total			

Subcatchment 3S: Post Subcatchment 3



Summary for Subcatchment 4S: Post Subcatchment 4

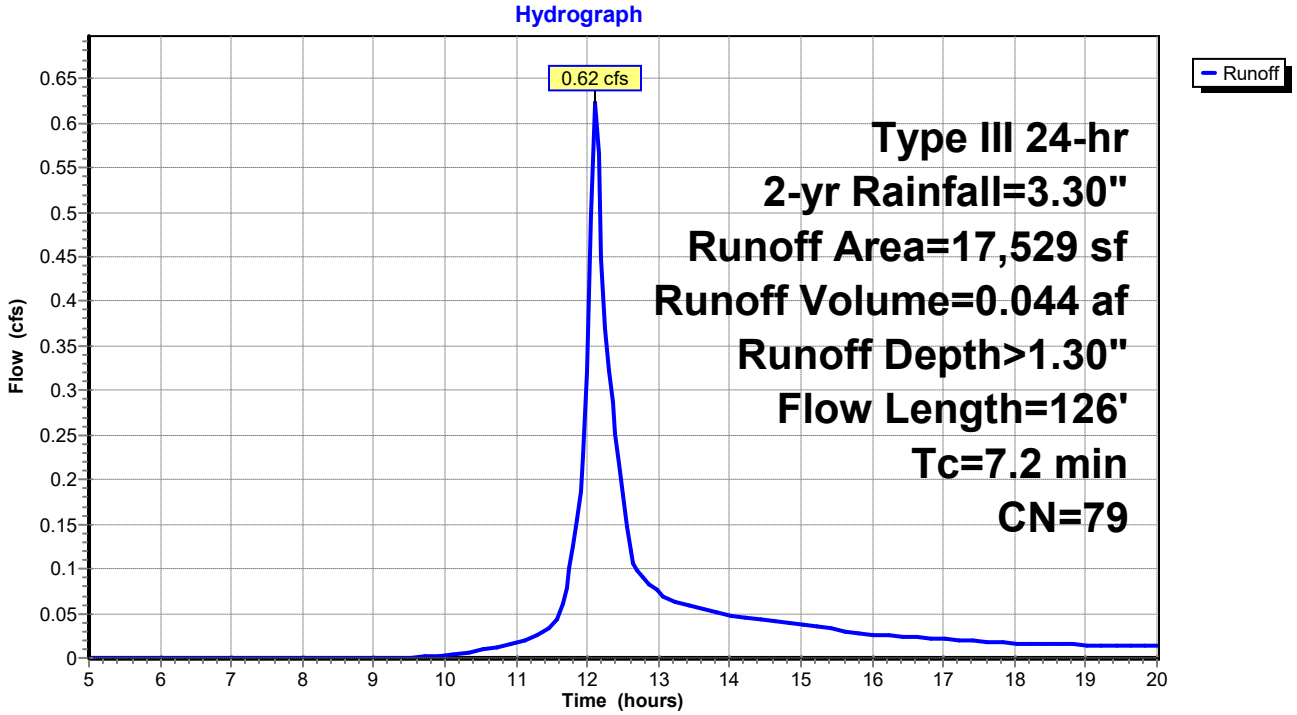
Runoff = 0.62 cfs @ 12.11 hrs, Volume= 0.044 af, Depth> 1.30"
Routed to Link DP2 : DP2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

	Area (sf)	CN	Description
*	295	98	Paved access drive, HSG D
	1,450	80	>75% Grass cover, Good, HSG D
	15,784	79	Woods, Fair, HSG D
	17,529	79	Weighted Average
	17,234		98.32% Pervious Area
	295		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	62	0.1290	0.15		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	64	0.2343	2.42		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
7.2	126	Total			

Subcatchment 4S: Post Subcatchment 4



Summary for Subcatchment 5S: Post Subcatchment 5

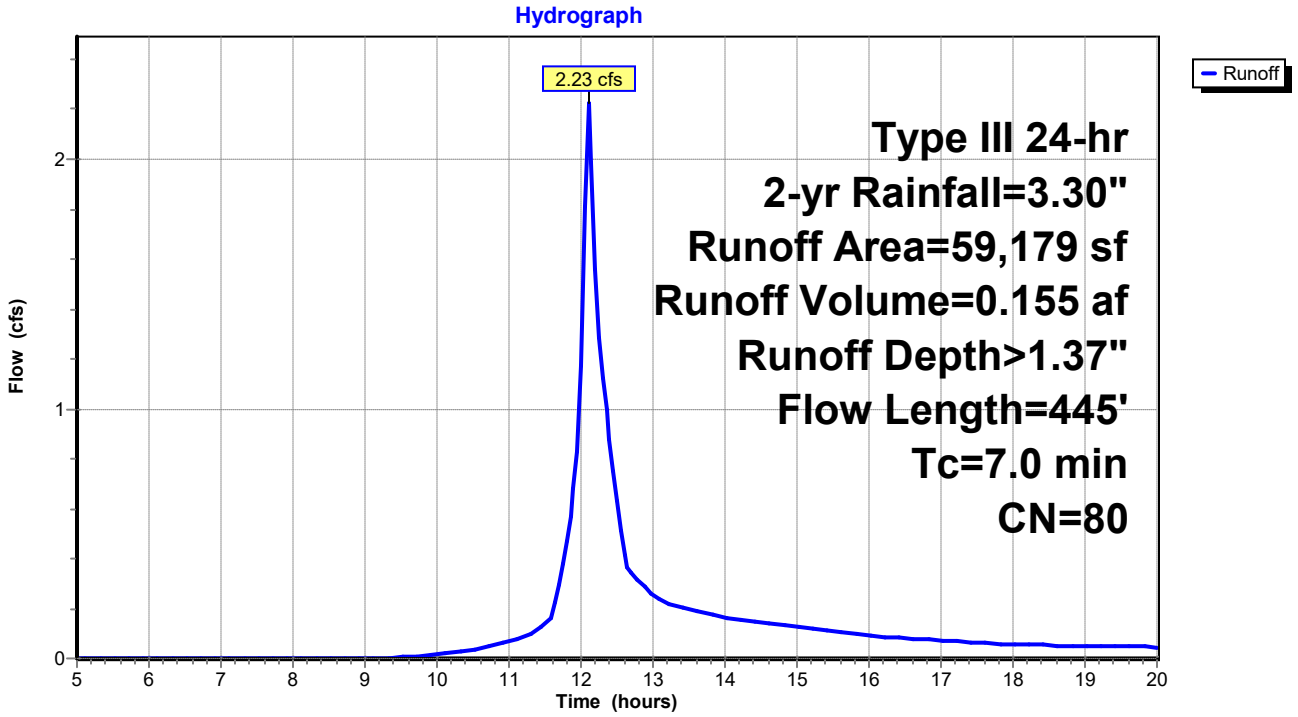
Runoff = 2.23 cfs @ 12.11 hrs, Volume= 0.155 af, Depth> 1.37"
Routed to Reach DP3 : Shoreline 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

	Area (sf)	CN	Description
*	1,650	98	Paved acccess drive, HSG D
	751	98	Roofs, HSG D
*	6,955	88	Sand beach, HSG D
	3,872	96	Gravel surface, HSG D
	45,951	77	Woods, Good, HSG D
	59,179	80	Weighted Average
	56,778		95.94% Pervious Area
	2,401		4.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0574	1.20		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-5** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 5S: Post Subcatchment 5

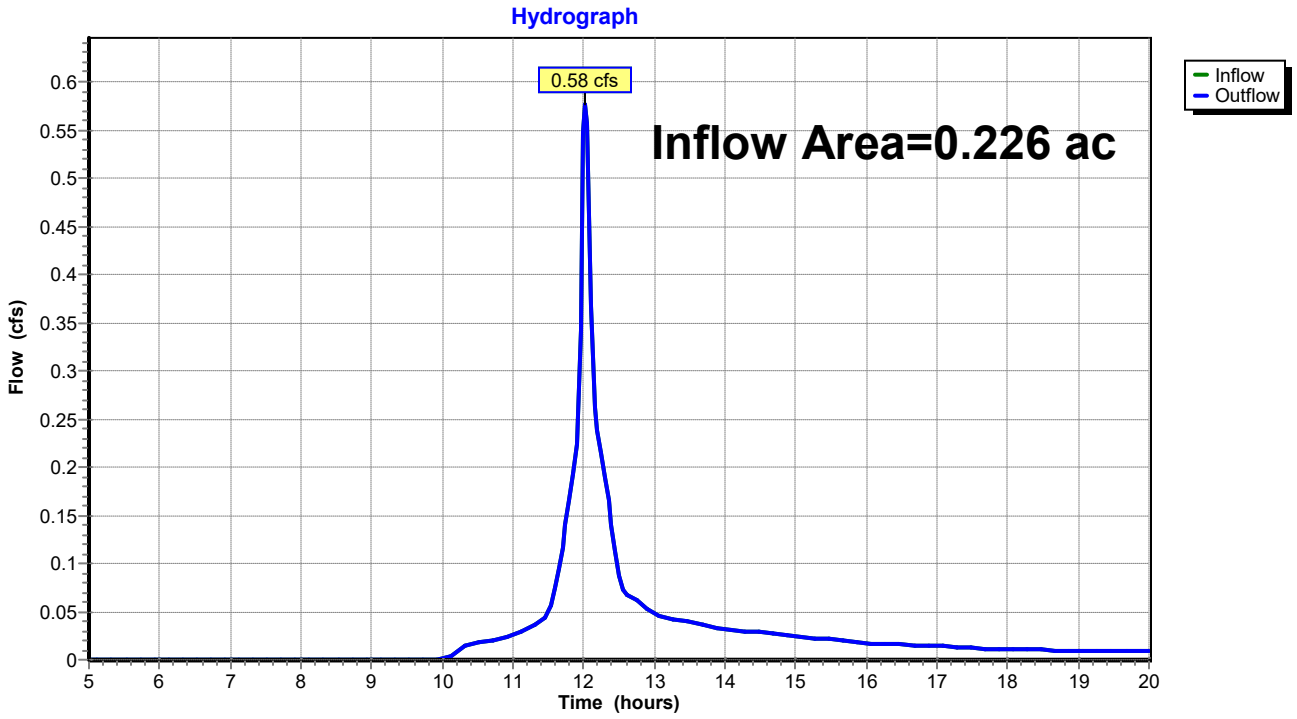


Summary for Reach 1R: Reach 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 1.81" for 2-yr event
Inflow = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af
Outflow = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP1 : DP1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Reach 1

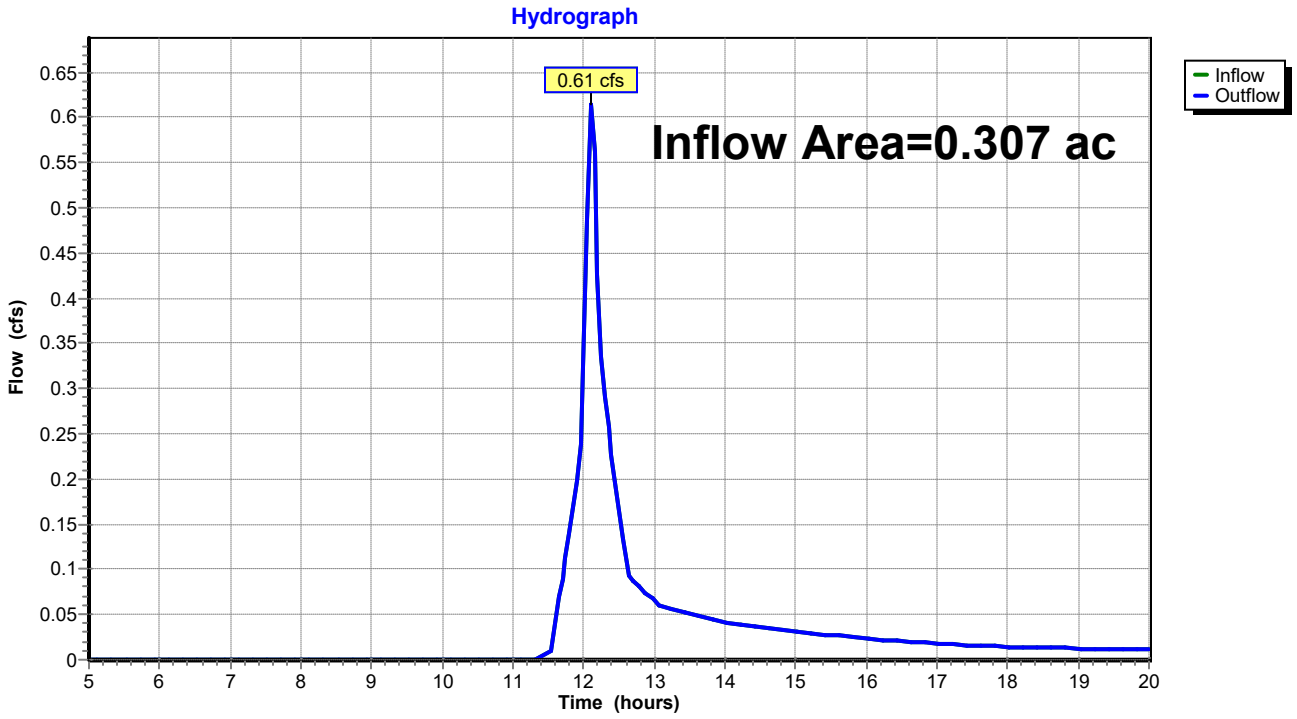


Summary for Reach 2R: Reach 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 1.50" for 2-yr event
Inflow = 0.61 cfs @ 12.11 hrs, Volume= 0.038 af
Outflow = 0.61 cfs @ 12.11 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP2 : DP2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Reach 2

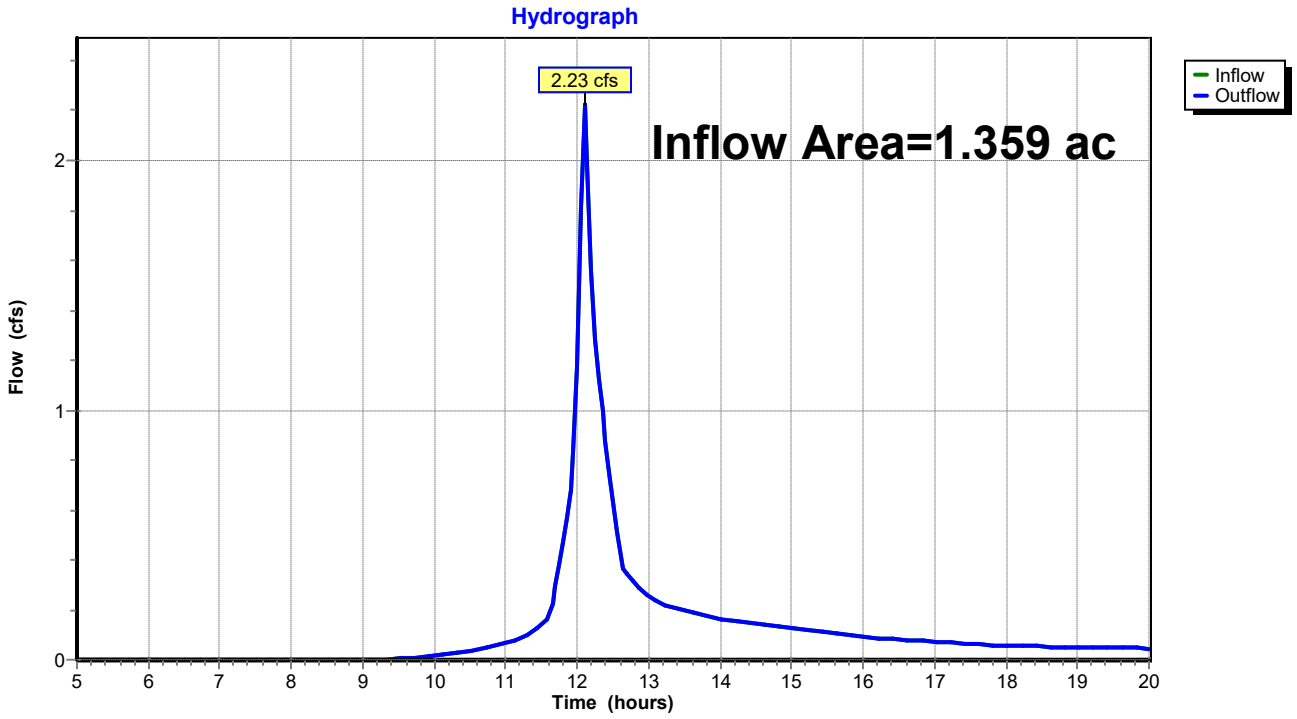


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.359 ac, 4.06% Impervious, Inflow Depth > 1.37" for 2-yr event
Inflow = 2.23 cfs @ 12.11 hrs, Volume= 0.155 af
Outflow = 2.23 cfs @ 12.11 hrs, Volume= 0.155 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

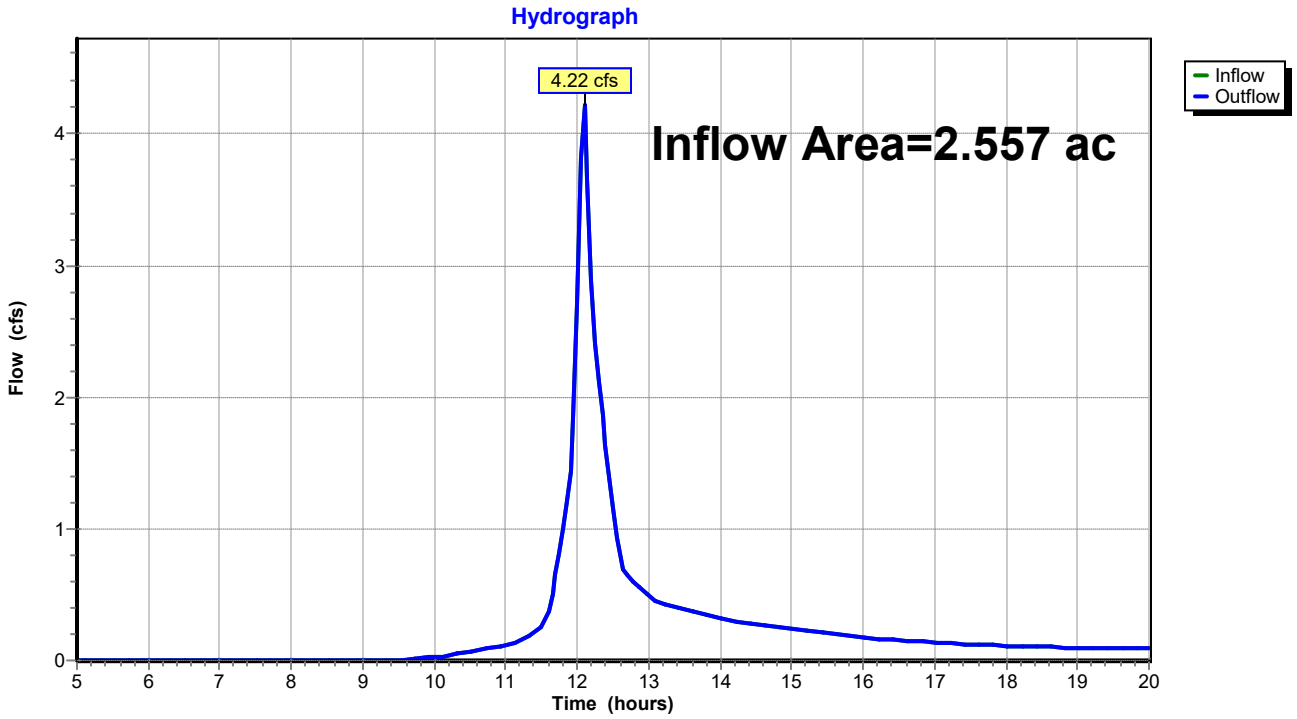


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 11.96% Impervious, Inflow Depth > 1.41" for 2-yr event
Inflow = 4.22 cfs @ 12.10 hrs, Volume= 0.300 af
Outflow = 4.22 cfs @ 12.10 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Summary for Pond 1P: Bioretention Filter Cell 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 1.88" for 2-yr event
Inflow = 0.59 cfs @ 12.01 hrs, Volume= 0.035 af
Outflow = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af, Atten= 3%, Lag= 0.8 min
Primary = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af
Routed to Pond 2P : CB-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.11' @ 12.03 hrs Surf.Area= 249 sf Storage= 79 cf

Plug-Flow detention time= 22.5 min calculated for 0.034 af (96% of inflow)
Center-of-Mass det. time= 9.1 min (788.5 - 779.4)

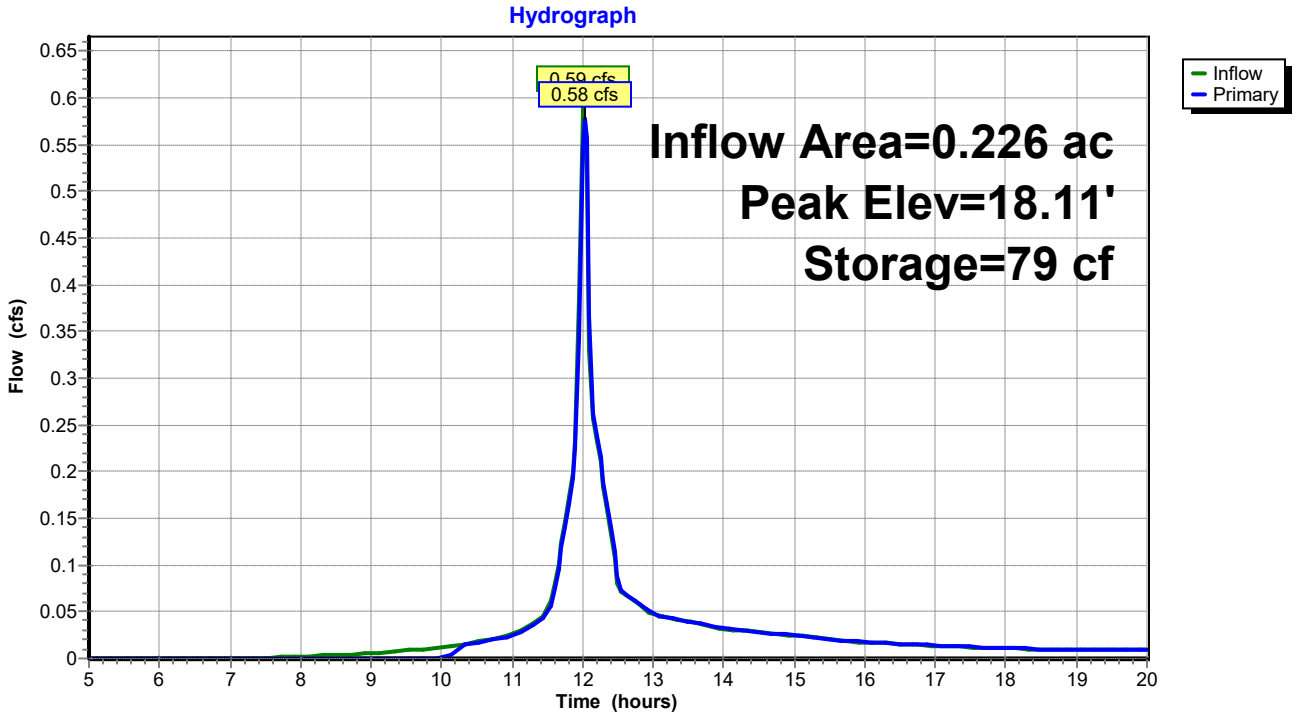
Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	0	0	0
18.00	213	53	53
18.50	372	146	200

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=0.55 cfs @ 12.03 hrs HW=18.11' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.55 cfs @ 1.08 fps)

Pond 1P: Bioretention Filter Cell 1



Summary for Pond 2P: CB-1

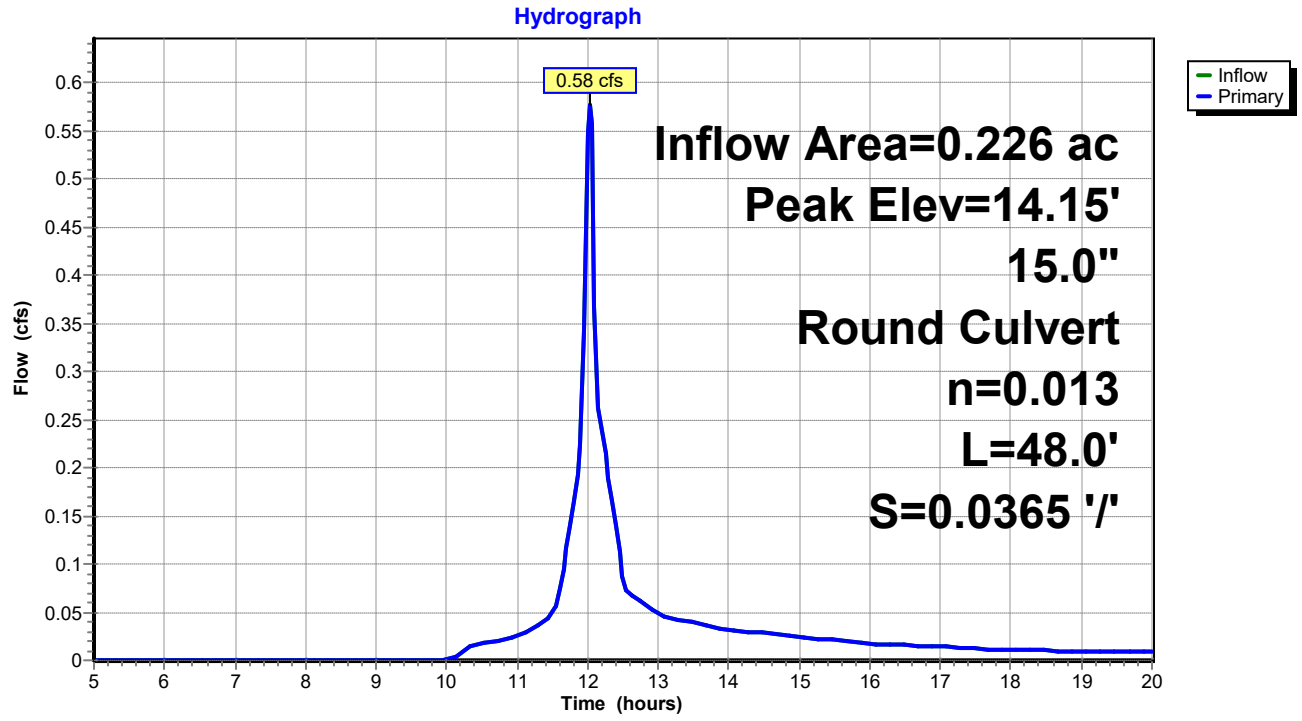
Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 1.81" for 2-yr event
Inflow = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af
Outflow = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min
Primary = 0.58 cfs @ 12.03 hrs, Volume= 0.034 af
Routed to Reach 1R : Reach 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 14.15' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.75'	**15.0" Round Culvert** L= 48.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.75' / 12.00' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.55 cfs @ 12.03 hrs HW=14.14' (Free Discharge)
1=Culvert (Inlet Controls 0.55 cfs @ 1.68 fps)

Pond 2P: CB-1



Summary for Pond 3P: Bioretention Filter Cell 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 1.65" for 2-yr event
Inflow = 0.64 cfs @ 12.08 hrs, Volume= 0.042 af
Outflow = 0.64 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.7 min
Primary = 0.64 cfs @ 12.09 hrs, Volume= 0.041 af
Routed to Pond 4P : CB-2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 23.62' @ 12.09 hrs Surf.Area= 208 sf Storage= 64 cf

Plug-Flow detention time= 14.5 min calculated for 0.041 af (97% of inflow)
Center-of-Mass det. time= 5.7 min (797.0 - 791.3)

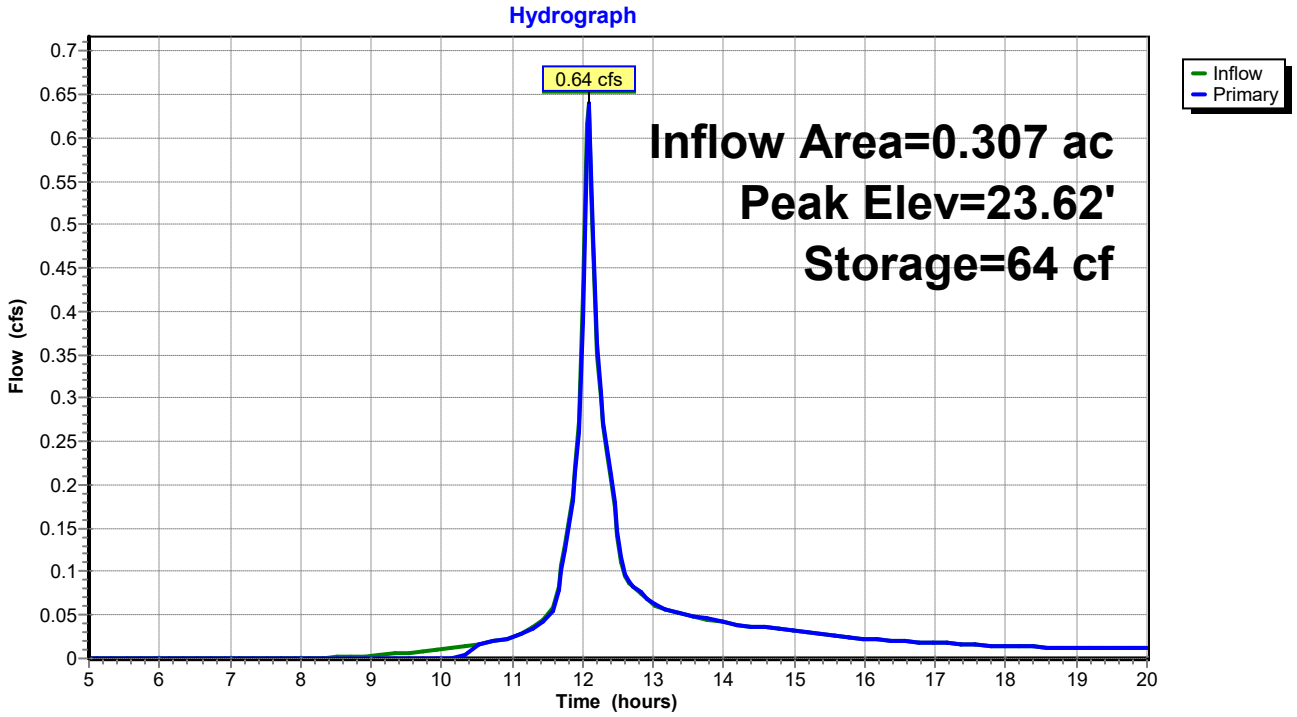
Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	380 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	0	0	0
24.00	335	168	168
24.50	515	213	380

Device	Routing	Invert	Outlet Devices
#1	Primary	23.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=0.62 cfs @ 12.09 hrs HW=23.62' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 0.62 cfs @ 1.12 fps)

Pond 3P: Bioretention Filter Cell 2



Summary for Pond 4P: CB-2

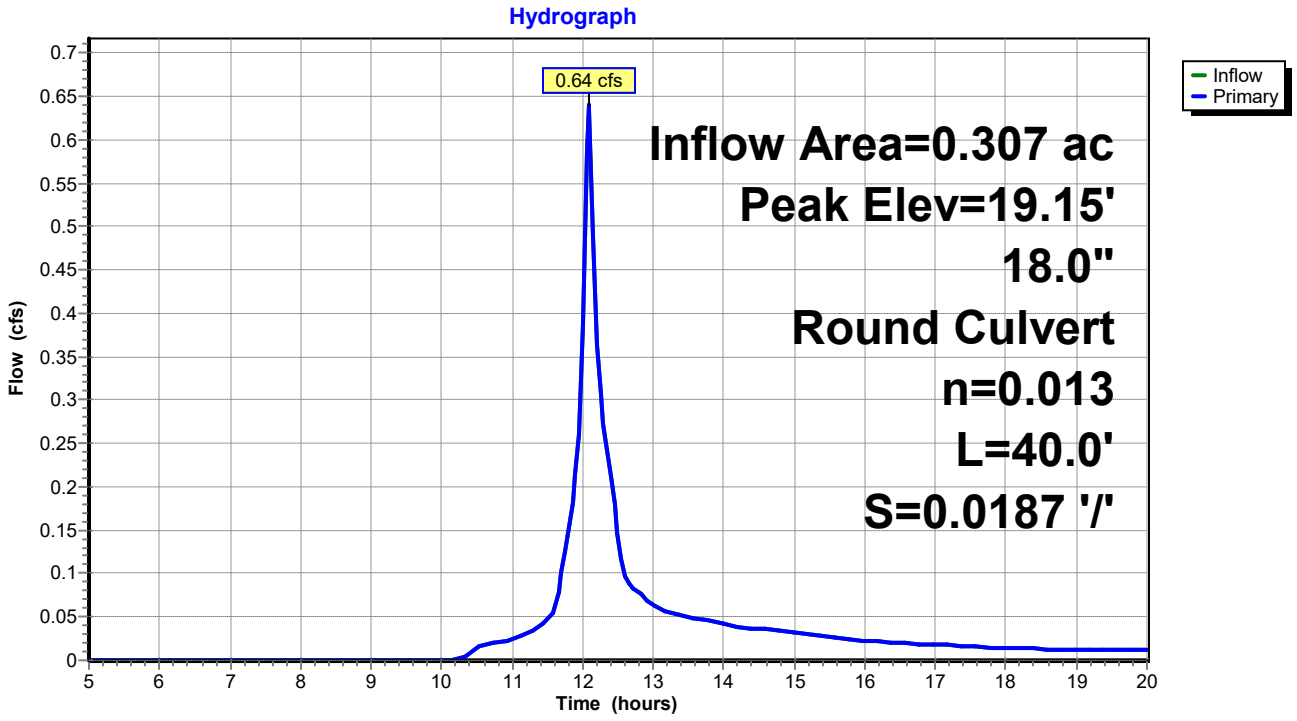
Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 1.61" for 2-yr event
Inflow = 0.64 cfs @ 12.09 hrs, Volume= 0.041 af
Outflow = 0.64 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.09 hrs, Volume= 0.041 af
Routed to Pond 5P : Level Lip Speader

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 19.15' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**18.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.75' / 18.00' S= 0.0187 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.62 cfs @ 12.09 hrs HW=19.14' (Free Discharge)
1=Culvert (Inlet Controls 0.62 cfs @ 1.69 fps)

Pond 4P: CB-2



Summary for Pond 5P: Level Lip Speader

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 1.61" for 2-yr event
Inflow = 0.64 cfs @ 12.09 hrs, Volume= 0.041 af
Outflow = 0.61 cfs @ 12.11 hrs, Volume= 0.038 af, Atten= 4%, Lag= 1.4 min
Primary = 0.61 cfs @ 12.11 hrs, Volume= 0.038 af
Routed to Reach 2R : Reach 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.00' @ 11.60 hrs Surf.Area= 168 sf Storage= 115 cf
Flood Elev= 20.00' Surf.Area= 168 sf Storage= 115 cf

Plug-Flow detention time= 32.2 min calculated for 0.038 af (93% of inflow)
Center-of-Mass det. time= 10.2 min (807.2 - 797.0)

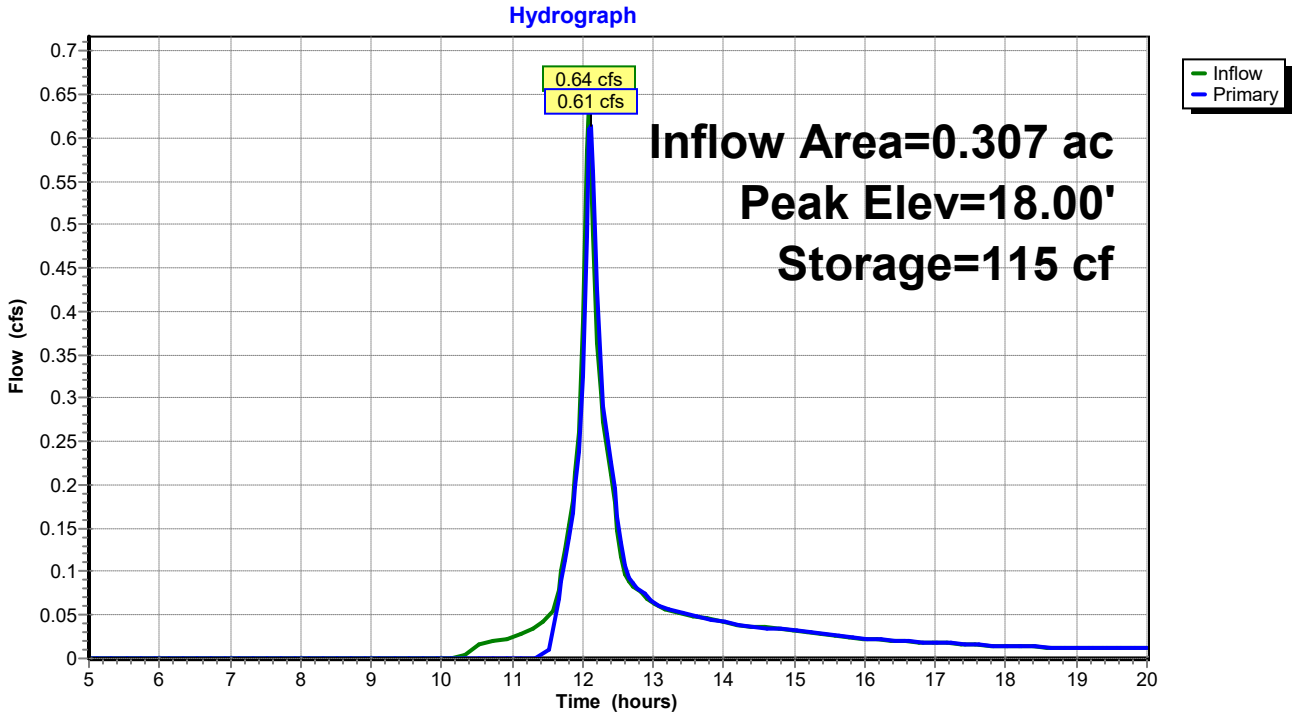
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	115 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	61	0.0	0	0
18.00	168	100.0	115	115

Device	Routing	Invert	Outlet Devices
#0	Primary	18.00'	**Automatic Storage Overflow** (Discharged without head)

Primary OutFlow Max=0.00 cfs @ 12.11 hrs HW=18.00' (Free Discharge)

Pond 5P: Level Lip Speader

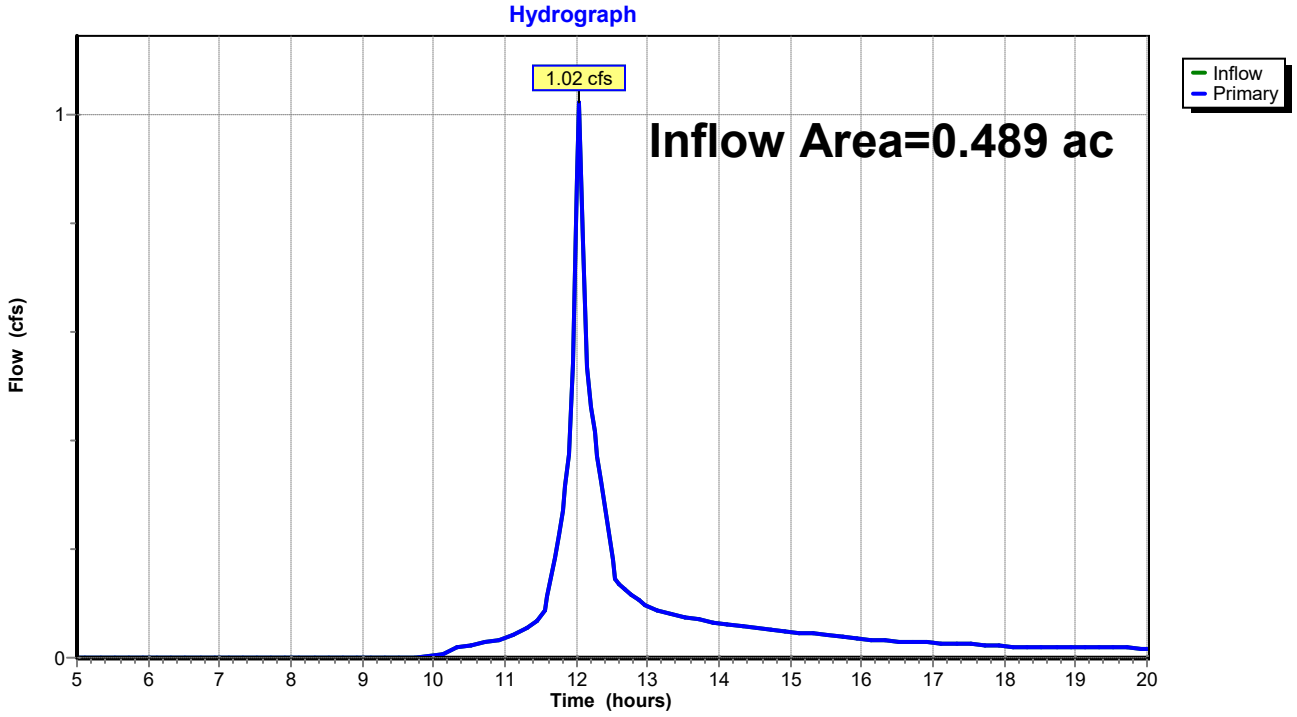


Summary for Link DP1: DP1

Inflow Area = 0.489 ac, 28.87% Impervious, Inflow Depth > 1.54" for 2-yr event
Inflow = 1.02 cfs @ 12.04 hrs, Volume= 0.063 af
Primary = 1.02 cfs @ 12.04 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP1: DP1

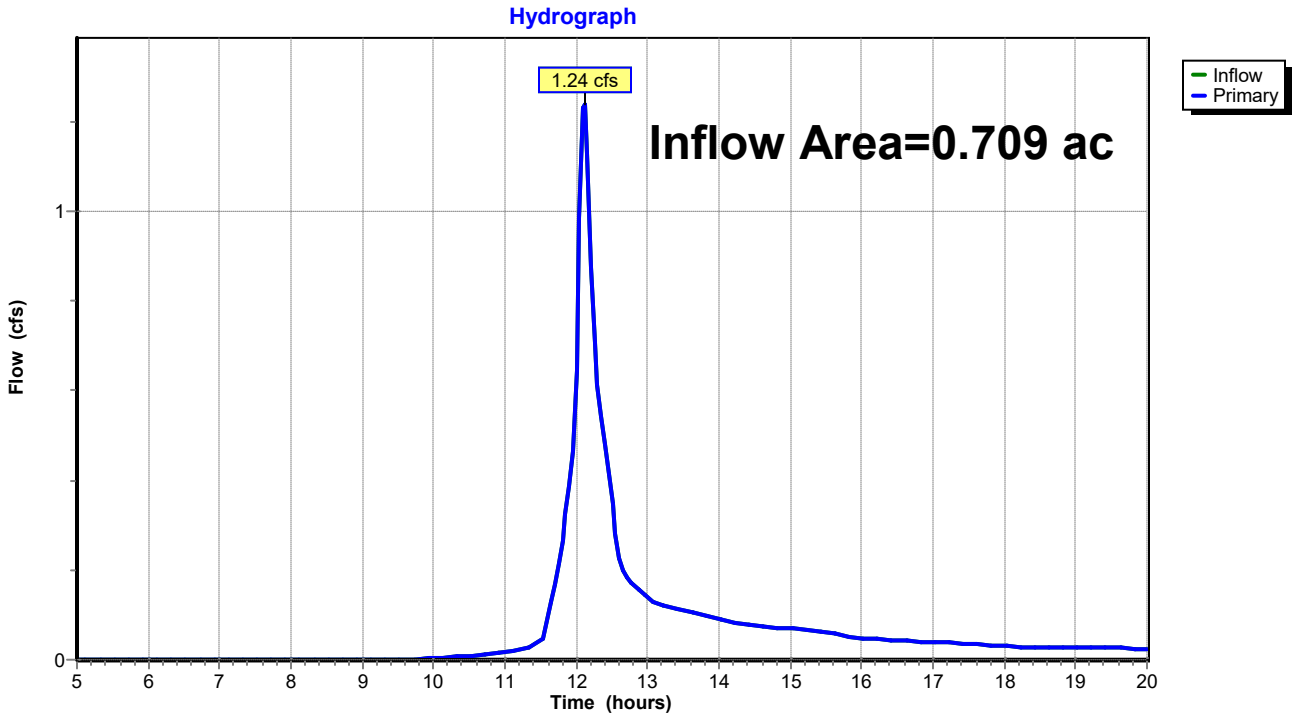


Summary for Link DP2: DP2

Inflow Area = 0.709 ac, 15.44% Impervious, Inflow Depth > 1.39" for 2-yr event
Inflow = 1.24 cfs @ 12.11 hrs, Volume= 0.082 af
Primary = 1.24 cfs @ 12.11 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP2: DP2



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 method - Pond routing by Stor-Ind method

Subcatchment 1S: Post Subcatchment 1 Runoff Area=9,832 sf 50.01% Impervious Runoff Depth>3.28"
Flow Length=172' Tc=0.8 min CN=87 Runoff=1.02 cfs 0.062 af

Subcatchment 2S: Post Subcatchment 2 Runoff Area=11,488 sf 10.78% Impervious Runoff Depth>2.53"
Flow Length=133' Tc=3.4 min CN=79 Runoff=0.90 cfs 0.056 af

Subcatchment 3S: Post Subcatchment 3 Runoff Area=13,365 sf 33.49% Impervious Runoff Depth>2.98"
Flow Length=262' Tc=4.9 min CN=84 Runoff=1.15 cfs 0.076 af

Subcatchment 4S: Post Subcatchment 4 Runoff Area=17,529 sf 1.68% Impervious Runoff Depth>2.53"
Flow Length=126' Tc=7.2 min CN=79 Runoff=1.21 cfs 0.085 af

Subcatchment 5S: Post Subcatchment 5 Runoff Area=59,179 sf 4.06% Impervious Runoff Depth>2.62"
Flow Length=445' Tc=7.0 min CN=80 Runoff=4.26 cfs 0.297 af

Reach 1R: Reach 1 Inflow=0.99 cfs 0.060 af
Outflow=0.99 cfs 0.060 af

Reach 2R: Reach 2 Inflow=1.10 cfs 0.073 af
Outflow=1.10 cfs 0.073 af

Reach DP3: Shoreline 3 Inflow=4.26 cfs 0.297 af
Outflow=4.26 cfs 0.297 af

Reach SP1: SACO RIVER / OCEAN Inflow=7.94 cfs 0.570 af
Outflow=7.94 cfs 0.570 af

Pond 1P: Bioretention Filter Cell 1 Peak Elev=18.16' Storage=92 cf Inflow=1.02 cfs 0.062 af
Outflow=0.99 cfs 0.060 af

Pond 2P: CB-1 Peak Elev=14.29' Inflow=0.99 cfs 0.060 af
15.0" Round Culvert n=0.013 L=48.0' S=0.0365 '/' Outflow=0.99 cfs 0.060 af

Pond 3P: Bioretention Filter Cell 2 Peak Elev=23.68' Storage=77 cf Inflow=1.15 cfs 0.076 af
Outflow=1.14 cfs 0.075 af

Pond 4P: CB-2 Peak Elev=19.29' Inflow=1.14 cfs 0.075 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0187 '/' Outflow=1.14 cfs 0.075 af

Pond 5P: Level Lip Speader Peak Elev=18.00' Storage=115 cf Inflow=1.14 cfs 0.075 af
Outflow=1.10 cfs 0.073 af

Link DP1: DP1 Inflow=1.85 cfs 0.116 af
Primary=1.85 cfs 0.116 af

Link DP2: DP2 Inflow=2.31 cfs 0.158 af
Primary=2.31 cfs 0.158 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.575 af Average Runoff Depth = 2.70"
88.04% Pervious = 2.251 ac 11.96% Impervious = 0.306 ac

Summary for Subcatchment 1S: Post Subcatchment 1

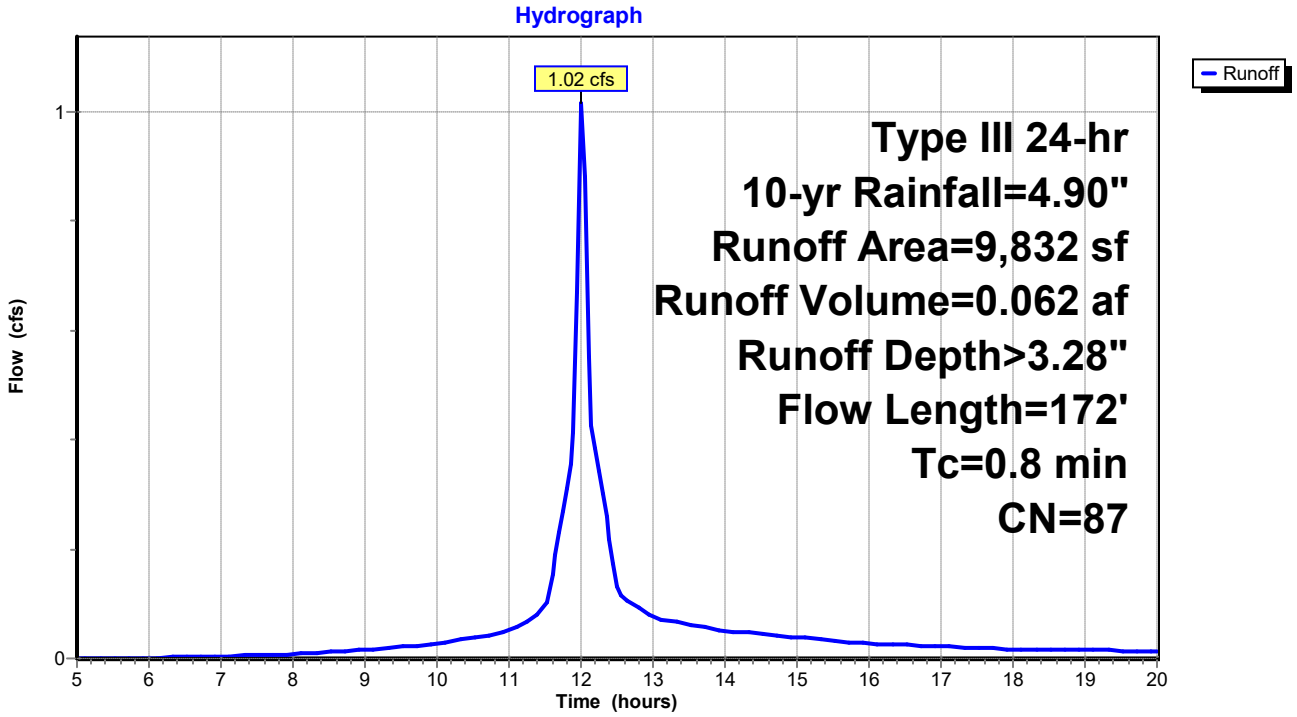
Runoff = 1.02 cfs @ 12.01 hrs, Volume= 0.062 af, Depth> 3.28"
Routed to Pond 1P : Bioretention Filter Cell 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

	Area (sf)	CN	Description
	3,430	77	Woods, Good, HSG D
*	982	98	Ledge, HSG D
	595	80	>75% Grass cover, Good, HSG D
*	3,935	98	Paved Access Drive, HSG D
*	890	73	Bioretention Filter Cell, Good, HSG D
	9,832	87	Weighted Average
	4,915		49.99% Pervious Area
	4,917		50.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0500	1.73		**Sheet Flow, Tc-1** Smooth surfaces n= 0.011 P2= 3.30"
0.3	102	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.1	24	0.0625	3.75		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
0.8	172	Total			

Subcatchment 1S: Post Subcatchment 1



Summary for Subcatchment 2S: Post Subcatchment 2

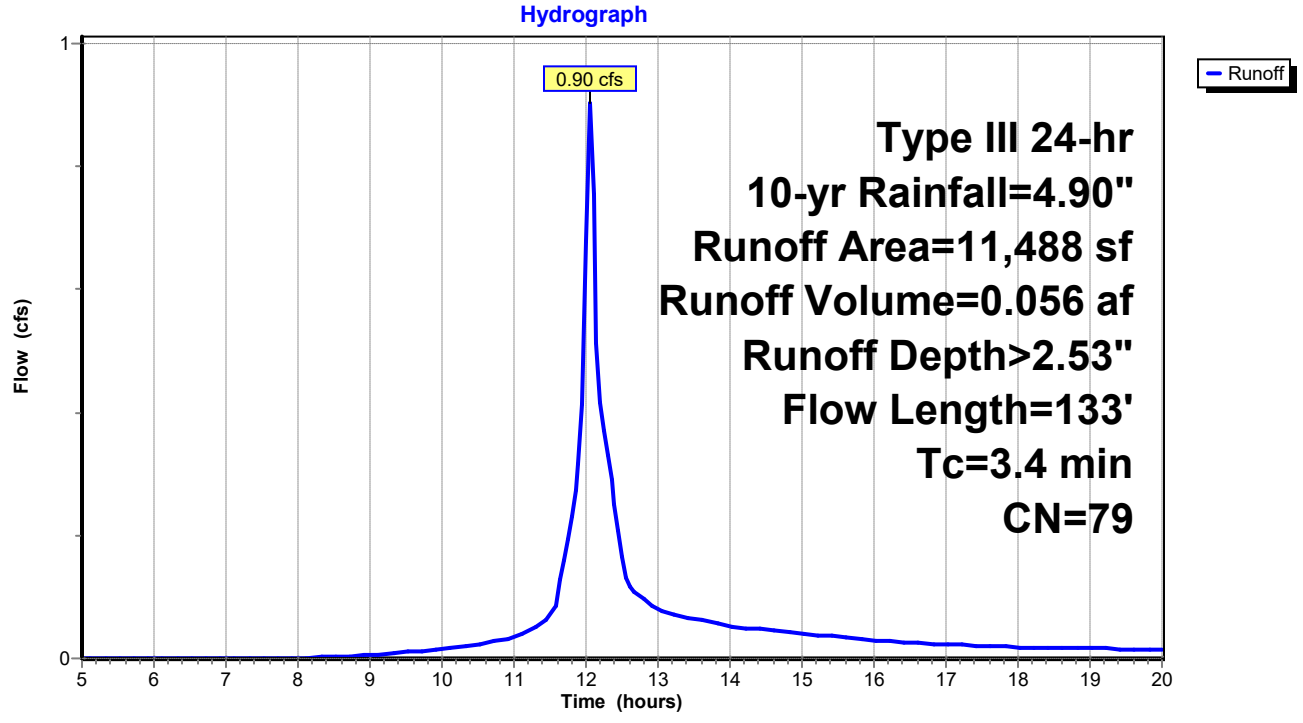
Runoff = 0.90 cfs @ 12.06 hrs, Volume= 0.056 af, Depth> 2.53"
Routed to Link DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

Area (sf)	CN	Description
10,250	77	Woods, Good, HSG D
1,238	98	Paved parking, HSG D
11,488	79	Weighted Average
10,250		89.22% Pervious Area
1,238		10.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	21	0.1905	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	112	0.1696	2.06		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
3.4	133	Total			

Subcatchment 2S: Post Subcatchment 2



Summary for Subcatchment 3S: Post Subcatchment 3

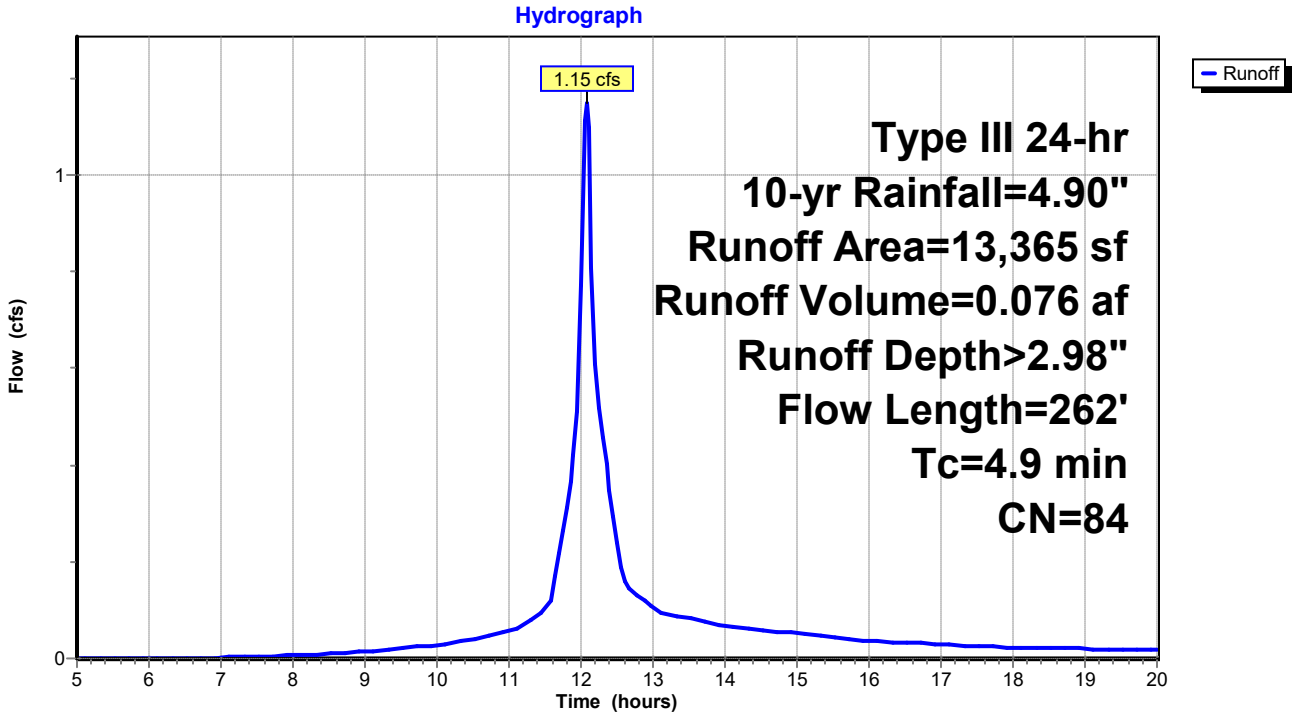
Runoff = 1.15 cfs @ 12.07 hrs, Volume= 0.076 af, Depth> 2.98"
Routed to Pond 3P : Bioretention Filter Cell 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

	Area (sf)	CN	Description
	6,822	77	Woods, Good, HSG D
*	580	73	Biofiltration cell, Good, HSG D
*	3,768	98	Paved access drive, HSG D
	1,487	80	>75% Grass cover, Good, HSG D
*	708	98	Ledge, HSG D
	13,365	84	Weighted Average
	8,889		66.51% Pervious Area
	4,476		33.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	43	0.2093	0.17		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.7	214	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.0	5	0.0500	3.35		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
4.9	262	Total			

Subcatchment 3S: Post Subcatchment 3



Summary for Subcatchment 4S: Post Subcatchment 4

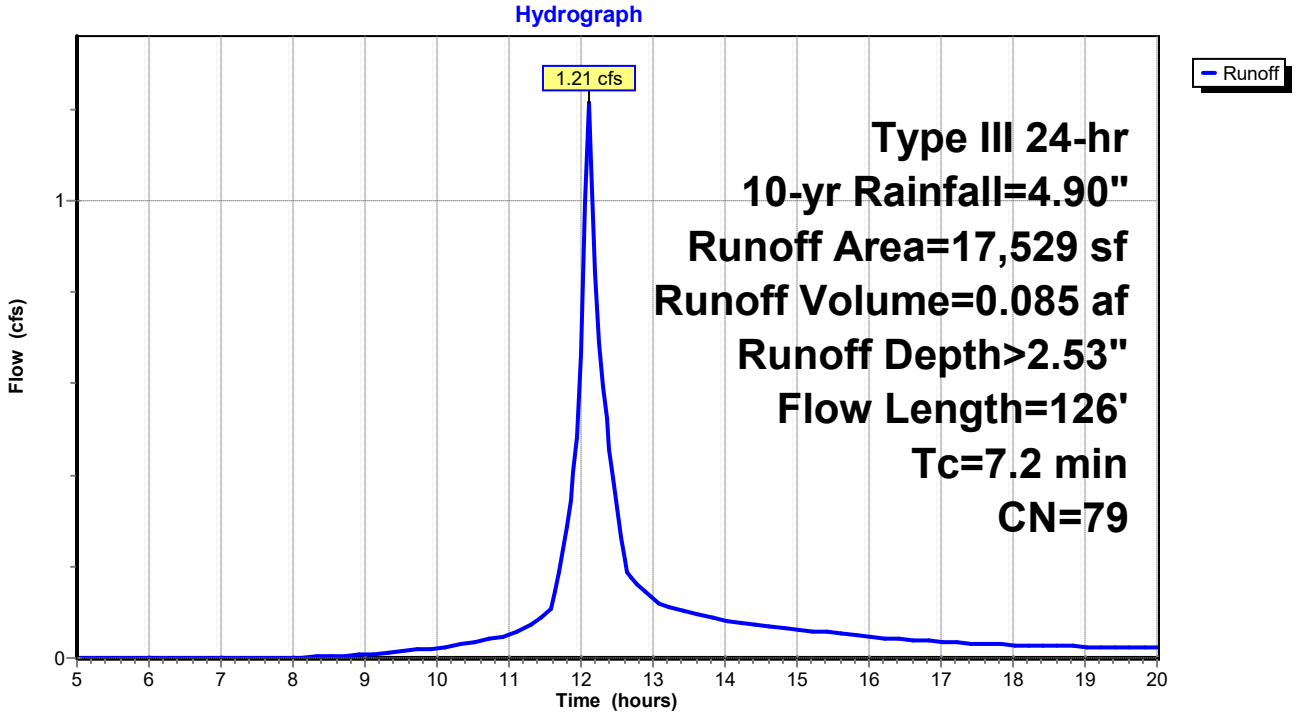
Runoff = 1.21 cfs @ 12.11 hrs, Volume= 0.085 af, Depth> 2.53"
Routed to Link DP2 : DP2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

	Area (sf)	CN	Description
*	295	98	Paved access drive, HSG D
	1,450	80	>75% Grass cover, Good, HSG D
	15,784	79	Woods, Fair, HSG D
	17,529	79	Weighted Average
	17,234		98.32% Pervious Area
	295		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	62	0.1290	0.15		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	64	0.2343	2.42		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
7.2	126	Total			

Subcatchment 4S: Post Subcatchment 4



Summary for Subcatchment 5S: Post Subcatchment 5

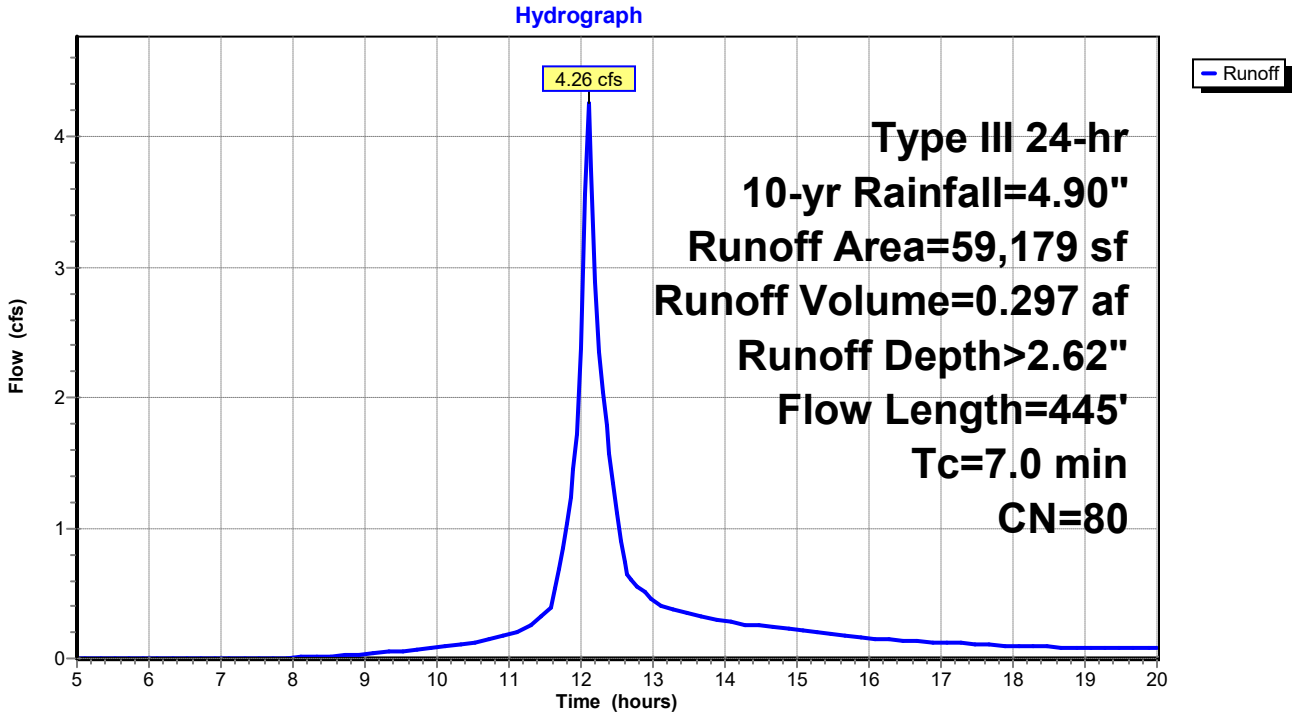
Runoff = 4.26 cfs @ 12.10 hrs, Volume= 0.297 af, Depth> 2.62"
Routed to Reach DP3 : Shoreline 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

	Area (sf)	CN	Description
*	1,650	98	Paved acccess drive, HSG D
	751	98	Roofs, HSG D
*	6,955	88	Sand beach, HSG D
	3,872	96	Gravel surface, HSG D
	45,951	77	Woods, Good, HSG D
	59,179	80	Weighted Average
	56,778		95.94% Pervious Area
	2,401		4.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0574	1.20		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-5** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 5S: Post Subcatchment 5

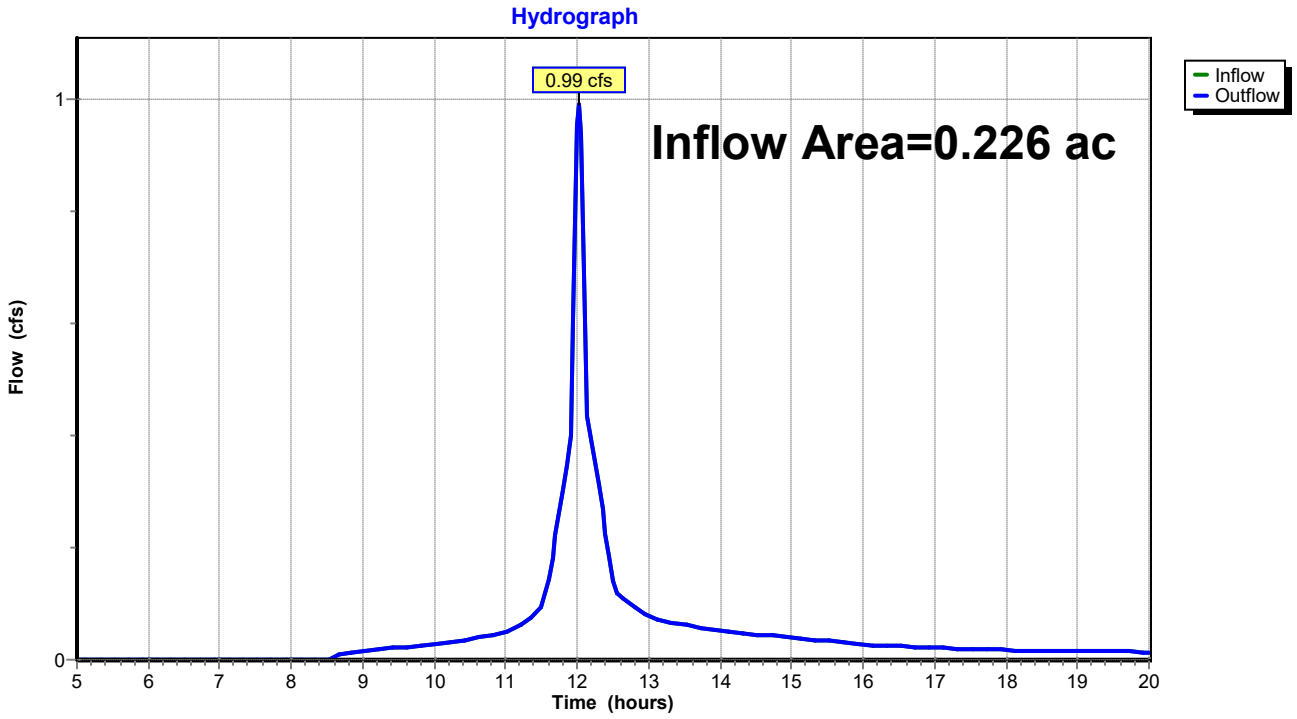


Summary for Reach 1R: Reach 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 3.21" for 10-yr event
Inflow = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af
Outflow = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP1 : DP1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Reach 1

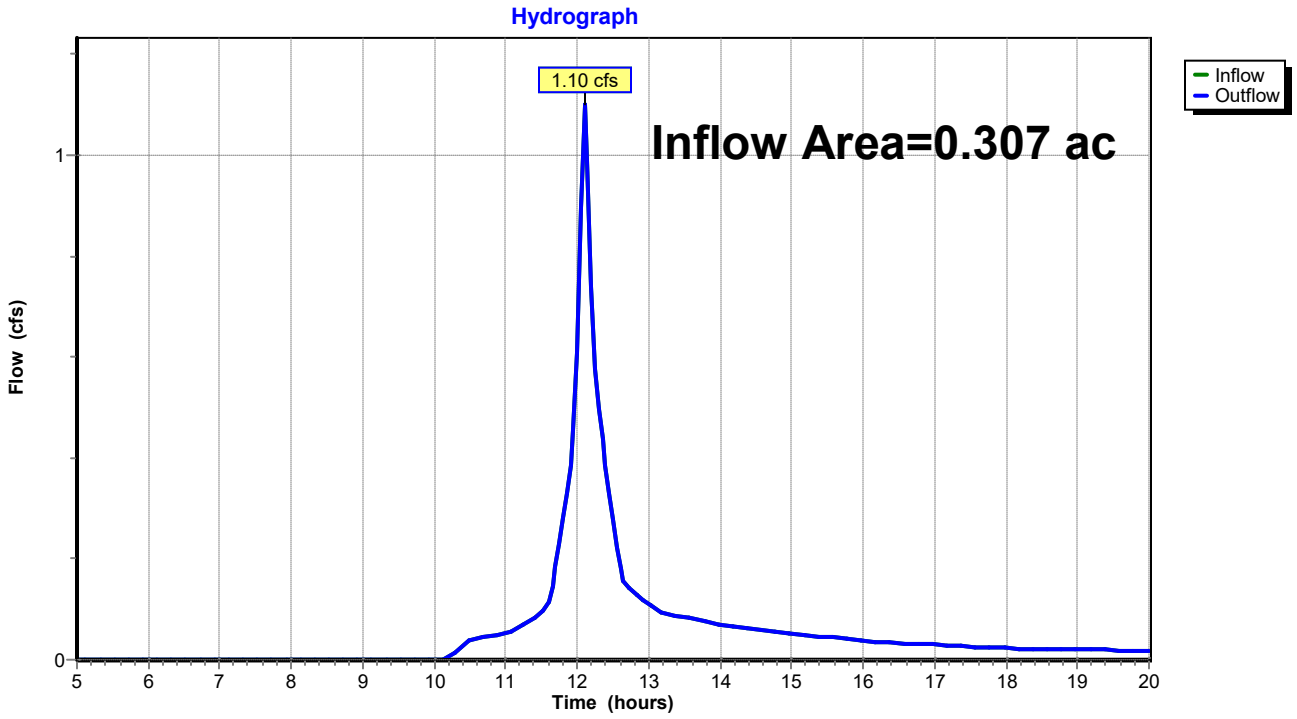


Summary for Reach 2R: Reach 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 2.84" for 10-yr event
Inflow = 1.10 cfs @ 12.11 hrs, Volume= 0.073 af
Outflow = 1.10 cfs @ 12.11 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP2 : DP2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Reach 2

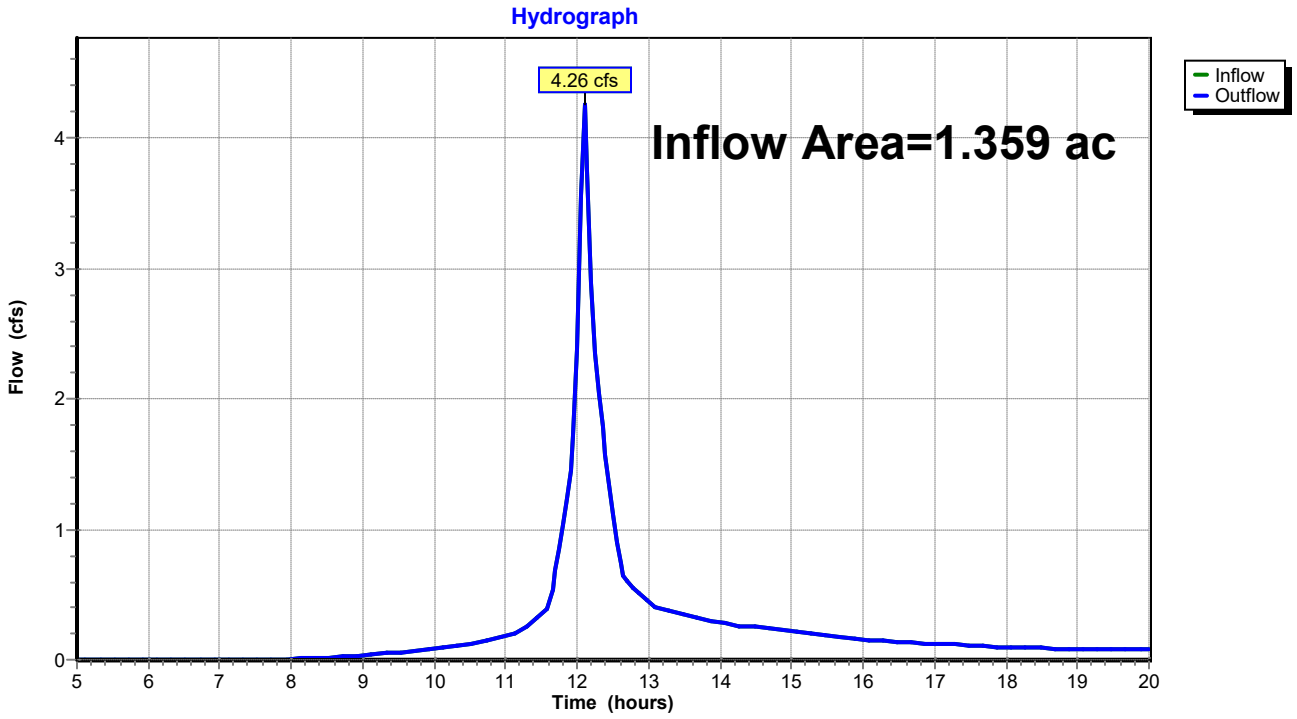


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.359 ac, 4.06% Impervious, Inflow Depth > 2.62" for 10-yr event
Inflow = 4.26 cfs @ 12.10 hrs, Volume= 0.297 af
Outflow = 4.26 cfs @ 12.10 hrs, Volume= 0.297 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

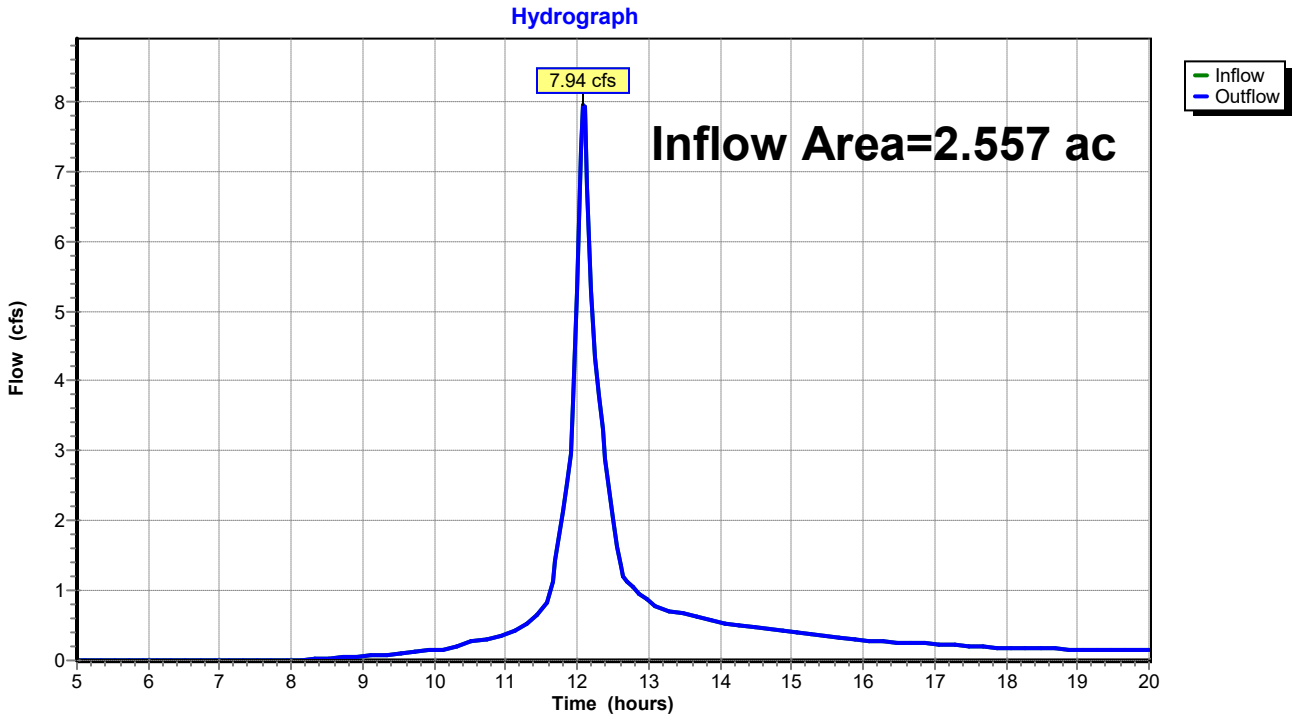


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 11.96% Impervious, Inflow Depth > 2.68" for 10-yr event
Inflow = 7.94 cfs @ 12.09 hrs, Volume= 0.570 af
Outflow = 7.94 cfs @ 12.09 hrs, Volume= 0.570 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Summary for Pond 1P: Bioretention Filter Cell 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 3.28" for 10-yr event
Inflow = 1.02 cfs @ 12.01 hrs, Volume= 0.062 af
Outflow = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af, Atten= 3%, Lag= 0.7 min
Primary = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af
Routed to Pond 2P : CB-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.16' @ 12.02 hrs Surf.Area= 264 sf Storage= 92 cf

Plug-Flow detention time= 15.2 min calculated for 0.060 af (98% of inflow)
Center-of-Mass det. time= 7.1 min (773.3 - 766.2)

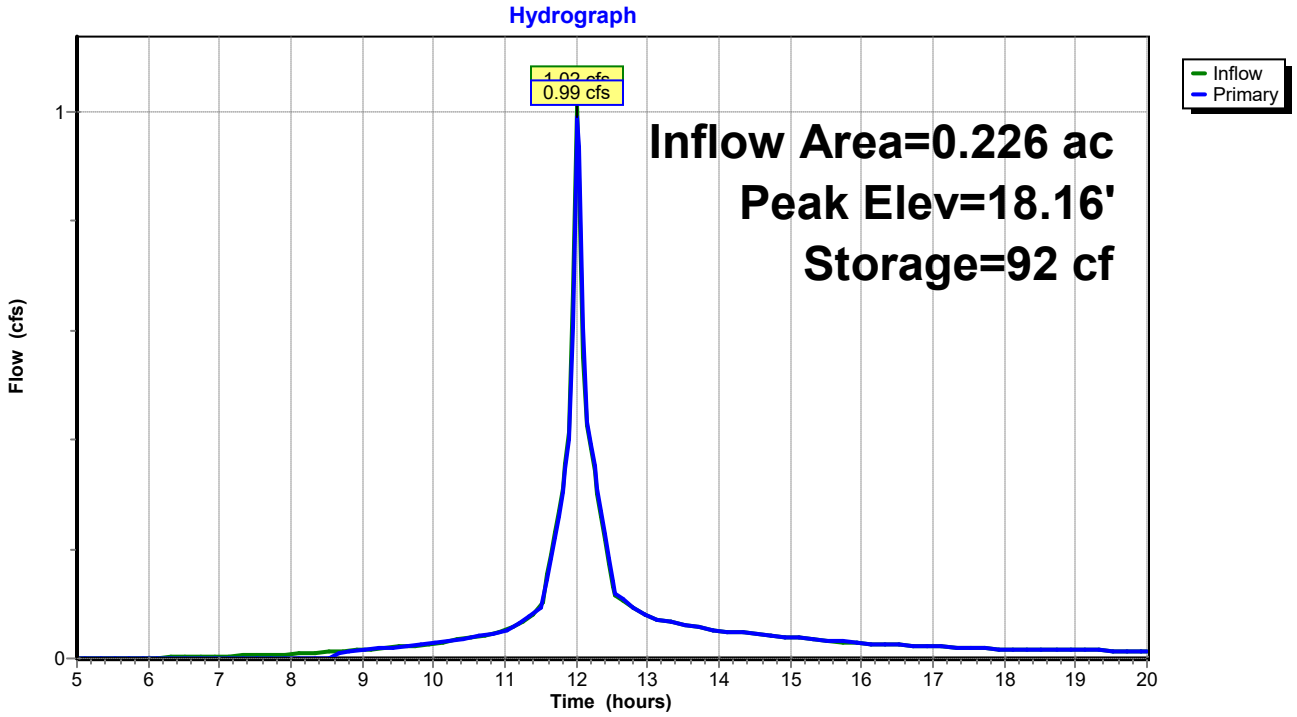
Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	0	0	0
18.00	213	53	53
18.50	372	146	200

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=0.94 cfs @ 12.02 hrs HW=18.16' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.94 cfs @ 1.29 fps)

Pond 1P: Bioretention Filter Cell 1



Summary for Pond 2P: CB-1

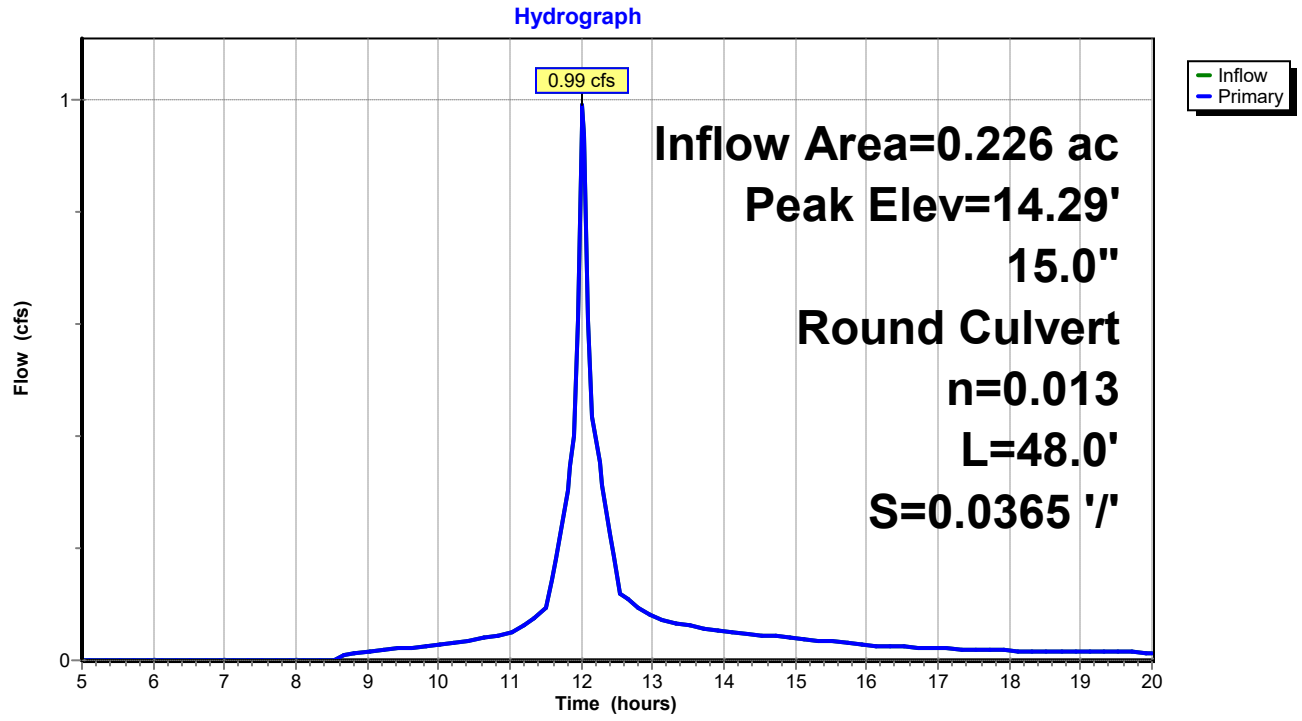
Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 3.21" for 10-yr event
Inflow = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af
Outflow = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.99 cfs @ 12.02 hrs, Volume= 0.060 af
Routed to Reach 1R : Reach 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 14.29' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.75'	**15.0" Round Culvert** L= 48.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.75' / 12.00' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.94 cfs @ 12.02 hrs HW=14.27' (Free Discharge)
1=Culvert (Inlet Controls 0.94 cfs @ 1.94 fps)

Pond 2P: CB-1



Summary for Pond 3P: Bioretention Filter Cell 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 2.98" for 10-yr event
Inflow = 1.15 cfs @ 12.07 hrs, Volume= 0.076 af
Outflow = 1.14 cfs @ 12.08 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.6 min
Primary = 1.14 cfs @ 12.08 hrs, Volume= 0.075 af
Routed to Pond 4P : CB-2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 23.68' @ 12.08 hrs Surf.Area= 227 sf Storage= 77 cf

Plug-Flow detention time= 9.5 min calculated for 0.075 af (98% of inflow)
Center-of-Mass det. time= 4.4 min (781.8 - 777.5)

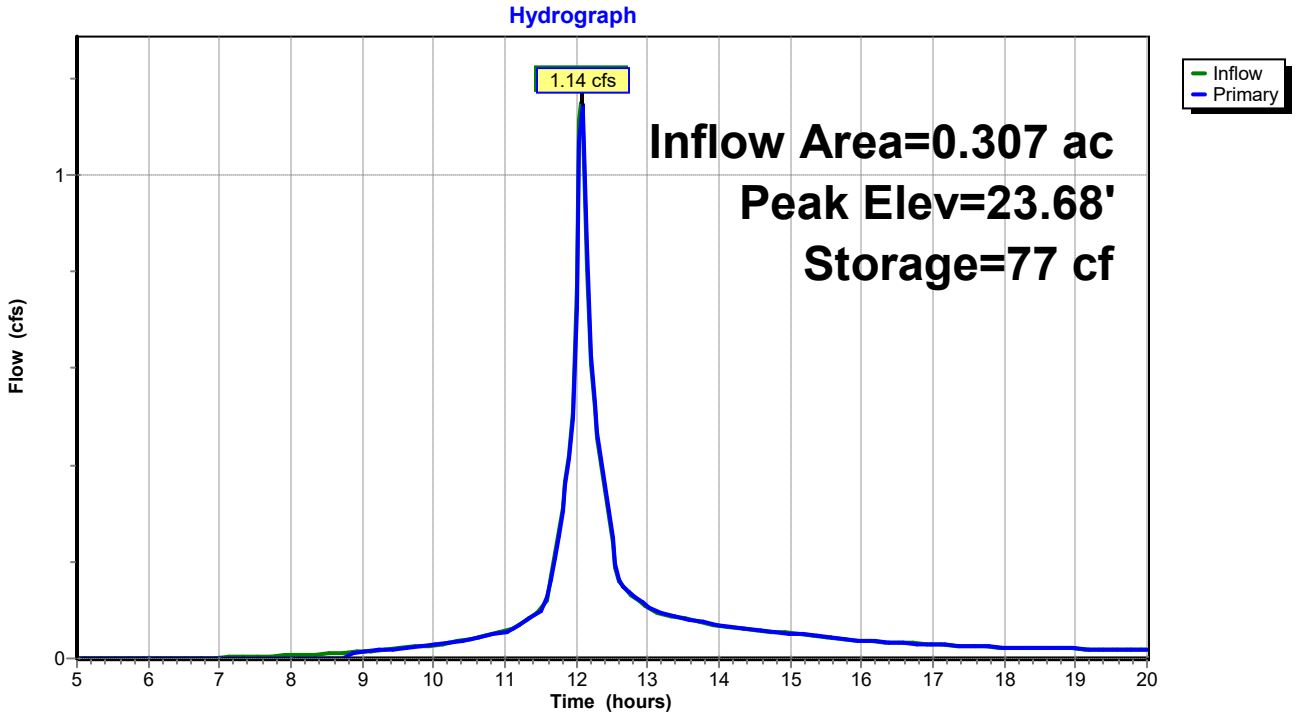
Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	380 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	0	0	0
24.00	335	168	168
24.50	515	213	380

Device	Routing	Invert	Outlet Devices
#1	Primary	23.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=1.11 cfs @ 12.08 hrs HW=23.67' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 1.11 cfs @ 1.36 fps)

Pond 3P: Bioretention Filter Cell 2



Summary for Pond 4P: CB-2

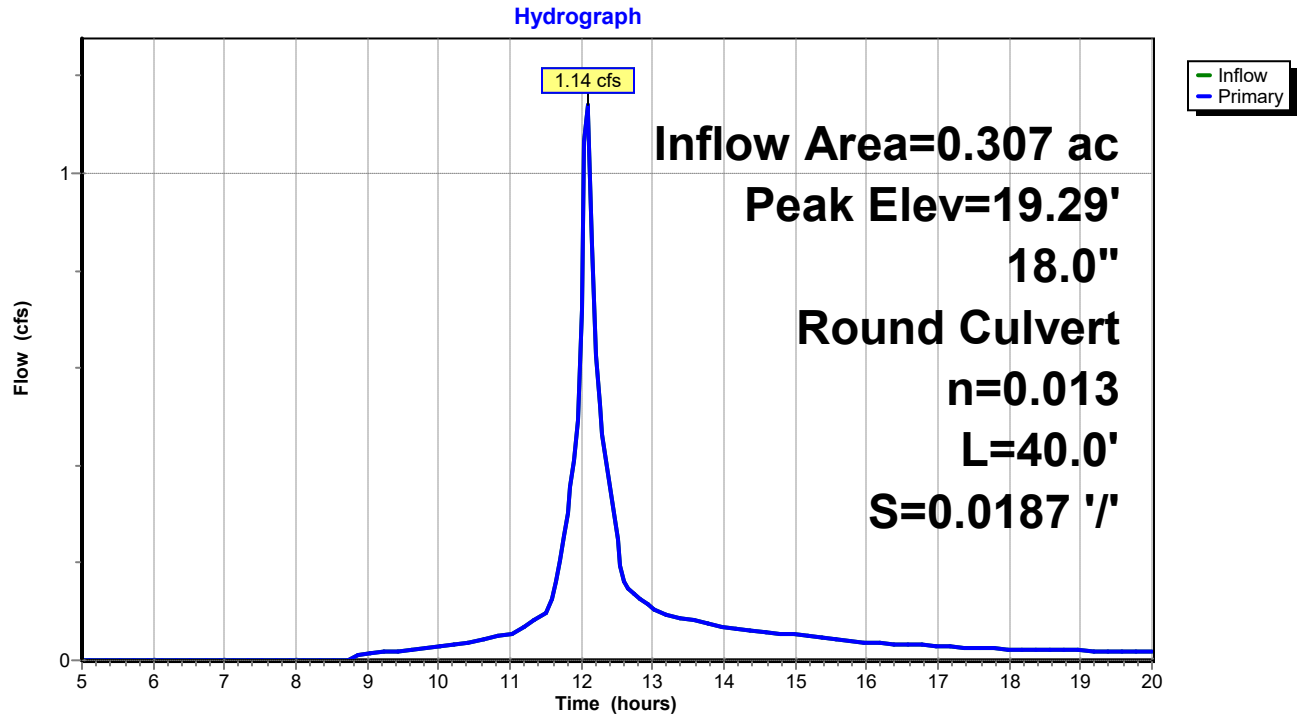
Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 2.95" for 10-yr event
Inflow = 1.14 cfs @ 12.08 hrs, Volume= 0.075 af
Outflow = 1.14 cfs @ 12.08 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.08 hrs, Volume= 0.075 af
Routed to Pond 5P : Level Lip Speader

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 19.29' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**18.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.75' / 18.00' S= 0.0187 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.11 cfs @ 12.08 hrs HW=19.28' (Free Discharge)
1=Culvert (Inlet Controls 1.11 cfs @ 1.96 fps)

Pond 4P: CB-2



Summary for Pond 5P: Level Lip Speader

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 2.95" for 10-yr event
Inflow = 1.14 cfs @ 12.08 hrs, Volume= 0.075 af
Outflow = 1.10 cfs @ 12.11 hrs, Volume= 0.073 af, Atten= 4%, Lag= 1.4 min
Primary = 1.10 cfs @ 12.11 hrs, Volume= 0.073 af
Routed to Reach 2R : Reach 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.00' @ 10.30 hrs Surf.Area= 168 sf Storage= 115 cf
Flood Elev= 20.00' Surf.Area= 168 sf Storage= 115 cf

Plug-Flow detention time= 21.7 min calculated for 0.072 af (96% of inflow)
Center-of-Mass det. time= 8.6 min (790.4 - 781.8)

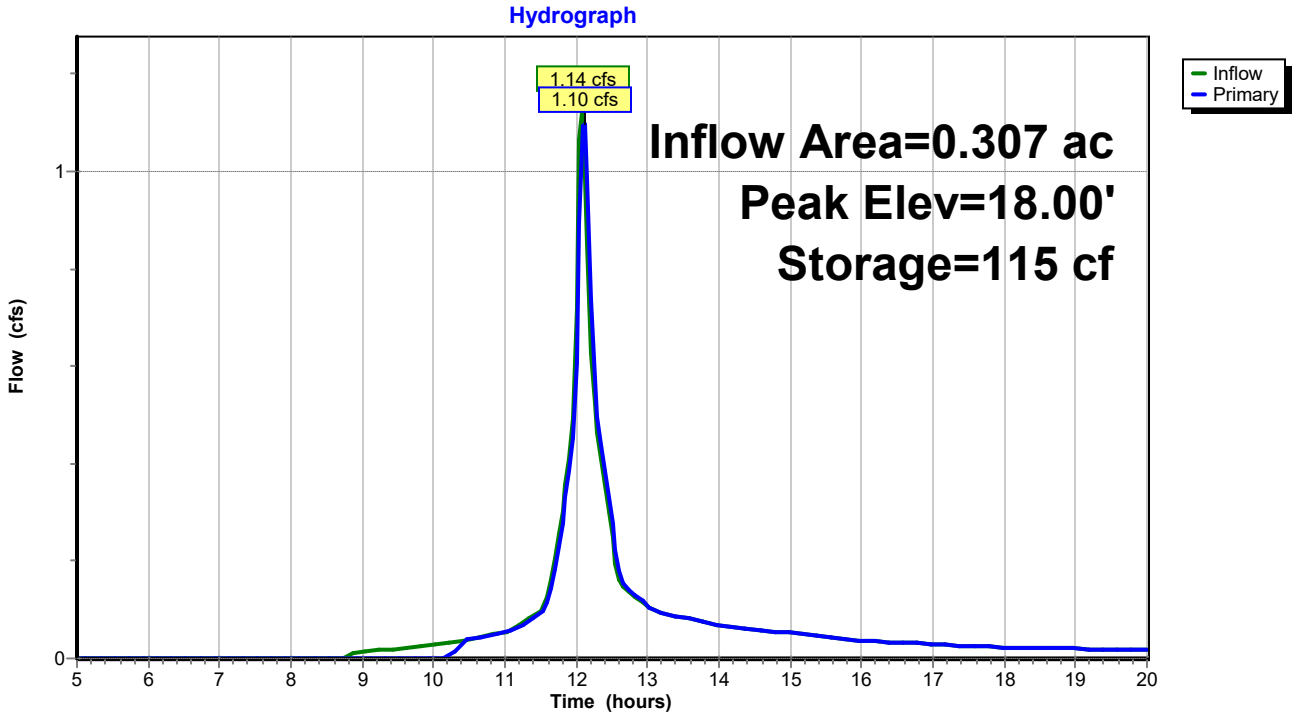
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	115 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	61	0.0	0	0
18.00	168	100.0	115	115

Device	Routing	Invert	Outlet Devices
#0	Primary	18.00'	**Automatic Storage Overflow** (Discharged without head)

Primary OutFlow Max=0.00 cfs @ 12.11 hrs HW=18.00' (Free Discharge)

Pond 5P: Level Lip Speader

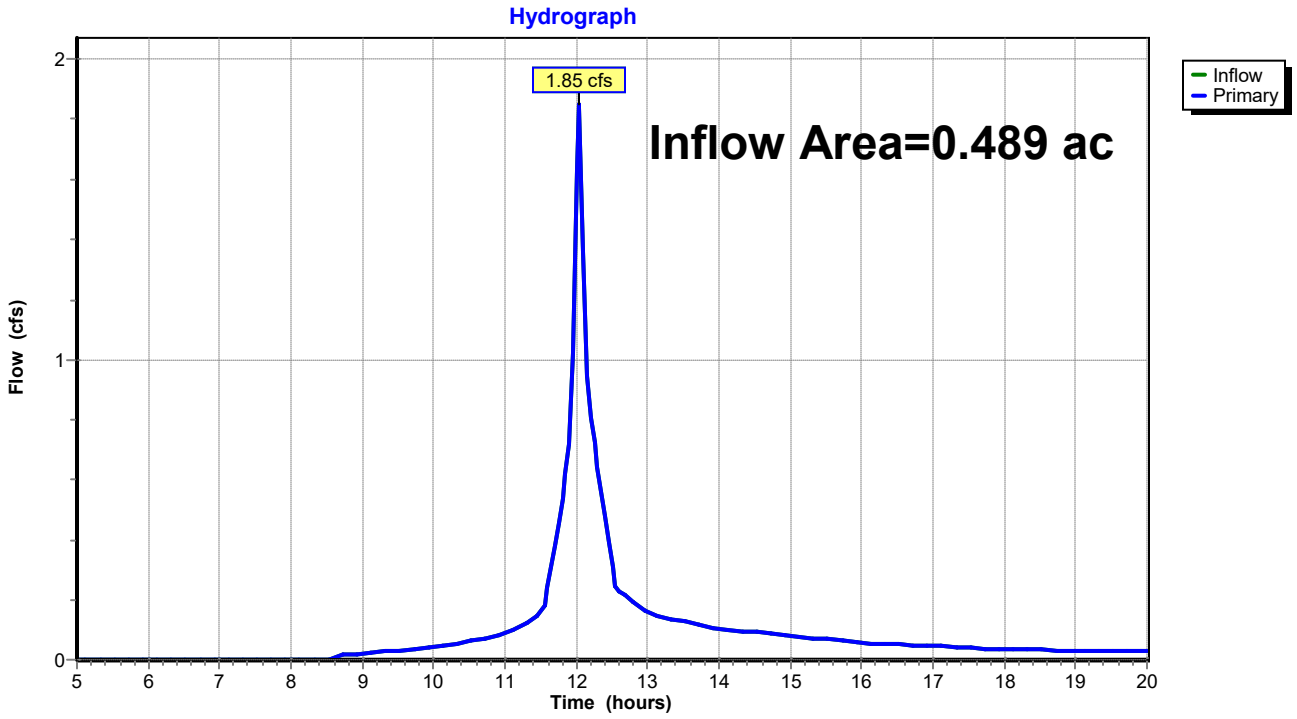


Summary for Link DP1: DP1

Inflow Area = 0.489 ac, 28.87% Impervious, Inflow Depth > 2.85" for 10-yr event
Inflow = 1.85 cfs @ 12.04 hrs, Volume= 0.116 af
Primary = 1.85 cfs @ 12.04 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP1: DP1

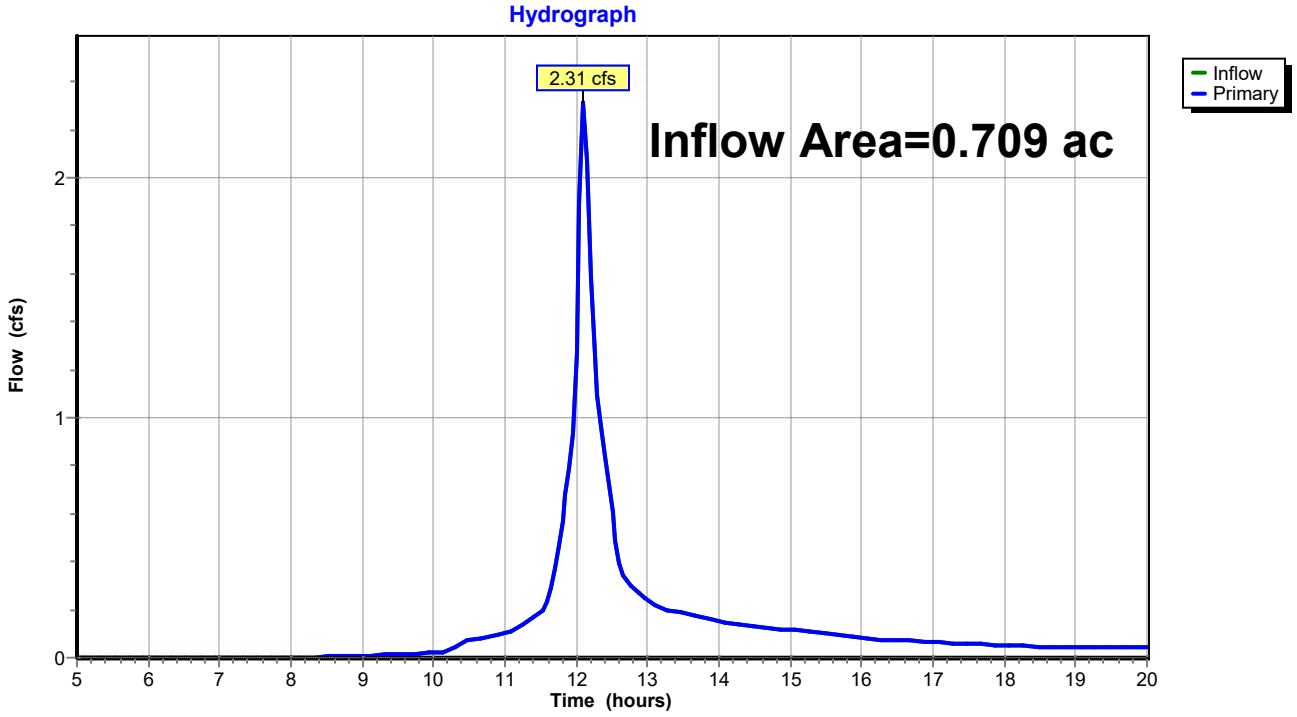


Summary for Link DP2: DP2

Inflow Area = 0.709 ac, 15.44% Impervious, Inflow Depth > 2.67" for 10-yr event
Inflow = 2.31 cfs @ 12.11 hrs, Volume= 0.158 af
Primary = 2.31 cfs @ 12.11 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP2: DP2



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 method - Pond routing by Stor-Ind method

Subcatchment 1S: Post Subcatchment 1 Runoff Area=9,832 sf 50.01% Impervious Runoff Depth>4.45"
Flow Length=172' Tc=0.8 min CN=87 Runoff=1.36 cfs 0.084 af

Subcatchment 2S: Post Subcatchment 2 Runoff Area=11,488 sf 10.78% Impervious Runoff Depth>3.62"
Flow Length=133' Tc=3.4 min CN=79 Runoff=1.28 cfs 0.080 af

Subcatchment 3S: Post Subcatchment 3 Runoff Area=13,365 sf 33.49% Impervious Runoff Depth>4.13"
Flow Length=262' Tc=4.9 min CN=84 Runoff=1.57 cfs 0.106 af

Subcatchment 4S: Post Subcatchment 4 Runoff Area=17,529 sf 1.68% Impervious Runoff Depth>3.61"
Flow Length=126' Tc=7.2 min CN=79 Runoff=1.72 cfs 0.121 af

Subcatchment 5S: Post Subcatchment 5 Runoff Area=59,179 sf 4.06% Impervious Runoff Depth>3.72"
Flow Length=445' Tc=7.0 min CN=80 Runoff=5.99 cfs 0.421 af

Reach 1R: Reach 1 Inflow=1.33 cfs 0.082 af
Outflow=1.33 cfs 0.082 af

Reach 2R: Reach 2 Inflow=1.50 cfs 0.102 af
Outflow=1.50 cfs 0.102 af

Reach DP3: Shoreline 3 Inflow=5.99 cfs 0.421 af
Outflow=5.99 cfs 0.421 af

Reach SP1: SACO RIVER / OCEAN Inflow=11.09 cfs 0.806 af
Outflow=11.09 cfs 0.806 af

Pond 1P: Bioretention Filter Cell 1 Peak Elev=18.20' Storage=101 cf Inflow=1.36 cfs 0.084 af
Outflow=1.33 cfs 0.082 af

Pond 2P: CB-1 Peak Elev=14.38' Inflow=1.33 cfs 0.082 af
15.0" Round Culvert n=0.013 L=48.0' S=0.0365 '/' Outflow=1.33 cfs 0.082 af

Pond 3P: Bioretention Filter Cell 2 Peak Elev=23.72' Storage=86 cf Inflow=1.57 cfs 0.106 af
Outflow=1.56 cfs 0.105 af

Pond 4P: CB-2 Peak Elev=19.39' Inflow=1.56 cfs 0.105 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0187 '/' Outflow=1.56 cfs 0.105 af

Pond 5P: Level Lip Speader Peak Elev=18.00' Storage=115 cf Inflow=1.56 cfs 0.105 af
Outflow=1.50 cfs 0.102 af

Link DP1: DP1 Inflow=2.54 cfs 0.162 af
Primary=2.54 cfs 0.162 af

Link DP2: DP2 Inflow=3.22 cfs 0.223 af
Primary=3.22 cfs 0.223 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.811 af Average Runoff Depth = 3.80"
88.04% Pervious = 2.251 ac 11.96% Impervious = 0.306 ac

Summary for Subcatchment 1S: Post Subcatchment 1

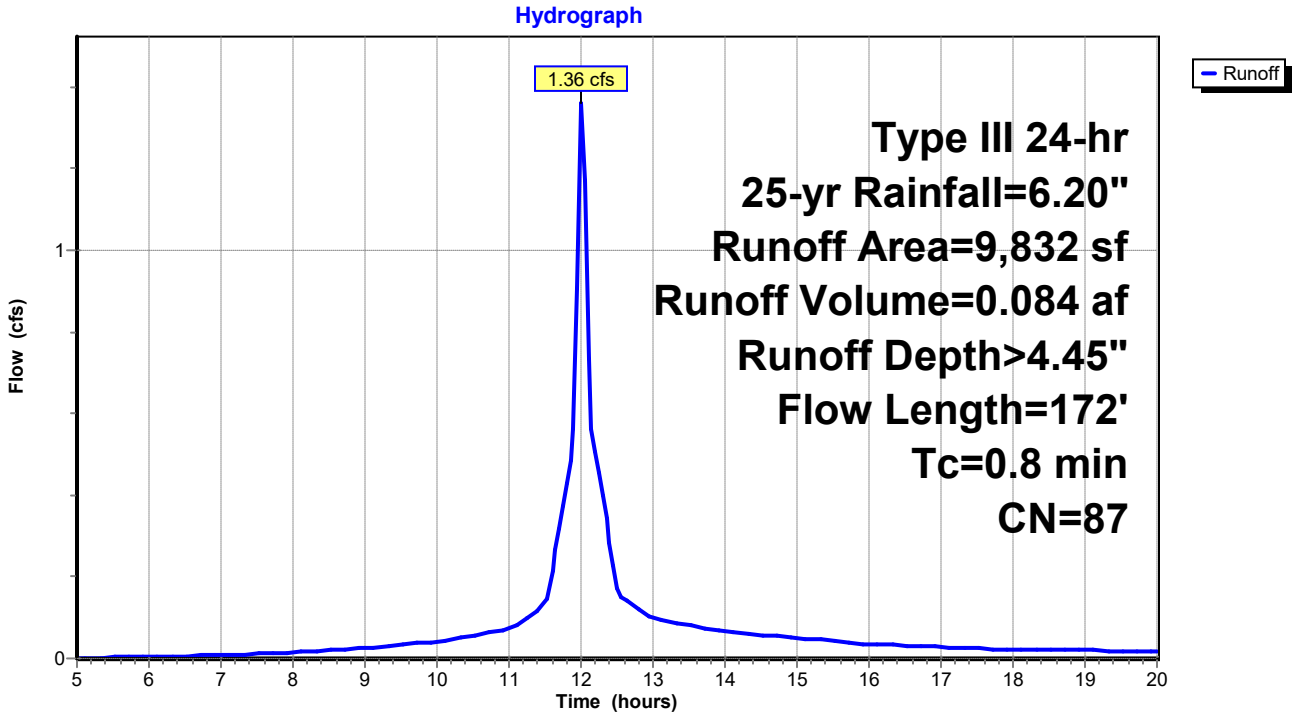
Runoff = 1.36 cfs @ 12.01 hrs, Volume= 0.084 af, Depth> 4.45"
Routed to Pond 1P : Bioretention Filter Cell 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

	Area (sf)	CN	Description
	3,430	77	Woods, Good, HSG D
*	982	98	Ledge, HSG D
	595	80	>75% Grass cover, Good, HSG D
*	3,935	98	Paved Access Drive, HSG D
*	890	73	Bioretention Filter Cell, Good, HSG D
	9,832	87	Weighted Average
	4,915		49.99% Pervious Area
	4,917		50.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0500	1.73		**Sheet Flow, Tc-1** Smooth surfaces n= 0.011 P2= 3.30"
0.3	102	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.1	24	0.0625	3.75		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
0.8	172	Total			

Subcatchment 1S: Post Subcatchment 1



Summary for Subcatchment 2S: Post Subcatchment 2

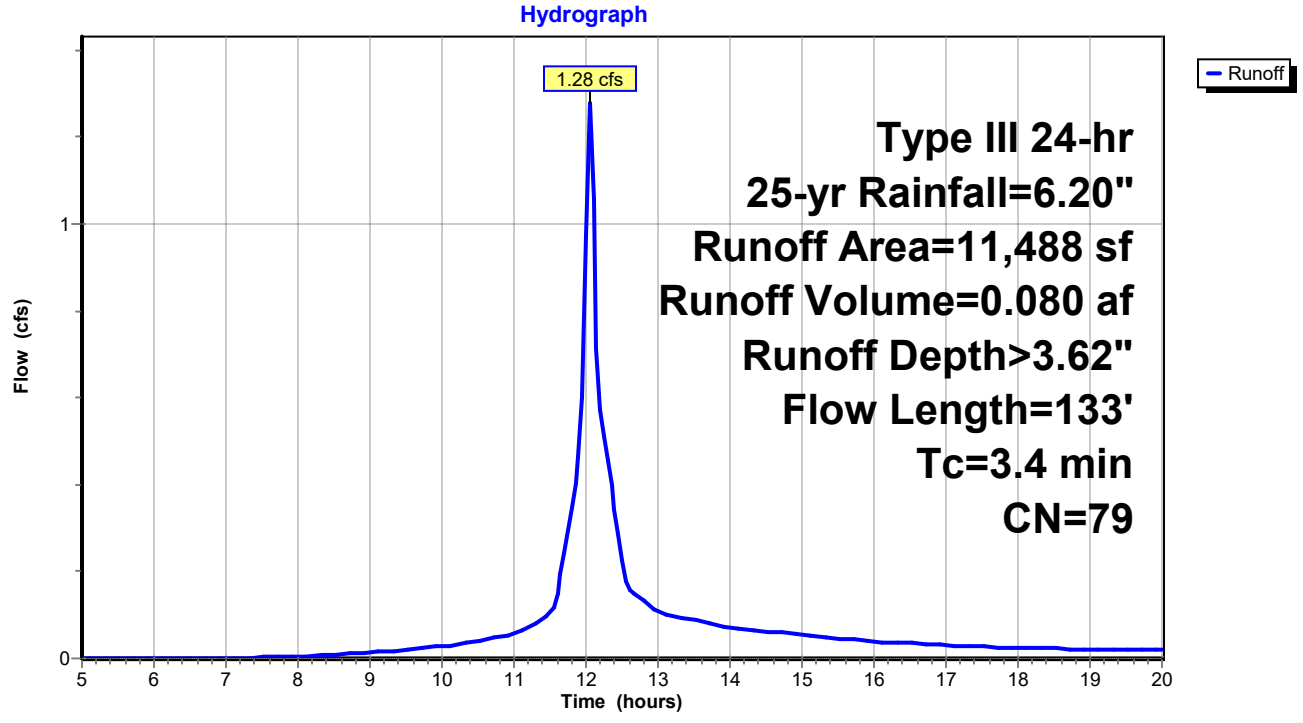
Runoff = 1.28 cfs @ 12.05 hrs, Volume= 0.080 af, Depth> 3.62"
Routed to Link DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

Area (sf)	CN	Description
10,250	77	Woods, Good, HSG D
1,238	98	Paved parking, HSG D
11,488	79	Weighted Average
10,250		89.22% Pervious Area
1,238		10.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	21	0.1905	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	112	0.1696	2.06		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
3.4	133	Total			

Subcatchment 2S: Post Subcatchment 2



Summary for Subcatchment 3S: Post Subcatchment 3

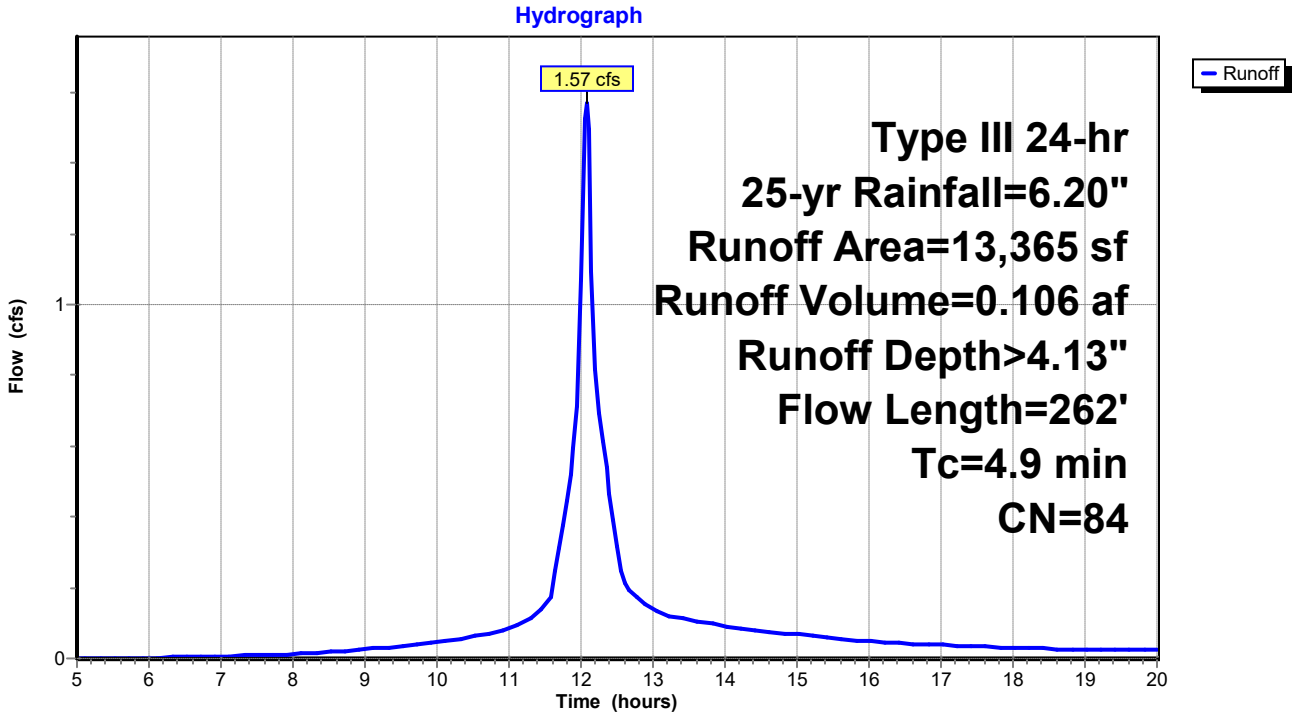
Runoff = 1.57 cfs @ 12.07 hrs, Volume= 0.106 af, Depth> 4.13"
Routed to Pond 3P : Bioretention Filter Cell 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

	Area (sf)	CN	Description
	6,822	77	Woods, Good, HSG D
*	580	73	Biofiltration cell, Good, HSG D
*	3,768	98	Paved access drive, HSG D
	1,487	80	>75% Grass cover, Good, HSG D
*	708	98	Ledge, HSG D
	13,365	84	Weighted Average
	8,889		66.51% Pervious Area
	4,476		33.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	43	0.2093	0.17		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.7	214	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.0	5	0.0500	3.35		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
4.9	262	Total			

Subcatchment 3S: Post Subcatchment 3



Summary for Subcatchment 4S: Post Subcatchment 4

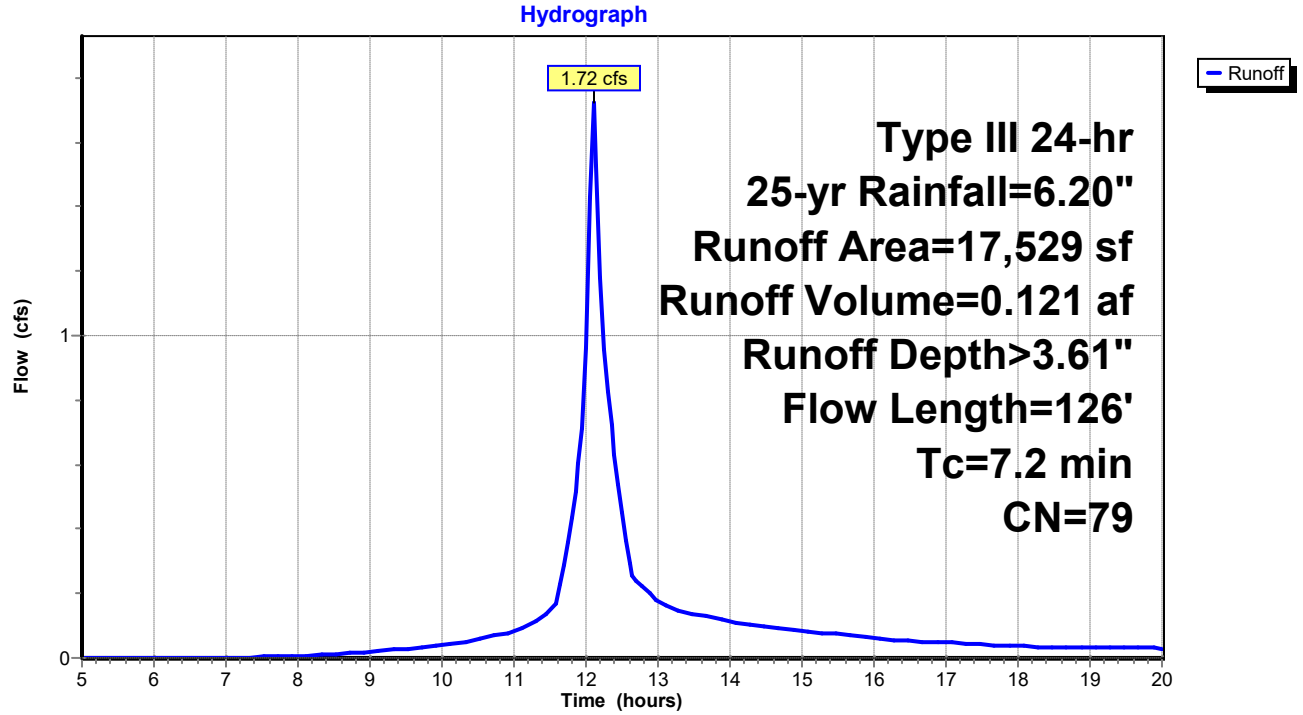
Runoff = 1.72 cfs @ 12.11 hrs, Volume= 0.121 af, Depth> 3.61"
Routed to Link DP2 : DP2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

	Area (sf)	CN	Description
*	295	98	Paved access drive, HSG D
	1,450	80	>75% Grass cover, Good, HSG D
	15,784	79	Woods, Fair, HSG D
	17,529	79	Weighted Average
	17,234		98.32% Pervious Area
	295		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	62	0.1290	0.15		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	64	0.2343	2.42		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
7.2	126	Total			

Subcatchment 4S: Post Subcatchment 4



Summary for Subcatchment 5S: Post Subcatchment 5

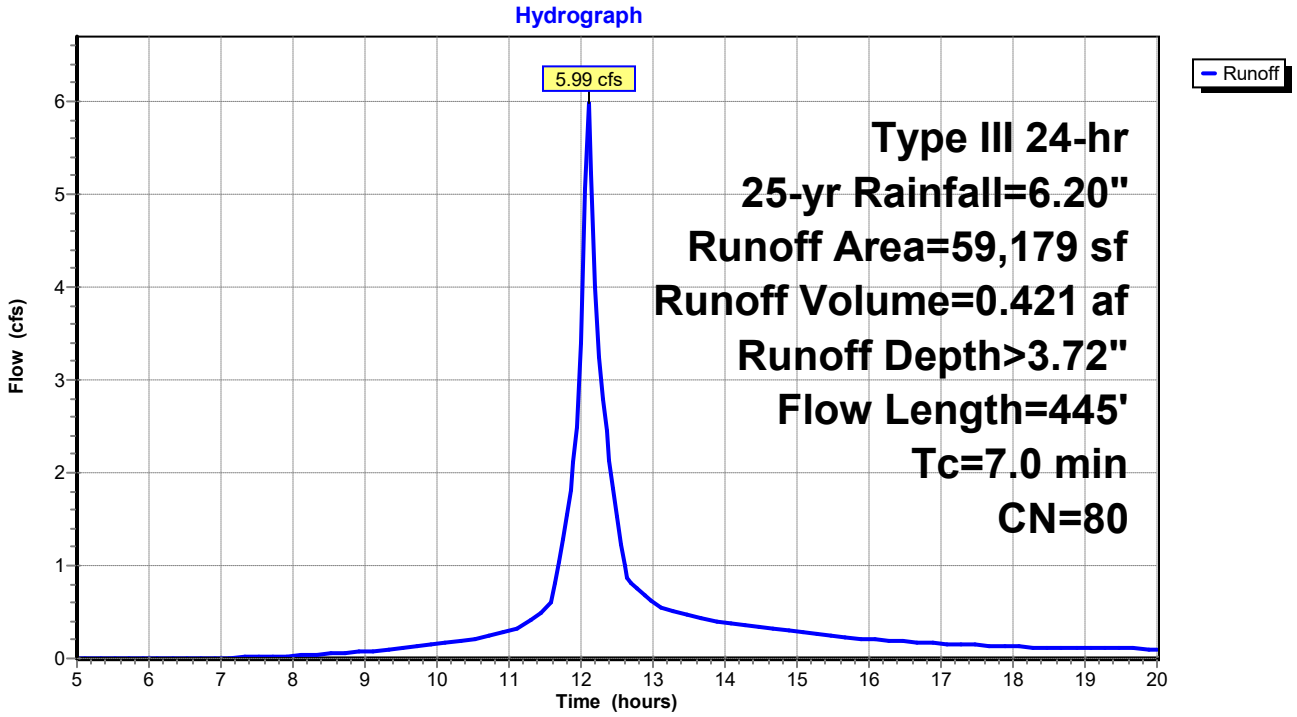
Runoff = 5.99 cfs @ 12.10 hrs, Volume= 0.421 af, Depth> 3.72"
Routed to Reach DP3 : Shoreline 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.20"

	Area (sf)	CN	Description
*	1,650	98	Paved acccess drive, HSG D
	751	98	Roofs, HSG D
*	6,955	88	Sand beach, HSG D
	3,872	96	Gravel surface, HSG D
	45,951	77	Woods, Good, HSG D
	59,179	80	Weighted Average
	56,778		95.94% Pervious Area
	2,401		4.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0574	1.20		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-5** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 5S: Post Subcatchment 5

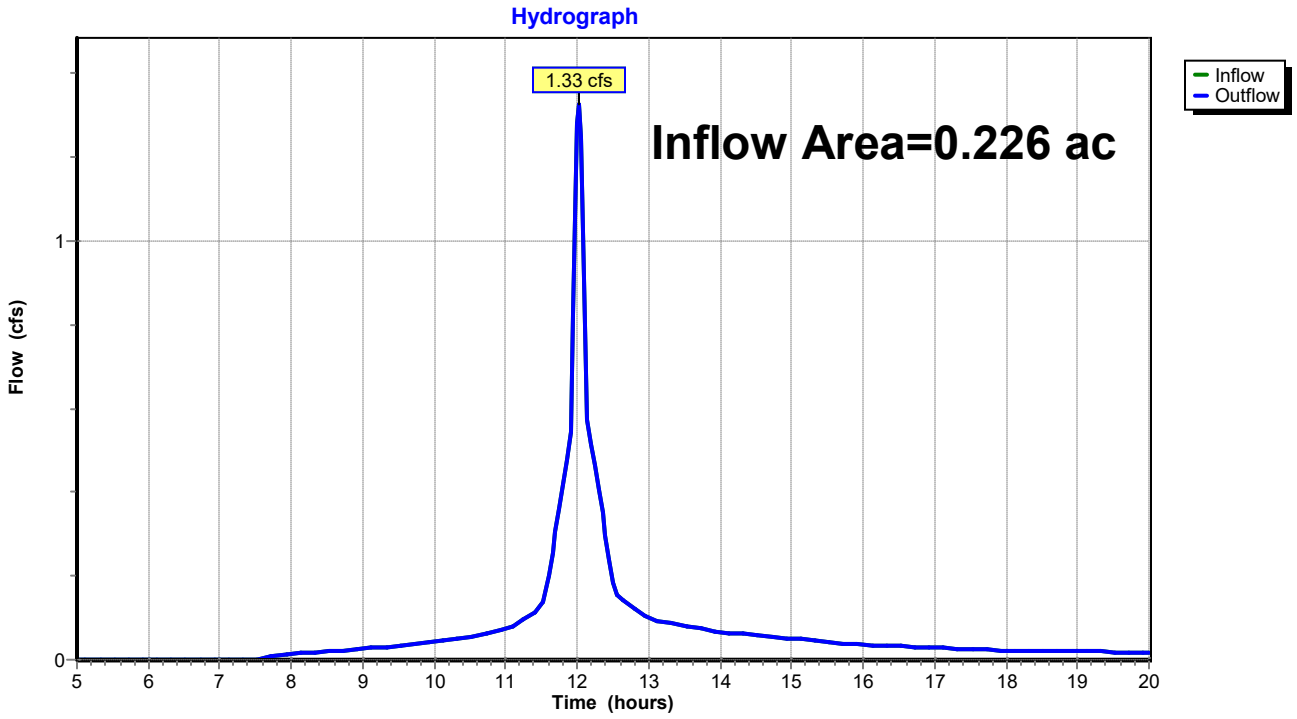


Summary for Reach 1R: Reach 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 4.39" for 25-yr event
Inflow = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af
Outflow = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP1 : DP1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Reach 1

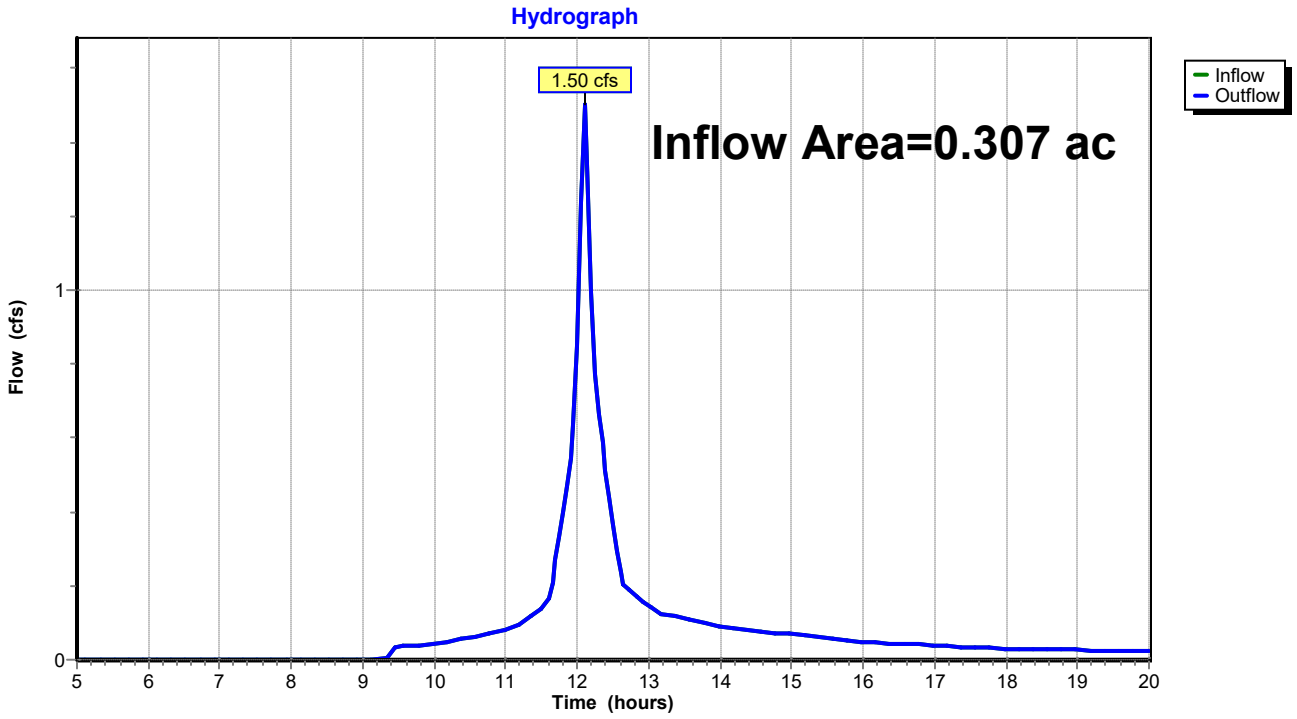


Summary for Reach 2R: Reach 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 3.99" for 25-yr event
Inflow = 1.50 cfs @ 12.11 hrs, Volume= 0.102 af
Outflow = 1.50 cfs @ 12.11 hrs, Volume= 0.102 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP2 : DP2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Reach 2

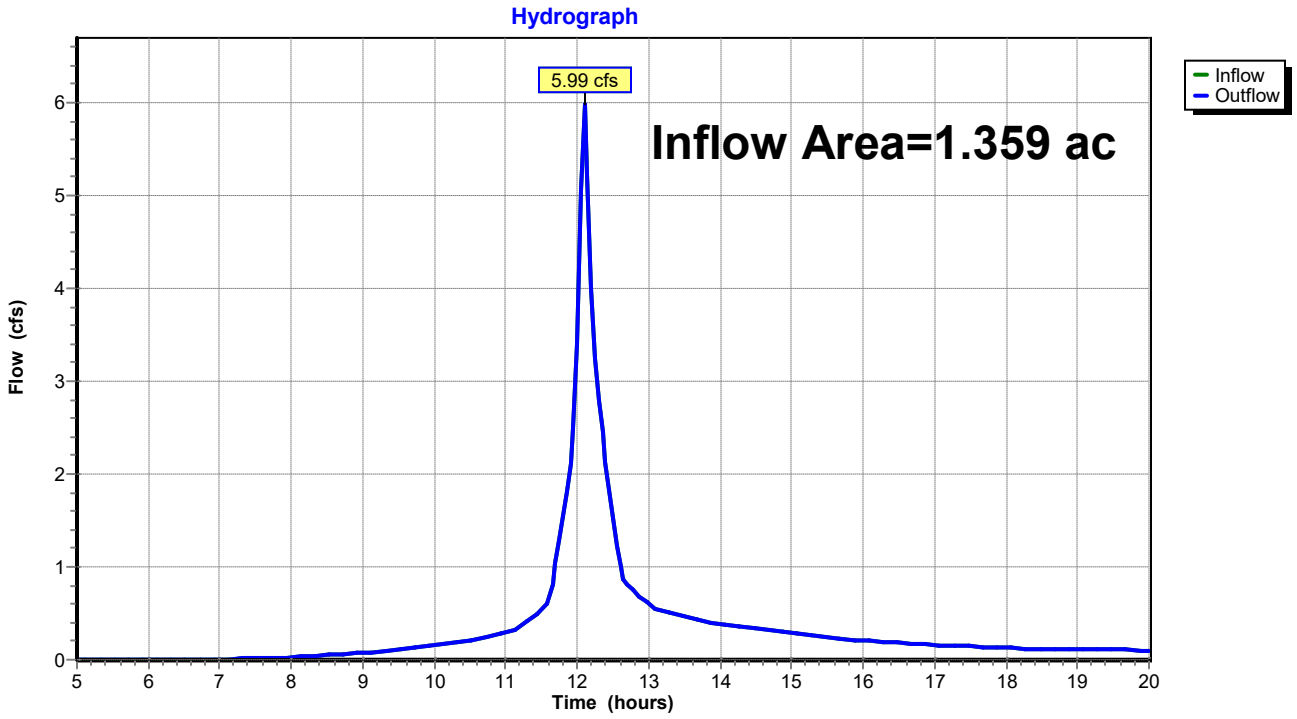


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.359 ac, 4.06% Impervious, Inflow Depth > 3.72" for 25-yr event
Inflow = 5.99 cfs @ 12.10 hrs, Volume= 0.421 af
Outflow = 5.99 cfs @ 12.10 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

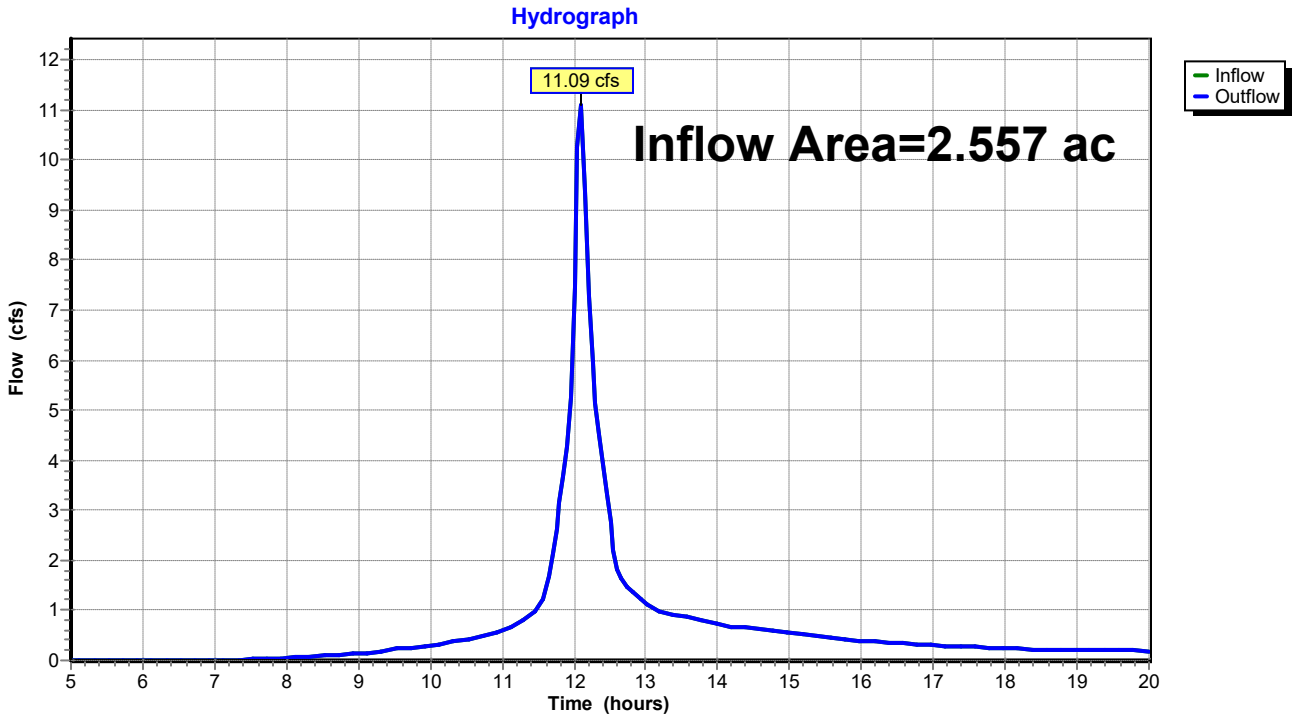


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 11.96% Impervious, Inflow Depth > 3.78" for 25-yr event
Inflow = 11.09 cfs @ 12.09 hrs, Volume= 0.806 af
Outflow = 11.09 cfs @ 12.09 hrs, Volume= 0.806 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Summary for Pond 1P: Bioretention Filter Cell 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 4.45" for 25-yr event
Inflow = 1.36 cfs @ 12.01 hrs, Volume= 0.084 af
Outflow = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af, Atten= 2%, Lag= 0.6 min
Primary = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af
Routed to Pond 2P : CB-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.20' @ 12.02 hrs Surf.Area= 275 sf Storage= 101 cf

Plug-Flow detention time= 12.6 min calculated for 0.082 af (98% of inflow)
Center-of-Mass det. time= 6.1 min (765.1 - 758.9)

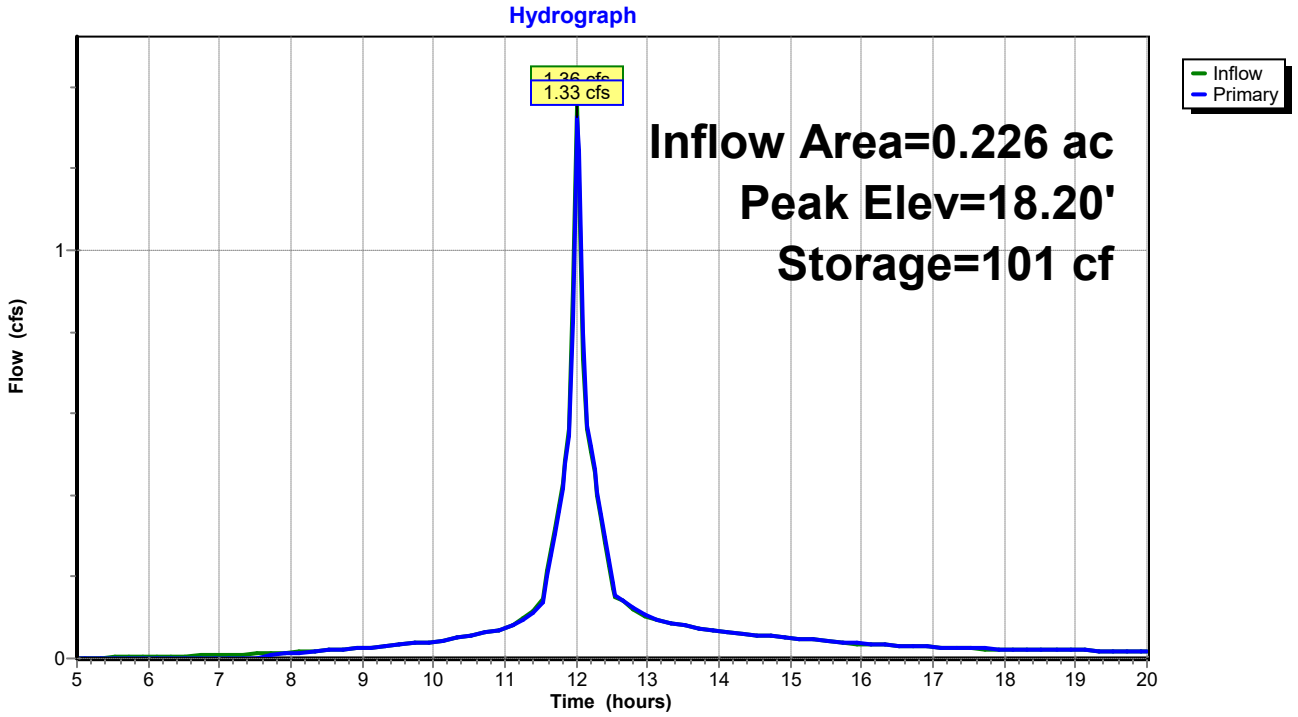
Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	0	0	0
18.00	213	53	53
18.50	372	146	200

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=1.27 cfs @ 12.02 hrs HW=18.19' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 1.27 cfs @ 1.42 fps)

Pond 1P: Bioretention Filter Cell 1



Summary for Pond 2P: CB-1

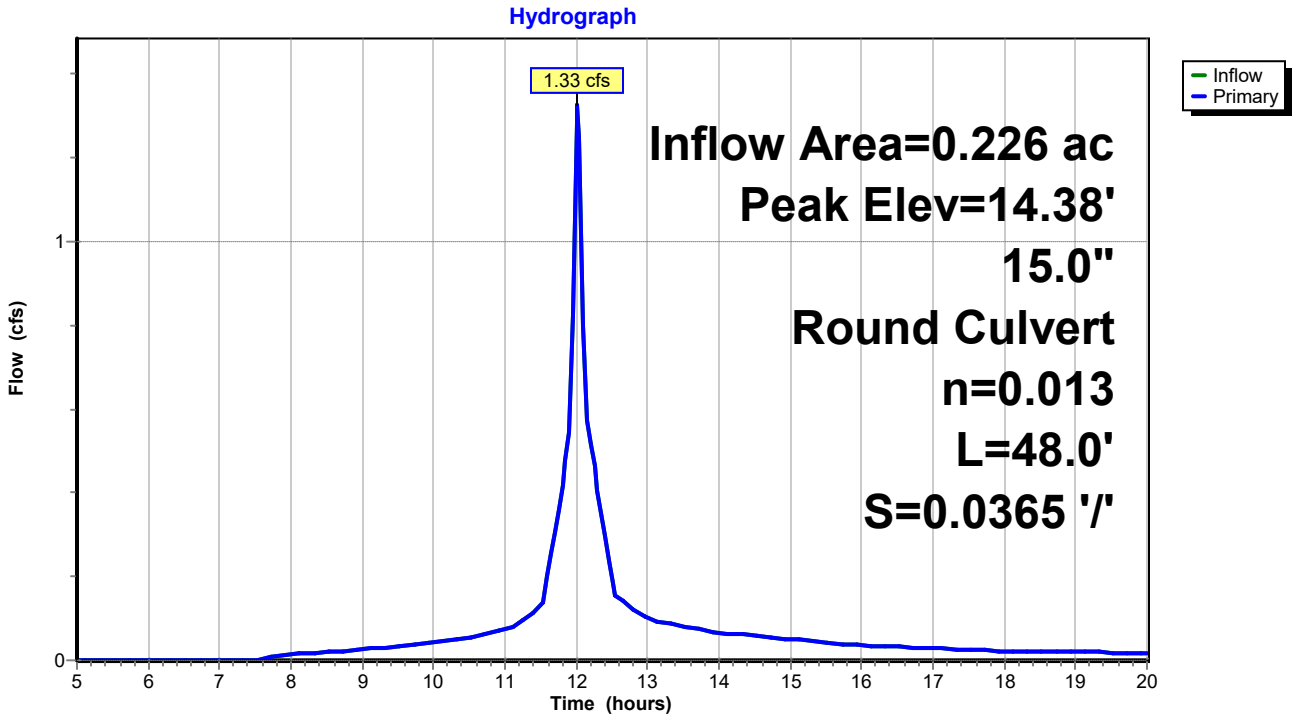
Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 4.39" for 25-yr event
Inflow = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af
Outflow = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.33 cfs @ 12.02 hrs, Volume= 0.082 af
Routed to Reach 1R : Reach 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 14.38' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.75'	**15.0" Round Culvert** L= 48.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.75' / 12.00' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.27 cfs @ 12.02 hrs HW=14.36' (Free Discharge)
1=Culvert (Inlet Controls 1.27 cfs @ 2.11 fps)

Pond 2P: CB-1



Summary for Pond 3P: Bioretention Filter Cell 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 4.13" for 25-yr event
Inflow = 1.57 cfs @ 12.07 hrs, Volume= 0.106 af
Outflow = 1.56 cfs @ 12.08 hrs, Volume= 0.105 af, Atten= 1%, Lag= 0.6 min
Primary = 1.56 cfs @ 12.08 hrs, Volume= 0.105 af
Routed to Pond 4P : CB-2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 23.72' @ 12.08 hrs Surf.Area= 240 sf Storage= 86 cf

Plug-Flow detention time= 7.6 min calculated for 0.104 af (99% of inflow)
Center-of-Mass det. time= 3.8 min (773.5 - 769.7)

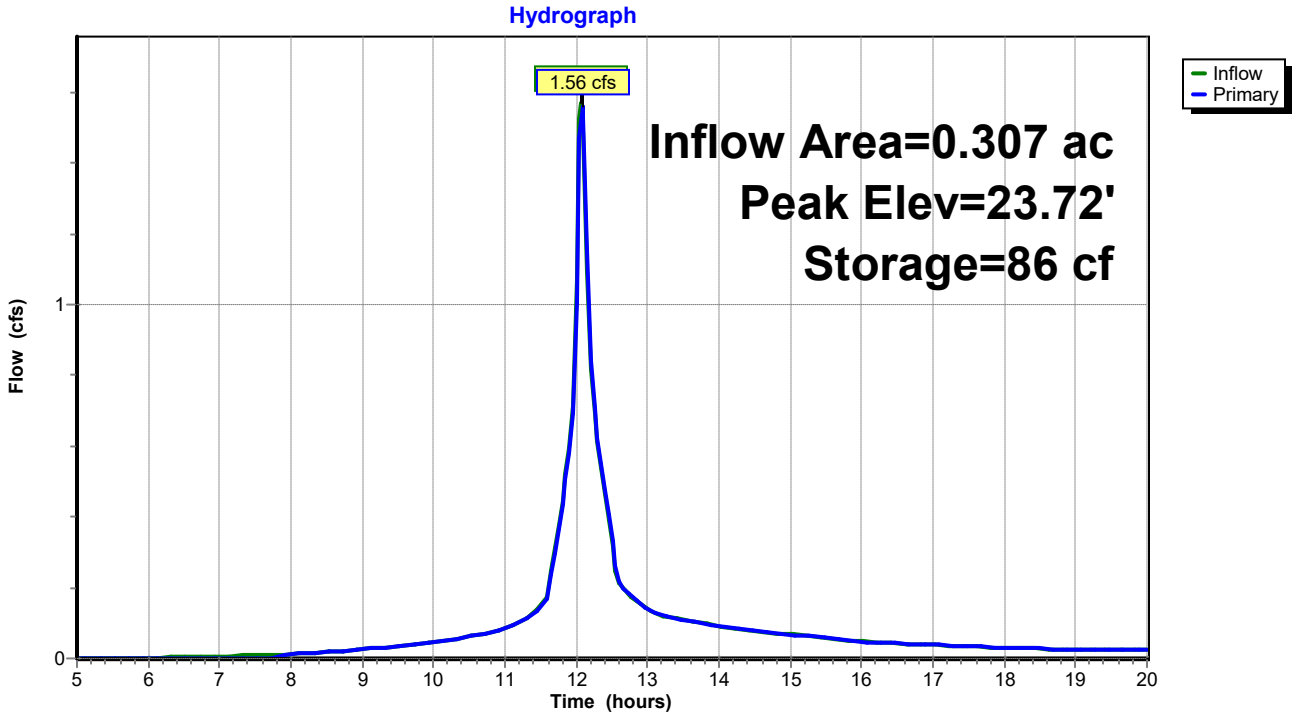
Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	380 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	0	0	0
24.00	335	168	168
24.50	515	213	380

Device	Routing	Invert	Outlet Devices
#1	Primary	23.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=1.51 cfs @ 12.08 hrs HW=23.71' (Free Discharge)
1=Orifice/Grate (Weir Controls 1.51 cfs @ 1.51 fps)

Pond 3P: Bioretention Filter Cell 2



Summary for Pond 4P: CB-2

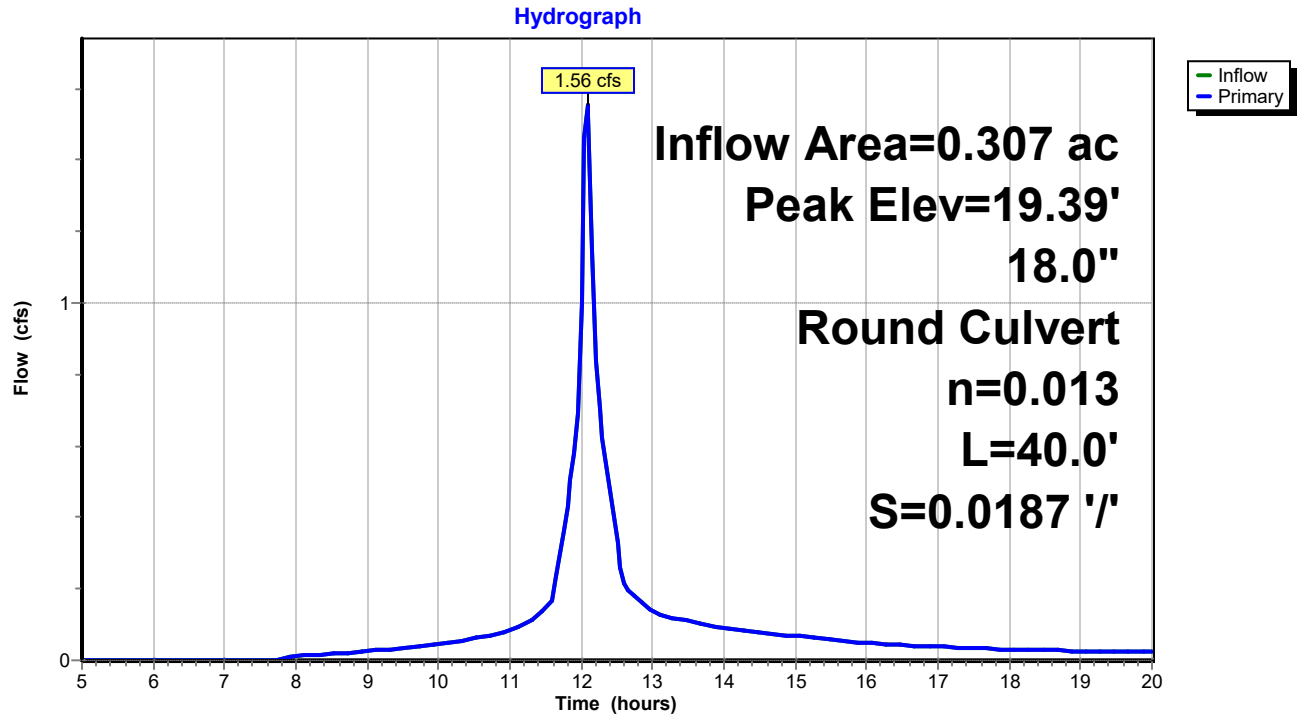
Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 4.09" for 25-yr event
Inflow = 1.56 cfs @ 12.08 hrs, Volume= 0.105 af
Outflow = 1.56 cfs @ 12.08 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
Primary = 1.56 cfs @ 12.08 hrs, Volume= 0.105 af
Routed to Pond 5P : Level Lip Speader

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 19.39' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**18.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.75' / 18.00' S= 0.0187 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.51 cfs @ 12.08 hrs HW=19.38' (Free Discharge)
1=Culvert (Inlet Controls 1.51 cfs @ 2.13 fps)

Pond 4P: CB-2



Summary for Pond 5P: Level Lip Speader

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 4.09" for 25-yr event
Inflow = 1.56 cfs @ 12.08 hrs, Volume= 0.105 af
Outflow = 1.50 cfs @ 12.11 hrs, Volume= 0.102 af, Atten= 4%, Lag= 1.4 min
Primary = 1.50 cfs @ 12.11 hrs, Volume= 0.102 af
Routed to Reach 2R : Reach 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.00' @ 9.40 hrs Surf.Area= 168 sf Storage= 115 cf
Flood Elev= 20.00' Surf.Area= 168 sf Storage= 115 cf

Plug-Flow detention time= 17.8 min calculated for 0.102 af (97% of inflow)
Center-of-Mass det. time= 7.7 min (781.2 - 773.5)

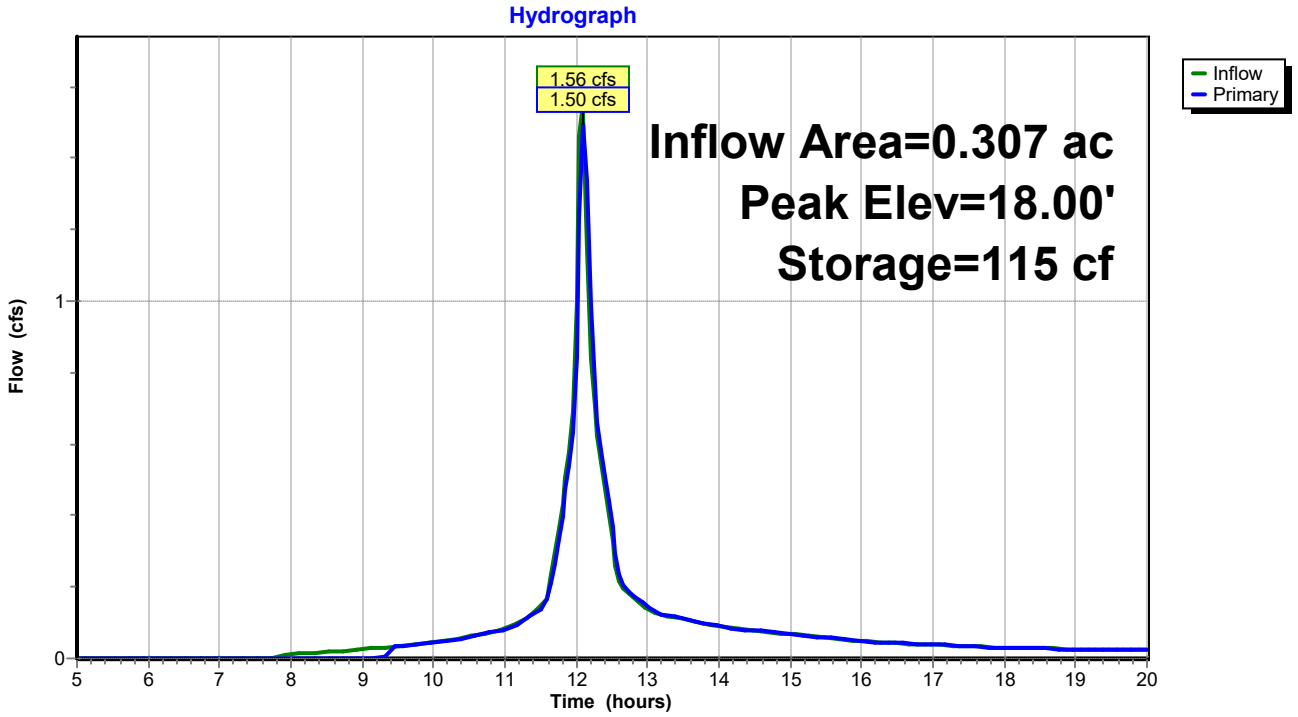
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	115 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	61	0.0	0	0
18.00	168	100.0	115	115

Device	Routing	Invert	Outlet Devices
#0	Primary	18.00'	**Automatic Storage Overflow** (Discharged without head)

Primary OutFlow Max=0.00 cfs @ 12.11 hrs HW=18.00' (Free Discharge)

Pond 5P: Level Lip Speader

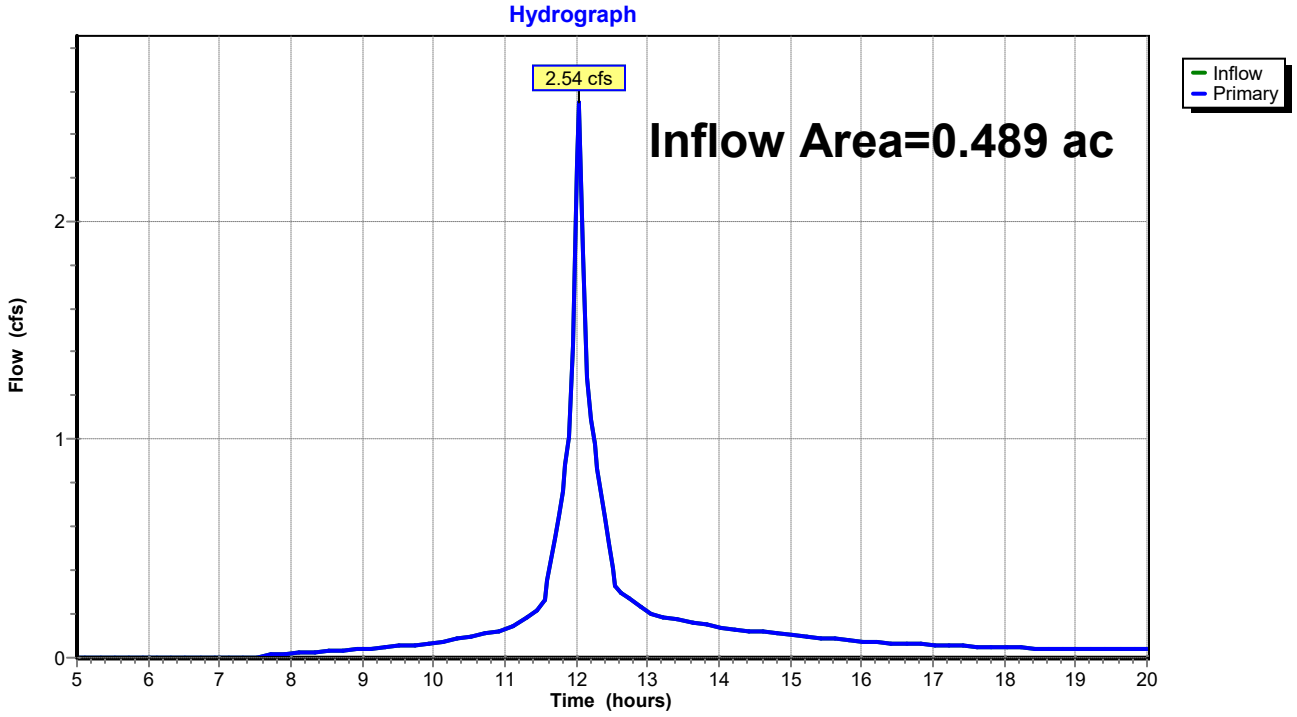


Summary for Link DP1: DP1

Inflow Area = 0.489 ac, 28.87% Impervious, Inflow Depth > 3.97" for 25-yr event
Inflow = 2.54 cfs @ 12.04 hrs, Volume= 0.162 af
Primary = 2.54 cfs @ 12.04 hrs, Volume= 0.162 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP1: DP1

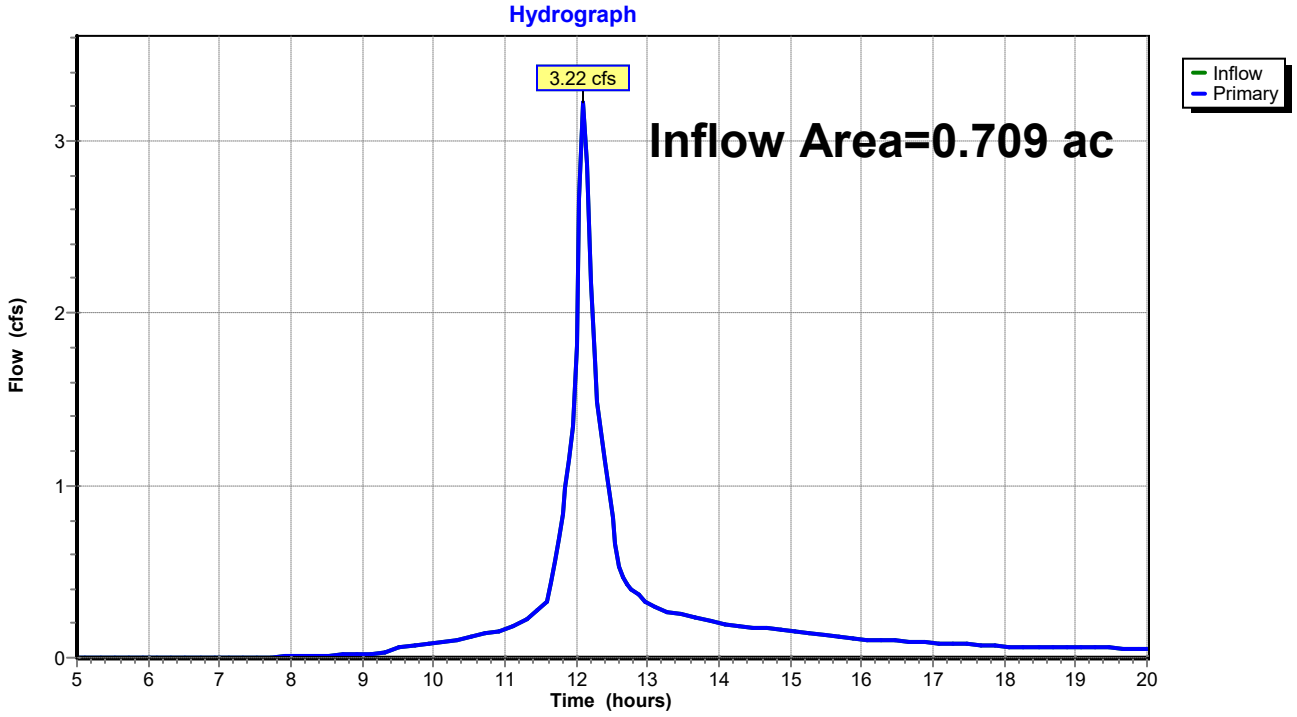


Summary for Link DP2: DP2

Inflow Area = 0.709 ac, 15.44% Impervious, Inflow Depth > 3.77" for 25-yr event
Inflow = 3.22 cfs @ 12.11 hrs, Volume= 0.223 af
Primary = 3.22 cfs @ 12.11 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP2: DP2



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 method - Pond routing by Stor-Ind method

Subcatchment 1S: Post Subcatchment 1 Runoff Area=9,832 sf 50.01% Impervious Runoff Depth>6.75"
Flow Length=172' Tc=0.8 min CN=87 Runoff=2.01 cfs 0.127 af

Subcatchment 2S: Post Subcatchment 2 Runoff Area=11,488 sf 10.78% Impervious Runoff Depth>5.81"
Flow Length=133' Tc=3.4 min CN=79 Runoff=2.01 cfs 0.128 af

Subcatchment 3S: Post Subcatchment 3 Runoff Area=13,365 sf 33.49% Impervious Runoff Depth>6.40"
Flow Length=262' Tc=4.9 min CN=84 Runoff=2.37 cfs 0.164 af

Subcatchment 4S: Post Subcatchment 4 Runoff Area=17,529 sf 1.68% Impervious Runoff Depth>5.80"
Flow Length=126' Tc=7.2 min CN=79 Runoff=2.71 cfs 0.195 af

Subcatchment 5S: Post Subcatchment 5 Runoff Area=59,179 sf 4.06% Impervious Runoff Depth>5.92"
Flow Length=445' Tc=7.0 min CN=80 Runoff=9.35 cfs 0.670 af

Reach 1R: Reach 1 Inflow=1.97 cfs 0.126 af
Outflow=1.97 cfs 0.126 af

Reach 2R: Reach 2 Inflow=2.27 cfs 0.160 af
Outflow=2.27 cfs 0.160 af

Reach DP3: Shoreline 3 Inflow=9.35 cfs 0.670 af
Outflow=9.35 cfs 0.670 af

Reach SP1: SACO RIVER / OCEAN Inflow=17.21 cfs 1.278 af
Outflow=17.21 cfs 1.278 af

Pond 1P: Bioretention Filter Cell 1 Peak Elev=18.25' Storage=118 cf Inflow=2.01 cfs 0.127 af
Outflow=1.97 cfs 0.126 af

Pond 2P: CB-1 Peak Elev=14.54' Inflow=1.97 cfs 0.126 af
15.0" Round Culvert n=0.013 L=48.0' S=0.0365 '/' Outflow=1.97 cfs 0.126 af

Pond 3P: Bioretention Filter Cell 2 Peak Elev=23.79' Storage=103 cf Inflow=2.37 cfs 0.164 af
Outflow=2.35 cfs 0.163 af

Pond 4P: CB-2 Peak Elev=19.56' Inflow=2.35 cfs 0.163 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0187 '/' Outflow=2.35 cfs 0.163 af

Pond 5P: Level Lip Speader Peak Elev=18.00' Storage=115 cf Inflow=2.35 cfs 0.163 af
Outflow=2.27 cfs 0.160 af

Link DP1: DP1 Inflow=3.88 cfs 0.253 af
Primary=3.88 cfs 0.253 af

Link DP2: DP2 Inflow=4.98 cfs 0.354 af
Primary=4.98 cfs 0.354 af

Total Runoff Area = 2.557 ac Runoff Volume = 1.283 af Average Runoff Depth = 6.02"
88.04% Pervious = 2.251 ac 11.96% Impervious = 0.306 ac

Summary for Subcatchment 1S: Post Subcatchment 1

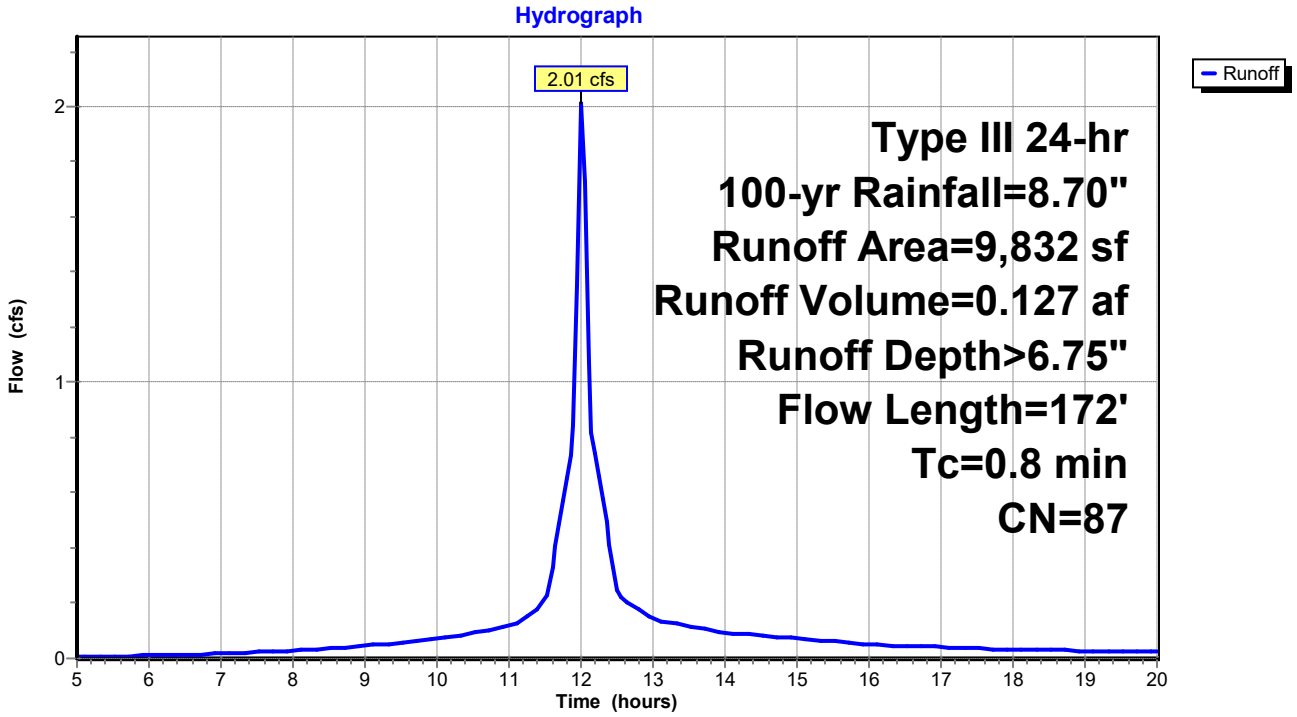
Runoff = 2.01 cfs @ 12.01 hrs, Volume= 0.127 af, Depth> 6.75"
Routed to Pond 1P : Bioretention Filter Cell 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.70"

	Area (sf)	CN	Description
	3,430	77	Woods, Good, HSG D
*	982	98	Ledge, HSG D
	595	80	>75% Grass cover, Good, HSG D
*	3,935	98	Paved Access Drive, HSG D
*	890	73	Bioretention Filter Cell, Good, HSG D
	9,832	87	Weighted Average
	4,915		49.99% Pervious Area
	4,917		50.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0500	1.73		**Sheet Flow, Tc-1** Smooth surfaces n= 0.011 P2= 3.30"
0.3	102	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.1	24	0.0625	3.75		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
0.8	172	Total			

Subcatchment 1S: Post Subcatchment 1



Summary for Subcatchment 2S: Post Subcatchment 2

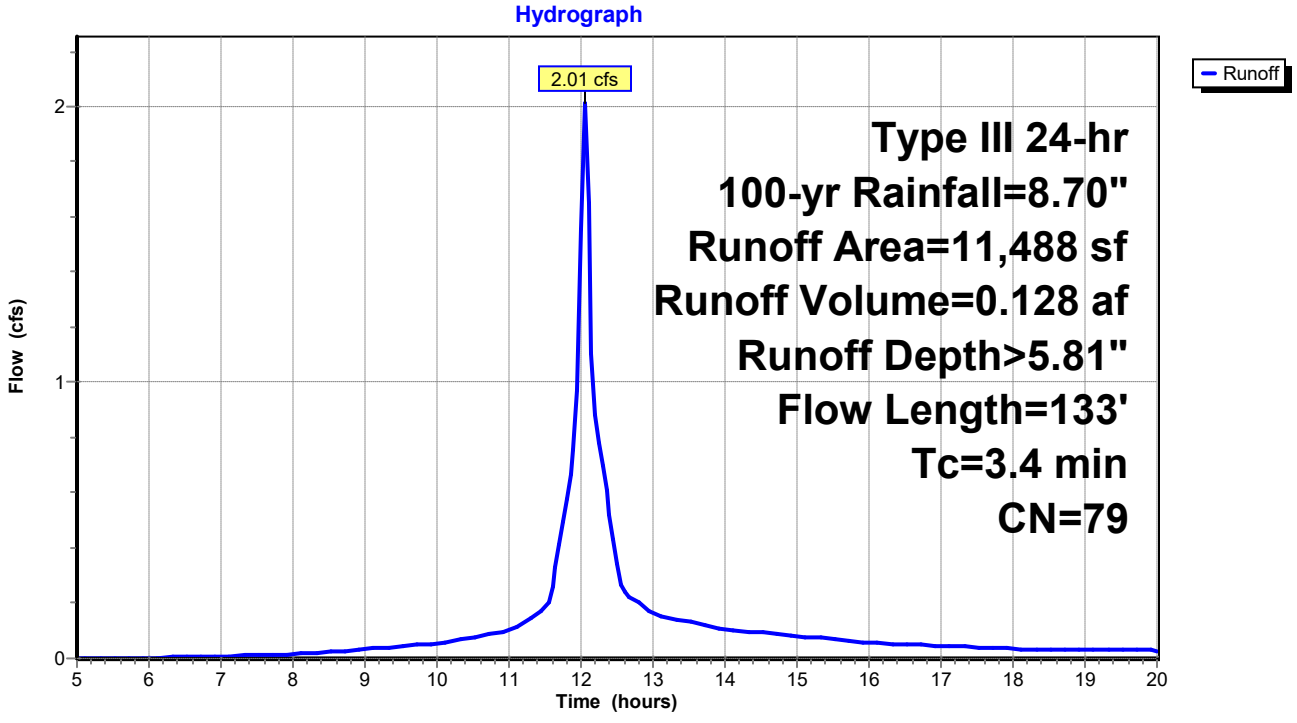
Runoff = 2.01 cfs @ 12.05 hrs, Volume= 0.128 af, Depth> 5.81"
Routed to Link DP1 : DP1

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 100-yr Rainfall=8.70"

Area (sf)	CN	Description
10,250	77	Woods, Good, HSG D
1,238	98	Paved parking, HSG D
11,488	79	Weighted Average
10,250		89.22% Pervious Area
1,238		10.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	21	0.1905	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	112	0.1696	2.06		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
3.4	133	Total			

Subcatchment 2S: Post Subcatchment 2



Summary for Subcatchment 3S: Post Subcatchment 3

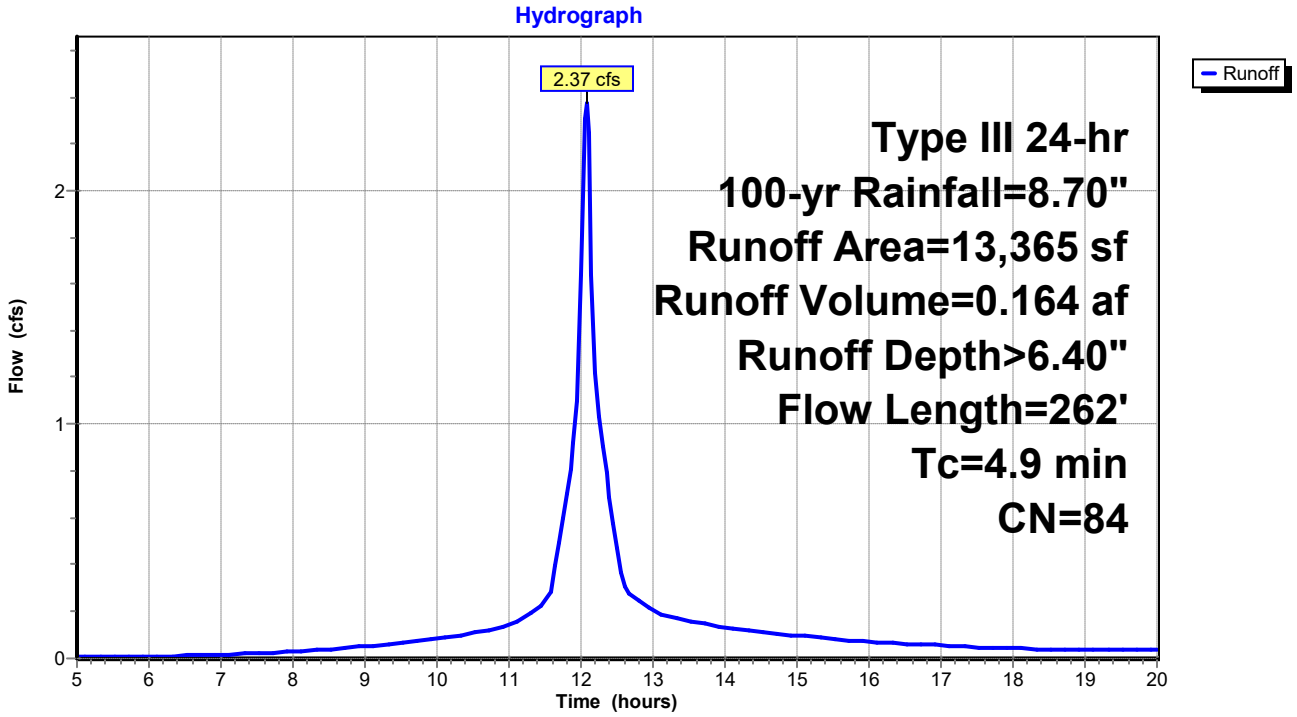
Runoff = 2.37 cfs @ 12.07 hrs, Volume= 0.164 af, Depth> 6.40"
Routed to Pond 3P : Bioretention Filter Cell 2

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 100-yr Rainfall=8.70"

	Area (sf)	CN	Description
	6,822	77	Woods, Good, HSG D
*	580	73	Biofiltration cell, Good, HSG D
*	3,768	98	Paved access drive, HSG D
	1,487	80	>75% Grass cover, Good, HSG D
*	708	98	Ledge, HSG D
	13,365	84	Weighted Average
	8,889		66.51% Pervious Area
	4,476		33.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	43	0.2093	0.17		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.7	214	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.0	5	0.0500	3.35		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
4.9	262	Total			

Subcatchment 3S: Post Subcatchment 3



Summary for Subcatchment 4S: Post Subcatchment 4

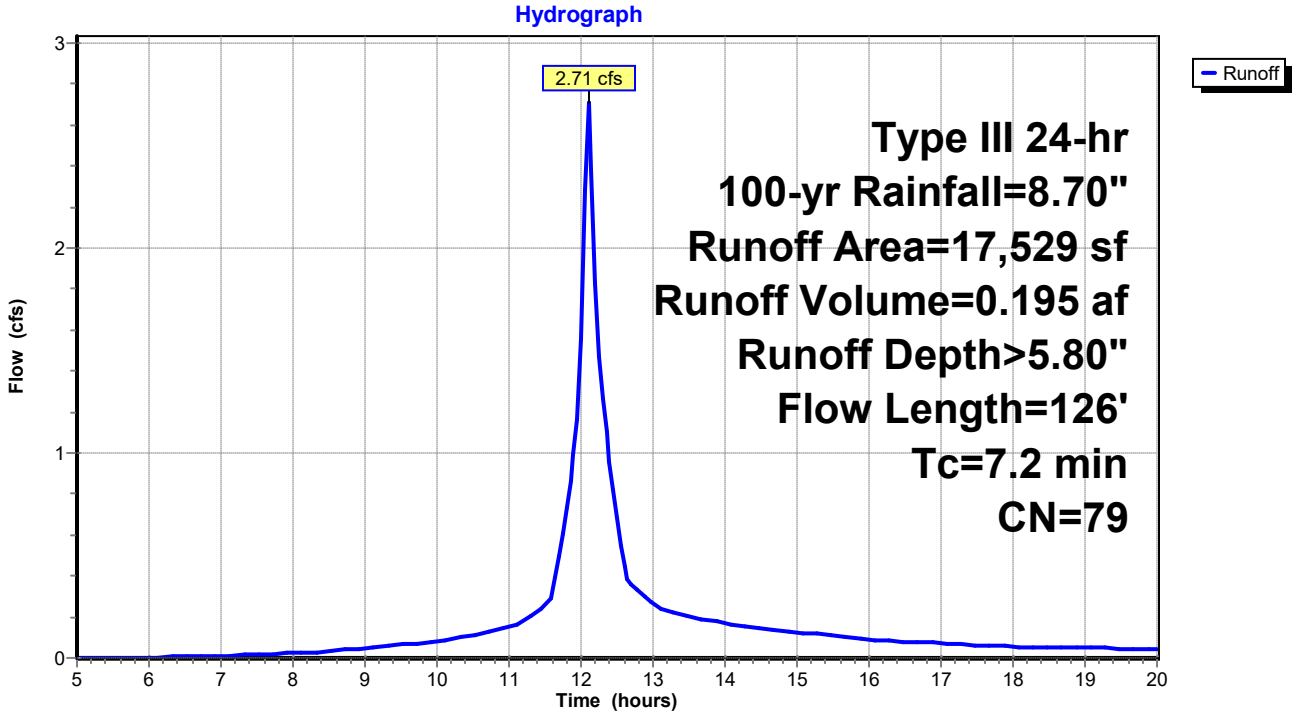
Runoff = 2.71 cfs @ 12.10 hrs, Volume= 0.195 af, Depth> 5.80"
Routed to Link DP2 : DP2

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 100-yr Rainfall=8.70"

	Area (sf)	CN	Description
*	295	98	Paved access drive, HSG D
	1,450	80	>75% Grass cover, Good, HSG D
	15,784	79	Woods, Fair, HSG D
	17,529	79	Weighted Average
	17,234		98.32% Pervious Area
	295		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	62	0.1290	0.15		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	64	0.2343	2.42		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
7.2	126	Total			

Subcatchment 4S: Post Subcatchment 4



Summary for Subcatchment 5S: Post Subcatchment 5

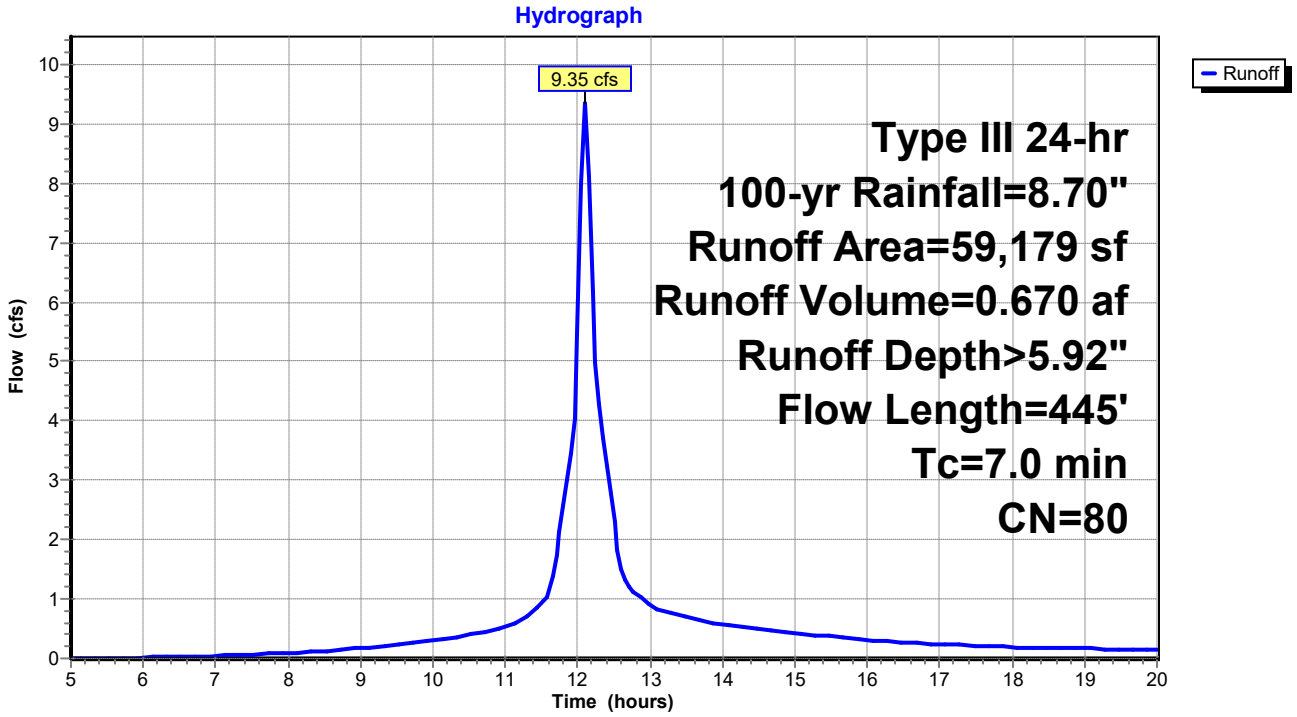
Runoff = 9.35 cfs @ 12.10 hrs, Volume= 0.670 af, Depth> 5.92"
Routed to Reach DP3 : Shoreline 3

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 100-yr Rainfall=8.70"

	Area (sf)	CN	Description
*	1,650	98	Paved acccess drive, HSG D
	751	98	Roofs, HSG D
*	6,955	88	Sand beach, HSG D
	3,872	96	Gravel surface, HSG D
	45,951	77	Woods, Good, HSG D
	59,179	80	Weighted Average
	56,778		95.94% Pervious Area
	2,401		4.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0574	1.20		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-5** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 5S: Post Subcatchment 5

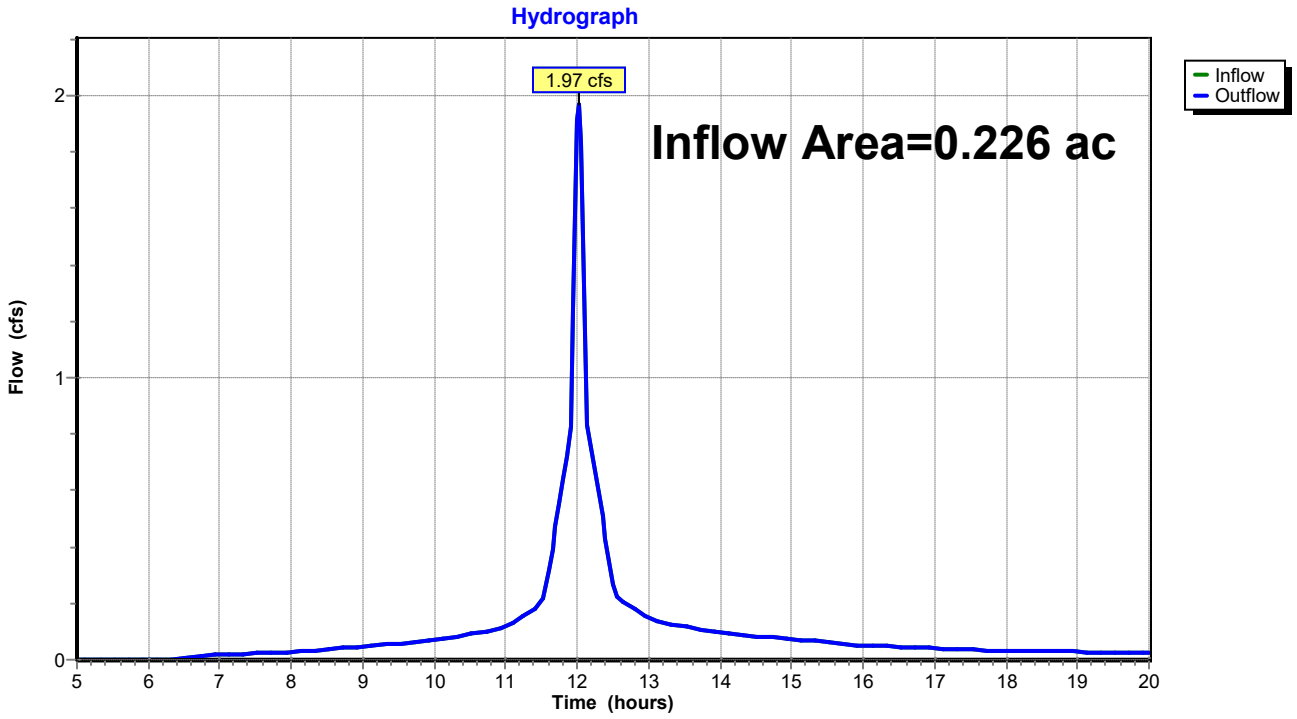


Summary for Reach 1R: Reach 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 6.68" for 100-yr event
Inflow = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af
Outflow = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP1 : DP1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Reach 1

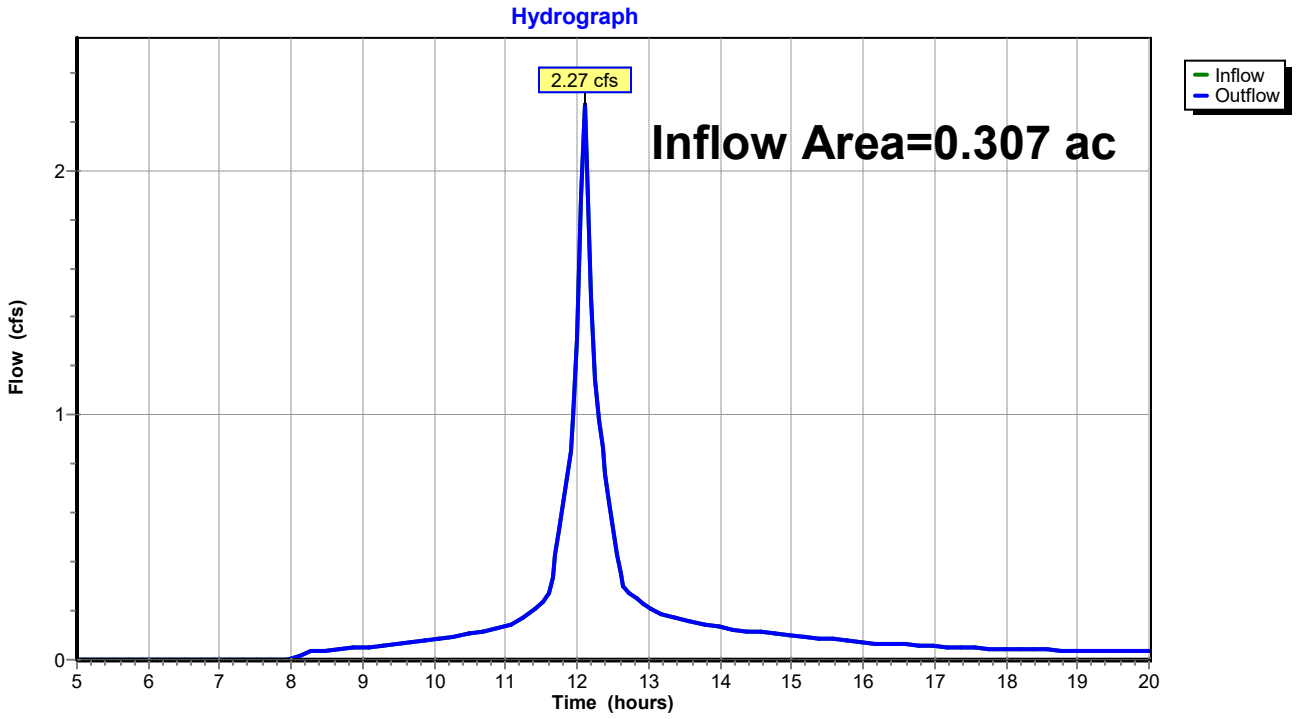


Summary for Reach 2R: Reach 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 6.25" for 100-yr event
Inflow = 2.27 cfs @ 12.10 hrs, Volume= 0.160 af
Outflow = 2.27 cfs @ 12.10 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP2 : DP2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Reach 2

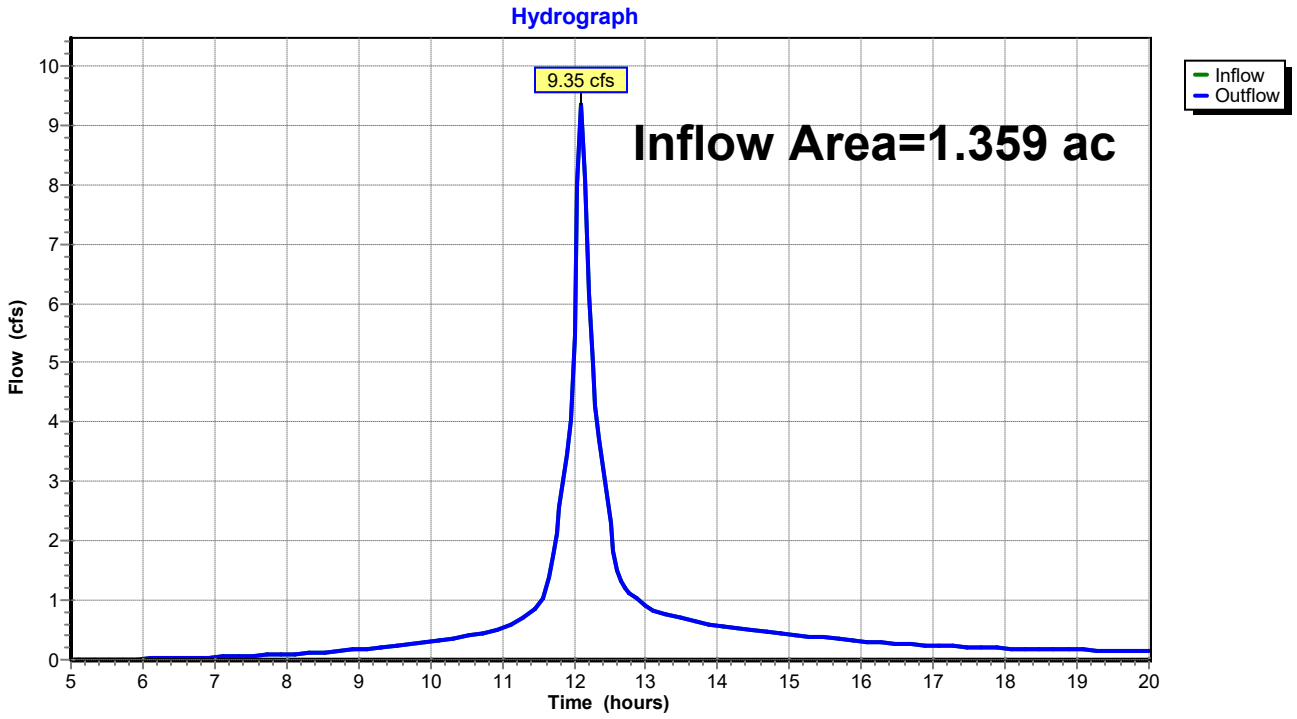


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.359 ac, 4.06% Impervious, Inflow Depth > 5.92" for 100-yr event
Inflow = 9.35 cfs @ 12.10 hrs, Volume= 0.670 af
Outflow = 9.35 cfs @ 12.10 hrs, Volume= 0.670 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

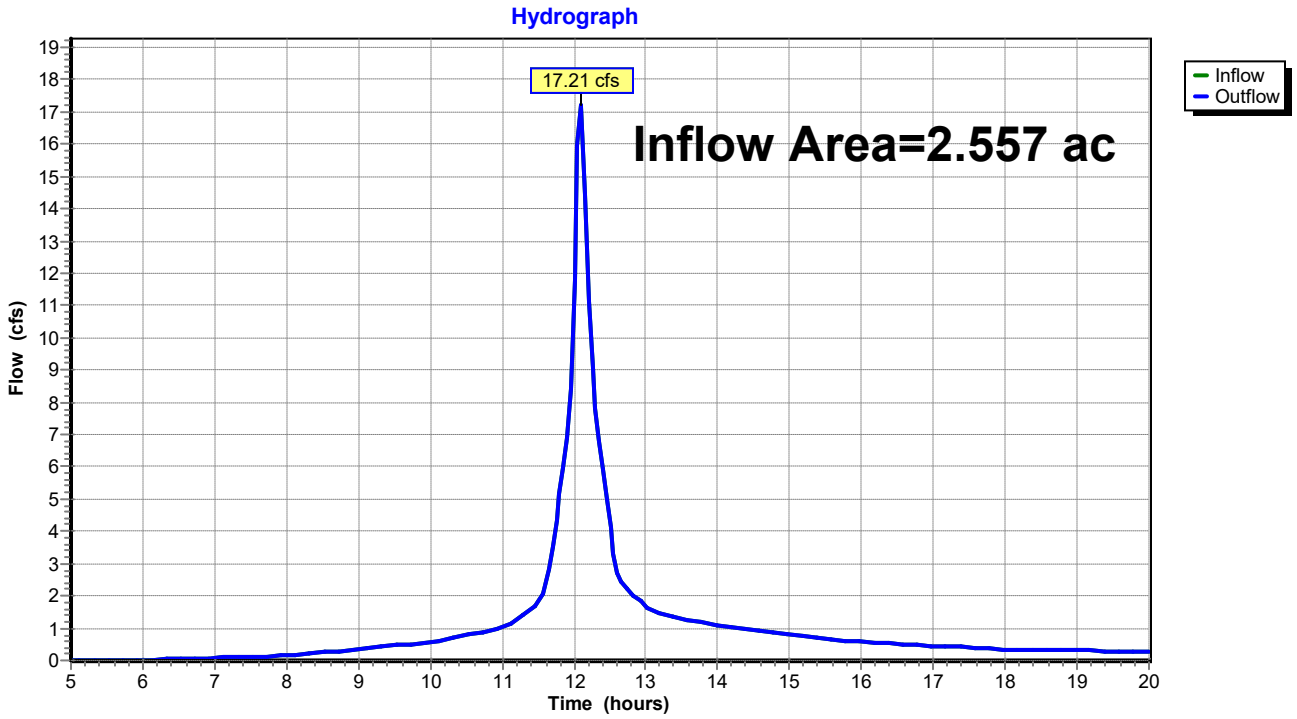


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 11.96% Impervious, Inflow Depth > 6.00" for 100-yr event
Inflow = 17.21 cfs @ 12.09 hrs, Volume= 1.278 af
Outflow = 17.21 cfs @ 12.09 hrs, Volume= 1.278 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Summary for Pond 1P: Bioretention Filter Cell 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 6.75" for 100-yr event
Inflow = 2.01 cfs @ 12.01 hrs, Volume= 0.127 af
Outflow = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af, Atten= 2%, Lag= 0.6 min
Primary = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af
Routed to Pond 2P : CB-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.25' @ 12.02 hrs Surf.Area= 294 sf Storage= 118 cf

Plug-Flow detention time= 9.1 min calculated for 0.125 af (99% of inflow)
Center-of-Mass det. time= 4.7 min (754.9 - 750.3)

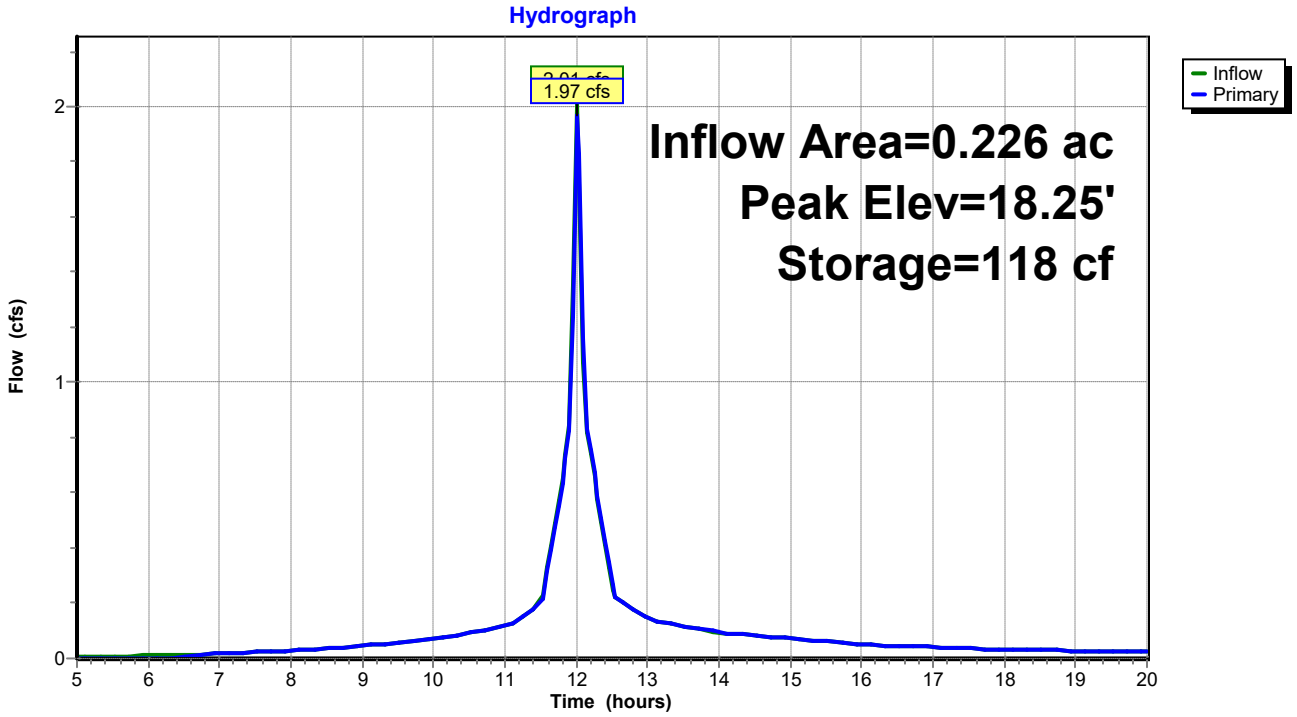
Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	0	0	0
18.00	213	53	53
18.50	372	146	200

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=1.88 cfs @ 12.02 hrs HW=18.25' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 1.88 cfs @ 1.62 fps)

Pond 1P: Bioretention Filter Cell 1



Summary for Pond 2P: CB-1

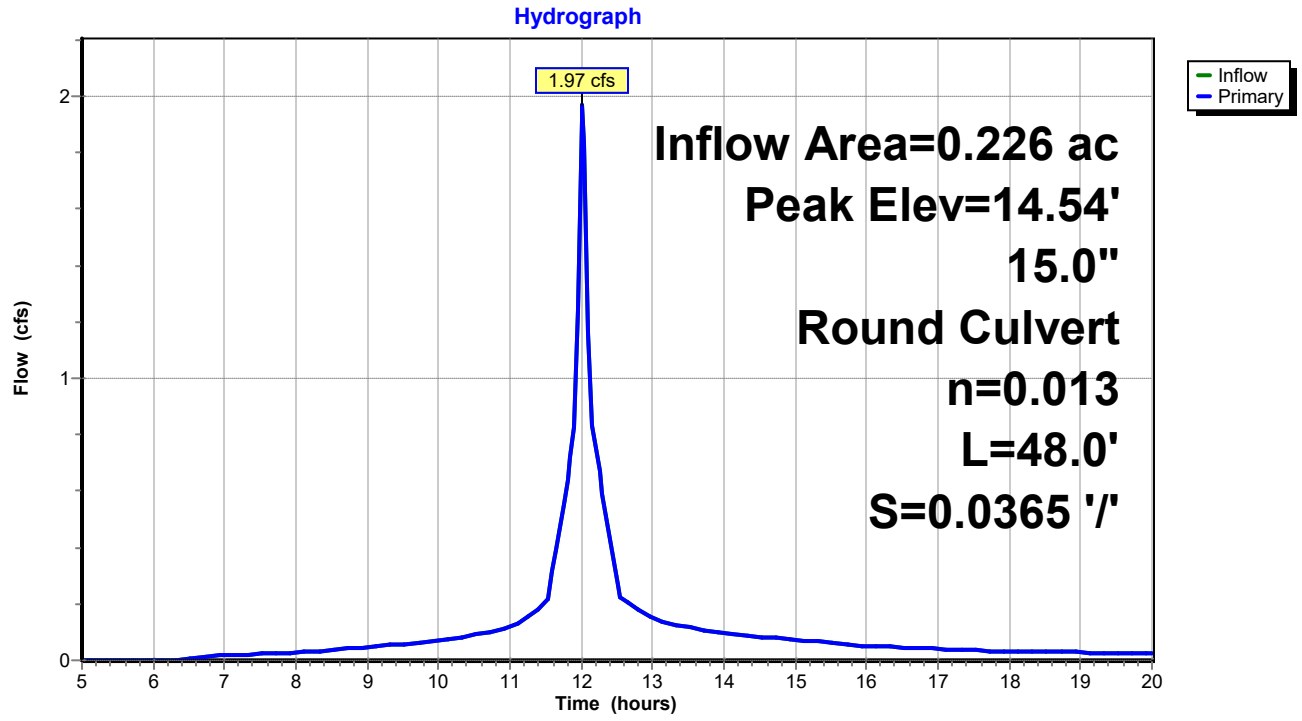
Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 6.68" for 100-yr event
Inflow = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af
Outflow = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min
Primary = 1.97 cfs @ 12.02 hrs, Volume= 0.126 af
Routed to Reach 1R : Reach 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 14.54' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.75'	**15.0" Round Culvert** L= 48.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.75' / 12.00' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.88 cfs @ 12.02 hrs HW=14.52' (Free Discharge)
1=Culvert (Inlet Controls 1.88 cfs @ 2.36 fps)

Pond 2P: CB-1



Summary for Pond 3P: Bioretention Filter Cell 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 6.40" for 100-yr event
Inflow = 2.37 cfs @ 12.07 hrs, Volume= 0.164 af
Outflow = 2.35 cfs @ 12.08 hrs, Volume= 0.163 af, Atten= 1%, Lag= 0.6 min
Primary = 2.35 cfs @ 12.08 hrs, Volume= 0.163 af
Routed to Pond 4P : CB-2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 23.79' @ 12.08 hrs Surf.Area= 263 sf Storage= 103 cf

Plug-Flow detention time= 5.8 min calculated for 0.163 af (99% of inflow)
Center-of-Mass det. time= 3.0 min (762.5 - 759.5)

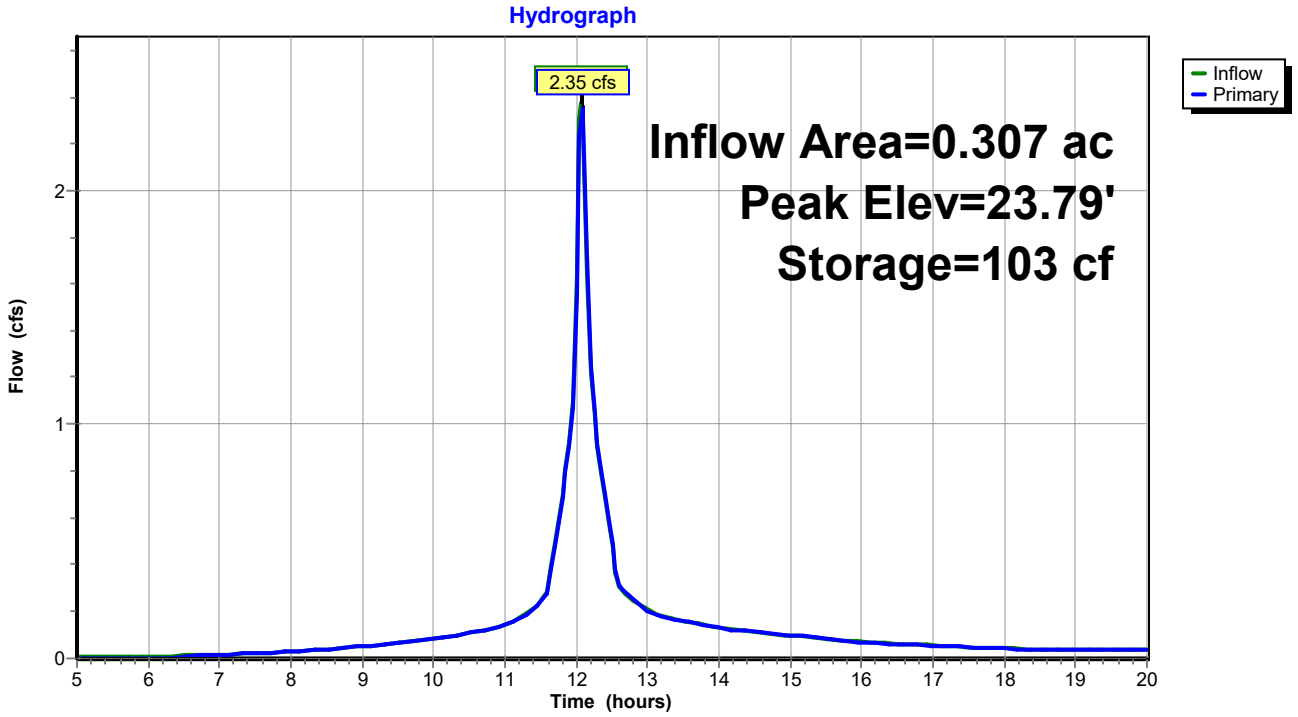
Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	380 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	0	0	0
24.00	335	168	168
24.50	515	213	380

Device	Routing	Invert	Outlet Devices
#1	Primary	23.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.28 cfs @ 12.08 hrs HW=23.78' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 2.28 cfs @ 1.73 fps)

Pond 3P: Bioretention Filter Cell 2



Summary for Pond 4P: CB-2

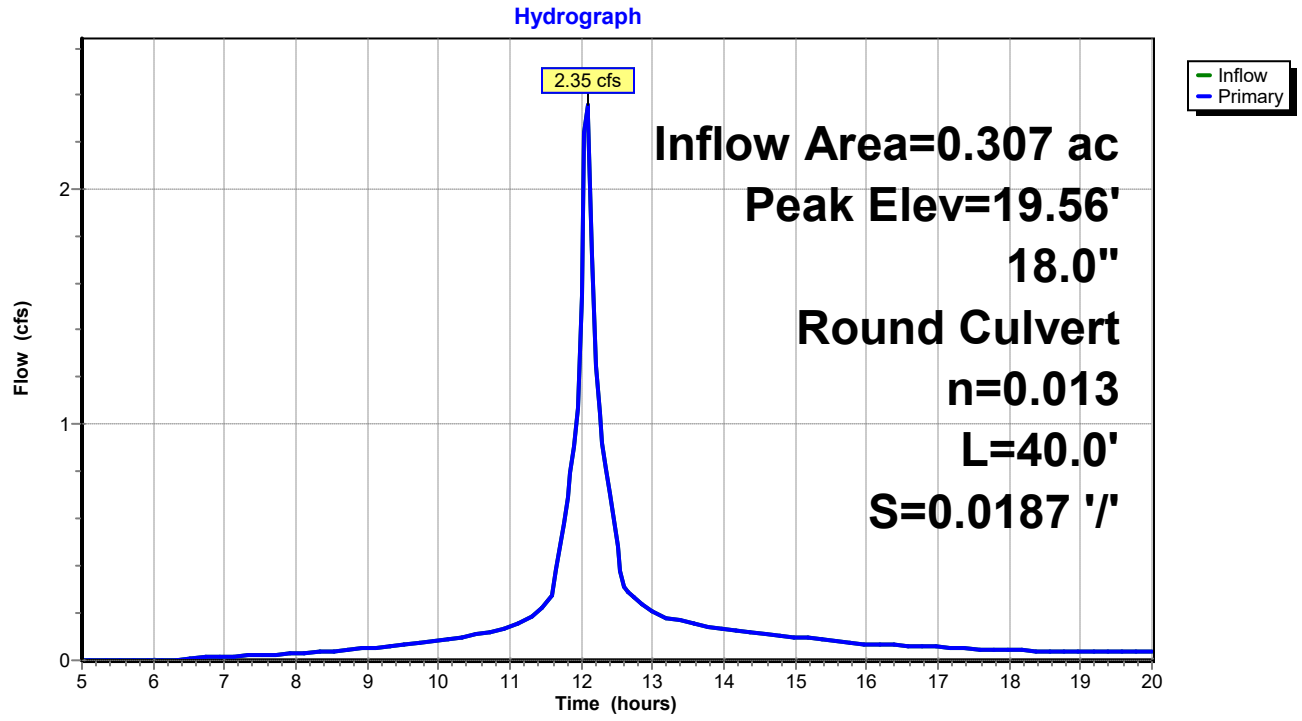
Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 6.36" for 100-yr event
Inflow = 2.35 cfs @ 12.08 hrs, Volume= 0.163 af
Outflow = 2.35 cfs @ 12.08 hrs, Volume= 0.163 af, Atten= 0%, Lag= 0.0 min
Primary = 2.35 cfs @ 12.08 hrs, Volume= 0.163 af
Routed to Pond 5P : Level Lip Speader

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 19.56' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**18.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.75' / 18.00' S= 0.0187 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.28 cfs @ 12.08 hrs HW=19.54' (Free Discharge)
1=Culvert (Inlet Controls 2.28 cfs @ 2.40 fps)

Pond 4P: CB-2



Summary for Pond 5P: Level Lip Speader

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 6.36" for 100-yr event
Inflow = 2.35 cfs @ 12.08 hrs, Volume= 0.163 af
Outflow = 2.27 cfs @ 12.10 hrs, Volume= 0.160 af, Atten= 4%, Lag= 1.5 min
Primary = 2.27 cfs @ 12.10 hrs, Volume= 0.160 af
Routed to Reach 2R : Reach 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.00' @ 8.10 hrs Surf.Area= 168 sf Storage= 115 cf
Flood Elev= 20.00' Surf.Area= 168 sf Storage= 115 cf

Plug-Flow detention time= 13.3 min calculated for 0.160 af (98% of inflow)
Center-of-Mass det. time= 6.5 min (769.1 - 762.5)

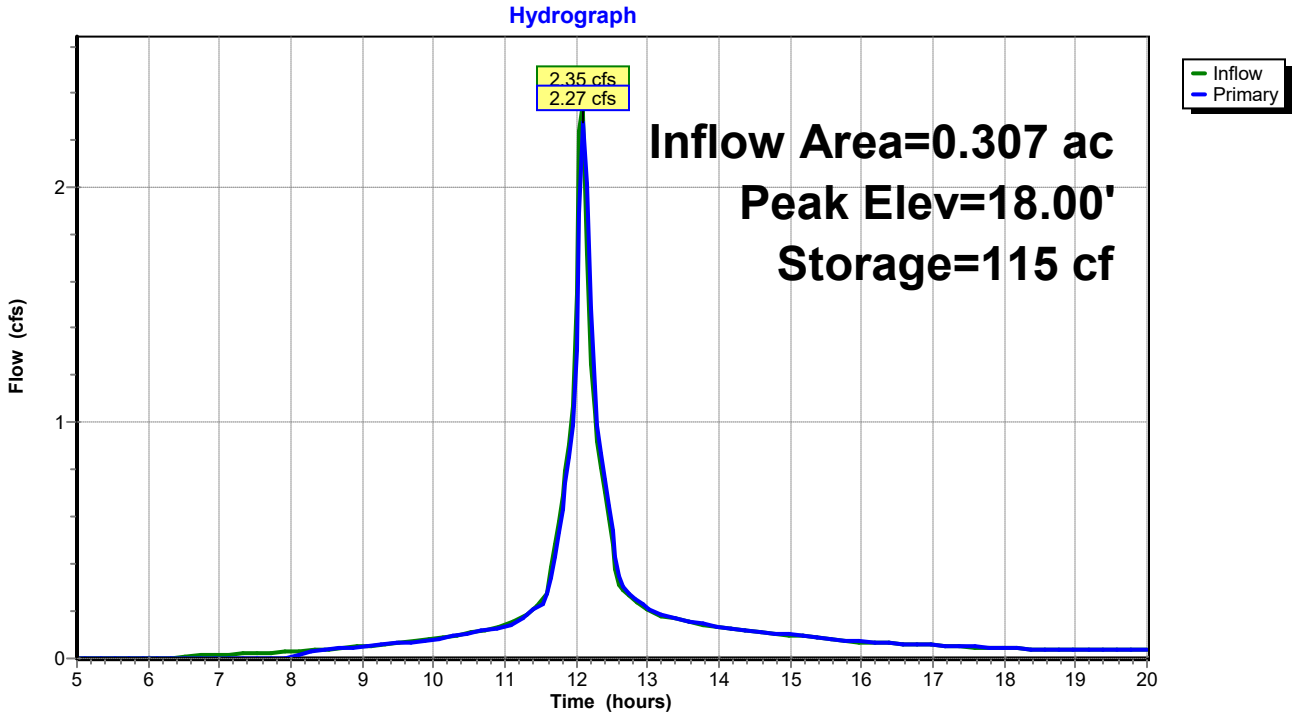
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	115 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	61	0.0	0	0
18.00	168	100.0	115	115

Device	Routing	Invert	Outlet Devices
#0	Primary	18.00'	**Automatic Storage Overflow** (Discharged without head)

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=18.00' (Free Discharge)

Pond 5P: Level Lip Speader

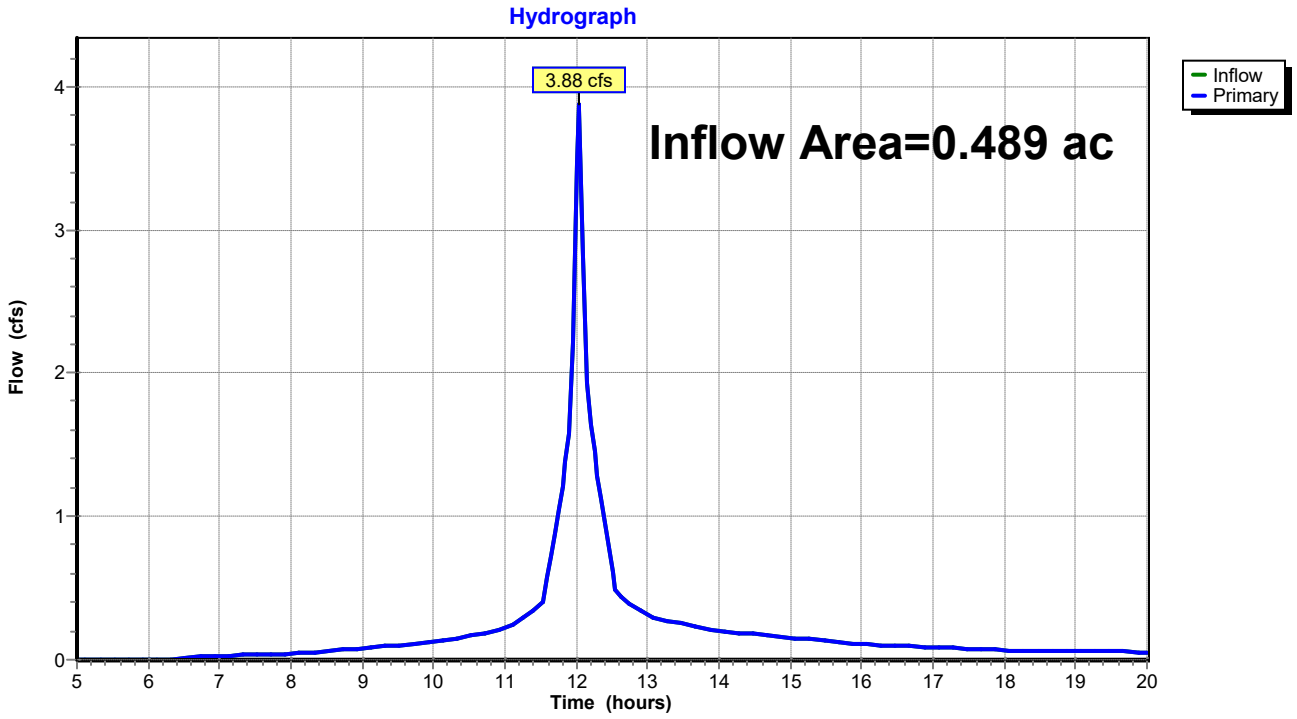


Summary for Link DP1: DP1

Inflow Area = 0.489 ac, 28.87% Impervious, Inflow Depth > 6.21" for 100-yr event
Inflow = 3.88 cfs @ 12.04 hrs, Volume= 0.253 af
Primary = 3.88 cfs @ 12.04 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP1: DP1

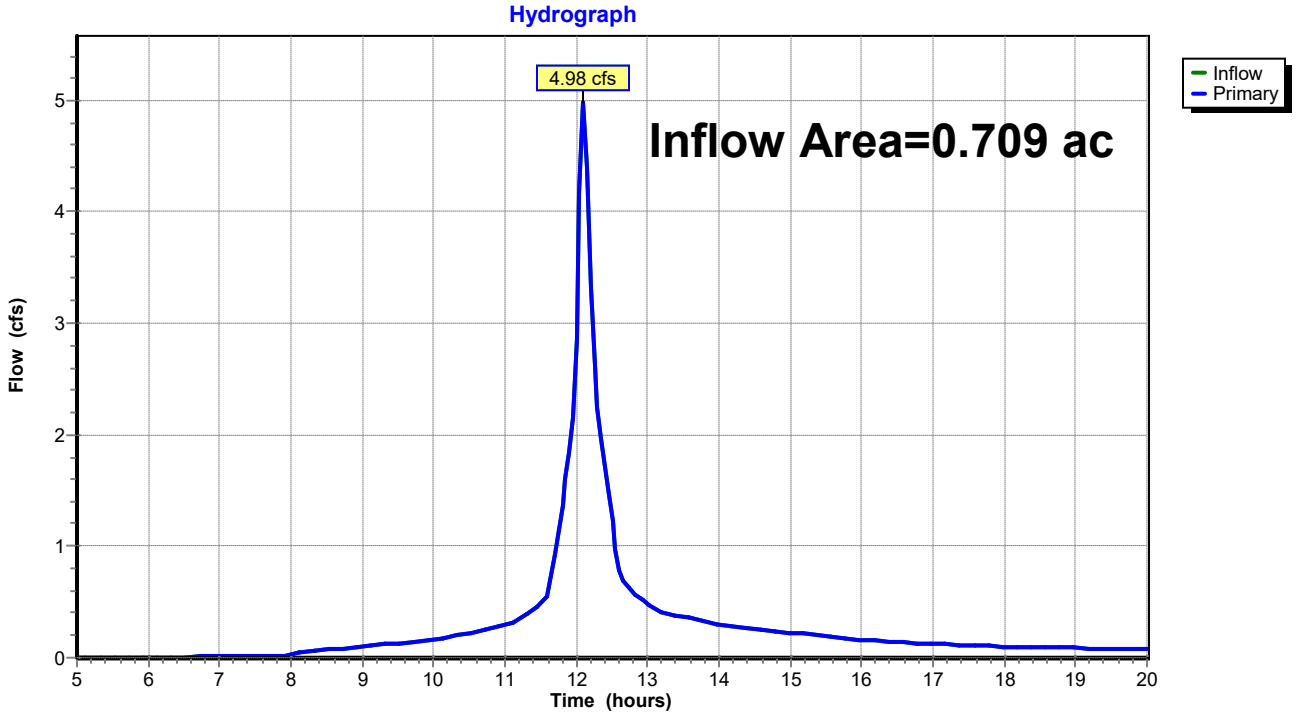


Summary for Link DP2: DP2

Inflow Area = 0.709 ac, 15.44% Impervious, Inflow Depth > 6.00" for 100-yr event
Inflow = 4.98 cfs @ 12.10 hrs, Volume= 0.354 af
Primary = 4.98 cfs @ 12.10 hrs, Volume= 0.354 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP2: DP2



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 method - Pond routing by Stor-Ind method

Subcatchment 1S: Post Subcatchment 1 Runoff Area=9,832 sf 50.01% Impervious Runoff Depth>0.20"
Flow Length=172' Tc=0.8 min CN=87 Runoff=0.06 cfs 0.004 af

Subcatchment 2S: Post Subcatchment 2 Runoff Area=11,488 sf 10.78% Impervious Runoff Depth>0.06"
Flow Length=133' Tc=3.4 min CN=79 Runoff=0.01 cfs 0.001 af

Subcatchment 3S: Post Subcatchment 3 Runoff Area=13,365 sf 33.49% Impervious Runoff Depth>0.13"
Flow Length=262' Tc=4.9 min CN=84 Runoff=0.04 cfs 0.003 af

Subcatchment 4S: Post Subcatchment 4 Runoff Area=17,529 sf 1.68% Impervious Runoff Depth>0.06"
Flow Length=126' Tc=7.2 min CN=79 Runoff=0.01 cfs 0.002 af

Subcatchment 5S: Post Subcatchment 5 Runoff Area=59,179 sf 4.06% Impervious Runoff Depth>0.07"
Flow Length=445' Tc=7.0 min CN=80 Runoff=0.05 cfs 0.008 af

Reach 1R: Reach 1 Inflow=0.02 cfs 0.003 af
Outflow=0.02 cfs 0.003 af

Reach 2R: Reach 2 Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Reach DP3: Shoreline 3 Inflow=0.05 cfs 0.008 af
Outflow=0.05 cfs 0.008 af

Reach SP1: SACO RIVER / OCEAN Inflow=0.09 cfs 0.014 af
Outflow=0.09 cfs 0.014 af

Pond 1P: Bioretention Filter Cell 1 Peak Elev=18.01' Storage=56 cf Inflow=0.06 cfs 0.004 af
Outflow=0.02 cfs 0.003 af

Pond 2P: CB-1 Peak Elev=13.83' Inflow=0.02 cfs 0.003 af
15.0" Round Culvert n=0.013 L=48.0' S=0.0365 '/' Outflow=0.02 cfs 0.003 af

Pond 3P: Bioretention Filter Cell 2 Peak Elev=23.51' Storage=44 cf Inflow=0.04 cfs 0.003 af
Outflow=0.02 cfs 0.002 af

Pond 4P: CB-2 Peak Elev=18.81' Inflow=0.02 cfs 0.002 af
18.0" Round Culvert n=0.013 L=40.0' S=0.0187 '/' Outflow=0.02 cfs 0.002 af

Pond 5P: Level Lip Speader Peak Elev=17.95' Storage=106 cf Inflow=0.02 cfs 0.002 af
Outflow=0.00 cfs 0.000 af

Link DP1: DP1 Inflow=0.03 cfs 0.004 af
Primary=0.03 cfs 0.004 af

Link DP2: DP2 Inflow=0.01 cfs 0.002 af
Primary=0.01 cfs 0.002 af

Total Runoff Area = 2.557 ac Runoff Volume = 0.018 af Average Runoff Depth = 0.09"
88.04% Pervious = 2.251 ac 11.96% Impervious = 0.306 ac

Summary for Subcatchment 1S: Post Subcatchment 1

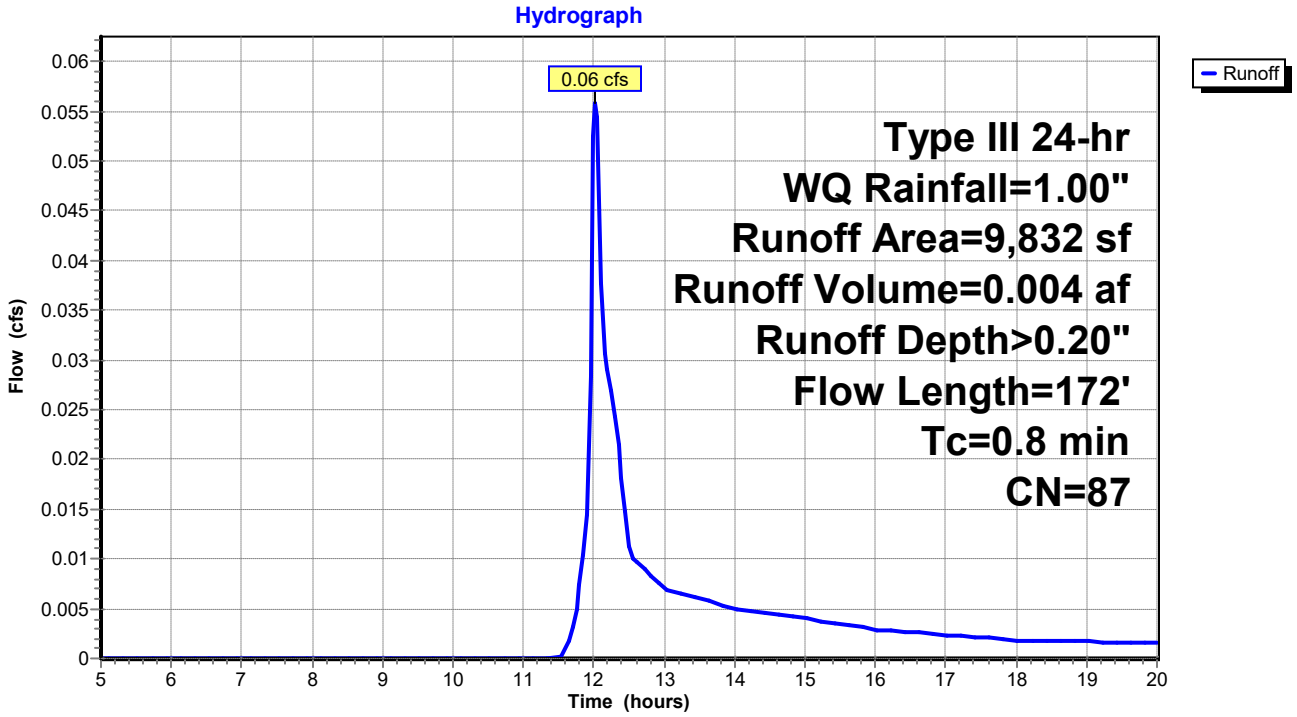
Runoff = 0.06 cfs @ 12.03 hrs, Volume= 0.004 af, Depth> 0.20"
Routed to Pond 1P : Bioretention Filter Cell 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
	3,430	77	Woods, Good, HSG D
*	982	98	Ledge, HSG D
	595	80	>75% Grass cover, Good, HSG D
*	3,935	98	Paved Access Drive, HSG D
*	890	73	Bioretention Filter Cell, Good, HSG D
	9,832	87	Weighted Average
	4,915		49.99% Pervious Area
	4,917		50.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	46	0.0500	1.73		**Sheet Flow, Tc-1** Smooth surfaces n= 0.011 P2= 3.30"
0.3	102	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.1	24	0.0625	3.75		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
0.8	172	Total			

Subcatchment 1S: Post Subcatchment 1



Summary for Subcatchment 2S: Post Subcatchment 2

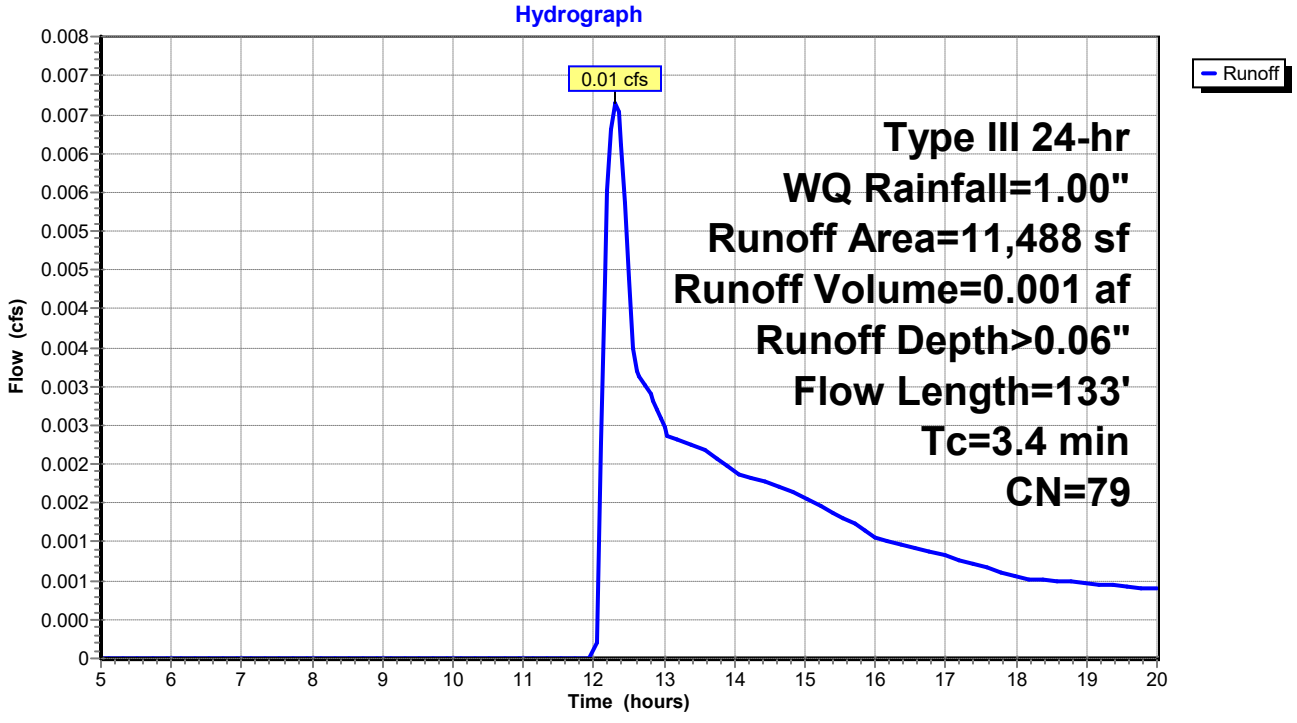
Runoff = 0.01 cfs @ 12.31 hrs, Volume= 0.001 af, Depth> 0.06"
Routed to Link DP1 : DP1

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 WQ Rainfall=1.00"

Area (sf)	CN	Description
10,250	77	Woods, Good, HSG D
1,238	98	Paved parking, HSG D
11,488	79	Weighted Average
10,250		89.22% Pervious Area
1,238		10.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	21	0.1905	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	112	0.1696	2.06		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
3.4	133	Total			

Subcatchment 2S: Post Subcatchment 2



Summary for Subcatchment 3S: Post Subcatchment 3

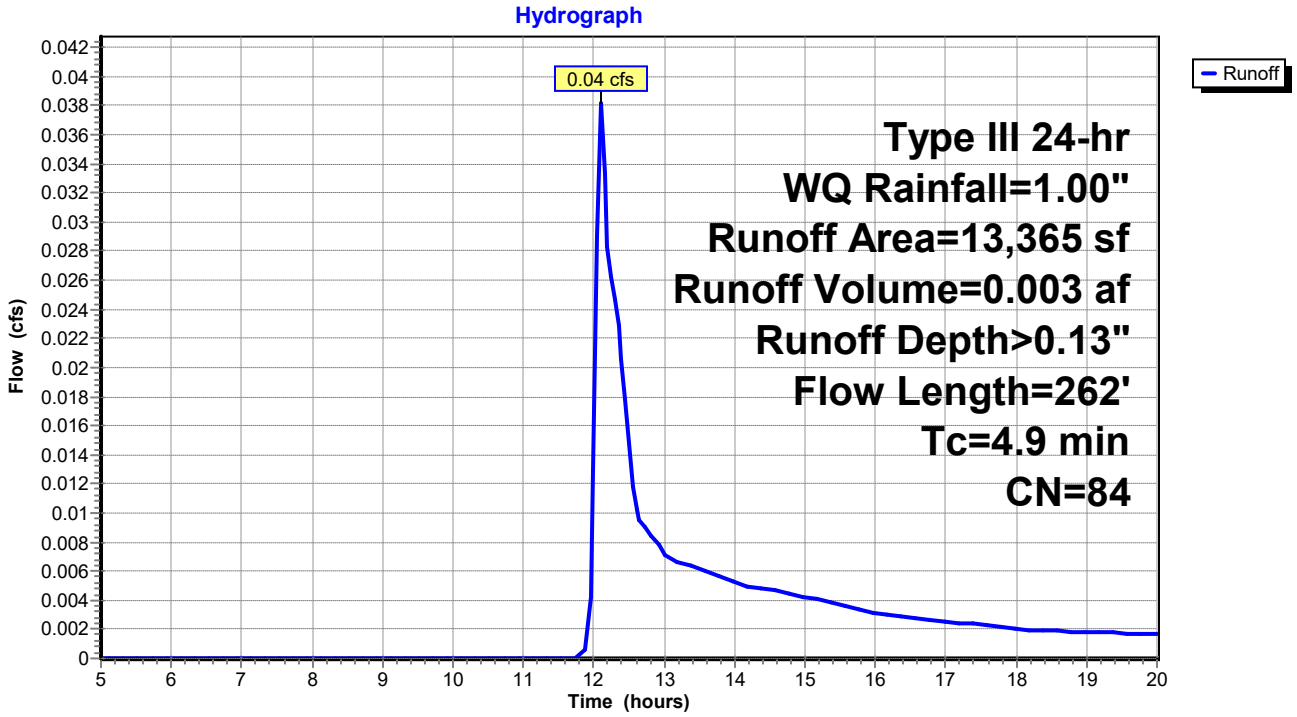
Runoff = 0.04 cfs @ 12.11 hrs, Volume= 0.003 af, Depth> 0.13"
Routed to Pond 3P : Bioretention Filter Cell 2

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 WQ Rainfall=1.00"

	Area (sf)	CN	Description
	6,822	77	Woods, Good, HSG D
*	580	73	Biofiltration cell, Good, HSG D
*	3,768	98	Paved access drive, HSG D
	1,487	80	>75% Grass cover, Good, HSG D
*	708	98	Ledge, HSG D
	13,365	84	Weighted Average
	8,889		66.51% Pervious Area
	4,476		33.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	43	0.2093	0.17		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.7	214	0.0500	5.25	15.74	**Channel Flow, Tc-2** Area= 3.0 sf Perim= 9.2' r= 0.33' n= 0.030 Earth, grassed & winding
0.0	5	0.0500	3.35		**Shallow Concentrated Flow, Tc-3** Grassed Waterway Kv= 15.0 fps
4.9	262	Total			

Subcatchment 3S: Post Subcatchment 3



Summary for Subcatchment 4S: Post Subcatchment 4

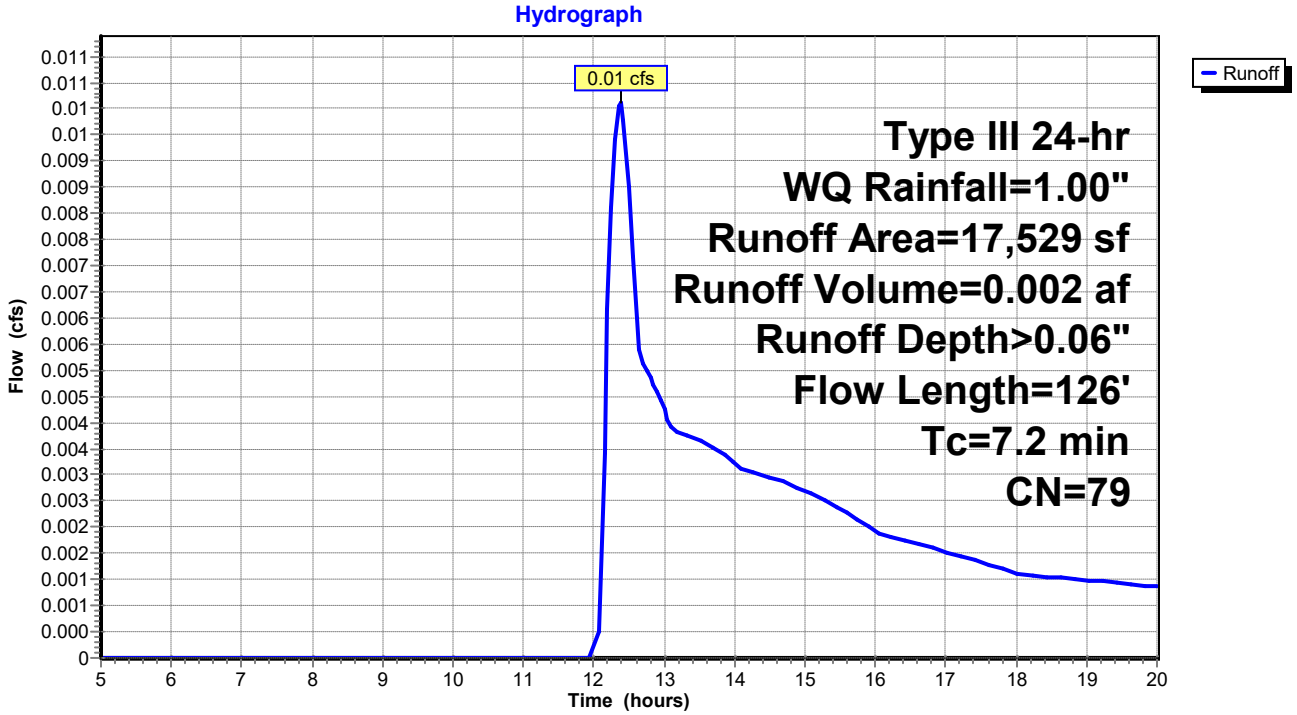
Runoff = 0.01 cfs @ 12.38 hrs, Volume= 0.002 af, Depth> 0.06"
Routed to Link DP2 : DP2

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 WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	295	98	Paved access drive, HSG D
	1,450	80	>75% Grass cover, Good, HSG D
	15,784	79	Woods, Fair, HSG D
	17,529	79	Weighted Average
	17,234		98.32% Pervious Area
	295		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	62	0.1290	0.15		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	64	0.2343	2.42		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
7.2	126	Total			

Subcatchment 4S: Post Subcatchment 4



Summary for Subcatchment 5S: Post Subcatchment 5

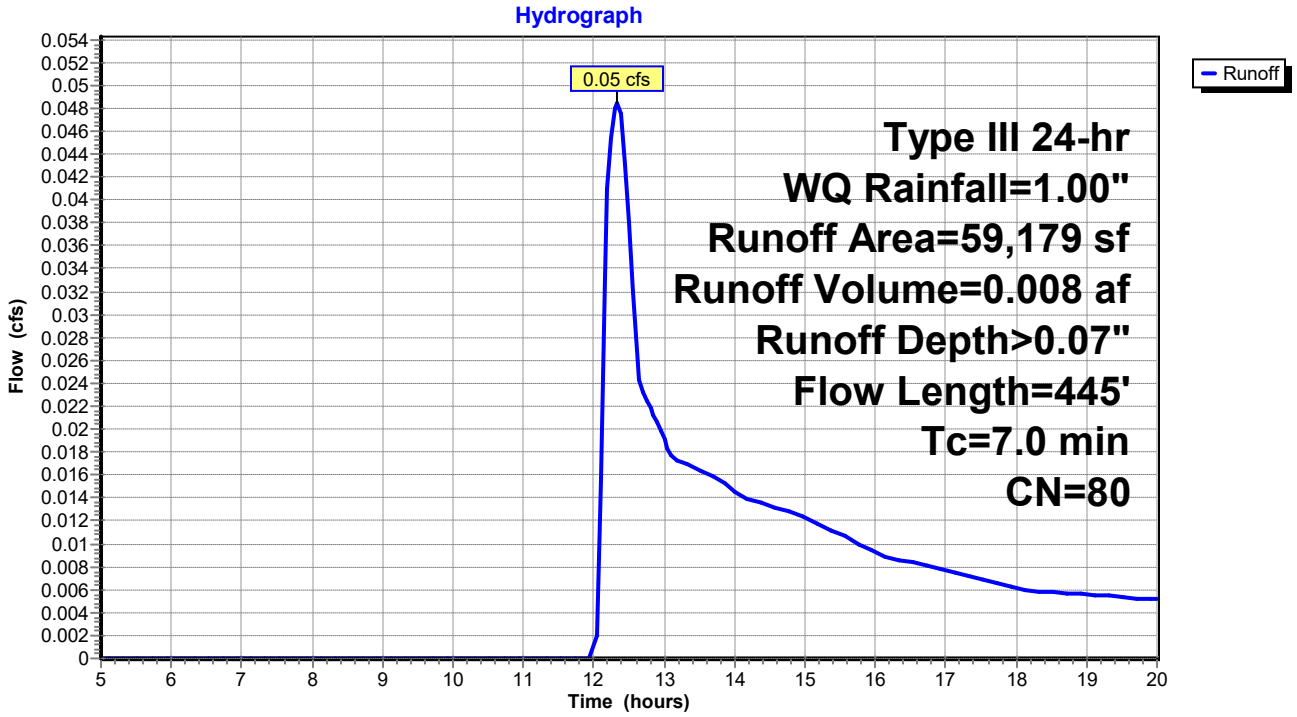
Runoff = 0.05 cfs @ 12.34 hrs, Volume= 0.008 af, Depth> 0.07"
Routed to Reach DP3 : Shoreline 3

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 WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	1,650	98	Paved acccess drive, HSG D
	751	98	Roofs, HSG D
*	6,955	88	Sand beach, HSG D
	3,872	96	Gravel surface, HSG D
	45,951	77	Woods, Good, HSG D
	59,179	80	Weighted Average
	56,778		95.94% Pervious Area
	2,401		4.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	23	0.1740	0.14		**Sheet Flow, Tc-1** Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	70	0.0574	1.20		**Shallow Concentrated Flow, Tc-2** Woodland Kv= 5.0 fps
0.5	170	0.1059	5.24		**Shallow Concentrated Flow, Tc-3** Unpaved Kv= 16.1 fps
2.5	140	0.0357	0.94		**Shallow Concentrated Flow, Tc-4** Woodland Kv= 5.0 fps
0.3	42	0.0714	2.67		**Shallow Concentrated Flow, Tc-5** Nearly Bare & Untilled Kv= 10.0 fps
7.0	445	Total			

Subcatchment 5S: Post Subcatchment 5

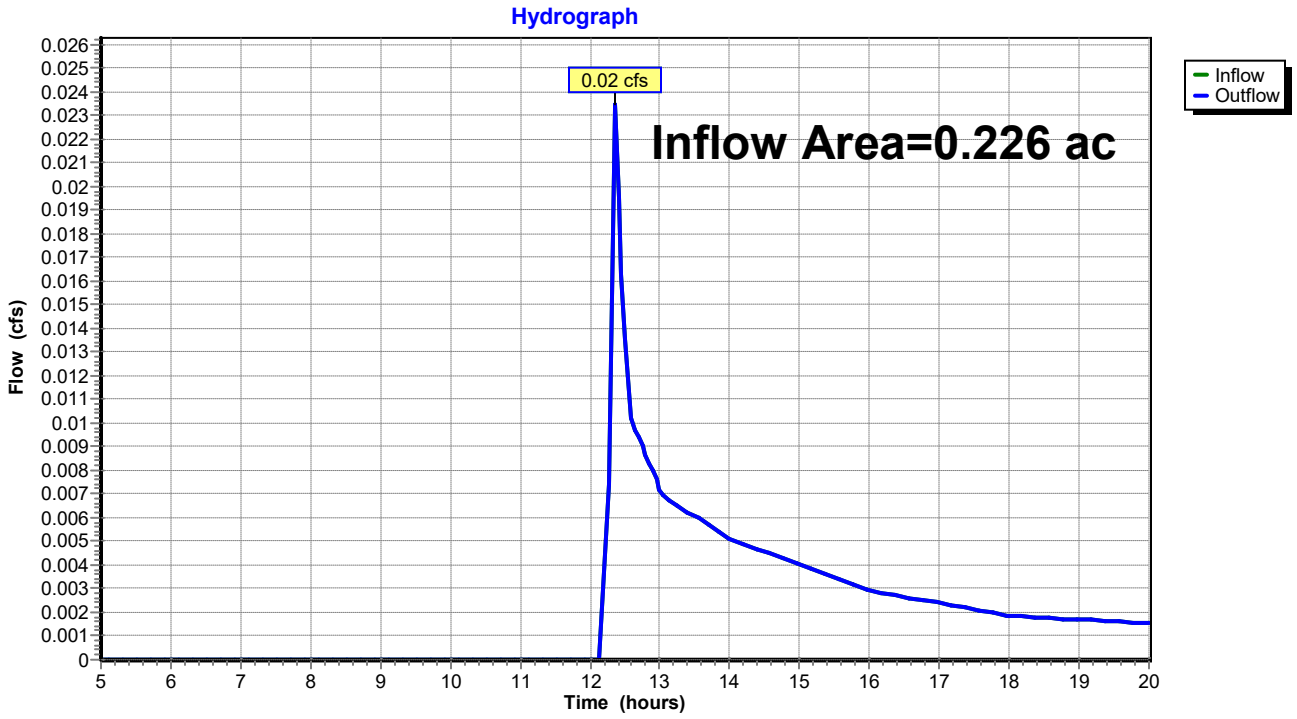


Summary for Reach 1R: Reach 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 0.14" for WQ event
Inflow = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af
Outflow = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP1 : DP1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 1R: Reach 1

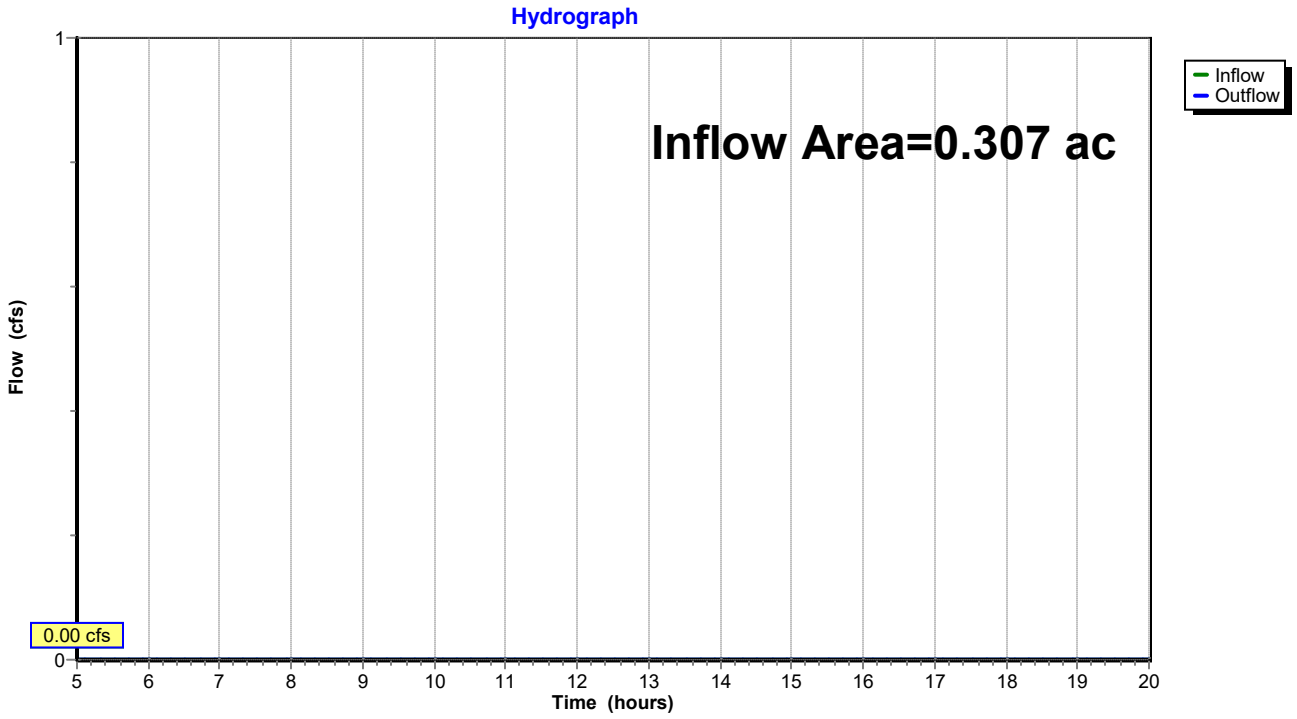


Summary for Reach 2R: Reach 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth = 0.00" for WQ event
Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Link DP2 : DP2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Reach 2

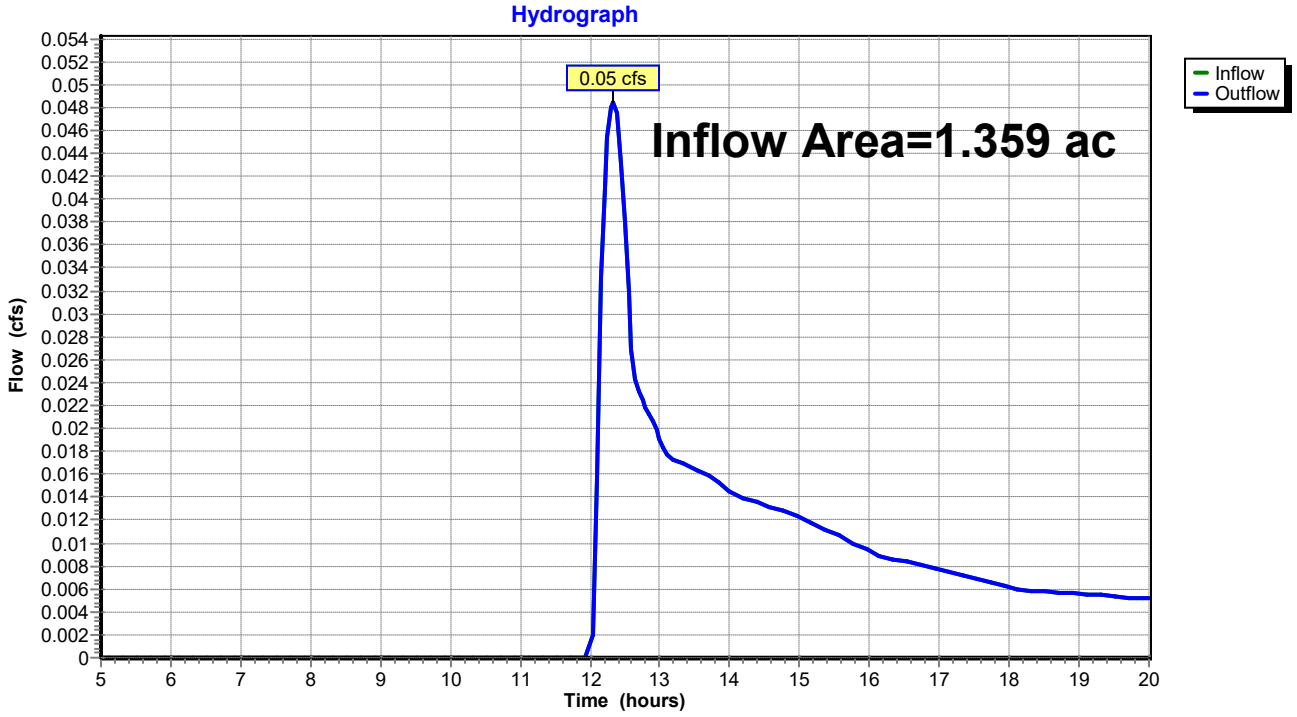


Summary for Reach DP3: Shoreline 3

Inflow Area = 1.359 ac, 4.06% Impervious, Inflow Depth > 0.07" for WQ event
Inflow = 0.05 cfs @ 12.34 hrs, Volume= 0.008 af
Outflow = 0.05 cfs @ 12.34 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach DP3: Shoreline 3

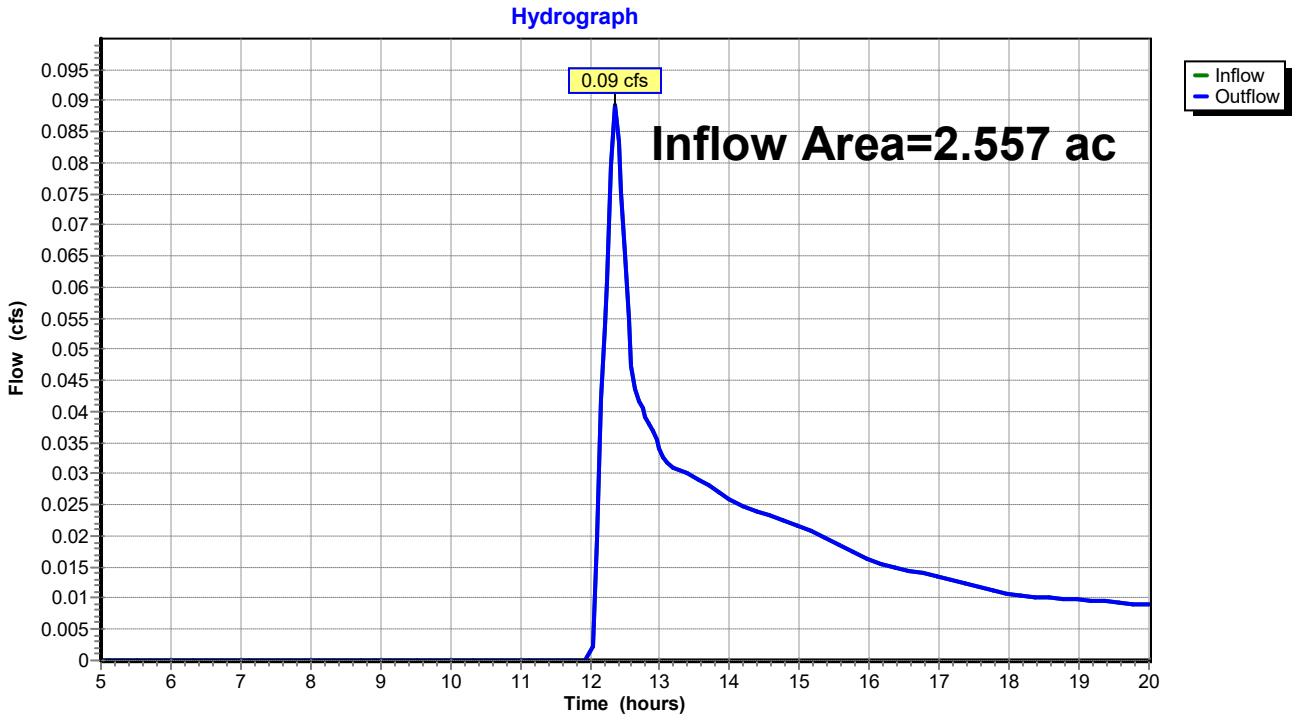


Summary for Reach SP1: SACO RIVER / OCEAN

Inflow Area = 2.557 ac, 11.96% Impervious, Inflow Depth > 0.06" for WQ event
Inflow = 0.09 cfs @ 12.36 hrs, Volume= 0.014 af
Outflow = 0.09 cfs @ 12.36 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: SACO RIVER / OCEAN



Summary for Pond 1P: Bioretention Filter Cell 1

Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 0.20" for WQ event
Inflow = 0.06 cfs @ 12.03 hrs, Volume= 0.004 af
Outflow = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af, Atten= 58%, Lag= 19.8 min
Primary = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af
Routed to Pond 2P : CB-1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.01' @ 12.36 hrs Surf.Area= 217 sf Storage= 56 cf

Plug-Flow detention time= 130.6 min calculated for 0.003 af (67% of inflow)
Center-of-Mass det. time= 53.4 min (884.3 - 831.0)

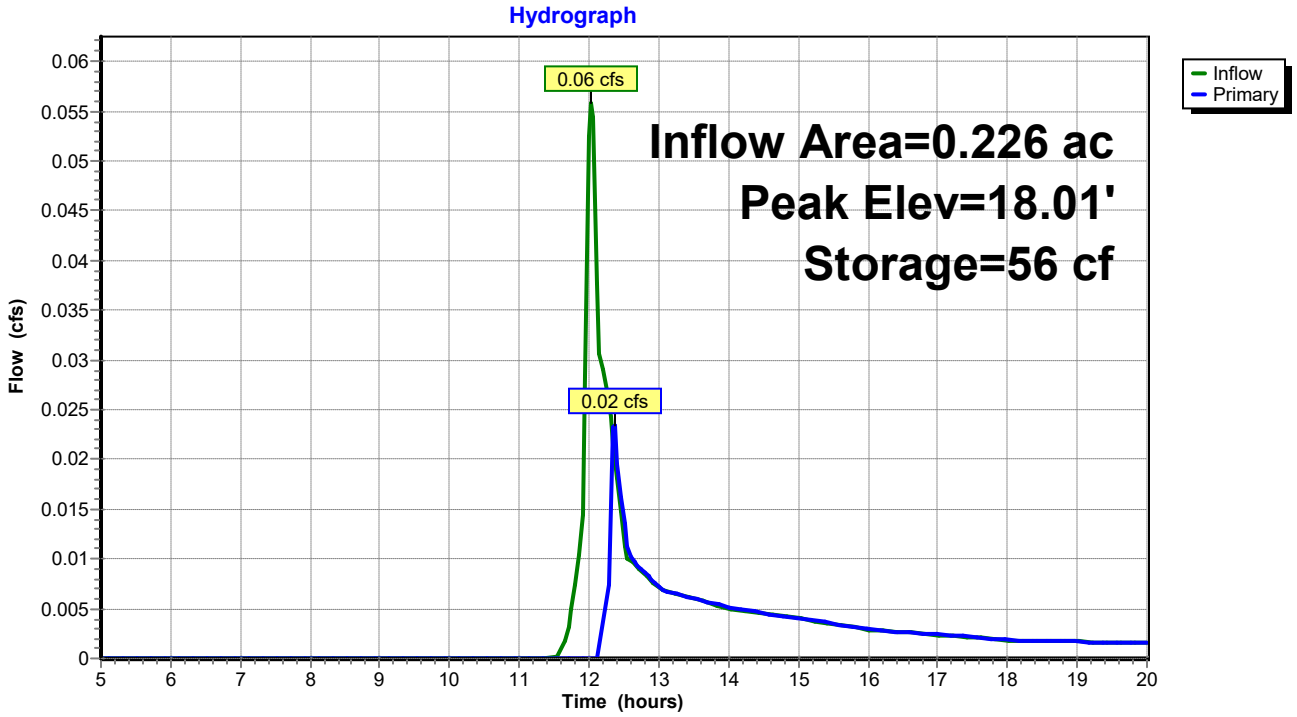
Volume	Invert	Avail.Storage	Storage Description
#1	17.50'	200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.50	0	0	0
18.00	213	53	53
18.50	372	146	200

Device	Routing	Invert	Outlet Devices
#1	Primary	18.00'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 12.36 hrs HW=18.01' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.02 cfs @ 0.37 fps)

Pond 1P: Bioretention Filter Cell 1



Summary for Pond 2P: CB-1

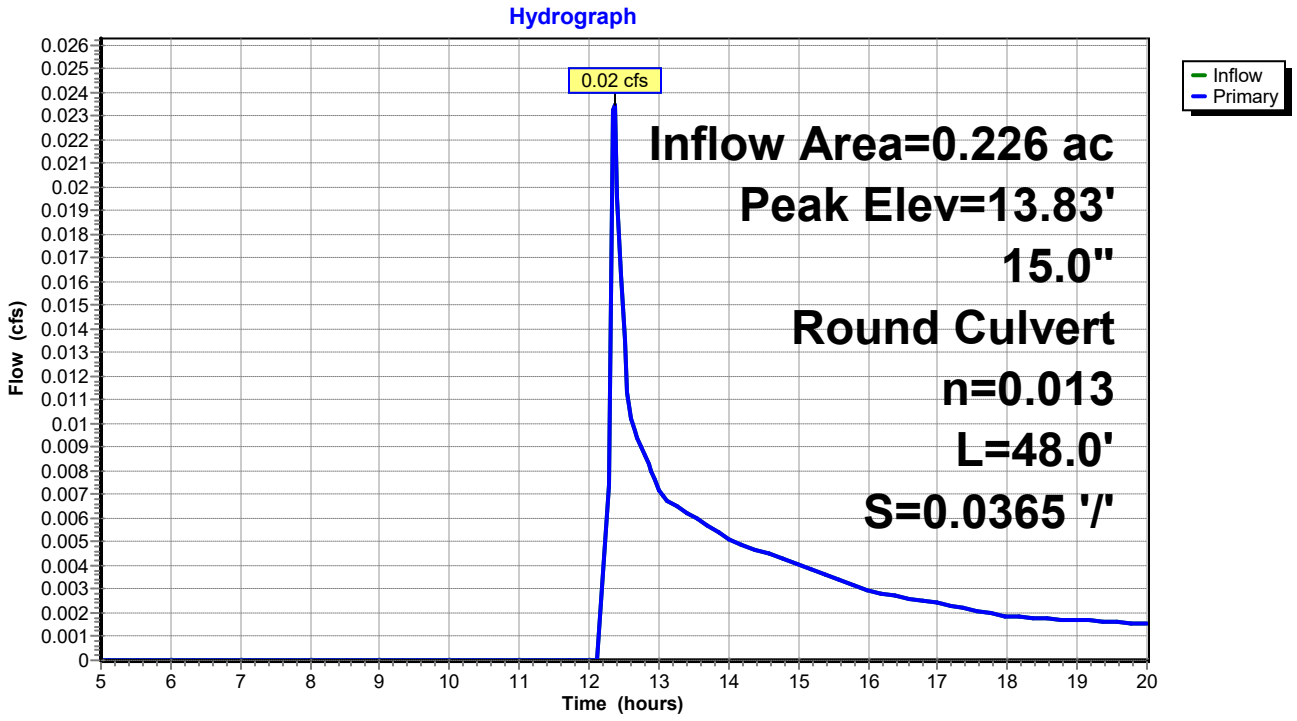
Inflow Area = 0.226 ac, 50.01% Impervious, Inflow Depth > 0.14" for WQ event
Inflow = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af
Outflow = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.02 cfs @ 12.36 hrs, Volume= 0.003 af
Routed to Reach 1R : Reach 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 13.83' @ 12.36 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.75'	**15.0" Round Culvert** L= 48.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 13.75' / 12.00' S= 0.0365 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.02 cfs @ 12.36 hrs HW=13.83' (Free Discharge)
1=Culvert (Inlet Controls 0.02 cfs @ 0.74 fps)

Pond 2P: CB-1



Summary for Pond 3P: Bioretention Filter Cell 2

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 0.13" for WQ event
Inflow = 0.04 cfs @ 12.11 hrs, Volume= 0.003 af
Outflow = 0.02 cfs @ 12.48 hrs, Volume= 0.002 af, Atten= 56%, Lag= 22.5 min
Primary = 0.02 cfs @ 12.48 hrs, Volume= 0.002 af
Routed to Pond 4P : CB-2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 23.51' @ 12.48 hrs Surf.Area= 171 sf Storage= 44 cf

Plug-Flow detention time= 120.8 min calculated for 0.002 af (72% of inflow)
Center-of-Mass det. time= 48.7 min (900.5 - 851.8)

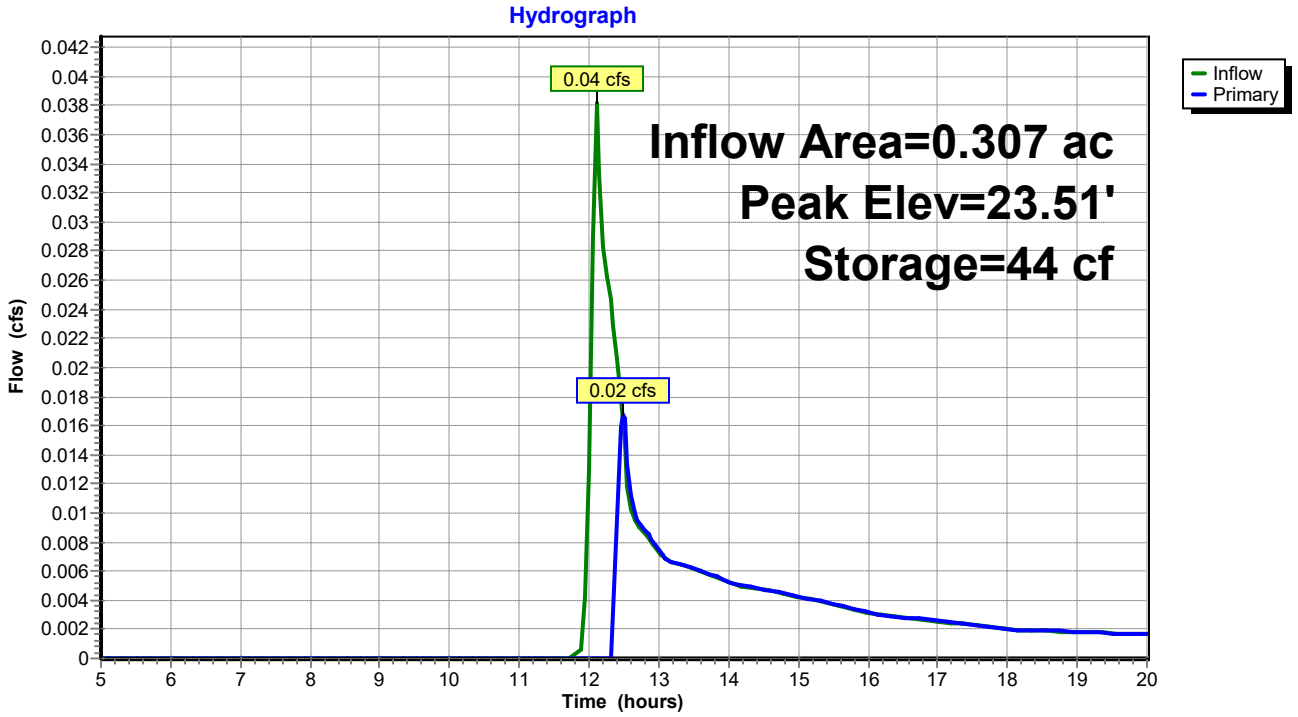
Volume	Invert	Avail.Storage	Storage Description
#1	23.00'	380 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
23.00	0	0	0
24.00	335	168	168
24.50	515	213	380

Device	Routing	Invert	Outlet Devices
#1	Primary	23.50'	**18.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" Grate (56% open area) Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 12.48 hrs HW=23.51' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 0.02 cfs @ 0.33 fps)

Pond 3P: Bioretention Filter Cell 2



Summary for Pond 4P: CB-2

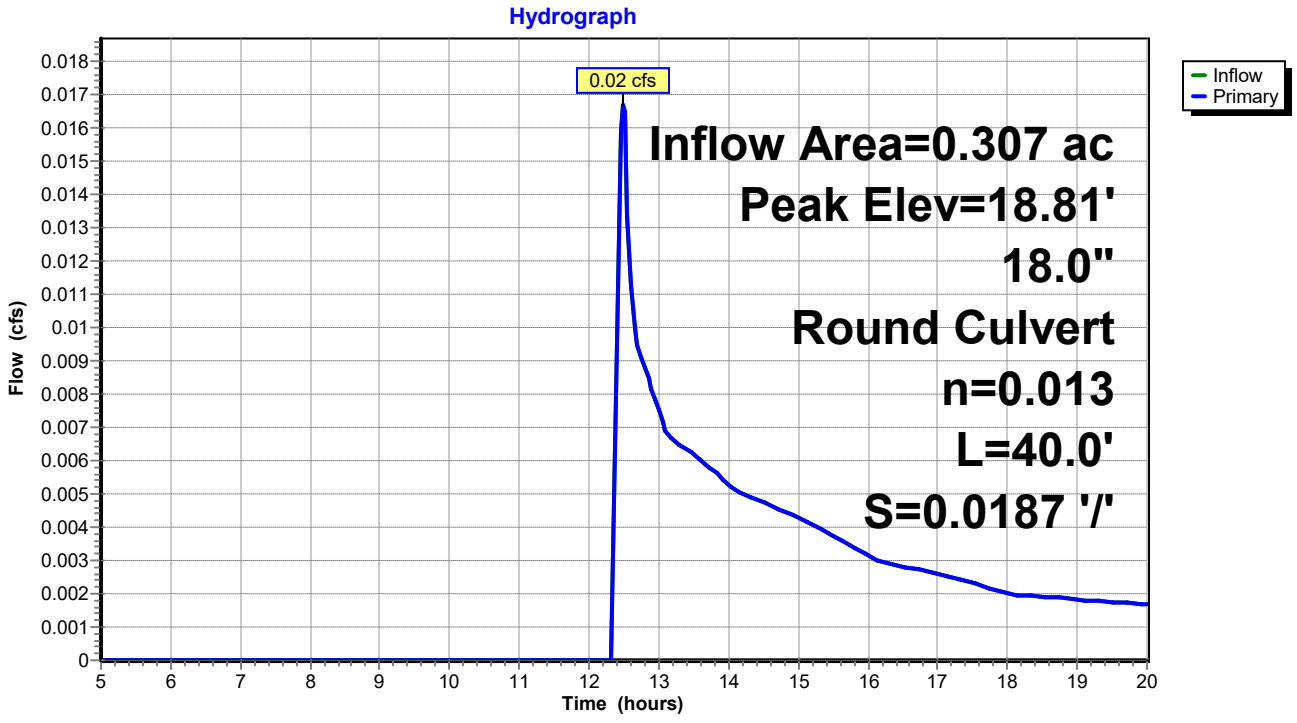
Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 0.10" for WQ event
Inflow = 0.02 cfs @ 12.48 hrs, Volume= 0.002 af
Outflow = 0.02 cfs @ 12.48 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Primary = 0.02 cfs @ 12.48 hrs, Volume= 0.002 af
Routed to Pond 5P : Level Lip Speader

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 18.81' @ 12.48 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	18.75'	**18.0" Round Culvert** L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.75' / 18.00' S= 0.0187 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.02 cfs @ 12.48 hrs HW=18.81' (Free Discharge)
1=Culvert (Inlet Controls 0.02 cfs @ 0.66 fps)

Pond 4P: CB-2



Summary for Pond 5P: Level Lip Speader

Inflow Area = 0.307 ac, 33.49% Impervious, Inflow Depth > 0.10" for WQ event
Inflow = 0.02 cfs @ 12.48 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
Routed to Reach 2R : Reach 2

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 17.95' @ 20.00 hrs Surf.Area= 163 sf Storage= 106 cf
Flood Elev= 20.00' Surf.Area= 168 sf Storage= 115 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

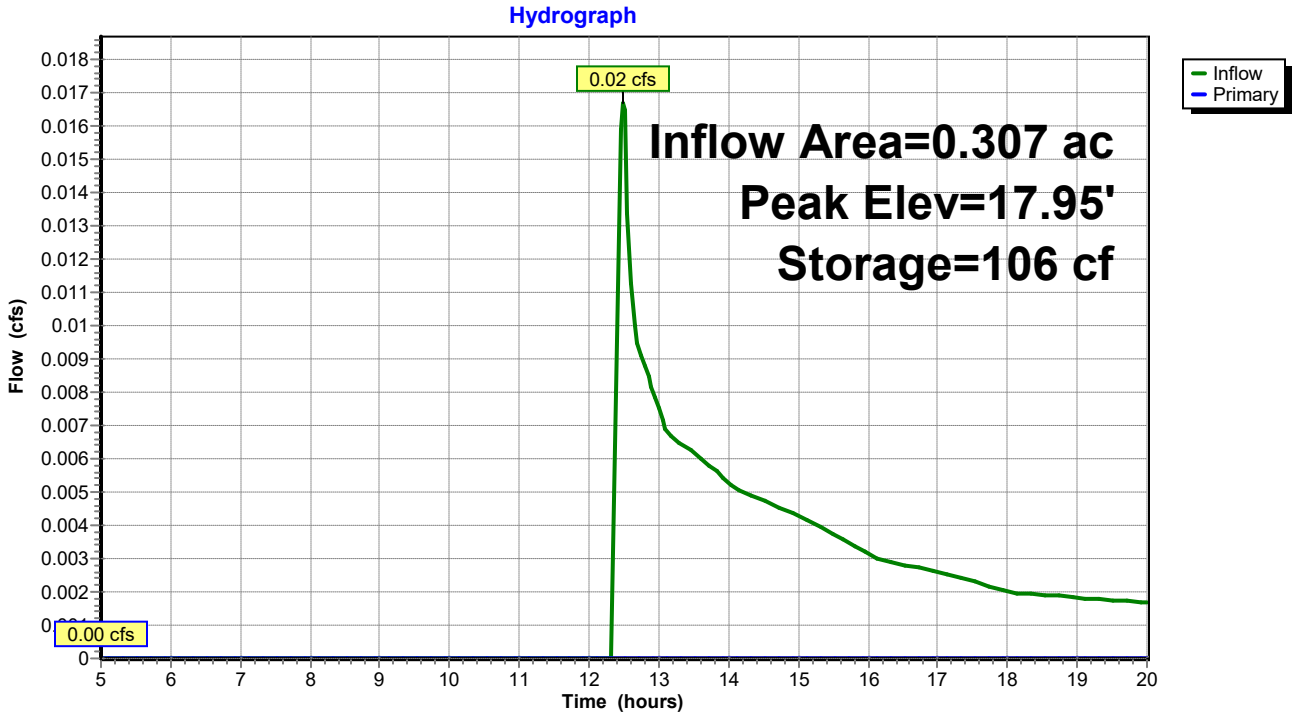
Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	115 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	61	0.0	0	0
18.00	168	100.0	115	115

Device	Routing	Invert	Outlet Devices
#0	Primary	18.00'	**Automatic Storage Overflow** (Discharged without head)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=17.00' (Free Discharge)

Pond 5P: Level Lip Speader

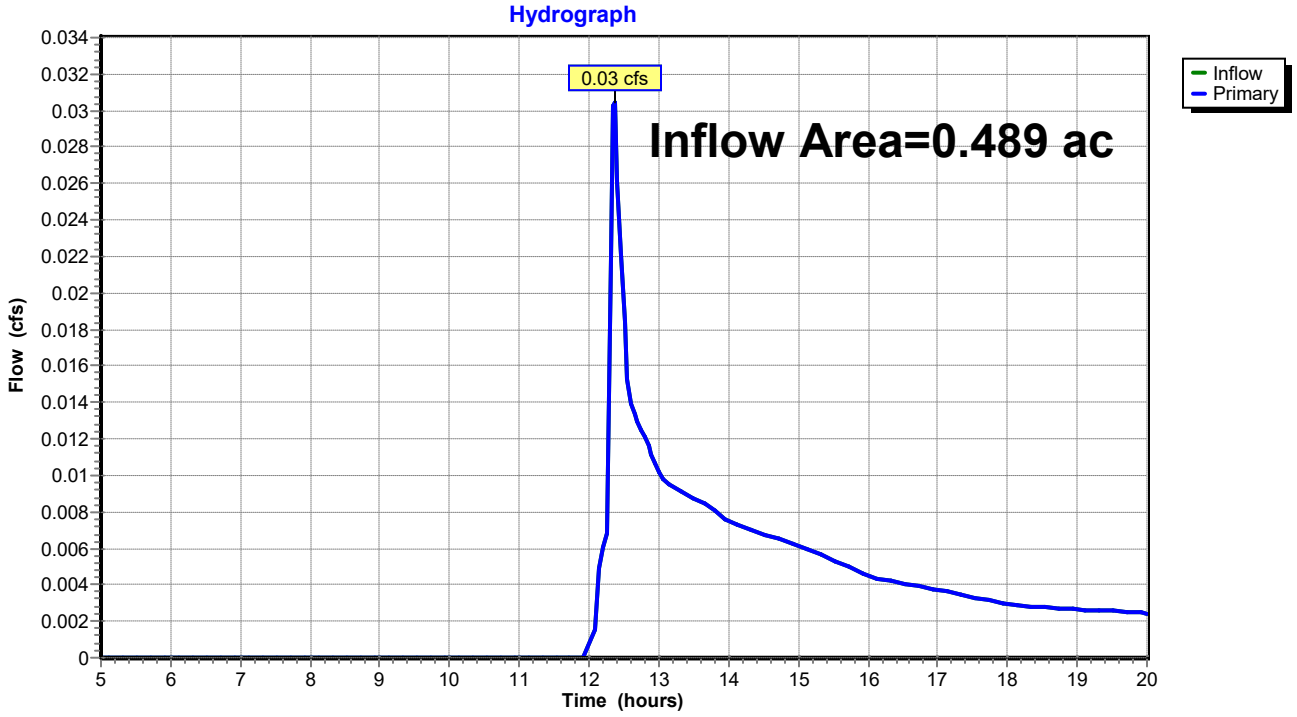


Summary for Link DP1: DP1

Inflow Area = 0.489 ac, 28.87% Impervious, Inflow Depth > 0.09" for WQ event
Inflow = 0.03 cfs @ 12.36 hrs, Volume= 0.004 af
Primary = 0.03 cfs @ 12.36 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP1: DP1



Summary for Link DP2: DP2

Inflow Area = 0.709 ac, 15.44% Impervious, Inflow Depth > 0.03" for WQ event
Inflow = 0.01 cfs @ 12.38 hrs, Volume= 0.002 af
Primary = 0.01 cfs @ 12.38 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP1 : SACO RIVER / OCEAN

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

Link DP2: DP2

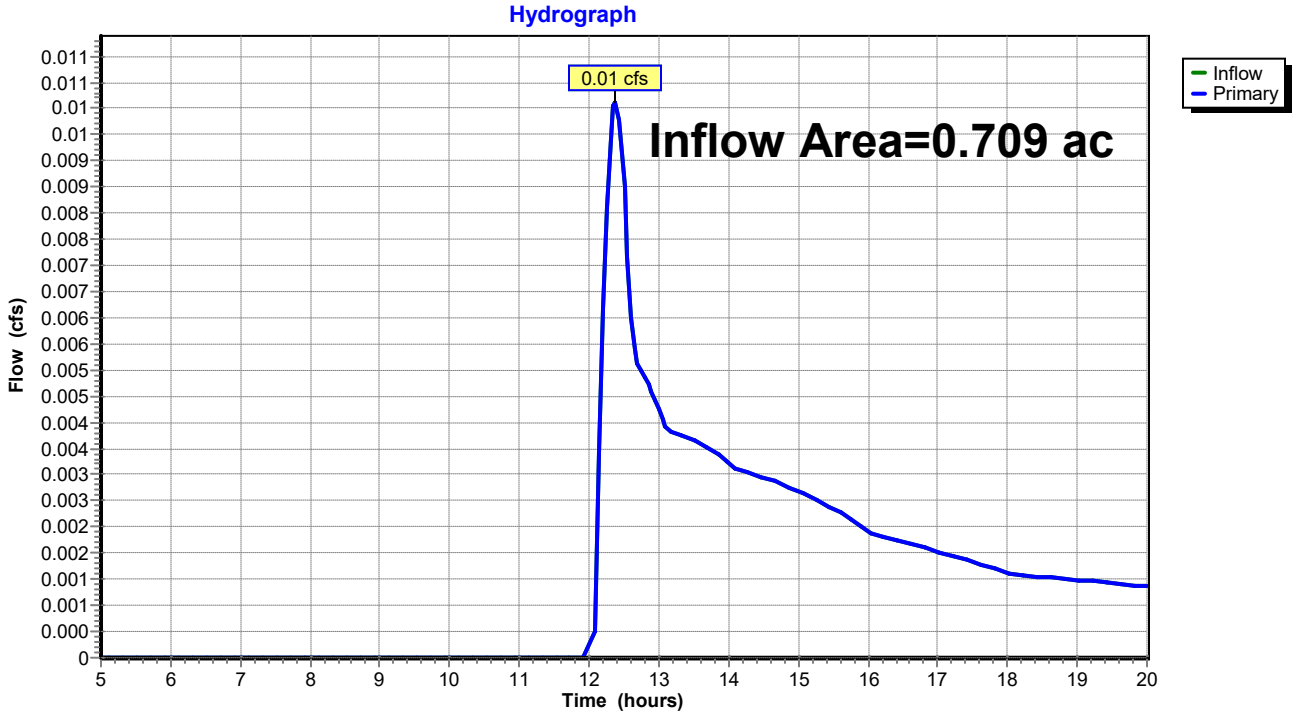


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24 Pond 2P: CB-1
25 Pond 3P: Bioretention Filter Cell 2
27 Pond 4P: CB-2
28 Pond 5P: Level Lip Speader
30 Link DP1: DP1
31 Link DP2: DP2

10-yr Event
32 Node Listing
34 Subcat 1S: Post Subcatchment 1
36 Subcat 2S: Post Subcatchment 2
37 Subcat 3S: Post Subcatchment 3
39 Subcat 4S: Post Subcatchment 4
40 Subcat 5S: Post Subcatchment 5
42 Reach 1R: Reach 1
43 Reach 2R: Reach 2
44 Reach DP3: Shoreline 3
45 Reach SP1: SACO RIVER / OCEAN
46 Pond 1P: Bioretention Filter Cell 1
48 Pond 2P: CB-1
49 Pond 3P: Bioretention Filter Cell 2
51 Pond 4P: CB-2
52 Pond 5P: Level Lip Speader
54 Link DP1: DP1
55 Link DP2: DP2

25-yr Event

56 Node Listing
58 Subcat 1S: Post Subcatchment 1
60 Subcat 2S: Post Subcatchment 2
61 Subcat 3S: Post Subcatchment 3
63 Subcat 4S: Post Subcatchment 4
64 Subcat 5S: Post Subcatchment 5
66 Reach 1R: Reach 1
67 Reach 2R: Reach 2
68 Reach DP3: Shoreline 3
69 Reach SP1: SACO RIVER / OCEAN
70 Pond 1P: Bioretention Filter Cell 1
72 Pond 2P: CB-1
73 Pond 3P: Bioretention Filter Cell 2
75 Pond 4P: CB-2
76 Pond 5P: Level Lip Speader
78 Link DP1: DP1
79 Link DP2: DP2

100-yr Event

80 Node Listing
82 Subcat 1S: Post Subcatchment 1
84 Subcat 2S: Post Subcatchment 2
85 Subcat 3S: Post Subcatchment 3
87 Subcat 4S: Post Subcatchment 4
88 Subcat 5S: Post Subcatchment 5
90 Reach 1R: Reach 1
91 Reach 2R: Reach 2
92 Reach DP3: Shoreline 3
93 Reach SP1: SACO RIVER / OCEAN
94 Pond 1P: Bioretention Filter Cell 1
96 Pond 2P: CB-1
97 Pond 3P: Bioretention Filter Cell 2
99 Pond 4P: CB-2
100 Pond 5P: Level Lip Speader
102 Link DP1: DP1
103 Link DP2: DP2

WQ Event

104 Node Listing
106 Subcat 1S: Post Subcatchment 1
108 Subcat 2S: Post Subcatchment 2
109 Subcat 3S: Post Subcatchment 3
111 Subcat 4S: Post Subcatchment 4
112 Subcat 5S: Post Subcatchment 5
114 Reach 1R: Reach 1
115 Reach 2R: Reach 2
116 Reach DP3: Shoreline 3

117 Reach SP1: SACO RIVER / OCEAN
118 Pond 1P: Bioretention Filter Cell 1
120 Pond 2P: CB-1
121 Pond 3P: Bioretention Filter Cell 2
123 Pond 4P: CB-2
124 Pond 5P: Level Lip Speader
126 Link DP1: DP1
127 Link DP2: DP2

Pipe Schedule
UNE Marine Sciene Center Pier
Biddeford, Maine

PROPOSED PIPES (BIORETENTION FILTER CELLS)

From	Inv	To	Inv	AREAS Paved 0.98	AREAS Open 'C' 0.61	AREAS Total (sf)	C	A (ac)	CA (ac)	ΣCA (ac)	Tc (min)	i25 (in/hr)	Q25 (req) (CFS)	Type	Pipe n	Leng (ft)	Dia (in)	Slope (%)	Vel ¼ Full (ft/sec)	Vel (ft/sec)	Q (prov) (CFS)	Q (Prov) > Q (Req'd)
SF-A	18.75	**18" Outfall**	18.00	3,935	5,897	9,832	FLOW FROM HYDROLOGY MODEL						1.33	HDPE	0.012	40	18	1.88%	6.18	8.82	15.58	good
SF-B	13.75	**15" Outfall**	12.00	3,768	9,597	13,365	FLOW FROM HYDROLOGY MODEL						1.56	HDPE	0.012	48	15	3.65%	7.63	10.89	13.36	good

Appendix D

Inspection and Maintenance Plan

Owner Responsible for Maintenance

All maintenance plans for stormwater management measures must include the following:

> The name, address, and telephone number of the person or persons responsible for the preventative and corrective maintenance of the stormwater management measure. If the plan identifies a party other than the owner or developer as having responsibility for maintenance, i.e., a public entity or homeowners' association, the plan must include a copy of the other party's written agreement to assume this responsibility. This agreement must include a copy of any ordinance or regulation that requires the owner or developer to dedicate the stormwater management measure and/or its maintenance to the other party.

Information of the Person Responsible for Maintenance:

Name:

Address:

Telephone:

If an entity other than the above listed property owner or the developer will have the responsibility for stormwater pond maintenance, then they will provide a copy of the designated party's written agreement to assume this responsibility.

University of New England
Biddeford, Maine
June 2025

INSPECTION AND MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES

Stormwater Management Facilities include swales, paved surfaces, manholes and catch basins, drain pipe, riprapped aprons, level spreaders, wooded buffers, and bioretention filter cells. Periodic inspection and maintenance of these site features and devices is necessary to prevent erosion, protect roadways and other paved areas, and remove pollutants from stormwater runoff. Best management practices and stormwater facilities should be inspected as noted below, and after a rainfall event of 1" or more in 24 hours.

University of New England Facilities Department is responsible for the inspections and maintenance of stormwater facilities associated with this project.

SWALES, DITCHES, CURBS AND PAVED AREAS:

Swales, ditches, curbs and paved areas are easily inspected during a site walk or even a ride-by. Since visual inspection is easy, their condition should be assessed during and/or after significant rainfall events such as thunder showers and periods of heavy or extended rainfall and during periods of significant snowmelt. Any damage or unusual condition such as sedimentation of a ditch, erosion, damaged curb or dying vegetation should be recorded, dated and initialed by the inspector when observed. Even if there is no damage, the inspector should make record of these inspections at least twice annually.

Paved areas should be visually inspected monthly during the winter. The inspector should pay particular attention to the build up of sand around catch basin grates and remove accumulations that block the free flow of surface runoff to the catch basins. The date and initials of the inspector should be recorded on the forms provided as well as a notation of any cleanup effort that was made and the approximate volume of sand that was removed.

Open swales and ditches shall be inspected twice per year (in spring and fall) to assure that debris and/or sediments do not reduce the effectiveness of the system. Debris and sediments shall be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the ditches and slopes proper function. Maintenance shall include, but not be limited to, mowing, trimming and removal of vegetation in the ditches and slopes as required in order to prevent vegetation from blocking or diverting storm flows, replacement of riprap channel lining to prevent scour of the channel invert, removing vegetation and debris from the culverts.

Vegetated ditches should be mowed at least monthly during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be reseeded and mulched immediately.

CATCH BASINS, FIELD INLETS AND DRAIN MANHOLES:

Catch Basins and field inlets are precast concrete structures with sumps and cast iron grates used to collect stormwater and trap heavy sediments. Drain Manholes are similar structures constructed with a channel instead of a sump and a solid cast iron cover instead of a grate. Drain Manholes exist at changes in direction and/or size of storm drain pipe. Catch Basins, field inlets and drain manholes provide access to the closed storm drain system for inspection and maintenance.

Throughout the winter / spring sanding period, inspect catch basins and field inlets monthly and after every significant rainfall event or period of heavy snowmelt. Clean catch basin and field inlet sumps when sediment level is within 12 inches of the outlet pipe invert. At a minimum, remove floating debris and hydrocarbons at the time of the inspection. The removed material must be disposed of in accordance with the Maine Solid Waste Disposal Rules. Confined space entry safety procedures shall be practiced should entry into these structures be required.

Record dates of inspections, observations and maintenance measures implemented (if any) on the forms provided and initial the entry.

DRAIN PIPES:

Drain pipes are road culverts and pipes connecting drain manholes. Inspect drain pipes when inspecting other stormwater maintenance facilities. At least annually make a visual inspection of the pipe. During the daylight you should be able to see light through most pipes as they have been laid to a straight line and grade. In some cases (e.g. pipe runs to a drain manhole, or is blocked) you will need a light to inspect pipes.

Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the pipe inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to contain the sediment at the pipe outlet, and not flush the sediments into the stormwater filter or wetland areas.

Riprap aprons where stone is displaced should be replaced and chinked to assure stability. With time, additional riprap may be added. Vegetation growing through riprap should be removed on an annual basis.

Record inspections on the forms provided noting condition of pipe and any maintenance procedures implemented.

LEVEL SPREADERS:

Level Spreaders are shallow basins or ditches constructed at the ends of ditches or pipe outlets to disperse or "spread" concentrated flow thinly over a receiving area. Level Spreaders are constructed along the natural contour of the land to create a level "lip" on the outlet side. The integrity of the level lip is critical to the proper performance of this device.

Inspect the Level Spreader at least once each season and following significant rainfall events (1 inch or more of rain in 12 hours). Record inspections on the forms provided noting your observations and any corrective action taken. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation and stability of stone berms for the stability of the level spreader for proper function. Minor regrading, releveling of the stone “lip,” and reseeding

of the level lip on an annual basis should be anticipated. Mow level lips at least twice during the growing season. Maintenance may also include removal of sediment buildup especially on the inlet end.

BIORETENTION FILTER CELLS:

A bioretention filter cells is a landscaped depression with an under drained soil bed or soil filter that exfiltrates the stormwater. The depression is designed to temporarily store runoff, which will drain through the soil filter into the underdrains; excess runoff will flow into structures or over earthen spillways.

Soil Filter Inspection: The soil filter should be inspected after every major storm in the first few months to ensure proper function. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours; and that, after storms that fill the system to overflow, it drains in no less than 24 hours. If the filter drains too rapidly, (i.e. prior to 24 hours), then an adjustable orifice shall be installed on the underdrain outlet pipe. The orifice shall be adjusted such that the filter completely drains within 24 to 72 hours.

Underdrain System: The soil filter outlet consists of a layer of planting loam and sand with a stone and perforated pipe underdrain. Outlet inspections shall include flushing of the underdrain through the cleanouts at the end of the pipes. Trash, sediment, and debris shall be removed from the vicinity of the outlet and must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Soil Filter Replacement: If the filter fails to drain within 72 hours, the surface of the pond shall be rototilled to promote aeration of the filter media and vegetation shall be re-established. If aeration of the surface soil fails to promote filtration of impounded water within 72 hours, then the filter media shall be replaced as necessary. The stone underdrain shall also be replaced at this time, along with the perforated pipe.

Sediment Removal: Sediment and plant debris should be removed from the pretreatment structure at least annually.

Mowing: Filters with grass cover should be mowed no more than 2 times per growing season to maintain grass heights less than 12 inches.

Fertilization: Fertilization of the bioretention filter cells should be avoided unless absolutely necessary to establish vegetation.

Harvesting and Weeding: Harvesting and pruning of excessive growth will need to be done occasionally. Weeding to control unwanted or invasive plants may also be necessary. Add new mulch as necessary for bioretention cells.

Bioretention Filter Cells shall not be used for snow storage area. Vehicular equipment used to maintain or rehabilitate Bioretention Filter Cells should work from the basin perimeter and not enter the basin area, as this will compact the soil surface and reduce the design infiltration rate. Record all maintenance on forms provided.

SEDIMENT DISPOSAL:

Any sediment or debris removed during maintenance of the stormwater system must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

UNIVERSITY OF NEW ENGLAND
BIDDEFORD, MAINE

INSPECTION / MAINTENANCE LOG

SWALES, DITCHES, CURBS AND PAVED SURFACES

I: INSPECTED - C: CLEANED - S: SWEPT - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
5/10/19	RST	I, C	EXAMPLE: Removed sand around CB's 19 and 20. Heavy rain over the weekend.

UNIVERSITY OF NEW ENGLAND
BIDDEFORD, MAINE

INSPECTION / MAINTENANCE LOG

CATCH BASINS, FIELD INLETS, AND DRAIN MANHOLES

I: INSPECTED - C: CLEANED - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
6/13/19	JKL	I, C	EXAMPLE: Called ACME to clean catch basins.

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BIDDEFORD, MAINE

INSPECTION / MAINTENANCE LOG

DRAIN PIPES

I: INSPECTED - C: CLEANED - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
4/19/18	JKL	I, C	EXAMPLE: Called ACME to clean debris from culvert inlets along Main Road and Loop Road.

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BIDDEFORD, MAINE

INSPECTION / MAINTENANCE LOG

LEVEL SPREADERS

I: INSPECTED - C: CLEANED - R: REPAIRED

DATE	INITIALS	ACTION	COMMENT
8/16/19	JKL	I, C	EXAMPLE: Inspected level spreaders on site, found minimal sediment build up, stone lips appeared consistently level and functional. Mowed level lips.

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BIDDEFORD, MAINE

INSPECTION / MAINTENANCE LOG

BIORETENTION FILTER CELLS

I: INSPECTED - C: CLEANED - R: REPAIRED

DATE	INITIALS	Unit #	ACTION	COMMENT
7/6/19	PQR	LA2	I, C	EXAMPLE: Cleared sediment and plant debris from inlet area, mowed filter area, crest, and sideslopes.

STORMWATER MANAGEMENT SYSTEM
MAINTENANCE PROGRAM
SUMMARY CHECKLIST

Item	Commentary	Frequency			
		Month	Semi-Annual	Annual	Long-Term
All Pond and Filter side slopes	Inspect slopes for sloughing, erosion or undesirable tree growth. Mow slopes to control vegetation, repair any structure flaws identified	**X Mow Summer**		**X**	
All Pond and Filter Sediment Removal	Remove sediment when it occupies 15% of volume.				**X 5 Years**
Open Swale, Ditches & Inlet Structures	Inspect for debris accumulation, erosion and excessive vegetation. Mow monthly, remove debris, repair and revegetate any area of erosion	**X Mow**		**X**	
Pavement	Review for damage and buildup of debris and sand.	**X**	**X Sweep**		
Level Spreaders	Review level lip for stability and grass growth, remove sediment and debris		**X**		
Catchbasin and Drain Manholes	Inspect grates to assure optimum water flows into the structures. Inspect sumps for blockage and sediment accumulation. Clean out sumps .	**X Inspect**		**X Sediment removal**	
Pipelines	Inspect for sediment build-up in pipe. Flush and remove as required.			**X**	
Bioretention Filter Cells	Mow twice per year. Inspect for erosion.		**X**		

Drawings

PRE DEVELOPMENT DRAINAGE AREA 1S
AREA = 0.457 ACRES
WEIGHTED CN = 77
TC = 4.0 MIN

PRE DEVELOPMENT DRAINAGE AREA 2S
AREA = 0.637 ACRES
WEIGHTED CN = 77
TC = 12.7 MIN

PRE DEVELOPMENT DRAINAGE AREA 3S
AREA = 1.461 ACRES
WEIGHTED CN = 80
TC = 7.0 MIN

W
WATER

DP1 **DP2** **DP3**

1S
20,023 SF

2S
27,744 SF

3S
63,622 SF

BA
BEACHES, SAND
(UNRANKED)

LyC
LYMAN-ROCK OUTCROP COMPLEX
(HYD D)

LyB
LYMAN-ROCK OUTCROP COMPLEX
(HYD D)

UH
URBAN LAND-HOOKSAN COMPLEX
(HYD D)

GIRARD MARINE SCIENCE CENTER

UPLAND DEVELOPMENT AND STORMWATER MANAGEMENT DOES NOT EFFECT THE DRAINAGE AREA FOR THIS PROJECT. THIS WORK WAS APPROVED UNDER PRIOR SLODA PERMITTING.

ADDITIONAL DRAINAGE AREA BOUNDARY BEYOND DETAILED SITE TOPOGRAPHIC DATA IS BASED ON THE LATEST 2.5 MINUTE SERIES USGS TOPOGRAPHIC MAPPING

25' HAT SETBACK
75' HAT SETBACK
250' SHORELAND ZONE
MLLW
MHHW = 4.7'
EDGE OF RIPRAP
TOP OF BANK
LEDGE
LEDGE & BOULDERS
BOULDERS
RIPRAP
GRAVEL
CONC.
PAVED WALK
PAVED PATH
CONCRETE PAD
FAN
WOOD LANDING
WOOD STAIRS
GATE
PUMP
DOOR
2nd STORY OVERHANG
SHED
HVAC
RIM=32.35
FFE=32.96
FFE=32.92
THRESH= 33.02
THRESH= 33.01
THRESH= 32.97
THRESH= 33.00
TRANSFORMER ON CONCRETE
GENERATOR ON CONCRETE PAD
GENERATOR EXHAUST BUILDING
EXPOSED CONDUIT
12"RCP INV.=33.20
12"RCP
CONC. BOUND STAMPED "CITY OF BIDDEFORD ZONE LINE"
WETLAND
PATH
BEACH
SAND DUNES AREA SEE NOTE 6
HISTORY SIGN
WOODEN RACK
BUILDING THRESH =16.98
TC-1 (20 LF)
TC-1 (148 LF)
TC-1 (23 LF)
TC-2 (118 LF)
TC-2 (50 LF)
TC-2 (70 LF)
TC-3 (170 LF)
TC-4 (140 LF)
TC-5 (42 LF)
HP-1
HP-2
HP-3
HP-4
LB-1
LB-3
LB-8
ADD-1
ADD-8
ADD-9
IRF

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

0 20 40
SCALE, FEET

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
PRE-DEVELOPMENT DRAINAGE PLAN

SHEET NO.
SW-01

DiCASTELNUOVO, VINNIE \\geiconsultants.com\Data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-SW-SHEETS.dwg - 9/15/2023

POST DEVELOPMENT DRAINAGE AREA 2S
AREA=0.264 ACRES
WEIGHTED CN=79
TC=3.4 MIN

POST DEVELOPMENT DRAINAGE AREA 4S
AREA=0.402 ACRES
WEIGHTED CN=79
TC=7.2 MIN

POST DEVELOPMENT DRAINAGE AREA 1S
AREA=0.226 ACRES
WEIGHTED CN=87
TC=0.8 MIN

POST DEVELOPMENT DRAINAGE AREA 5S
AREA=1.359 ACRES
WEIGHTED CN=80
TC=7.0 MIN

POST DEVELOPMENT DRAINAGE AREA 3S
AREA=0.307 ACRES
WEIGHTED CN=84
TC=4.9 MIN

W
WATER

DP1
DP2
DP3

1S
1P
2S
3S
3P
4S
5P
5S
R1
R2

BA
BEACHES, SAND
(UNRANKED)

UH
URBAN LAND-HOOKSAN COMPLEX
(HYD D)

LyC
LYMAN-ROCK OUTCROP COMPLEX
(HYD D)

LyB
LYMAN-ROCK OUTCROP COMPLEX
(HYD D)

UPLAND DEVELOPMENT AND STORMWATER MANAGEMENT DOES NOT EFFECT THE DRAINAGE AREA FOR THIS PROJECT. THIS WORK WAS APPROVED UNDER PRIOR SLODA PERMITTING.

ADDITIONAL DRAINAGE AREA BOUNDARY BEYOND DETAILED SITE TOPOGRAPHIC DATA IS BASED ON THE LATEST 2.5 MINUTE SERIES USGS TOPOGRAPHIC MAPPING

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

0 20 40
SCALE, FEET

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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BIDDEFORD, YORK COUNTY, MAINE

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1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
POST-DEVELOPMENT DRAINAGE PLAN

SHEET NO.
SW-02

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W
WATER

AREA TO BE TREATED BY BIORETENTION FILTER CELL, TYP.

DP1
DP2
DP3

1P
1S
2S
3P
3S
4S
5P
5S
R1
R2

9,832 SF
830 SF
580 SF
13,365 SF
10,250 SF
17,529 SF
59,179 SF

TC-1 (46 LF)
TC-2 (102 LF)
TC-3 (24 LF)
TC-3 (6 LF)
TC-2 (214 LF)
TC-4 (140 LF)
TC-1 (62 LF)
TC-2 (64 LF)
TC-5 (42 LF)
TC-2 (112 LF)
TC-1 (21 LF)
TC-1 (23 LF)
TC-1 (43 LF)
TC-2 (70 LF)
TC-3 (170 LF)

HP-1
HP-2
HP-3
HP-4
LB-1
LB-3
LB-8
ADD-1
ADD-9

LyC
LYMAN-ROCK OUTCROP COMPLEX
(HYD D)

LyB
LYMAN-ROCK OUTCROP COMPLEX
(HYD D)

UH
URBAN LAND-HOOKSAN COMPLEX
(HYD D)

BA
BEACHES, SAND
(UNRANKED)

GIRARD MARINE SCIENCE CENTER

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ADDITIONAL DRAINAGE AREA BOUNDARY BEYOND DETAILED SITE TOPOGRAPHIC DATA IS BASED ON THE LATEST 2.5 MINUTE SERIES USGS TOPOGRAPHIC MAPPING

25' HAT SETBACK
75' HAT SETBACK
250' SHORELAND ZONE
MHHW = 4.7'
MLLW
TOP OF BANK
EDGE OF RIPRAP
LEDGE
LEDGE & BOULDERS
RIPRAP
GRAVEL
CONC.
PAVED WALK
PATH
WETLAND
SAND DUNES AREA SEE NOTE 6
HISTORY SIGN
WOODEN RACK
BOULDERS
BUILDING THRESH =16.98
FAN
TRANSFORMER ON CONCRETE
GENERATOR ON CONCRETE PAD
GENERATOR EXHAUST BUILDING
12"RCP INV.=33.20
CIRE STAMPED "CITY OF BIDDEFORD ZONE LINE"

FOR PERMIT

0 20 40
SCALE, FEET

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
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1	12/9/2022	15% DESIGN SUBMISSIONREV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
TREATMENT AREA PLAN

SHEET NO.
SW-03

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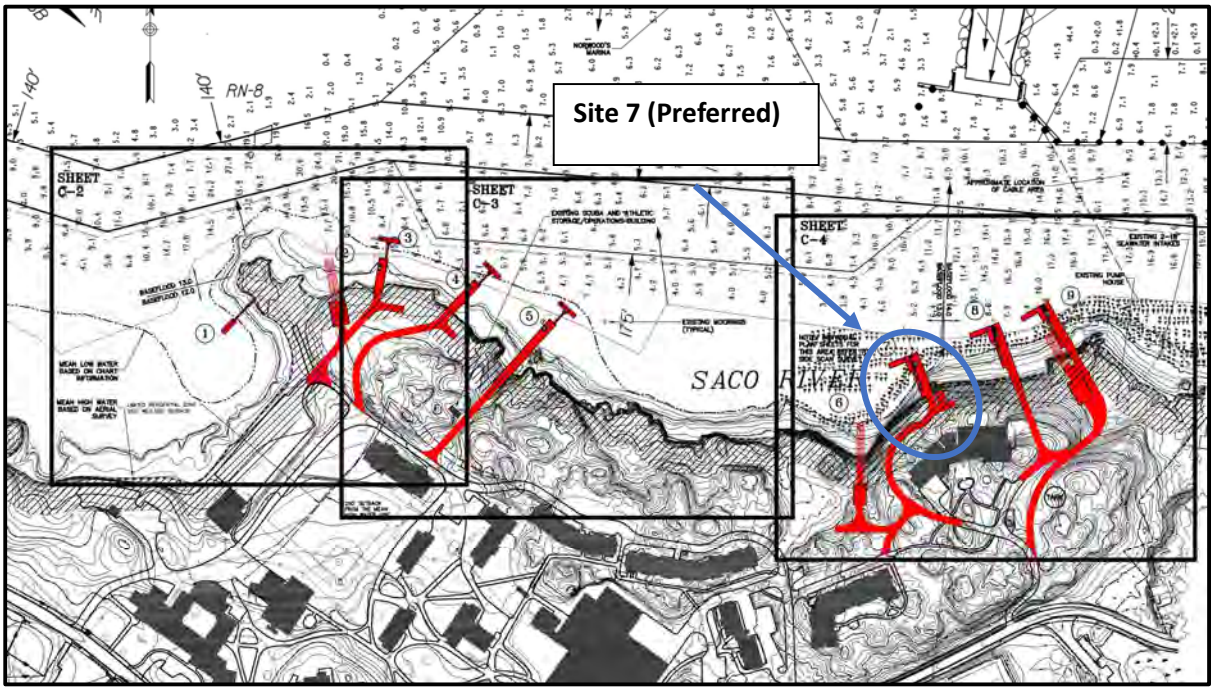
Attachment 8
Alternatives Analysis
and Memo

Alternatives Analysis

The Plans provided in attachments 5 and 6 detail the preferred alternative. This design was arrived at after extensive study of alternative locations and layouts for the pier over multiple years time. Alternatives considered in developing the proposed project are briefly described below.

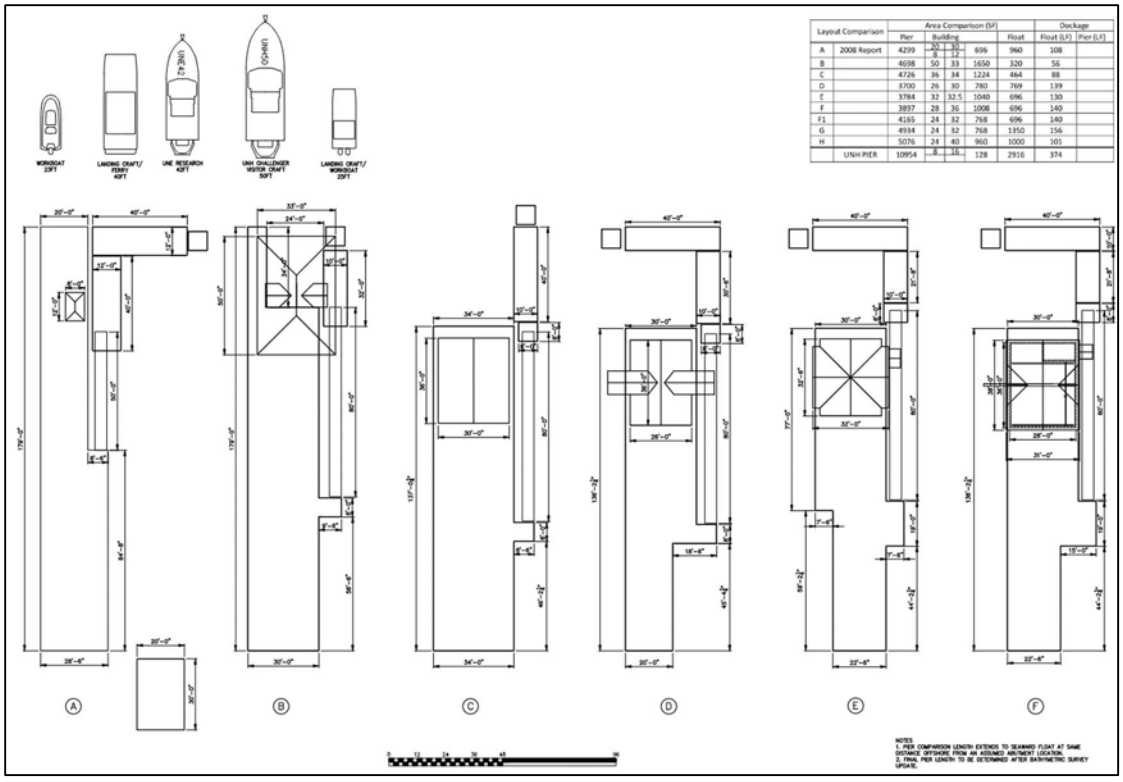
2008-2010 Pier Feasibility Study

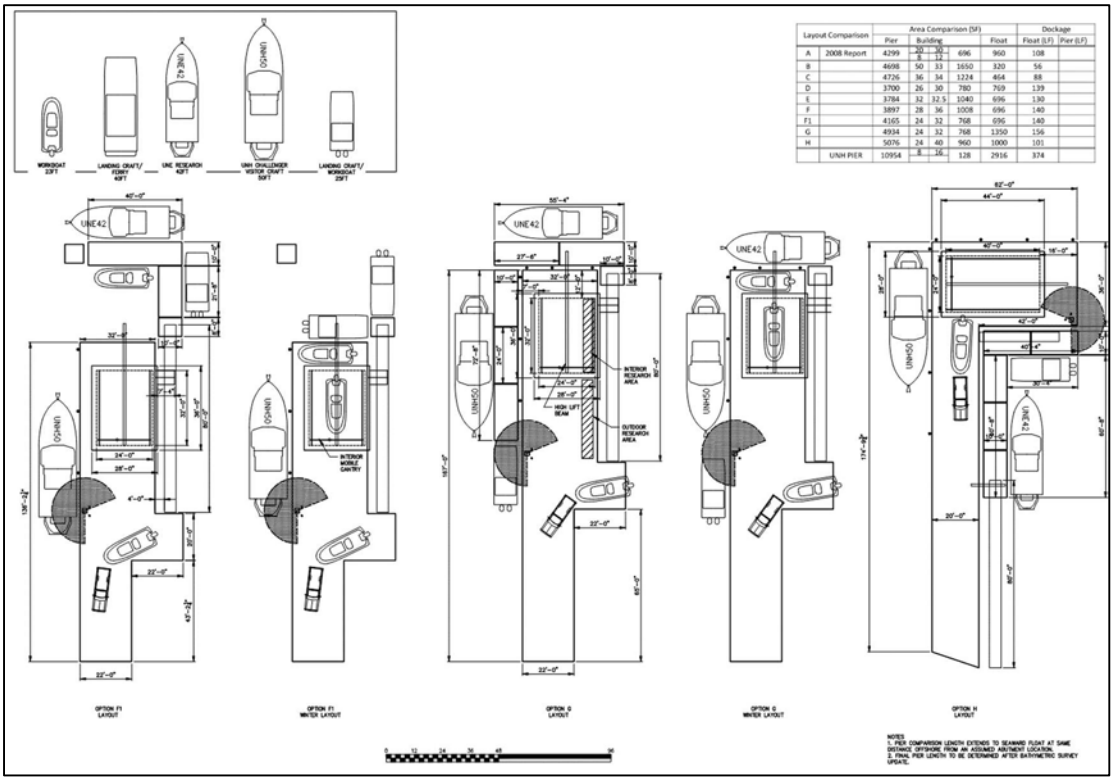
In 2008-2010, UNE completed a concept planning study for the proposed pier. In this study, nine alternative designs were developed for water access facilities along the UNE waterfront consisting of various configurations of piers, boat ramps, and upland access and support facilities. The alternatives were evaluated on a range of criteria including technical criteria, functionality, constructability, regulatory impacts, cost of construction, and others to identify a preferred facility location. The nine alternatives evaluated through this study are shown in the figure below. At the conclusion of this study, Site 7 (directly in front of the Marine Science Center building) was identified as the preferred facility location to develop a new pier facility that would consist of a pile-supported pier extending from shore out into the Saco River. This location is optimal for access to and from the MSC facility and on the water, and allows for all-tide berthing with a smaller structure and less impact than several adjacent alternatives that were considered. At the conclusion of this study it was determined that Site 7 was the preferred alternative to move forward with further planning and design.



2015-2016 Pier Layout Study

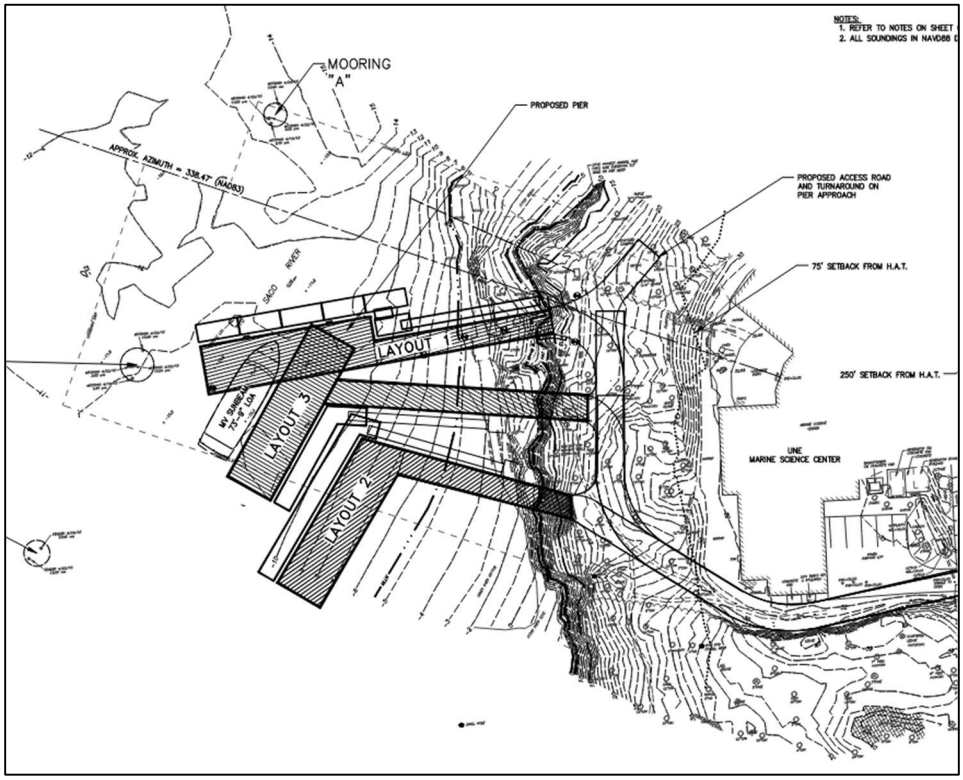
After completion of the pier feasibility study described above, UNE undertook additional effort to study alternative pier layouts that would address the functional needs of the facility as well as the site exposure, berthing conditions, access requirements, and associated site impacts. During this study, numerous alternative pier layouts were considered which are depicted in the two figures that follow.





Further alternative development was completed in 2016 to address a realignment of the pier head parallel to the predominant direction of flow in the River for improved berth functionality. These alternatives considered input of the Biddeford Harbormaster and his knowledge of boating and

conditions on the Saco River after review of earlier layouts during a meeting in early 2016. The figure below depicts three alternatives considered during the study.



2023 Layout Refinement

During design refinement undertaken in 2023, the preferred alternative was identified as a combination of the pier approach from Layout 1, and the pier head from Layout 3, of the 2016 layout study. The Layout 1 pier approach represents the least impactful and most feasible option for upland site access. The Layout 3 pier head provides more desirable berthing conditions by aligning the main berth with flow directions in the River, and reaches sufficient depth to provide all-tide access for the range of vessels anticipated to use the facility. The layout was then refined somewhat to reduce the size of the structure to keep the dimensions to the minimum necessary to accomplish the functional goals of the project. During this refinement, the dimensions of the pier head were reduced from the initially proposed 28-feet wide by 100-feet long, to the currently proposed 23-feet 4 inches wide by 80-feet long. The dimensions of the float dock system were reduced somewhat, and the layout of fender piles was refined to reflect a functional design with minimum necessary dimensions and impacts.

The preferred alternative as currently presented represents a facility of the smallest dimensions possible to provide a functional facility that provides all-tide access for the range of vessels anticipated to use the facility, and ADA compliant access to the floating dock and gangway system and berthed vessels. While it could be possible to further reduce site impacts by further reducing the dimensions of the facility, any reduction beyond the size that is currently proposed would impact the proposed uses of the facility.

Do Nothing Alternative

A Do Nothing Alternative is the least impactful option, but would fail to address the goal of providing all-tide access to support UNE's marine research and educational programming through the marine science center. The existing seasonal floats and gangway located on the UNE campus upstream of the MSC building do not effectively meet these needs. Therefore, a Do Nothing alternative is not considered to be a feasible long-term solution.

Memo

To:	Andrew Philippe, Director of Campus Planning
From:	Daniel Bannon, P.E., CFM and Barney Baker, P.E.
c:	UNE – Alan Thibeault Site Design Associates – Tom Saucier, P.E. GEI Consultants, Inc. - John Gareau, E.I.
Date:	November 28, 2023
Re:	Proposed GMSC Pier Location University of New England, Girard Marine Science Center Pier Biddeford, Maine GEI Project No. 2203703

Summary and Purpose

The University of New England (UNE) proposes to construct a new pier on the Saco River adjacent to the Girard Marine Science Center (GMSC) to support research and educational programming. The project has been in development for more than 10 years and has gone through extensive planning and alternatives analysis in arriving at the design that is proposed. In October 2023, UNE staff held a meeting with several key stakeholders including the Biddeford and Saco Harbormasters, who raised questions as to the viability of relocating the pier further toward the east, downstream from the proposed location, in a revised alignment. The purpose of this memo is to summarize the process that has been undertaken for selecting the proposed pier location and to evaluate the advantages or disadvantages of the suggested alternative location compared to the proposed design.

Planning History

UNE has undertaken multiple studies to investigate locations and configurations for the proposed GMSC pier. These studies considered factors and constraints including but not limited to proximity to campus facilities, available water depths, site exposure to currents and wave action, upland site impacts, coastal wetland and habitat impacts, impacts to harbor uses such as fishing, recreational boating, and moorings, and estimated cost of construction. The proposed pier represents the preferred balance of these factors. The past studies that resulted in this design are briefly summarized below.

In 2008-2010, UNE completed a concept planning study to investigate opportunities for construction of improved water access to support marine science programs on campus. In this study, nine alternative design concepts were developed along the UNE waterfront consisting of various configurations of piers, boat ramps, and upland access and support facilities. The concept alternatives are shown in Fig. 1. The alternatives were evaluated on a range of criteria including technical criteria, functionality, constructability, regulatory impacts, costs of construction, and others to identify a preferred facility location. At the conclusion of this study, Site 7 (directly in front of the GMSC building) was identified as the preferred location to develop a new pier facility that would consist of a pile-supported pier extending from shore out into the Saco River. This location was determined to provide the best balance of site constraints and desired functions with good access from the GMSC, ability to achieve adequate water depths to allow for all-tide berthing of the anticipated vessels, and a location of river frontage semi-sheltered from currents and wave action.

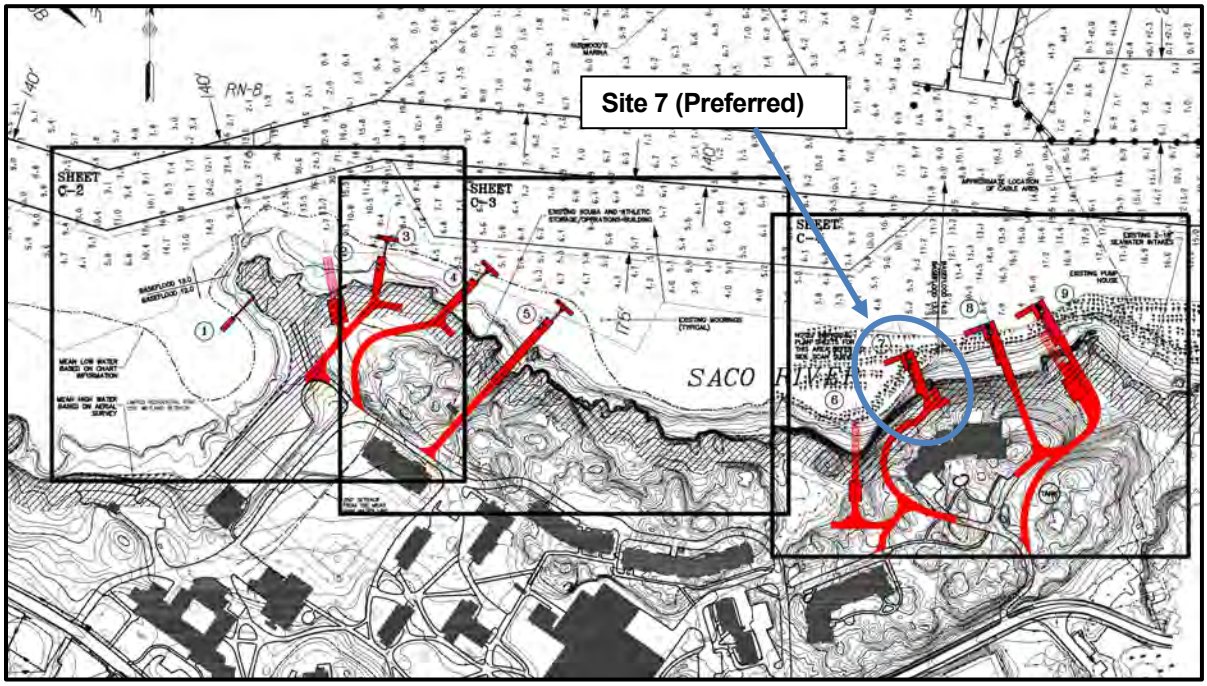


Fig. 1 – Alternative Sites Evaluated in 2008-2010 Study

After completing the pier feasibility study and identifying Site 7 as the preferred pier location, UNE undertook additional effort in 2015-2016 to study alternative pier layouts that would address the functional and vessel needs of the marine science curriculum as well as the site exposure, berthing conditions, access requirements, and associated site impacts. During this work, numerous alternative pier layouts were considered. Figs. 2 and 3 demonstrate some of the alternative layouts that were considered. This process allowed for consideration of desired pier dimensions and features, configurations of fixed structures and floating docks, pedestrian access needs, and other design criteria.

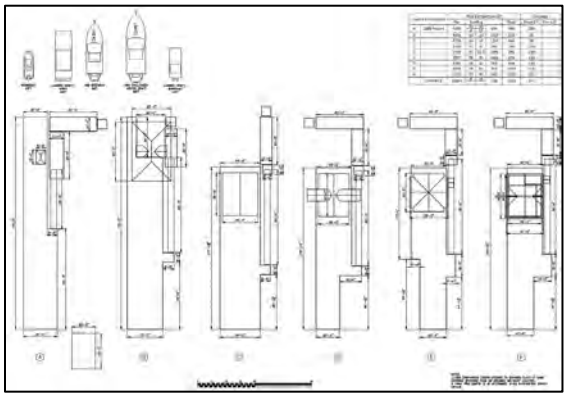


Fig. 2 – Sample of pier layout alternatives evaluated in 2015-2016 (1 of 2)

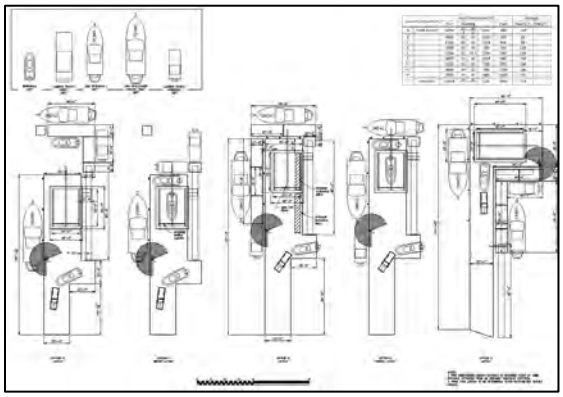


Fig. 3 – Sample of pier layout alternatives evaluated in 2015-2016 (2 of 2)

In February 2016, the proposed pier was reviewed with the with the Biddeford City Manager and key city representatives that included the Biddeford Harbormaster and Assistant Harbormaster and representatives from development staff and the Saco River Corridor Commission. Further input was gathered on river currents, recreational boating, and fishing activities resulting in the development of the three layout alternatives shown in Fig. 4 (labeled as Layout 1, Layout 2, and Layout 3). The

Harbormasters suggested that a layout with pier head oriented along the predominant direction of current such as shown in Layouts 2 and 3 would be preferable for vessels berthed at the facility. The Harbormasters also suggested that locating the pier closer to shore to minimize impacts to existing moorings and fishing activities would be preferable. These suggestions were taken into account in the next stages of design. A summary of the pier layout alternatives considered is provided in the attached memo from Baker Design Consultants dated March 22, 2016 titled "Consideration of an Alternate Pier Configuration as recommended by the City of Biddeford".

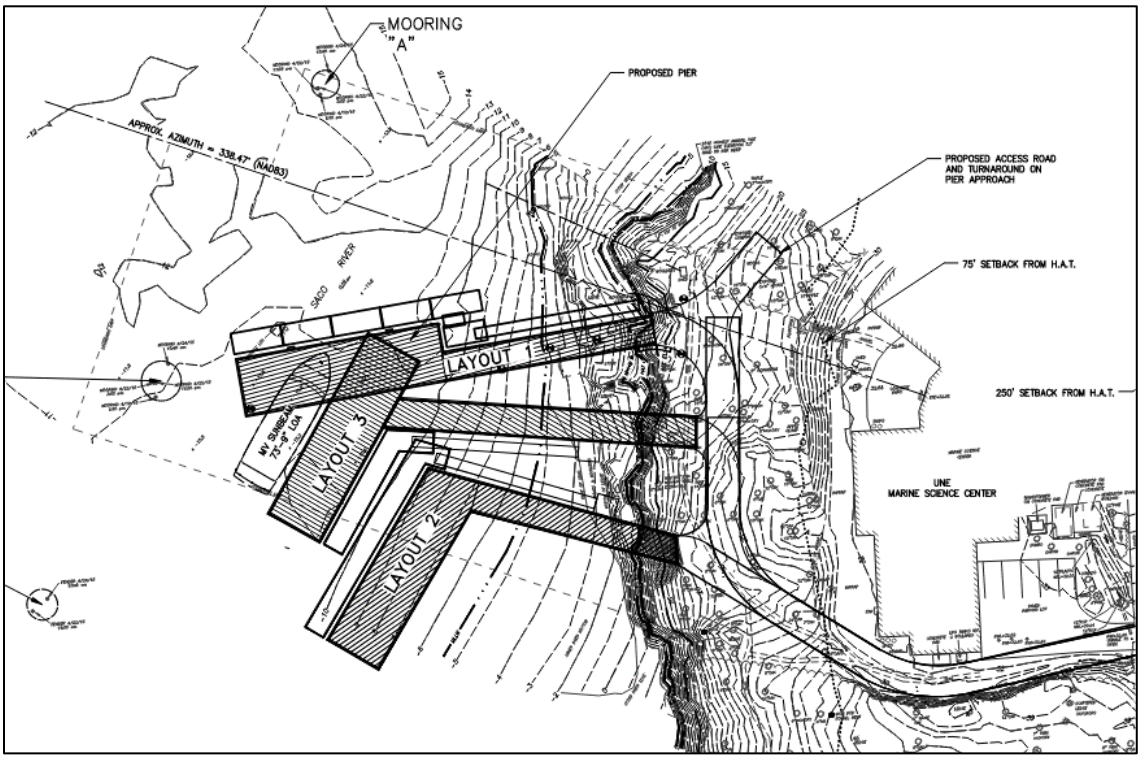


Fig. 4 – Pier layout alternatives developed in 2016 to address Harbormaster feedback

Final Design

In 2022, UNE resumed formal design development for the proposed GMSC Pier. At the start of this process, a layout was developed based on the 2016 layouts shown in Fig. 4 that reflected a combination of the pier head from Layout 3 and the pier approach from Layout 1. This new layout represented the optimal balance of site and functional constraints and upland access, with a pier head orientation that provides a main berth that is aligned with flow directions in the river, and sufficient depth to provide all-tide access for the range of vessels anticipated to use the facility.

The pier dimensions were refined through the design process to keep the structure to the minimum dimensions necessary to achieve the intended functions. This process resulted in a 22% reduction in footprint of the fixed pier, a 47% reduction in the footprint of floating docks, and a 17% reduction in the quantity of piles. Design development was advanced to 75% complete based on this design. The 75% design layout is shown in Figs. 5 and 6.



Fig. 5 – Proposed Pier Layout Vicinity Plan

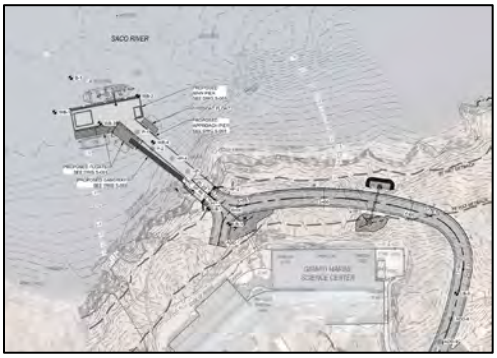


Fig. 6 – Proposed Pier Layout Site Plan

Alternative Location Analysis

In October 2023, UNE staff held a meeting to review the project with several key local stakeholders. During this meeting, the Biddeford and Saco Harbormasters suggested an alternative concept for the pier location that would relocate the pier further downstream from the proposed location as approximately shown in Fig. 7. In support of this alternative location, the Harbormasters cite deeper water, less impact to existing moorings, a location with more favorable water currents, and concerns of sediment deposition and potential need for dredging in the proposed pier location. Additionally, the Harbormasters have raised concerns about potential ice exposure given the history of icing issues at the Camp Ellis Pier directly across the River.

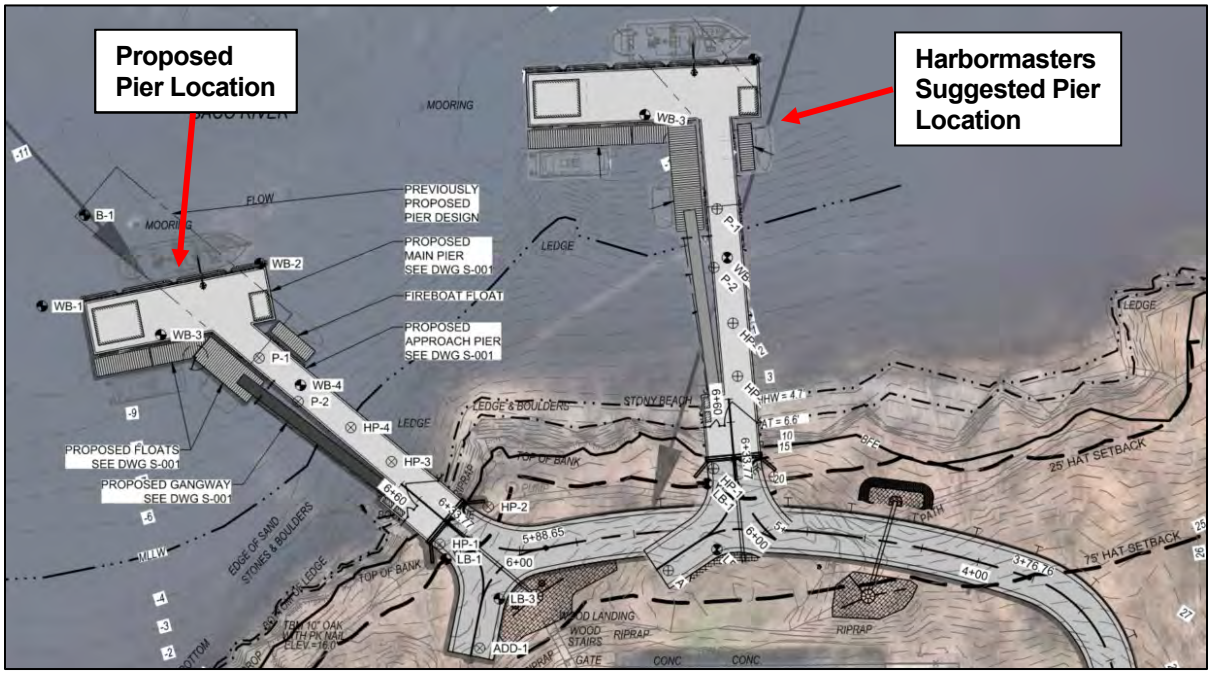


Fig. 7 – Alternative Suggested Pier Location

Review of Suggested Alternative Location

GEI has reviewed the suggested alternative layout and provided an evaluation of factors relating to the advantages and disadvantages of the proposed design versus the suggested alternative.

Water Depth

One reason for suggesting the alternative pier location is greater available water depths.

In the proposed design there is 5 to 6 feet of depth at mean lower low water (MLLW) at the main berth on the outer face of the pier which is sufficient for the proposed vessels using the facility. The suggested alternative location does have greater depth at the main berth, approximately 11 to 12 feet at MLLW. While this additional depth could allow larger vessels to use the pier, it is not needed to support the currently proposed and/or future envisioned uses.

The proposed design has 3.5 to 5 feet of depth at MLLW at the proposed floats on the inside of the pier, with sufficient distance to the MLLW line and a generally soft substrate near the floats to minimize risk of damage from vessels grounding out. In the suggested alternate location, the subtidal bottom slopes up rapidly behind the pier head. The available depth at the floats varies from 2 to 12 feet at MLLW, however the floats are in close proximity to a shallow ledge outcrop and there are concerns of hazardous conditions for vessels accessing these floats. In order to provide safe navigation to the floats the pier would need to be moved further downstream and/or extended further out into the River adding to its size, footprint, and cost.

From the standpoint of required water depths and navigational safety, the proposed design is preferred.

Exposure to Currents

The Saco River experiences currents due to tidal influence and riverine flows. To understand currents on the River, GEI has reviewed data gathered by the US Army Corps of Engineers as part of their study of erosion at Camp Ellis[1]. Figs. 8 through 11 demonstrate trends in current through differing stages of the tide. The magnitude of the current's velocity is represented by the length of the yellow arrows, with a reference arrow of 50 cm/s provided in the figures, while the current direction is indicated by the direction of the arrow. As can be seen from this data, the proposed pier location benefits from the natural shape of the shoreline which generally results in lower current velocities at the proposed location than at the downstream constriction of the River where the suggested alternate location would be located.

The lower current velocities at the proposed pier location compared to the suggested alternate result in more favorable conditions for vessels berthing at the pier, greater safety for vessels and users, and reduced structural loading on the pier. For these reasons, the proposed pier location is preferred from the standpoint of exposure to currents.

[1] Saco River and Camp Ellis Beach Section 111 Shore Damage Mitigation Study, Appendix C – Data Collection and Modeling Report, prepared by Woods Hole Group and Aubrey Consulting for the US Army Corps of Engineers, October 2006

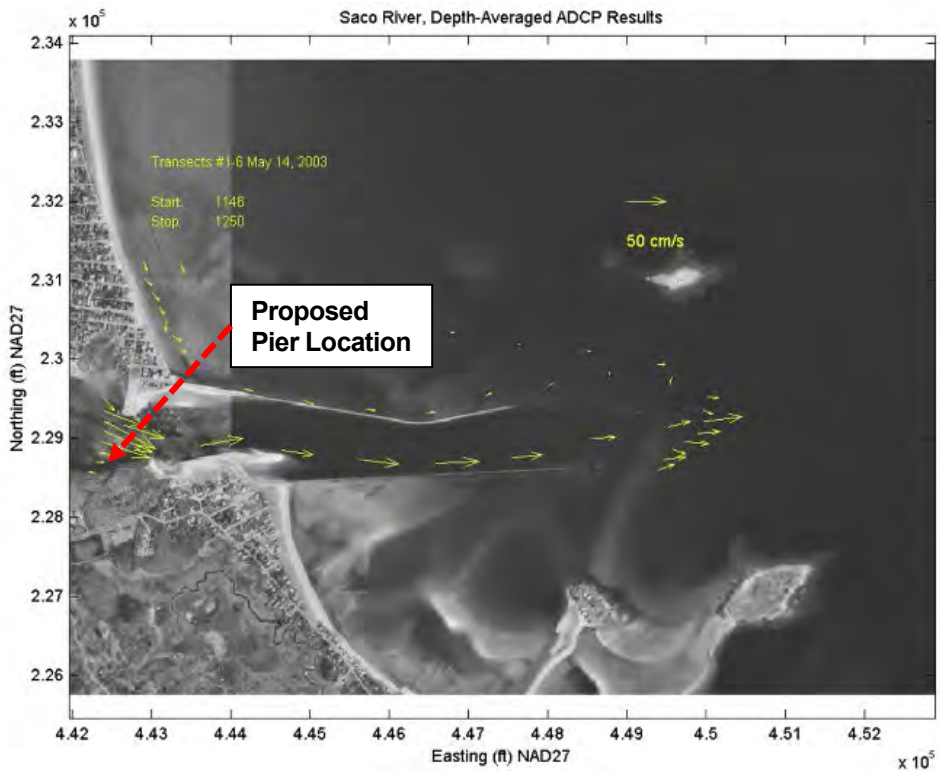


Fig. 8 – Sample of USACE Current Monitoring Data

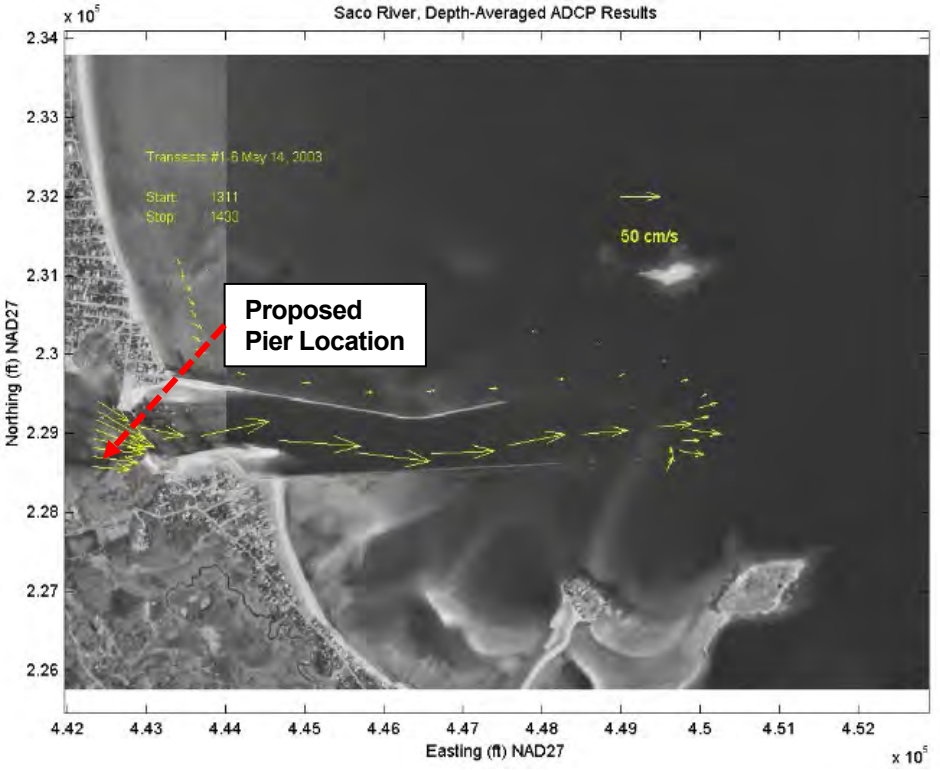


Fig. 9 – Sample of USACE Current Monitoring Data

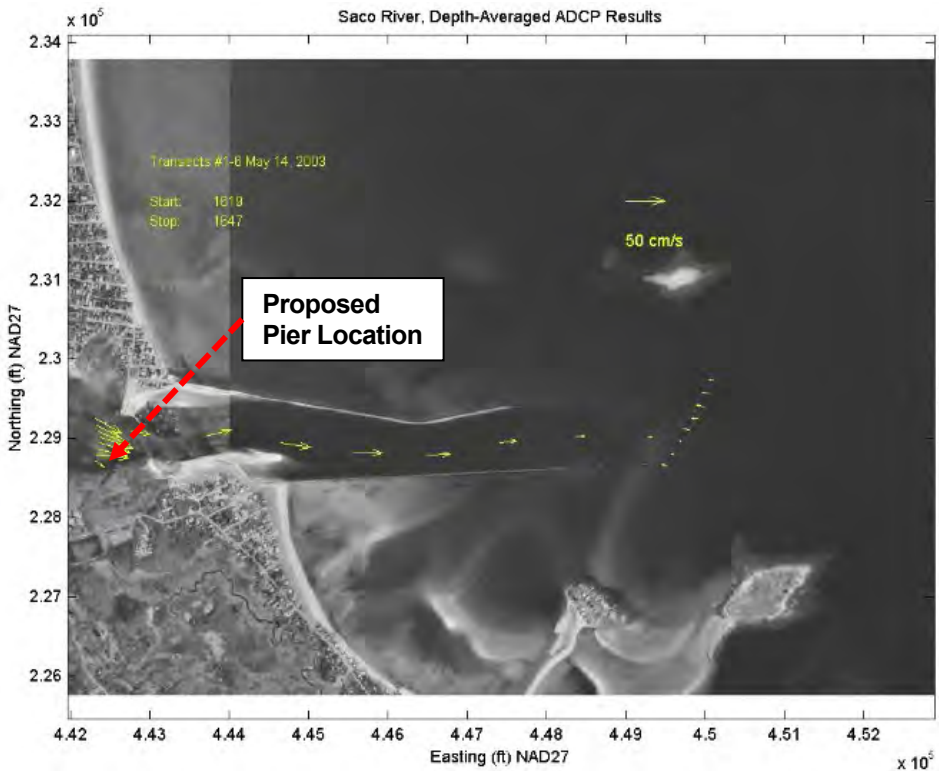


Fig. 10 – Sample of USACE Current Monitoring Data

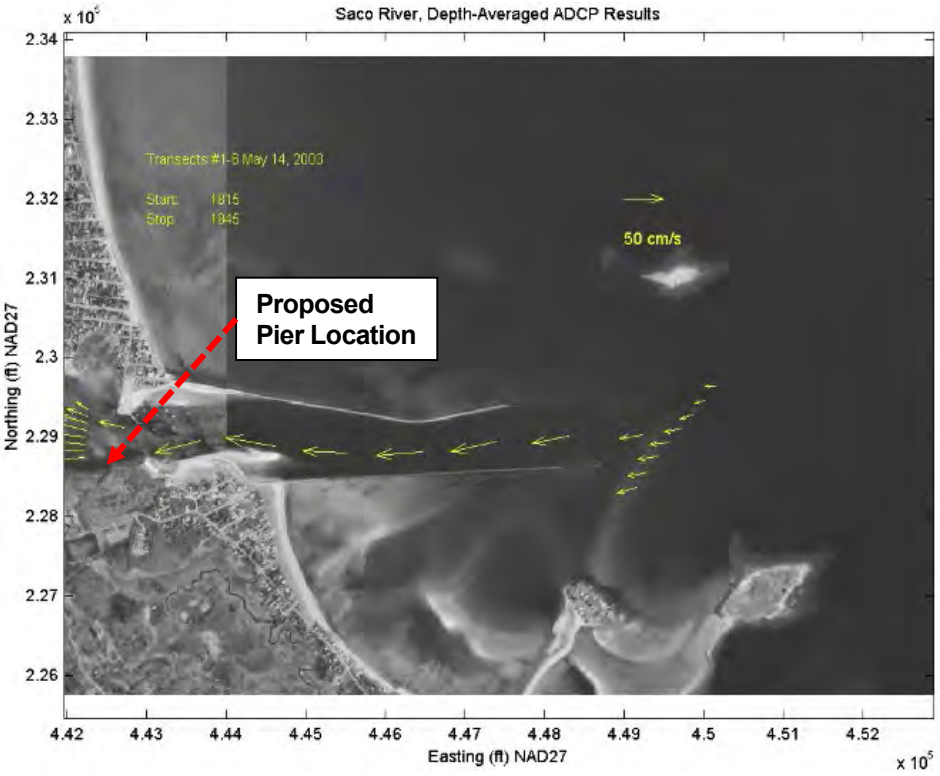


Fig. 11 – Sample of USACE Current Monitoring Data

Location Relative to River Sediment Deposition

The Harbormasters commented during the October 2023 meeting that the proposed pier location may be subject to sediment deposition that may impact pier navigation over time and require dredging in the future to restore water depths. As part of the project development, bathymetric surveys were completed in the pier area in May 2015 and again in November 2022. Fig. 9 provides an overlay of these two surveys (2022 contours are shown blue, 2015 contours are shown grey and red). In comparing these two surveys, there is negligible difference between the surveys that were taken 7.5 years apart. While there are minor differences that can be observed in contour locations and shapes, these could be attributed to the bathymetric survey accuracy and method of modeling the three-dimension surfaces used to create the contours. None of the differences are significant enough to suggest that there are large scale trends of deposition in the project area. Based upon this review, there is no indication that sediment deposition will be a substantial concern in the proposed area of the pier, and it does not appear that the suggested alternate pier location offers an advantage.

The proposed pier location does not appear to be in an area that is subject to notable sediment deposition and remains the preferred location.

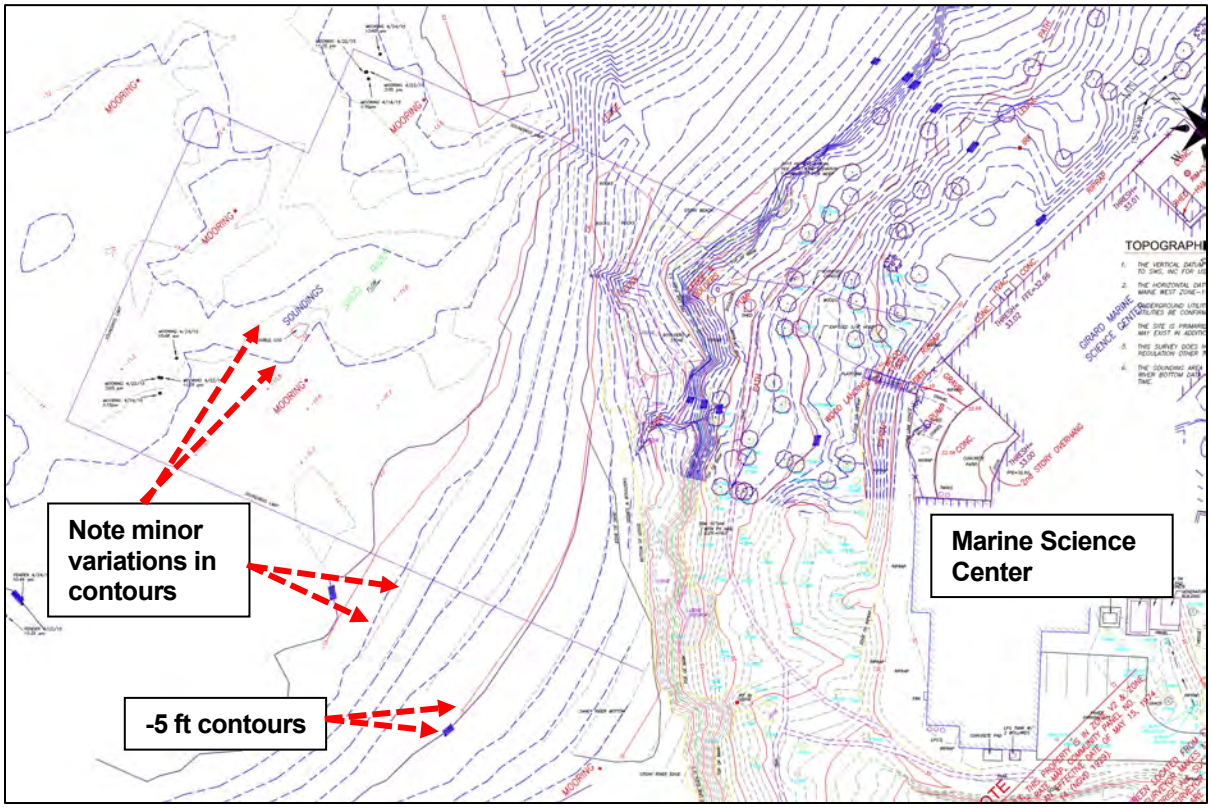


Fig. 12 – Comparison of 2022 (blue) and 2015 (grey and red) bathymetric contours

Exposure to Icing

The Harbormasters have raised concerns about exposure of the pier to winter icing. Icing on the Saco River is also a concern of UNE and the design team. The River is known to experience ice floes during the winter season that have historically been damaging to vessels at Camp Ellis. In terms of designing the fixed pier structure, the exposure to ice loading has been considered and the pile

supported pier structure will be able to sustain the forces from ice. The primary concern of the design team with winter icing is related to the impact on floating docks and berthed vessels. The ability to keep the facility in operation throughout the winter months when exposed to icing is still being evaluated by UNE. Additional steps are planned to monitor the site through winter conditions to better understand the extent of icing and potential impacts. The results of this investigation will inform the facility operations and vessel berthing plans. Methods being considered to mitigate the risks of ice impact to floats and vessels may involve the installation of additional temporary or permanent protective measures and/or limiting use of the pier during times when icing is anticipated. Irrespective of the ice protection and operational measures that may ultimately be included, the proposed pier location has less velocity exposure to icing than the suggested alternate location given its location and therefore reduced exposure. For this reason, the proposed design is preferred.

GEI has designed the fixed pier structure to resist the impact associated with river icing. Irrespective of pier location, the UNE will need to plan facility operation during periods of icing to manage risk associated with reduced facility use.

Impact to Moorings

The proposed pier layout is in close proximity to one existing known mooring which will likely need to be relocated to allow for the proposed construction. The suggested alternative is also in close proximity to one existing known mooring which would also need to be relocated if this alternative was used. Therefore, from the standpoint of mooring impacts, the proposed design and the alternative are believed to be similar.

To address anticipated impacts to moorings, GEI and UNE are prepared to work with City staff as necessary to allow for mooring adjustments to accommodate the proposed pier.

Conclusions and Closing

GEI has reviewed the concerns raised by the Saco and Biddeford Harbormasters and evaluated their impact on the proposed design, reviewed the history of planning that led to the current design location and layout, and reviewed the potential advantages and disadvantages offered by the suggested alternative pier location. While we respectfully value the input and suggestions for a layout alternative, it is our opinion that the proposed design represents the preferred balance of project requirements and site constraints. Compared to the suggested alternative, the proposed design achieves adequate water depth, provides safe navigation, results in a structure of smaller overall dimensions with less coastal wetland impact, does not appear to be subject to significant sediment deposition, and locates the pier in a location that is less exposed to current and icing impacts. For these reasons, GEI recommends that the current design and pier location be maintained.

We would be happy to discuss any elements of this memo at your convenience. Please contact Dan Bannon (dbannon@geiconsultants.com) or Barney Baker (bbaker@geiconsultants.com) with any questions.

Attachment
DJB:BJB:bdp
\\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\11_SUBMISSIONS\2023-11-29 -Revised Memo on Suggested Alternative Location of Pier\UNE MSC Pier - MEMO_Alternative Pier Location_2023-11-28.docx

Attachment 1

2016 Pier Alternatives Memo

BAKER DESIGN CONSULTANTS
Civil, Marine and Structural Engineering

Project: **15-07 UNE Pier Layout Alternatives**

Date: March 22, 2016

To: Alan Thibeault; University of New England

Copy: Tom Saucier; Site Design Associates
Dan Bannon; Baker Design Consultants,

Subject: Consideration of an Alternate Pier Configuration as recommended by the City of Biddeford

\\BDC-SRV\PROJECTS\15\15-07 UNE MSC WATERFRONT\DESIGN\ALTERNATE PIER LOCATION STUDY\15-07 UNE PIER ALTERNATIVES MEMO MARCH 2016.DOCX

MEMO

Introduction

Baker Design Consultants (BDC) completed a pier feasibility study in 2010 study for the University. The work first defined the type of pier and parameters necessary to support the Marine Science program and then looked at the entire Saco River shoreline of the Biddeford Campus for suitable sites. Concept pier layouts for nine (9) sites were prepared and then compared in a matrix format that looked at the ability of the pier to meet the program objectives, the respective shore and waterside development challenges, the environmental impacts associated with each solution and the approximate cost and scope for construction. The pier was added to the long-term facility plan for the University.

In September 2015, BDC was retained to develop the design for a new pier at the site that had been most favorably rated in the 2010 study. Site No. 7 met the operational objectives for the pier and was located close to the Marine Science Facility pier with access to deep-water. The design has advanced through several stages of UNE MSC faculty review to define an optimum footprint and access for the pier. This was followed by site survey and geotechnical borings to verify water depths and subsurface conditions at the proposed pier location. Initial contact with the regulatory agencies has been made, but no permits applications have been filed to date. The Biddeford Harbormasters were invited to the site to review the pending (now complete) geotechnical exploration and the pier was discussed briefly at this meeting.

In February, Barney Baker and Alan Thibeault met with the City Manager and key city representatives that included the Harbormasters and representatives from development staff and the Saco River Corridor Commission. Preliminary plans for the pier were reviewed and discussed with an opportunity for staff to share comments on the proposed design. The Harbormasters were particularly keen advocates for design adjustments based on their knowledge and experience with the Harbor. All City staff was supportive of the pier and recognized the benefits it will provide to the Marine Science program at UNE.

This memo considers comments made by City staff on the current design and considers two Alternate Layouts to evaluate the changes requested. Refer to the appended drawings that show the three (3) Layouts discussed in this memo. Sheet C-1 shows the pier site in the relation to other features in the Saco River Basin.

Sheet C-1 - Saco River Basin
Sheet 1 of 4- Layout 1- Current Design
Sheet 2 of 4- Layout 2- Incorporating all City Recommendations
Sheet 3 of 4- Layout 3- Modification proposed by BDC
Sheet 4 of 4- Composite showing all 3 Layouts

Recommendations for Pier changes made by the City.

The City suggested changes to the proposed pier (Layout 1) at the February 2016 review meeting are outlined below with comments from Baker Design Consultants (BDC Response). These collectively advocate for the pier to be relocated inshore, upstream and realigned to be more parallel with the shore.

Alternate Pier configurations (Layout 2 and Layout 3) are appended. These were prepared to investigate and illustrate the changes that would be necessary to incorporate the recommended pier changes. The Table on page 4 provides a summary comparison of the proposed design (Layout 1) with the Alternate Layouts.

1. Place the pier closer to shore to minimize existing moorings impacts.

The Harbormasters were concerned that the proposed pier (Layout 1) impacted the location of several moorings and that this would create specific hardship for individual mooring holders and harbor management in general. The Harbor masters made general reference to several mooring holders, but did not have access to a plan to show where these were located.

BDC Response. Both Alternate Layouts (2 & 3) move the pier closer towards shore. Refer to tabulated mooring clearances in the Table that follows for each Layout considered.

The moorings in the pier area at the time of the April 2015 survey were put on the plan and a general search was made of google earth aerial photographs going back several years for others that might not have been in the water at the time of the field survey.

The three recorded moorings nearest the pier site are identified on the attached plans as Mooring "A", "B", and "C". For each of the pier layout alternates considered, the distance from the approximate mooring center point to the nearest point on the pier is tabulated. A clear distance in excess of 110 to 120-ft is considered an acceptable mooring clearance to the pier

2. Consider pier impacts to nearshore fishing.

The Harbormasters indicated the nearshore at the pier location was used by fishermen that use small boats to fish along the southern shore of the river from upstream to downstream. The proposed pier would require boaters to move out and around the pier and may be perceived as a barrier to the fishing activity. It was pointed out that any new pier at any waterfront location will have a similar impact on near shore navigation, but moving the pier inshore would reduce the necessary detour.

BDC Response: It is acknowledged that while the pier would influence nearshore navigation, it was well clear of the designated federal channel and boats moving around the pier would not conflict with channel traffic. The nearshore fisherman in small boats could pass under the approach section of the pier at all states of the tide in Layout No. 3 but would be restricted at low water by floats and gangway in Layouts 1 & 2.

3. Relocate pier further upstream and change orientation to reduce current exposure.

The Harbormasters confirmed that the channel restriction located just seaward of the pier created fast currents that ran parallel to shore. Based on their knowledge of the harbor, they suggested the pier would be better rotated upstream parallel to the current and moved upstream and inshore from the Layout 1 location. This would put the pier in water with less tidal current and make docking easier and safer.

BDC Response. BDC indicated they had studied a 2006 study by the Army Corps of Engineers of currents at the pier location and had already oriented the pier upstream and away from the highest tidal currents while maintaining deep water access to both sides of the pier. It is recognized that moving the pier upstream reduces the current exposure, but because the water shoals, the vessel berthing is less efficient. BDC feels strongly that dredging is a last resort because of high cost, unreliable timeframes for periodic maintenance.

Alternate Layouts 2 & 3 benefit from the local knowledge and recommendation of the Harbormasters by effectively placing the pier in calmer water with an improved docking angle to the current. However, in both alternate configurations there is a decrease in the pier face docking provided by the pier. Layout 3 also would require dredging to maintain float access. Refer to the attributes for each Layout in the Table that follows.

4. Reduce length of pier access road to reduce visual impact on shore.

This comment was made in consideration of tree cutting, vegetation removal, and regrading that would be necessary to create an access road to the pier. The road access is located within the 250' Shoreland Zone. The visual impact will be carefully reviewed by the Saco River Corridor Commission. It was suggested that the access road length to the pier could be reduced by relocating the pier upstream from the current Layout 1 location.

BDC Response. Preliminary road alignment and profiles are provided for each layout in the appended drawings and compared in the Table on page 4. In each case, the access road extends around the existing Marine Science Center building to provide equipment and vehicle access to the pier. At the pier abutment it is necessary to provide a vehicle turnaround. Options that locate the pier approach further upstream require a sloped pier approach connector in order to accommodate the steeper grades at the shore This undesirable feature is alleviated by providing a turn-around space on the Pierhead.

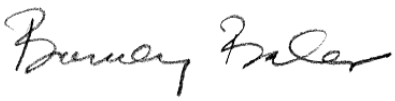
Alternatives Study Results summary

In summarizing the results of this Alternatives Study, the following points can be made.

- The local knowledge and insight provided by the City is both timely and helpful. The input provided both validates the Layout 1 design development to date and creates the opportunity to make small design improvements to reduce the tidal current exposure at the pier.
- Layout 2 does not work because of the steep shoreside access and the need to consider dredging in order to effectively use both sides of the pier.
- Layout 3 benefits from inside docking of small vessels, reduces access road impacts on shore with minimal concessions in water depth. However, the footprint of the pier (and cost) is increased and it is necessary to slope the connector pier to make the shore transition work. While the geotechnical fieldwork connected to date would be useful, additional geotechnical work is needed to verify subsurface conditions.

Moving forward, we recommend that Layout 3 be considered by UNE staff as a viable alternative for consensus approval with City stakeholders in advance of further design and regulatory discussion.

Please contact me with any questions.



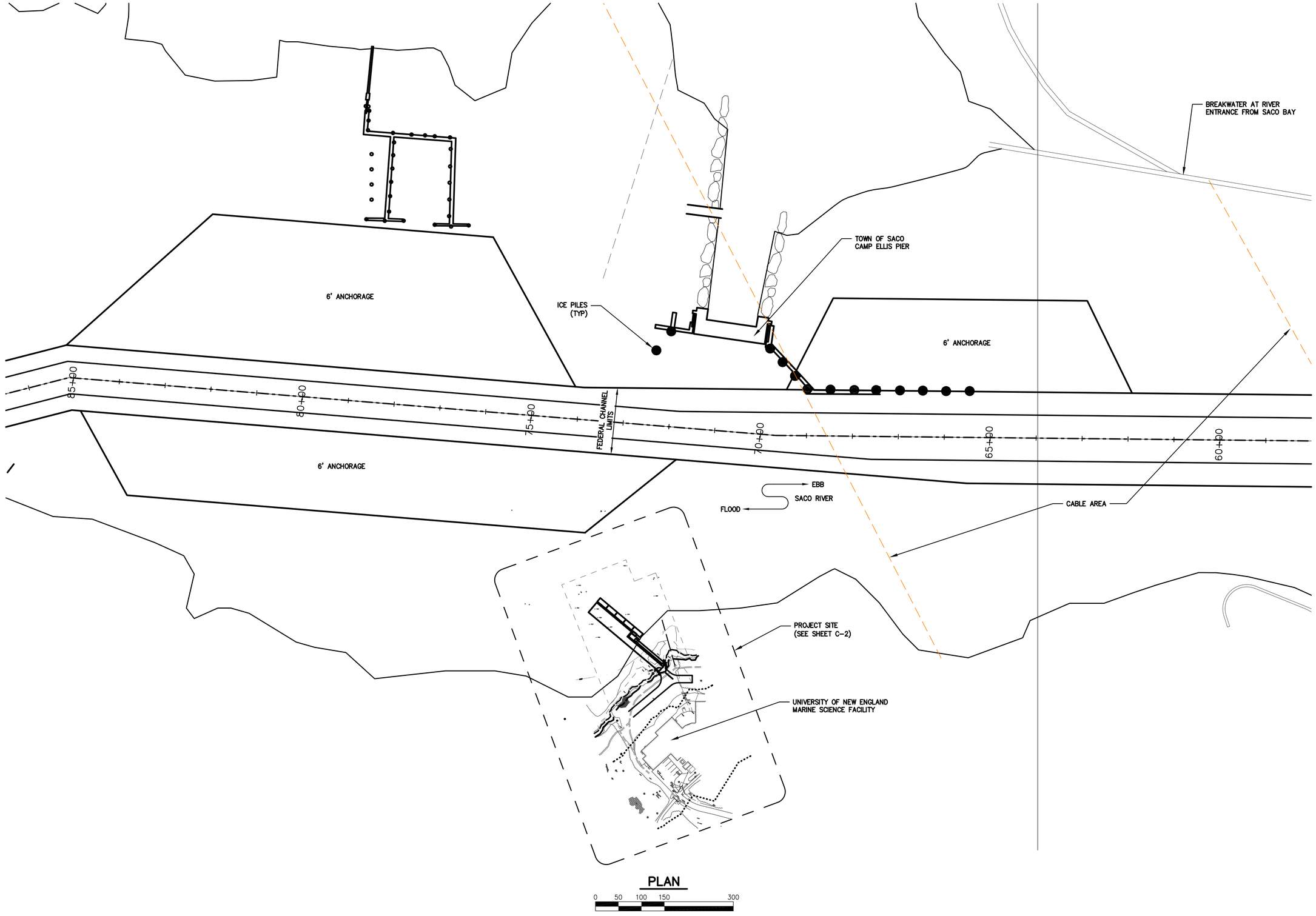
Barney Baker, PE
Principal
JN 15-07

Table 1 – Pier Layout Alternatives Comparison

This Table below compares the proposed pier design (Layout 1) with two alternative layouts (Layouts 2 and 3) that were developed with consideration of City recommendations and key criteria that relate to size and type of impacts, facility safety and functionality that were used in the original site analysis.

	LAYOUT 1 Proposed Design	**LAYOUT 2 Alternate**	**LAYOUT 3 Alternate**
Outer face of Pier, Distance from HAT	193'	110'	152'
Orientation of Berth	40 DEG WNW	10 DEG WSW	11 DEG WSW
Setback to nearest mooring	A - 110' B - 37' C - 133'	A - 176' B - 120' C - 127'	A -121' B - 76' C - 117'
Impacted moorings	B	None	B
Setback to federal anchorage	147'	248'	204'
Water Depth Available at MLLW (no dredging)	Downstream Face – 6' Upstream Face – 5.5'	Seaward Face – 4.5' Landward Face – 1'	Seaward Face – 5.5' Landward Face – 5'
Berthing Available	Downstream Face – 100' Upstream Face – 100'	Seaward Face – 104' Landward Face* – 84' **Dredging Required*	Seaward Face – 110' Landward Face – 57'
Length of pier approach connector	100'	102'	147'
Slope of Pier Approach	No slope	1V:20H	1V:25H
Length of access road	390'	295'	330'
Access Road Gradient	*200' @ 2%* *150' @ 10%* *40' @ 0%*	*200' @ 2%* *95' @ 10%*	*200' @ 2%* *110' @ 10%* *20' @ 0%*
Length of pedestrian route from MSC building to Pier	120'	230'	170'
***Dredging Required**	No	*Yes	No
Berthed vessel alignment to currents	~40 deg	Parallel	Parallel
Pier Area	Approach – 1,400 SF Pier Head – 2,800 SF Total – 4,200 SF	Approach – 1,300 SF Pier Head – 2,800 SF Total – 4,100 SF	Approach – 2,100 SF Pier Head – 2,800 SF Total – 4,900 SF
Pier Support Conditions	Pier approach supported on shallow ledge, ability to span across transition area and support pier head on deep piles.	Pier head and majority of piles may be located in transition area with challenging geotechnical conditions. Need to confirm with additional geotechnical information.	Pier head likely located beyond transition area where the majority of piles can be driven to ledge without socketing. Need to confirm with additional geotechnical information.
Availability of geotechnical information	Geotechnical program completed	Pier is located a significant distance from any borings/probes, additional subsurface investigation required	Pier is located near the original boring/probe locations, but subsurface information will need to be supplemented with additional data.

Appendix A – Concept Plans



PLAN

0 50 100 150 300

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NO.		DATE	INT.
A	PROGRESS REVIEW SUBMISSION	6-25-15	BJB

DESIGNED BY:		CHECKED BY:	
DRAWN BY:	JJC		BJB
		SCALE:	AS SHOWN

SHEET TITLE: SACO RIVER BASIN

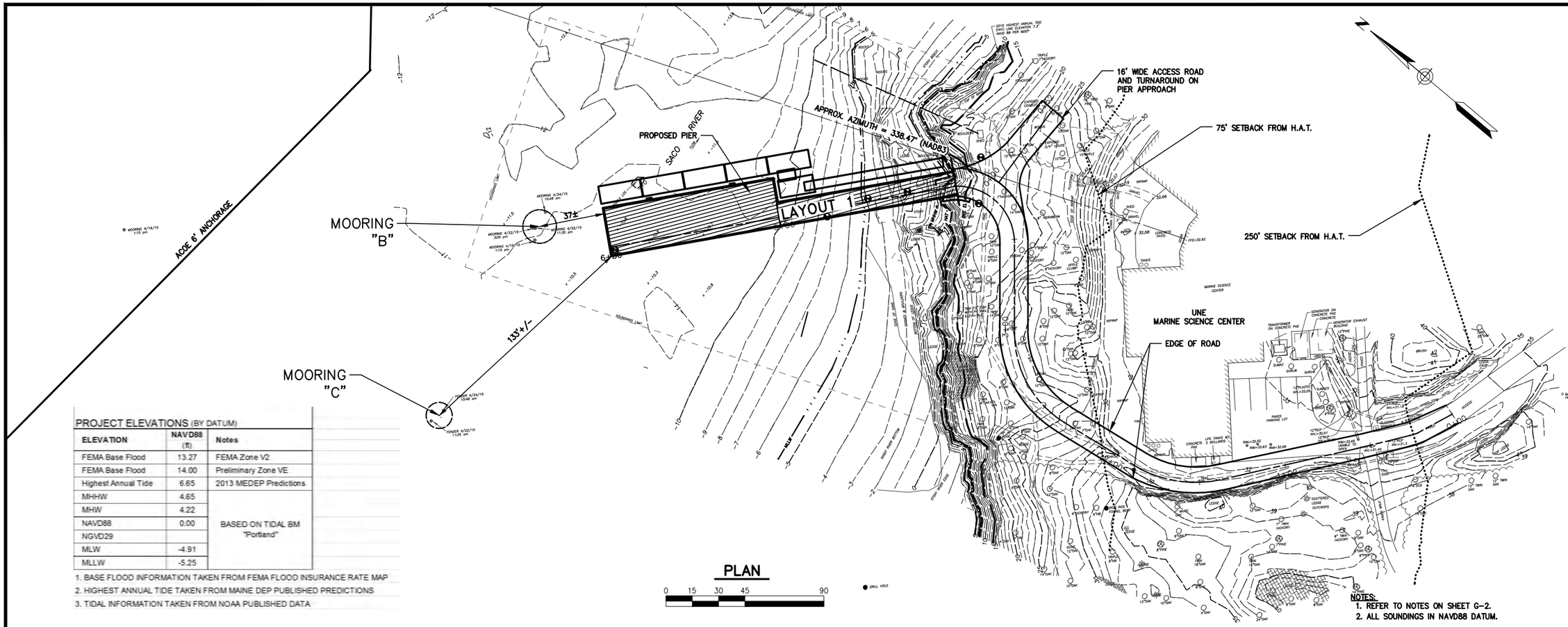
PROJECT: UNIVERSITY OF NEW ENGLAND
UNE MSC WATERFRONT
BIDDEFORD, MAINE

DATE
FEBRUARY 2015

CONTRACT NO.
15-07

SHEET NO. C-1 | REV. A

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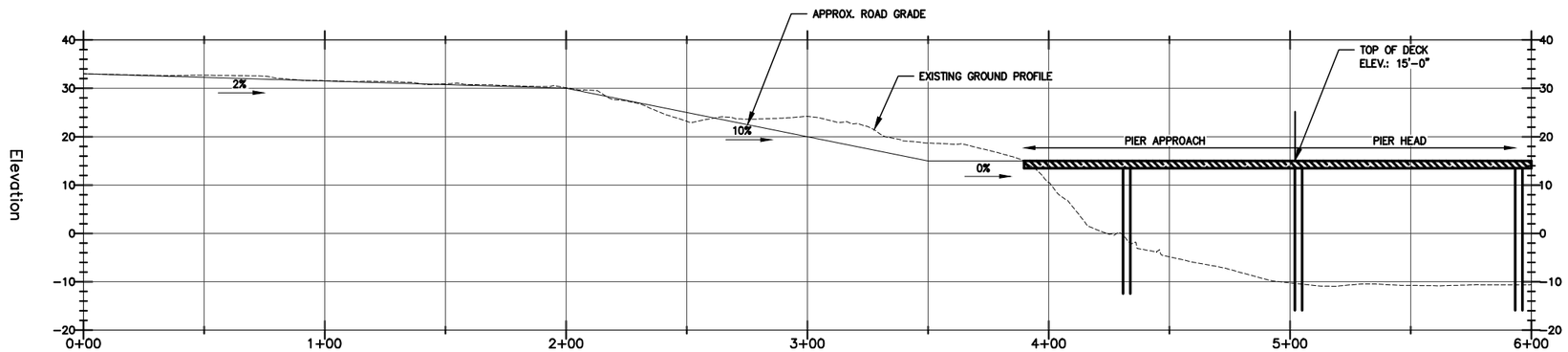


PLAN

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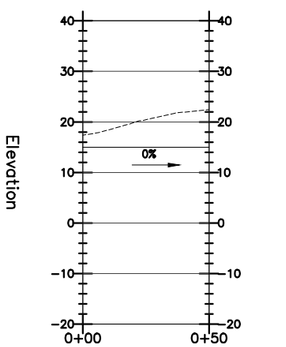
PROJECT ELEVATIONS (BY DATUM)		
ELEVATION	NAVD88 (ft)	Notes
FEMA Base Flood	13.27	FEMA Zone V2
FEMA Base Flood	14.00	Preliminary Zone VE
Highest Annual Tide	6.65	2013 MEDEP Predictions
MHHW	4.65	BASED ON TIDAL BM "Portland"
MHW	4.22	
NAVD88	0.00	
NGVD29		
MLW	-4.91	
MLLW	-5.25	

1. BASE FLOOD INFORMATION TAKEN FROM FEMA FLOOD INSURANCE RATE MAP
2. HIGHEST ANNUAL TIDE TAKEN FROM MAINE DEP PUBLISHED PREDICTIONS
3. TIDAL INFORMATION TAKEN FROM NOAA PUBLISHED DATA



ACCESS ROAD PROFILE

0 15 30 45 90



TURN AROUND PROFILE

0 15 30 45 90

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NO.	ALTERNATIVES MEMO SUBMISSION	DATE 3-15-16	INT. BJB

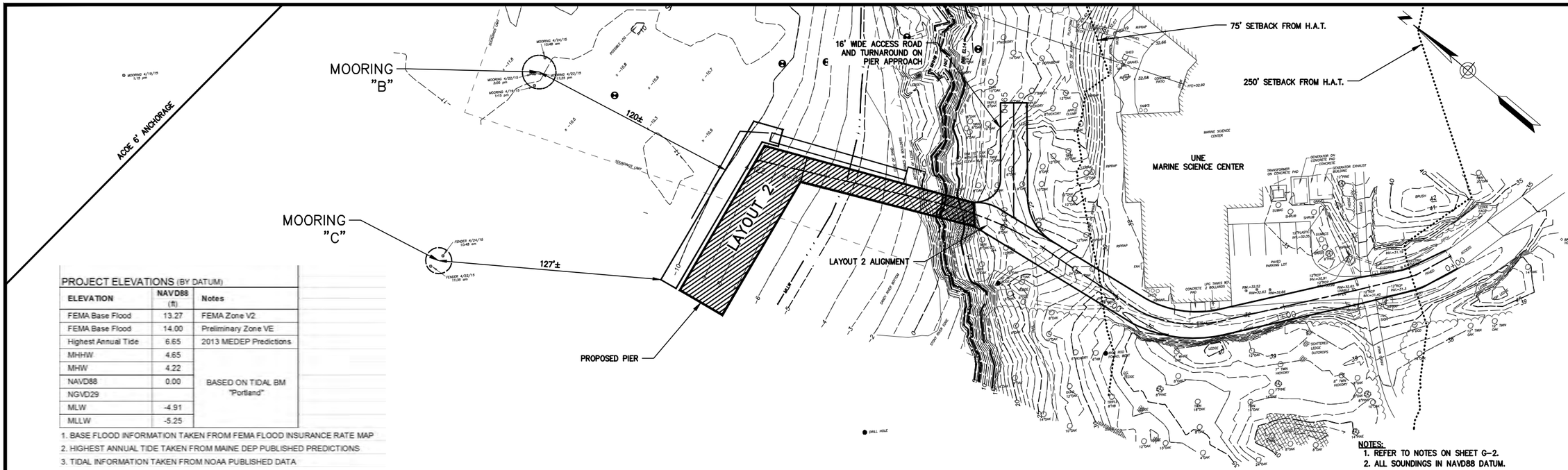
STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: DJB
DRAWN BY: KET
CHECKED BY: DJB
SCALE: AS SHOWN

SHEET TITLE: PIER LAYOUT 1 ACCESS ROAD PLAN AND PROFILE
PROJECT: UNIVERSITY OF NEW ENGLAND UNE MSC WATERFRONT BIDDEFORD, MAINE

DATE MARCH 2016
CONTRACT NO. 15-07
SHEET NO. 1 OF 4
REV. A

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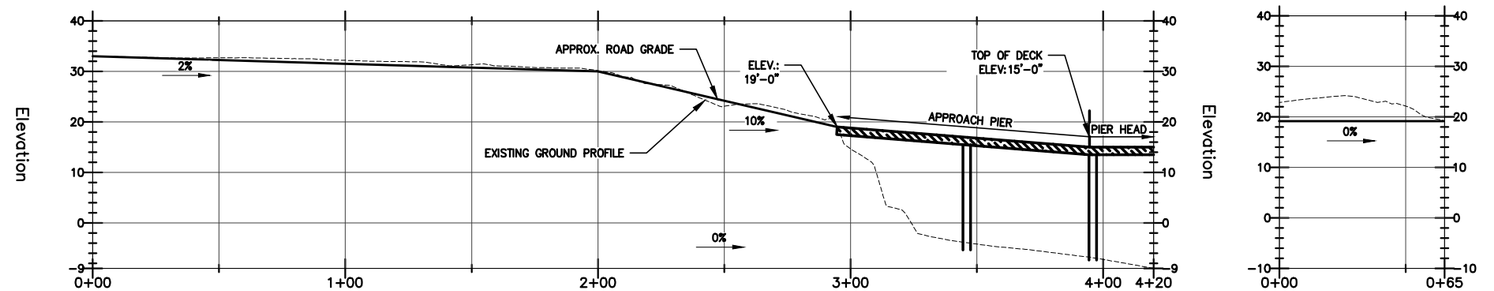
PROJECT ELEVATIONS (BY DATUM)		
ELEVATION	**NAVD88 (ft)**	**Notes**
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FEMA Base Flood	14.00	Preliminary Zone VE
Highest Annual Tide	6.65	2013 MEDEP Predictions
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1. BASE FLOOD INFORMATION TAKEN FROM FEMA FLOOD INSURANCE RATE MAP
2. HIGHEST ANNUAL TIDE TAKEN FROM MAINE DEP PUBLISHED PREDICTIONS
3. TIDAL INFORMATION TAKEN FROM NOAA PUBLISHED DATA

NOTES:
1. REFER TO NOTES ON SHEET G-2.
2. ALL SOUNDINGS IN NAVD88 DATUM.

PLAN

0 15 30 45 90



ACCESS ROAD PROFILE

0 15 30 45 90

TURN AROUND PROFILE

0 15 30 45 90

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A	ALTERNATIVES MEMO SUBMISSION	3-15-16	BJB

BARNEY J. BAKER No. 5737 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

DESIGNED BY: DJB | DRAWN BY: KET | CHECKED BY: DJB | SCALE: AS SHOWN

SHEET TITLE: PIER LAYOUT 2 ACCESS ROAD PLAN AND PROFILE

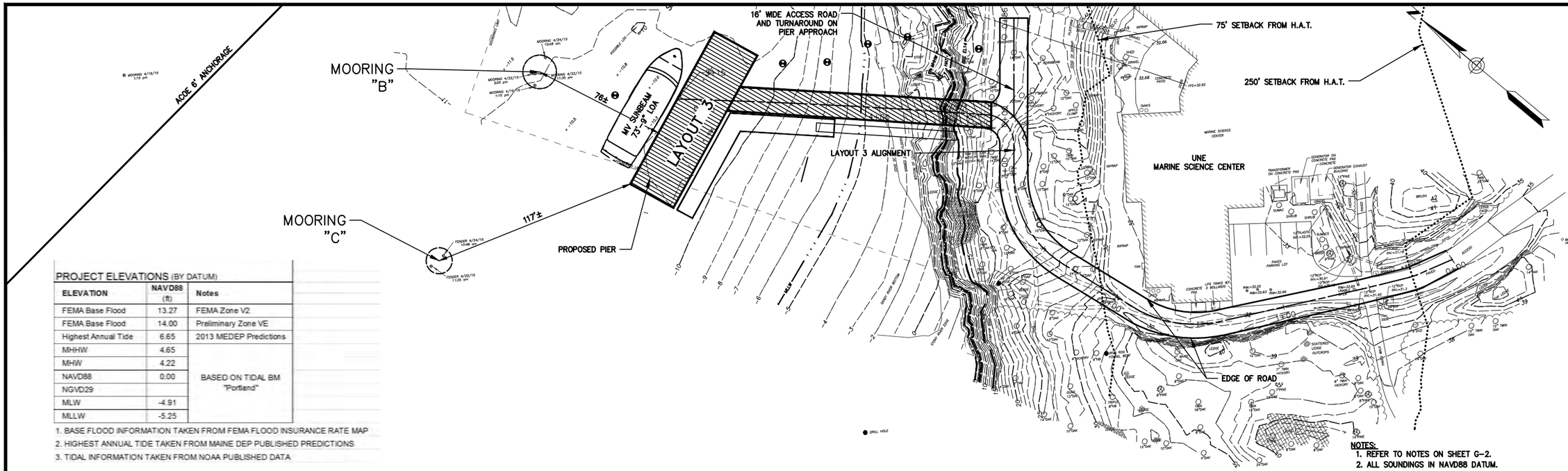
PROJECT: UNIVERSITY OF NEW ENGLAND UNE MSC WATERFRONT RUMFORD, MAINE

DATE MARCH 2016

CONTRACT NO. 15-07

SHEET NO. 2 OF 4 | REV A

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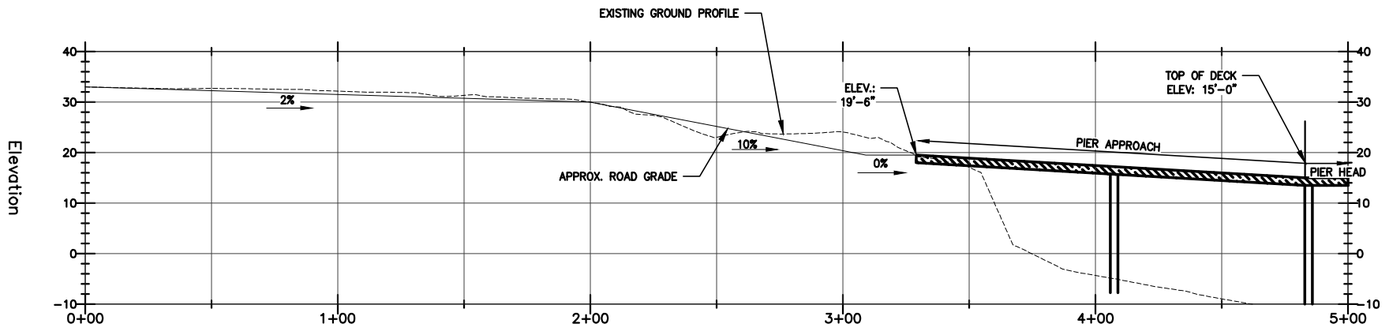
PROJECT ELEVATIONS (BY DATUM)		
ELEVATION	**NAVD88 (ft)**	**Notes**
FEMA Base Flood	13.27	FEMA Zone V2
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2. HIGHEST ANNUAL TIDE TAKEN FROM MAINE DEP PUBLISHED PREDICTIONS
3. TIDAL INFORMATION TAKEN FROM NOAA PUBLISHED DATA

NOTES:
1. REFER TO NOTES ON SHEET G-2.
2. ALL SOUNDINGS IN NAVD88 DATUM.

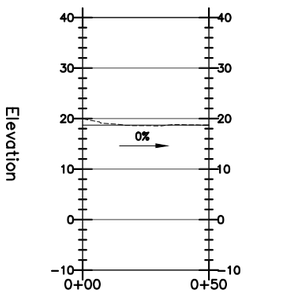
PLAN

0 15 30 45 90



ACCESS ROAD PROFILE

0 15 30 45 90



TURN AROUND PROFILE

0 15 30 45 90

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NO.		DATE	INT.
A	ALTERNATIVES MEMO SUBMISSION	3-15-16	BJB

BARNEY J. BAKER No. 5737 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

DESIGNED BY:	DJB	DRAWN BY:	KET	CHECKED BY:	DJB	SCALE:	AS SHOWN

SHEET TITLE: PIER SITE PLAN LAYOUT 3 SKETCH

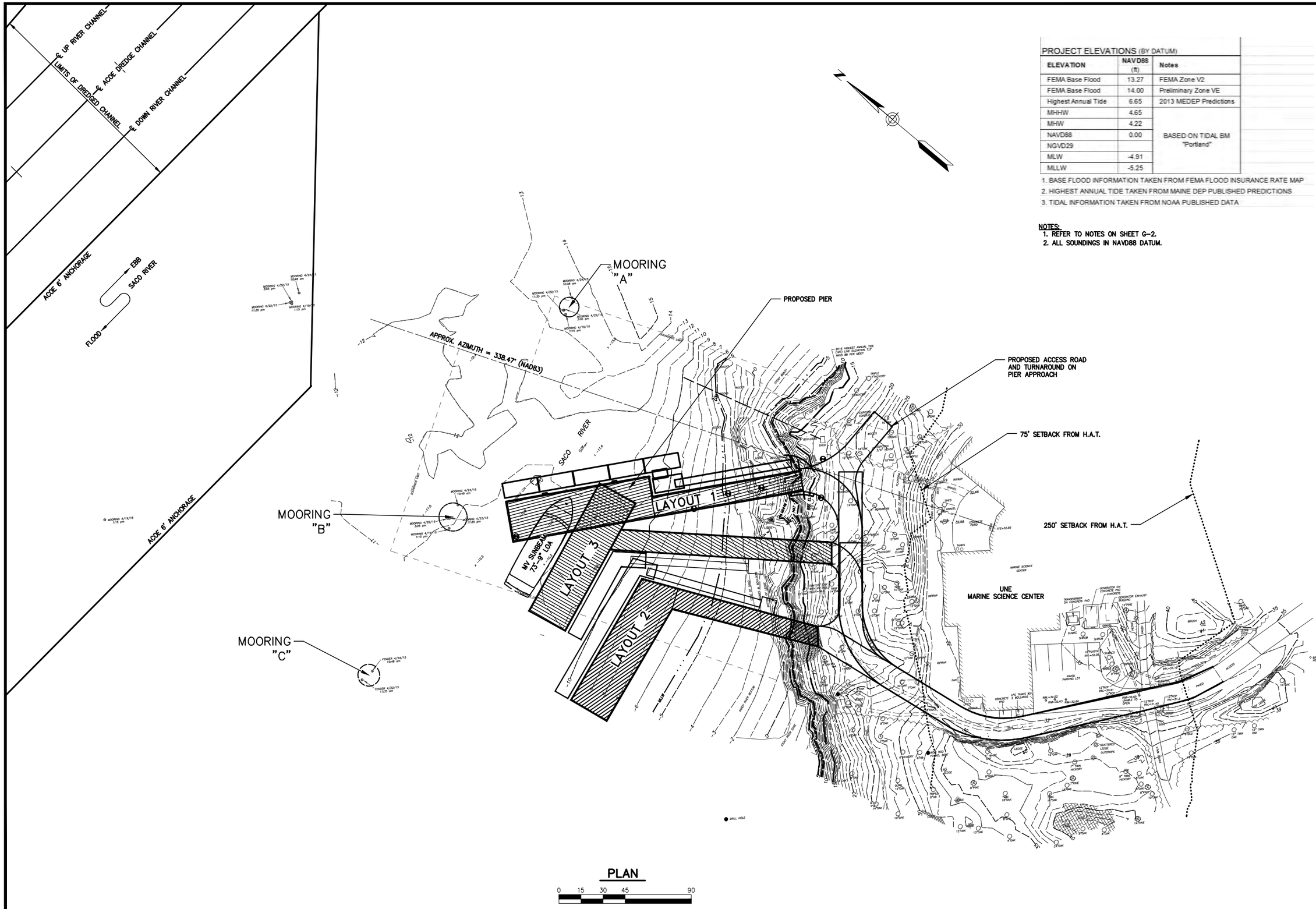
PROJECT: UNIVERSITY OF NEW ENGLAND UNE MSC WATERFRONT BIDDEFORD, MAINE

DATE: MARCH 2016

CONTRACT NO.: 15-07

SHEET NO.: 3 OF 4 | REV.: A

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PLAN

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PROJECT ELEVATIONS (BY DATUM)

ELEVATION	NAVD88 (ft)	Notes
FEMA Base Flood	13.27	FEMA Zone V2
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Highest Annual Tide	6.65	2013 MEDEP Predictions
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NO.		DATE	INT.
A	ALTERNATIVES MEMO SUBMISSION	3-15-16	BJB

STATE OF MAINE
BARNEY J. BAKER
No. 5737
LICENSED PROFESSIONAL ENGINEER

DESIGNED BY:	BJB	CHECKED BY:	BJB
DRAWN BY:	KET	SCALE:	AS SHOWN

SHEET TITLE: PIER SITE PLAN
ALTERNATIVES SKETCHES

PROJECT: UNIVERSITY OF NEW ENGLAND
UNE MSC WATERFRONT
BIDDEFORD, MAINE

DATE
FEBRUARY 2015

CONTRACT NO.
15-07

SHEET NO. 4 OF 4 | REV. A

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Attachment 9
Permits

Saco River Corridor Commission
"Communities Working Together To Protect Our Rivers"

COMMISSION ORDER
IN THE MATTER OF

UNIVERSITY OF NEW ENGLAND 11 HILLS BEACH ROAD BIDDEFORD, ME 04005 PERMIT #20-491	SACO RIVER CORRIDOR ACT FINDINGS OF FACT AND ORDER

The Saco River Corridor Commission, created by the Maine State Legislature in the Saco River Corridor Act, 38 M.R.S.A. §951, et seq., (the Act), at a meeting held on August 28th, 2024, at the Porter Town Hall in Porter, Maine, and after a review of the application and supporting documents makes the following findings of fact:

PROJECT DESCRIPTION

1. The applicant is seeking a permit to construct a research pier with associated development, including a dock and float system, shed, and access road.

SITE LOCATION/DESCRIPTION

2. The property is described in the York County Registry of Deeds, Book 1484, Page 145.
3. Location: Lot 4 (Map 52) at 11 Hills Beach Road in Biddeford, Maine.
4. The 49.9-acre lot has approximately 3,500 feet of frontage on the Saco River
5. Most project activities are proposed within 250 feet of the high water line.
    a. The proposed pier, dock and float system, and shed (located on the pier) extend below the mean high water line of the Saco River.
    b. The access road begins slightly beyond the 250-foot buffer; as it turns parallel to the river, it enters the 75-foot buffer and only extends into the 25-foot buffer, where it connects to the pier at the shoreline of the Saco River. The proposed turnaround area is located outside of the 25-foot buffer.
6. The property is located in the General Development District.
7. The 100-year floodplain is limited to the immediate shoreline.

ANALYSIS

Pier Structure

8. The applicant proposes to construct a permanent vehicle-rated pier structure extending from the shore into the Saco River. The proposed pier consists of an approximately 130-foot-long approach section and an 80-foot-long pier head section oriented parallel to the flow of the river. The proposed pier consists of a concrete superstructure on 25 concrete-filled steel pipe piles (7 of which will be socketed to ledge, with the remaining 18 to be driven to ledge), with 30 untreated timber piles for vessel berthing and floating docks, and a pile-supported gangway lifting beam

which will allow the gangway to be removed from the water temporarily. All of the piles are located below the highest annual tide line.

9. The direct impact from all piles totals 84 square feet, while the indirect impact below the highest annual tide line from the pier footprint is 3,579 square feet.
10. A concrete abutment connecting the pier to the access road is located above the highest annual tide line.

Floating Dock System & Gangway

11. The proposed floating dock system consists of one 8 x 24-foot float, one 8 x 26-foot, 10-inch float, and one 12 x 30-foot gangway landing float to provide all-tide vessel access on the west side of the pier. A 6 x 20-foot floating dock (relocated from an existing upstream location on the property) is also proposed to provide a tie-up location for the City of Biddeford Fire Boat on the east side of the pier.
12. The applicant additionally proposes an 80 x 5-foot gangway on the west side of the pier to provide ADA-compliant access to the float system.
13. All floating docks are located below the mean lower low water line and are proposed to be restrained and guided by the timber piles. The proposal will allow vessels to tie up to the pier during all tide levels.
14. The floating dock system has a total indirect impact of 848 square feet, and the gangway has a total indirect impact of 357 square feet.

Pier Buildings

15. An 8 x 10-foot shed is proposed on the east side of the pier head to provide storage for small equipment and to house utility features (electric panels).

Access Drive

16. The applicant proposes to construct a 16-foot-wide paved access road with 2-foot-wide paved shoulders extending from the road near the Marine Science Center around the east side of the Marine Science Center to the proposed pier, as well as associated grading, drainage, and stormwater management features.
17. A turnaround is proposed adjacent to the pier to allow vehicles, including fire trucks, to redirect and exit via the access road.
18. The applicant reports that vehicles will use the existing parking spaces adjacent to the Marine Science Center and that no parking is proposed adjacent to the pier.
19. The applicant states that the proposed access road will provide construction access for the project and allow more staging to take place on land, minimizing impacts to the water.
20. They report that upland work includes stormwater management features that have been designed to meet Maine DEP Chapter 500 standards.

Summary of Statement of Necessity

21. The proposed pier will provide students and researchers year-round access to the river and ocean, including a "living laboratory" located on Ram Island in Saco Bay, which is currently inaccessible during the winter and spring when the seasonal dock and float system aren't in use. The applicant states that the pier will facilitate research activities and scientific and practical exchanges with local, regional, and national marine researchers and industry partners. They note

that the marine research afforded by the proposed year-round access will allow UNE to gather data to guide Maine's response to climate change and inform data-driven decisions impacting aquaculture, fisheries, marine law and policy, and related fields.

General Background

22. The applicant reports that the area where the pier will be located is ledge, with adjacent areas consisting of undeveloped sparsely wooded areas and coastal wetlands.
23. The applicant addressed the §959-A.(A-K) standards in the project description. Where applicable, the staff has added additional details gathered from site plans. In summary:
    a. Degradation of Air and Water Quality – no anticipated impacts.
        i. Vegetation swales and two bioretention filtration ponding areas are proposed along the access road as part of the stormwater management plans.
    b. Harmful Alteration of Wetlands – no anticipated significant impacts (84 square feet of direct impact as noted above in Item 9.)
    c. Increase in Erosion and Sedimentation –
        i. The soils in the project area are not highly erodible, and the pier is located over exposed ledge and ledge with overburden.
        ii. All construction and site alterations will be done in accordance with Maine Erosion and Sedimentation Control Best Management Practices, and the site will be permanently stabilized following completion of construction.
        iii. Site plans note that the siltation boom will be installed for the duration of the construction process.
    d. Danger of Increased Flood Damage –
        i. The structure has been designed to withstand flood impacts, and its elevation takes into account rising sea levels.
    e. Obstruction of Flood Flow – no significant impacts
    f. Damage to Fish and Wildlife Habitat – no significant impacts
    g. Despoliation of Scenic Rural, and Open Space Character of the Corridor –
        i. The project's limit of disturbance encompasses 0.92 acres, with vegetation removal taking place in that envelope to provide a cleared area for the access drive and stormwater facilities.
        ii. 44 trees, including stumps, are proposed for removal within the project area.
        iii. 10 to 25 feet of clearing is proposed on average along either side of the access road. Clearing in several areas is greater to accommodate stormwater structures.
        iv. The remaining open space will be maintained, natural surroundings will be preserved, and scenic views from neighboring properties will not be obstructed.
        v. Given the water-dependent nature of the project, it will be visible from the river.
    h. Overcrowding – no significant impacts
    i. Excessive noise – no significant impacts
    j. Obstruction to Navigation –
        i. The structures will be no closer than 208 feet from the Army Corps of Engineers anchorage area.
        ii. Site plans note that construction activities will not impact the federal navigation channel at any time.

k. Interference with Educational, Scenic, Scientific, Historic, or Archaeological Values of the Areas Designated and Approved for Inclusion within the Resource Protection District
    i. The project is not located in the Resource Protection District, and the applicant states that it will enhance the area's educational value.

24. At the August 14th, 2024, Rules Committee meeting, the Committee expressed concerns about the diminution of the vegetated buffer as a result of the proposed access road construction. They noted that the removal of vegetation in that area could increase the visual impact of the existing Marine Science Center and of the access road itself. The Committee suggested that, if possible (depending on site conditions), the applicant should propose additional plantings between the access road and the shoreline.
25. In response to the Rules Committee comments:
    a. The applicant's agent submitted an updated vegetation plan, which reduced the number of trees proposed for removal by five trees, most of which were in the 25-foot buffer. The updated vegetation plan also clarified the number of trees 8 inches in diameter and greater within the 25-foot buffer that would remain post-construction.
    b. The applicant's agent stated that it was not possible to reduce the width of the access drive to less than the currently proposed 20 feet due to the National Fire Protection Association codes.
    c. The applicant's agent submitted the Stormwater Inspection and Maintenance plans for the project, which will include routine inspections of the systems post-construction to ensure proper function.
26. Staff notes from the August 23rd, 2024, site visit state:
    a. The area has many smaller shrubby vegetation. Numerous large trees are also present, and they are proposed for removal.
    b. A cleared opening would be created between the River and the Marine Science Center.
    c. The proposed clearing (for the road) extends no closer than 25 feet from the mean high water line. However, little vegetation would remain in some areas.
27. At the August 28th, 2024, Commission meeting:
    a. Public comments were heard and considered for impacts on the Commission's standards.
    b. The applicant presented an updated revegetation plan using native plantings for a 1:1 replacement ratio.
    c. The Commission questioned the status of other agencies' review of the project.
        i. The applicant's agent stated that the US Fish and Wildlife Service had advised that the work window be limited to November to April.
    d. The applicant's representatives estimated that the finished pier, including railings, would be approximately 26 feet above the water at low tide.
    e. The applicant's agent clarified that the previously proposed classroom on the pier head had been removed from the proposal.

RELEVANT STANDARDS OF THE ACT

§957-A. Resource Protection District | §957-C. General Development District | §959-A. Requirements for granting permits | §962. General Performance Standards | Chapter 102: Standard Conditions of Approval | Chapter 103: Standards to Address the Environmental Factors

BASED ON THE ABOVE FINDINGS, as determined at a duly noticed Commission Meeting, the Commission draws the following conclusions:

1. The applicant has shown the proposed design to be within the meaning of the Act.
2. The proposed use will not unreasonably involve any of the factors enumerated in §959-A(1)(A)-(K) of the Act.

THEREFORE, the Commission APPROVES the application of the University of New England, #20-491, for a permit to construct a research pier with associated development on the property owned by them, provided the activity is carried out according to the application and UPON THE FOLLOWING CONDITIONS:

1. Standard Conditions of Approval (copy attached).
2. All in-water portions of the existing research pier shall be removed.

This decision, including any of its conditions, may be appealed pursuant to 38 M.R.S. §968, except that no appeal pursuant to 38 M.R.S. §968 shall be taken from a decision of the Commission which decision was made without a public hearing until a request for reconsideration has been submitted to the Commission, and the Commission has made a final determination in the matter. Any person wishing to file an appeal or to request reconsideration must do so within 30 days of the Commission's written decision and order. Requests for reconsideration must be submitted in accordance with applicable Commission regulations. To be valid, all permits must meet all federal, state, and local ordinances and regulations.

DONE AND DATED AT CORNISH, MAINE, THIS 13TH DAY OF SEPTEMBER 2024.

SACO RIVER CORRIDOR COMMISSION

BY: Ben Pinault 9/13/24

Benjamin Pinault, Chairperson — Dated



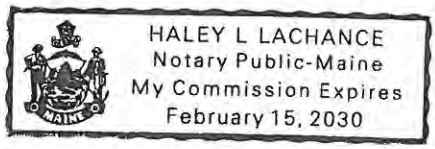
Registry of Deeds Notarization Form
Saco River Corridor Commission Permit #20-491 University of New England

Acknowledgment

State of Maine
County of York

This record was acknowledged before me on this 13th day of September 2024 by Benjamin Pinault.

Haley L. Lachance
Signature of Notary Public



Haley Lachance
Notary Public, State of Maine
My commission expires: February 15, 2030

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

UNIVERSITY OF NEW ENGLAND	) NATURAL RESOURCES PROTECTION ACT
Biddeford, York County	) COASTAL WETLAND ALTERATION
COMMERCIAL PIER SYSTEM	) WATER QUALITY CERTIFICATION
L-18314-4P-BE-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. §§ 480-A–480-JJ, Section 401 of the Clean Water Act (33 U.S.C. § 1341), and Chapters 310, 315, and 335 of Department rules, the Department of Environmental Protection (Department) has considered the application of UNIVERSITY OF NEW ENGLAND (applicant) with the supportive data, agency review comments, public comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Department Order #L-18314-22-A-N, dated April 12, 1993, the Department granted after-the-fact approval to the University of New England for an expansion of the main campus. In Department Order #L-18314-22/31-J-M, dated December 19, 1996, the Department approved the construction of athletic facilities, a service road, a pier system, and seasonal floating dock on the Saco River. In Department Order #L-18314-22-L-A, dated May 31, 2000, the Department approved the construction of the Marine Science and Research Center and included a modification to the pier and floating dock. In Department Order #L-18314-22-AY-M/L-18314-4P-AZ-M, dated July 13, 2017, the Department approved the addition of two six-foot wide by 16-foot long seasonal floats attached seaward and perpendicular to the existing permanent floats oriented parallel to shore. A second, seasonal pier system was installed on Jordan Point in 2016. In Department Order #L-18314-22-BC-M/4P-BD-N, dated December 7, 2023, the Department approved the replacement of the second seasonal pier with a permanent pier system consisting of a six-foot wide by 63-foot long fixed pier, an existing four-foot wide by 48-foot long seasonal aluminum gangway, and an existing 10-foot long by 60-foot wide seasonal float system. The completed project resulted in 16 square feet of direct impacts and 1732 square feet of indirect impacts to the coastal wetland.

B. Summary: The applicant proposes to construct a new commercial size pier to provide all-tide access for the Marine Science Center and dock space for the City of Biddeford fireboat used for public safety. The proposed permanent pier structure will be built in three sections: section one consist of a 23-foot wide by 30-foot deck with a security gate, that connects to the second 14-foot wide by 100-foot long pier structure that seaward into the river, and the third pier section a 23-foot wide an 80-foot long pier head that will be oriented parallel to shore and a five-foot wide by 80-foot long permanent gangway perpendicular to the shore. The pier head and gangway will be flanked by four permanent floats running end to end parallel to shore; an 8-foot wide by

24-foot long float an 8-foot wide by 27-foot long float, a 12-foot wide by 30-foot long gangway landing float to provide all-tide access on the west side of the pier and a six-foot wide by 20-foot float to provide a tie-up location for the City of Biddeford's Fire Boat on the east side of the pier, both perpendicular to the shore. The pier system will be supported by 25 concrete-filled steel pipe piles and a concrete abutment which connects the pier to the proposed access road. The project as proposed will result in 84 square feet of direct impacts to the coastal wetland due to pilings, and 3,579 square feet of indirect impacts to the coastal wetland due to shading from the pier, ramp, and floats. The large size of the pier and gangway will accommodate an outdoor covered classroom, ADA-compliant access and fireboat tiedown float, and vehicular access to the pier for transportation of research and emergency equipment. Between this proposed pier and the currently existing pier system, cumulative direct impacts to the coastal wetland will total 100 square feet, and cumulative indirect impacts to the coastal wetland will total 5,311 square feet.

In addition to the proposed pier system, an upland access road connecting the existing road to the proposed pier will be constructed, including associated site grading, drainage, and stormwater management features. Work on the access road will result in approximately 475 square feet of impacts adjacent to the coastal wetland. Upland work proposed will not exceed 40,000 square feet of additional disturbed area and thus is exempt from permitting pursuant to M.R.S 38 §488(27)(A).

The proposed project is shown on a set of plans, the first of which is titled "University of New England Marine Science Center Pier", completed by GEI Consultants, Inc. and dated April 22, 2024. The project site is located at 11 Hills Beach Road in the Town of Biddeford.

C. Current Use of the Site: The project site is located on an approximately 50-acre parcel of land that is developed with various university buildings and a permanent pier system. The parcel is identified as Lot 4 on Map 52 of the City of Biddeford's tax maps.

D. Public Interest: The Department received emails from one individual between September 4 and December 11, 2024. The interested person expressed concerns related to the Town's project review process. Additionally, the interested person stated that the applicant did not consider alternative locations for the pier that would be less impactful to the resource. After reviewing the application, the Department determined that the applicant provided a sufficient alternative analysis which is further discussed in Section 4.

The interested person submitted a public hearing request on July 1, 2024. The request was reviewed by the Department and a response sent on August 20, 2024, citing that the application did not meet the Chapter 2 criteria for the Board to hold a hearing.

2. EXISTING SCENIC, AESTHETIC, RECREATIONAL OR NAVIGATIONAL USES:

The Natural Resources Protection Act (NRPA), in 38 M.R.S. § 480-D(1), requires the applicant to demonstrate that the proposed project will not unreasonably interfere with existing scenic, aesthetic, recreational and navigational uses.

In accordance with Chapter 315, *Assessing and Mitigating Impacts to Scenic and Aesthetic Uses* (06-096 C.M.R. ch. 315, effective June 29, 2003), the applicant submitted a copy of the Department's Visual Evaluation Field Survey Checklist as Appendix A to the application along with a description of the property and the proposed project. The applicant also submitted several photographs of the proposed project site and surroundings including an aerial photograph of the project site.

The proposed project is located in the Saco River, which is a scenic resource visited by the general public, in part, for the use, observation, enjoyment and appreciation of its natural and cultural visual qualities. Given the piers on abutting properties and the existing pier on the same parcel, the proposed pier will not substantially alter the visual aesthetic of the riverbank from the river. The proposed pier system is of similar size, scale, and design as nearby pier systems, including a commercial marina with slips located directly across the river and visible from the project site.

The Department staff utilized the Department's Visual Impact Assessment Matrix in its evaluation of the proposed project and the Matrix showed an acceptable potential visual impact rating for the proposed project. Based on the information submitted in the application and the visual impact rating, the Department determined that the location and scale of the proposed activity is compatible with the existing visual quality and landscape characteristics found within the viewshed of the scenic resource in the project area.

The Department of Marine Resources (DMR) reviewed the project and stated that the proposed project should not cause any significant adverse impact to navigation or recreation based on the nature of the project and its location.

The Department finds that the proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses of the river.

3. SOIL EROSION:

The NRPA, in 38 M.R.S. § 480-D(2), requires the applicant to demonstrate that the proposed project will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

Construction will take place from the upland and by barge. Access by land will occur on existing roads, and the proposed new road will be started early in construction to provide an additional route for construction access, material deliveries, and staging. When the site is being accessed by barge, the contractor will avoid the nearby federal navigation

channel and adjacent waterfront facilities during construction activity. Any work within the resource will be conducted in compliance with the standard November 8th-April 9th in-water work window discussed in Finding 4. A certified erosion control contractor will be on site.

The Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

4. HABITAT CONSIDERATIONS:

The NRPA, in 38 M.R.S. § 480-D(3), requires the applicant to demonstrate that the proposed project will not unreasonably harm significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

The project site consists of ledge in the upper intertidal, grading to rockweed-covered rocky shore then to mixed coarse and fine sediments. Eelgrass resources were documented in the subtidal near the project area prior to 1997 but have not been mapped in recent years.

In its review, the Department of Marine Resources (DMR) stated that the project as proposed would have direct impacts to marine resources and habitat in the footprint of the pier, and recommended that if piles are driven outside of the winter work window of November 8th-April 9th. The mouth of the Saco River is utilized by diadromous fish species including Atlantic Salmon, alewife, and sea run brook trout. Atlantic and short nose sturgeon may be present year round in this area.. DMR further recommended that the applicant use a vibratory hammer or a bubble screen for noise mitigation.

The applicant concurred that work will only occur during the winter work window.

According to the Department's Geographic Information System (GIS) database there are no mapped Essential or Significant Wildlife Habitats located at the site. The Maine Department of Inland Fisheries and Wildlife (MDIFW) reviewed the proposed project and stated that the project is located adjacent to but outside of Tidal Waterfowl and Wading Bird Habitat (TWWH), a designated Significant Wildlife Habitat. MDIFW stated that minimal impacts to piping plover and Blanding's turtle habitat are anticipated and provided general recommendations including minimizing vegetation removal and soil disturbance, and that time spent in the water should be minimized to the greatest extent practicable.

The applicant responded to these comments, and agreed to minimize vegetation removal, soil disturbance, and time spent in the water.

The Department finds that the activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic

or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life provided in-water work is only conducted between November 8th-April 9th of any given year

5. WATER QUALITY CONSIDERATIONS:

The applicant proposes to use lumber treated with chromated copper arsenate (CCA) to construct the pier. To protect water quality, all CCA-treated lumber must be cured on dry land in a manner that exposes all surfaces to the air for 21 days prior to the start of construction.

Provided that CCA-treated lumber is cured as described above, the Department finds that the proposed project will not violate any state water quality law, including those governing the classification of the State's waters.

6. WETLANDS AND WATERBODIES PROTECTION RULES:

The proposed project will result in 84 square feet of direct impacts and 4,784 square feet of indirect impacts to the coastal wetland from the new pier system. The overall cumulative impacts from the existing pier and proposed project will be 100 square feet of direct impacts to the coastal resource and 5,311 square feet of indirect impacts to the coastal resource. Coastal wetlands are wetlands of special significance.

The *Wetlands and Waterbodies Protection Rules*, 06-096 C.M.R. ch. 310 (last amended November 11, 2018), interpret and elaborate on the Natural Resources Protection Act (NRPA) criteria for obtaining a permit. The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss in wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a NRPA permit that involves a coastal wetland alteration must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

A. Avoidance. An applicant must submit an analysis of whether there is a practicable alternative to the project that would be less damaging to the environment and this analysis is considered by the Department in its assessment of the reasonableness of any impacts. Additionally, for activities proposed in, on, or over wetlands of special significance the activity must be among the types listed in Chapter 310, § 5(A) or a practicable alternative less damaging to the environment is considered to exist and the impact is unreasonable. A pier is a water dependent use and its proposed construction is among the activities specifically provided for in Chapter 310, § 5(A)(1)(c). Additionally, any project related to health and safety is among the activities specifically provided for in Chapter 310, § 5(A)(1)(a).

The applicant submitted an alternatives analysis for the proposed project completed by Site Design Associates and dated June 17, 2024, with a last revision date of December

10, 2024. The purpose of the proposed project is to provide all-tide, year-round access to the resource for research and education operations associated with the Arthur P. Girard Marine Science Center (GMSC) at the University of New England. A secondary project purpose is to provide docking space for the City of Biddeford's fireboat for emergency response and safety. The applicant plans to launch a variety of research vessels from the proposed pier, including a 31-foot long research vessel and potentially larger ones in the future. The City's fireboat is 19 feet long. The applicant considered not building the new pier system and instead utilizing the existing pier on the parcel; however, this existing pier is seasonal, including the floats that are hauled out of the water each winter limiting year-round access that is required to support the a Universities' marine science programs. Additionally, the existing pier does not provide a docking area for the City of Biddeford's fireboat. Therefore, this alternative was rejected. The applicant considered a seasonal gangway and l floats; however, research and access to the water is required for emergency response from the City and for year-round, all-tide access to the resource for educational purposes. Finally, the applicant considered using public facilities including marinas, boat launches and moorings to moor and launch research vessels; however, access to the water can be time-sensitive due to course schedules or the need to access the water during certain tide cycles. With shuttling of staff, students, and equipment, and the lack of reliable parking, this alternative was rejected. The private marinas in the area have long waitlists for private slips and do not have the capacity to handle the frequent use and group size that the University requires to meet their education and research mission

B. Minimal Alteration. In support of an application and to address the analysis of the reasonableness of any impacts of a proposed project, an applicant must demonstrate that the amount of coastal wetland to be altered will be kept to the minimum amount necessary for meeting the overall purpose of the project. During the planning phase of this project, the applicant selected the pier location with the shortest length necessary to reach adequate water depths for all -tide access. In addition, the dimensions of the pier head were reduced from 28-feet wide by 100-feet long to the currently proposed 23-feet wide by 80-feet long to reduce impacts to the coastal resource.

C. Compensation. In accordance with Chapter 310, § 5(C)(6)(b), compensation may be required to achieve the goal of no net loss of coastal wetland functions and values. This project will not result in over 500 square feet of fill in the resource, which is the threshold over which compensation is generally required. Further, the proposed project will not have an adverse impact on marine resources or wildlife habitat as determined by DMR and MDIFW. For these reasons, the Department determined that compensation is not required.

The Department finds that the applicant has avoided and minimized coastal wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

7. OTHER CONSIDERATIONS:

The Department finds, based on the design, proposed construction methods, and location, the proposed project will not inhibit the natural transfer of soil from the terrestrial to the marine environment, will not interfere with the natural flow of any surface or subsurface waters, and will not cause or increase flooding. The proposed project is not located in a coastal sand dune system, is not a crossing of an outstanding river segment, and does not involve dredge spoils disposal or the transport of dredge spoils by water.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 480-A–480-JJ and Section 401 of the Clean Water Act (33 U.S.C. § 1341):

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life provided winter work windows are utilized as described in Finding 3.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters provided that CCA-treated lumber is cured as described in Finding 5.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S. § 480-P.

THEREFORE, the Department APPROVES the above noted application of UNIVERSITY OF NEW ENGLAND to construct a research pier as described in Finding 1, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.

2. The applicant shall take all necessary measures to ensure that their activities or those of their agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. Construction is only allowed from November 8th-April 9th of any given year.

5. All CCA-treated lumber shall be cured on dry land in a manner that exposes all surfaces to the air for 21 days prior to the start of construction.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 11TH DAY OF APRIL, 2025.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

PCS/L18314BEN/ATS#92653

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ENGLAND DISTRICT
NEW ENGLAND DISTRICT OFFICE
696 VIRGINIA ROAD
CONCORD MASSACHUSETTS 01742-2751

March 28, 2025

Regulatory Division

Andrew Phillippe
University of New England
11 Hills Beach Road
Biddeford, Maine 04005
Via Email: aphilippe@une.edu

Dear Mr. Phillippe:

This letter is in response to the application you submitted to the U.S. Army Corps of Engineers (USACE), New England District on June 21, 2024 for a Department of the Army general permit verification. We have assigned this project file number NAE-2024-01628, which you should reference in all correspondence with this office.

A review of the information provided indicates the proposed work includes the construction of a permanent pier consisting of a 28-foot long by 24-foot-wide landing; a 90-foot long by 14-foot-wide approach pier; and an 80-foot long by 24-foot-long pier. Additionally, your project includes a floating dock system consisting of an 80-foot long by 5-foot-wide gangway; a 30-foot long by 12-foot wide float; a 24-foot long by 8-foot wide float; and a 27-foot long by 8-foot wide float, and a 20-foot long by 6-foot wide float. The project is located in the Saco River; at 11 Hills Beach Road, at Latitude 43.458630º and Longitude -70.389050º; in Biddeford, York County, Maine. The work is shown on the enclosed plans titled “University of New England Marine Science Center Pier”, on 38 sheets, and dated 8/14/2024.

Based on the information you have provided; we verify that the activity is authorized under General Permit *2. Structures, Floats, and Lifts* of the October 14, 2020, federal permit known as the Maine General Permits (GPs). If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised application must be submitted to this office for written approval before work is initiated. You can find a copy of these permits at:
https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/

Any deviation from the terms and conditions of the permit, or your submitted plans, may subject the permittee to the enforcement provisions of our regulations. Therefore, in the event changes to this project are contemplated, it is recommended you coordinate with this office prior to proceeding with the work. This office must approve any changes before you undertake them. You must perform this work in compliance

with the terms and conditions of the GPs listed above, and also in compliance with the following special conditions:

1. The permittee shall complete and return the enclosed Work-Start Notification Form to this office at least two weeks prior to the anticipated construction start date.

2. The permittee shall complete and return the enclosed Completion Certification Form to this office at least one month following the completion of the authorized work.

3. You must maintain the activity herein in good condition and in conformance with the terms and conditions of this authorization. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with a general condition of these GPs. Should you wish to cease to maintain the authorized activities, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this authorization from this office, which may require restoration of the area.

4. All construction shall be completed in accordance with the limits of construction and construction sequences detailed on the enclosed plan drawings, titled “University of New England Marine Science Center Pier,” on a total of 38 sheets, and dated 8/14/2024. If you change the plans or construction methods for work within or adjacent to the Saco River, please contact us immediately to discuss modification of this authorization. The USACE must approve any changes before you undertake them.

5. A “soft start” is required to allow animals an opportunity to leave the project vicinity before sound pressure levels increase. In addition to using a soft start at the beginning of the workday for pile driving, one must also be used at any time following cessation of pile driving for a period of 30 minutes or longer.

a) For impact pile driving: Pile driving will commence with an initial set of three strikes by the hammer at 40% energy, followed by a one-minute wait period, then two subsequent 3-strike sets at 40% energy, with one-minute waiting periods, before initiating continuous impact driving.

b) For vibratory pile installation: Pile driving will be initiated for 15 seconds at reduced energy followed by a one-minute waiting period. This sequence of 15 seconds of reduced energy driving, one-minute waiting period will be repeated two additional times, followed immediately by pile-driving at full rate and energy.

6. The work authorized herein shall not be conducted during the time of year (TOY) restriction of April 10 to November 7 in order to minimize adverse impacts to the Atlantic sturgeon, shortnose sturgeon.

This verification is valid until October 14, 2025. You must commence or be under contract to commence the work authorized herein by October 14, 2025 and complete

the work by October 14, 2026. If not, you must contact this office to determine the need for further authorization before beginning or continuing the activity. It is recommended that you contact this office before this authorization expires to discuss if permit reissuance is a possibility.

This GP verification and any associated authorizations does not preclude the necessity to obtain any other federal, state, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Jana Jacobson, Project Manager at (207) 233-2117, or by email at Jana.L.Jacobson@usace.army.mil. This agency continually strives to improve our customer service. To better serve you, please complete the Customer Service Survey located at: https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

Jon T. Coleman
Team Leader
Technical Regional Execution Center
North Atlantic Division

Enclosures

Cc (w/enclosures):
Tom Saucier, Site Design Associates (via tsaucier@sitedesignassociates.biz)

Attachment 10
MHPC Clearance

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

May 15, 2023

Mr. Tom Saucier, P.E.
Site Design Associates
23 Whitney Way
Topsham, Maine 04086

Project: MHPC# 0500-23 University of New England; 11 Hills Beach Road
Permanent Pier and Float System

Town: Biddeford, ME

Dear Mr. Saucier:

In response to your recent request, I have reviewed the information received April 13, 2023 to initiate consultation on the above referenced projects in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Dr. Arthur Spiess of my staff has carefully reviewed our February 7, 2000 letter concerning areas of archaeological site significance on the UNE campus, and the Phase III report that formed the background of these recommendations. We note that some of the areas of the proposed access road and the head of the pier fall outside of the areas found not to be contributing to the overall significance of the archaeological site(s) on the UNE campus (specifically areas 99.1, 99.2 and 99.8. Moreover, the intensity of previous archaeological testing along the now-proposed access road (especially within area 99.1).

Based on the information submitted, I have concluded that the proposed work will have **no adverse effect** upon historic properties.

However, our finding is *conditional* upon the following:

1) We recommend that one or more archaeologists monitor the initial clearing of soil from the route of the access road and be allowed enough time to recover information from any subsoil features that are present. It would be most important to monitor the access road from the curve in the road to be located just east of the north wall of the marine science center to the head of the proposed pier.

Please contact Megan M. Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

PHONE: (207) 287-2132

FAX: (207) 287-2335

Attachment 11
Notice to Proceed
With External Reviews

City of Biddeford, Maine

The Office of
City Manager
James A. Bennett
Email: james.bennett@biddefordmaine.org

August 19, 2024

University of New England
11 Hills Beach Road
Biddeford, Maine 04005

Attention: Mr. Alan Thibeault, VP of University Operations

RE: Notice to Proceed with External Reviews

Dear Mr. Thibeault,

On August 9, 2024, I received written clarification from Mr. Wayne Duffett, PE of TECAssociates that UNE's proposed Research Pier and Float System has complied with City Code 74-35 subsections (c) 1-10. Those sections are as follows:

(1) A formal boundary survey that has been documented at the Registry of Deeds.
(2) A copy of the boundary survey showing the littoral zone, established by extending property lines seaward.
(3) A location map from a portion of a USGS topographic map or coastal chart.
(4) Distance to navigable channels or any federal navigation project.
(5) Mean high- and low-water boundary.
(6) A plan view on the drawing(s) that shows the location and dimensions of the applicant's structure(s) in relation to the applicant's property lines.
(7) A typical cross section/side view of the applicant's structures on the drawing(s).
(8) Evidence that owners of abutting properties have been notified of the applicant's intended project.
(9) Evidence that the 1) Maine Historic Preservation Commission, 2) Aroostook Band of Micmac, 3) Passamaquoddy Tribe of Indians: Pleasant Point; Indian Township, 4) Houlton Band of Maliseet Indians, and 5) Penobscot Indian Nation have been notified of the applicant's intended project.
(10) Completed applications to the Army Corps of Engineers, Department of Environmental Protection and Biddeford Code Enforcement. A regulatory permit from the Saco River Corridor Commission may also be required in some instances.

Based on this information and in harmony with my earlier communications, please consider this as formal notification from the City of Biddeford that the application has been found in compliance with

the above mention City Code. That finding allows the application to proceed in the next steps of the review process; namely formal review by all agencies except those that are part of the City of Biddeford. After each and all of those processes are complete, the City will move forward with the final review(s) by agents and Committees of the City.

While I don't believe it is necessary, let me empathically state that this communication does not in any form, imply that the City has in any way made a determination that the location submitted has been approved. Said approval will considered after completion of all process and in compliance with applicable laws, regulations. This includes all local ordinances.

Please feel free to reach out to me if you have any questions

Sincerely,

James A. Bennett
City Manager

CC: Biddeford Mayor and City Council

Attachment 12
Photo of shed



Attachment 13
Light Fixture Information

BEACON
design . performance . technology

URBAN SERIES

URBAN LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

FEATURES

- Decorative transitional style lighting fixture series is suitable for walkway lighting and wall mounting
- Two unique shade and style options
- LED turtle-friendly option available
- Integral Surge and Thermal Protection



Shown with arm

C US

*3000K and warmer CCTs only

CONTROL TECHNOLOGY

energeni

SPECIFICATIONS

CONSTRUCTION

- The drivers shall be located in the top cast housing and shall be accessible without tools by hinging the lower shade assembly. The driver and all electrical components shall be on a tray
- The lower shade shall be made from a one-piece aluminum spinning
- The housing is designed for LED thermal management without the use of metallic screens, cages, or fans. The top casting shall be able to be pendent mounted in place with a stainless steel safety pin and then permanently held in place with four stainless steel bolts

ELECTRICAL

- 100V through 277V, 50 Hz to 60 Hz (UNV), or 347V or 480V input
- Power factor is ≥0.90 at full load
- Dimming drivers are standard with connections for external dimming equipment available upon request
- Component-to-component wiring within the luminaire may carry no more than 80% of rated load and is listed by UL for use at 600VAC at 50°C or higher
- Plug disconnects are listed by UL for use at 600 VAC, 13A or higher. 13A rating applies to primary (AC) side only
- Fixture electrical compartment shall contain all LED driver components
- Button photocell available
- Ambient operating temperature -40°C to 40°C

ELECTRICAL (CONTINUED)

- Surge protection - 20KA
- Lifeshield™ Circuit - protects luminaire from excessive temperature. The device shall activate at a specific, factory-preset temperature, and progressively reduce power over a finite temperature range. A luminaire equipped with the device may be reliably operated in any ambient temperature up to 55°C (131°F). Operation shall be smooth and undetectable to the eye. Thermal circuit is designed to “fail on”, allowing the luminaire to revert to full power in the event of an interruption of its power supply, or faulty wiring connection to the drivers. The device shall be able to co-exist with other 0-10V control devices (occupancy sensors, external dimmers, etc.)

CONTROLS

- Available with Energeni for optional set dimming, timed dimming with simple delay, or timed dimming based on time of night visit

FINISH

- IFS polyester powder-coat electrostatically applied and thermocured
- IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super TGIC polyester powder coat finish
- The finish meets the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds

CERTIFICATIONS

- NRTL Certified, UL8750, UL 1598 and CSA22.2#250. 13-14 for wet locations
- IDA approved
- This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available.

WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	3,300–13,000
Wattage Range	27.8–137.5
Efficacy Range (LPW)	61–87

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BEACON
design . performance . technology

URBAN SERIES
URBAN LUMINAIRE

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

ORDERING GUIDE

Example: URB–CAP-21–36L-120–5K7–UNV–4–NRNW–BLT

CATALOG #

Model	Lens Option	Engine–Watts	CCT/CRI[4]	Voltage	Optics[2]	Electrical Options
URB Urban	**CAP-21** 21" Capitol	**18L-25** 25W, LED array	**3K7** 3000K, 70 CRI	**UNV** 120-277V	**FR** Type I	**PCU** Button Photocell, Universal
	MRDS-21 21" Miramar deep shade	**18L-39** 39W, LED array	**4K7** 4000K, 70 CRI	**347** 347V	**2** Type II	
	MAR-21 21" Maritas	**18L-50** 50W, LED array	**5K7** 5000K, 70 CRI	**480** 480V	**3** Type III	
	CAP-26 26" Capitol	**18L-70** 70W, LED array	**3K8** 3000K, 80 CRI		**4F** Type IV forward	
	MRSS-26 26" Miramar shallow shade	**18L-90** 90W, LED array	**4K8** 4000K, 80 CRI		**4W** Type IV wide	
	MRDS-26 26" Miramar deep shade	**18L-110** 110W, LED array	**5K8** 5000K, 80 CRI		**5QN** Type V square narrow	
	MAR-26 26" Maritas	**36L-120** 120W, LED array	**AM** Monochromatic Amber, 595nm		**5QW** Type V square wide	
		36L-135 135W, LED array			**5RW** Type V rectangular wide	
		36L-155 155W, LED array			**5W** Type V round wide	
		36L-175 175W, LED array			**BC** Backshield (available for FR, 2, 3, 4, 4W Opctics)	

Control Options	Mounting Style	Style	Finish	Options
GENI-XX Energeni[3]	**PM** Pendant mount	**NRNW** No rings	**BLT** Black Matte Textured	**BC** Backlight Control
XX - Please specify	**SM** Side mount	**3RNW** Three rings	**BLS** Black Gloss Smooth	
	YM3 Yoke mount, 3" OD		**DBT** Dark Bronze Matte Textured	
	YM4 Yoke mount, 4" OD		**DBS** Dark Bronze Gloss Smooth	
	YM5 Yoke mount, 5" OD		**GTT** Graphite Matte Textured	
			LGS Light Grey Gloss Smooth	
			PSS Platinum Silver Smooth	
			WHT White Matte Textured	
			WHS White Gloss Smooth	
			VGT Verde Green Textured	
			Color Option	
			CC Custom Color	

Notes:
1 26" only
2 To rotate optics left or right 90 degrees, specify L or R after the optical distribution example: 4L
3 When ordering Energeni, specify the routine setting code (Example GENI-04). See Energeni brochure and Energeni instructions for setting table and options. Not available with sensor options
4 This product is approved by the Florida Fish and Wildlife Conservation Commission. Separate spec available on our website.

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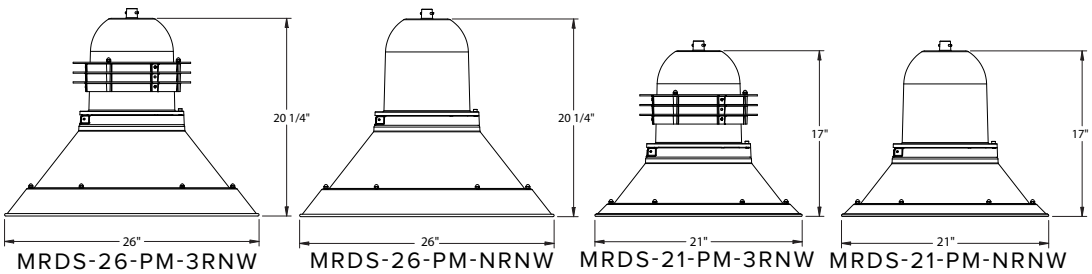
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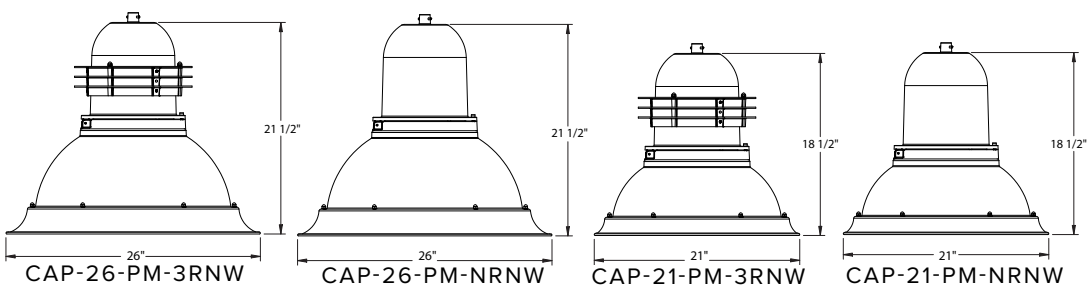
URBAN SERIES

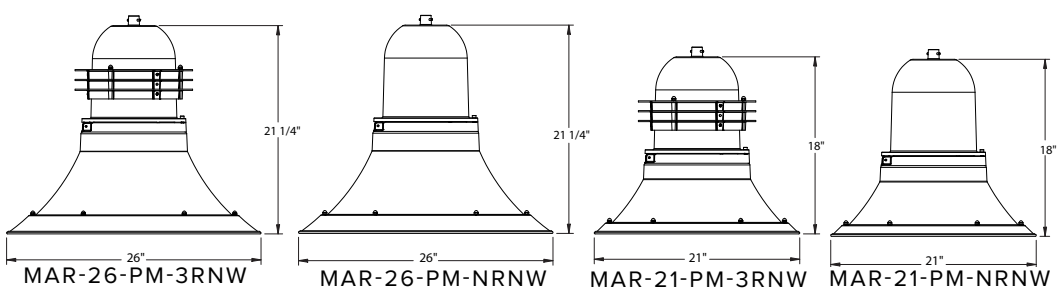
URBAN LUMINAIRE

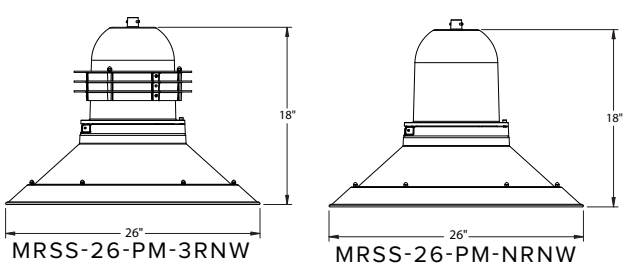
PENDANT MOUNT











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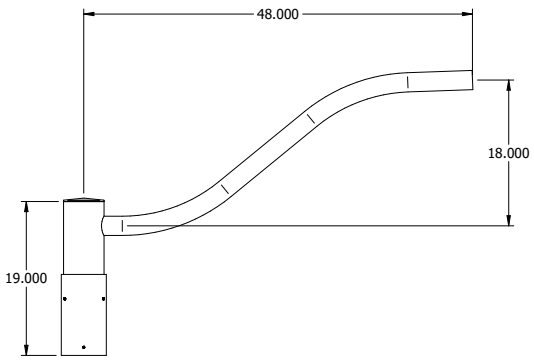
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URBAN LUMINAIRE

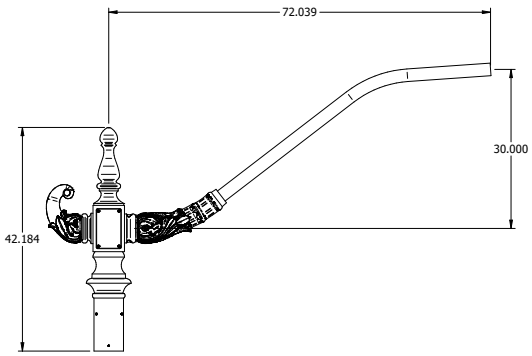
SIDE MOUNT

* Arms ordered separately, arms mount over an open top pole, they do not mount to a tenon.

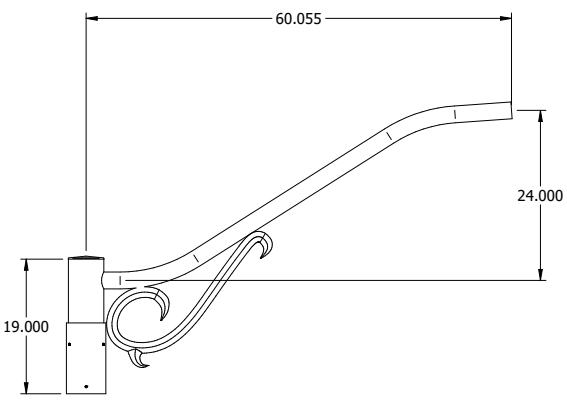




AA-10 COBRA



AA-10B COBRA BALBOA



AA-10S COBRA SCROLL

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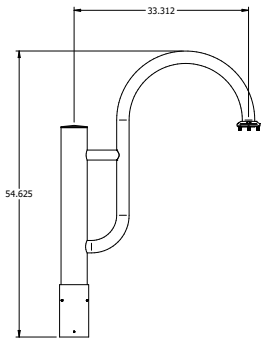
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URBAN LUMINAIRE

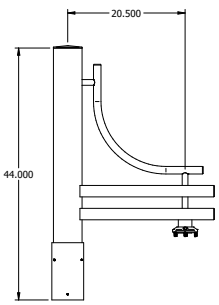
PENDANT MOUNT

* Arms ordered separately, arms mount over an open top pole, they do not mount to a tenon.

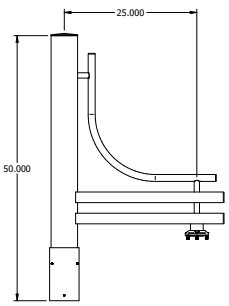




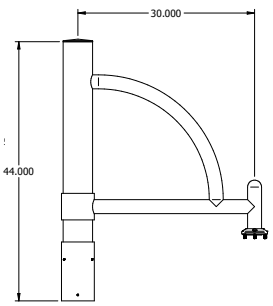
AA-41 RAILROAD STRAP



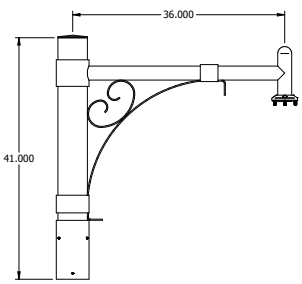
AA-10 SMALL PIERWALK



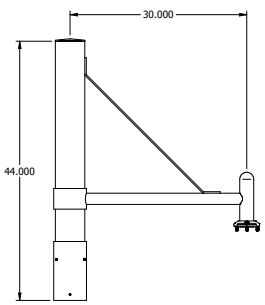
AA-38 LARGE PIERWALK



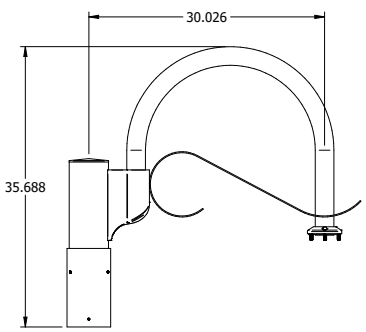
AA-49 RADIUS



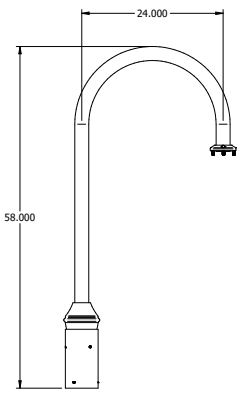
AA-27 STRATFORD



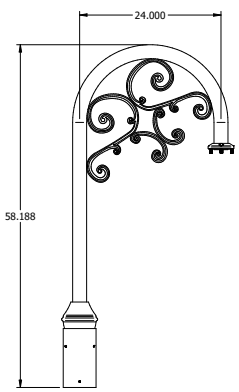
AA-44 STRUT



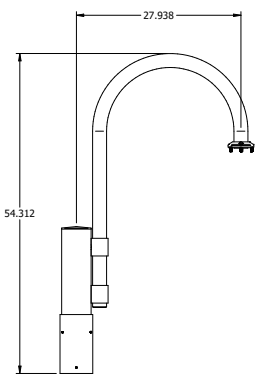
AA-45 TWIN EAGLES



AA-39 RAILROAD



AA-39S RAILROAD SCROLL



AA-42 RAILROAD SCS

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DELIVERED LUMENS

# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
				LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
18	25	27.8	FR	3428	123	0	0	0	3496	126	0	0	0	3233	116	0	0	0
			2	3236	117	1	0	1	3300	119	1	0	1	3052	110	1	0	1
			3	3164	114	1	0	1	3226	116	1	0	1	2983	107	1	0	1
			4F	3257	117	0	0	1	3321	120	0	0	1	3071	110	0	0	1
			4W	3114	112	1	0	1	3176	114	1	0	1	2937	106	1	0	1
			5QM	3398	122	2	0	0	3465	125	2	0	0	3204	115	2	0	0
			5QN	3431	124	2	0	0	3499	126	2	0	0	3236	116	2	0	0
			5QW	2937	106	2	0	1	2995	108	2	0	1	2770	100	0	0	0
			5RW	3150	113	2	0	2	3212	116	2	0	2	2970	107	2	0	2
			5W	3207	116	2	0	1	3271	118	2	0	1	3024	109	2	0	1
	39	45.1	FR	4977	110	0	0	0	5076	113	0	0	0	4694	104	0	0	0
			2	4699	104	1	0	1	4791	106	1	0	1	4431	98	1	0	1
			3	4593	102	1	0	1	4684	104	1	0	1	4332	96	1	0	1
			4F	4729	105	0	0	1	4822	107	0	0	1	4459	99	0	0	1
			4W	4522	100	1	0	1	4611	102	1	0	1	4264	95	1	0	1
			5QM	4934	110	2	0	0	5032	112	2	0	0	4653	103	2	0	0
			5QN	4982	111	2	0	0	5081	113	2	0	0	4698	104	2	0	0
			5QW	4522	100	3	0	1	4611	102	3	0	1	4264	95	3	0	1
			5RW	4573	101	2	0	2	4664	104	2	0	2	4313	96	2	0	2
			5W	4657	103	2	0	1	4749	105	2	0	1	4391	97	2	0	1
	50	57.5	FR	6019	105	0	0	0	6138	107	0	0	0	5676	99	0	0	0
			2	5682	99	1	0	1	5794	101	1	0	1	5358	93	1	0	1
			3	5555	97	1	0	1	5665	99	1	0	1	5238	91	1	0	1
			4F	5718	100	0	0	1	5831	101	0	0	1	5392	94	0	0	1
			4W	5468	95	1	0	1	5576	97	1	0	1	5156	90	1	0	1
			5QM	5967	104	2	0	0	6085	106	2	0	0	5627	98	2	0	0
			5QN	6025	105	2	0	0	6144	107	2	0	0	5682	99	2	0	0
			5QW	5468	95	3	0	1	5576	97	3	0	1	5156	90	3	0	1
			5RW	5531	96	2	0	2	5640	98	2	0	2	5215	91	2	0	2
			5W	5632	98	2	0	1	5743	100	2	0	1	5311	92	2	0	1
	70	62.4	FR	6650	107	0	0	0	6781	109	0	0	0	6271	100	0	0	0
			2	6277	101	1	0	1	6401	103	1	0	1	5919	95	1	0	1
			3	6137	98	1	0	1	6258	100	1	0	1	5787	93	1	0	1
			4F	6317	101	0	0	1	6442	103	0	0	1	5957	95	0	0	1
			4W	6041	97	1	0	1	6160	99	1	0	1	5696	91	1	0	1
			5QM	6592	106	2	0	0	6722	108	2	0	0	6216	100	2	0	0
			5QN	6656	107	2	0	0	6788	109	2	0	0	6277	101	2	0	0
			5QW	6041	97	3	0	1	6160	99	3	0	1	5696	91	3	0	1
			5RW	6110	98	2	0	2	6231	100	2	0	2	5762	92	2	0	2
			5W	6221	100	2	0	1	6344	102	2	0	1	5867	94	2	0	1

DELIVERED LUMENS CHART CONTINUED ONTO NEXT PAGE

Notes:

1 Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

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DELIVERED LUMENS (CONTINUED)

				5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
18	90	82.3	FR	7681	93	0	0	0	7833	95	0	0	0	7244	88	0	0	0
			2	7251	88	1	0	1	7394	90	1	0	1	6838	83	1	0	1
			3	7089	86	1	0	1	7229	88	1	0	1	6685	81	1	0	1
			4F	7297	89	0	0	1	7442	90	0	0	1	6882	84	0	0	1
			4W	6978	85	1	0	1	7116	86	1	0	1	6580	80	1	0	1
			5QM	7614	93	2	0	0	7765	94	2	0	0	7180	87	2	0	0
			5QN	7689	93	2	0	0	7841	95	2	0	0	7251	88	2	0	0
			5QW	6978	85	3	0	1	7116	86	3	0	1	6580	80	3	0	1
			5RW	7058	86	2	0	2	7197	87	2	0	2	6656	81	2	0	2
			5W	7187	87	2	0	1	7329	89	2	0	1	6777	82	2	0	1
	110	98.7	FR	8346	85	0	0	0	8511	86	0	0	0	7870	80	0	0	0
			2	7878	80	1	0	1	8034	81	1	0	1	7429	75	1	0	1
			3	7702	78	1	0	1	7854	80	1	0	1	7263	74	1	0	1
			4F	7929	80	0	0	1	8085	82	0	0	1	7477	76	0	0	1
			4W	7582	77	1	0	1	7731	78	1	0	1	7150	72	1	0	1
			5QM	8273	84	2	0	0	8437	86	2	0	0	7802	79	2	0	0
			5QN	8354	85	2	0	0	8519	86	2	0	0	7878	80	2	0	0
			5QW	7582	77	3	0	2	7731	78	3	0	2	7150	72	3	0	2
			5RW	7668	78	2	0	2	7820	79	2	0	2	7231	73	2	0	2
			5W	7808	79	2	0	1	7963	81	2	0	1	7363	75	2	0	1
36	120	124.9	FR	12463	100	0	0	0	12709	102	0	0	0	11752	94	0	0	0
			2	11765	94	1	0	1	11997	96	1	0	1	11094	89	1	0	1
			3	11501	92	1	0	1	11728	94	1	0	1	10846	87	1	0	1
			4F	11840	95	0	0	1	12074	97	0	0	1	11165	89	0	0	1
			4W	11321	91	1	0	1	11545	92	1	0	1	10676	85	1	0	1
			5QM	12354	99	2	0	0	12598	101	2	0	0	11650	93	2	0	0
			5QN	12475	100	2	0	0	12722	102	2	0	0	11764	94	2	0	0
			5QW	11321	91	3	0	2	11545	92	3	0	2	10676	85	3	0	2
			5RW	11451	92	2	0	2	11677	93	2	0	2	10798	86	2	0	2
			5W	11660	93	2	0	1	11890	95	2	0	1	10995	88	2	0	1
	135	137.5	FR	13255	96	0	0	0	13517	98	0	0	0	12500	91	0	0	0
			2	12513	91	1	0	1	12760	93	1	0	1	11799	86	1	0	1
			3	12232	89	1	0	1	12474	91	1	0	1	11535	84	1	0	1
			4F	12593	92	0	0	1	12841	93	0	0	1	11875	86	0	0	1
			4W	12041	88	1	0	1	12279	89	1	0	1	11355	83	1	0	1
			5QM	13140	96	2	0	0	13399	97	2	0	0	12391	90	2	0	0
			5QN	13268	97	2	0	0	13531	98	2	0	0	12512	91	2	0	0
			5QW	12041	88	3	0	2	12279	89	3	0	2	11355	83	3	0	2
			5RW	12179	89	2	0	2	12420	90	2	0	2	11485	84	2	0	2
			5W	12401	90	2	0	1	12646	92	2	0	1	11695	85	2	0	1
			TCR	13051	95	0	0	0	13308	97	0	0	0	12307	90	0	0	0

DELIVERED LUMENS CHART CONTINUED ONTO NEXT PAGE

Notes:

1 Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

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DELIVERED LUMENS (CONTINUED)

				5K7 (5000K nominal, 70 CRI)					4K7 (4000K nominal, 70 CRI)					3K7 (3000K nominal, 70 CRI)				
# of LEDs	NOMINAL WATTAGE (W)	SYSTEM WATTS (W)	DISTRIBUTION TYPE	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G	LUMENS	LPW	B	U	G
36	155	150.6	FR	13992	93	0	0	0	14268	95	0	0	0	13194	88	0	0	0
			2	13208	88	1	0	1	13469	89	1	0	1	12455	83	1	0	1
			3	12912	86	1	0	1	13167	87	1	0	1	12176	81	1	0	1
			4F	13293	88	0	0	1	13555	90	0	0	1	12535	83	0	0	1
			4W	12711	84	1	0	1	12962	86	1	0	1	11986	80	1	0	1
			5QM	13870	92	2	0	0	14144	94	2	0	0	13079	87	2	0	0
			5QN	14006	93	2	0	0	14283	95	2	0	0	13208	88	2	0	0
			5QW	12711	84	3	0	2	12962	86	3	0	2	11986	80	3	0	2
			5RW	12856	85	2	0	2	13110	87	2	0	2	12123	80	2	0	2
			5W	13091	87	2	0	1	13349	89	2	0	1	12345	82	2	0	1
	175	167.3	FR	14784	88	0	0	0	15076	90	0	0	0	13942	83	0	0	0
			2	13956	83	1	0	1	14232	85	1	0	1	13161	79	1	0	1
			3	13644	82	1	0	1	13913	83	1	0	1	12866	77	1	0	1
			4F	14045	84	0	0	1	14323	86	0	0	1	13245	79	0	0	1
			4W	13430	80	1	0	1	13696	82	1	0	1	12665	76	1	0	1
			5QM	14655	88	2	0	0	14945	89	2	0	0	13820	83	2	0	0
			5QN	14799	88	2	0	0	15091	90	2	0	0	13956	83	2	0	0
			5QW	13430	80	3	0	2	13696	82	3	0	2	12665	76	3	0	2
			5RW	13584	81	2	0	2	13852	83	2	0	2	12810	77	2	0	2
			5W	13832	83	2	0	1	14105	84	2	0	1	13044	78	2	0	1

Notes:
1 Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.
* Available in the 26" Urban only

ELECTRICAL DATA

# LED's	Nominal Wattage (W)	Input Voltage (Volts)	Oper. Current (Amps)	System Power (W)
18	25	120	0.23	27.8
		277	0.10	
		347	0.08	
		480	0.06	
	39	120	0.38	45.1
		277	0.16	
		347	0.13	
		480	0.09	
	50	120	0.48	57.7
		277	0.21	
		347	0.17	
		480	0.12	
	70	120	0.52	62.4
		277	0.23	
		347	0.18	
		480	0.13	
	90	120	0.69	82.3
		277	0.30	
		347	0.24	
		480	0.17	
	110	120	0.82	98.7
		277	0.36	
		347	0.28	
		480	0.21	

# LED's	Nominal Wattage (W)	Input Voltage (Volts)	Oper. Current (Amps)	System Power (W)
36	120	120	1.04	124.9
		277	0.45	
		347	0.36	
		480	0.26	
	135	120	1.15	137.5
		277	0.50	
		347	0.40	
		480	0.29	
	155	120	1.26	150.6
		277	0.54	
		347	0.43	
		480	0.31	
	175	120	1.39	167.3
		277	0.60	
		347	0.48	
		480	0.35	

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URBAN SERIES

URBAN LUMINAIRE

PROJECTED LUMEN MAINTENANCE

Ambient Temperature	OPERATING HOURS					
	0	25,000	*TM-21-11 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

Notes:

* Projected per IESNA TM-21-11. Data references the extrapolated performance projections for thebase model in a 40°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.

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).

EPA

EPA: X.XX sqft		PM	SM	YM
CAP	21	1.04	1.14	1.39
	26	1.39	1.49	1.79
MAR	21	1.00	1.10	1.35
	26	1.25	1.35	1.65
MRDS	21	1.00	1.10	1.35
	26	1.25	1.35	1.65
MRSS	26	1.17	1.27	1.57

FOR ALL CONFIGURATIONS LINE DRAWINGS PLEASE SEE:

URB-HD-P.PDF
URB-HD-S.PDF
URB-HD-YM.PDF

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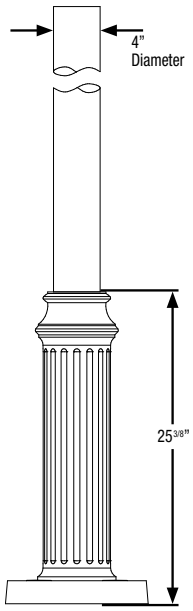
DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-KENS Series Poles

ROUND STRAIGHT ALUMINUM



APPLICATIONS

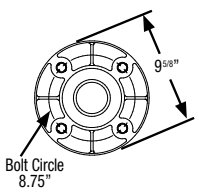
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

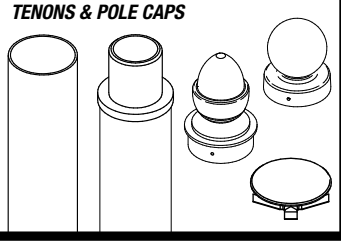
- SHAFT: One-piece straight aluminum with fluted or smooth cross section; Extruded shafts of 6061-T6 aluminum in 1/8", 3/16", or 1/4" thickness. Decorative base of 356 cast aluminum.
- POLE CAP OR FINALS: Cap or decorative finials available for side mounted luminaires. Open top or tenons provided for post top mounted luminaires.
- HAND HOLE: Hand hole provided in cast base; Mounting provisions for grounding lug located behind cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

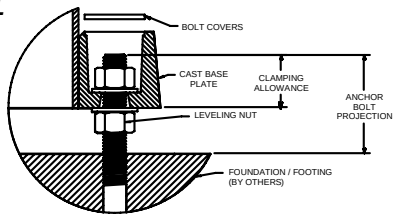
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint finish coat available in twelve standard colors; Custom colors available; RAL number preferable.



TENONS & POLE CAPS



BASE DETAIL



ORDERING EXAMPLE:

RSA-B-KENS – S/F – 16 – 40 – A/B/C – 2L – B3 – DBT – VM2

SERIES	STYLE	HEIGHT	SHAFT	THICKNESS
RSA-B-KENS Round Straight Aluminum Pole Beacon	**S** Smooth **F** Fluted	Reference page 2 Ordering matrix 12'	Reference page 2 Ordering matrix 40	Reference page 2 Ordering matrix B

MOUNTING

- **1** Single arm mount
- **2** Two fixtures at 180°
- **2L** Two fixtures at 90°
- **3T** Three fixtures at 90°
- **3Y** Three at 120°
- **4** Four fixtures at 90°
- **OT** Open top (includes pole cap)
- **TN3** Tenon 3 x 3
- **TN4** Tenon 3 x 4
- **CAP** Cap
- **ARC** Acorn Finial
- **BAL** Ball Finial

FINISH

- **BLT** Black Matte Textured
- **BLS** Black Gloss Smooth
- **DBT** Dark Bronze Matte Textured
- **DBS** Dark Bronze Gloss Smooth
- **GTT** Graphite Matte Textured
- **LGS** Light Grey Gloss Smooth
- **PSS** Platinum Silver Smooth
- **WHT** White Matte Textured
- **WHS** White Gloss Smooth
- **VGT** Verde Green Textured

Color Option

- **CC** Custom Color

OPTIONS

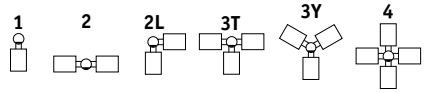
- **GFI'** 20 Amp GFCI Receptacle and Cover
- **EHH'** Extra Handhole
- **C05'** .5" Coupling
- **C07'** .75" Coupling
- **C20'** 2" Coupling
- **VM2** 2nd mode vibration damper
- **LAB** Less Anchor Bolts

DRILL PATTERN

- **B1** Cruzer, "AM" arm
- **B3** 2 bolt (2-½" spacing), Viper "A" arm
- **S2** 2 bolt (3-½" spacing), Viper "AD" arm

MOUNTING ORIENTATION

Denotes handhole location



1 Specify option location using logic found on page 2 **(Option Orientation)**

***ACCESSORIES*- Order Separately**

Catalog Number	Description
VM2SXX	2nd mode vibration damper

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-KENS Series Poles

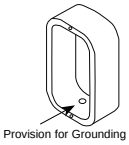
ROUND STRAIGHT ALUMINUM

ORDERING INFORMATION Cont.

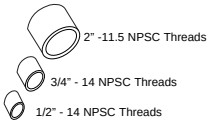
Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Square	Base Plate Size	Anchor Bolt Size	Bolt Projection	Pole weight (lbs)
	Feet	Meters								
RSA-B-KENS-S-10-40-A	10	3.0	4" Round	0.125"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	39
RSA-B-KENS-S-12-40-A	12	3.7	4" Round	0.125"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	43
RSA-B-KENS-S-14-40-A	14	4.3	4" Round	0.125"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	46
RSA-B-KENS-S-16-40-A	16	4.9	4" Round	0.125"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	50
RSA-B-KENS-S-18-40-A	18	5.5	4" Round	0.125"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	53
RSA-B-KENS-S-20-40-A	20	6.1	4" Round	0.125"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	57
RSA-B-KENS-S-10-40-B	10	3.0	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	47
RSA-B-KENS-S-12-40-B	12	3.7	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	53
RSA-B-KENS-S-14-40-B	14	4.3	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	58
RSA-B-KENS-S-16-40-B	16	4.9	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	63
RSA-B-KENS-S-18-40-B	18	5.5	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	69
RSA-B-KENS-S-20-40-B	20	6.1	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	74
RSA-B-KENS-S-22-40-B	22	6.7	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	79
RSA-B-KENS-S-24-40-B	24	7.3	4" Round	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	84
RSA-B-KENS-S-10-40-C	10	3.0	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	56
RSA-B-KENS-S-12-40-C	12	3.7	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	62
RSA-B-KENS-S-14-40-C	14	4.3	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	69
RSA-B-KENS-S-16-40-C	16	4.9	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	76
RSA-B-KENS-S-18-40-C	18	5.5	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	83
RSA-B-KENS-S-20-40-C	20	6.1	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	90
RSA-B-KENS-S-22-40-C	22	6.7	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	97
RSA-B-KENS-S-24-40-C	24	7.3	4" Round	0.25"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	104
RSA-B-KENS-F-10-40-B	10	3.0	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	50
RSA-B-KENS-F-12-40-B	12	3.7	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	55
RSA-B-KENS-F-14-40-B	14	4.3	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	61
RSA-B-KENS-F-16-40-B	16	4.9	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	67
RSA-B-KENS-F-18-40-B	18	5.5	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	72
RSA-B-KENS-F-20-40-B	20	6.1	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	78
RSA-B-KENS-F-22-40-B	22	6.7	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	84
RSA-B-KENS-F-24-40-B	24	7.3	4" Fluted	0.188"	8-3/4"	6.19"	11-5/8" x 25-3/8" Tall	3/4 x 30 x 3	2-3/4"	90

NOTE Factory supplied template must be used when setting anchor bolts. Current will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE



C05 - C07 - C20 - COUPLING

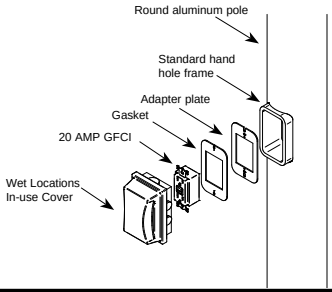


VM2 - VIBRATION DAMPER 2ND MODE

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.



GFI – 20 AMP GFCI RECEPTACLE & COVER



OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSA-B-KENS-F16-40B-TN3-DBT-C05-0-5** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.

VM2SXX - VIBRATION DAMPER 2ND MODE

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

For more information about pole vibration and vibration dampers, please consult Pole Vibration Application Guide.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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DATE: LOCATION:

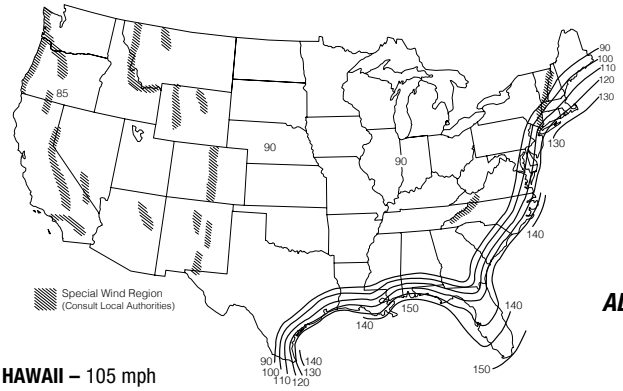
TYPE: PROJECT:

CATALOG #:

RSA-B-KENS Series Poles

ROUND STRAIGHT ALUMINUM

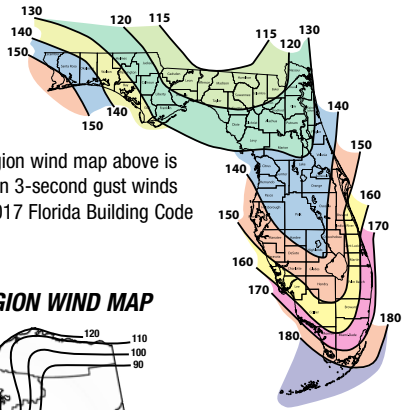
ASCE7-05 WIND MAP



HAWAII – 105 mph
PUERTO RICO – 145 mph

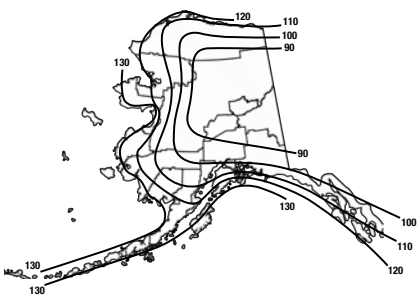
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FLORIDA REGION WIND MAP



Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds										
Catalog Number	**85**	**90**	**100**	**105**	**110**	**120**	**130**	**140**	**145**	**150**
RSA-B-KENS-S-10-40-A	12.2	10.8	8.7	7.8	7.0	5.8	4.9	4.2	3.9	3.6
RSA-B-KENS-S-12-40-A	9.0	7.9	6.2	5.5	4.9	3.9	3.3	2.8	2.6	2.4
RSA-B-KENS-S-14-40-A	6.8	5.9	4.5	3.9	3.4	2.6	2.2	1.8	1.6	1.5
RSA-B-KENS-S-16-40-A	5.1	4.4	3.2	2.7	2.3	1.6	1.3	1.0	0.9	0.8
RSA-B-KENS-S-18-40-A	3.8	3.1	2.1	1.7	1.3	0.8	0.5	NR	NR	NR
RSA-B-KENS-S-20-40-A	2.6	2.1	1.2	0.8	0.5	NR	NR	NR	NR	NR
RSA-B-KENS-S-10-40-B	18.0	16.1	13.0	11.8	10.6	8.9	7.5	6.5	6.0	5.6
RSA-B-KENS-S-12-40-B	13.6	12.1	9.7	8.7	7.8	6.4	5.4	4.6	4.3	4.0
RSA-B-KENS-S-14-40-B	10.6	9.3	7.3	6.5	5.8	4.7	3.9	3.3	3.0	2.8
RSA-B-KENS-S-16-40-B	8.3	7.3	5.6	4.9	4.3	3.3	2.7	2.3	2.1	1.9
RSA-B-KENS-S-18-40-B	6.5	5.6	4.1	3.5	3.0	2.2	1.8	1.4	1.3	1.2
RSA-B-KENS-S-20-40-B	5.0	4.2	2.9	2.4	2.0	1.3	1.0	0.7	0.6	0.5
RSA-B-KENS-S-22-40-B	3.7	3.0	1.9	1.5	1.1	0.5	NR	NR	NR	NR
RSA-B-KENS-S-24-40-B	2.7	2.1	1.1	0.7	NR	NR	NR	NR	NR	NR
RSA-B-KENS-S-10-40-C	23.3	20.8	16.9	15.3	13.9	11.6	9.9	8.5	7.9	7.4
RSA-B-KENS-S-12-40-C	17.7	15.8	12.7	11.5	10.4	8.6	7.3	6.2	5.8	5.4
RSA-B-KENS-S-14-40-C	14.0	12.4	9.8	8.8	7.9	6.5	5.4	4.6	4.3	4.0
RSA-B-KENS-S-16-40-C	11.2	9.9	7.7	6.8	6.1	4.8	4.1	3.4	3.1	2.9
RSA-B-KENS-S-18-40-C	8.9	7.8	5.9	5.2	4.5	3.5	2.9	2.4	2.2	2.0
RSA-B-KENS-S-20-40-C	7.0	6.1	4.5	3.8	3.3	2.4	1.9	1.5	1.4	1.2
RSA-B-KENS-S-22-40-C	5.5	4.7	3.3	2.7	2.2	1.5	1.1	0.8	0.7	0.6
RSA-B-KENS-S-24-40-C	4.3	3.5	2.3	1.8	1.3	0.7	NR	NR	NR	NR
RSA-B-KENS-F-10-40-B	17.9	16.0	12.9	11.6	10.5	8.7	7.2	6.1	5.6	5.1
RSA-B-KENS-F-12-40-B	13.5	12.0	9.5	8.5	7.6	6.2	5.0	4.1	3.7	3.3
RSA-B-KENS-F-14-40-B	10.4	9.2	7.2	6.3	5.6	4.4	3.5	2.7	2.4	2.1
RSA-B-KENS-F-16-40-B	8.1	7.1	5.4	4.7	4.1	3.0	2.2	1.6	1.3	1.0
RSA-B-KENS-F-18-40-B	6.3	5.4	3.9	3.3	2.8	1.9	1.2	0.6	NR	NR
RSA-B-KENS-F-20-40-B	4.7	3.9	2.7	2.2	1.7	0.9	NR	NR	NR	NR
RSA-B-KENS-F-22-40-B	3.4	2.8	1.6	1.2	0.8	NR	NR	NR	NR	NR
RSA-B-KENS-F-24-40-B	2.4	1.8	0.8	NR	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds								
Catalog Number	**115**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
RSA-10-40-A-S-KENS	9.0	8.2	6.9	5.8	4.9	4.1	3.8	3.6
RSA-12-40-A-S-KENS	6.5	5.8	4.8	3.9	3.2	2.6	2.5	2.4
RSA-14-40-A-S-KENS	4.7	4.1	3.2	2.5	1.9	1.4	1.2	1.1
RSA-16-40-A-S-KENS	3.2	2.8	2.0	1.4	0.9	0.5	NR	NR
RSA-18-40-A-S-KENS	2.1	1.7	1.0	0.5	NR	NR	NR	NR
RSA-20-40-A-S-KENS	1.1	0.8	NR	NR	NR	NR	NR	NR
RSA-10-40-B-S-KENS	13.6	12.4	10.5	8.9	7.6	6.6	6.3	5.5
RSA-12-40-B-S-KENS	10.1	9.2	7.6	6.4	5.4	4.5	4.3	4.0
RSA-14-40-B-S-KENS	7.6	6.9	5.6	4.6	3.7	3.0	2.9	2.7
RSA-16-40-B-S-KENS	5.7	5.1	4.0	3.2	2.4	1.8	1.6	1.4
RSA-18-40-B-S-KENS	4.2	3.6	2.7	2.0	1.4	0.8	0.6	NR
RSA-20-40-B-S-KENS	2.9	2.4	1.6	1.0	0.5	NR	NR	NR
RSA-22-40-B-S-KENS	1.9	1.4	0.7	NR	NR	NR	NR	NR
RSA-24-40-B-S-KENS	0.9	0.6	NR	NR	NR	NR	NR	NR
RSA-10-40-C-S-KENS	17.6	16.2	13.7	11.7	10.1	8.8	8.2	7.3
RSA-12-40-C-S-KENS	13.3	12.1	10.2	8.6	7.3	6.2	5.8	5.4
RSA-14-40-C-S-KENS	10.3	9.3	7.7	6.4	5.3	4.5	4.3	4.0
RSA-16-40-C-S-KENS	7.9	7.1	5.8	4.7	3.8	3.0	2.7	2.5
RSA-18-40-C-S-KENS	6.0	5.4	4.2	3.3	2.5	1.9	1.7	1.5
RSA-20-40-C-S-KENS	4.5	3.9	2.9	2.1	1.4	0.9	0.7	0.5
RSA-22-40-C-S-KENS	3.2	2.7	1.9	1.1	0.5	NR	NR	NR
RSA-24-40-C-S-KENS	2.2	1.7	0.9	NR	NR	NR	NR	NR
RSA-10-40-B-F-KENS	13.6	12.4	10.5	8.9	7.6	6.6	5.7	4.9
RSA-12-40-B-F-KENS	10.1	9.2	7.6	6.4	5.4	4.5	3.8	3.2
RSA-14-40-B-F-KENS	7.6	6.9	5.6	4.6	3.7	3.0	2.4	1.9
RSA-16-40-B-F-KENS	5.7	5.1	4.0	3.2	2.4	1.8	1.3	0.9
RSA-18-40-B-F-KENS	4.2	3.6	2.7	2.0	1.4	0.8	NR	NR
RSA-20-40-B-F-KENS	2.9	2.4	1.6	1.0	0.5	NR	NR	NR
RSA-22-40-B-F-KENS	1.9	1.4	0.7	NR	NR	NR	NR	NR
RSA-24-40-B-F-KENS	0.9	0.6	NR	NR	NR	NR	NR	NR

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-KENS Series Poles

ROUND STRAIGHT ALUMINUM

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Pole Vibration Application Guide for environmental risk factors and design considerations.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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AA-37 Nautilus

ARMS

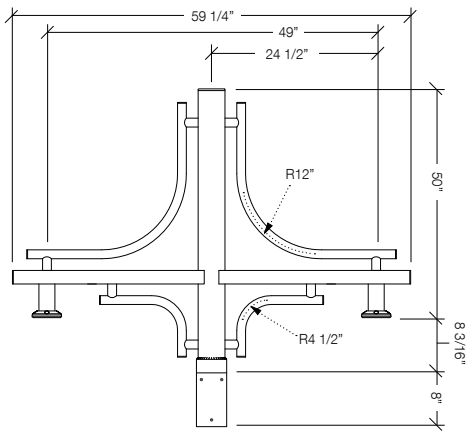
DATE: LOCATION:

TYPE: PROJECT:

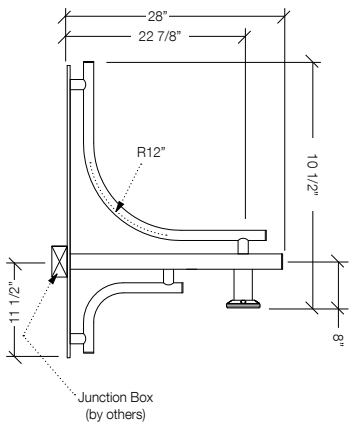
CATALOG #:

Sample	*AA-37*	*S*	*4*	*B*	*P*	*BBT*
Ordering		/	/	/	/	/
	A	**B**	**C**	**D**	**E**	**F**

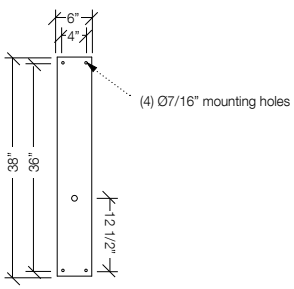
DETAILS



WALL BRACKET DETAILS



WALL PLATE DETAILS



A. MODEL

AA-37	Nautilus

B. POST SHAFT PROFILE

W	wall mount
S	smooth
F	fluted

C. POST SHAFT DIAMETER

4	4"
5	5"
6	6"
OTHER	_____

D. ARRANGEMENT

B *see arrangement table below*

E. LUMINAIRE MOUNTING

P pendant

F. COLOR

BLS - Black Gloss Smooth

BBT	basic black textured
BMT	black matte textured
WHT	white textured
MBT	metallic bronze textured
BZT	bronze textured
DBT	dark bronze textured
GYS	gray smooth
DPS	dark platinum smooth
GNT	green textured
MST	metallic silver textured
MTT	metallic titanium textured
OWI	old world iron
RAL	_____

Construction: All cast aluminum parts shall be low copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

EPA (effective projected area): EPA is de¬fined as (projected surface area X drag factor) and measured in ft2. Allowable post, luminaire arm, luminaire and accessory EPAs are derived from the most current published AASHTO (American Association of State Highway and Transportation Officials) standard, currently AASHTO 2001 (50yr design life). Customer assumes all responsibility for selecting the ap¬propriate post for installation (consult factory for assistance). Luminaire arm, luminaire and accessory EPA must be equal to or less than allowable EPA of post. Consult a professional engineer for compliance with local codes and standards.

Fasteners: All fasteners shall be Corrosion Resistant. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, available at additional cost).

Finish: Finish shall be a Beacote V polyester powder-coat electro-statically applied and thermocured. Beacote V finish shall consist of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester pow¬der coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pound.

Limited Warranty: Beacon Products warrants its products, to the original purchaser, against defects in materials and workmanship for proper usage for a period of 5 years after date of production, when properly installed, maintained and appropriately specified. See Warranty Information on www.beaconproducts.com for complete details and exclusions.

2CC - 2" Cast Coupling

		arrangement (EPA index ft² / weight (lbs))									
shaft Ø		A	B	C	D	E	F	G	H	I	J
wall	weight	18	-	-	-	-	-	-	-	-	-
Ø4"	EPA	-	3.37	5.04	5.04	-	5.19	5.19	-	-	-
	weight	-	26	36	38	-	46	48	-	-	-
Ø5"	EPA	-	3.80	5.47	5.47	4.49	5.62	5.62	6.07	6.85	6.85
	weight	-	30	40	42	40	50	52	50	60	62
Ø6"	EPA	-	4.22	5.89	5.89	4.91	6.04	6.04	6.49	7.27	7.27
	weight	-	34	44	46	44	54	56	54	64	66

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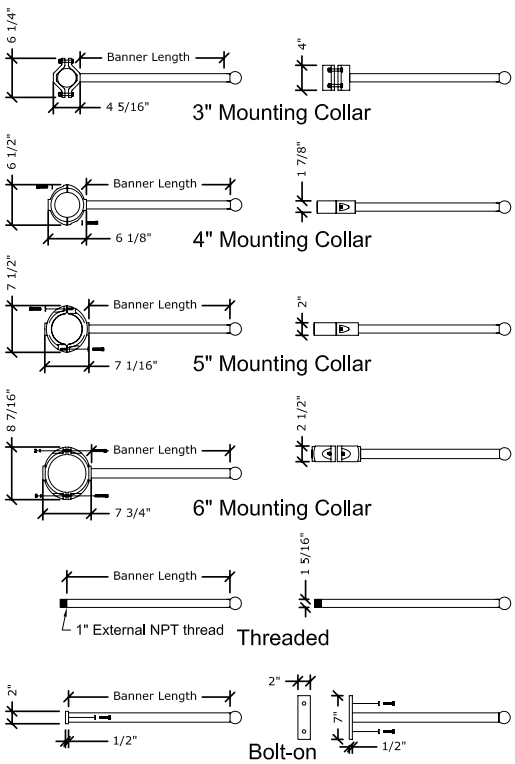
Banner Arms
ARMS

DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

Banner Arm Mounting Styles



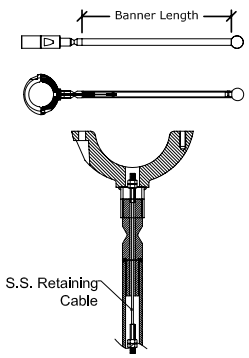
Specifications

Construction:
All cast aluminum parts shall low copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal.

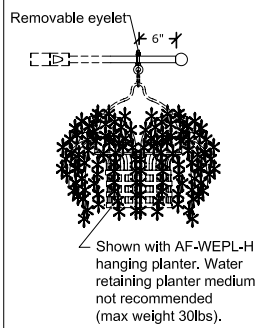
Fasteners:
All fasteners shall be stainless steel. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, available at additional cost), consult factory for availability.

Finish:
Finish shall be Beacote III polyester powdercoat electrostatically applied and thermocured. Poles shall be subjected to chemical pre-treatment prior to painting by immersion process.

Options



Breakaway Coupler System
breakaway speed varies with banner size (consult factory)



Planter Eyelet

Ordering Example:
AA-0024 / 4"MTC / BA / BKT

AA-00__ /_____ /___ /___ ____

Length		Mounting		Options		Finish	
☐	18" 18"	☐	3"MTC mounting collar for 3" shaft	☐	BA breakaway coupler system*	☐	BB black
☐	20" 20"	☐	4"MTC mounting collar for 4" shaft	☐	PA removable planter eyelet*	☐	BZ bronze
☐	22" 22"	☐	5"MTC mounting collar for 5" shaft	☐	2X two banner arms at 180°	☐	BG green
☐	24" 24"	☐	6"MTC mounting collar for 6" shaft			☐	BW white
☐	30" 30"	☐	BO bolted connection			☐	BY gray
		☐	TO threaded connection			☐	RAL RAL-
						☐	OTHER

Consult factory for premium and verde finishes. Custom colors available.

BLS - Black Gloss Smooth

Notes:
* Consult factory

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Domus
POLES & BASES

DATE: LOCATION:

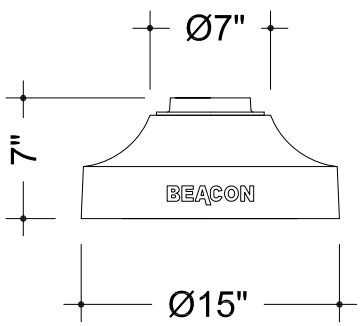
TYPE: PROJECT:

CATALOG #:

RSAB-BC-60-BLS-DOMU

Sample	*DOMU*	*5*	*BBT*
Ordering		/	/
	A	**B**	**C**

DETAILS



A. MODEL

DOMU	Domus

B. POST SHAFT DIAMETER

3	3"
4	4"
5	5"
6	6"

C. COLOR

BBT	basic black textured
BMT	black matte textured
WHT	white textured
MBT	metallic bronze textured
BZT	bronze textured
DBT	dark bronze textured
GYS	gray smooth
DPS	dark platinum smooth
GNT	green textured
MST	metallic silver textured
MTT	metallic titanium textured
OWI	old world iron
RAL	_____

BLS - Black Gloss Smooth

Construction: All cast aluminum parts shall be low copper alloy A356. All extruded aluminum parts shall be alloy 6061-T6, 6063-T5 or equal. Standard fluted shaft profile shall be 16-flat flutes for 3"OD and 12-flat flutes for 4", 5", & 6"OD.

Base Covers: require specification of smooth or fluted shafts of the size required to meet wind load requirements

Vibration Dampeners: Vibration dampener pads shall be provided when required by customer or deemed necessary by Beacon Products. Please consult factory for bridge mounted applications.

EPA (effective projected area): EPA is defined as (projected surface area X drag factor) and measured in ft2. Allowable post, luminaire arm, luminaire and accessory EPAs are derived from the most current published AASHTO (American Association of State Highway and Transportation Officials) standard, currently AASHTO 2001 (50yr design life). Customer assumes all responsibility for selecting the appropriate post for installation (consult factory for assistance). Luminaire arm, luminaire and accessory EPA must be equal to or less than allowable EPA of post. Consult a professional engineer for compliance with local codes and standards.

Anchor Bolt: Anchor bolts, sized as required, double hex nuts and flat washers shall be hot dipped galvanized steel. A bolt circle template shall be provided for installation.

Fasteners: All fasteners shall be Corrosion Resistant. When tamper resistant fasteners are required, spanner HD (snake eye) style shall be provided (special tool required, available at additional cost).

Finish: Finish shall be a Beacote V polyester powdercoat electrostatically applied and thermocured. Beacote V finish shall consist of a five stage iron phosphate chemical pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish. The finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pound.

Limited Warranty: Beacon Products warrants its products, to the original purchaser, against defects in materials and workmanship for proper usage for a period of 5 years after date of production, when properly installed, maintained and appropriately specified.

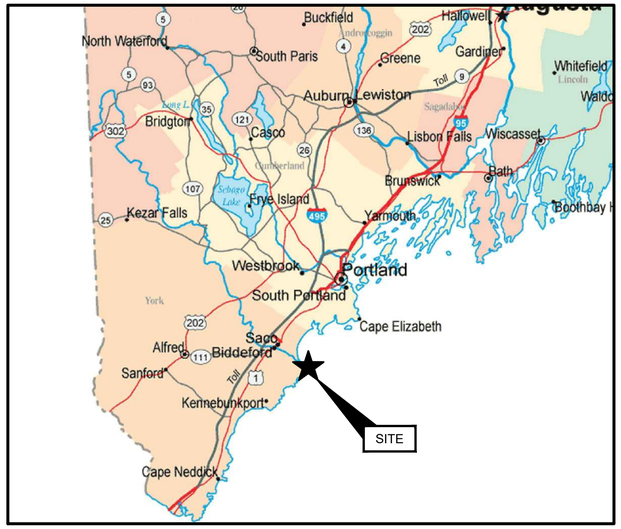
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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Attachment 15
Drawings

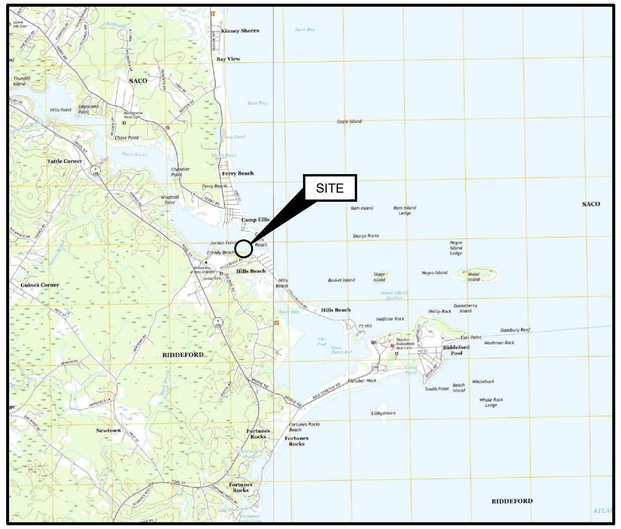
UNIVERSITY OF NEW ENGLAND
MARINE SCIENCE CENTER PIER

BIDDEFORD, MAINE



SOURCE:
MAINE ROAD MAP, GOOGLE IMAGES, ACCESSED SEPTEMBER 2023.

STATE MAP
(NOT TO SCALE)



SOURCE:
USGS TOPOGRAPHICAL MAP OF BIDDEFORD, MAINE 2022

SITE LOCATION MAP
(NOT TO SCALE)

PROJECT INFO:

ZONING DISTRICT: INSTITUTIONAL (IN) ZONE WITH LIMITED RESIDENTIAL (LR) SHORELAND OVERLAY
EXISTING AND PROPOSED USE: MARINE RESEARCH CENTER
WATERSHED: SACO RIVER
WITHIN MS4 URBANIZED AREA: YES
WITHIN 100-YEAR FLOOD ZONE: NO
PUBLIC ROAD PROPOSED: NO
PRIVATE ROAD PROPOSED: YES
PUBLIC SEWER CONNECTION: YES, EXISTING
PUBLIC STORM DRAIN CONNECTION: NO

PERVIOUS COVERAGE: EXISTING= 105,843 SF
PROPOSED=95,194 SF

IMPERVIOUS COVERAGE: EXISTING=5,546 SF
PROPOSED=16,195 SF

BUILDING ROOF SQUARE FOOTAGE=751 WITHIN LIMIT OF DISTURBANCE

WAIVERS REQUESTED:
- ARTICLE XI.II. SECTION 5.B.1.A. - SEE COVER LETTER
- ARTICLE XI.II. SECTION 5.B.1.E.3. - SLOPES STEEPER THAN 2:1 IN LEDGE
- ARTICLE VI. SECTION 26.F. - SLOPES STEEPER THAN 3:1 IN CUT/FILL SLOPES
- ARTICLE XIV SECTION 15.H.4 - ROADWAY BANKS STEEPER THAN 2:1

811 DigSafe

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PREPARED FOR:

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH ROAD
BIDDEFORD, MAINE
(207)283-0171

PREPARED BY:

GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

CITY OF BIDDEFORD PLANNING BOARD
PROJECT NO. 2024.34
GEI PROJECT NO. 2203703

SHEET INDEX

SHEET NO.	DRAWING NO.	TITLE
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES
3	G-003	VICINITY PLAN
4	B-001	BORING LOCATION PLAN
5	B-002	BORING LOGS (1 OF 3)
6	B-003	BORING LOGS (2 OF 3)
7	B-004	BORING LOGS (3 OF 3)
8	B-005	INTERPRETIVE SUBSURFACE PROFILE
9	C-001	EXISTING CONDITIONS PLAN
10	C-002	DEMOLITION AND CONSTRUCTION STAGING
11	C-003	SITE PLAN
12	C-004	GRADING AND DRAINAGE PLAN
13	C-005	EROSION CONTROL PLAN
	ES1.1	ELECTRICAL SITE PLAN
14	C-006	ACCESS ROAD PLAN AND PROFILE STA 1+00 TO MATCHLINE STA 4+00
15	C-007	ACCESS ROAD PLAN AND PROFILE MATCHLINE STA 4+00 TO STA 6+60
16	C-008	ACCESS ROAD TYPICAL SECTION
17	C-009	ACCESS ROAD SECTIONS 2+00 TO 3+75
18	C-010	ACCESS ROAD SECTIONS 4+00 TO 5+75
19	C-011	SITE DETAILS I
20	C-012	EROSION CONTROL NOTES
21	C-013	EROSION CONTROL DETAILS I
22	C-014	EROSION CONTROL DETAILS II
23	C-015	REVEGETATION PLAN
24	C-016	REVEGETATION NOTES, DETAILS AND SCHEDULES
25	S-001	PIER LAYOUT PLAN
26	S-002	PIER PLANS AND ELEVATIONS
27	S-003	TYPICAL PIER SECTIONS (1 OF 2)
28	S-004	TYPICAL PIER SECTIONS (2 OF 2)
29	S-005	PILE PLAN
30	S-006	PRECAST PILE CAP PLAN (1 OF 2)
31	S-007	PRECAST PILE CAP PLAN (1 OF 2)
32	S-008	PRECAST DECK PLANK PLAN
33	S-009	MISCELLANEOUS DETAILS (1 OF 5)
34	S-010	MISCELLANEOUS DETAILS (2 OF 5)
35	S-011	MISCELLANEOUS DETAILS (3 OF 5)
36	S-012	MISCELLANEOUS DETAILS (4 OF 5)
37	S-013	MISCELLANEOUS DETAILS (5 OF 5)
38	S-014	ABUTMENT DETAILS
39	F-001	FLOAT PLAN AND DETAILS

FOR PERMIT

NO.	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED PROFESSIONAL ENGINEER
6/9/2025

DWG. NO.
G-001

SHEET NO.
1 OF 39

COORDINATION OF WORK:

1. THE CONTRACTOR SHALL SCHEDULE ALL ACTIVITIES SO AS TO LIMIT IMPACT TO MARINE AND LANDSIDE USES.
2. WORK SHALL BE COORDINATED WITH THE OWNER AND THEIR REPRESENTATIVES:

UNE:A:A:A:	ANDREW PHILIPPE	207-602-2365 (OFFICE)	207-400-6166 (CELL)
GEI:A:A:B:	DANIEL BANNON	207-347-2372 (OFFICE)	207-671-2583 (CELL)
SDA:A:A:C:	TOM SAUCIER	207-449-4275	

3. WORK IS SUBJECT TO THE FOLLOWING TIME OF YEAR AND TIMING OF ACTIVITY RESTRICTIONS:
   - TO BE DEFINED UPON PERMIT APPROVAL.
4. CONTRACTOR ACCESS TO THE SITE BY WATER SHALL AT NO TIME IMPACT USE OF THE ADJACENT FEDERAL NAVIGATION CHANNEL.
5. THE OWNER WILL PERMIT THE CONTRACTOR TO HAVE A LAYDOWN AREA ON THE UPLAND PROPERTY FOR USE DURING CONSTRUCTION. AN APPROXIMATE LAYDOWN AREA IS SHOWN ON SHEET C-005. THE FINAL LOCATION AND DIMENSIONS OF THE LAYDOWN AREA SHALL BE APPROVED BY THE OWNER.

SITE ENVIRONMENTAL CONTROLS:

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CITY, STATE, AND FEDERAL PERMITS. COPIES OF PERMIT APPROVALS ARE PROVIDED IN THE PROJECT MANUAL.

OSHA REQUIREMENTS:

1. PURSUANT TO 26 M.R.S.A. §565, THE CONTRACTOR SHALL ADHERE TO THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS AS PROMULGATED BY THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AT 29-CFR PART 1926 AS MOST RECENTLY AMENDED.

EROSION CONTROL:

1. EROSION AND SEDIMENTATION CONTROL MEASURES ARE PROPOSED TO CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE ADVERSE IMPACTS FROM RUNOFF AND EROSION AT THE WORK SITE.
2. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MAINE EROSION AND SEDIMENT CONTROL BMP'S PUBLISHED BY MAINE DEP AND AVAILABLE AT: HTTPS://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/
3. THE WORK SHALL BE PERFORMED BY A CONTRACTOR THAT IS CERTIFIED BY MAINE DEP IN EROSION AND SEDIMENT CONTROL MEASURES. A CERTIFIED INDIVIDUAL SHALL BE ONSITE DURING ALL CONSTRUCTION ACTIVITY.
4. EROSION AND SEDIMENTATION DUE TO RUNOFF, TIDAL EXPOSURE, AND WAVE ACTION SHALL BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY TO MINIMIZE AREA AND TIME OF DISTURBANCE, APPLICATION OF SILT FENCE, BARRIERS, AND OTHER EROSION CONTROL MEASURES, AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
5. THE CONTRACTOR'S SEQUENCE OF OPERATIONS AND SCHEDULE FOR WORK ACTIVITIES SHALL ACT TO MINIMIZE EXPOSURE TO EROSION.
6. THE CONTRACTOR SHALL TAKE CARE TO LIMIT THE AREA OF SOIL DISTURBANCE TO THE MINIMUM NECESSARY TO COMPLETE THE WORK.
7. EROSION CONTROL MEASURES, SEEDING, AND VEGETATION SHALL BE INSPECTED WEEKLY AND AFTER RAINSTORMS, RUNOFF EVENTS, AND STORM EVENTS UNTIL FINAL ACCEPTANCE. REPAIRS SHALL BE MADE WHEN NO LONGER SERVICEABLE DUE TO DAMAGE OR ACCUMULATION OF SEDIMENT.
8. AT THE COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS.

SITE PREPARATION:

1. CONTRACTOR SHALL INSTALL ALL SIGNAGE PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES. INCLUDE OWNER PROJECT SIGNAGE AND FEDERAL AND STATE MANDATED WORK PLACE SIGNAGE.
2. CONTRACTOR SHALL HAVE IN-PLACE TRASH AND SANITARY FACILITIES FOR THE WORK PLACE.
3. DISCOVERY OF INCONSISTENT SITE INFORMATION OR CONDITIONS ARE TO BE IMMEDIATELY CONVEYED TO THE OWNER AND ENGINEER PRIOR TO COMMENCING OR CONTINUING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOTIFY DIG SAFE PRIOR TO COMMENCING ANY WORK.
5. LOCATIONS OF EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY LOCATIONS OF UTILITIES AS MAY BE REQUIRED. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES OCCURRING AS A RESULT OF THE CONTRACTOR'S FAILURE TO LOCATE AND PROTECT UNDERGROUND UTILITIES. ALL REPAIRS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
6. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING UTILITIES AND DRAINAGE AT ALL TIMES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AND RESTORE TO THE PRE-EXISTING CONDITION AT NO COST TO THE OWNER.
7. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES AND SHALL PERFORM THE WORK IN A MANNER THAT AVOIDS DAMAGE TO EXISTING STRUCTURES. STRUCTURES INCLUDE, BUT ARE NOT LIMITED TO, BUILDINGS, PIERS, BULKHEADS, FLOATS, PIER UTILITIES AND FIXTURES, AND RIPRAP SLOPES. CONTRACTOR SHALL REPAIR ANY DAMAGE AT NO ADDITIONAL COST TO THE CITY.
8. CONTRACTOR SHALL SUPPLY ALL NECESSARY TEMPORARY UTILITIES FOR CONSTRUCTION INCLUDING, BUT NOT LIMITED TO; WATER, POWER, LIGHTING, DATA, AND TELEPHONE.
9. CONTRACTOR SHALL READ AND UNDERSTAND ALL REGULATORY CONDITIONS ASSOCIATED WITH THE PROJECT AND SHALL COMPLY WITH ALL ENVIRONMENTAL REQUIREMENTS AND PERMIT CONDITIONS.
10. CONTRACTOR SHALL PROVIDE A CONFINED CONCRETE TRUCK WASHDOWN AREA AT A LOCATION TO BE APPROVED BY THE ENGINEER. WASHDOWN AREA SHALL INCLUDE PROTECTION TO PAVEMENT, A PERIMETER WALL AND A FILTER FABRIC LINER. NO RUNOFF CONTAINING CEMENT OR OTHER SUSPENDED SOLIDS WILL BE PERMITTED. ALL MATERIALS SHALL BE COMPLETELY REMOVED UPON COMPLETION OF CONSTRUCTION AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION.

CODES:

1. MAINE DOT STANDARD SPECIFICATIONS, MARCH 2020 ED. WITH SUPPLEMENTAL SPECIFICATIONS THROUGH JUNE 16,2023.
2. MAINE UNIFORM BUILDING AND ENERGY CODE (MUBEC).
3. AMERICAN CONCRETE INSTITUTE (ACI) 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014 ED.
4. CONCRETE REINFORCING STEEL INSTITUTE (CRSI):
5. AMERICAN INSTITUTE FOR STEEL CONSTRUCTION (AISC) STEEL CONSTRUCTION MANUAL, 15TH ED.
6. ALUMINUM ASSOCIATION, ALUMINUM DESIGN MANUAL, 2015 ED.
7. AMERICAN WOOD COUNCIL, NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION, 2015 ED.

SITE CONTROL AND BASELINES:

1. PROJECT BASE PLAN HAS BEEN DEVELOPED FROM A COMPILATION OF MULTIPLE SURVEYS AS DESCRIBED UNDER "SURVEY AND PROPERTY NOTES".
2. ELEVATIONS ARE PROVIDED IN NAVD88 VERTICAL DATUM UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL INSTALL SURVEY CONTROL AS NECESSARY TO PERFORM THE WORK. PERMANENT SURVEY CONTROL (AT LEAST 2 POINTS) SHALL BE ESTABLISHED FOR THE PROJECT AND PROTECTED FROM DAMAGE DURING CONSTRUCTION AND PROVIDED ON AS-BUILT DRAWINGS.
4. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN PROJECT BASELINES AND CONTROL AS REQUIRED TO ENSURE ACCURATE LOCATION OF ALL ELEMENTS OF THE PROJECT.

SURVEY AND PROPERTY NOTES:

1. LOCUS PARCEL IS DEPICTED ON CITY OF BIDDEFORD, TAX MAP 52, LOT 4 AND IS LOCATED IN THE INSTITUTIONAL (IN) ZONE. A PORTION OF THE SITE IS LOCATED IN THE LIMITED RESIDENTIAL (LR) SHORELAND OVERLAY DISTRICT.
2. THE RECORD OWNER IS THE UNIVERSITY OF NEW ENGLAND, BY DEED DATED APRIL 18, 1962, RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 1484, PAGE 0145.
3. UPLAND TOPOGRAPHY AND BASE SURVEY INFORMATION DEPICTED HEREON ARE BASED ON THE FOLLOWING SURVEYS:
   - "TOPOGRAPHIC SURVEY, MARINE SCIENCE CENTER, UNIVERSITY OF NEW ENGLAND" BY OWEN HASKELL, INC. DATED DEC. 13, 2022.
   - "TOPOGRAPHIC SURVEY AT MARINE SCIENCE CENTER" BY STATEWIDE SURVEYS, INC., DATED MAY 4, 2015.
4. HYDROGRAPHIC DATA DEPICTED HEREON IS BASED ON 2022 SURVEY BY OWEN HASKELL SURVEY.
5. FEDERAL CHANNEL LIMITS ARE DEPICTED BASED ON THE PLAN. "SACO RIVER, SACE AND BIDDEFORD, MAINE, CONDITION SURVEY" PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS, DATED JULY 3, 2021.
6. HORIZONTAL COORDINATES ARE BASED ON NAD83 MAINE STATE PLANE WEST ZONE-1801 AND ARE EXPRESSED IN FEET. ELEVATIONS ARE BASED ON NAVD88 VERTICAL DATUM AND CONTROL POINTS PROVIDED BY UNE.
7. UTILITY INFORMATION DEPICTED HEREON IS BASED ON FEBRUARY 2023 UTILITY LOCATION SURVEY PERFORMED BY BLOOD HOUND, LLC UNDERGROUND UTILITY LOCATORS AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTACT DIG SAFE (1-888-DIG-SAFE) AND VERIFY EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION OR EXCAVATION.
8. PORTIONS OF THE PROPERTY ARE DEPICTED AS BEING IN A SPECIAL FLOOD HAZARD AREA BASED ON FEMA PRELIMINARY FIRM 23031C0459G DATED APRIL 14, 2017. THE SITE IS LOCATED IN A VE ZONE HAVING BASE FLOOD ELEVATION OF 14 FT NAVD88.
9. SUBSURFACE INFORMATION IS BASED ON EXPLORATIONS PERFORMED IN 2015 AND 2022 CONSISTING OF BORINGS, PROBES, AND TEST PITS. REFER TO SHEETS B-001 - B-005 FOR SUBSURFACE INFORMATION.

CONCRETE

1. CAST IN PLACE CONCRETE SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS BASED ON THE MAINE DOT STANDARD SPECIFICATION:

LOCATION	MDOT CLASS	f'c
ALL CONCRETE	CLASS LP	5,000 PSI

2. ALL REINFORCEMENT SHALL BE NEW DEFORMED BARS, GRADE 60 CONFORMING TO ASTM A615, HOT DIP GALVANIZED ACCORDING TO ASTM A767/A767M OR ASTM A1094/A1094M.
3. REINFORCEMENT ACCESSORIES SHALL BE DIELECTRIC COATED STEEL OR APPROVED PLASTIC.
3. GROUT SHALL BE A HIGH STRENGTH, NON-SHRINK GROUT WITH SALT WATER RESISTANCE.
4. CONCRETE COVER SHALL BE A MINIMUM OF 3 INCHES UNLESS NOTED OTHERWISE.
5. ALL EXPOSED EDGES OF CONCRETE AT COLD JOINTS SHALL HAVE A ROUGHENED FINISH AND BE COATED WITH EPOXY BONDING AGENT PRIOR TO CASTING ADJACENT POUR.
6. PROVIDE 1 INCH CHAMFER ON ALL EXPOSED EDGES UNLESS NOTED OR DIRECTED OTHERWISE.
7. TOP SURFACE OF EXPOSED CONCRETE SHALL RECEIVE A BROOM FINISH.
8. COAT FINISHED SURFACES OF CONCRETE WITH A 100% SILANE PENETRATING CONCRETE SEALER SUITABLE FOR USE IN A MARINE ENVIRONMENT. SEALER SHALL BE LISTED ON THE MAINE DOT QUALIFIED PRODUCTS LIST.
9. REINFORCEMENT DEVELOPMENT AND LAP SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH ACI 318.
10. CONCRETE MIX DESIGN SHALL INCLUDE THE USE OF CORROSION INHIBITING ADMIXTURE AT DOSAGE SUITABLE FOR USE IN AN AGGRESSIVE MARINE ENVIRONMENT. CORROSION INHIBITOR SHALL BE LISTED ON THE MAINE DOT QUALIFIED PRODUCTS LIST.

EPOXY ANCHORS

1. ANCHOR ROD, WASHERS, AND NUTS SHALL CONFORM TO ASTM F1554, GRADE 36, AND SHALL BE HOT DIP GALVANIZED.
2. THE MINIMUM EDGE DISTANCE AND MINIMUM SPACING FOR ALL ANCHORS SHALL BE 6 BOLT DIAMETERS.
3. ALL HOLES SHALL BE DRILLED TO THE RECOMMENDED DIAMETER PER MANUFACTURERS REQUIREMENTS USING CARBIDE DRILL BITS MEETING ANSI B212.5-1994.
4. HOLES SHALL BE BRUSHED WITH NYLON BRUSH AND BLOWN CLEAN USING OIL-FREE COMPRESSED AIR A MINIMUM OF TWO TIMES.
5. ALL HOLES SHALL BE FREE OF STANDING WATER BEFORE INSTALLING ANCHORS.
6. EPOXY SHALL HAVE MINIMUM BOND STRENGTH OF 1,600 PSI @ 14 DAYS.

EARTHWORK

1. EARTHWORK MATERIALS SHALL MEET THE FOLLOWING SPECIFICATIONS:

AGGREGATE BASE	TYPE A (MDOT 703.06A)
AGGREGATE SUBBASE	TYPE D (MDOT 703.06C)
WALL BACKFILL	CRUSHED STONE ¾" (MDOT 703.13)
DRAINAGE STONE	CRUSHED STONE 2 INCH (MDOT 703.31)
ORDINARY BORROW	SEE #2 BELOW.

2. ORDINARY BORROW SHALL BE EXISTING GRANULAR SOIL WITH MAXIMUM 4 INCH STONE SUBJECT TO APPROVAL BY THE ENGINEER. ALL DEBRIS OR OTHER DELETERIOUS MATERIALS SHALL BE REMOVED FROM ORDINARY BORROW PRIOR TO REUSE.

STEEL

1. STEEL ANGLE, STRAPS, AND MISCELLANEOUS FABRICATIONS SHALL BE ASTM A36 HOT DIP GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED.
2. ALL FASTENERS SHALL BE HOT-DIP GALVANIZED OR STAINLESS STEEL.
3. ALL BOLTS SHALL CONFORM TO ASTM A307. MINIMUM SIZE SHALL BE ⅝ INCH UNLESS OTHERWISE NOTED.

HEAVY TIMBER

1. UNLESS OTHERWISE SPECIFIED, ALL TIMBER FRAMING TO BE USED SHALL BE NO. 1 AND BETTER SOUTHERN PINE AS GRADED BY SPIB AND WITH DESIGN VALUES PER NDS 2015.
2. ALL TIMBER SHALL BE NEW AND SUPPLIED WITH NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED.
3. ALL NEW SOUTHERN YELLOW PINE TIMBER MEMBERS TO WHICH THE PUBLIC MAY BE EXPOSED SHALL BE TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) IN ACCORDANCE WITH AWPA & AWPB W/ MINIMUM RETENTION OF 0.60 LBS. PER CUBIC FOOT. ALL OTHER SOUTHERN YELLOW PINE MEMBERS SHALL BE CCA TREATED TO 2.5 PCF RETENTION.
4. ALL EXPOSED EDGES SHALL BE PLANED OR SANDED TO PROVIDE SMOOTH SURFACE FREE OF ROUGH EDGES OR DEFECTS.
5. ALL EXPOSED FASTENERS SHALL BE COUNTERSUNK.
6. DOCK WASHERS SHALL BE PROVIDED BENEATH NUT OR BOLT HEAD OF ALL TIMBER BOLTED CONNECTIONS. TIMBER BOLTS SHALL BE CONSIDERED AN ACCEPTABLE ALTERNATIVE TO HEX HEADED BOLTS WITH DOCK WASHERS.
7. STANDARD WASHERS SHALL BE PERMISSIBLE WHERE CONNECTED PARTS INCLUDE STEEL PLATES, ANGLES, BRACKETS, OR BACKER PLATES.

TIMBER PILES

1. TIMBER PILES SHALL BE TROPICAL GREENHEART AND SHALL CONFORM TO ASTM D25.
2. PROVIDE PROTECTION TO PILE TIP AND BUTT TO AVOID DAMAGE DURING DRIVING.
3. PILES SHALL BE ORDERED MINIMUM 5 FT LONGER THAN TABULATED LENGTHS TO ALLOW FOR INSTALLATION VARIABILITY AND CUTOFF.
4. ALL TIMBER PILES SHALL BE DRIVEN TO THE MINIMUM EMBEDMENT OR CAPACITY CRITERIA INDICATED IN THE PILE SCHEDULE. FENDER PILES MAY BE INSTALLED TO THE REQUIRED DEPTH USING A VIBRATORY HAMMER. IN THE EVENT THAT A VIBRATORY HAMMER IS UNABLE TO ACHIEVE THE MINIMUM REQUIRED EMBEDMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETING FINAL SET USING AN IMPACT HAMMER.
5. GREENHEART PILES SHALL BE BANDED WITH 1½ INCH STAINLESS STEEL UTILITY STRAPPING PRIOR TO CUTOFF. REFER TO DETAIL ON SHEET S-009.

ASPHALT

1. PAVING GRADES SHALL PITCH TO EXISTING STRUCTURES.
2. PAVEMENT SHALL CONSIST OF 4" OF HOT MIX ASPHALT PLACED IN TWO COURSES, SEE DETAIL.
3. CONTRACTOR TO SAW CUT PAVEMENT AT LIMIT OF REMOVAL.
4. CONTRACTOR TO PROVIDE SMOOTH TRANSITIONS BETWEEN NEW AND EXISTING ASPHALT.
5. CONTRACTOR TO SEAL JOINT BETWEEN NEW AND EXISTING ASPHALT WITH BITUMINOUS JOINT SEALANT.

GEOTEXTILE

1. GEOTEXTILE SEPARATION FABRIC SHALL BE MIRAFI FW700 OR EQUIVALENT.
2. OVERLAP ALL SEAMS MINIMUM 2 FT.
3. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

STEEL PIPE PILES

1. STEEL PIPE PILES SHALL CONFORM TO ASTM A252, GRADE 3.
2. ALL PILES SHALL BE SEAMLESS.
3. AN OPEN CUTTING SHOE IS REQUIRED.
4. PIPE PILES SHALL BE COATED WITH FUSION BONDED EPOXY, COLOR BROWN. MINIMUM COATING THICKNESS SHALL BE 18-20 MIL. COATING SHALL EXTEND FROM TOP OF PILE DOWN TO MINIMUM 5-FEET BELOW GRADE.
5. DAMAGE TO ANY STEEL COATING SHALL BE TOUCHED UP BY THE CONTRACTOR USING APPROVED MATERIALS AND METHODS.
6. ALL PILES SHALL BE FILLED TO THE TOP WITH CONCRETE AFTER INSTALLATION. ROCK-SOCKETED PILES SHALL BE CLEANED OUT AND FILLED FOR THEIR ENTIRE LENGTH PRIOR TO CONCRETE FILLING. DRIVEN PILES SHALL BE CLEANED OUT TO MINIMUM 10-FEET BELOW ADJACENT MUDLINE.
7. REFER TO PILE SCHEDULE ON SHEET S-005 FOR ESTIMATED PILE LENGTHS, COATING LENGTHS, SIZES, AND SOCKETING REQUIREMENTS.

TIMBER FLOATS

1. FLOAT MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A MAINE LICENSED PROFESSIONAL ENGINEER. MANUFACTURER SHALL BE RESPONSIBLE FOR FINAL DETERMINATION OF FLOAT FRAMING AND DRUM LAYOUT TO MEET BOUYANCY, LOADING, AND ENVIRONMENTAL EXPOSURE REQUIREMENTS IN ACCORDANCE WITH THE SPECIFICATIONS.
2. UNLESS OTHERWISE SPECIFIED, ALL TIMBER TO BE USED SHALL BE NO. 1 AND BETTER SOUTHERN PINE AS GRADED BY SPIB AND WITH DESIGN VALUES PER NFPA NATIONAL DESIGN SPECIFICATION OR THE EQUIVALENT FOR DOUGLAS FIR AS GRADED BY WCLIB AND WWPA.
3. ALL TIMBER SHALL BE NEW AND SUPPLIED WITH NOMINAL DIMENSIONS.
4. ALL TIMBER MEMBERS TO WHICH THE PUBLIC MAY BE EXPOSED SHALL BE TREATED WITH ALKALINE COPPER QUATERNARY (ACQ) IN ACCORDANCE WITH AWPA & AWPB W/ MINIMUM RETENTION OF 0.40 LBS. PER CUBIC FOOT. ALL OTHER SOUTHERN YELLOW PINE MEMBERS SHALL BE CCA TREATED TO 2.5 PCF RETENTION.
5. DECKING SHALL BE NO. 1 SOUTHERN PINE, MINIMUM SIZE 2X6.
6. MISC. HARDWARE: GALVANIZED STEEL PLATES AND ALL BOLTS AND RELATED HARDWARE SHALL BE FASHIONED FROM STEEL AND GALVANIZED AFTER FABRICATION AND IN ACCORDANCE WITH REQUIREMENTS OF ASTM A123, AND/OR A153. BOLTS AND NUTS SHALL CONFORM TO ASTM A307.
7. CONNECTION HARDWARE SHALL BE FABRICATED FROM ASTM-A36 GRADE STEEL WITH MINIMUM THICKNESS ¼".
8. PROVIDE GUIDE/WEARING BRACKETS AT GANGWAY LANDING ON FLOAT 'C' PER DETAIL A ON SHEET S-012. BRACKETS SHALL BE LOCATED IN FIELD TO BE CENTERED ON GANGWAY RANGE OF TRAVEL AT MID-TIDE ELEVATION.
9. TRANSITIONS BETWEEN FLOATING DOCKS SHALL INCLUDE ADA COMPLIANT TRANSITION PLATES ACROSS GAPS AT HINGE LOCATIONS.
10. FLOATING DOCKS SHALL MEET THE FOLLOWING LOADING AND FREEBOARD CRITERIA:

DEAD LOAD	20 INCH FREEBOARD
20 PSF UNIFORM LIVE LOAD	MINIMUM 8 INCH FREEBOARD
40 PSF UNIFORM LIVE LOAD	MINIMUM ZERO FREEBOARD

DEAD LOADS SHALL INCLUDE ALL COMPONENTS AND ATTACHMENTS INCLUDING WEIGHT OF ALUMINUM GANGWAY BEARING ON FLOAT 'C'.

ALUMINUM GANGWAY

1. GANGWAY MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A MAINE LICENSED PROFESSIONAL ENGINEER. MANUFACTURER SHALL BE RESPONSIBLE FOR FINAL DETERMINATION OF GANGWAY FRAMING AND CONFIGURATION TO MEET STRUCTURAL, PERFORMANCE, AND ACCESSIBILITY REQUIREMENTS IN ACCORDANCE WITH THE SPECIFICATIONS.
2. GANGWAY SHALL MEET THE FOLLOWING LOADING AND DEFLECTION CRITERIA:
   - DEAD LOAD SHALL CONSIST OF WEIGHT OF THE ENTIRE GANGWAY STRUCTURE PLUS ANY UTILITIES AND ATTACHMENTS.
   - ALLOWABLE STRESSES IN DECK SURFACE, GANGWAY FRAMING, AND MOUNTING COMPONENTS SHALL NOT BE EXCEEDED AT A UNIFORM LIVE LOAD OF 100 PSF.
   - 50 PSF UNIFORM LIVE LOAD MAX. DEFLECTION L/360
   - 100 PSF UNIFORM LIVE LOAD MAX. DEFLECTION NOT TO EXCEED GANGWAY CAMBER
   - ALL HANDRAIL AND POSTS SHALL BE DESIGNED TO WITHSTAND A 200 LB LOAD APPLIED IN ANY DIRECTION OR A 50 LB/FT LOAD APPLIED ALONG THE HANDRAIL LENGTH.
3. GANGWAY HINGES SHALL BE CAPABLE OF TRAVELING FREELY AND WITHOUT BINDING THROUGH THE ENTIRE RANGE OF WATER LEVELS FROM MLLW TO BASE FLOOD ELEVATION PLUS TWO-FEET OF ADDITIONAL ELEVATION IN EITHER DIRECTION.

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
GENERAL NOTES

SHEET NO.
G-002

DIGCASTELNUOVO, VINNIE B:\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-G-002.dwg - 6/9/2025



0 200 400
SCALE, FEET

FOR PERMIT

Attention:
0 1"
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STATE OF MAINE
BRIAN M. MCDEVITT
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11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

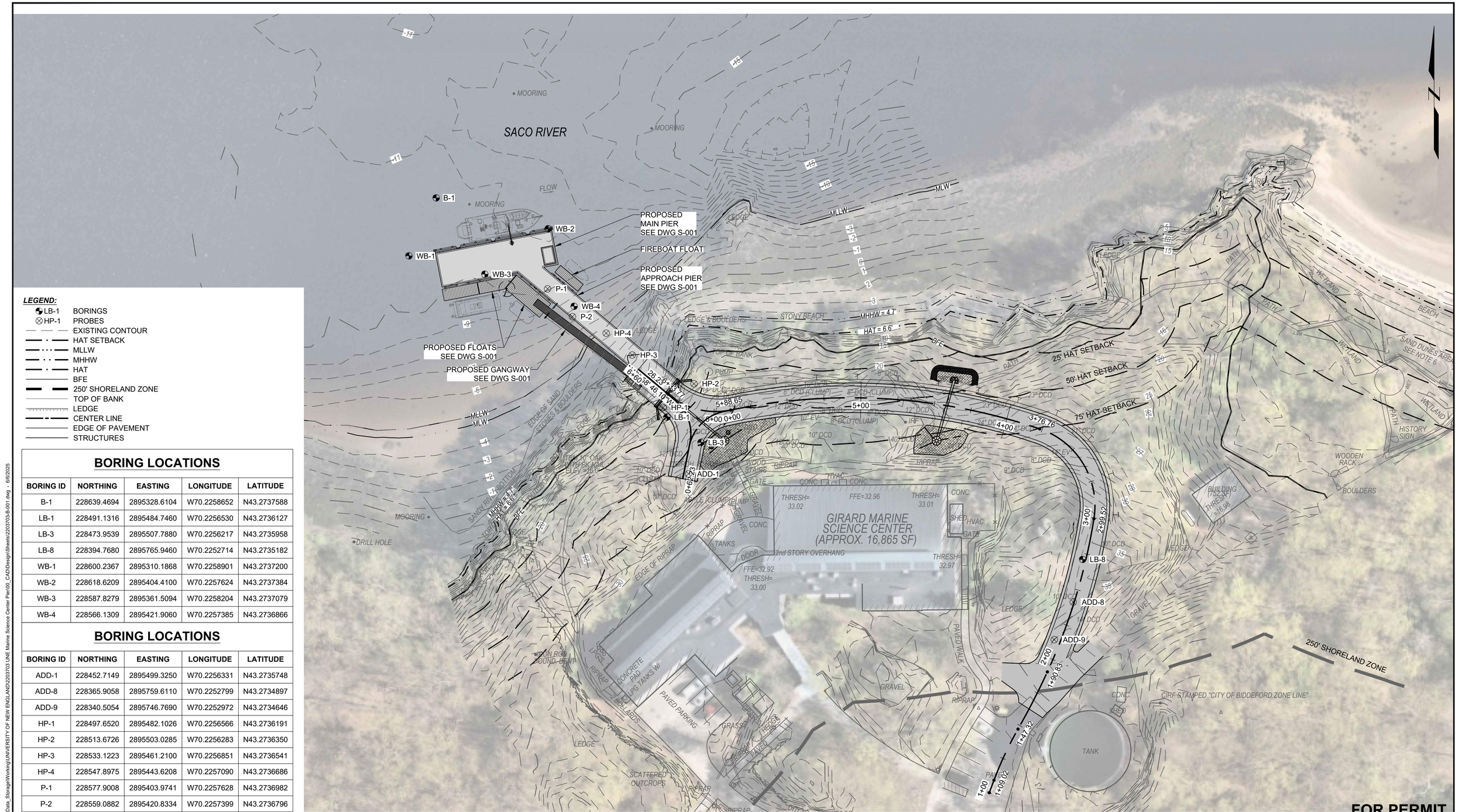
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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SHEET NAME: **VICINITY PLAN**

SHEET NO.: **G-003**

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SACO RIVER
MOORING
MOORING
MOORING
FLOW
B-1
WB-1
WB-2
WB-3
WB-4
P-1
P-2
HP-1
HP-2
HP-3
HP-4
LB-1
LB-3
LB-8
ADD-1
ADD-8
ADD-9
PROPOSED MAIN PIER SEE DWG S-001
FIREBOAT FLOAT
PROPOSED APPROACH PIER SEE DWG S-001
PROPOSED FLOATS SEE DWG S-001
PROPOSED GANGWAY SEE DWG S-001
6+60 38.46
26.23
10.77
5+88.65
5+00
6+00 0+00
4+00
3+76.76
0+62.23
3+00
2+99.52
2+00
1+90.83
1+47.32
1+09.02
1+00
MLW
MLLW
MHHW = 4.7'
HAT = 6.6'
BFE
LEDGE
LEDGE & BOULDERS
STONY BEACH
TOP OF BANK
EDGE OF SAND DUNES & BOULDERS
25' HAT SETBACK
50' HAT SETBACK
75' HAT SETBACK
250' SHORELAND ZONE
GIRARD MARINE SCIENCE CENTER (APPROX. 16,865 SF)
FFE=32.96
THRESH= 33.02
THRESH= 33.01
FFE=32.92
THRESH= 33.00
THRESH= 32.97
2nd STORY OVERHANG
DOOR
SHED
HVAC
GATE
CONC.
TANKS
RIPRAP
GRAVEL
PAVED WALK
PAVED PARKING
GRASS
CONCRETE PAD W/ LPG TANKS W/ BOLLARDS
LPGS
IRON ROD FOUND - BENT
SCATTERED OUTCROPS
TANK
BUILDING (TOS 35.98)
THRESH= 31.98
WOODEN RACK
BOULDERS
HISTORY SIGN
SAND DUNES AREA SEE NOTE 6
WETLAND
PATH
BEACH
CIRF STAMPED "CITY OF BIDDEFORD ZONE LINE"
DRILL HOLE
MOORING
SANDY BOTTOM
MHHW=4.7'
MLW=-4.7'
TOP OF BANK
EDGE OF RIPRAP
EDGE OF PAVEMENT
RIPRAP
WOOD STAIRS
GATE
HVAC
CONC.
GRAVEL
PAVED WALK
RIPRAP
LEDGE
10" DCD
12" DCD
20" DCD
24" DCD
40" DCD
8" DCD
9" DCD
10" EV
8" DCD (CLUMP)
10" DCD (CLUMP)
12" DCD (CLUMP)
8" DCD (CLUMP)
6" DCD
4" DCD
10" DCD
12" DCD
10" DCD
8" DCD
12" EV
8" DCD
10" DCD
10" DCD
10

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: B-1
SHEET: 1 of 3
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B. Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Drive and Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): ~10.6
Final Boring Depth (ft.): 65.8
Date Start - Finish: 11/9/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.):

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size: NQ

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
0													
	3	S-1	0-2	24	5	1 2	3	S-1: Very loose, brown, fine to coarse SAND, trace Silt.					
	4					1 2							
	6												
	9												
	16												
5	5	S-2	5-7	24	4	3 2	4	S-2: Loose, brown, fine to coarse SAND, trace Silt.					
	6					2 2							
	9												
	11												
	10												
10	8	S-3	10-12	24	3	1 2	4	S-3: Loose, brown, fine to coarse SAND, trace Silt.					
	6					2 2							
	8												SAND
	13												
	19												
	7	S-4	15-17	24	8	2 2	4	S-4: Loose, brown, fine to coarse SAND, trace Silt.					
15	15					2 4							
	28												
	35												
	31										19.6		-29.1
	OPEN	S-5	20-22	24	17	7 3	4	S-5: Medium Stiff, gray, Silty CLAY, little fine Sand.		1			
20						1 2							
		S-6	25-27	24	24	2 1	3	S-6: Soft, gray, Silty CLAY, little fine Sand.					SILTY CLAY
25						2 1							
30													

REMARKS

1 - 4" casing installed to 20.0' below mudline (bml), then wash ahead to 51.0' bml.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-1

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:01 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: B-1
SHEET: 2 of 3
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B. Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Drive and Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): ~10.6
Final Boring Depth (ft.): 65.8
Date Start - Finish: 11/9/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.):

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size: NQ

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
35													
		S-7	40-42	24	24	WOR		S-7: Very soft, gray, Silty CLAY, trace fine Sand.					
						WOR	0						
						WOH							
40						WOH						SILTY CLAY	
45													
	16	S-8	51-53	24	8	18 6		S-8: Medium dense, gray, fine to coarse SAND, some Gravel, trace Silty Clay.			51		-41.6
50	13					15 29	21			2			
	30												
	26												
	27												
	38	S-9	56-58	24	5	10 19		S-9: Dense, gray, GRAVEL, some fine to coarse Sand, trace Silty Clay.				GLACIAL TILL	
55	24					27 24	46						
	29												
	9												
60													

REMARKS

2 - Advanced 3" casing to 61.6' bml to core bedrock.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-1

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:01 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: B-1
SHEET: 3 of 3
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B. Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Drive and Wash

Boring Location: See Plan
Ground Surface Elev. (ft.): ~10.6
Final Boring Depth (ft.): 65.8
Date Start - Finish: 11/9/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 140
Hammer Fall (in.): 30
Auger or Casing O.D./I.D Dia (in.):

Sampler Type: SS
Sampler O.D. (in.): 2.0
Sampler Length (in.): 24
Rock Core Size: NQ

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
60													
												GLACIAL TILL	
											61.6		-73.2
		C-1	61.6-61.7	32	32			C-1: Hard, fresh, fine grained, gray, GNEISS. Joints are very close to closely spaced, moderately dipping, planar, rough, fresh to discolored. RQD = 31%	3				
65												GNEISS	
		C-2	64.3-65.8	18	18			C-2: Hard, fresh, fine grained, gray, GNEISS. Joints are extremely close to closely spaced, moderately dipping to high angle, planar, rough to smooth, fresh to discolored. RQD = 0%			65.8		-76.4
								End of exploration at 65.8 feet.					
70													
75													
80													
85													
90													

REMARKS

3 - Casing refusal at 61.6' bml. Set up to core.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: B-1

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:01 PM

2015 BORING B-1

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: P-1
SHEET: 1 of 2
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): -10.2
Final Boring Depth (ft.): 52.3
Date Start - Finish: 11/10/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 300
Hammer Fall (in.): 24
Auger or Casing O.D./I.D Dia (in.):

Sampler Type:
Sampler O.D. (in.):
Sampler Length (in.):
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
0													
	3												
	6												
	6												
	10												
5	9												
	6												
	6												
	7												
	15												
10	16												
	8												
	7												
	13												
	37												
15	19												
	15												
	13												
	22												
	16												
20	14												
	12												
	25												
	21												
	18												
25	17												

REMARKS

1 - Possible transition to Silty Clay at approximately 17.0' below mudline (bml) (El. -26.9'), based on increased driving resistance to advance probe.

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: P-1

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:02 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: P-1
SHEET: 2 of 2
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): -10.2
Final Boring Depth (ft.): 52.3
Date Start - Finish: 11/10/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 300
Hammer Fall (in.): 24
Auger or Casing O.D./I.D Dia (in.):

Sampler Type:
Sampler O.D. (in.):
Sampler Length (in.):
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
35	24												
	18												
	19												
	20												
	28												
40	20											POSSIBLE SILTY CLAY	
	26												
	24												
	30												
	34												
	52									2	42		-42.2
45	37												
	33												
	34												
	54												
	46												
50	55												
	50												
	50												
	50/3"									3		POSSIBLE GLACIAL TILL	
55											52.3		-40.8
60													

REMARKS

2 - Possible transition to Glacial Till at approximately 42.0' bml (El. -51.9').
3 - Probe refusal at 52.3' bml (El. -62.2').

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: P-1

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:04 PM

2015 PROBE P-1

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: P-2
SHEET: 1 of 2
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): -7.3
Final Boring Depth (ft.): 54.2
Date Start - Finish: 11/10/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 300
Hammer Fall (in.): 24
Auger or Casing O.D./I.D Dia (in.):

Sampler Type:
Sampler O.D. (in.):
Sampler Length (in.):
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
0	1												
	1												
	3												
	6												
	4												
5	3												
	8												
	22												
	9												
	5												
10	2												
	3												
	5												
	4												
	5												
15	6												
	5												
	7												
	5												
	10												
20	18												
	19												
	21												
	15												
	13												
25	14												
	30												
	29												
	26												
30													

REMARKS

1 - Upon retrieval of probe rods, bottom 30' of rods was bent at an angle approximately 30-45 degrees off of the vertical indicating possible sloping rock at approximately 30.0' bml (El. 37.3').

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: P-2

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:04 PM

TEST BORING LOG

GZA GeoEnvironmental, Inc. *Engineers and Scientists*

University of New England
Marine Science Center Pier
Biddeford, Maine

EXPLORATION NO.: P-2
SHEET: 2 of 2
PROJECT NO: 09.0025897.00
REVIEWED BY:

Logged By: B Cardali
Drilling Co.: New England Boring
Foreman: Brad Enos

Type of Rig: Barge
Rig Model:
Drilling Method: Rod Probe

Boring Location: See Plan
Ground Surface Elev. (ft.): -7.3
Final Boring Depth (ft.): 54.2
Date Start - Finish: 11/10/2015 - 11/10/2015

H. Datum:
V. Datum: NAVD 88

Hammer Type: Safety
Hammer Weight (lb.): 300
Hammer Fall (in.): 24
Auger or Casing O.D./I.D Dia (in.):

Sampler Type:
Sampler O.D. (in.):
Sampler Length (in.):
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Casing Blows/ Core Rate	Sample No.	Sample Depth (ft.)	Sample Pen (in)	Sample Rec (in)	Sample Blows (per 6 in.)	SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Remarks	Field Test Data	Depth (ft)	Stratum Description	Elev. (ft.)
35	23												
	19												
	37												
	39												
	34												
40	42												
	31												
	40												
	36												
	41												
	38												
	46												
45	43												
	55												
	52												
	52												
	40												
50	37												
	38												
	41												
	65												
	91												
55	78												
	50												
	75												
	100/2"									2			
60											54.2		-61.5

REMARKS

2 - Probe refusal at 54.2' bml (El. -61.5').

See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Exploration No.: P-2

GZA TEMPLATE TEST BORING, 12/7/2015, 1:02:04 PM

2015 PROBE P-2

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
BORING LOGS (SHEET 1 OF 3)

SHEET NO.
B-002

DICASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-B-002.dwg - 6/6/2025

BORING INFORMATION
NORTHING (ft): 228,600 | EASTING (ft): 2,895,310
GROUND SURFACE EL. (ft): -10.1 | DATE START/END: 12/12/2022 - 12/13/2022
VERT./HORIZ. DATUMS: NAVD 88/NAD83 ME West Zone | DRILLING COMPANY: New England Boring
TOTAL DEPTH (ft): 70.0 | DRILLER NAME: B. Enos
LOGGED BY: K. Gleichauf | RIG TYPE: CME 21

BORING WB-1 — PAGE 1 OF 3

DRILLING INFORMATION
HAMMER TYPE: Safety Hammer - rope and cathead | CASING I.D./O.D.: 4 inch/ 4.5 inch | CORE BARREL TYPE: NX
AUGER I.D./O.D.: NA / NA | DRILL ROD O.D.: NM | CORE BARREL I.D./O.D.: 1.8 inch / 3 inch
DRILLING METHOD: Drive and Wash/Open Hole
WATER LEVEL DEPTHS (ft): water boring

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation (Sum of lengths of recovery pieces>4 in / Pen., %; WOH = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; V = Vane Shear; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PL = Plastic Limit; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in. : 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	0	S1	0 to 2	24/2	WOR-WOH/18"		SAND/SILT	S1: NARROWLY GRADED GRAVEL WITH SAND (GP); ~80% coarse gravel (one piece), ~20% fine to coarse sand. Dark Gray.
	5	S2	5.5 to 7.5	24/9	5-3-4-6	Sand and shells in wash 0-5'.		S2: WIDELY GRADED SAND (SW); ~95% fine to coarse sand, ~5% nonplastic fines, gray. shells.
-20	10	S3	10.5 to 12.5	24/8	1-1-3-4	Sand and wood in wash 5.5-10.5'.		S3: WIDELY GRADED SAND (SW); Similar to S2.
	15	S4	15.5 to 17.5	24/9	3-4-2-WOH			S4: WIDELY GRADED SAND (SW); Similar to S2. pieces of wood.
-30	20	S5	20.5 to 22.5	24/24	2-1-1-2	Qp= 0.5 tsf (0-3') Sv= 2.5 tsf (0-3') Qp= 0.25 tsf (3-24") Sv= 1.5 tsf (3-24")	CLAY	S5: LEAN CLAY (CL); ~95% low plasticity fines, ~5% fine sand. Gray; Shells (0-10"). Sand seam at 20".

NOTES:
PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

BORING WB-1 — PAGE 2 OF 3

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-40	25	S6	25.5 to 27.5	24/24	WOR-WOH/18"	Drove 4" casing to 25.5'. Drilled open hole 25.5-45.5'. Drilled with 3" casing from 45.5' to top of rock. Qp= 0.25 tsf Sv= 1.5 tsf	CLAY	S6: LEAN CLAY (CL); ~95% low plasticity fines, ~5% fine sand. Gray.
	30	S7	30.5 to 32.5	24/24	WOR/18"-2	Qp= 0.25 tsf Sv= 1.5 tsf		S7: LEAN CLAY (CL); Similar to S6.
-60	35	S8	35.5 to 37.5	24/24	WOR/18"-WOH	Qp= 0.25 tsf Sv= 1.5 tsf		S8: LEAN CLAY (CL); Similar to S6.
	40	S9	40.5 to 42.5	24/24	WOR/18"-WOH	Qp= 0.25 tsf Sv= 1.5 tsf		S9: LEAN CLAY (CL); Similar to S6.
	45	S10	45.5 to 47.5	24/24	WOR/18"-3	Qp= 0.5 tsf Sv= 1.5 tsf		S10: SANDY LEAN CLAY (CL); ~70% low plasticity fines, ~30% fine sand. Gray. Layered sand and clay.
-80	50	S11	50.5 to 52.5	24/4	14-14-16-22	Casing hard driving starting at 49.7'.	TILL	S11: CLAYEY GRAVEL WITH SAND (GC); ~50% fine to coarse gravel, ~30% fine to coarse sand, ~20% low plasticity fines. Gray.
	55							

NOTES:
PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

BORING WB-1 — PAGE 3 OF 3

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-70	60	S12	55.5 to 59.4	11/6	37-50/5"		TILL	S11: WIDELY GRADED GRAVEL WITH SAND AND CLAY (GW-GC); ~60% fine to coarse gravel, ~30% fine to coarse sand, ~10% low plasticity fines. Gray.
		C1	59.4 to 59.3	35/35	0	Core Times (min/ft): 4-6-6/0.9' C1 jammed at 2.9'.		C1: GNEISS, Dark Gray with white banding, hard to med. hard. Slightly weathered (0-24"), highly weathered (24-35"). Joints at 75 to 90 degrees. Highly fractured.
		C2	59.3 to 60.8	18/18	0	Core Times (min/ft): 4/0.5'-1/0.5'-4/0.5' C2 jammed at 0.5, 1.5'.		C2: GNEISS. Similar to C1. Highly weathered (0-10"), moderately weathered (10-18"), dissolved quartz bands.
-80	70	C3	60.8 to 65.8	60/60	71	Core Times (min/ft): 7/1.2'-2/0.8'-4-4/0.7'-2/0.3'-6 C3 jammed at 1.2, 3.7'.	ROCK	C3: GNEISS, hard. Fresh throughout. joints spaced 1-19" at 0 to 60 degrees.
		C4	65.8 to 70	50/36	24	Core Times (min/ft): 6-5-5-3/1.2'		C4: GNEISS. Fresh (0-12"). Moderately weathered and highly fractured (12-36").
	75							Bottom of boring at depth 70 ft.
-90	80							
	85							

NOTES:
PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

2022 BORING WB-1

BORING INFORMATION
NORTHING (ft): 228,619 | EASTING (ft): 2,895,396
GROUND SURFACE EL. (ft): -11.6 | DATE START/END: 12/7/2022 - 12/8/2022
VERT./HORIZ. DATUMS: NAVD 88/NAD83 ME West Zone | DRILLING COMPANY: New England Boring
TOTAL DEPTH (ft): 68.4 | DRILLER NAME: B. Enos
LOGGED BY: K. Gleichauf | RIG TYPE: CME 21

BORING WB-2 — PAGE 1 OF 3

DRILLING INFORMATION
HAMMER TYPE: Safety Hammer - rope and cathead | CASING I.D./O.D.: 4 inch/ 4.5 inch | CORE BARREL TYPE: NX
AUGER I.D./O.D.: NA / NA | DRILL ROD O.D.: NM | CORE BARREL I.D./O.D.: 1.8 inch / 3 inch
DRILLING METHOD: Drive and Wash/Open Hole
WATER LEVEL DEPTHS (ft): water boring

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation (Sum of lengths of recovery pieces>4 in / Pen., %; WOH = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; V = Vane Shear; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PL = Plastic Limit; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in. : 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	0	S1	0 to 2	24/0	WOH/12"-2-2		SAND/SILT	S1: No recovery. Redrove 3" spoon. S1 (redrive): WIDELY GRADED SAND (SW); ~95% fine to coarse sand, ~5% nonplastic fines. Gray. Shells.
	5	S2	4 to 6	24/5	6-4-4-9			S2: WIDELY GRADED SAND (SW); Similar to S1.
-20	10	S3	9 to 11	24/0	1-2-3-4			S3: No recovery. Redrove 3" spoon. S3 (redrive): No recovery. Probable loose sand. Split spoon returned clean. Sand and shells in wash.
	15	S4	14 to 16	24/0	1-2-2-3			S4: No Recovery. Redrove 3" spoon. S4 (redrive): NARROWLY GRADED GRAVEL (GP); ~100% coarse gravel. Probable wash material. gravel is clean.
-30	20	S5	19 to 21	24/11	10-7-6-28			S5: SANDY SILT (ML); ~ 60% nonplastic fines, ~40% fine sand. Gray. Traces of wood. Organic odor.
						Clay in wash. Driller noted reduced resistance.	CLAY	

NOTES:
PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

BORING WB-2 — PAGE 2 OF 3

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-40	25	S6	24 to 26	24/24	WOH/18"-1	Qp=0.25 tsf Sv=0.05 tsf	CLAY	S6: LEAN CLAY (CL); ~100% low plasticity fines. Gray.
	30	S7	29 to 31	24/24	WOR-WOH/12"-3	Qp=0.25 tsf Sv=0.05 tsf		S7: LEAN CLAY (CL); ~95% low plasticity fines, ~5% fine sand. Gray. Sand seam in tip.
-60	35	S8	34 to 36	24/24	WOH/12"-WOH/12"	Drove 4" casing to 32'. Drilled open hole 32-44'. Drilled with 3" casing 44' to top of rock. Qp=0.25 tsf Sv=0.05 tsf		S8: LEAN CLAY (CL); Similar to S7.
	40	S9	39 to 41	24/24	WOH/12"-3-3			S9 (0-6"): SANDY SILT (ML); ~60% nonplastic fines, ~40% fine sand. Gray. S9 (6-13"): LEAN CLAY (CL): Similar to S8. S9 (13-19"): SANDY SILT (ML): Similar to (0-9"). S9 (19-24") LEAN CLAY (CL): Similar to S8.
	45	S10	44 to 46	24/16	10-14-8-5		TILL	S10: SILTY SAND (SM); ~75% fine sand, ~25% nonplastic fines. Gray. More silt (0-8") more sand (8-16").
-80	50	S11	49 to 51	24/22	6-10-13-33			S11: NARROWLY GRADED SAND with Silt (SP-SM); ~90% fine sand, ~10% nonplastic fines. Gray (0-10"), Gray/brown (10-22"). One piece of gravel at 18".
	55	S12	54 to 56	24/15	10-7-10-18			S12: NARROWLY GRADED SAND with Silt (SP-SM); Similar to S11. Gravel seam (3-5").

NOTES:
PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

BORING WB-2 — PAGE 3 OF 3

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-70	60						TILL	
		C1	59 to 63.8	57/57	17	Core Times (min/ft): 2-2-2/2.7'-1/0.3'-4-5/0.6' C1 jammed at 2.7, 4.6'.	ROCK	C1: GNEISS, hard, dark gray with white banding. Highly weathered (0-19"), slightly weathered (19-57"), joints spaced 0 to 5" at 30 to 75 degrees. weathering occurs in quartzy seams.
-80	65	C2	63.8 to 68.4	55/55	13	Core Times (min/ft): 2-2-1/0.6'-2-5 C2 jammed at 2.6, 4.6'.		C2: GNEISS. Similar to C1. Slightly weathered (0-22"), highly weathered (22-31"), slightly weathered (31-55"). Weathering in quartz bands.
	70							Bottom of boring at depth 68.4 ft.
	75							
-90	80							
	85							

NOTES:
PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

2022 BORING WB-2

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE — BRIAN M. MCDEVITT — PE18260 — LICENSED — PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
BORING LOGS (SHEET 2 OF 3)

SHEET NO.
B-003

DJCASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-B-003.dwg - 6/6/2025

BORING INFORMATION
NORTHING (ft): 228,591 **EASTING (ft):** 2,895,359
GROUND SURFACE EL. (ft): -10.2 **DATE START/END:** 12/9/2022 - 12/9/2022
VERT./HORZ. DATUMS: NAVD 88/NAD83 ME West Zone **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 63.4 **DRILLER NAME:** B. Enos
LOGGED BY: K. Gleichauf **RIG TYPE:** CME 21

BORING
WB-3
PAGE 1 OF 3

DRILLING INFORMATION
HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:** NX
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** 1.8 inch / 3 inch
DRILLING METHOD: Drive and Wash/Open Hole
WATER LEVEL DEPTHS (ft): water boring

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation; Blows per 6 in.: Cores=4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Select Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/5	WOH/18"-1		SAND/SILT	S1: SILTY SAND (SM); ~80% fine to coarse sand, ~20% nonplastic/organic fines. Gray. wood. organic odor.
	5	S2	3 to 5	24/9	2-1-2-3			S2: WIDELY GRADED SAND (SW); ~100% fine to coarse sand. Gray. organic odor.
-20	10	S3	8 to 10	24/12	1-2-3-4			S3: WIDELY GRADED SAND (SW); Similar to S2. Shells.
	15	S4	13 to 15	24/7	1-2-3-6			S4: NARROWLY GRADED SAND (SP); ~100% coarse sand. Gray. shells.
-30	20	S5	18 to 20	24/12	9-4-8-8			S5: SILTY SAND (SM); ~65% fine sand, ~25% nonplastic fines, ~10% fine to coarse gravel. wood. shells.
						clay in wash at 22'.		
		S6	23 to	24/24	WOR-	Qp=0.25 tsf Sv=0.05 tsf	CLAY	S6: LEAN CLAY (CL); ~95% low plasticity fines, ~5% fine sand. Gray. Sand seams (8-9"), (19-20").

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

GEI Consultants

GEI_WORKING STD SHORTHEAST-LAYER NAME 2203703 UNE IHEB TYPICO LOGS.GPJ 1/10/23

NORTHING (ft): 228,591 **EASTING (ft):** 2,895,359
GROUND SURFACE EL. (ft): -10.2 **DATE START/END:** 12/9/2022 - 12/9/2022
VERT./HORZ. DATUMS: NAVD 88/NAD83 ME West Zone **DRILLING COMPANY:** New England Boring

BORING
WB-3
PAGE 2 OF 3

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25		25		1/12"-1			
		S7	28 to 30	24/24	WOR/12"-WOH-1	drove 4" casing to 28'. Drilled open hole 28-48. Drilled with 3" casing 48' to top of rock.Qp=0.25 tsf Sv=0.05 tsf	CLAY	S7: LEAN CLAY (CL); Similar to S6.
-40	30	S8	33 to 35	24/24	WOR/12"-WOH-2	Qp=0.25 tsf Sv=0.05 tsf		S8: LEAN CLAY (CL) Similar to S6.
	35	S9	38 to 40	24/24	WOR/12"-WOH-2	Qp=0.25 tsf Sv=0.05 tsf		S9: LEAN CLAY (CL); Similar to S6. Fine sand seams (6-8"), (20-24").
-50	40	S10	43 to 45	24/24	WOR-1/12"-4			S10 (0-8"): LEAN CLAY (CL); Similar to S8. S10(8-24"): CLAYEY SAND (SC); ~75% fine sand, ~25% low plasticity fines. Gray. Brown (20-24").
	45	S11	48 to 50	24/5	45-29-14-15		TILL	S11: CLAYEY SAND with Gravel (SC); ~50% fine sand, ~30% fine to coarse gravel up to 1.25", ~20% low plasticity fines. Gray.
-60	50	S12 / C1	53 to 53.3	4/4 / 15/15	50/4" / 33	casing refusal at 53.3',Core Times (min/ft): 4-2/0.2' C1 jammed at 1.2'.	ROCK	S12: NARROWLY GRADED GRAVEL with Sand (GP); ~75% coarse gravel, ~20% fine to coarse sand, ~5% nonplastic fines. Gray/Brown. C1: GNEISS; hard, dark gray, slightly weathered, joints spaced 0.5' at 60 to 90 degrees.
	55	C2	53.3 to		60/57			

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

GEI Consultants

GEI_WORKING STD SHORTHEAST-LAYER NAME 2203703 UNE IHEB TYPICO LOGS.GPJ 1/10/23

NORTHING (ft): 228,591 **EASTING (ft):** 2,895,359
GROUND SURFACE EL. (ft): -10.2 **DATE START/END:** 12/9/2022 - 12/9/2022
VERT./HORZ. DATUMS: NAVD 88/NAD83 ME West Zone **DRILLING COMPANY:** New England Boring

BORING
WB-3
PAGE 3 OF 3

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
			54.6 to 59.6			Core Times (min/ft): 2-2-3-3-4	ROCK	C2: GNEISS, hard, dark gray with white banding, fresh throughout, joints spaced 3-12" at 60 degrees. calcite seam horizontal at 48".
-70	60	C3	59.6 to 63.4	45/48	31	Core Times (min/ft):2-3-2/0.2'-3-2/0.6' C3 jammed at 2.2'.		C3: GNEISS, hard, dark gray, fresh throughout, joints spaced 1-5" at 60 degrees. Horizontal calcite seam at 15". Highly fractured (23-25").
								Bottom of boring at depth 63.4 ft.

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

GEI Consultants

GEI_WORKING STD SHORTHEAST-LAYER NAME 2203703 UNE IHEB TYPICO LOGS.GPJ 1/10/23

2022 BORING WB-3

BORING INFORMATION
NORTHING (ft): 228,566 **EASTING (ft):** 2,895,422
GROUND SURFACE EL. (ft): -8.3 **DATE START/END:** 12/6/2022 - 12/6/2022
VERT./HORZ. DATUMS: NAVD 88/NAD83 ME West Zone **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 46.7 **DRILLER NAME:** B. Enos
LOGGED BY: K. Gleichauf **RIG TYPE:** CME 21

BORING
WB-4
PAGE 1 OF 2

DRILLING INFORMATION
HAMMER TYPE: Safety Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:** NX
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** 1.8 inch / 3 inch
DRILLING METHOD: Drive and Wash/Open Hole
WATER LEVEL DEPTHS (ft): water boring

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation; Blows per 6 in.: Cores=4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Select Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/4	WOR/12"-WOH/12"		SAND/SILT	S1: SILTY SAND (SM); ~60% fine to coarse sand, ~35% organic fines, ~5% fine gravel. Gray. Shells. Wood. Organic odor.
	5	S2	5 to 7	24/4	1-1-1/12"			S2: SILTY SAND (SM); Similar to S1.
-10	10	S3	10 to 12	24/15	9-4-1/12"	Casing increased resistance at 7.5'.		S3: SANDY SILT (ML); ~60% nonplastic fines, ~40% fine to coarse sand. Gray. Shells. (0-7") mostly fine sand, (7-15") fine to coarse sand. Organic odor.
-20	15	S4	15 to 17	24/0	WOH-1/12"-1			S4: No recovery. Redrove 3" spoon. S4 (redrive): SANDY SILT (ML); Similar to S3. One ~2.5" piece of gravel on top. Wood. Shells.
-30	20	S5	20 to 22	24/24	1/24"	Qp=0.25 tsf Sv=0.05 tsf	CLAY	S5: LEAN CLAY (CL); ~95% low plasticity fines, ~5% fine sand. Gray.

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

GEI Consultants

GEI_WORKING STD SHORTHEAST-LAYER NAME 2203703 UNE IHEB TYPICO LOGS.GPJ 1/10/23

NORTHING (ft): 228,566 **EASTING (ft):** 2,895,422
GROUND SURFACE EL. (ft): -8.3 **DATE START/END:** 12/6/2022 - 12/6/2022
VERT./HORZ. DATUMS: NAVD 88/NAD83 ME West Zone **DRILLING COMPANY:** New England Boring

BORING
WB-4
PAGE 2 OF 2

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S6	25 to 27	24/4	1-1-2-4	Qp=0.25 tsf Sv=0.05 tsf	CLAY	S6: LEAN CLAY (CL); Similar to S5.
-40	30	S7	30 to 32	24/24	5-2-2-1	Qp=0.25 tsf Sv=0.05 tsf		S7: LEAN CLAY (CL); Similar to S5. Some gravel seams.
	35	S8	35 to 36.7	20/9	WOR/18"-50/2"	Qp=0.25 tsf Sv=0.05 tsf		S8: LEAN CLAY (CL); Similar to S5.
-50	40	C1	36.7 to 39.7	36/31	14	Core Times (min/ft): 4-6-6 C1 jammed at 3'.	ROCK	C1: GNEISS, hard, dark gray/green. Slightly weathered. Joints spaced 0-5" at 0-90 degrees.
		C2	39.7 to 42.4	32/37	94	Core Times (min/ft): 3-6-4/0.7'		C2: GNEISS. Similar to C1. Joints spaced 1-18".
	45	C3	42.4 to 43.2	9/9	0	Core Times (min/ft): 5/0.7		C3: GNEISS. Similar to C1. Highly fractured.
		C4	43.2 to 44.7	19/19	26	Core Times (min/ft): 5-5/0.6'		C4: GNEISS, hard, dark gray/black with white banding. Slightly weathered. Joints spaced 0-5" at 75 degrees.
-60	50	C5	44.7 to 46.7	24/24	38	Core Times (min/ft): 5-8		C5: GNEISS. Similar to C4.
								Bottom of boring at depth 46.7 ft.

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, Maine
GEI PROJECT NUMBER: 2203703

GEI Consultants

GEI_WORKING STD SHORTHEAST-LAYER NAME 2203703 UNE IHEB TYPICO LOGS.GPJ 1/10/23

2022 BORING WB-4

BORING INFORMATION
LOCATION: Proposed Pier Near Shore
GROUND SURFACE EL. (ft): NM **DATE START/END:** 3/9/2023 - 3/9/2023
VERTICAL DATUM: **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 8.5 **DRILLER NAME:** Mike M.
LOGGED BY: D. Pelletier **RIG TYPE:** M1 ATV

BORING
LB-1
PAGE 1 OF 1

DRILLING INFORMATION
HAMMER TYPE: Manual **CASING I.D./O.D.:** 4 inch / NA **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation; Blows per 6 in.: Cores=4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Select Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/4	3-3-5-13			S1: SANDY ORGANIC SOIL (OL); 60% nonplastic fines, 40% fine sand, dark brown, organic topsoil.
		S2	2 to 2.2	2/2	50/0.25	Ledge at 2.2 ft. Switch to Drive and Wash. Rollerbit to 3 ft.		S2: WIDELY GRADED GRAVEL WITH SAND (GP); 85% angular gravel, 10% fine to coarse sand, 5% nonplastic fines, dark gray (WEATHERED BEDROCK).
		C1	3 to 7	48/40	10			C1: GNEISS; hard, metamorphic, fine-grained, joints slightly to moderately weathered, close, some cavities throughout, gray. RQD 10% MPF 10-11-12-15
		C2	7 to 8.5	18/16	50			C2: GNEISS, hard, metamorphic, fine-grained, joints slightly to moderately weathered, very close except 0-9 inches one piece, gray. RQD 50% MPF 18-11
								Finished hole at 5.5 ft. coring (8.5 ft. depth) due to time constraints.

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, ME
GEI PROJECT NUMBER: 2203703

GEI Consultants

UNE_BORING LOGS.GPJ 4/2023

2023 BORING LB-1

BORING INFORMATION
LOCATION: Near Stairway
GROUND SURFACE EL. (ft): NM **DATE START/END:** 3/9/2023 - 3/9/2023
VERTICAL DATUM: **DRILLING COMPANY:** New England Boring
TOTAL DEPTH (ft): 1.2 **DRILLER NAME:** Mike M.
LOGGED BY: D. Pelletier **RIG TYPE:** M1 ATV

BORING
LB-3
PAGE 1 OF 1

DRILLING INFORMATION
HAMMER TYPE: Manual **CASING I.D./O.D.:** 4 inch / NA **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** NM **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation; Blows per 6 in.: Cores=4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Select Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 1.2	14/6	2-8-50/2"			S1: SANDY ORGANIC SOIL (OL); 60% nonplastic fines, 40% fine sand, dark brown, organic topsoil.
								Bottom of boring at depth 1.2 ft.

NOTES:

PROJECT NAME: UNE Marine Science Center Pier
CITY/STATE: Biddeford, ME
GEI PROJECT NUMBER: 2203703

GEI Consultants

UNE_BORING LOGS.GPJ 4/2023

2023 BORING LB-3

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE BRIAN M. MCDEVITT PE18260 LICENSED PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

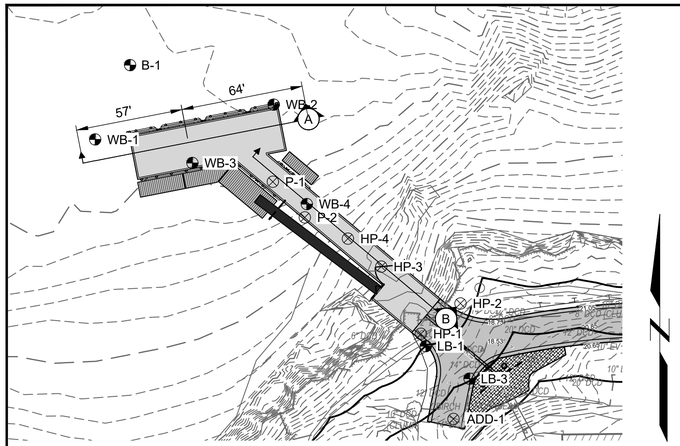
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
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3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
BORING LOGS (SHEET 3 OF 3)

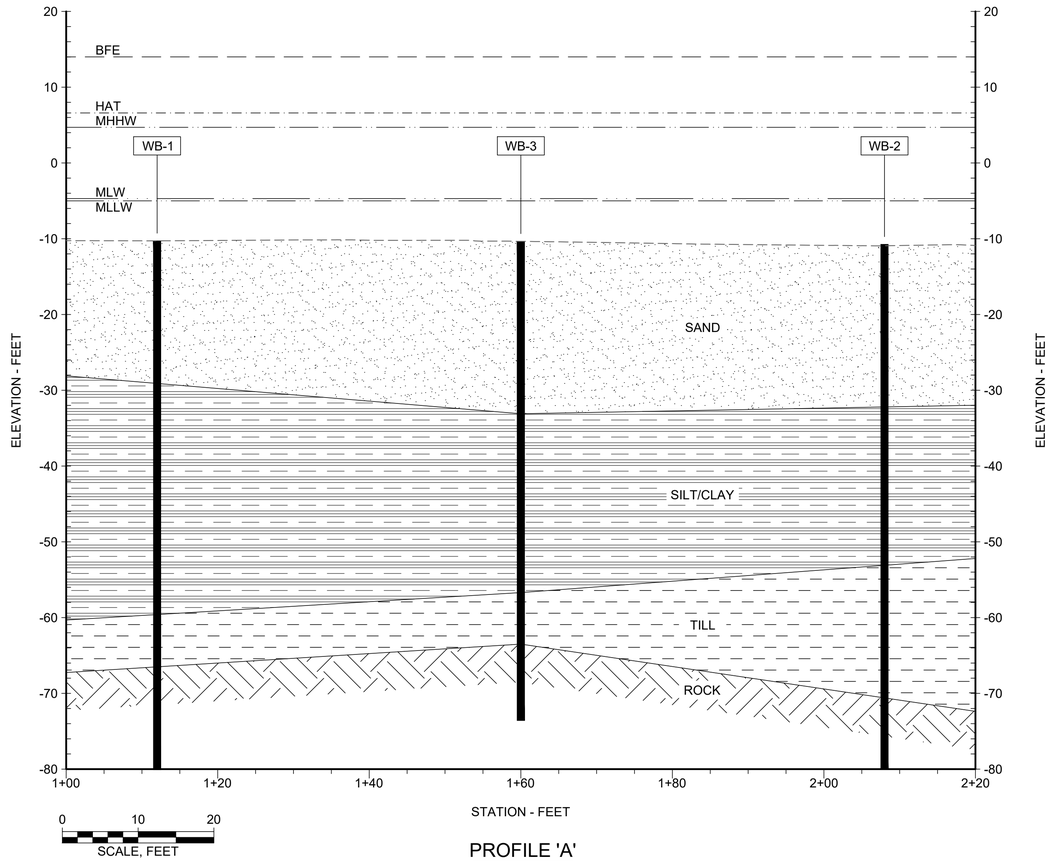
SHEET NO.
B-004

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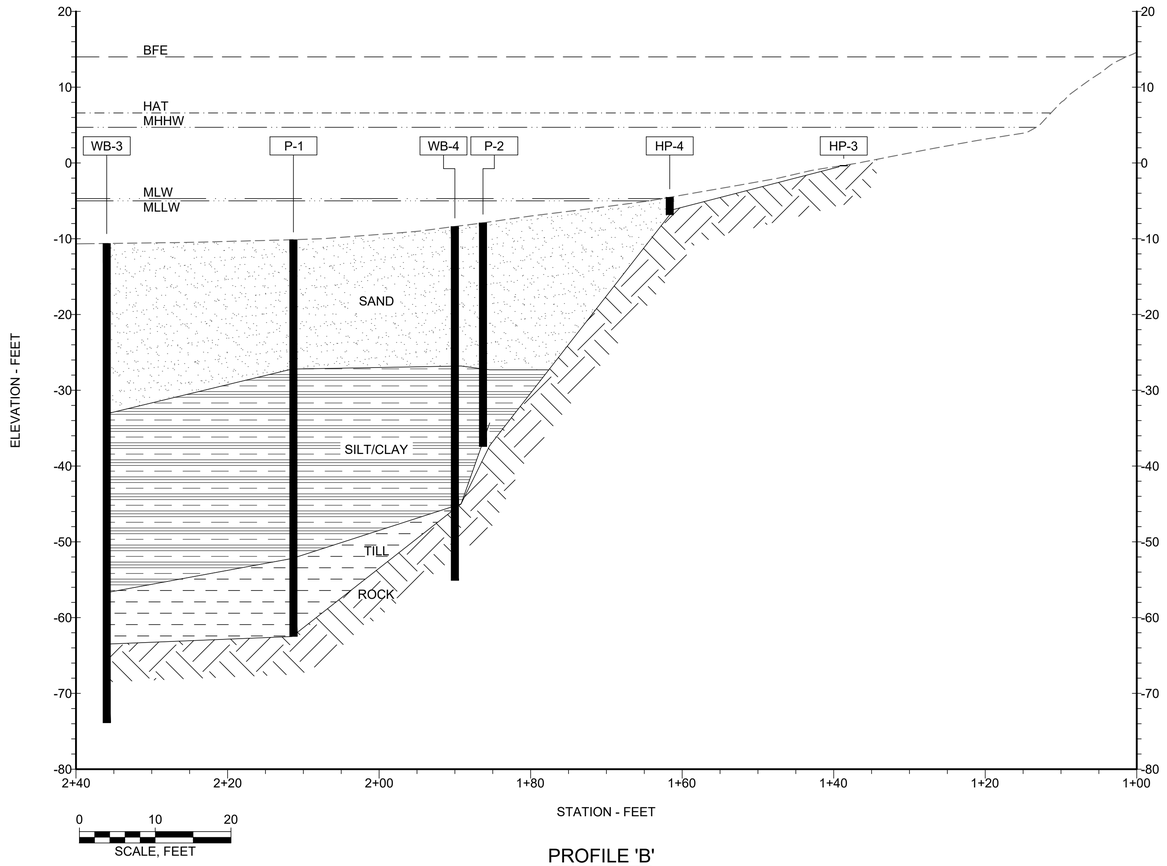
KEY PLAN

SCALE: 1" = 40'



PROFILE 'A'

SCALE: 1" = 10'



PROFILE 'B'

SCALE: 1" = 10'

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:

0 1"

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STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER

6/9/2025

Designed:	DJB
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UNIVERSITY OF NEW ENGLAND

11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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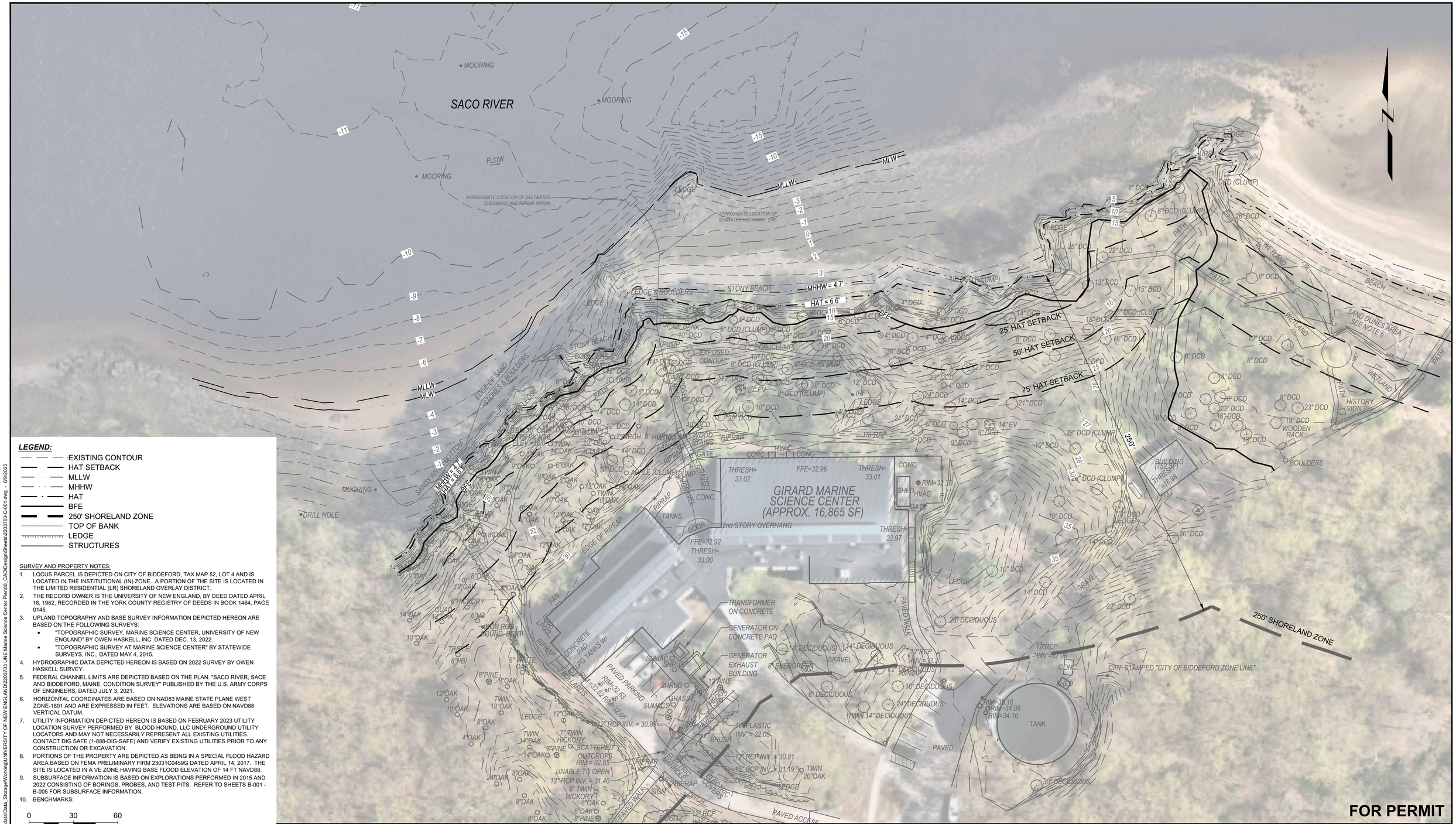
SHEET NAME

INTERPRETIVE SUBSURFACE PROFILE

SHEET NO.

B-005

DICASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-B-005.dwg - 6/6/2025



FOR PERMIT

LEGEND:

- EXISTING CONTOUR
- HAT SETBACK
- MLLW
- MHHW
- HAT
- BFE
- 250' SHORELAND ZONE
- TOP OF BANK
- LEDGE
- STRUCTURES

SURVEY AND PROPERTY NOTES:

1. LOCUS PARCEL IS DEPICTED ON CITY OF BIDDEFORD, TAX MAP 52, LOT 4 AND IS LOCATED IN THE INSTITUTIONAL (IN) ZONE. A PORTION OF THE SITE IS LOCATED IN THE LIMITED RESIDENTIAL (LR) SHORELAND OVERLAY DISTRICT.
2. THE RECORD OWNER IS THE UNIVERSITY OF NEW ENGLAND, BY DEED DATED APRIL 18, 1962, RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN BOOK 1484, PAGE 0145.
3. UPLAND TOPOGRAPHY AND BASE SURVEY INFORMATION DEPICTED HEREON ARE BASED ON THE FOLLOWING SURVEYS:
   - "TOPOGRAPHIC SURVEY, MARINE SCIENCE CENTER, UNIVERSITY OF NEW ENGLAND" BY OWEN HASKELL, INC. DATED DEC. 13, 2022.
   - "TOPOGRAPHIC SURVEY AT MARINE SCIENCE CENTER" BY STATEWIDE SURVEYS, INC., DATED MAY 4, 2015.
4. HYDROGRAPHIC DATA DEPICTED HEREON IS BASED ON 2022 SURVEY BY OWEN HASKELL SURVEY.
5. FEDERAL CHANNEL LIMITS ARE DEPICTED BASED ON THE PLAN. "SACO RIVER, SACE AND BIDDEFORD, MAINE, CONDITION SURVEY" PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS, DATED JULY 3, 2021.
6. HORIZONTAL COORDINATES ARE BASED ON NAD83 MAINE STATE PLANE WEST ZONE-1801 AND ARE EXPRESSED IN FEET. ELEVATIONS ARE BASED ON NAVD88 VERTICAL DATUM.
7. UTILITY INFORMATION DEPICTED HEREON IS BASED ON FEBRUARY 2023 UTILITY LOCATION SURVEY PERFORMED BY BLOOD HOUND, LLC UNDERGROUND UTILITY LOCATORS AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTACT DIG SAFE (1-888-DIG-SAFE) AND VERIFY EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION OR EXCAVATION.
8. PORTIONS OF THE PROPERTY ARE DEPICTED AS BEING IN A SPECIAL FLOOD HAZARD AREA BASED ON FEMA PRELIMINARY FIRM 23031C0459G DATED APRIL 14, 2017. THE SITE IS LOCATED IN A VE ZONE HAVING BASE FLOOD ELEVATION OF 14 FT NAVD88.
9. SUBSURFACE INFORMATION IS BASED ON EXPLORATIONS PERFORMED IN 2015 AND 2022 CONSISTING OF BORINGS, PROBES, AND TEST PITS. REFER TO SHEETS B-001 - B-005 FOR SUBSURFACE INFORMATION.
10. BENCHMARKS:

0 30 60
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
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STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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SHEET NAME
EXISTING CONDITIONS PLAN

SHEET NO.
C-001

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REMOVE LEDGE
SEE NOTE 2

MHHW = 4.7'

HAT = 6.6'

25' HAT SETBACK

50' HAT SETBACK

75' HAT SETBACK

BFE

MLLW

MLW

MHHW = 4.7'

HAT = 6.6'

BFE

GIRARD MARINE
SCIENCE CENTER
(APPROX. 16,865 SF)

THRESH=
33.02

FFE=32.96

THRESH=
33.01

2nd STORY OVERHANG

FFE=32.92

THRESH=
33.00

THRESH=
32.97

BUILDING
(752 SF)
THRESH
=16.98

REMOVE/DEMOLISH
TREE & STUMP,
TYP OF (49)

250' SHORELAND ZONE

CIRA STAMPED "CITY OF BIDDEFORD ZONE LINE"

TRANSFORMER
ON CONCRETE

GENERATOR ON
CONCRETE PAD

GENERATOR
EXHAUST
BUILDING

LPG TANKS W/
CONCRETE
PAD

PAVED PARKING

12" PLASTIC INV. = 32.05

12" RCP INV. = 30.99

12" RCP INV. = 30.91

15" RCP INV. = 31.19

12"RCP
INV.=33.20

RIM = 32.65
UNABLE TO OPEN

RIM=35.16
RIM=34.08
RIM=34.10

TANK

PAVED WALK

EDGE OF RIPRAP

EDGE OF SAND
STONES & BOULDERS

TOP OF BANK

TOP OF LEDGE

STONY BEACH

BOULDERS &
STONES

LEDGE & BOULDERS

LEDGE

RIPRAP

WOOD
LANDINGS

WOOD
STAIRS

GATE

GRAVEL

CONC.

HVAC

SHED
HVAC

RIM=32.35

DOOR

TANKS

PUMP

EXPOSED
CONDUIT

IRR

ELECTRIC
MANHOLE

FENCE (CLUMP)

PATH

WETLAND

WET

MOORING

SANDY RIVER BOTTOM

IRON ROD
FOUND, BENT

FAN

QUAD

TRIPLE

6"HB

8"HB

6" WHITE
OAK

8"PINE

BOLLARDS

RIM=32.52

RIM=32.63

RIM=32.66

SUMAC

SHRUB

GRASS

HEDGE

BRUSH

SCATTERED
OUTCROPS

7" TWIN
HICKORY

7"PINE

8" HORNBEAM

ZTBIRCH

ETBN 10" OAK
WITH PK NAIL
ELEV=16.0'

14" DECIDUOUS

8" EVERGREEN

12" DECIDUOUS

18" DECIDUOUS

8" DECIDUOUS

24" DECIDUOUS

TWIN 14" DECIDUOUS

26" DECIDUOUS

28" DCD (CLUMP)

BOULDERS

WOODEN
RACK

GRAVEL

PAVED

TWIN

FOR PERMIT

Attention:
0 1"
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STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF
NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	
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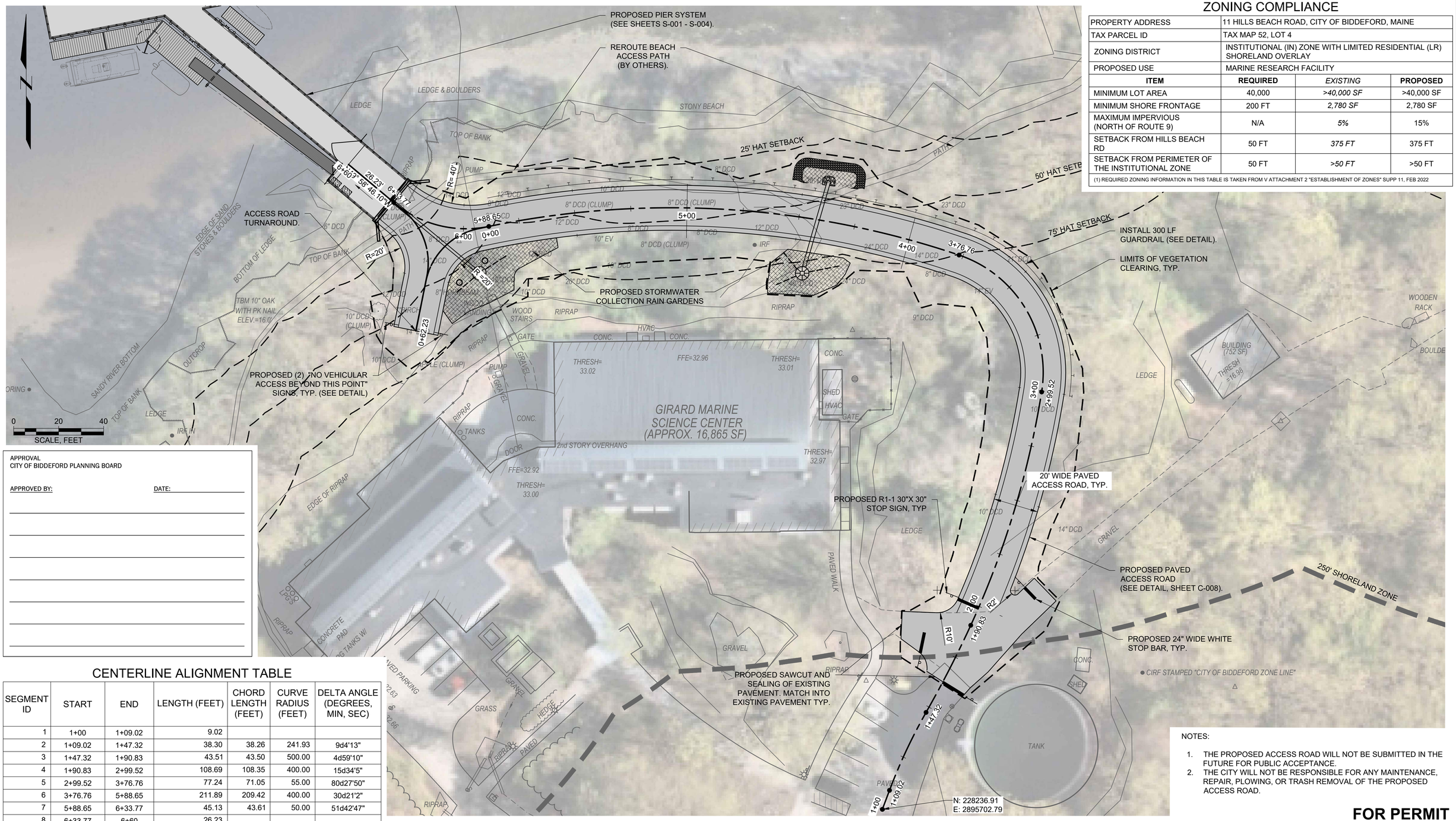
SHEET NAME

DEMOLITION AND CONSTRUCTION STAGING

SHEET NO.

C-002

DJCASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-002.dwg - 6/9/2025



ZONING COMPLIANCE

PROPERTY ADDRESS	11 HILLS BEACH ROAD, CITY OF BIDDEFORD, MAINE		
TAX PARCEL ID	TAX MAP 52, LOT 4		
ZONING DISTRICT	INSTITUTIONAL (IN) ZONE WITH LIMITED RESIDENTIAL (LR) SHORELAND OVERLAY		
PROPOSED USE	MARINE RESEARCH FACILITY		
ITEM	**REQUIRED**	*EXISTING*	**PROPOSED**
MINIMUM LOT AREA	40,000	*>40,000 SF*	>40,000 SF
MINIMUM SHORE FRONTAGE	200 FT	*2,780 SF*	2,780 SF
MAXIMUM IMPERVIOUS (NORTH OF ROUTE 9)	N/A	*5%*	15%
SETBACK FROM HILLS BEACH RD	50 FT	*375 FT*	375 FT
SETBACK FROM PERIMETER OF THE INSTITUTIONAL ZONE	50 FT	*>50 FT*	>50 FT

(1) REQUIRED ZONING INFORMATION IN THIS TABLE IS TAKEN FROM V ATTACHMENT 2 "ESTABLISHMENT OF ZONES" SUPP 11, FEB 2022

APPROVAL
CITY OF BIDDEFORD PLANNING BOARD

APPROVED BY: DATE:

CENTERLINE ALIGNMENT TABLE

SEGMENT ID	START	END	LENGTH (FEET)	CHORD LENGTH (FEET)	CURVE RADIUS (FEET)	DELTA ANGLE (DEGREES, MIN, SEC)
1	1+00	1+09.02	9.02			
2	1+09.02	1+47.32	38.30	38.26	241.93	9d4'13"
3	1+47.32	1+90.83	43.51	43.50	500.00	4d59'10"
4	1+90.83	2+99.52	108.69	108.35	400.00	15d34'5"
5	2+99.52	3+76.76	77.24	71.05	55.00	80d27'50"
6	3+76.76	5+88.65	211.89	209.42	400.00	30d21'2"
7	5+88.65	6+33.77	45.13	43.61	50.00	51d42'47"
8	6+33.77	6+60	26.23			

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

NOTES:

1. THE PROPOSED ACCESS ROAD WILL NOT BE SUBMITTED IN THE FUTURE FOR PUBLIC ACCEPTANCE.
2. THE CITY WILL NOT BE RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF THE PROPOSED ACCESS ROAD.

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
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P.E. No:	13033
GEI Project	2203703

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UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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SHEET NAME: **SITE PLAN**

SHEET NO.: **C-003**

DICASTELNUOVO, VINNIE B:\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-003.dwg - 6/10/2025

TOP OF PIER AT ABUTMENT = 18.0'

INSTALL 15" HDPE OUTFALL
L=48' S=0.0365
INV OUT=12.00'

INSTALL 18" HDPE OUTFALL
L=40' S=0.01875
INV OUT=18.00'

INSTALL 7'x20' LEVEL SPREADER
(SEE DETAIL).

SUPERELEVATED ACCESS ROAD STA 2+00 TO STA 5+90 TO DRAIN TO ADJACENT SWALE AND STORMWATER INFILTRATION BMPS

REINFORCED SLOPE AT 1:1 MAX, TYP.

GRADE TO DRAIN AROUND END OF TURNAROUND MIN 5% / MAX 4:1 SLOPE

LEDGE CUT AT MAX 1:10 SLOPE WHERE LEDGE PRESENT

VEGETATED SWALE, TYP.

INSTALL (3) SEGMENTS 6" HDPE UD FROM CB TO EDGES OF BIORETENTION FILTER CELL PONDING AREA
TOTAL L=35'± S=0.000

INSTALL 890 SF BIORETENTION FILTER CELL (ID: SF-B) (SEE DETAIL)

INSTALL 580 SF BIORETENTION FILTER CELL (ID: SF-A) (SEE DETAIL)

INSTALL 18" DIA HDPE CB W/ BEEHIVE GRATE
RIM=18.00'
6" UD INV IN=14.25'
15" HDPE INV OUT=13.75'

INSTALL 18" DIA HDPE CB W/ BEEHIVE GRATE
RIM=23.50'
6" UD INV IN=19.25'
18" HDPE INV OUT=18.75'

INSTALL (2) SEGMENTS 6" PE UD FROM CB TO EDGES OF BIORETENTION FILTER CELL PONDING AREA
TOTAL L=22'± S=0.000

PROPOSED SAWCUT AND SEALING OF EXISTING PAVEMENT. MATCH INTO EXISTING PAVEMENT GRADE TYP.

GIRARD MARINE SCIENCE CENTER (APPROX. 16,865 SF)

250' SHORELAND ZONE

25' HAT SETBACK

75' HAT SETBACK

EL 20.0'

MHHW = 4.7'

MLW

ML 5.1

HAT = 6.6'

EDGE OF SAND STONES & BOULDERS

TOP OF BANK

TOP OF LEDGE

TBM 10" OAK WITH PK NAIL ELEV=16.01'

SAND/RIVER BOTTOM

MOORING

IRON ROD FOUND, BENT

EDGE OF RIPRAP

FAN

LEDGE

SCATTERED OUTCROPS

BOULDERS

WOODEN RACK

BUILDING (752 SF) THRESH =16.98

CIRA STAMPED "CITY OF BIDDEFORD ZONE LINE"

TANK

PAVED WALK

GRAVEL

RIPRAP

CONCRETE PAD

LPG TANKS W/ BOLLARDS

GENERATOR ON CONCRETE PAD

GENERATOR EXHAUST BUILDING

PAVED PARKING

GRASS

HEDGE

WETLAND

PATH

LEDGE & BOULDERS

STONY BEACH

EXPOSED FOOTING

PUMP

SHED

HVAC

GATE

CONC.

TANKS

DOOR

FFE=32.92

THRESH= 33.02

THRESH= 33.01

RIM=32.35

THRESH= 32.97

RIM=32.52

RIM=32.63

RIM=32.66

12" PLASTIC

12" RCP INV. = 30.93

12" RCP INV. = 31.19

12" RCP INV.=33.20

12"RCP INV.=32.08

RIM=35.16

RIM=34.08

RIM=34.10

1+47.32

1+90.83

2+06.52

2+28.68 PT

2+99.52 PT

3+00

3+16.76

4+00

4+40.84

5+88.65

6+00

6+07.55

6+23.77

18.73PC

20.36 PC

29.96 PC

2.0 % TYP.

5% MAX

FLOW

TYP.

SCALE: 1" = 20'

PLAN

FOR PERMIT

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

0 20 40

SCALE, FEET

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER

6/9/2025

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UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

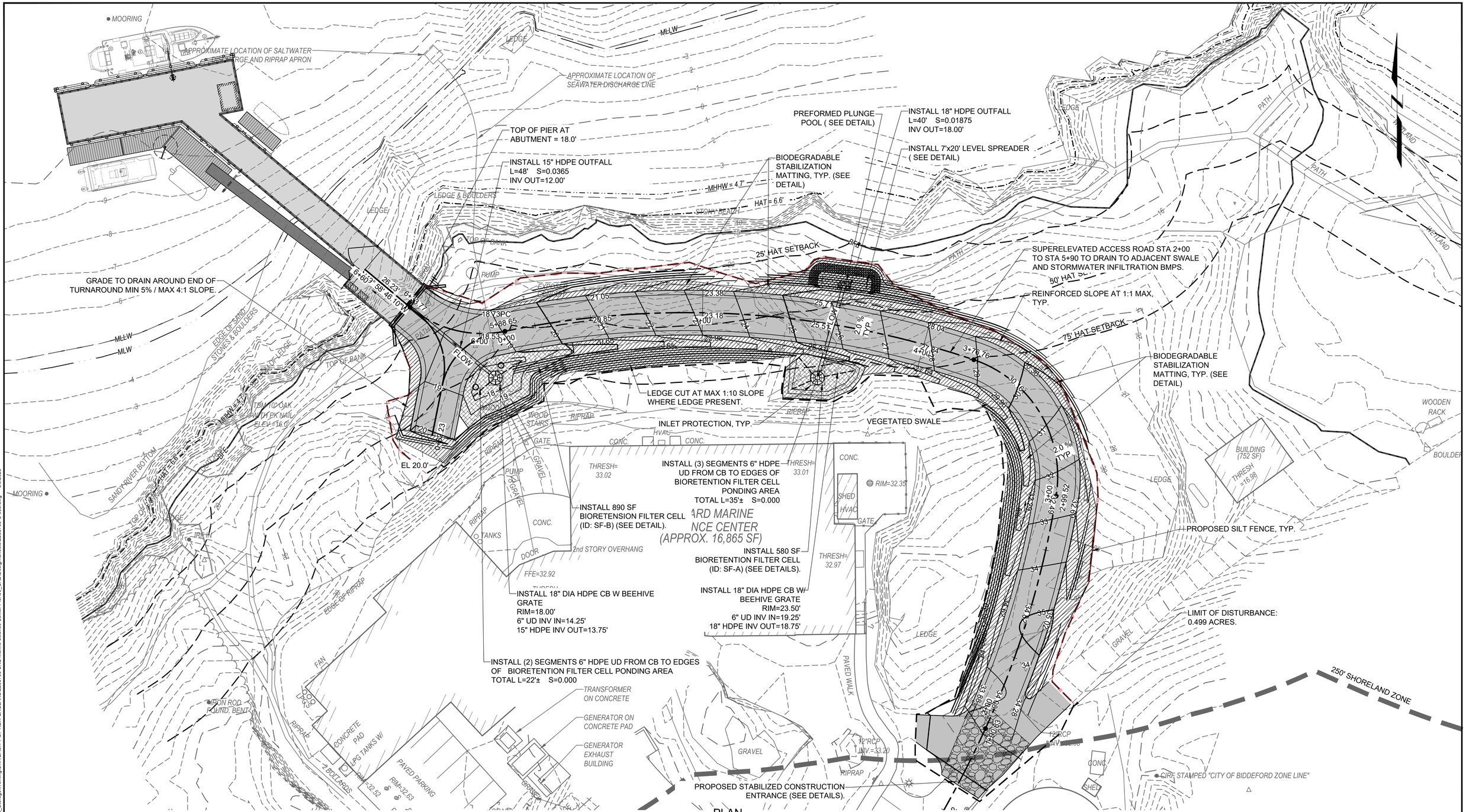
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

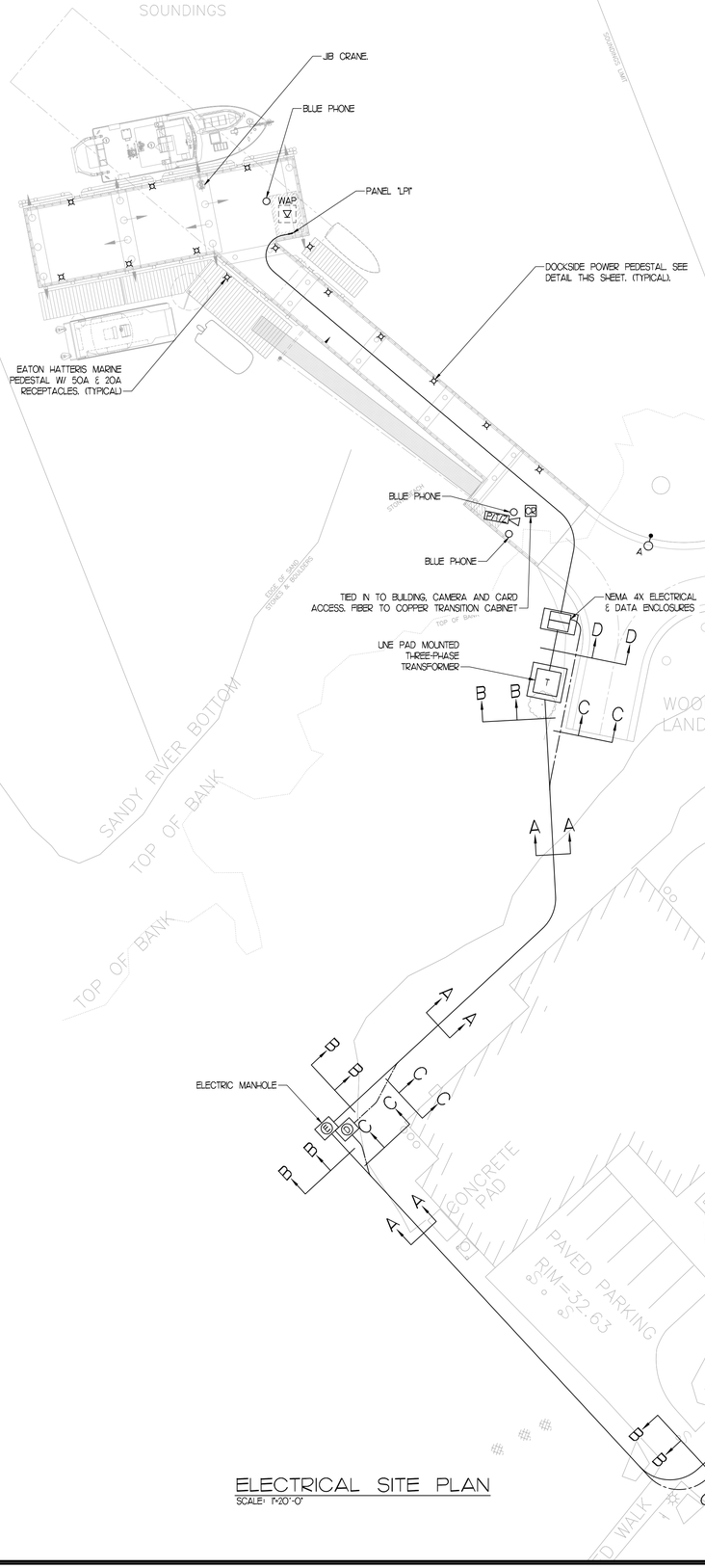
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7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
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2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **GRADING AND DRAINAGE PLAN**

SHEET NO.: **C-004**

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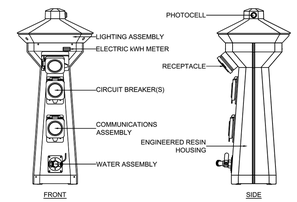

MOORING
APPROXIMATE LOCATION OF SALTWATER DISCHARGE AND RIPRAP APRON
APPROXIMATE LOCATION OF SEAWATER DISCHARGE LINE
MLLW
MLW
MHHW = 4.7'
HAT = 6.6'
LEDGE
LEDGE & BOULDERS
STONE BEACH
TOP OF BANK
PUMP
EXPOSED PIPING
TOP OF PIER AT ABUTMENT = 18.0'
INSTALL 15" HDPE OUTFALL L=48' S=0.0365 INV OUT=12.00'
PREFORMED PLUNGE POOL (SEE DETAIL)
INSTALL 18" HDPE OUTFALL L=40' S=0.01875 INV OUT=18.00'
INSTALL 7'x20' LEVEL SPREADER (SEE DETAIL)
BIODEGRADABLE STABILIZATION MATTING, TYP. (SEE DETAIL)
25' HAT SETBACK
50' HAT SETBACK
75' HAT SETBACK
SUPERELEVATED ACCESS ROAD STA 2+00 TO STA 5+90 TO DRAIN TO ADJACENT SWALE AND STORMWATER INFILTRATION BMPS.
REINFORCED SLOPE AT 1:1 MAX, TYP.
GRADE TO DRAIN AROUND END OF TURNAROUND MIN 5% / MAX 4:1 SLOPE.
EDGE OF SAND STONES & BOULDERS
SANDY RIVER BOTTOM
TOP OF LEDGE
TBLE TO OAK WITH PK NAIL ELEV = 16.0'
IRON ROD
EDGE OF RIPRAP
EL 20.0'
LEDGE CUT AT MAX 1:10 SLOPE WHERE LEDGE PRESENT.
INLET PROTECTION, TYP.
VEGETATED SWALE
RIPRAP
WOOD STAIRS
GATE
GRAVEL
CONC.
HVAC
PUMP TANKS
DOOR
2nd STORY OVERHANG
FFE=32.92
THRESH= 33.02
THRESH= 33.01
THRESH= 32.97
INSTALL 890 SF BIORETENTION FILTER CELL (ID: SF-B) (SEE DETAIL).
INSTALL (3) SEGMENTS 6" HDPE UD FROM CB TO EDGES OF BIORETENTION FILTER CELL PONDING AREA TOTAL L=35'± S=0.000
INSTALL 580 SF BIORETENTION FILTER CELL (ID: SF-A) (SEE DETAILS).
INSTALL 18" DIA HDPE CB W/ BEEHIVE GRATE RIM=18.00' 6" UD INV IN=14.25' 15" HDPE INV OUT=13.75'
INSTALL 18" DIA HDPE CB W/ BEEHIVE GRATE RIM=23.50' 6" UD INV IN=19.25' 18" HDPE INV OUT=18.75'
INSTALL (2) SEGMENTS 6" HDPE UD FROM CB TO EDGES OF BIORETENTION FILTER CELL PONDING AREA TOTAL L=22'± S=0.000
ARD MARINE
NCE CENTER
(APPROX. 16,865 SF)
SHED
HVAC
RIM=32.35'
TRANSFORMER ON CONCRETE
GENERATOR ON CONCRETE PAD
GENERATOR EXHAUST BUILDING
CONCRETE PAD
LPG TANKS W/
2 BOLLARDS
RIM=32.52
RIM=32.63
PAVED PARKING
IRON ROD ROUND, BENT
FAN
LOGS
PAVED WALK
GRAVEL
12"RCP INV=33.20
12"RCP INV=33.00
PROPOSED STABILIZED CONSTRUCTION ENTRANCE (SEE DETAILS).
PROPOSED SILT FENCE, TYP.
LIMIT OF DISTURBANCE: 0.499 ACRES.
250' SHORELAND ZONE
CIRF STAMPED "CITY OF BIDDEFORD ZONE LINE"
BUILDING (752 SF)
THRESH =16.98
WOODEN RACK
BOULDER
WETLAND
PATH
2.0 % TYP
4.0 % TYP
18.73PC
5+88.65
6+00
0+00
6+69.58 46.10'W
26.23'
6+43.77
3+76.76
4+00.84
2+99.52
3+00
FLOW
18.53
18.19
20.23
20.85
21.05
23.36
23.18
25.51
25.51
18.04
20.65
20.08
20.63
20.63
34.29
34.29
33.89
33.89
30.95
30.95
32.63
32.63
32.63



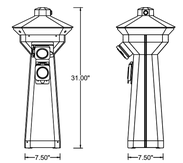
ELECTRICAL SITE PLAN
SCALE: 1"-20'-0"

Hatteras Light Power Pedestal - Specifications

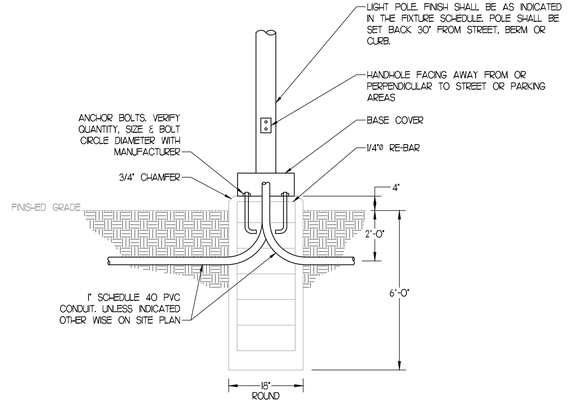
Product Features (cont.)



Dimensions



www.marinapower.com 1-800-723-8009 **Hatteras Light** - Product Specifications



POLE BASE DETAIL
NOT TO SCALE

VINCENT A. DiORIO, INC.
CONSULTING ENGINEERS
89 Access Rd. Suite 18
Norwood, MA 02062
(781)255-9754 | vadjr@vadeng.com
www.vadeng.com

REVISIONS:

REV.:	DATE:	DESCRIPTION:

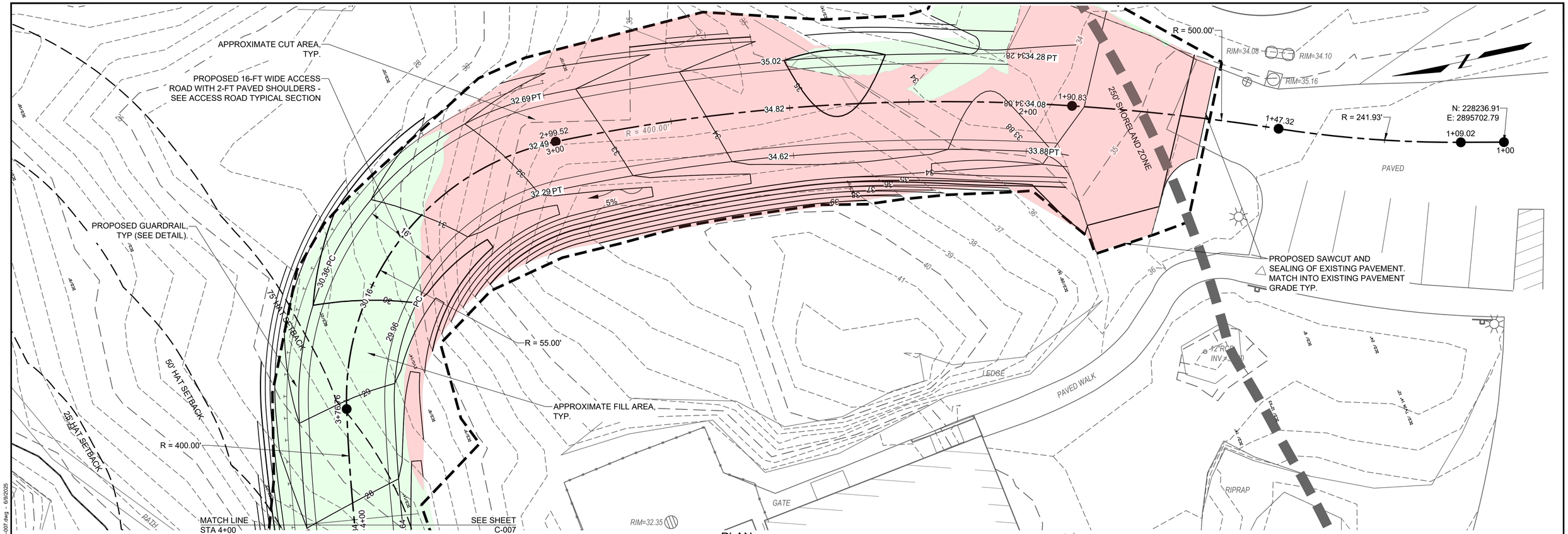
CLIENT:
UNIVERSITY OF NEW ENGLAND

PROJECT:
MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, MAINE

DRAWING TITLE
ELECTRICAL SITE PLAN

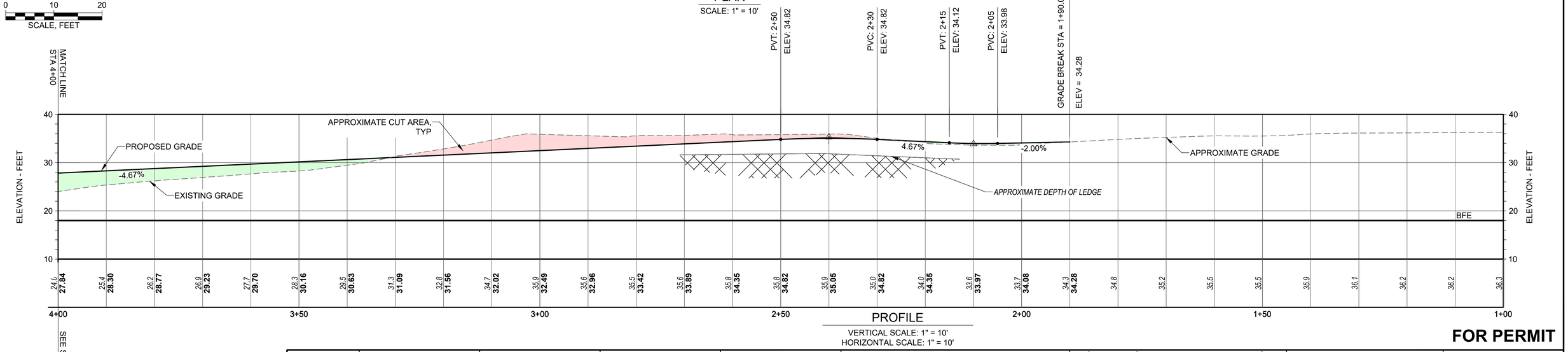
DRAWN:	CWQ
CHECKED:	VAD Jr
SCALE:	AS INDICATED
DATE:	APRIL 15, 2025

ES1.1



PLAN

SCALE: 1" = 10'



PROFILE

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'

FOR PERMIT

CUT/FILL ANALYSIS

STRUCTURE	QUANTITY (CY)
CUT	2174.50
FILL	782.30
NET (FILL)	1392.20

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED PROFESSIONAL ENGINEER

6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND

11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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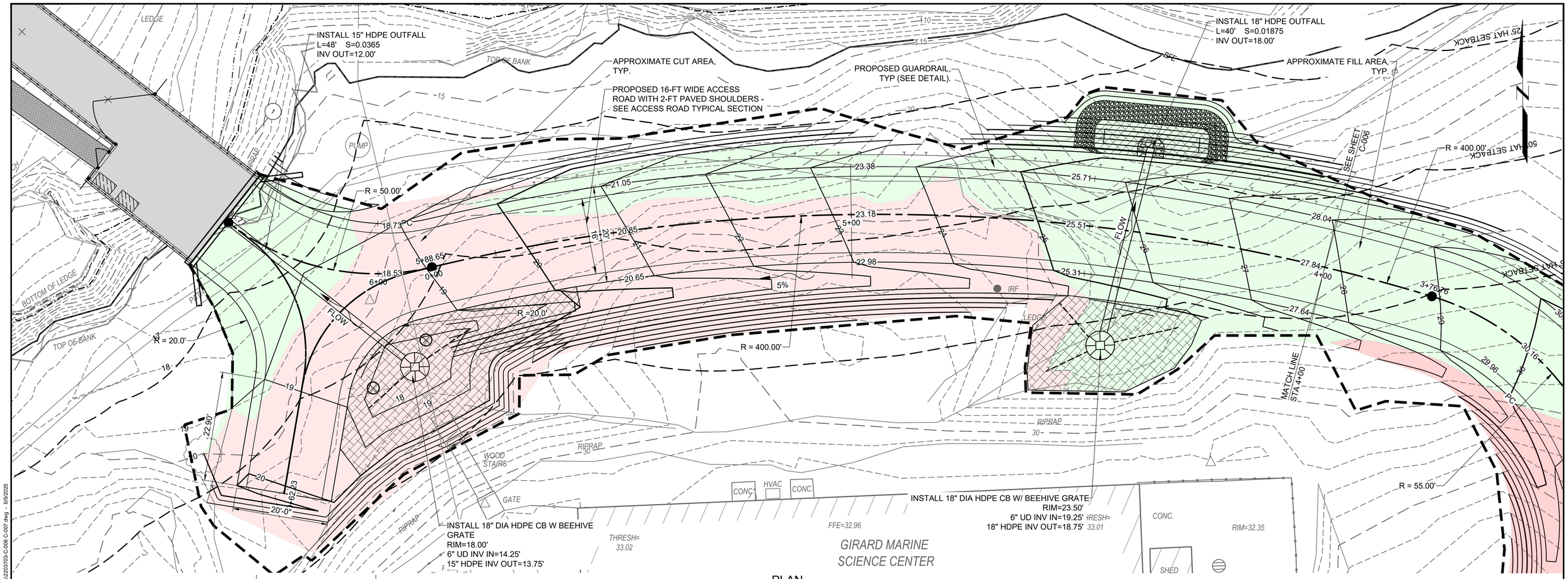
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ACCESS ROAD PLAN AND PROFILE STA 1+00 TO 4+00

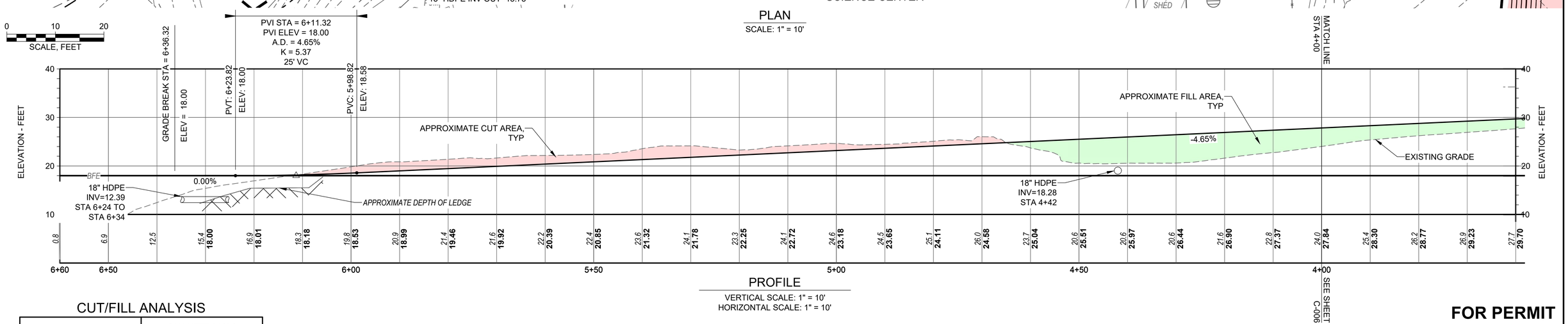
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C-006

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PLAN
SCALE: 1" = 10'



PROFILE
VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 10'

CUT/FILL ANALYSIS

STRUCTURE	QUANTITY (CY)
CUT	2174.50
FILL	782.30
NET (FILL)	1392.20

FOR PERMIT

Attention:
0 1"
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STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
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11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

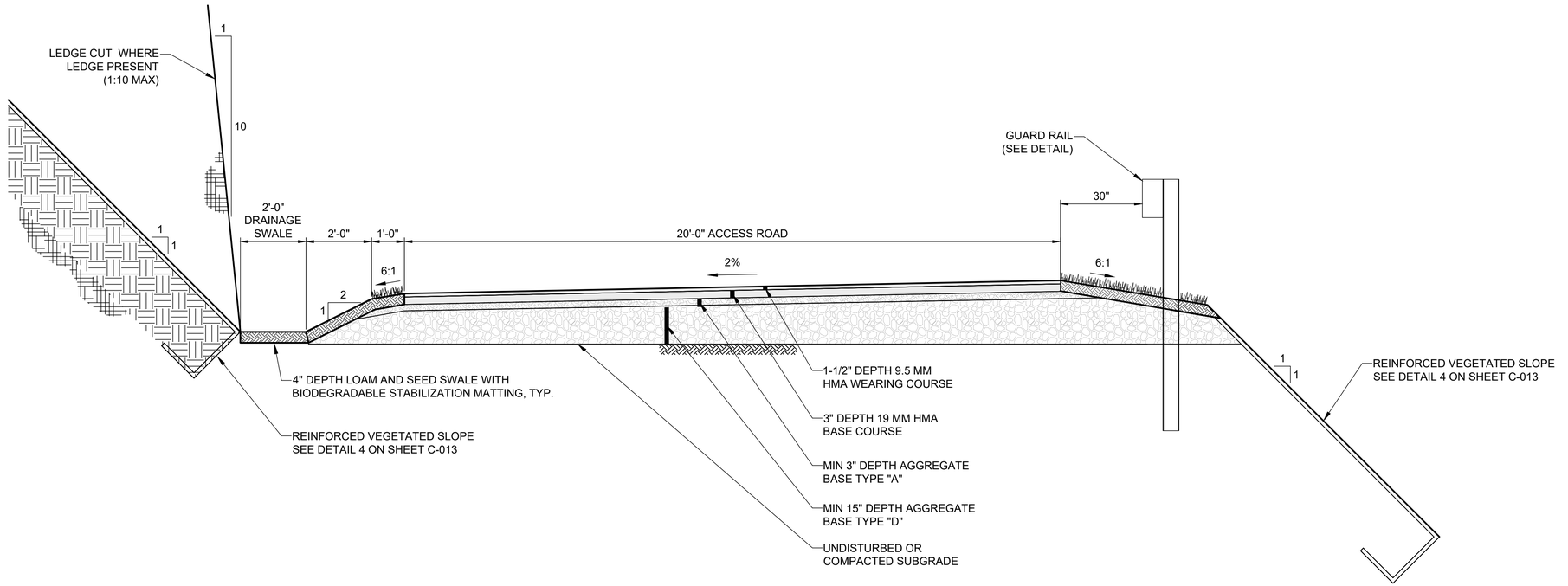
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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SHEET NAME
ACCESS ROAD PLAN AND PROFILE STA 4+00 TO STA 6+60

SHEET NO.
C-007

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TYPICAL ACCESS ROAD SECTION

SCALE: NTS

FOR PERMIT

Attention:

0 1"

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STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER

6/9/2025

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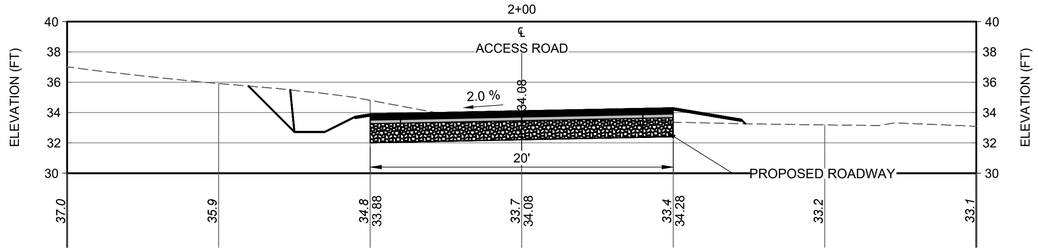
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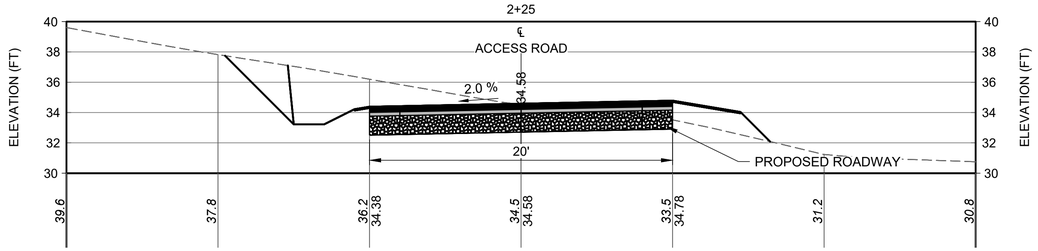
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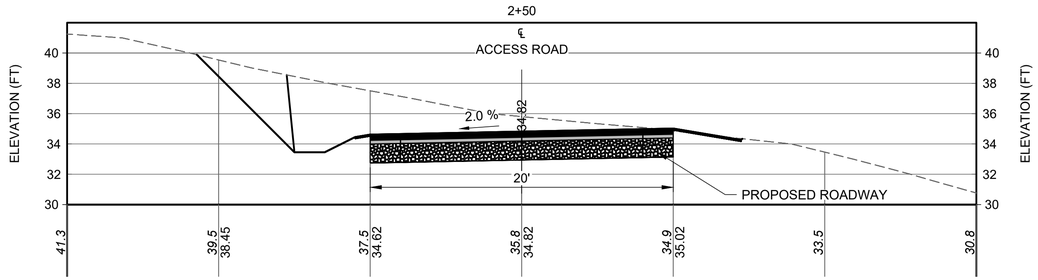
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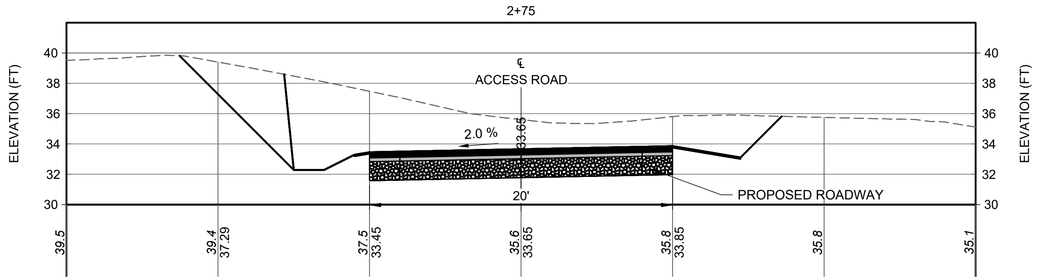
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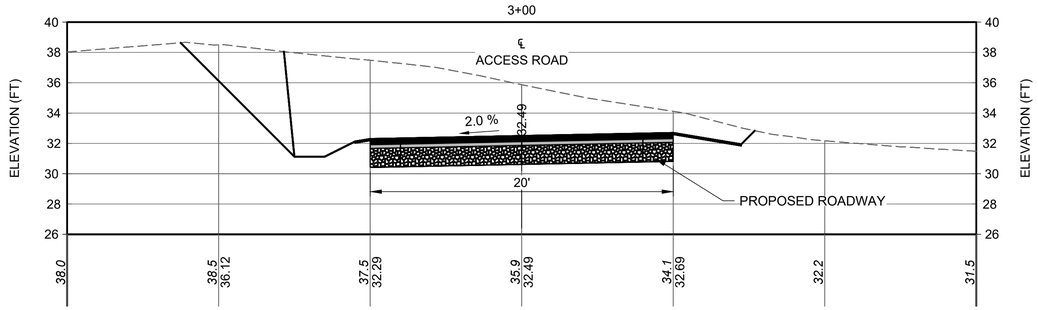
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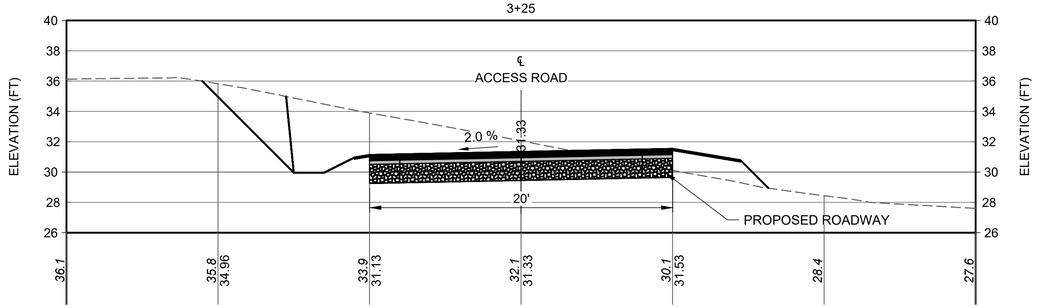


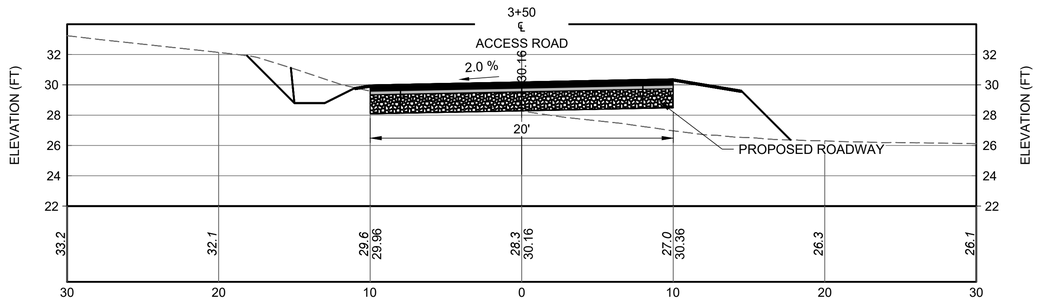


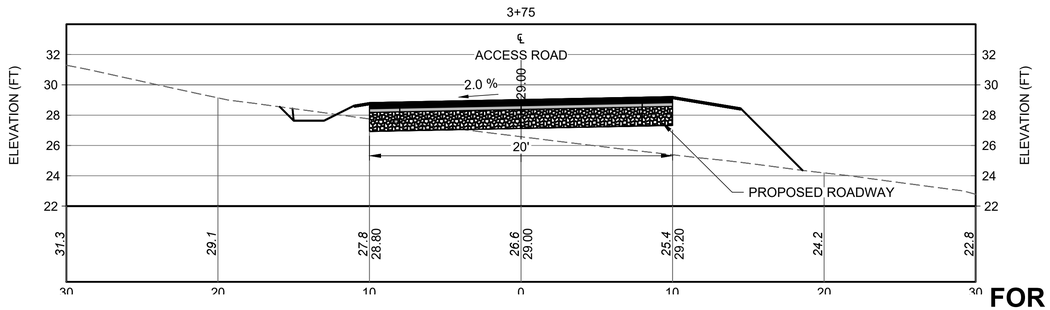












FOR PERMIT

0 2.5 5 10
SCALE, FEET

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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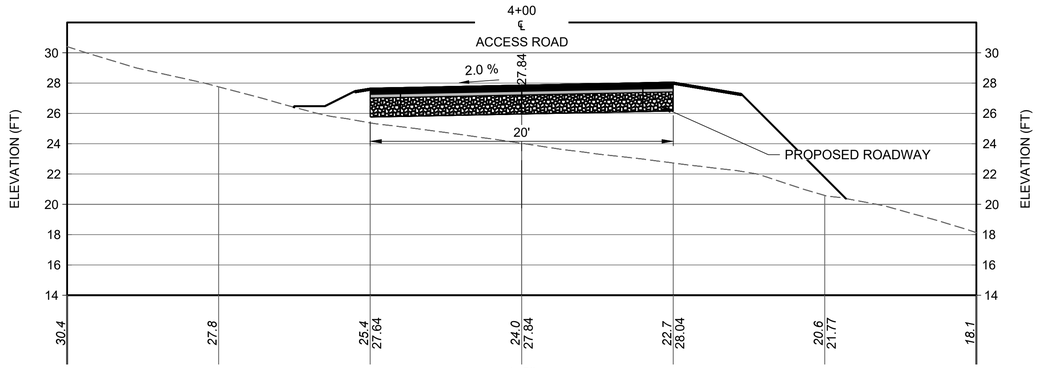
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

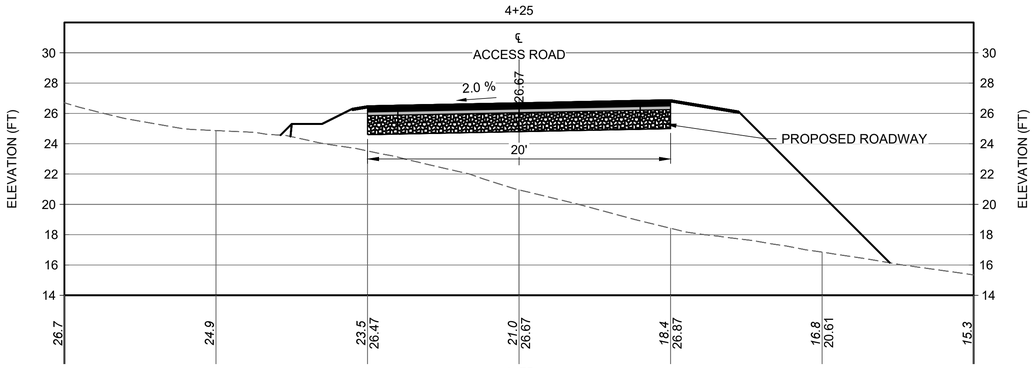
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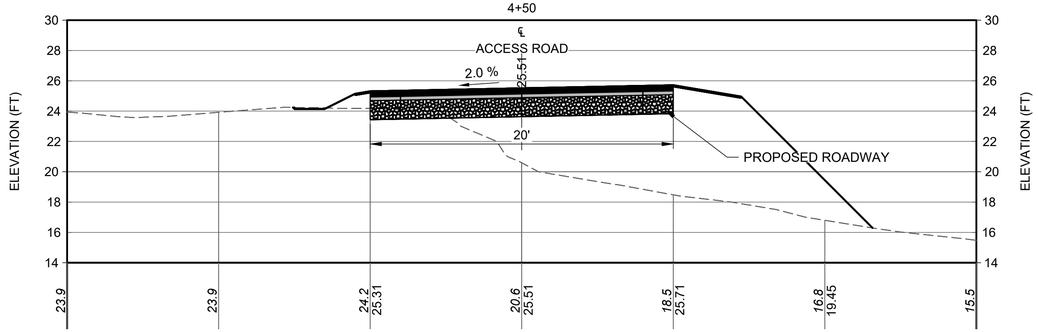
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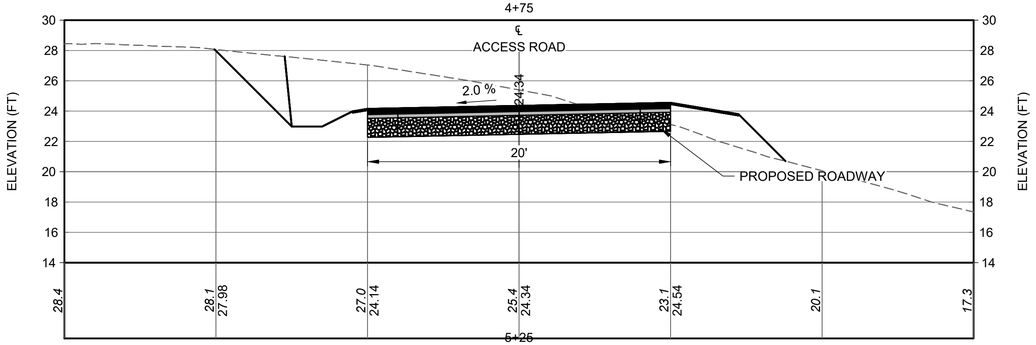
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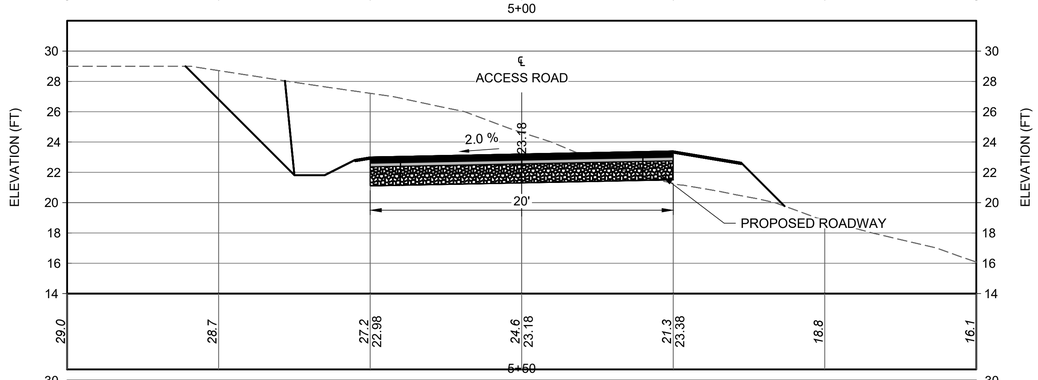
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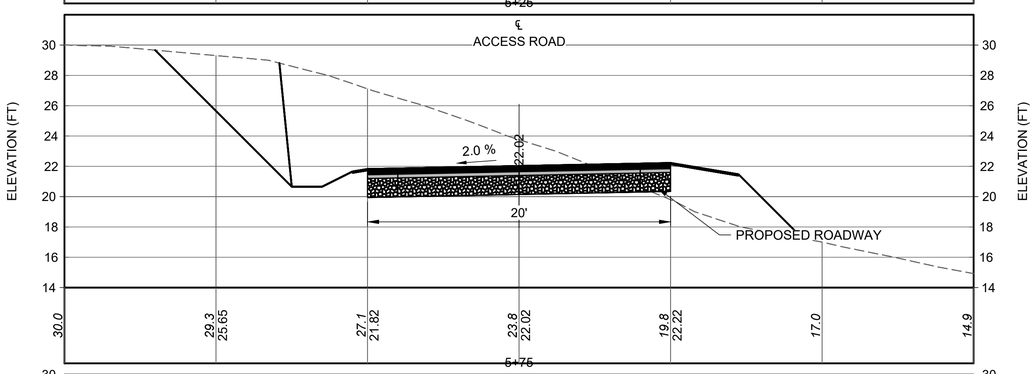


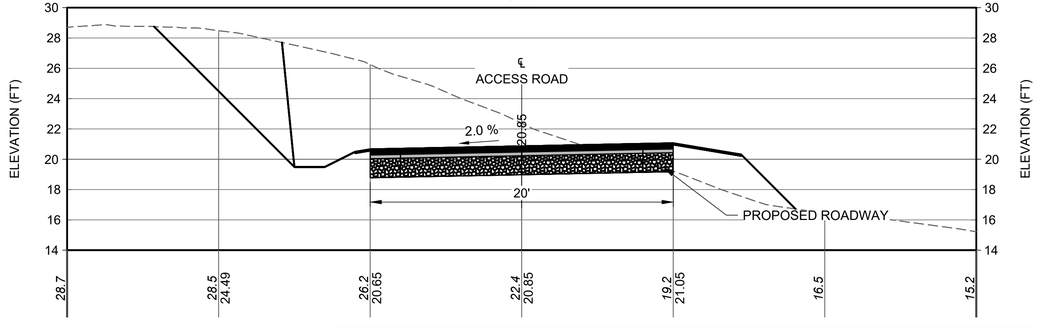


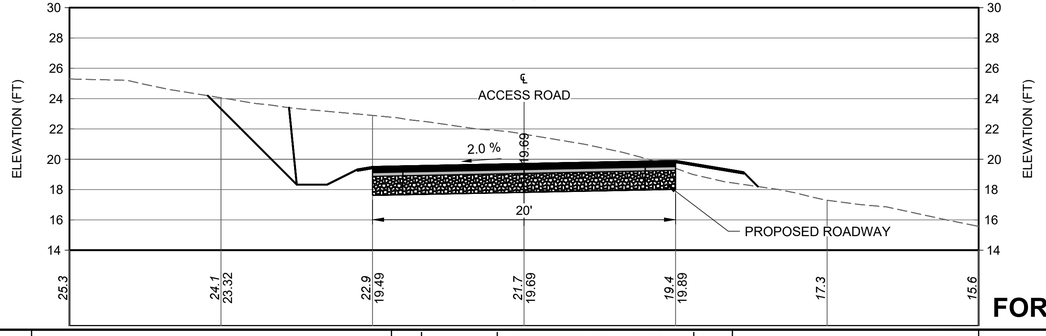












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0 2.5 5 10
SCALE, FEET

Attention:
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PE18260
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6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

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BIDDEFORD, MAINE

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BIDDEFORD, YORK COUNTY, MAINE

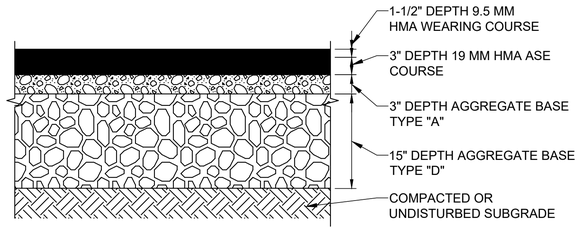
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SHEET NAME

ROAD ACCESS SECTIONS STA 4+00 TO 5+75

SHEET NO.

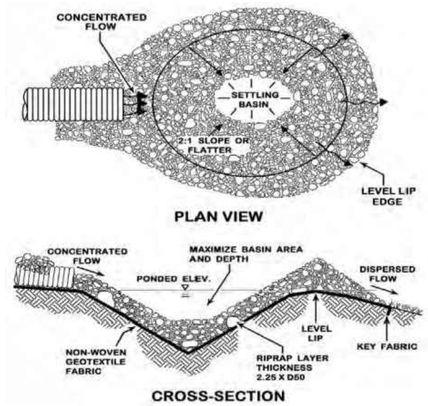
C-010



NOTES:
1. PAVEMENT DESIGN SHALL HAVE A MAINEDOT APPROVED JOB MIX FORMULA (JMF) WITHIN THE LATEST CALENDAR YEAR UNLESS OTHERWISE APPROVED BY OWNER.

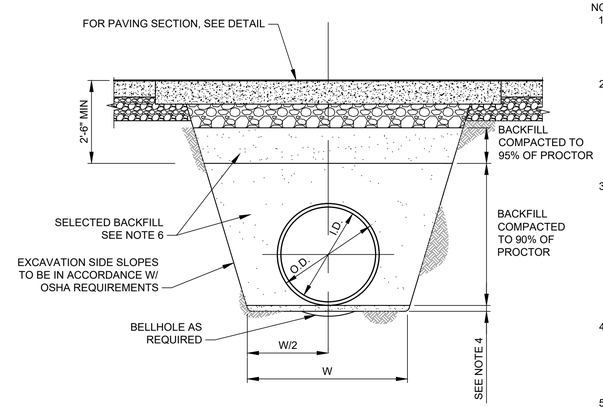
1 HMA TRAVELWAY/SHOULDER TYPICAL SECTION

NO SCALE



PLUNGE POOL SIZING (minimum)				
SIZE	RIPRAP SIZING (D_{50})	WIDTH At the narrow end of pipe	LENGTH For slow flows (no pressure head)	LENGTH For high flows (with pressure head)
12"	5"	3-4'	4-6'	8-10'
18"	8"	4-6'	6-8'	12-18'
24"	10"	6-8'	8-10'	18-22'
30"	12"	8-10'	12-14'	22-28'
36"	14"	10-12'	14-16'	28-32'

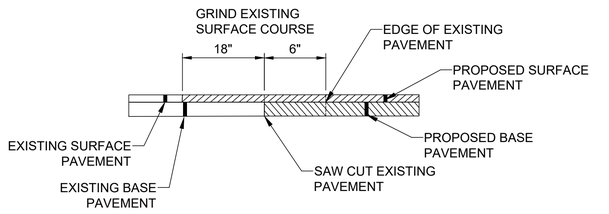
The diameter of the largest stone size in the mix should be about 1.5 times the D_{50} and the smallest one about one half the size. The thickness of riprap should never be less than 2 times the rock D_{50}.



NOTES:
1. TRENCH BOTTOM OR BEDDING FOR ALL PIPE SHALL BE GRADED TO PROVIDE UNIFORM SUPPORT FOR THE ENTIRE LENGTH OF THE PIPE EXCEPT AT BELLHOLES.
2. BELLHOLES FOR PIPES SHALL HAVE A CLEARANCE OF 3" BETWEEN THE BOTTOM OF THE BELLHOLE AND THE EXTERIOR OF THE PIPE BARREL, BUT IN NO CASE SHALL BELLHOLES BE SMALLER THAN REQUIRED TO FACILITATE PLACING OF THE PIPE OR PROPER JOINING OF THE PIPE.
3. COMPACTION BACKFILL SHALL BE COMPACTED TO A DEGREE AT LEAST EQUIVALENT TO THE EXISTING DEGREE OF COMPACTING OF ADJACENT IN-PLACE EARTH MATERIALS AGAINST WHICH SUCH COMPACTED BACKFILL IS TO BE PLACED, OR TO A MIN OF 95% OF THE LABORATORY STANDARD MAX ASTM D698 DENSITY, WHICHEVER IS GREATER.
4. MIN 3" DEEP LAYER OF SCARIFIED MATERIAL WHEN IN HARD MATERIAL. IN UNSUITABLE MATERIAL, OVER EXCAVATE AS DIRECTED BY ENGINEER (6" MIN) AND REPLACE WITH COMPACTED BACKFILL.
5. W = PIPE O.D. + 24" MIN
6. ALL SELECTED BACKFILL IS TO BE IN CONFORMANCE WITH STATE STANDARD SPECIFICATION.

3 TRENCH

NO SCALE



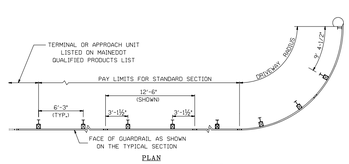
4 HMA PAVEMENT BUTT JOINT

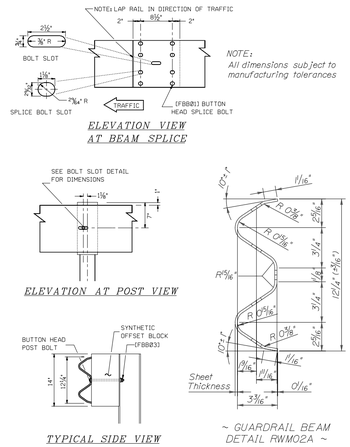
NO SCALE

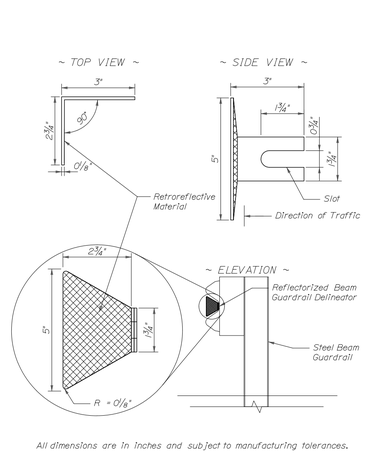
NOTES:
1. IF THE PIPE DISCHARGES ONTO A FLAT AREA, THE APRON SHOULD HAVE A WIDTH THAT IS THREE TIMES THE OUTLET PIPE'S DIAMETER. IF THE PIPE FLOWS HAVE THE POTENTIAL OF CAUSING A GULLY, A LEVEL SPREADER SHOULD BE PROVIDED.
2. THE CHANNEL SIDE SLOPES SHOULD BE NO STEEPER THAN 2:1. RIPRAP ON THE SIDES OF THE PLUNGE POOL SHOULD EXTEND TO THE TOP OF THE CHANNEL.
3. THE PLUNGE POOL SIZING AND THE MEDIAN SIZED RIPRAP CAN BE DETERMINED FROM THE FOLLOWING TABLE. THE THICKNESS OF RIPRAP SHOULD NOT BE LESS THAN 2 TIMES THE ROCK D50.
4. A GEOTEXTILE OR APPROPRIATE GRAVEL FILTER SHOULD BE USED TO PROTECT AGAINST PIPING OF SOIL FINES FROM BENEATH THE ROCK.
5. IN A CHANNEL THAT CAN BE REVEGETATED, SEED AND MULCH SHOULD BE APPLIED WITHIN 7 DAYS FROM FINAL CONSTRUCTION..

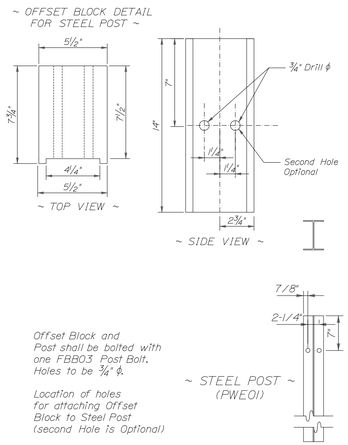
2 PLUNGE POOL

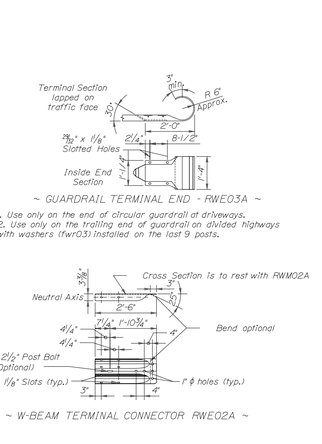
NO SCALE











5 GUARD RAIL DETAILS

NO SCALE

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE — BRIAN M. MCDEVITT — PE18260 — LICENSED PROFESSIONAL ENGINEER
6/9/2025

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SHEET NAME: **SITE DETAILS**

SHEET NO.: **C-011**

DJCASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-DETAILS.dwg - 6/9/2025

EROSION AND SEDIMENTATION CONTROL NOTES:

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE MAINE EROSION & SEDIMENT CONTROL BMPS MANUAL, OCTOBER 2016, AND MAINE EROSION AND SEDIMENT CONTROL PRACTICE FIELD GUIDE FOR CONTRACTORS, REVISED 2014, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THESE PUBLICATIONS AND ADHERE TO THEM AND THE PRACTICES PRESENTED HEREIN REFERENCE IS MADE TO THE EROSION CONTROL PLANS AND DETAILS (C-005 AND C-013) WITHIN THE PLAN SET, SHOWING THE LOCATIONS AND TYPES OF PROPOSED MEASURES TO BE IMPLEMENTED.

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES:

1. EROSION AND SEDIMENTATION CONTROL MEASURES ARE PROPOSED TO CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE ADVERSE IMPACTS FROM RUNOFF AND EROSION AT THE WORK SITE.
2. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MAINE EROSION AND SEDIMENT CONTROL BMP'S PUBLISHED BY MAINE DEP AND AVAILABLE AT: HTTPS://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/
3. THE WORK SHALL BE PERFORMED BY A CONTRACTOR THAT IS CERTIFIED BY MAINE DEP IN EROSION AND SEDIMENT CONTROL MEASURES. A CERTIFIED INDIVIDUAL SHALL BE ONSITE DURING ALL CONSTRUCTION ACTIVITY.
4. EROSION AND SEDIMENTATION DUE TO RUNOFF, TIDAL EXPOSURE, AND WAVE ACTION SHALL BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY TO MINIMIZE AREA AND TIME OF DISTURBANCE, APPLICATION OF SILT FENCE, BARRIERS, AND OTHER EROSION CONTROL MEASURES, AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE.
5. THE CONTRACTOR'S SEQUENCE OF OPERATIONS AND SCHEDULE FOR WORK ACTIVITIES SHALL ACT TO MINIMIZE EXPOSURE TO EROSION.
6. THE CONTRACTOR SHALL TAKE CARE TO LIMIT THE AREA OF SOIL DISTURBANCE TO THE MINIMUM NECESSARY TO COMPLETE THE WORK.
7. EROSION CONTROL MEASURES, SEEDING, AND VEGETATION SHALL BE INSPECTED WEEKLY AND AFTER RAINSTORMS, RUNOFF EVENTS, AND STORM EVENTS UNTIL FINAL ACCEPTANCE. REPAIRS SHALL BE MADE WHEN NO LONGER SERVICEABLE DUE TO DAMAGE OR ACCUMULATION OF SEDIMENT.
8. AT THE COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:

LIMIT DISTURBANCE AND, HENCE, EROSION

1. CORRECT ANY EROSION PROBLEMS IMMEDIATELY.
2. REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL.
3. REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION.
4. CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE SITE'S MAINE DEP EROSION & SEDIMENT CONTROL BMP MANUAL.

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS

SILT FENCE AND/OR EROSION CONTROL MIX SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWN GRADIENT SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES WHERE SLOPES EXCEED 8% OR THERE IS FLOWING WATER BOTH SILT FENCE AND EROSION CONTROL MATTING BERMS SHALL BE USED.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADIENT CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES AND IN ALL ONSITE CATCH BASINS UNTIL SITE HAS BEEN COMPLETELY STABILIZED.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. EROSION AND SEDIMENTATION CONTROL BMPS SHALL BE INTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES.
2. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. AN AREA NO LARGER THAN WHAT CAN BE MULCHED IN ONE DAY MAY BE OPEN AT ONCE. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO "POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 15 DAYS OF COMPLETING CONSTRUCTION IN THE AREA. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.
3. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADIENT PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.
4. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 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. STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPILING COMMENCES.
5. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
   A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1000 SQUARE FEET FROM 4/16 TO 10/1, OR AT A RATE OF 150-200 LBS. PER 1000 SQUARE FEET FROM 10/1 TO 4/15.
   B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1000 SQ.FT.) AND MULCHED IMMEDIATELY. FROM 10/1 TO 4/15, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SUB-SECTION 4.D. OF THE "POST CONSTRUCTION REVEGETATION" SECTION.
   C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.
6. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION).
7. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
8. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEPT AND VACUUMED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.
9. ALL AREAS DRAINING TO A STORMWATER FILTER OR BMP SHALL BE STABILIZED PRIOR TO CONSTRUCTION OF FILTER MEDIA TO PREVENT SEDIMENT FROM CLOGGING MEDIA.

DEWATERING

1. ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 75' FROM STREAMS AND 25' FROM WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING AND SHALL CONFORM TO THE MAINE EROSION AND SEDIMENT CONTROL BMPS G-1, G-2, AND G-3.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.
2. LAWN AREAS: "PARK MIX" GRASS SEED BY ALLEN, STERLING & LOTHROP (FALMOUTH, MAINE), OR APPROVED EQUAL.
3. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COURSE MATERIALS.
   A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
   B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
   C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.
4. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 10/1 AND 4/15.
5. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
   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 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.
   F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, SHALL BE DOUBLE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.
6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 90% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE 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. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL, AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.
2. CONSTRUCTION ENTRANCE SHALL BE VISUALLY INSPECTED AND REPAIRED AS NEEDED. ANY AREAS SUBJECT TO RUTTING SHALL BE STABILIZED IMMEDIATELY. IF THE VOIDS OF THE CONSTRUCTION ENTRANCE BECOME FILLED WITH MUD, MORE CRUSHED STONE SHALL BE ADDED AS NEEDED. THE PUBLIC ROADWAY SHALL BE SWEPT AND VACUUMED SHOULD MUD BE DEPOSITED/TRACKED ONTO THEM.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD:

1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING AT TWICE THE RATE AS SPECIFIED ABOVE IN SUBSECTION 3.A OF THE "POST CONSTRUCTION REVEGETATION" SECTION. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.
   B. STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST: THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:IV) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
   C. STABILIZE THE SLOPE WITH STONE RIPRAP: THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPMENT'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

   A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION: BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL 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, 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
   B. STABILIZE THE SOIL WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR 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.
   C. STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

EROSION CONTROL REMOVAL

AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 90% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE: SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.
2. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED ONCE THE COMPACTED ROADWAY BASE IN IN PLACE. STONE AND SEDIMENT FROM THE CONSTRUCTION ENTRANCE SHALL BE REDISTRIBUTED TO AN AREA UNDERGOING GRADING OR REMOVED AND RELOCATED OFFSITE.
3. MISCELLANEOUS: ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.

THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE. CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS AND THE STANDARDS OF THE NATURAL RESOURCES PROTECTION ACT, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM ROM THE PROJECT.

MAINE CONSTRUCTION GENERAL PERMIT REQUIRED

SUBMISSION OF A MAINE CONSTRUCTION GENERAL PERMIT (MCGP) IS REQUIRED PRIOR TO COMMENCEMENT OF ANY EXCAVATION ACTIVITIES.

INSPECTION AND MAINTENANCE (APPENDIX B)

1. INSPECTION AND MAINTENANCE REQUIREMENTS: INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER A SIGNIFICANT STORM EVENT (0.5 INCHES OF RAINFALL IN A 24-HOUR PERIOD) AND PRIOR TO COMPLETION OF PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS IN THE MCGP AND ANY DEPARTMENTAL COMPANION DOCUMENT TO THE MCGP, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE STARTED BY THE END OF THE NEXT WORKIN DAY AND COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS AREA PERMANENTLY STABILIZED. DOCUMENTATION OF CORRECTION ACTIONS SHALL BE MAINTAINED WITH THE INSPECTION FORMS.
2. INSPECTION LOG (REPORT): A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE BMPS THAT NEED MAINTENANCE, BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATIONS(S) WHERE ADDITIONAL BMPS ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING ADDITIONAL BMPS, NOTE IN THE INSPECTION LOG THE CORRECT ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO THE DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF THE PERMANENT STABILIZATION.

HOUSEKEEPING (APPENDIX C)

1. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

NOTE: ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/

2. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

NOTE: LACK OF APPROPRIATE POLLUTANT REMOVAL BEST MANAGEMENT PRACTICES (BMPS) MAY RESULT IN VIOLATIONS OF THE GROUNDWATER QUALITY STANDARD ESTABLISHED BY 38 M.R.S.A. §465-C(1).

3. FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

NOTE: DEWATERING A STREAM WITHOUT A PERMIT FROM THE DEPARTMENT MAY VIOLATE STATE WATER QUALITY STANDARDS AND THE NATURAL RESOURCES PROTECTION ACT.

4. DEBRIS AND OTHER MATERIALS: MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

NOTE: TO PREVENT THESE MATERIALS FROM BECOMING A SOURCE OF POLLUTANTS, CONSTRUCTION AND POST-CONSTRUCTION ACTIVITIES RELATED TO A PROJECT MAY BE REQUIRED TO COMPLY WITH APPLICABLE PROVISION OF RULES RELATED TO SOLID, UNIVERSAL, AND HAZARDOUS WASTE, INCLUDING, BUT NOT LIMITED TO, THE MAINE SOLID WASTE AND HAZARDOUS WASTE MANAGEMENT RULES; MAINE HAZARDOUS WASTE MANAGEMENT RULES; MAINE OIL CONVEYANCE AND STORAGE RULES; AND MAINE PESTICIDE REQUIREMENTS.

5. EXCAVATION DEWATERING: EXCAVATION DEWATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

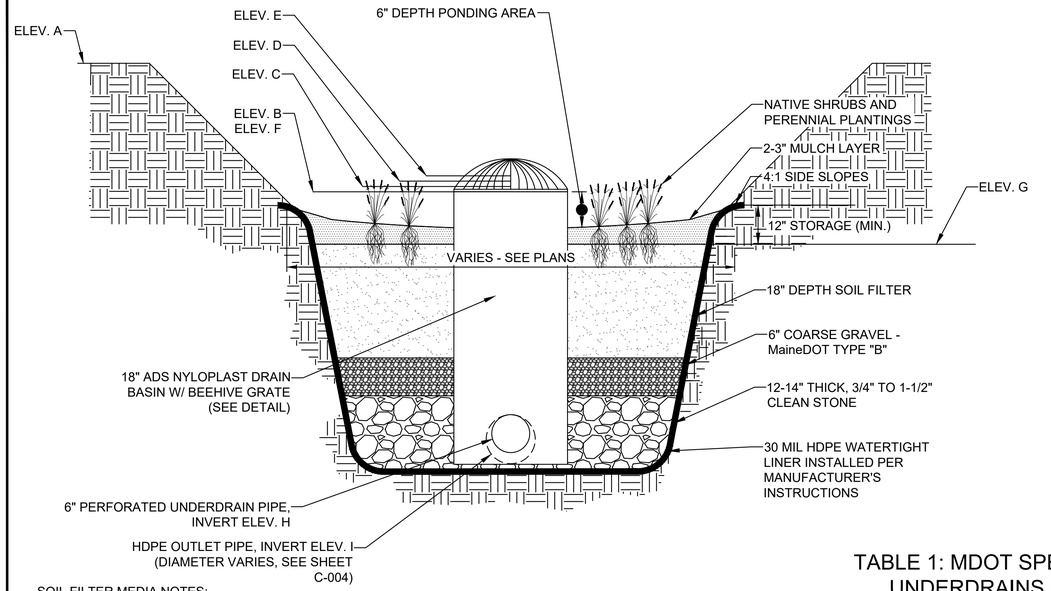
NOTE: DEWATERING CONTROLS ARE DISCUSSED IN THE "MAINE EROSION AND SEDIMENT CONTROL BMPS, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

6. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:.
   - DISCHARGES FROM FIREFIGHTING ACTIVITY;
   - FIRE HYDRANT FLUSHINGS;
   - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE, AND TRANSMISSION WASHING IS PROHIBITED);
   - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(3);
   - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
   - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
   - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
   - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
   - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
   - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
   - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
   - LANDSCAPE IRRIGATION
7. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
   - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
   - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
   - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
   - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

CONSTRUCTION OVERSITE

THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION FOR ALL STORMWATER MANAGEMENT STRUCTURES. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAY



SOIL FILTER MEDIA NOTES:

SOIL FILTER MEDIA SHALL CONFORM TO MAINE DEP SOIL FILTER MEDIA OPTION 1, PER MAINE DEP STORMWATER BMP MANUAL CHAPTER 7.1. AS FOLLOWS:

1.1. SOIL FILTER MEDIA SHALL CONSIST OF A SILTY SAND SOIL OR SOIL MIXTURE COMBINED WITH A MATURE, MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH.
1.2. THE RESULTING MIX SHALL CONTAIN NO LESS THAN 10% BY DRY WEIGHT ORGANIC MATERIAL.
1.3. THE RESULTING MIX SHALL CONTAIN 8% TO 12% PASSING THE NO. 200 SIEVE.
1.4. THE RESULTING MIX SHALL CONTAIN A MAXIMUM CLAY CONTENT OF 2%.

UNDERDRAIN OUTLET VALVE CALIBRATION NOTES:

AFTER THE COMPLETION OF INSTALLATION OF THE SOIL FILTER MEDIA, THE CONTRACTOR SHALL PERFORM THE FOLLOWING PROCEDURE TO CALIBRATE THE UNDERDRAIN OUTLET VALVE TO ACHIEVE THE 0.75"/HOUR DESIGN FLOW RATE.

1. BEGIN WITH VALVE HALF-OPEN.
2. CAREFULLY FLOOD THE BASIN UNTIL THERE IS 18" OF WATER STORED ABOVE THE SOIL FILTER MEDIA (UP TO THE HEIGHT OF OUTLET STRUCTURE RIM) WITHOUT CAUSING EROSION OF THE SOIL FILTER MEDIA.
3. RECORD THE TIME IT TAKES FOR THE 18" OF WATER TO DRAIN TO THE TOP OF THE SOIL FILTER MEDIA. THE TARGET DRAINDOWN TIME IS 24 HOURS.
4. IF THE 18" OF WATER DRAINS IN LESS THAN 24 HOURS, CLOSE THE VALVE SLIGHTLY AND REPEAT STEPS 2 & 3 ABOVE.
5. IF THE 18" OF WATER DRAINS IN MORE THAN 24 HOURS, OPEN THE VALVE SLIGHTLY AND REPEAT STEPS 2 & 3 ABOVE.
6. REPEAT THIS PROCESS UNTIL THE 18" OF WATER DRAINS IN 24 HOURS.

TABLE 1: MDOT SPECIFICATIONS FOR UNDERDRAINS (MDOT #703.22)

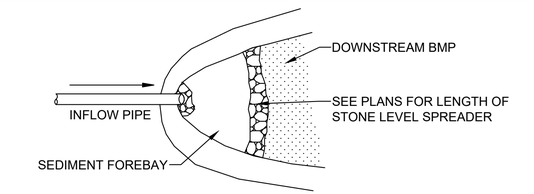
SIEVE SIZE	% BY WEIGHT
UNDERDRAIN TYPE B	
0'-1"	90-100
0'-0 1/2"	75-100
#4	50-100
#20	15-80
#50	0-15
#200	0-5

BIORETENTION FILTER CELL SCHEDULE

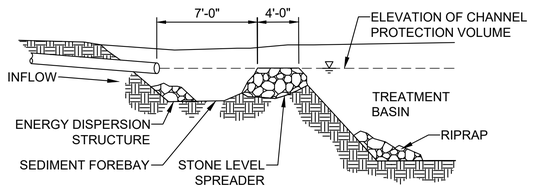
BIORETENTION FILTER CELL ID	EMBKMT. ELEV. [A]	WATER QUALITY STORM ELEV. [B]	2-YR STORM ELEV. [C]	10-YR STORM ELEV. [D]	25-YR STORM ELEV. [E]	TOP OF OUTLET STRUCT ELEV. [F]	BOTTOM OF STORAGE ELV. [G]	INTERIOR UNDERDRAIN INVERT (START) [H]	UNDERDRAIN OUTLET INVERT [I]	FILTER AREA (SQ. FT.)
SF-A	24.50	23.50	23.62	23.67	23.71	23.50	23.00	19.25	18.75	580
SF-B	18.50	18.00	18.11	18.16	18.19	18.00	17.50	14.25	13.75	890

2 BIORETENTION FILTER CELL

NO SCALE



PLAN VIEW

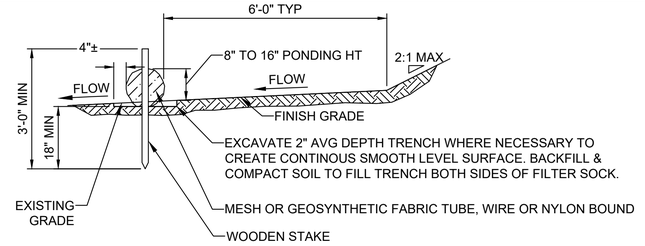


CROSS-SECTION

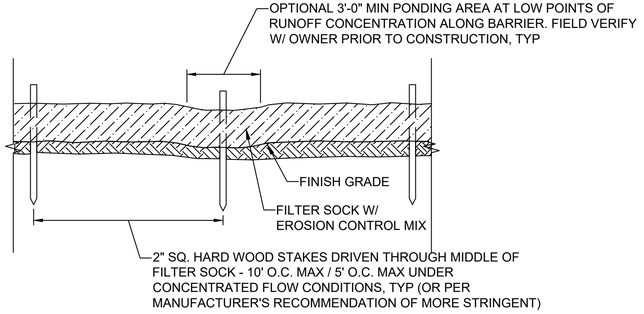
NOTES:
1. STONE SHALL BE AASHTO #3 STONE, UNIFORMLY GRADED, CLEAN.

3 LEVEL SPREADER DESIGN

NO SCALE



SECTION

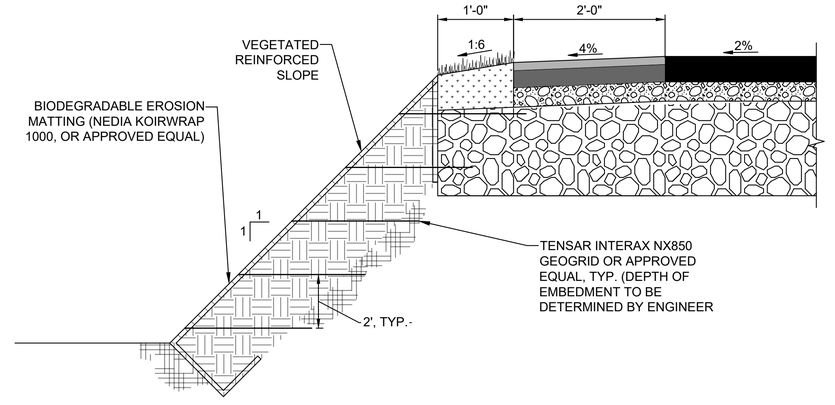


ELEVATION

NOTES:
1. FILTER SOCKS SHALL BE INSTALLED IN CONTINUOUS SEGMENT AND IN FULL CONTACT WITH THE GROUND ON A SMOOTH LEVEL SURFACE.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR INSTALLATION, MAINTENANCE AND REMOVAL OF FILTER SOCK MATERIALS.
3. AREAS DISTURBED BY EROSION BARRIERS SHALL BE STABILIZED AFTER REMOVAL.

1 SEDIMENT BARRIER - FILTER SOCK

NO SCALE



4 1:1 VEGETATED REINFORCED SLOPE

NO SCALE

FOR PERMIT

Attention: 0 1" — If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE — BRIAN M. MCDEVITT — PE18260 — LICENSED PROFESSIONAL ENGINEER

6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

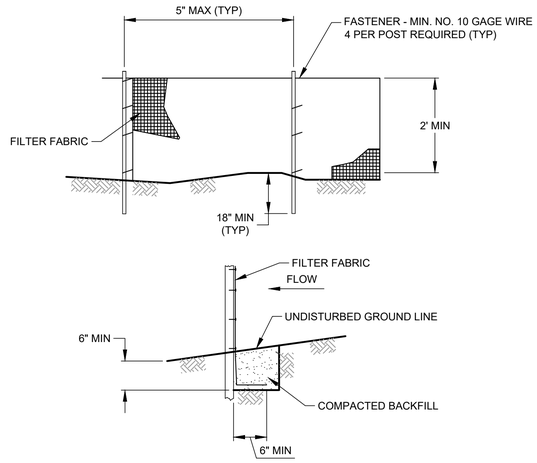
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **EROSION CONTROL DETAILS I**

SHEET NO.: **C-013**

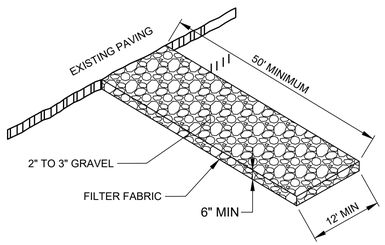
DJCASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-C-DETAILS.dwg - 6/9/2025



NOTES:
1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS L WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3 SQ. IN. OR A STANDARD STEEL POST.

5 SILT FENCE

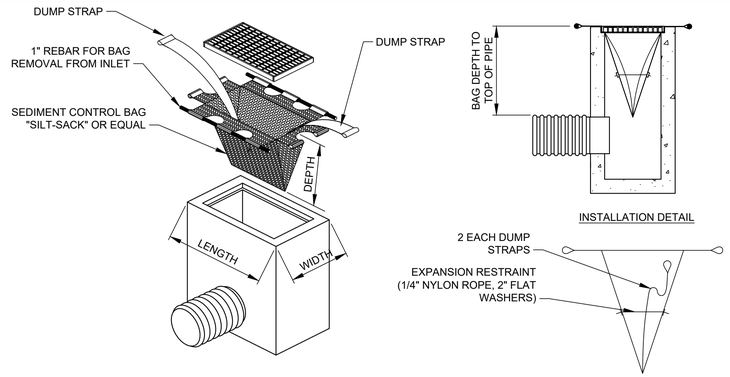
NO SCALE



8 STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

NOTES:
1. THE ENTRANCE/EXIT PAD SHOULD HAVE A LENGTH OF 50 FEET OR MORE AND A 12-FOOT MINIMUM WIDTH (OR AS APPROPRIATE TO CONTAIN THE WHEEL BASE OF CONSTRUCTION VEHICLES PLUS 3 FEET ON EITHER SIDE).
2. THE PAD SHOULD BE 6 INCHES OR MORE THICK WITH ANGULAR AGGREGATE (2-3 INCH DIAMETER). APPROPRIATE RECLAIMED CONCRETE MATERIAL MAY BE USED.
3. THE AGGREGATE SHOULD BE PLACED OVER A GEOTEXTILE FILTER TO PREVENT THE STONES FROM PUSHING INTO THE NATIVE SOIL.
4. AT THE BOTTOM OF SLOPES, A DIVERSION RIDGE SHOULD BE PROVIDED TO INTERCEPT RUNOFF.
5. BERMS MAY BE NECESSARY TO DIVERT WATER AROUND ANY EXPOSED SOIL, AND RUNOFF SHOULD BE DIRECTED TO A SEDIMENT TRAP.
6. THE WHEELS OF CONSTRUCTION EQUIPMENT MAY BE WASHED PRIOR TO EXITING THE SITE. WASHING SHOULD BE PERFORMED IN AN AREA THAT DRAINS TO A SEDIMENT TRAP OR BASIN.
7. THE PAD SHOULD BE INSPECTED WEEKLY, AND BEFORE AND AFTER EACH STORM. THE PAD MAY HAVE TO BE REPLACED IF THE VOIDS BECOME FILLED WITH SEDIMENT. STREET SWEEPING MAY BE NECESSARY



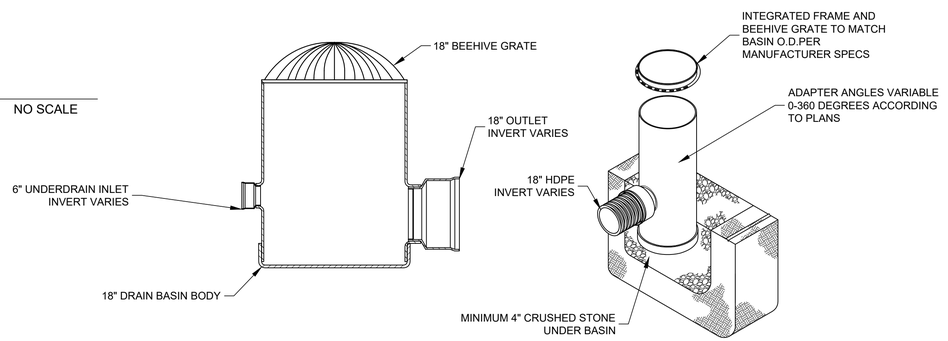
CB STYLE	LENGTH	WIDTH	DEPTH
TYPE 1 CB	2'-0"	1'-8"	VARIES
TYPCE 1 CCI	2'-5 1/2"	2'-0"	VARIES
USA G2	2'-8 1/2"	2'-3 1/2"	VARIES

NOTES:

1. THE DIMENSION CHART ABOVE IS FOR STANDARD CATCH BASINS AND INLETS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CORRECT SIZE DEVICE FOR EACH INLET.
2. FOR NON-STANDARD CATCH BASINS AND INLETS, THE CONTRACTOR SHALL MEASURE DIMENSIONS IN THE FIELD AND ORDER THE APPROPRIATE SIZE(S).
3. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL/MIN/FT), AS PER THE MANUFACTURER'S SPECS.
4. THE SEDIMENT CONTROL DEVICE SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED A MINIMUM ONCE PER MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT. FILTER SHALL BE CLEANED IN A MANNER WHICH ENSURES THAT ALL SEDIMENT REMAINS ON SITE.
5. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED.
6. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS, SIZE OF FILTER INLET SACK TO BE DETERMINED BY MANUFACTURER.
7. THE FILTER SHALL BE REPLACED OR CLEANED WHEN THE BAG BECOMES HALF FULL.
8. SEE INLET PROTECTION NOTES STD. DETAIL E3.

6 SILT SACK INLET PROTECTION

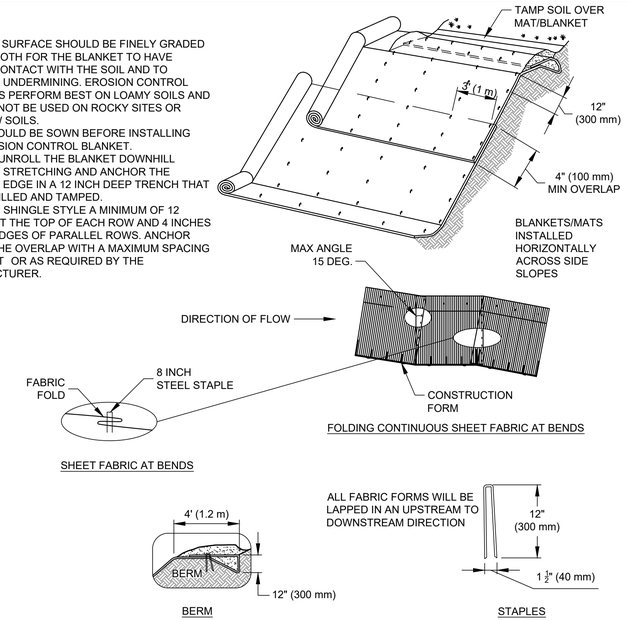
SCALE: N.T.S.



9 ADS NYLOPLAST 18"DRAIN BASIN W/BEEHIVE GRATE

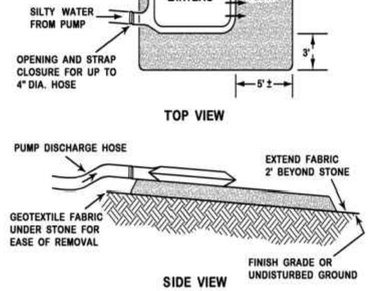
NO SCALE

NOTES:
1. THE SOIL SURFACE SHOULD BE FINELY GRADED AND SMOOTH FOR THE BLANKET TO HAVE DIRECT CONTACT WITH THE SOIL AND TO PREVENT UNDERMINING. EROSION CONTROL BLANKETS PERFORM BEST ON LOAMY SOILS AND SHOULD NOT BE USED ON ROCKY SITES OR SHALLOW SOILS.
2. SEED SHOULD BE SOWN BEFORE INSTALLING THE EROSION CONTROL BLANKET.
3. ALWAYS UNROLL THE BLANKET DOWNHILL WITHOUT STRETCHING AND ANCHOR THE UPSLOPE EDGE IN A 12 INCH DEEP TRENCH THAT IS BACKFILLED AND TAMPED.
4. OVERLAP SHINGLE STYLE A MINIMUM OF 12 INCHES AT THE TOP OF EACH ROW AND 4 INCHES AT THE EDGES OF PARALLEL ROWS. ANCHOR ALONG THE OVERLAP WITH A MAXIMUM SPACING OF 3 FEET OR AS REQUIRED BY THE MANUFACTURER.



7 BIODEGRADABLE STABILIZATION MATTING

NO SCALE



NOTES:
1. INSTALL THE FILTER BAG PRIOR TO INITIATING ANY ACTIVITIES WHICH WILL REQUIRE DEWATERING.
2. THE TYPE OF FABRIC SHOULD BE BASED ON THE SIZE OF SOIL PARTICLES TO BE TRAPPED (I.E. A WOVEN MATERIAL FOR COARSE PARTICLES AND A NONWOVEN MATERIAL FOR FINER PARTICLES).
3. A FILTER BAG SHOULD BE LOCATED IN AN AREA MOSTLY LEVEL (WITH LESS THAN 5% SLOPE). A PAD OF CRUSHED GRAVEL MAY BE PROVIDED.
4. AVOID DISCHARGING TO AN AREA THAT IS BARE OF VEGETATION OR NEWLY VEGETATED. ANY SIGN OF EROSION OR CHANNELIZATION FROM THE DISCHARGED WATER REQUIRES IMMEDIATELY CORRECTION.
5. FILTER BAGS HAVE A FINITE CAPACITY FOR SEDIMENT COLLECTION AND MAY BE PRONE TO PLUGGING. AVOID OVER-PRESSURIZING THE BAG OR IT MAY BURST.

10 GEOTEXTILE FILTER BAG

NO SCALE

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
BRIAN M. MCDEVITT
PE18260
LICENSED
PROFESSIONAL ENGINEER
6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
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UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **EROSION CONTROL DETAILS II**

SHEET NO.: **C-014**

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INSTALL (11) EASTERN RED CEDAR

INSTALL (11) BLACK SPRUCE

INSTALL (16) 'BAR HARBOR' JUNIPER

REINFORCED VEGETATIVE SLOPE (SEE DETAIL)

VEGETATE BIO RETENTION CELLS W/ RANDOM MIX OF 50 SHRUBS & 375 PERENNIALS - SEE C-16 FOR VEGETATION NOTES & PLANT SPECIES LIST

INSTALL (17) COMMON JUNIPER

INSTALL (9) AMERICAN HOPHORNBEAM

INSTALL (11) STAGHORN SUMAC

INSTALL (10) WHITE PINE

SEED ALL DISTURBED AREAS W/ NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX UNLESS OTHERWISE NOTED, TYP

INSTALL (9) RED OAK

GIRARD MARINE SCIENCE CENTER (APPROX. 16,865 SF)

THRESH= 33.02 | FFE=32.96 | THRESH= 33.01 | CONC. | HVAC | RIM=32.35 | SHED | GATE | THRESH= 32.97 | 2nd STORY OVERHANG | DOOR | FFE=32.92 | THRESH= 33.00 | TANKS | RIPRAP | GRAVEL | PUMP | EDGE OF RIPRAP

BUILDING (752 SF) THRESH =16.98

25' HAT SETBACK

50' HAT SETBACK

75' HAT SETBACK

MHW = 4.7'

HAT = 6.6'

MLW = 0.1'

MLW = -5.1'

MOORING

EDGE OF SAND/ STONES & BOULDERS

TOP OF LEDGE

LEDGE & BOULDERS

STONY BEACH

SANDY RIVER BOTTOM

LEDGE

WETLAND

PATH

WOODEN RACK

BOULDERS

TRANSFORMER ON CONCRETE

GENERATOR ON CONCRETE PAD

GENERATOR EXHAUST BUILDING

CONCRETE PAD

LPG TANKS W/ VENT

PAVED PARKING

PAVED WALK

SUMAC

SHRUB

GRASS

HEDGE

BRUSH

RIPRAP

FAN

IRON ROD FOUND, BENT

2 BOLLARDS

12" PLASTIC INV. = 32.05

12" RCP INV. = 30.91

15" RCP INV. = 31.19

12" RCP INV. = 30.99

12" RCP INV. =33.30

CIRF STAMPED "CIT

TANK

RIM=35.16

RIM=34.08

RIM=34.10

LEGEND:

- TREE TO BE REMOVED
- UNDISTURBED UPLAND AREAS (NON-STRUCTURES)
- DISTURBED UPLAND AREAS (NON-STRUCTURES)

NOTES:

1. FIELD VERIFY FINAL LOCATION OF ALL REMOVED AND INSTALLED PLANTS WITH ENGINEER PRIOR TO CONSTRUCTION.
2. DCD = DECIDUOUS TREE (SPECIES UNKNOWN)
3. EV= EVERGREEN TREE (SPECIES UNKNOWN)
4. 21 OUT OF 49 TOTAL TREES REMOVED ARE WITHIN THE 50-FT HAT SETBACK.
5. APPROXIMATELY 5,850 SF OF UNDERSTORY DUFF LAYER AND NON-NATIVE INVASIVE SHRUB HONEYSUCKLE (*LONICERA MORROWII*) WILL BE REMOVED WITHIN THE 50-FT HAT SETBACK.

PLAN

SCALE: 1" = 20'

FOR PERMIT

0 20 40

SCALE, FEET

Attention:

0 1"

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STATE OF MAINE
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PE18260
LICENSED PROFESSIONAL ENGINEER

6/9/2025

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SHEET NAME: **REVEGETATION PLAN**

SHEET NO.: **C-015**

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VEGETATION GENERAL NOTES:

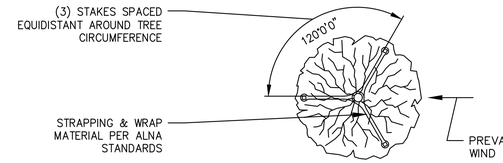
1. VEGETATION MANAGEMENT (INSTALLATION AND MAINTENANCE) SHALL COMPLY WITH CITY OF BIDDEFORD SHORELAND ZONING ORDINANCE REQUIREMENTS.
   - 1.1. ALL REVEGETATION MUST OCCUR ALONG THE SAME SEGMENT OF SHORELINE AND IN AS CLOSE OF PROXIMITY AS PRACTICAL TO THE LOCATION WHERE THE VEGETATION WAS REMOVED.
   - 1.2. ALL VEGETATION REMOVED MUST BE REPLACED WITH NATIVE, NON-INVASIVE SPECIES.
   - 1.3. AT LEAST THREE DIFFERENT SPECIES OF TREES AND WOODY VEGETATION UNDER THREE FEET IN HEIGHT SHALL BE USED.
   - 1.4. NO MORE THAN ONE SPECIES OF TREES AND WOODY VEGETATION UNDER THREE FEET IN HEIGHT SHALL MAKE UP MORE THAN 50% OF THE TOTAL NUMBER OF TREES AND WOOD VEGETATION UNDER THREE FEET IN HEIGHT PLANTED.
   - 1.5. SURVIVAL OF ALL VEGETATION MUST BE MAINTAINED FOR A MINIMUM OF FIVE YEARS.
2. ALL REMOVED NON-NATIVE PLANT MATERIAL SHALL BE PROPERLY DISPOSED OF BY BURNING ON-SITE OR DISPOSAL AT A WASTE RECEIVING FACILITY.
3. AN UPDATED LIST OF NON-NATIVE INVASIVE VEGETATION IS MAINTAINED BY THE DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY'S NATURAL AREAS PROGRAM:
4. HTTPS://WWW.MAINE.GOV/DACF/MNAP/FEATURES/INVASIVE_PLANTS/INVASIVES.HTM
5. PLANT SPECIES SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER. CONTRACTOR SHALL REFERENCE THE FOLLOWING RESOURCES FOR COASTAL PLANT LIST GUIDELINES: CUMBERLAND COUNTY SOIL & WATER CONSERVATION DISTRICT - COASTAL PLANTING GUIDE; UNIVERSITY OF MAINE COOPERATE EXTENSION; AND/OR THE WILD SEED PROJECT.

VEGETATION INSTALLATION NOTES:

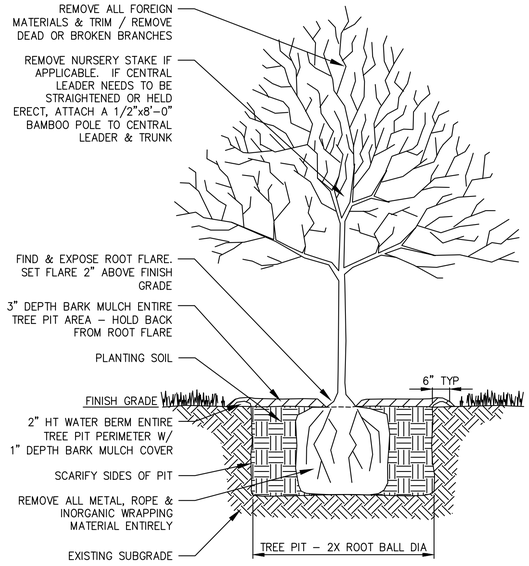
1. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE VEGETATION WITHIN THE CONSTRUCTION AREA UNLESS NOTED TO BE REMOVED, LIMBED OR PRUNED. THIS MAY REQUIRE HAND EXCAVATION WITHIN TREE DRIPLINES.
2. ALL PLANT MATERIAL SELECTIONS SHALL BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
3. ALL NEW PLANTING MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF THE HIGHEST SPECIMEN QUALITY.
4. ALL NEW PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN UNLESS OTHERWISE NOTED ON THE PLANT LIST.
5. CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.
6. NO TREES SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS THEY BORE TO PREVIOUS GRADE.
7. STAKE LOCATION OF ALL PROPOSED PLANTING FOR APPROVAL BY THE OWNER PRIOR TO COMMENCEMENT OF PLANTING.
8. ALL EXISTING TREES TO REMAIN SHALL BE PROPERLY PROTECTED, PRUNED AND FERTILIZED PER THE SPECIFICATIONS.
9. ALL LAWN AREAS DISTURBED BY CONSTRUCTION OPERATIONS INSIDE AND OUTSIDE THE LIMIT OF WORK SHALL BE LOAMED AND SEEDED AS SPECIFIED.
10. ALL PLANT BEDS ARE TO RECEIVE THREE INCHES (4") OF SHREDDED BARK MULCH AS SPECIFIED.
11. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE ONLY AS APPROVED BY OWNER.
12. ALL AREAS TO BE SEEDED SHALL RECEIVE SOIL PREPARATION AS SPECIFIED PRIOR TO SEEDING, UNLESS OTHERWISE NOTED ON PLAN.
13. PREPARE ALL PLANT PITS WITH PLANTING SOIL TO A MINIMUM DEPTH MATCHING THE DEPTH OF ROOT BALLS.
14. NATIVE PLANT SPECIES REMOVED SHALL BE REPLANTED WITH IN-KIND SPECIES AND/OR THOSE PROVIDE IN THE PLANT LIST.

PLANT LIST

KEY	QTY	*SCIENTIFIC NAME* COMMON NAME	SIZE	SPACING	ROOTING	MATURE SIZE	NOTES
TREES							
CC	9	*CARPINUS CAROLINIANA* AMERICAN HORNBEAM	1" CAL	10' O.C.	B&B / CONT	25' HT / 25' W	REPLACE REMOVED TREES 1 FOR 1 AT LOCATIONS AS INDICATED ON THE REVEGETATION PLAN.
JV	10	*JUNIPERUS VIRGINIANA* EASTERN RED CEDAR	3'-4' HT	10' O.C.	B&B / CONT	35' HT / 15' W	
PM	10	*PICEA MARIANA* BLACK SPRUCE	5'-6' HT	10' O.C.	B&B / CONT	35' HT / 15' W	
PS	10	*PINUS STROBUS* WHITE PINE	6'-7' HT	15' O.C.	B&B / CONT	75' HT / 35' W	
QR	9	*QUERCUS RUBRA* RED OAK	1.5 - 2" CAL	25' O.C.	B&B / CONT	75' HT / 50' W	
SHRUBS							
JC	17	*JUNIPERUS COMMUNIS* COMMON JUNIPER	18"-24" HT	5' O.C.	CONT	10' HT / 10' W	PLANT SHRUBS AT LOCATIONS AS INDICATED ON THE REVEGETATION PLAN.
JH	16	*JUNIPERUS HORIZONTALS 'BAR HARBOR'* BAR HARBOR CREEPING JUNIPER	5-7 PPP	6' O.C.	CONT	1.5' HT / 10' W	
RT	11	*RHUS TYPHINA* STAGHORN SUMAC	18"-24" HT	10' O.C.	B&B / CONT	20' HT / 25' W	
BIORETENTION CELL PLANTING							
AS	75	*ASCLEPIAS SYRIACA* COMMON MILKWEED	5-7 PPP	18" O.C.	CONT	2' HT / 3' W	PROVIDE A RANDOM MIX OF EQUAL QUANTITIES OF EACH PERENNIAL AND SHRUB SPECIES THROUGHOUT BIO RETENTION CELLS. PLANT EACH SPECIES AS INDIVIDUALS OR IN GROUPINGS OF THREE.
IR	75	*IRIS VERSICOLOR* BLUE FLAG IRIS	5-7 PPP	18" O.C.	CONT	18"' HT / 2' W	
IV	25	*ILEX VERTICILLATA* WINTERBERRY	12"-18" HT	3' O.C.	CONT	8' HT / 8' W	
MP	25	*MYRICA PENSYLVANICA* NORTHERN BAYBERRY	12"-18" HT	3' O.C.	CONT	8' HT / 8' W	
PV	75	*PANICUM VIRGATUM* SWITCHGRASS	5-7 PPP	18" O.C.	CONT	3' HT / 2' W	
SN	75	*SYMPHYOTRICHUM NOVAE-ANGLIAE* NEW ENGLAND ASTER	5-7 PPP	18" O.C.	CONT	2' HT / 3' W	
SS	75	*SOLIDAGO SEMPERVIRENS* SEASIDE GOLDENROD	5-7 PPP	18" O.C.	CONT	2' HT / 3' W	
SEED MIX							
SOW NEW ENGLAND ROADSIDE MATRIX UPLAND SEED MIX ON ALL DISTURBED AREAS UNLESS OTHERWISE NOTED ON REVEGETATION PLAN.							

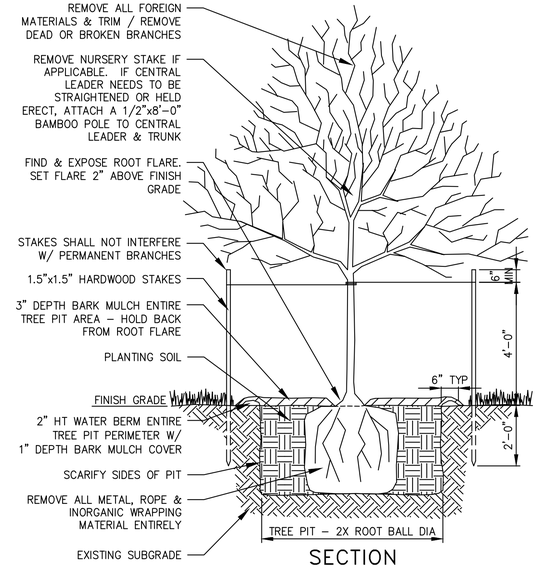


PLAN



TREE INSTALLATION </= 10–FT

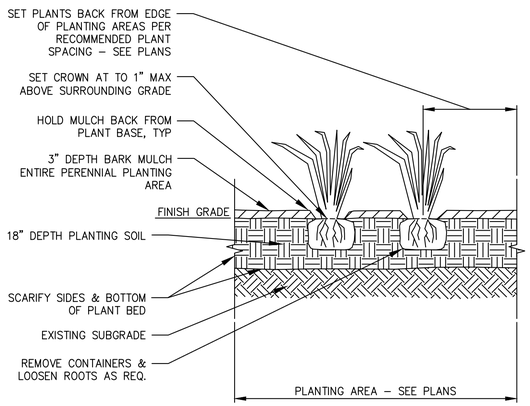
NOT TO SCALE



SECTION

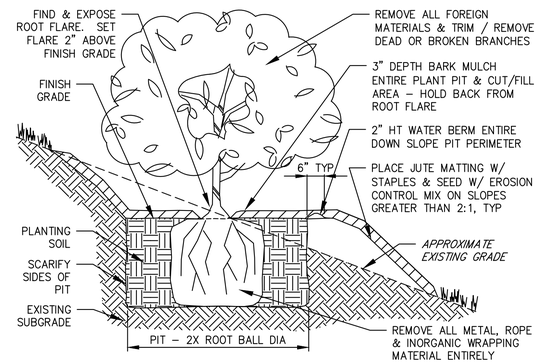
TREE INSTALLATION > 10–FT

NOT TO SCALE



PERENNIAL INSTALLATION

NOT TO SCALE



SHRUB INSTALLATION ON SLOPE

NOT TO SCALE

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE BRIAN M. MCDEVITT PE18260 LICENSED PROFESSIONAL ENGINEER

6/9/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
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GEI Project	2203703

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SHEET NAME

REVEGETATION NOTES, DETAILS AND SCHEDULES

SHEET NO.

C-016

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B-1

MOORING

PREVIOUSLY PROPOSED PIER DESIGN

FLOW

80'

LADDER, TYP

WB-1

WB-2

JIB CRANE

23'-4"

8'x10' PIER SHED

WB-3

PROPOSED MAIN PIER SEE SHEET S-002

LIMITS OF WORK

8'x24' TIMBER FLOAT

8'x26'-10" ANGLED TIMBER FLOAT

12'x30' TIMBER FLOAT

P-1

60'-1"

6'X20' FIREBOAT FLOAT

ACCESSIBILITY HOIST

WB-4

P-2

68'-0 3/4"

118'-9 3/4"

HP-4

14'

HP-3

23'-4"

GANGWAY LIFT BEAM

5'X80' PREFABRICATED ALUMINUM GANGWAY

130'-0 1/2"

MLW = -4.7

MLLW

MLW

EDGE OF SAND

STONES & BOULDERS

LEDGE

PROPOSED APPROACH PIER SEE DWG S-002

LEDGE & BOULDERS

STONY BEACH

TOP OF BANK

LIFE JACKET CABINETS

STONY BEACH

BOULDERS & STONE

SECURITY GATE

29'

6" DCD

BOTTOM OF LEDGE

12" DCD (CLUMP)

GRAB

PUMP

HP-2

14" DCD

8" 12" DCD

HP-1

PVC

LB-1

20" DCD

21.05

10" DC

-10 -9 -8 -7 -6 -5 -4 -15

NOTES:
AREA OF FIXED PIER BEYOND MLW LINE = 2770 SF, BASED ON LIMITS OF CONCRETE DECK

0 10 20
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED PROFESSIONAL ENGINEER
06/10/2025

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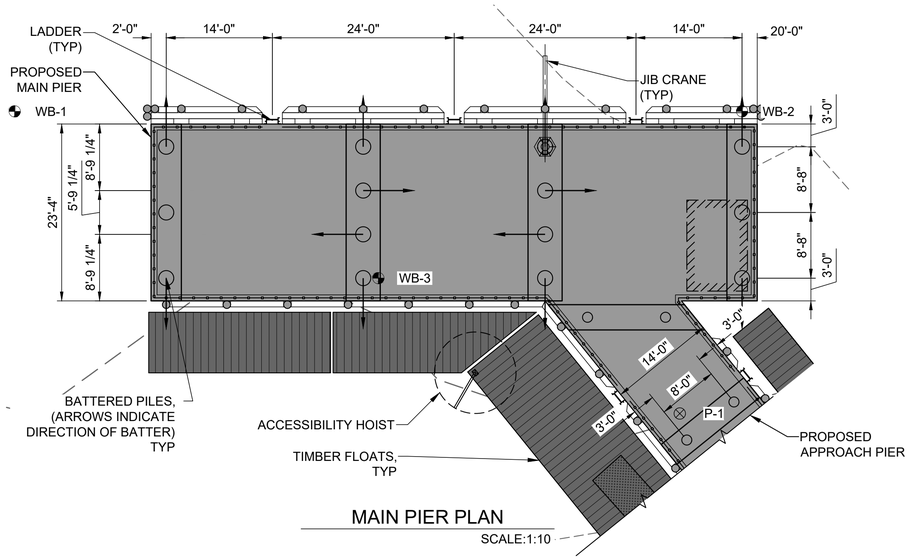
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SHEET NAME: **PIER LAYOUT PLAN**

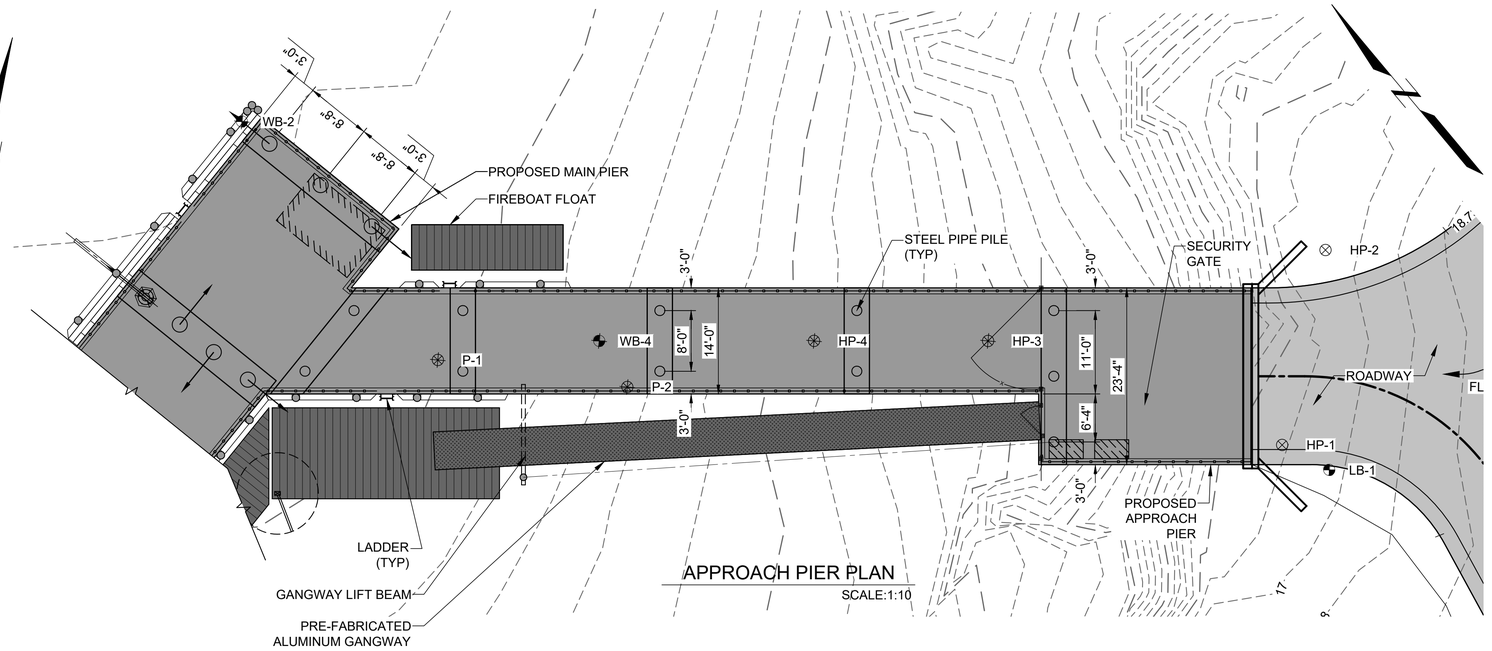
SHEET NO.: **S-001**

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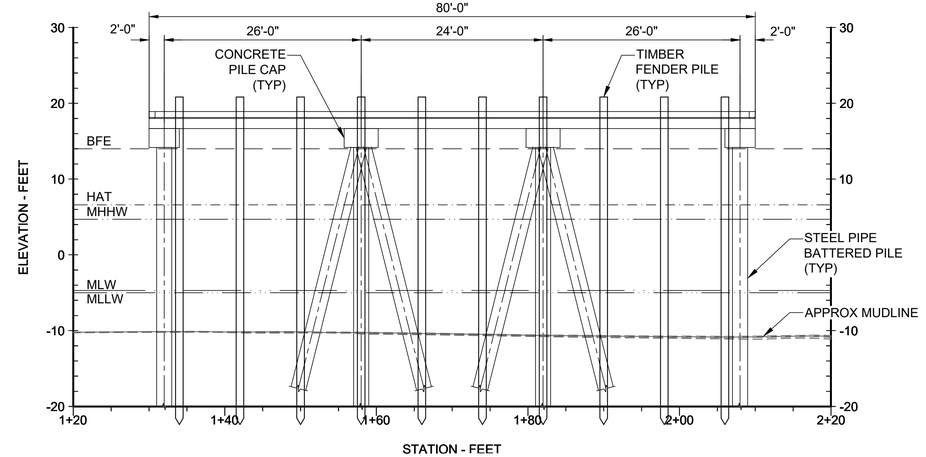
MAIN PIER PLAN

SCALE:1:10



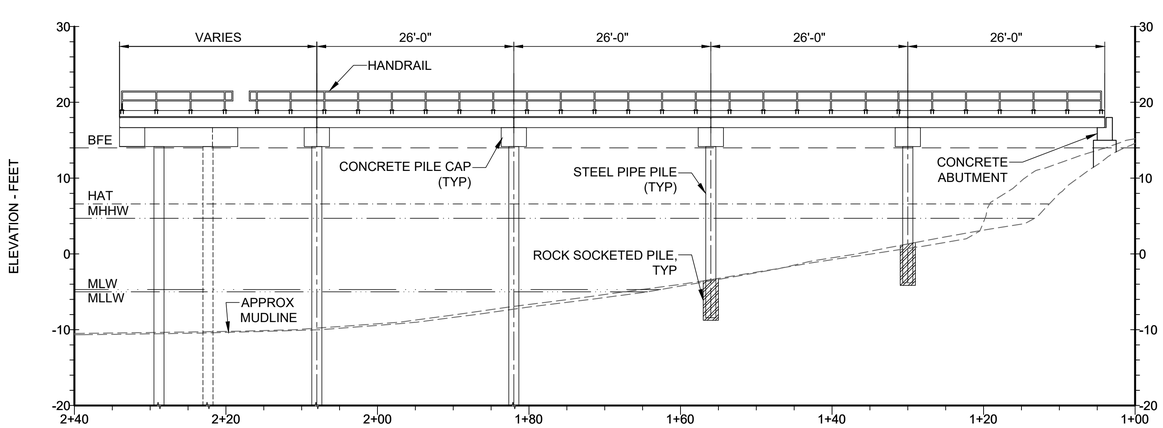
APPROACH PIER PLAN

SCALE:1:10



MAIN PIER ELEVATION

SCALE:1:10



APPROACH PIER ELEVATION

SCALE:1:10

0 10 20

SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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DANIEL J. BANNON
No. 13033
LICENSED PROFESSIONAL ENGINEER

06/10/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants

GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND

11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

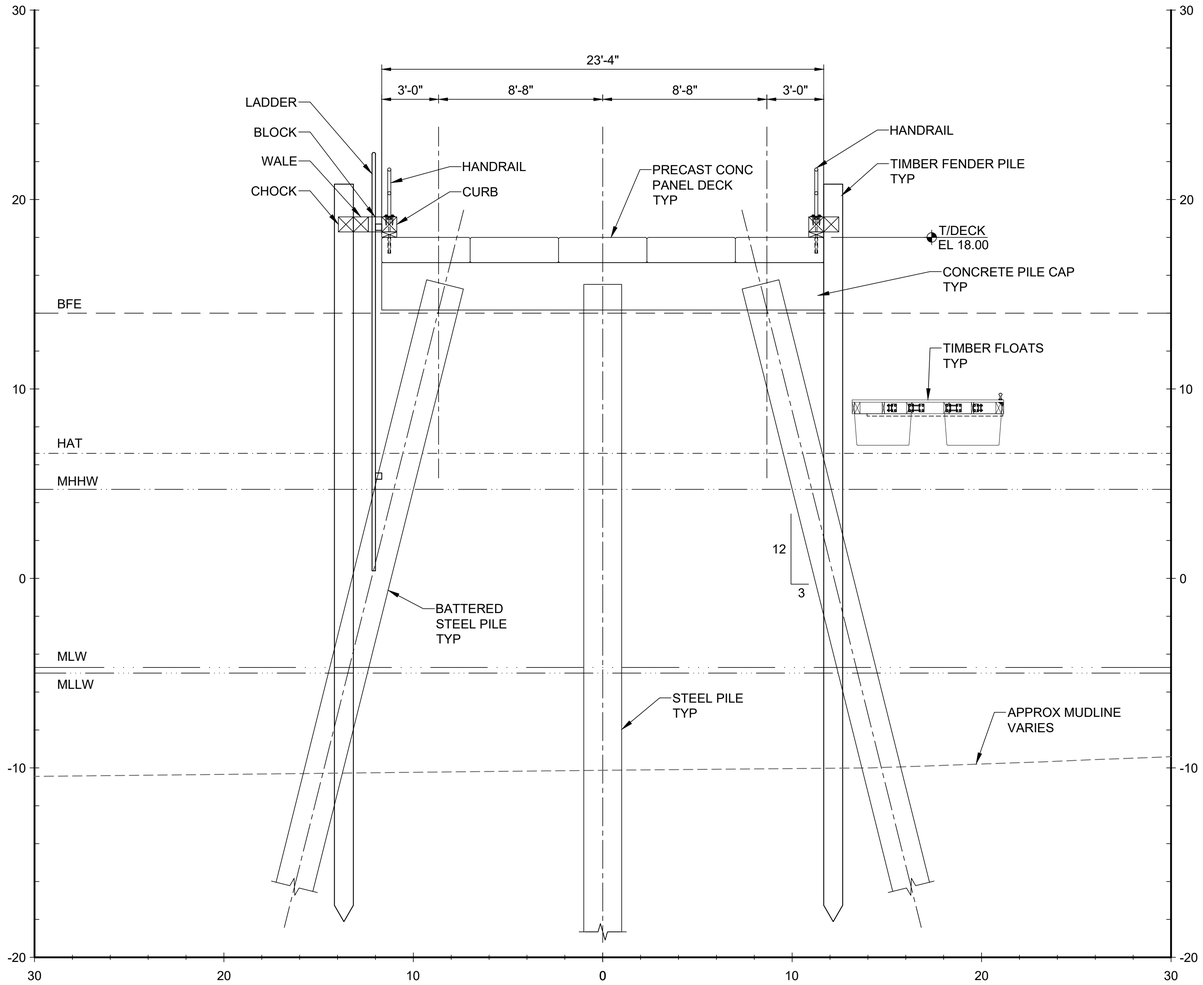
SHEET NAME

PIER PLANS AND ELEVATIONS

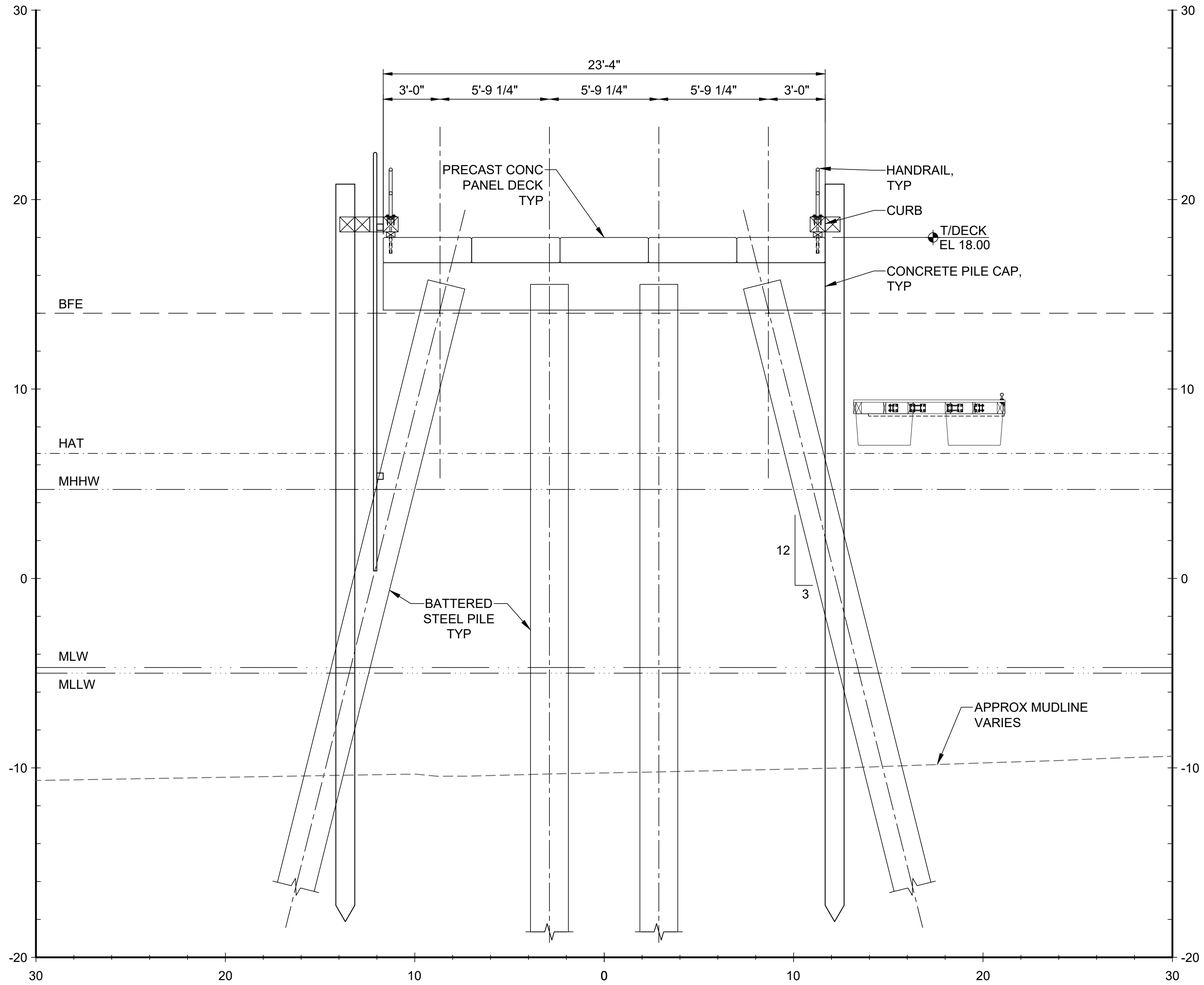
SHEET NO.

S-002

DICASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-002.dwg - 6/6/2025



SECTION
MAIN PIER AT BENT 10 SCALE: 1"=4'



SECTION
MAIN PIER AT BENT 9 SCALE: 1"=4'

0 2 4 8
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

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UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER

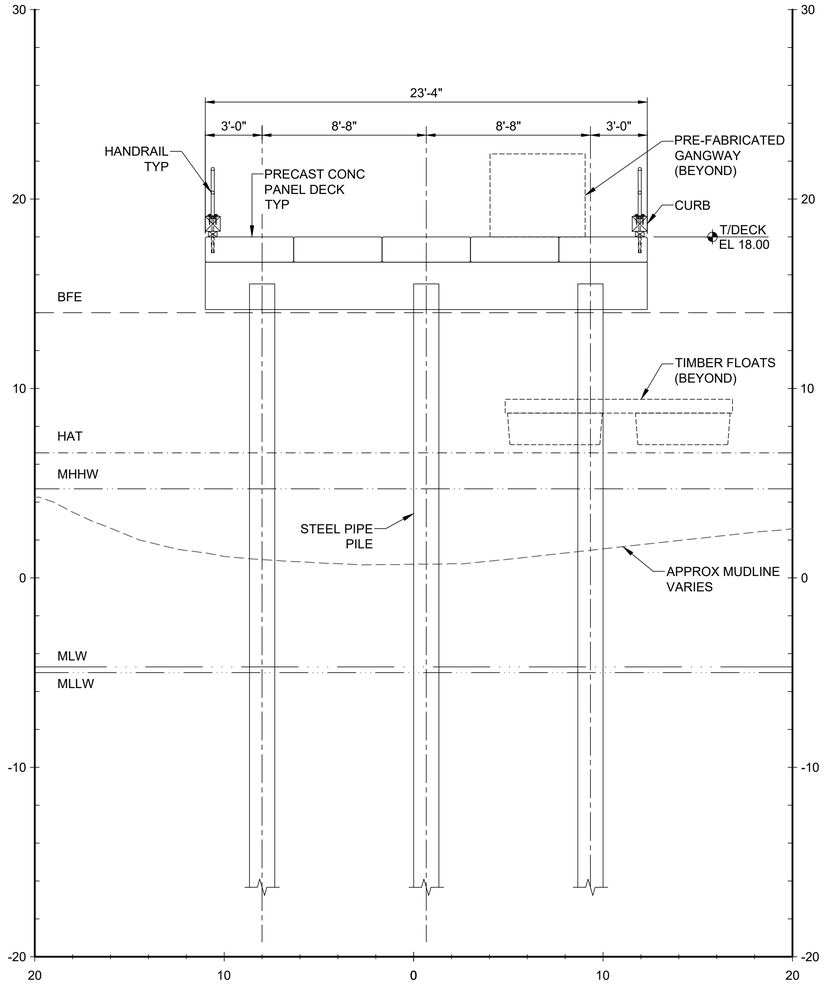
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BIDDEFORD, YORK COUNTY, MAINE

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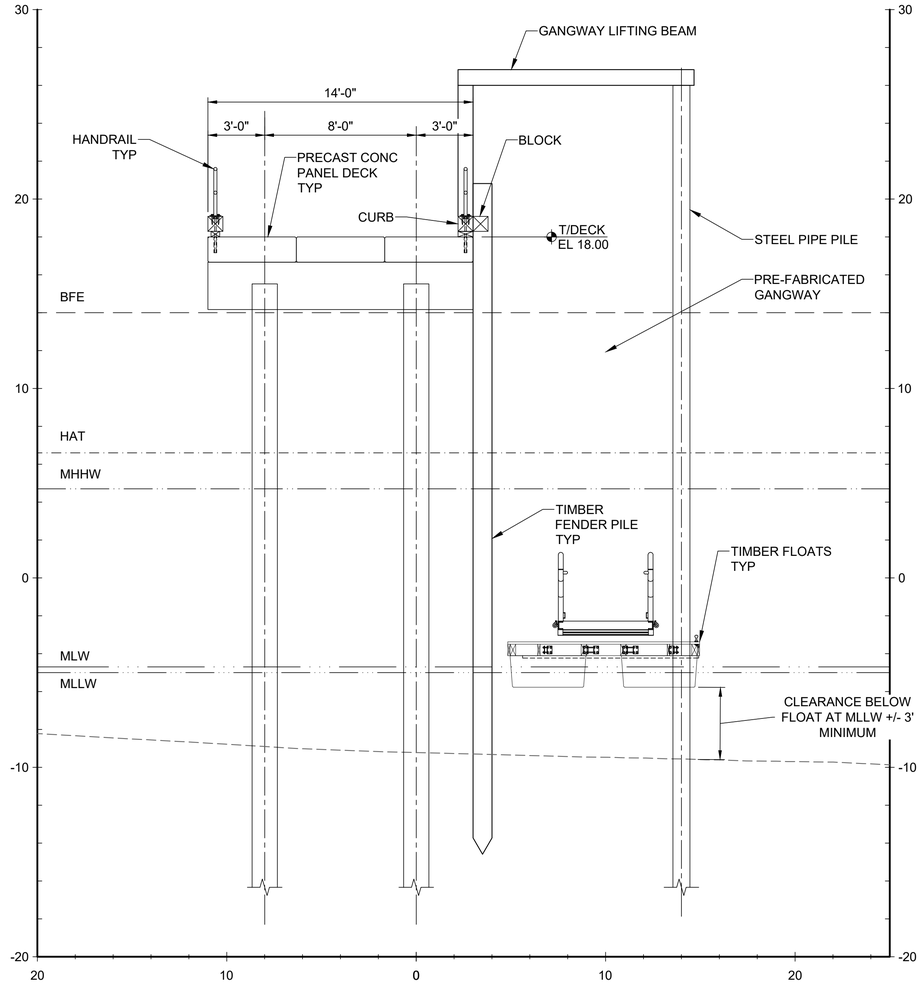
SHEET NAME
TYPICAL PIER SECTIONS (1 OF 2)

SHEET NO.
S-003

DJCASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-003.dwg - 6/6/2025



SECTION
28' WIDE APPROACH PIER AT BENT 2 SCALE: 1"=4'



SECTION
14' WIDE APPROACH PIER AT GANGWAY HOIST SCALE: 1"=4'

0 2 4 8
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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BIDDEFORD, MAINE

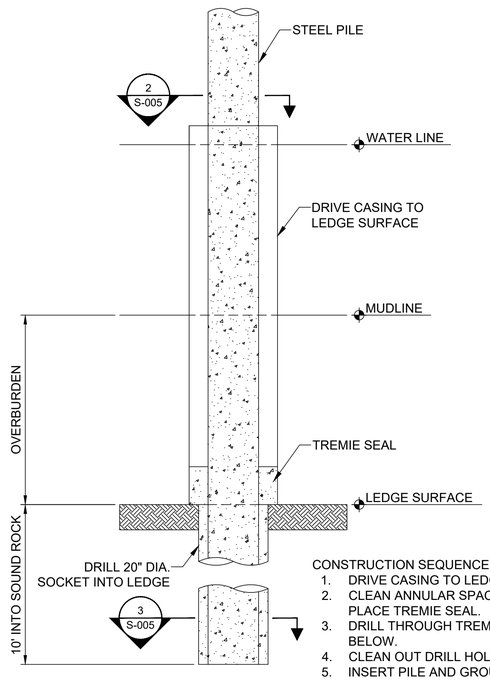
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
TYPICAL PIER SECTIONS (2 OF 2)

SHEET NO.
S-004

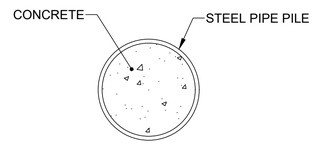
DJCASTELNUOVO, VINNIE \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-004.dwg - 6/6/2025



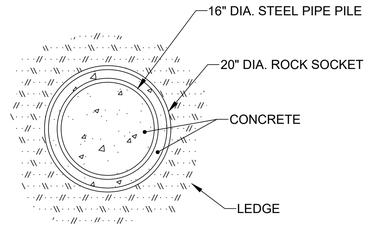
CONSTRUCTION SEQUENCE

1. DRIVE CASING TO LEDGE SURFACE.
2. CLEAN ANNULAR SPACE TO LEDGE SURFACE, PLACE TREMIE SEAL.
3. DRILL THROUGH TREMIE INTO SOUND ROCK BELOW.
4. CLEAN OUT DRILL HOLE.
5. INSERT PILE AND GROUT TO SURFACE.
6. REMOVE CASING.
7. FILL STEEL PIPE PILE TO TOP WITH CONCRETE.

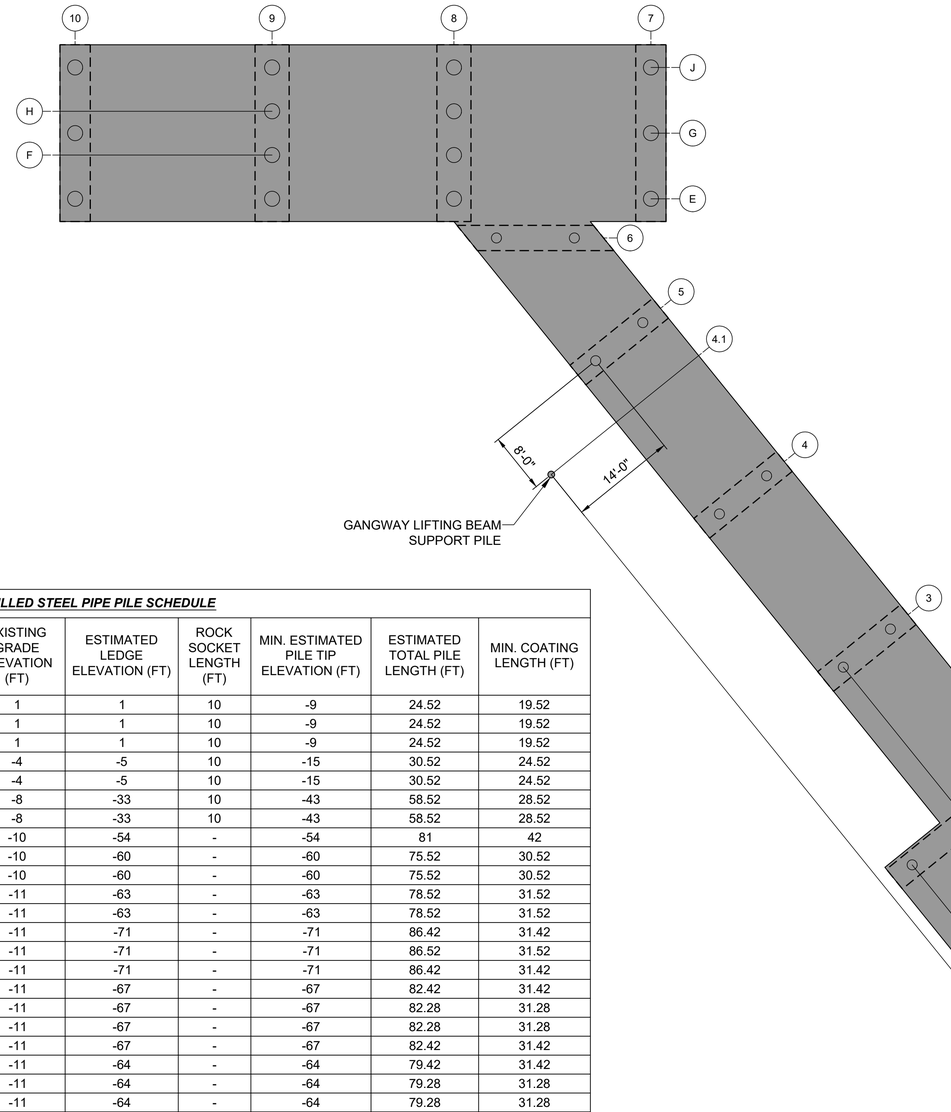
1 DETAIL
PILE SOCKET SCALE: 1" = 2'



2 SECTION
CONCRETE FILLED STEEL PIPE PILE SCALE: 1" = 1'



3 SECTION
ROCK SOCKET SCALE: 1" = 1'



DETAIL
MAIN PIER SCALE: 1" = 10"

CONCRETE FILLED STEEL PIPE PILE SCHEDULE

PILE DESIGNATION	PILE SIZE (INCHES)	BATTER	CUTOFF ELEVATION (FT)	EXISTING GRADE ELEVATION (FT)	ESTIMATED LEDGE ELEVATION (FT)	ROCK SOCKET LENGTH (FT)	MIN. ESTIMATED PILE TIP ELEVATION (FT)	ESTIMATED TOTAL PILE LENGTH (FT)	MIN. COATING LENGTH (FT)
2A	16x5/8	VERTICAL	15.52	1	1	10	-9	24.52	19.52
2B	16x5/8	VERTICAL	15.52	1	1	10	-9	24.52	19.52
2D	16x5/8	VERTICAL	15.52	1	1	10	-9	24.52	19.52
3C	16x5/8	VERTICAL	15.52	-4	-5	10	-15	30.52	24.52
3D	16x5/8	VERTICAL	15.52	-4	-5	10	-15	30.52	24.52
4C	16x5/8	VERTICAL	15.52	-8	-33	10	-43	58.52	28.52
4D	16x5/8	VERTICAL	15.52	-8	-33	10	-43	58.52	28.52
4.1-A.1	10.75x5/8	VERTICAL	27	-10	-54	-	-54	81	42
5C	16x5/8	VERTICAL	15.52	-10	-60	-	-60	75.52	30.52
5D	16x5/8	VERTICAL	15.52	-10	-60	-	-60	75.52	30.52
6C	16x5/8	VERTICAL	15.52	-11	-63	-	-63	78.52	31.52
6D	16x5/8	VERTICAL	15.52	-11	-63	-	-63	78.52	31.52
7E	24x5/8	3:12	15.42	-11	-71	-	-71	86.42	31.42
7G	24x5/8	VERTICAL	15.52	-11	-71	-	-71	86.52	31.52
7J	24x5/8	3:12	15.42	-11	-71	-	-71	86.42	31.42
8E	24x5/8	3:12	15.42	-11	-67	-	-67	82.42	31.42
8F	24x5/8	3:12	15.28	-11	-67	-	-67	82.28	31.28
8H	24x5/8	3:12	15.28	-11	-67	-	-67	82.28	31.28
8J	24x5/8	3:12	15.42	-11	-67	-	-67	82.42	31.42
9E	24x5/8	3:12	15.42	-11	-64	-	-64	79.42	31.42
9F	24x5/8	3:12	15.28	-11	-64	-	-64	79.28	31.28
9H	24x5/8	3:12	15.28	-11	-64	-	-64	79.28	31.28
9J	24x5/8	3:12	15.42	-11	-64	-	-64	79.42	31.42
10E	24x5/8	3:12	15.42	-11	-66	-	-66	81.42	31.42
10G	24x5/8	VERTICAL	15.52	-11	-66	-	-66	81.52	31.52
10J	24x5/8	3:12	15.42	-11	-66	-	-66	81.42	31.42
							TOTAL	1821.5	

SCHEDULE NOTES

1. ALL ELEVATIONS REFERENCED IN TABLE ARE IN NAVD88 DATUM.

0 10 20
SCALE, FEET

0 1 2 4
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

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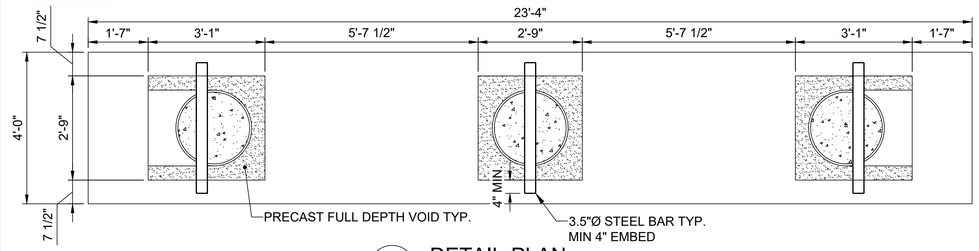
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
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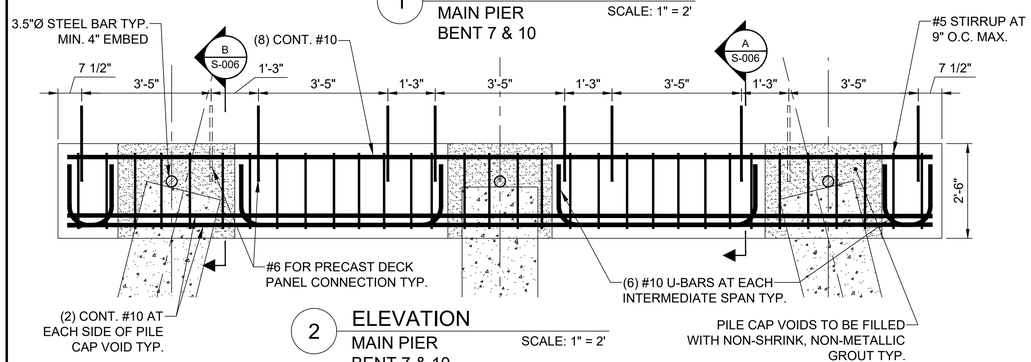
SHEET NAME: **PILE PLAN**

SHEET NO.: **S-005**

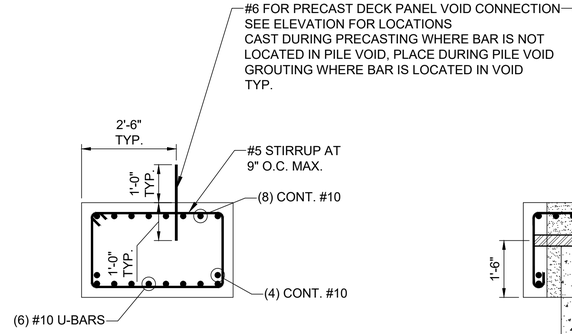
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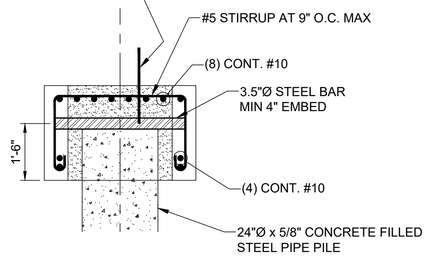
1 DETAIL-PLAN
MAIN PIER
BENT 7 & 10
SCALE: 1" = 2'



2 ELEVATION
MAIN PIER
BENT 7 & 10
SCALE: 1" = 2'

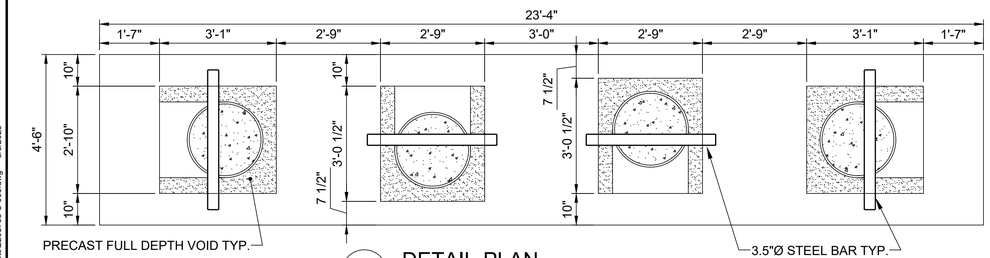


A SECTION
MAIN PIER
BENT 7 & 10
SCALE: 1" = 2'

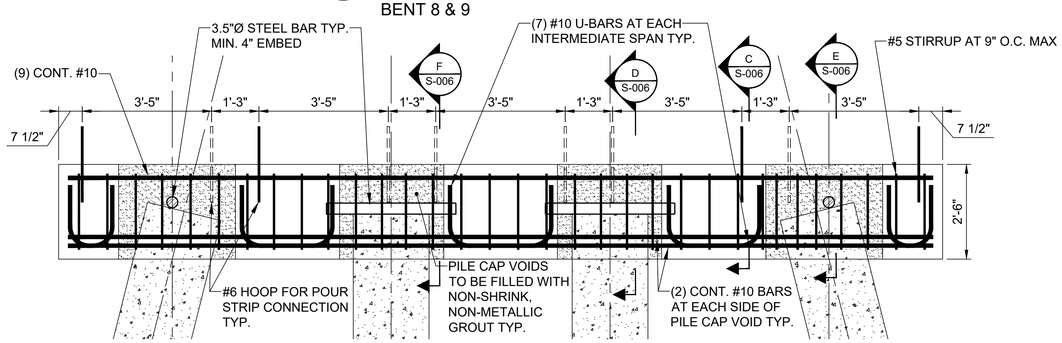


B SECTION
MAIN PIER
BENT 7 & 10
SCALE: 1" = 2'

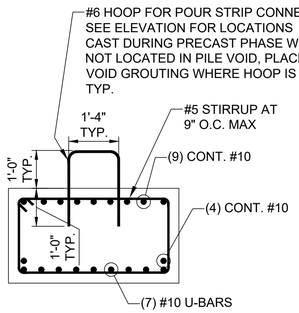
5 DETAIL
MAIN PIER
N.T.S.



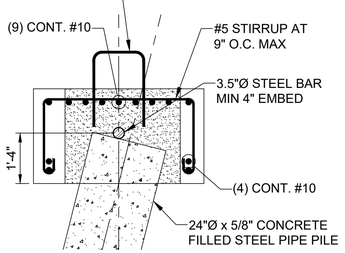
3 DETAIL-PLAN
MAIN PIER
BENT 8 & 9
SCALE: 1" = 2'



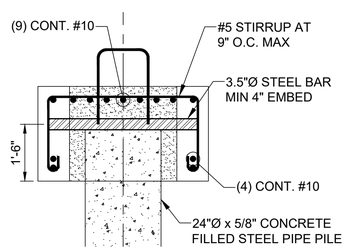
4 ELEVATION
MAIN PIER
BENT 8 & 9
SCALE: 1" = 2'



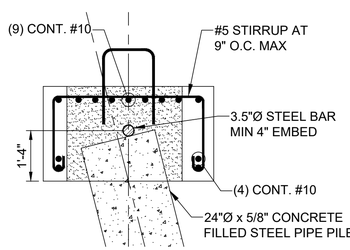
C SECTION
MAIN PIER
BENT 8 & 9
SCALE: 1" = 2'



D SECTION
MAIN PIER
BENT 8 & 9
SCALE: 1" = 2'



E SECTION
MAIN PIER
BENT 8 & 9
SCALE: 1" = 2'



F SECTION
MAIN PIER
BENT 8 & 9
SCALE: 1" = 2'

FOR PERMIT

0 1 2 4
SCALE, FEET

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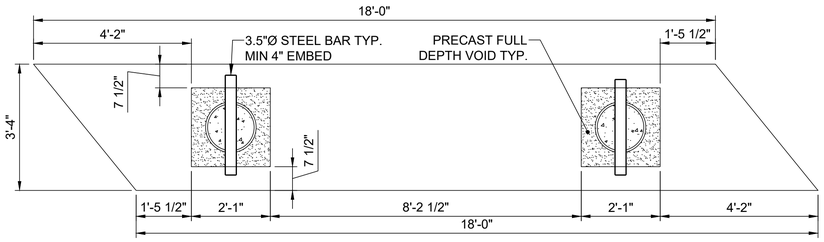
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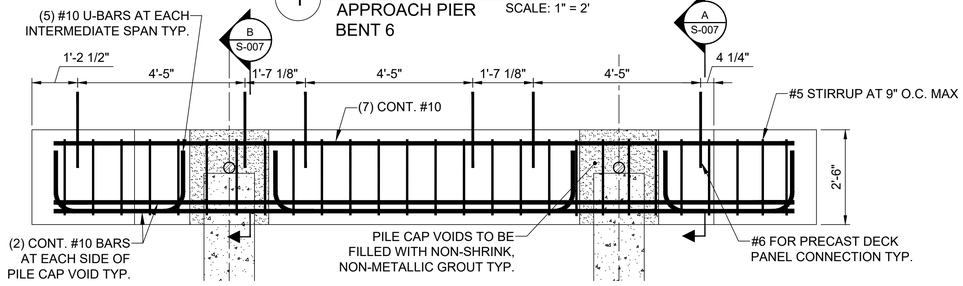
SHEET NAME
PRECAST PILE CAP PLAN AND SECTIONS 1 OF 2

SHEET NO.
S-006

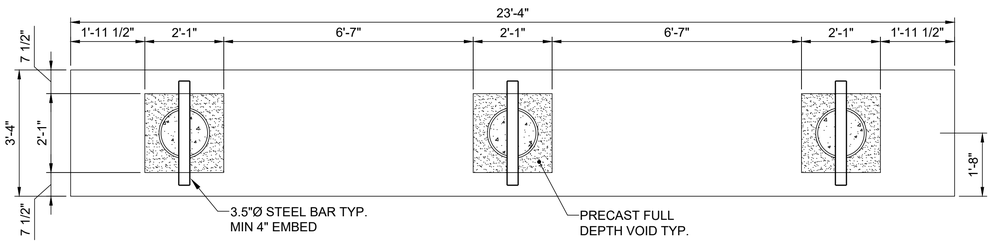
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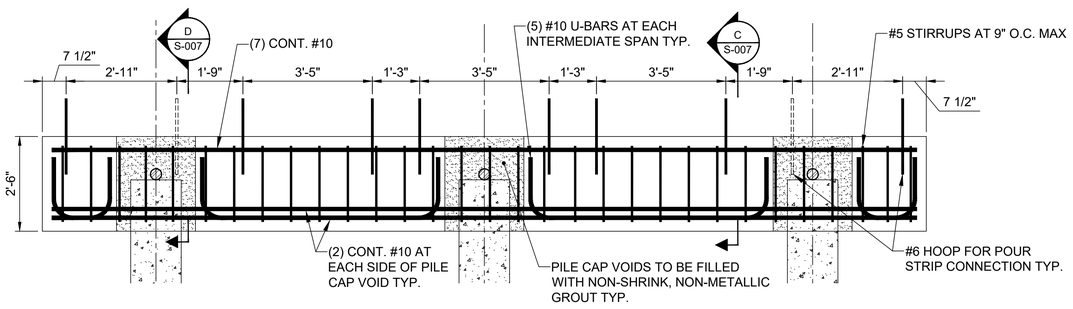
1 DETAIL-PLAN
APPROACH PIER BENT 6 — SCALE: 1" = 2'



2 ELEVATION
APPROACH PIER BENT 6 — SCALE: 1" = 2'



3 DETAIL-PLAN
APPROACH PIER BENT 2 — SCALE: 1" = 2'

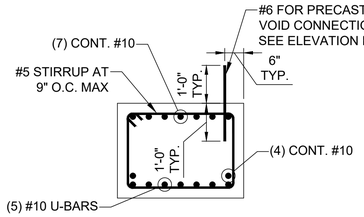


4 ELEVATION
APPROACH PIER BENT 2 — SCALE: 1" = 2'

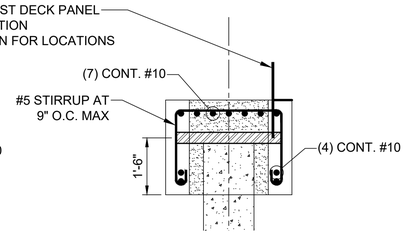
0 1 2 4
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

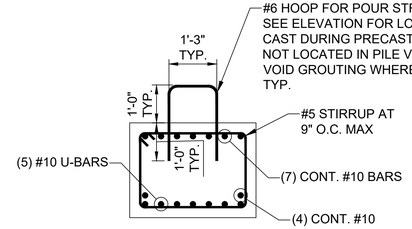
*PROJECT DATUM



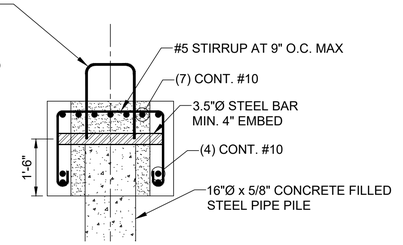
A SECTION
APPROACH PIER BENT 6 — SCALE: 1" = 2'



B SECTION
APPROACH PIER BENT 6 — SCALE: 1" = 2'



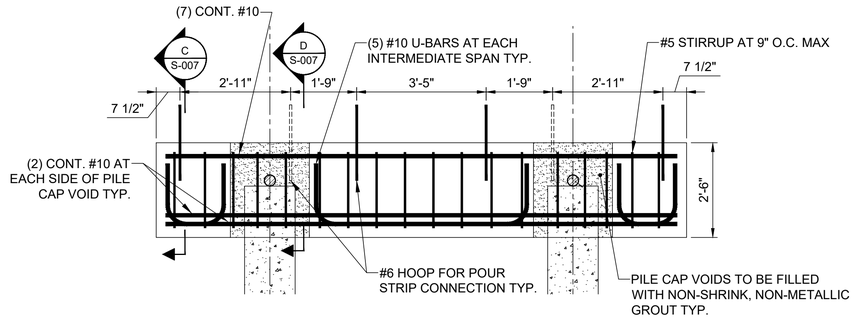
C SECTION
APPROACH PIER BENTS 2-5 — SCALE: 1" = 2'



D SECTION
APPROACH PIER BENTS 2-5 — SCALE: 1" = 2'

7 DETAIL
MAIN PIER — N.T.S.

5 DETAIL-PLAN
APPROACH PIER BENTS 3-5 — SCALE: 1" = 2'



6 ELEVATION
APPROACH PIER BENTS 3-5 — SCALE: 1" = 2'

FOR PERMIT

Attention:
0 1"
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STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED PROFESSIONAL ENGINEER
06/10/2025

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Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
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5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

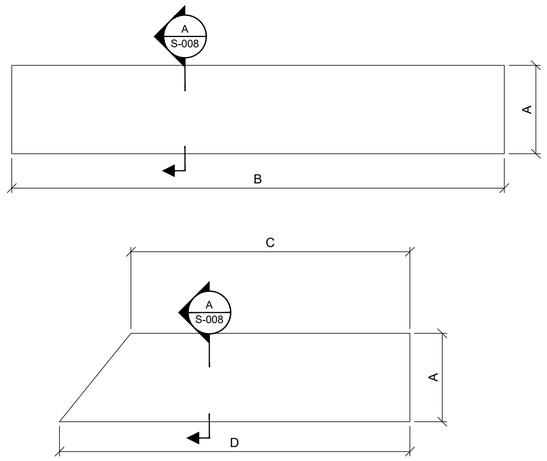
NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
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3	6/28/2023	75% DESIGN SUBMISSION	DJB
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1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
PRECAST PILE CAP PLAN AND SECTIONS 2 OF 2

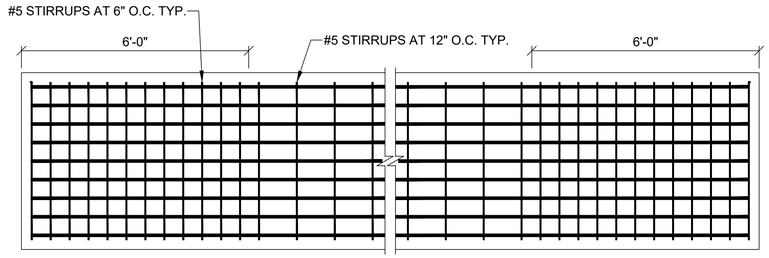
SHEET NO.
S-007

DJCASTELNUOVO, VINNIE \\bos1v-fs02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-007.dwg - 6/6/2025

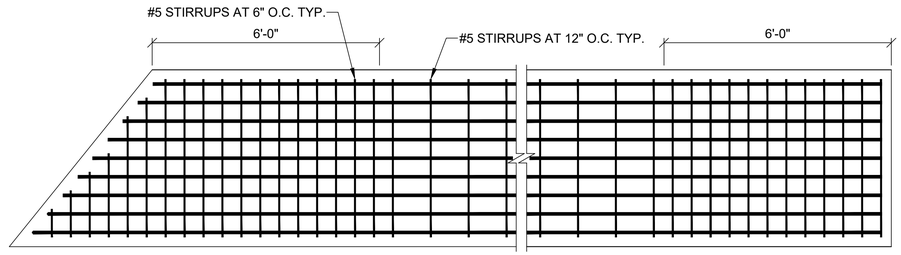
PRECAST DECK PANEL SCHEDULE					
PANEL ID	A	B	C	D	QTY.
A	4'-8"	25'-2"	-	-	5
B	4'-8"	24'-3"	-	-	9
C	4'-8"	-	13'-3"	17'-0"	1
D	4'-8"	-	17'-0"	20'-9 1/2"	1
E	4'-8"	-	20'-9 1/2"	24'-7"	1
F	4'-8"	26'-0"	-	-	10
G	4'-8"	22'-0"	-	-	5



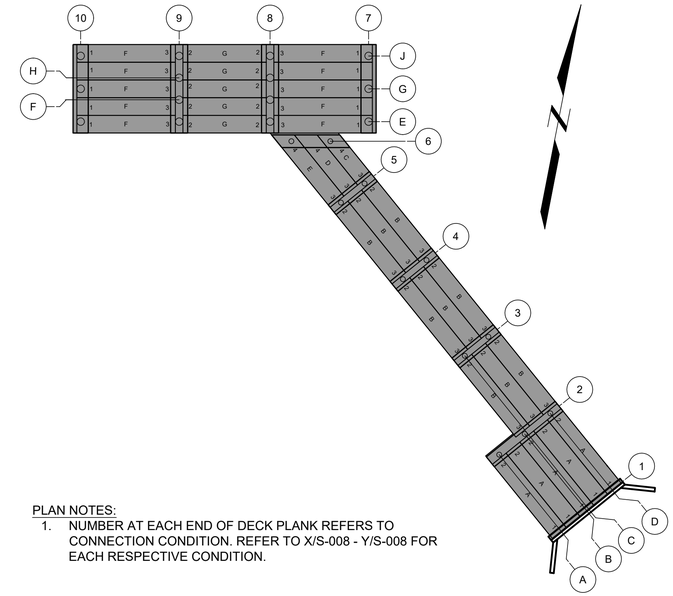
1 DETAIL-PLAN
PRECAST DECK PANEL SCALE: 1"=4'



3 DETAIL-PLAN PLANKS A, B, F, & G
PRECAST DECK PANEL
STIRRUP SPACING SCALE: 1"=2'

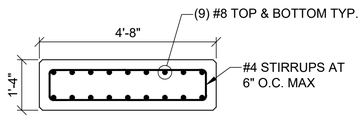


4 DETAIL-PLAN PLANKS C, D, & E
PRECAST DECK PANEL
STIRRUP SPACING SCALE: 1"=2'

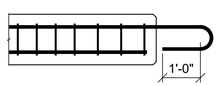


PLAN NOTES:
1. NUMBER AT EACH END OF DECK PLANK REFERS TO CONNECTION CONDITION. REFER TO X/S-008 - Y/S-008 FOR EACH RESPECTIVE CONDITION.

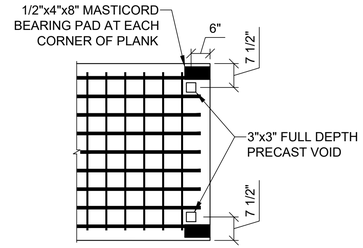
9 DETAIL
PIER DECK PANELS N.T.S.



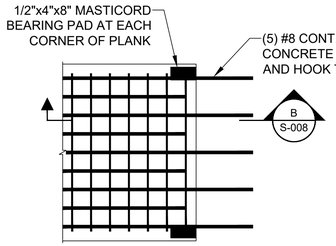
A SECTION
PRECAST DECK PANEL SCALE: 1"=2'



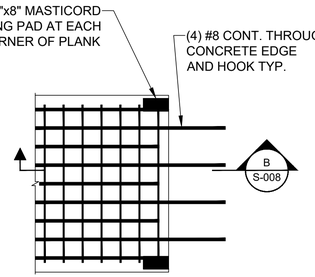
B SECTION
PRECAST DECK PANEL
CONNECTION END 2 & 3 SCALE: 1"=2'



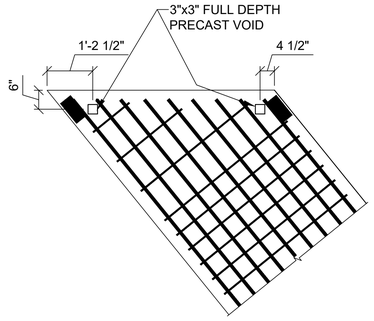
5 DETAIL - PLAN
DECK PANEL
CONNECTION 1 SCALE: 1"=2'



6 DETAIL - PLAN
DECK PANEL
CONNECTION 2 SCALE: 1"=2'



7 DETAIL - PLAN
DECK PANEL
CONNECTION 3 SCALE: 1"=2'



8 DETAIL - PLAN
DECK PANEL
CONNECTION 1 SCALE: 1"=2'

0 10 20
SCALE, FEET

0 1 2 4
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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GEI Project	2203703

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5 MILK STREET
PORTLAND, ME 04101
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UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

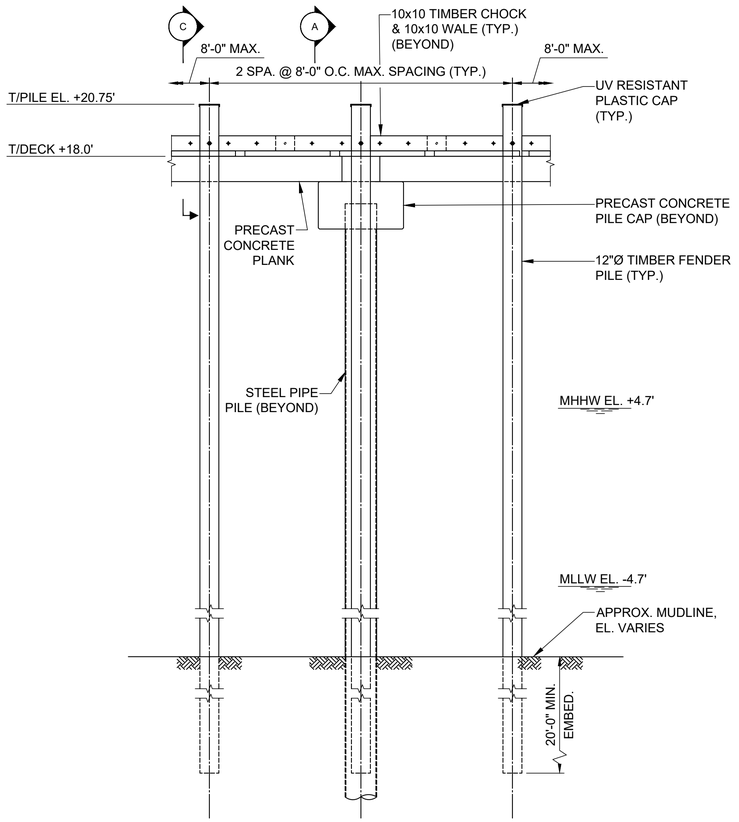
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
PRECAST DECK PANEL PLAN

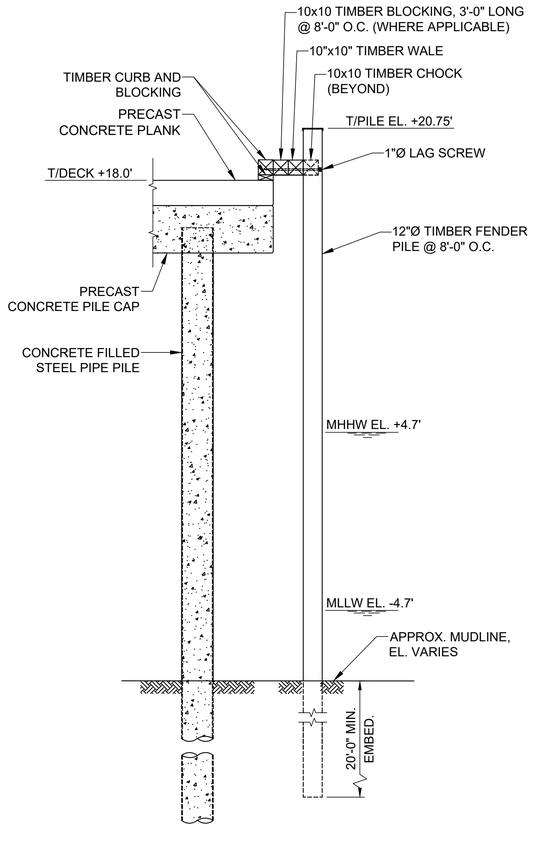
SHEET NO.
S-008

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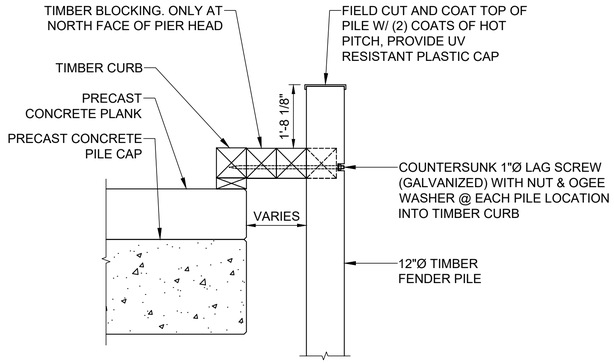
TIMBER FENDER DETAIL

SCALE: 1/4" = 1'-0"



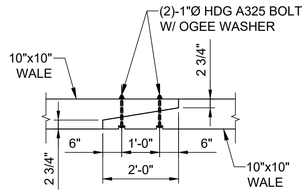
A TIMBER FENDER SECTION

SCALE: 1/4" = 1'-0"



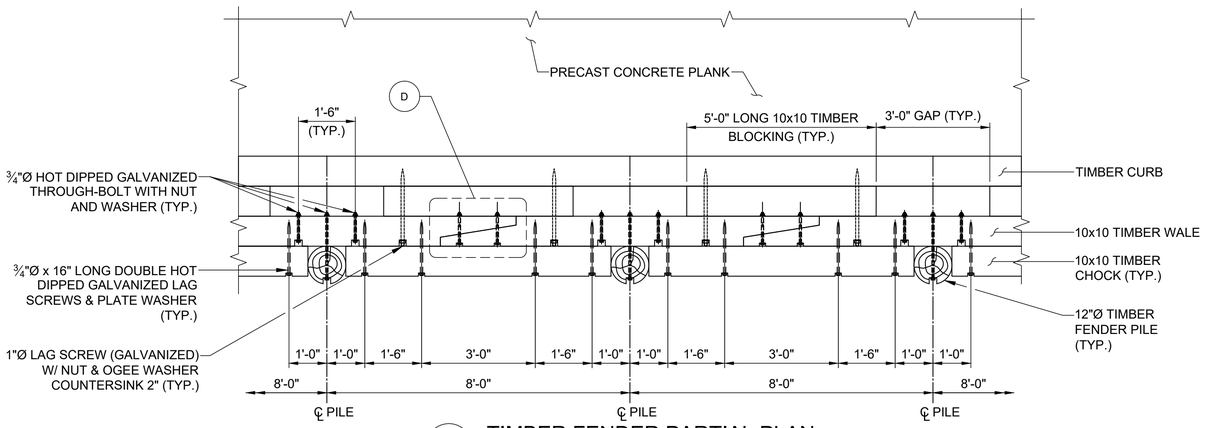
C FENDER PILE CONNECTION

SCALE: 1/2" = 1'-0"



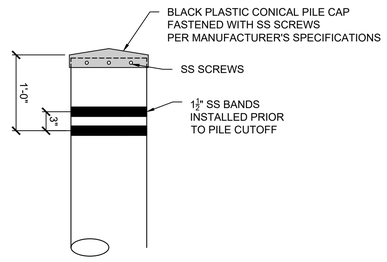
D WALE SPLICE DETAIL

SCALE: 1/2" = 1'-0"



B TIMBER FENDER PARTIAL PLAN

SCALE: 1/2" = 1'-0"



E PILE BANDING DETAIL

SCALE: 1" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:

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STATE OF MAINE DANIEL J. BANNON No. 13033 LICENSED PROFESSIONAL ENGINEER

06/10/2025

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GEI Project	2203703

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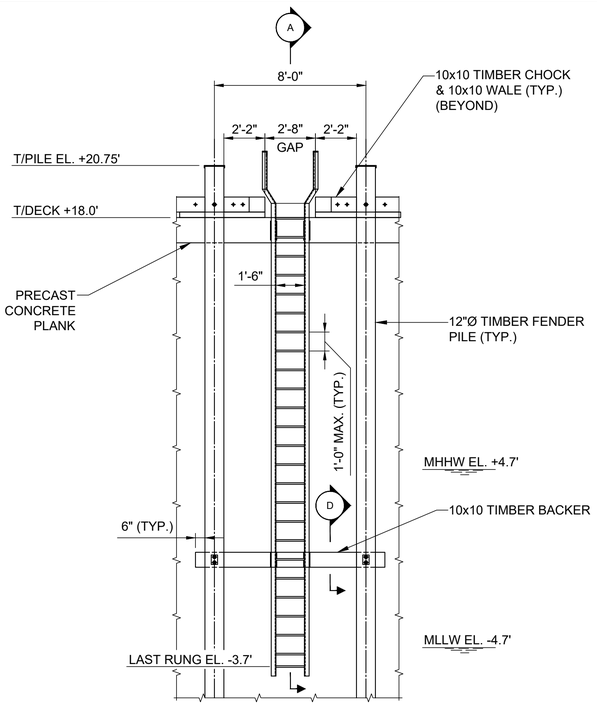
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME: **MISCELLANEOUS DETAILS (1 OF 5)**

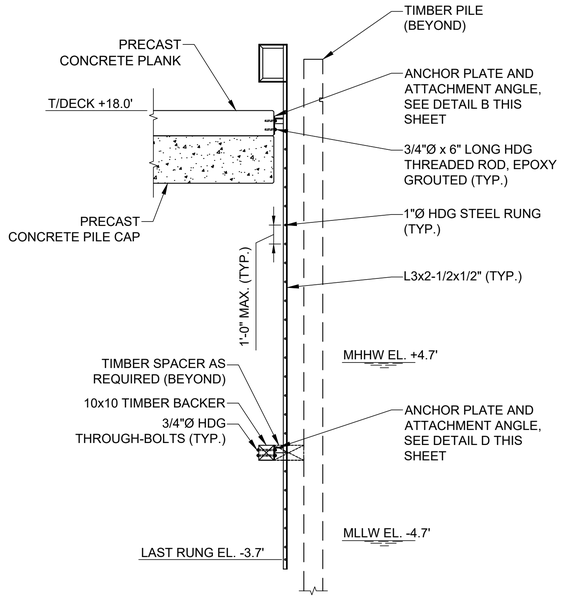
SHEET NO.: **S-009**

DiCASTELNUOVO, VINNIE \\bost1v-fs02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-009.dwg - 6/6/2025



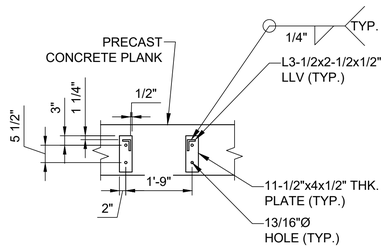
LADDER DETAIL

SCALE: 1/4" = 1'-0"



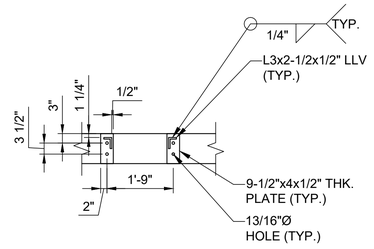
A LADDER SECTION

SCALE: 1/4" = 1'-0"



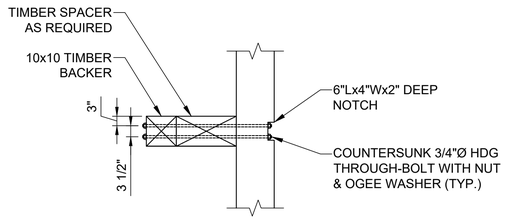
B LADDER CONNECTION (TOP)

SCALE: 1/2" = 1'-0"



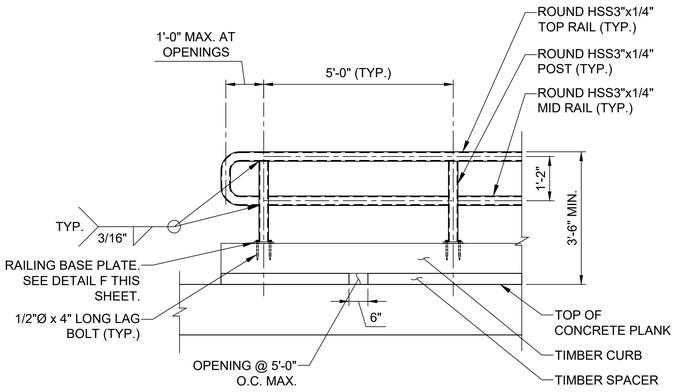
C LADDER CONNECTION (BOTTOM)

SCALE: 1/2" = 1'-0"



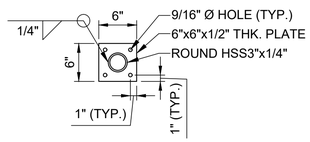
D TIMBER BACKER CONNECTION

SCALE: 1/2" = 1'-0"



E RAILING SECTION

SCALE: 1/2" = 1'-0"



F RAILING BASEPLATE DETAIL

SCALE: 1" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

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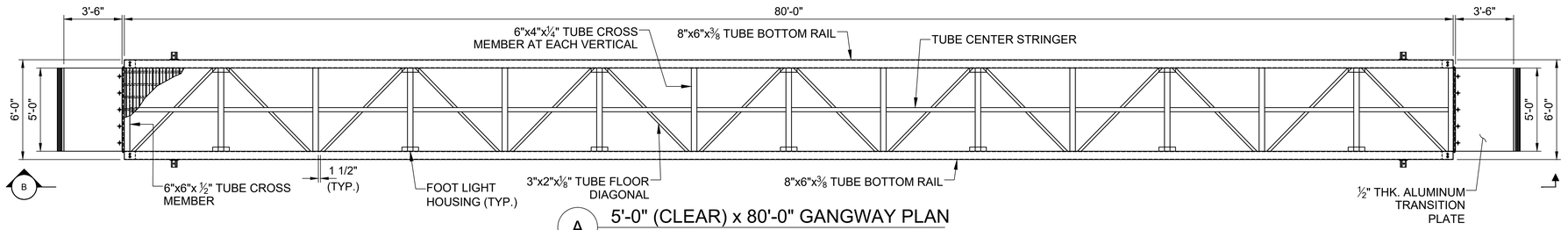
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
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0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
MISCELLANEOUS DETAILS (2 OF 5)

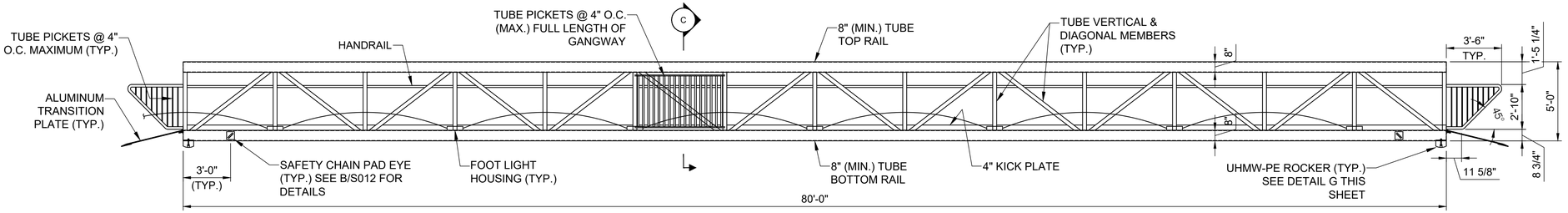
SHEET NO.
S-010

DICASTELNUOVO, VINNIE \\bos1v-fs02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703.UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-010.dwg - 6/6/2025



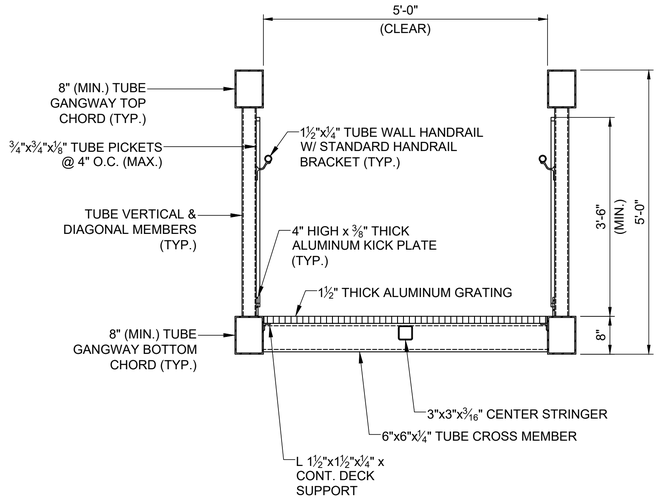
A 5'-0" (CLEAR) x 80'-0" GANGWAY PLAN

SCALE: 1/4" = 1'-0"



B GANGWAY ELEVATION

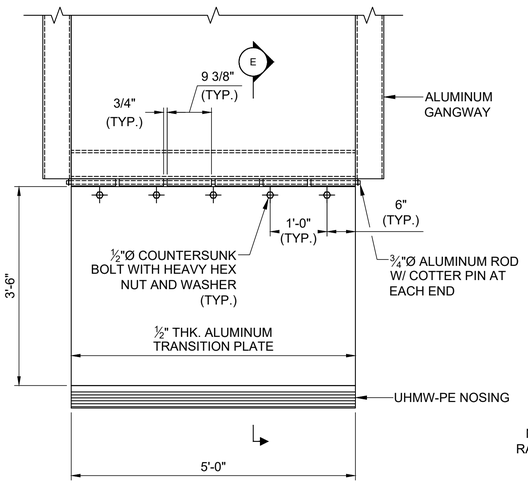
SCALE: 1/4" = 1'-0"



C TYPICAL GANGWAY SECTION

SCALE: 3/4" = 1'-0"

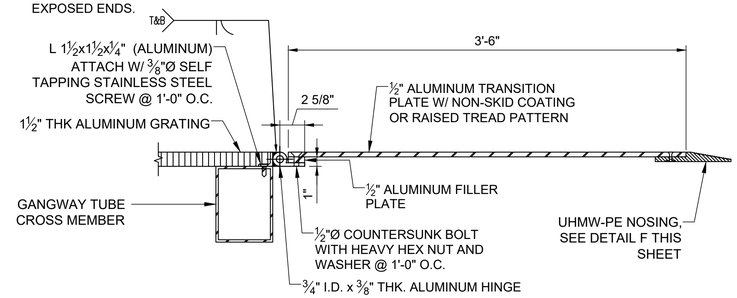
NOTE(S):
1. CONTRACTOR AND GANGWAY MANUFACTURER SHALL DETERMINE FINAL GANGWAY MEMBER SIZES AND SUBMIT TO ENGINEER FOR REVIEW AND APPROVAL.
2. ALUMINUM GRATING SHALL MEET ADA REQUIREMENTS.



D TRANSITION PLATE DETAIL

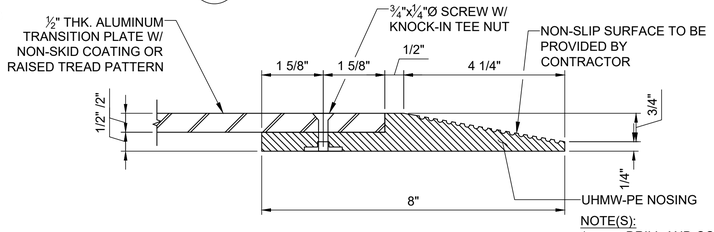
SCALE: 3/4" = 1'-0"

NOTES:
1. CONTRACTOR SHALL DETERMINE FINAL GANGWAY MEMBER SIZES. MEMBERS ONLY SHOWN SCHEMATICALLY FOR REFERENCE.
2. CONTRACTOR SHALL SUBMIT FINAL GANGWAY SHOP DRAWINGS AND CALCULATION PACKAGE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE.
3. ALL GANGWAY TUBE MEMBERS SHALL BE 6061-T6 ALUMINUM.
4. ALL GANGWAY TUBE MEMBERS SHALL BE CAPPED AND SEALED W/ ALUMINUM PLATES AT EXPOSED ENDS.



E GANGWAY TRANSITION PLATE SECTION

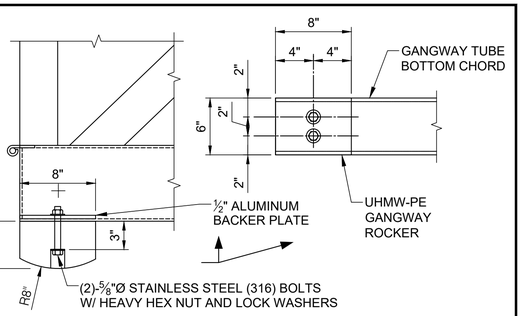
SCALE: 1-1/2" = 1'-0"



F UHMW-PE NOSING DETAIL

SCALE: 6" = 1'-0"

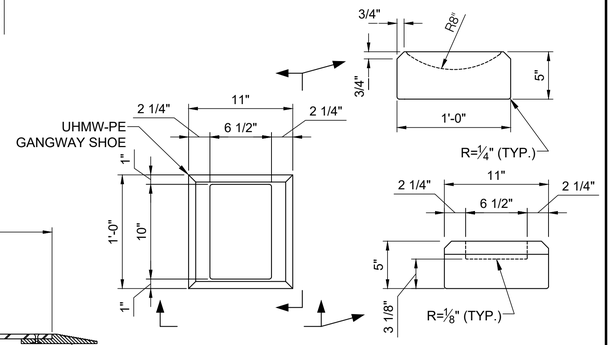
NOTE(S):
1. DRILL AND COUNTER BORE TRANSITION PLATES. COUNTERSINK HOLES FOR TEE NUTS TO TWICE BASE THICKNESS. SCREWS TO BE COUNTERSUNK INTO PLATE. INSTALL NEW SCREWS OVER SILICONE TO COVER EXPOSED ALUMINUM.
2. UHMW-PE NOSING DETAILS TO BE DETERMINED AFTER TRANSITION PLATE INSTALLATION AND SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN ADA.



G GANGWAY ROCKER DETAIL

SCALE: 1-1/2" = 1'-0"

NOTES:
1. ROCKER MATERIAL SHALL BE VIRGIN UHMW-PE, BLACK IN COLOR.
2. ALUMINUM BACKER PLATE PLAN DIMENSIONS SHALL MATCH ROCKER PLAN DIMENSIONS.



J GANGWAY SHOE DETAIL

SCALE: 1-1/2" = 1'-0"

NOTE: SHOE MATERIAL SHALL BE VIRGIN UHMW-PE, BLACK IN COLOR.

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE — DANIEL J. BANNON No. 13033 — PROFESSIONAL ENGINEER — LICENSED
06/10/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

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UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

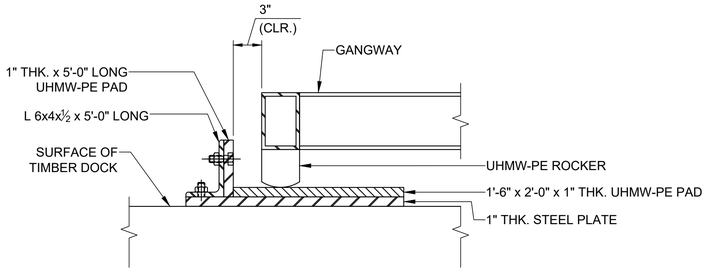
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

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1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

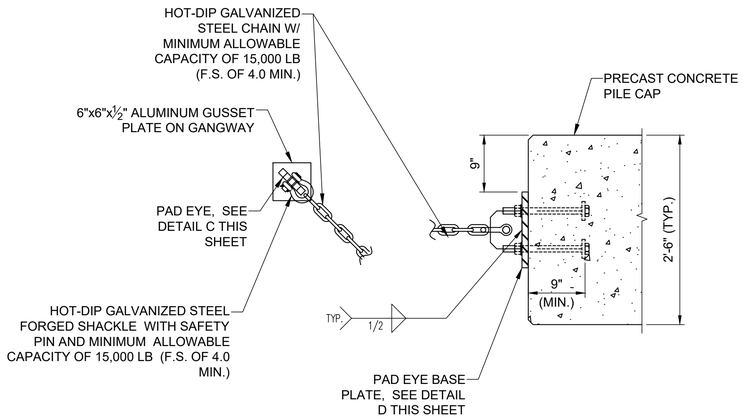
SHEET NAME: **MISCELLANEOUS DETAILS (3 OF 5)**

SHEET NO.: **S-011**

DICASTELNUOVO, VINNIE \\bos1v-fs02\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-S-011.dwg - 6/6/2025

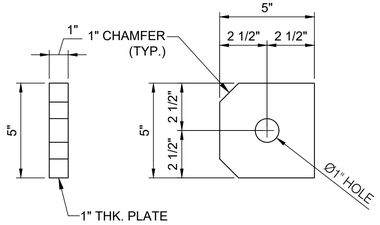


A GANGWAY LANDING AT DOCKS
SCALE: 1-1/2" = 1'-0"



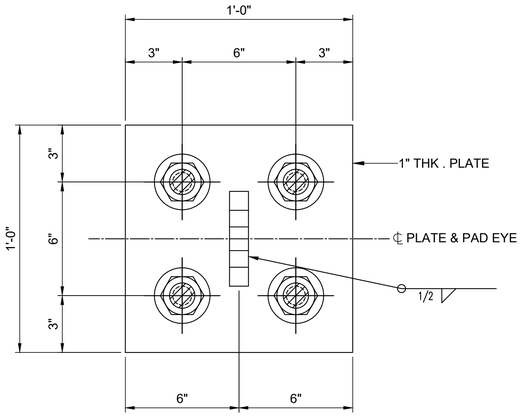
B SAFETY CHAIN ASSEMBLY
SCALE: 1" = 1'-0"

NOTE: CONTRACTOR TO DETERMINE ASSEMBLY LENGTH BASED ON PAD EYE LOCATION ON GANGWAY SUCH THAT UHMW-PE SHOE CANNOT MOVE OFF THE SUPPORTING PLATE.

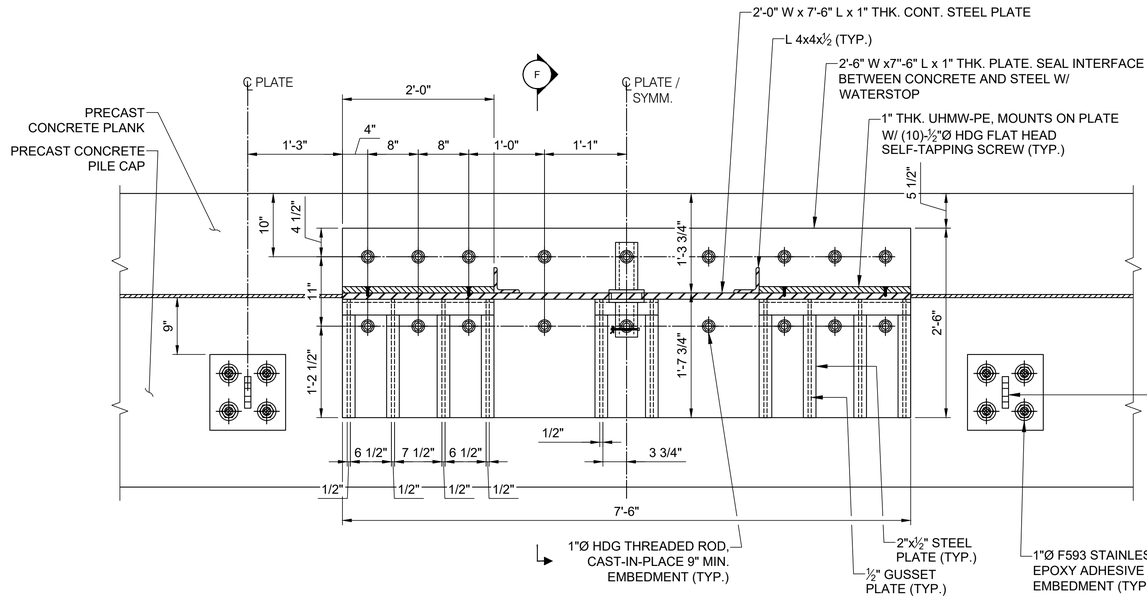


C PAD EYE DETAIL
SCALE: 3" = 1'-0"

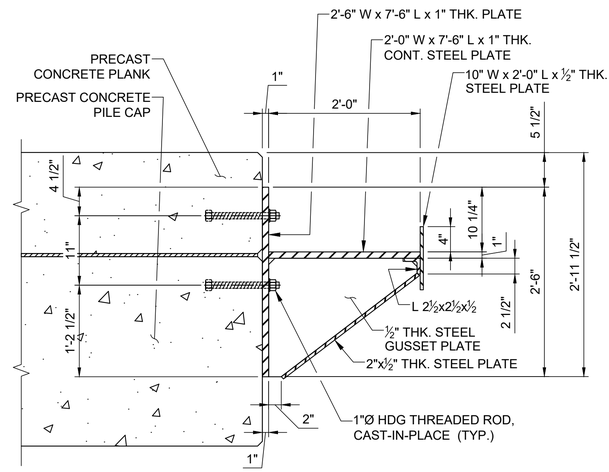
NOTE: PAD EYE ON GANGWAY SHALL BE ALUMINUM.
PAD EYE ON PILE CAP SHALL BE HDG STEEL.



D PAD EYE BASE PLATE DETAIL
SCALE: 3" = 1'-0"



E FIFTH WHEEL ASSEMBLY - ELEVATION
SCALE: 1" = 1'-0"



F FIFTH WHEEL ASSEMBLY - TYPICAL SECTION
SCALE: 1" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:
0 1"
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STATE OF MAINE
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LICENSED PROFESSIONAL ENGINEER
06/10/2025

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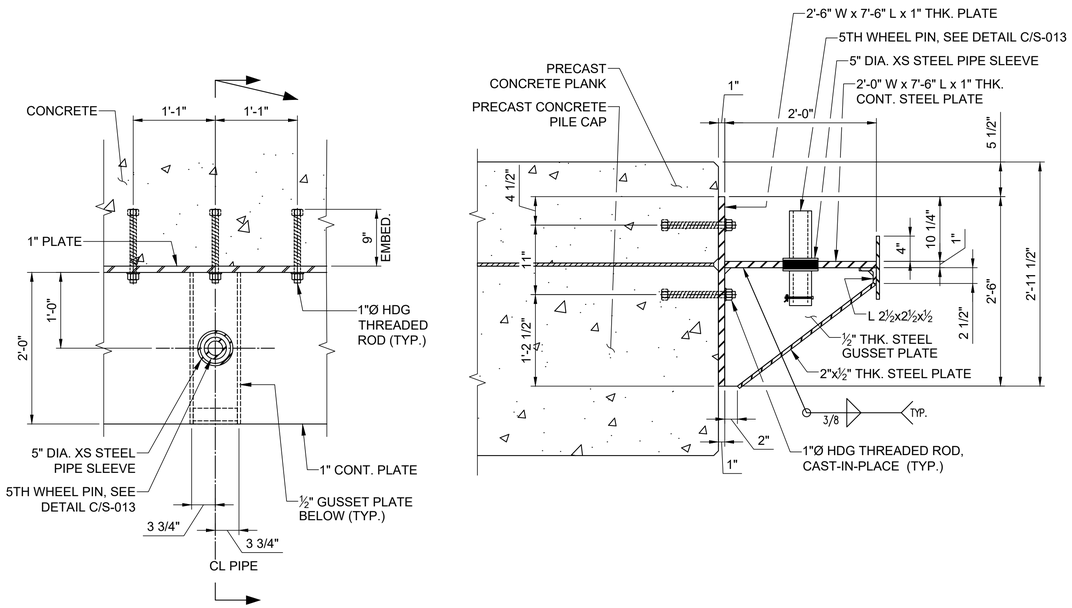
UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
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SHEET NAME
MISCELLANEOUS DETAILS (4 OF 5)

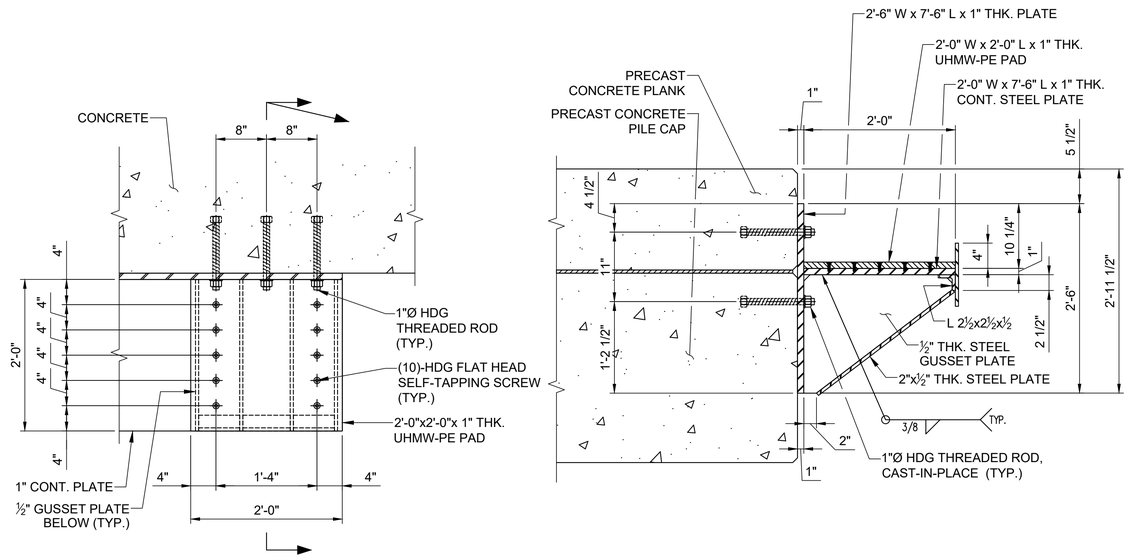
SHEET NO.
S-012

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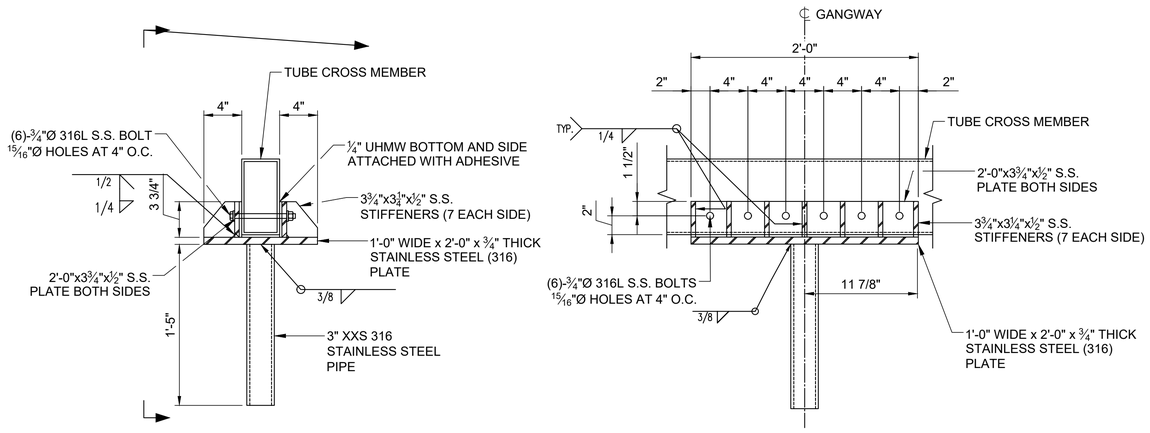
A TYPICAL 5TH WHEEL PLAN AND SECTION

SCALE: 1" = 1'-0"



B TYPICAL UHMW-PE PAD DETAIL

SCALE: 1" = 1'-0"



C 5TH WHEEL PIN DETAIL

SCALE: 1-1/2" = 1'-0"

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

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LICENSED PROFESSIONAL ENGINEER

06/10/2025

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SHEET NAME

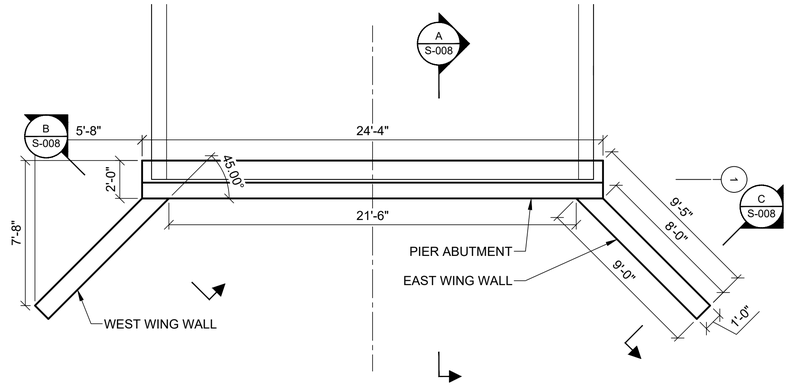
MISCELLANEOUS DETAILS (5 OF 5)

SHEET NO.

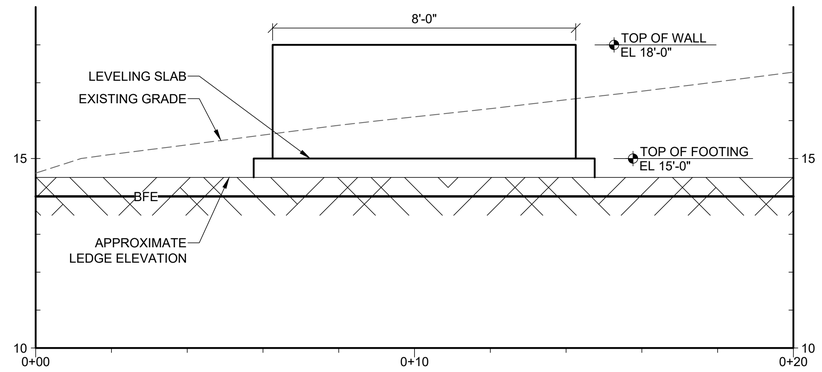
S-013

FOR PERMIT

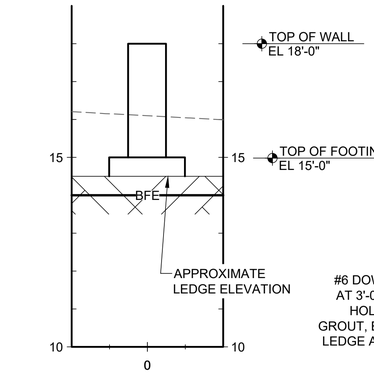
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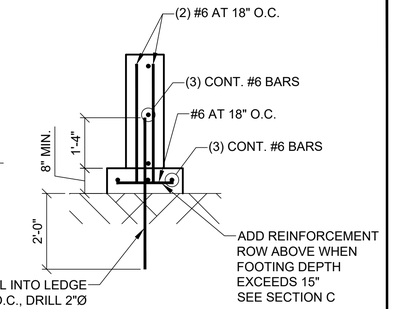
ABUTMENT PLAN
SCALE: SCALE: 3" = 1'-0"



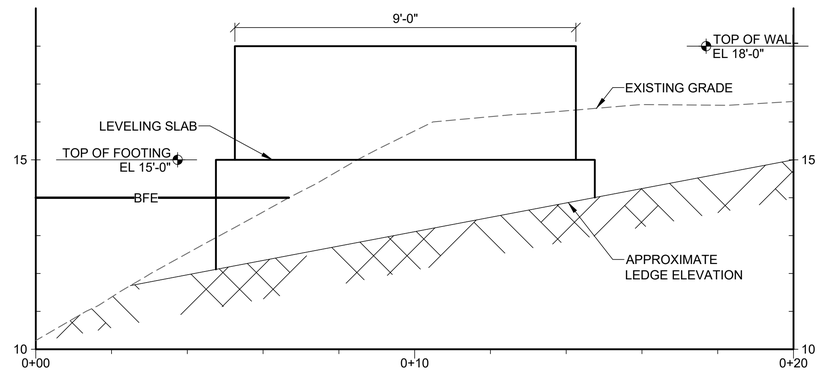
WEST WING WALL ELEVATION
SCALE: 6" = 1'-0"



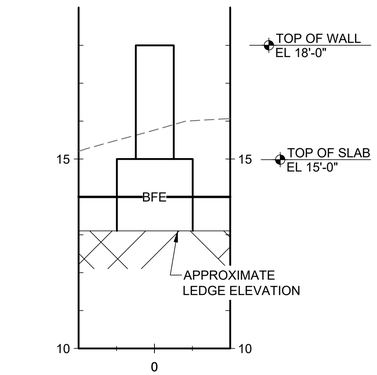
B WEST WING WALL SECTION
SCALE: 6" = 1'-0"



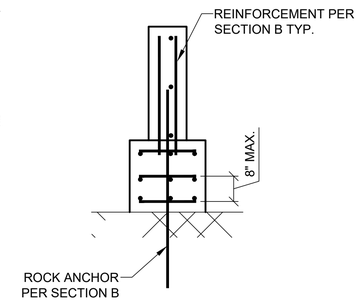
B SECTION
WEST WING WALL REINFORCEMENT
SCALE: 6" = 1'-0"



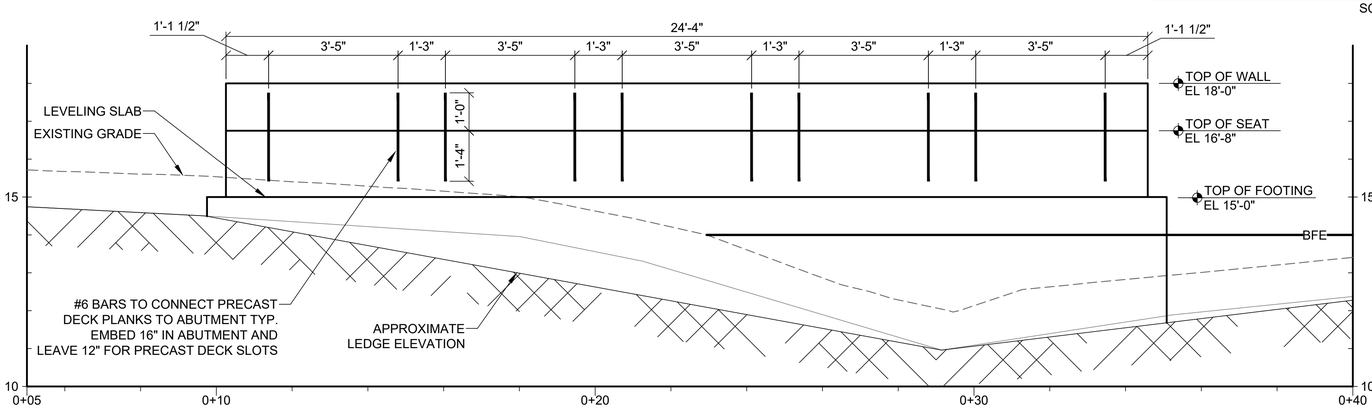
EAST WING WALL ELEVATION
SCALE: 6" = 1'-0"



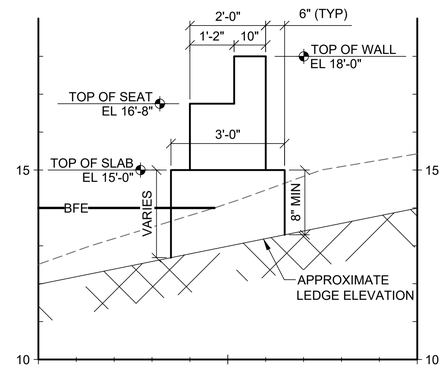
C EAST WING WALL SECTION
SCALE: 6" = 1'-0"



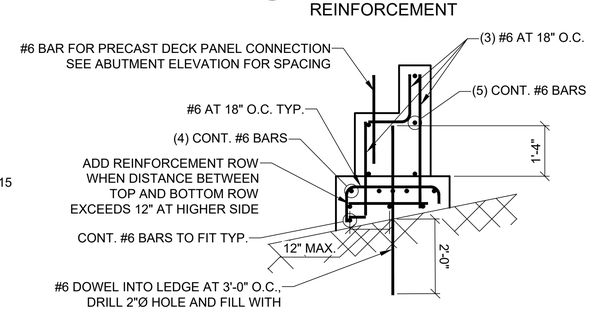
C SECTION
EAST WING WALL REINFORCEMENT
SCALE: 6" = 1'-0"



ABUTMENT ELEVATION A
SCALE: 3" = 1'-0"



A ABUTMENT SECTION
SCALE: 6" = 1'-0"



A SECTION
ABUTMENT REINFORCEMENT
SCALE: 6" = 1'-0"

FOR PERMIT

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

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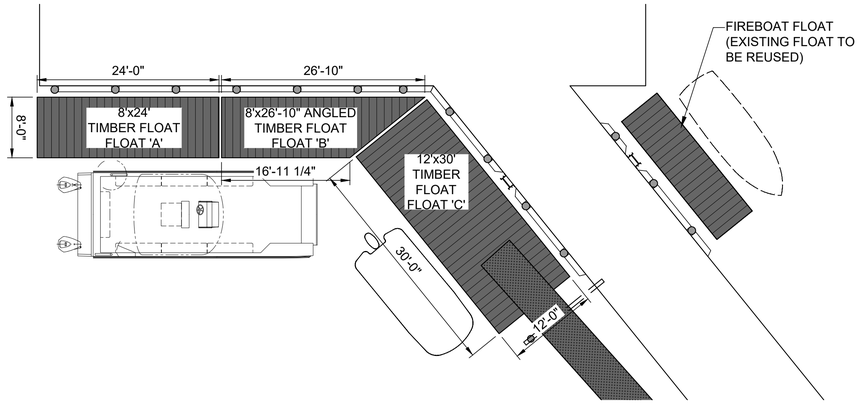
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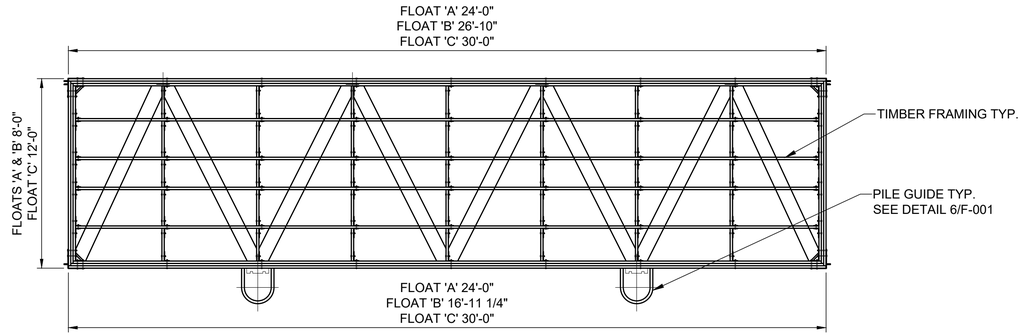
SHEET NAME: **ABUTMENT DETAILS**

SHEET NO.: **S-014**

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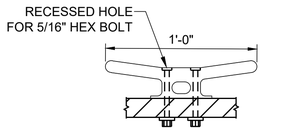


1 PLAN
FLOAT LAYOUT SCALE: 1" = 10'



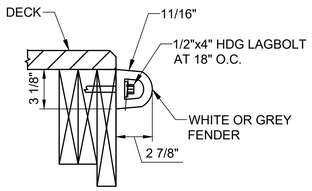
NOTES:
1. CONTRACTOR/FABRICATOR TO DETERMINE ACTUAL MEMBER SIZES PER LOADING REQUIREMENTS.

2 PLAN
TYP. FLOATING DOCK SCALE: 1" = 4'

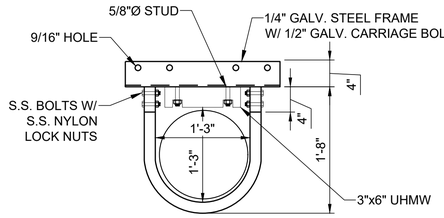


CLEAT LAYOUT:
FLOAT 'A' (4) @ EQ. SP ON SOUTH FACE
FLOAT 'B' (3) @ EQ. SP ON SOUTH FACE
FLOAT 'C' (4) @ EQ. SP ON WEST FACE

4 DETAIL
12" CLEAT SCALE: 2:1

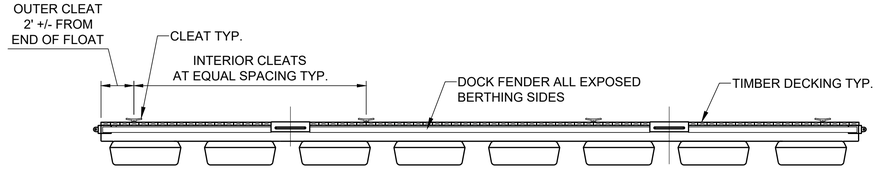


5 DETAIL
DOCK FENDER SCALE: 2:1



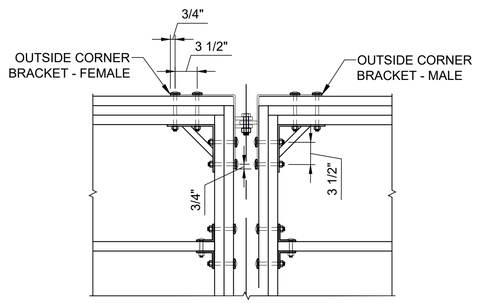
PILE GUIDE LAYOUT:
PROVIDE PILE GUIDES AT ALL TIMBER PILE LOCATIONS
FLOAT 'A' (3) REQ
FLOAT 'B' (4) REQ
FLOAT 'C' (4) REQ

6 DETAIL
PILE GUIDE SCALE: 1:1

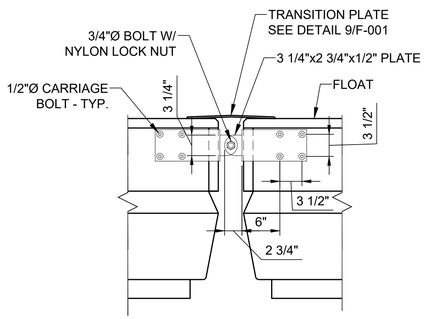


NOTES:
1. FLOTATION UNITS SHOWN ARE FOR GRAPHIC REPRESENTATION ONLY, CONTRACTOR/MANUFACTURER SHALL DETERMINE SIZE AND QUANTITY PER LOADING REQUIREMENTS.

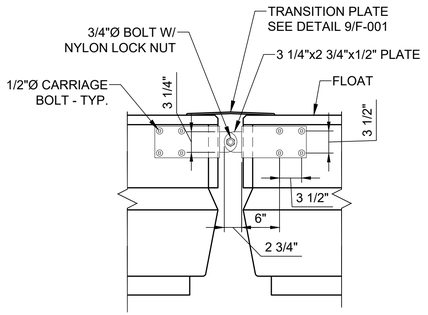
3 ELEVATION
TYP. FLOATING DOCK SCALE: 1" = 4'



7 DETAIL
FLOAT CONNECTION SCALE: 1:1



8 SECTION
FLOAT CONNECTION SCALE: 1:1



9 DETAIL
TRANSITION PLATE SCALE: 1:1

0 10 20
SCALE, FEET

0 1 2 4
SCALE, FEET

0 40 80
SCALE, FEET

ELEVATION	MLLW	NAVD88*
BFE	+19.0	+14.0
HAT	+11.6	+6.6
MHHW	+9.7	+4.7
MHW	+9.3	+4.3
MSL	+4.8	-0.2
MLW	+0.3	-4.7
MLLW	0.0	-5.0

*PROJECT DATUM

FOR PERMIT

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

STATE OF MAINE
DANIEL J. BANNON
No. 13033
LICENSED
PROFESSIONAL ENGINEER
06/10/2025

Designed:	DJB
Drawn:	JAM
Checked:	BJB
Approved:	BMM
P.E. No:	13033
GEI Project	2203703

GEI Consultants
GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

UNE
UNIVERSITY OF NEW ENGLAND
11 HILLS BEACH RD.
BIDDEFORD, MAINE

UNIVERSITY OF NEW ENGLAND MARINE SCIENCE CENTER PIER
11 HILLS BEACH ROAD
BIDDEFORD, YORK COUNTY, MAINE

NO	DATE	ISSUE/REVISION	APP
8	6/5/2025	ADDRESS PB COMMENTS	DJB
7	4/16/2025	BIDDEFORD PERMIT APP.	DJB
6	9/17/2024	REVISED PERMIT SET	DJB
5	6/27/2024	REVISED PERMIT SET	DJB
4	9/14/2023	DEP PERMIT SET	DJB
3	6/28/2023	75% DESIGN SUBMISSION	DJB
2	2/15/2023	30% DESIGN SUBMISSION	DJB
1	12/9/2022	15% DESIGN SUB REV	DJB
0	11/11/2022	15% DESIGN SUBMISSION	DJB

SHEET NAME
FLOAT PLAN AND DETAILS

SHEET NO.
F-001

DJCASTELNUOVO, VINNIE - \\geiconsultants.com\data\Data_Storage\Working\UNIVERSITY OF NEW ENGLAND\2203703 UNE Marine Science Center Pier\00_CAD\Design\Sheets\2203703-F-001.dwg - 6/6/2025

Harbor Master

City Of Biddeford
205 Main Street
P.O. Box 586
Biddeford, ME 04005-0586

APPLICATION DUE DATE: MARCH 15TH

Read Carefully Before Signing

MOORING PERMIT APPLICATION

(Please Print Or Type)

Date of Application _____ Permit# _____

USE: Personal Rental Comm. Fish Other _____ Summer Year Round City Tag# _____
(Circle One) (Circle One) (By Harbor Master)

TYPE: Granite Block Cement Block WEIGHT_____ HEAVY CHAIN _____ LIGHT CHAIN/NYLON _____ BOWLINE_____
(Nylon Only; Non-Floating)

BOAT REG./DOC# _____ BOAT NAME _____ MAKE _____ YEAR BUILT _____

OWNER NAME _____ HOME TEL: _____ BUS TEL: _____

MAILING ADDRESS _____ CELL. TEL: _____

PERMANENT ADDRESS _____ TEL: _____

_____ EMAIL _____

(Name, address & telephone number of local person responsible for boat, if non-resident REQUIRED)

BOAT DESCRIPTION: Color_____ Trim_____ Length _____ Draft_____ Propulsion _____

OPEN CABIN CANOPY LOBSTER CRUISER SAIL WORK ROW OTHER_____

SPECIFIC LOCATION OF MOORING AREA REQUESTED _____

DATE PRESENT MOORING PUT DOWN _____ LAST INSPECTED _____ BY WHOM_____

By signing this mooring permit application for the City of Biddeford I hereby expressly give my permission to the Harbor Master, the Assistant Harbor Master or anyone lawfully designated by the Harbor Master to raise, lift, possess, transfer or otherwise handle any lobster traps, buoys, cars, wharfs, weirs, nets or any other sort of fishing gear belonging to me as the licensed owner which appears in any channel to and from any harbor which is designated by the Biddeford City Ordinance as an area in which lobster gear or fishing gear of any type is prohibited or which appears within 100 feet of any mooring in violation of an ordinance for the city of Biddeford. I further give my permission to the Harbor Master, Assistant Harbor Master or the Harbor Master's designated agent permission to remove, transfer and secure any fishing gear of any type or nature which is found in violation of any ordinance of the city of Biddeford. I further agree to pay for any and all costs related to the removal, transfer, transportation and storage of said fishing gear. Permission by me, by signing this permit, is given pursuant of Title 12, M.R.S.A. §6434.
This permit is non-transferable and is for the use of the above named boat only, except on a temporary basis at discretion of Harbor Master. The location is subject to change at any time at discretion of Harbor Master or Deputy as conditions dictate. Holder of permit is responsible to set mooring and make adjustments as required for the safety of adjacent boats. Permit numbers must be painted on mooring float in at least 3" letters of a contrasting color.
If mooring is already in place the Harbor Master/Assistant will go to location with owner to identify and approve or reassign location. If a new mooring, Harbor Master/Assistant will inspect and oversee placement of mooring.
Any boat on a licensed mooring taking on water and in danger of sinking, the Harbor Master may authorize a private contractor to pump out said boat at the expense of the owner. The owner must pay contractor within 60 days or lose mooring privileges.
Registration form and fee must be received before March 15 and mooring in before June 30 or mooring will be considered abandoned and location reassigned, unless prior arrangements have been made with the Harbor Master.
Application permit fee $10.00 to be applied against the mooring fee.

Signed _____ Date _____

THIS PERMIT APPLICATION APPROVED BY HARBOR MASTER/ASSISTANT _____

REQUEST APPROVED YES ☐ NO ☐ DATE _____ EXPIRATION DATE_____

FEE: ~~$125~~ 180

DATE RECEIVED _____ NEXT INSPECTION DUE DATE_____

BY _____

CHECK/MONEY ORDER #_____ CASH

Whitten, Nan

From: Paul Lamontagne <paullamontagne.maine@gmail.com>
Sent: Saturday, July 5, 2025 7:38 PM
To: Planning Board
Subject: This UNE pier decision seems pretty simple

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

Dear Planning Board,

Although I now live in western Maine near the NH border, my grandparents allowed me to spend many, many hours with them on the Saco River when I was growing up. They lived in Biddeford all their lives. These days I will still come over to Biddeford fairly regularly with my own boat, putting in at Marblehead and enjoying the day, as I did on the 4th of July this year.

A fellow boater I've known for many years told me about the UNE thing yesterday, so this morning I went to the Biddeford website, downloaded all the documents, and watched all the videos. Here's my point of view:

--- The chairperson of the planning board made an excellent point during the May 21st meeting. You are guided by a code of ethics to make sure every claim that UNE makes is documented.
--- It's pretty clear that the guys who have moorings where UNE wants to build are not moving, so I don't see how you can approve UNE's application. Other people are already there.
--- The pier has not been reviewed or approved by a real harbor master.
--- The engineering outfit that UNE hired to sell their pier to you wrote in a memo, contained in the materials that you have reviewed, that the place Biddeford's harbor master suggested has deeper water than the location UNE wants. I mean…c'mon! Why can't the university use common sense?
--- I read your code of ethics very carefully. You are each required to obtain what information and knowledge is necessary to make the wisest decision possible. It seems to me there's a better location than what UNE proposed, and the planning board has no choice but to investigate that issue.

To conclude, UNE's own consultant says there's deeper water where the harbormaster wanted the pier to go all along, making it a better place for a 60-foot research vessel. Also, putting it in the deeper water would avoid the entire problem of current mooring owners, who have made it clear that they're not moving.

I don't see that you have any choice but to deny this application, and invite UNE to submit another one that is thought out in a much better way.

That's my opinion, and thanks for listening.

Paul

Whitten, Nan

From: Hills Beach John <hillsbeachjohn@yahoo.com>
Sent: Monday, July 7, 2025 9:49 AM
To: Center, Harry; attorney.general@maine.gov
Cc: Lewis, Kayla; Plotkin, Alexa; Beaudette, Stephen; Dubois, Matthew; Angers, Roch; Patoine, Larry; susan.deschambault@biddefordmaine.org; Planning Board; Whitten, Nan; Grohman, Martin; Phinney, Brian; Randy Seaver; newsdesk@sacobaynews.com; Dina Mendros; srichelieu@metln.org; Galbraith, David
Subject: Biddeford people trust Planning Board's ethics

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Hi Harry,

The City Planner wrote, “The Board may only base their decision on the specific criteria listed in the Site Plan and Shoreland Zoning laws as they specifically relate to Piers & Docks.” You wrote, “I concur with David’s position.”

After that explanation circulated in the community, I got a ton of feedback. I regret to say some of it was angry feedback. If I had to paraphrase, I would say community sentiment is that the Planner’s analysis is an extremely narrow interpretation, concocted to encourage the Planning Board to approve UNE’s application. It was pointed out to me that, better than a single opinion, a controlling and legally binding document exists, “Biddeford Planning Board RULES OF PROCEDURE AND CODE OF ETHICS.” Excerpts:

- “The Planning Board’s purpose is to implement the Comprehensive Plan and to foster coordinated and harmonious development…that will…best and most efficiently promote the public health, safety, and general welfare.”

- “Appointment to the Planning Board…represents a public trust…”

- “Board members are therefore expected to keep consideration of the general public interest foremost in their deliberations.”

- “Board members are also expected to retain an open mind to all viewpoints.”

- “…the Board should attempt to draw out and clarify the positions of people on all sides of the issue…”

- “Each Planning Board member has the responsibility to acquire whatever information and knowledge is necessary to fully understand and make wise decisions and recommendations in the interest of the City.”

- “Members are encouraged to expand their knowledge and understanding of planning issues…”

- "…members have the responsibility to insist that they are provided…information of sufficient scope and depth to allow them to fully understand the issues before the Board and the alternative actions available to the Board."

- "If the application….and other documents…are insufficient to enable a Board member to fully understand the issues immediately before the Board, that Board member has the responsibility to ask questions…to acquire the necessary understanding."

- The Planning Board has the responsibility to ensure that the decision-making process it applies to any issue before it is not only rational, but is also perceived as rational."

- "Furthermore…findings should be supported by information available to the Board, whether it is information…contained in…(a) document submitted to the Board, or included in testimony presented before the Board…"

- "The Board should thus explicitly evaluate all facts, alternatives, means, and consequences relevant to its decisions."

I have been asked by my neighbors to point out that members of the Planning Board took an oath not to faithfully adhere to the opinion of the City Planner, but to faithfully adhere to the Rules of Procedure and Code of Ethics.

The Planner is trying to persuade the Board ***not*** to look at important information. Whereas the Code of Ethics specifically instructs each Board member to "evaluate all facts, alternatives, means, and consequences." Further, "Each Planning Board member has the responsibility to acquire whatever information and knowledge is necessary to fully understand and make wise decisions and recommendations in the interest of the City."

We suggest that the Planner's advice to the Board directly contradicts the Rules of Procedure and Code of Ethics. This is alarming, given the fact that the Planning Board has been left completely unadvised by the Harbormaster, the Assistant Harbormaster and the Biddeford Harbor Commission. And as the Maine Harbor Masters Association has pointed out, no certified Harbormaster has reviewed or approved UNE's application.

With all that said, despite the unprecedented and highly irregular circumstances of this situation, I think Biddeford citizens are very confident that each member of the Planning Board will adhere to the Rules of Procedure and the Code of Ethics. In our opinion, that includes the certainty that Board members will "acquire the necessary understanding" of water depth, current, wind, silt build-up, extreme weather events, extreme high tides, extreme low tides, boat traffic on the river, moorings in the immediate area, etc.

As always, Harry, thank you for your professional and courteous consideration of information that this community submits to you.

Respectfully,

JS

Whitten, Nan

From: Hills Beach John <hillsbeachjohn@yahoo.com>
Sent: Tuesday, July 8, 2025 10:41 AM
To: Lewis, Kayla; Patoine, Larry; Dubois, Matthew; Beaudette, Stephen; Whitten, Nan; Galbraith, David; Deschambault, Susan; Angers, Roch
Subject: For the record, UNE denied Mr. Patoine's request

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During the May 21 Planning Board meeting, member Larry Patoine appropriately asked that the Board be supplied with a copy of the application that UNE filed with the National Institute of Standards & Technology (NIST.)

Buried in the almost one thousand pages of materials that the Planning Board has made available online is notification to the Board and Mr. Patoine that UNE has refused Mr. Patoine's request. That is made clear at the bottom of page 5 in a memo written by Alan Thibeault and submitted to the City on June 11, 2025.

Sincerely,

JS

Whitten, Nan

From: Hills Beach John <hillsbeachjohn@yahoo.com>
Sent: Monday, June 30, 2025 10:26 AM
To: Center, Harry; attorney.general@maine.gov
Cc: Galbraith, David; Planning Board; Whitten, Nan; Phinney, Brian; Grohman, Martin
Subject: A request for legal analysis: city's regulatory process

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Good morning, Harry, I hope you had a great weekend.

Al Thibeault said during the site walk on June 9 that he knows nothing about boats and nothing about the river. The Maine Harbor Masters Association has confirmed that Wayne Duffett of TEC Associates is not a Harbormaster. Just like Al Thibeault, he doesn't know the river --- no Harbormaster has approved UNE's application. Biddeford went totally unrepresented at the Saco River Corridor Commission --- our delegate abstained completely from all discussion, did not raise concerns, and did not vote. The DEP Commissioner denied a request for a public hearing. The U.S. Army Corps confirmed that all public input submitted until they made their decision was tossed into the garbage can and not considered.

Further, the Maine Harbor Masters wrote to Jim Bennett on June 4, 2024, "...we recommend that you work within the review hierarchy laid out in your harbor ordinance." But as he was busy ruining the city's finances, Bennett also made sure that the Harbormaster could not review the UNE proposal. He made sure the Assistant Harbormaster could not review the UNE proposal. As a result, he in effect liquidated the Harbor Commission, which has ceased to function or even meet. It never reviewed the UNE proposal.

Clearly UNE is fast-tracked on their way to a clean sweep. Their threat to sue the City if their exact location is not approved has been extremely effective. The largest structure ever built on the lower Saco River, in the busiest part of the river, subject to very dynamic tidal and weather forces, is going to slip by with absolutely nobody in authority looking at those dynamic forces to which the pier and a 60-foot vessel will be subjected. That's like Big Pharma rushing a new opioid onto the market without the FDA looking at potential side effects.

Many suspect Bennett intended this specific outcome all along --- easy approval without meaningful review. Certainly UNE is delighted with how far they have come without anybody in authority looking at actual river conditions.

As I have written before, I have the highest respect for your integrity and legal analysis. And therefore I am quite sure you were 100% accurate when you wrote the following:

“At this time, I see no basis for the City’s Planning Board to deny this permit based upon the water depth at the location, the current, or any of the accusations made at the last meeting - as there are no standards within the City’s Code of Ordinances/Shoreland Zoning Ordinance that would justify or support the denial of a pier based on such claims by the opponents.”

I understand and respect your strict interpretation of the Code. For the benefit of local residents and of Planning Board members, I’d like to ask one question. Do the City’s Code of Ordinances/Shore Ordinance in any way *prohibit* members of the Planning Board from asking questions about water depth, current, wind, silt build-up, extreme weather events, extreme high tides, extreme low tides, boat traffic on the river, moorings in the immediate area, etc.?

Thank you, Harry. I understand that the complete disintegration of the normal regulatory process has put you into a very difficult position, unfairly so. We are grateful for your continued service to the people of Biddeford.

Whitten, Nan

From: Hills Beach John <hillsbeachjohn@yahoo.com>
Sent: Monday, June 23, 2025 8:47 AM
To: Randy Seaver; sean.a.murphy@charter.com; desk@newscentermaine.com; wmtw@wmtw.com; tvmail@wgme.com; dinamendros@gmail.com; newsdesk@sacobaynews.com
Cc: Emily.Horton@mail.house.gov; pam_buck@collins.senate.gov; Sarah_Stanley@king.senate.gov
Subject: Collins, King, Pingree staffers lock arms, advance UNE pier secrecy
Attachments: 25.06.23 communications HISTORY.pdf

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Collins, King, Pingree staffers lock arms, advance UNE pier secrecy

PRESS CONTACT: John Schafer, HillsBeachJohn@yahoo.com, 207-294-2410

(Biddeford, Maine) It appears Saco and Biddeford residents will not get information requested from Maine's federal delegation about components of a federal grant awarded to the University of New England (UNE) by the National Institute of Standards & Technology (NIST).

Several months ago a community organizer asked if the $3.5 million grant to help build a new marine research pier on the Saco River has a portion of its funds set aside for "administration" of the grant and if it does, what percentage of the funds UNE would pocket for that function. Local field representatives for U.S. Senator Susan Collins, U.S. Senator Angus King and U.S. Representative Chellie Pingree won't answer the two questions.

"Today I'm distributing the email history. It shows constituents have been polite in requesting the information, and it seems clear that the failure to even reply is intentional," said John Schafer, former Chair of the Biddeford Harbor Commission.

(One document attached: 1) email messages to Collins, King, & Pingree staffers, followed by 2) Schafer dialogue with Collins' staff about NIST grant.)

Schafer said he's not surprised by the stonewalling, because it follows a successful effort earlier this year by Collins' office to dodge a request for contact info at NIST so that he could file a FOIA request and obtain a copy of the application UNE filed to secure the grant.

"I made several requests, they tried several times to talk to me on the phone instead of just giving me the information, and ultimately never provided the contact information after promising it to send it. They also denied ever having been in contact with NIST via email, which I found hard to believe. After all, Senator Collins sent out a press release taking full credit for securing the grant for the university," Schafer said.

Last Wednesday the Biddeford Planning Board tabled UNE's effort to secure approval for the proposes research pier.

---30---

Dear Biddeford Planning Board,

I wrote to you recently, and to re-cap very briefly, I spent 46 years in the commercial fishing industry. I was appointed to Saco's very first Coastal Waters Commission, was executive director of the local Chamber of Commerce for several years, served as Director of Transportation for BSOOB Transit, and founded the Northwest Atlantic Marine organization (NAMA), an organization that emphasized *collaboration* and *rational discussion* between commercial fishermen and federal regulators. Hardly an easy task, I assure you!

I have a positive relationship with UNE and its president, and always look forward to teaching my seminars with students who are in the Marine Science Program. My relationship with UNE spans over 15 years. I agree 100% that UNE needs a new pier for its ambitious and critical research activities.

I attended the May 21 Planning Board meeting, and the Board left no doubt that it will do a site survey. Mr. Dubois correctly surmised that this should happen at low tide, and Mr. Patoine asked that a system for easily determining river depth be in place. Since getting the Board onto the river is now a certainty, I would like to volunteer my services to help the Planning Board achieve this mission. And of course in the spirit of transparency and openness, which as a common theme during the planning board meeting, entrusting me as a third party, we can assure you these important criteria will be addressed.

I've been brainstorming just a bit, and here are some initial thoughts:

- I assume UNE will want at least two or three people on board. The City will want Board members, the Planner, and probably a reporter or two to act as the eyes and ears for the public. I anticipate a handful of others as well, so my guess is between 12 and 15 people in total.
- Most likely you'll need three boats, and it's less likely but possible you'll need four.
- At least one of the boats should have a depth finder. Two would be better. I can help round up the boats.
- You'll want at least one independent person who knows the river extremely well, and who can serve as a captain for the expedition. That person would coordinate navigation of the boats, and serve as an authority figure for any questions that the Board, UNE or the press may have about how the river flows. That person should anticipate coordinating the outing with the Biddeford Planning Department. I'd be happy to assist.
- Off the top of my head, I think Saco's present Harbormaster would be a good candidate. I am unaware of any public statements he has made about UNE's application. Together, he and I can provide the necessary expertise and knowledge to accomplish this important sight visit.

- Since the main question at hand is depth at two locations on the river, the captain of the expedition will be able to figure out the best way to safely acquire the data that the site visit is intended to collect.
- A good launching point for the site visit would be the Camp Ellis pier. Mr. Angers mentioned that he would like to see the site from the Saco side as well, so his request would be satisfied. I would be happy to work with Saco City Hall to see if free parking passes could be arranged for everyone who will be on the boats that day.

That's just a brief sketch, but I hope it illustrates the type of planning that's going to be necessary. Several months ago I wrote to James Herbert, president of UNE, and offered my services to help bring parties in the community together so that the rancor could be reduced, and important work completed. If I can help the City of Biddeford complete the mission of a professional site survey, then I volunteer in the same spirit of collaboration with which I offered my assistance to President Herbert.

You can reach me by phone at 207-590-9614 or by email at cpendle5@gmail.com.

Sincerely,

Craig A. Pendleton

Craig A. Pendleton
81 Cascade Road
Old Orchard Beach, ME 04064

Tonight, we need to remove the passion from the conversation and focus on the technical and legal aspects of this proposal.

And based on these alone I would argue that you cannot approve this project.

15 part C The facility shall be no larger in dimension than necessary to carry on the activity and be consistent with the surrounding character and uses of the area

The site walk was helpful to appreciate the size and scale of this project. Speaking of scale, this site walk confirmed that the numerous regulatory requirements make this so massive it is no longer meet Sec 15c

I implore the University provide a scaled 3D computer rendering to demonstrate this. This will severe restrict movement in and around this area forever.

A 3D rendering will affirm if this is approved, this will be Biddeford's new MERC.

Sec 15 sec 10a When necessary, the removal of trees and other vegetation to allow for construction equipment access to the stabilization site via land must be limited to no more than 12 feet in width. When the stabilization project is complete, the construction equipment accessway must be restored.

The entrance will be a 20' road (not `12 per the law), combined with the turn around and the building as a backdrop will rip open the vegetation to a massive scale. Fire department requirements conflict with an ordinance, the ordinance-the law- still stands.

I also believe it's a violation of original the conditions of approval for the Marine Science Center.

Harry center who gave guidance to the board on the relevant technical sections of the shoreland zone. In addition to the technical areas they were provided, but there are other sections I want to bring to your attention.

Section 1. Purposes. [Ord. of 9-15-1998(4)]

The purposes of this ordinance are to:

to protect fish spawning grounds, aquatic life, bird and other wildlife habitat;

to protect commercial fishing and maritime industries; This project does not

help me as a Maine guide or any of the working fisher people. It will negatively impact us.

to conserve shore cover, and visual as well as actual points of access to inland and coastal waters; to conserve natural beauty and open space; We all use this area to access the river, the beach and the fish. How does this project conserve natural beauty and open space?

UNE by its own admission doesn't have or need the capacity this provides. They already have facilities that can be expanded. Where I come from, we focus on needs, not wants. UNE doesn't need it,, and we don't want it or need it.

Sec 7. Whenever a provision of this ordinance conflicts with or is inconsistent with another provision of this ordinance or of any other ordinance, regulation or statute administered by the City of Biddeford, the more restrictive provision shall control, except that where there are conflicts or inconsistencies between Section 12 (Nonconformance) of this ordinance and any other ordinance, regulation or statute administered by the City of Biddeford, Section 12 (Nonconformance) of this ordinance shall prevail.

This is the second part

In 2001 the SRCC imposed a 250 no build zone. Its important not only to recognize the requirement and that it relates to the ordnance conflicts provision of this ordinance. But let's understand the intent.

During the meeting at the SRCC where this was agreed in order to gain 50' height on the dormitories, in response, Sandra Featherman stated on the record that "the University has absolutely no intention to build within the 250 of the river, and that the city as well as the University believe the buffer the be very sensitive and necessary for the protection of the river."

The intent of UNE accepting this condition was clear. The SRCC reason was crystal clear as the minutes indicated. No more building in the 250 buffer zone period. No exceptions.

This project does not meet the purpose or intent of the shoreland zone and is in direct conflict with the SRCC and UNEs previously stated in intentions, and previous conditions of approval.

To the planning board, you are not responsible for the city administrations failure to guide UNE. Its not your Fault UNE overreached. Under article 10, section 1.b.3 It's your job only to review and approve, approve with conditions or disapprove. Based on the ordinance, based on the law, you must disapprove.

I submit these comments and the minutes from the SRCC from 2001 and 2017 for the record.

Whitten, Nan

From: Pier Review <unepierreview@yahoo.com>
Sent: Tuesday, July 8, 2025 3:17 PM
To: Randy Seaver; wmtw@wmtw.com; tvmail@wgme.com; desk@newscentermaine.com
Subject: In UNE pier review, Biddeford planner puts heavy thumb on scale
Attachments: galbraith to chief.pdf

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

In UNE pier review, Biddeford planner puts heavy thumb on scale

MEDIA CONTACT: Kyle Noble, UNEPierReview@yahoo.com, 207-468-5296

(Biddeford, Maine) After the Biddeford City Council and Planning Board publicly scolded the city's planner for repeatedly pressuring them to approve development projects without full documentation, it has come to light that the planner personally tried to pave the way for approval of an application that the University of New England (UNE) has in front of the planning board.

(VIDEO, planner reprimanded by Biddeford Planning Board and City Council: https://youtu.be/-Kfno9gmvAY)

Galbraith discovered that a key agreement between the Biddeford Fire Department and UNE doesn't exist, so he tried to manufacture one.

On May 28, a Hills Beach resident had written, "The Board should request any evidence of a signed agreement between the City and UNE about hosting a fireboat. If one doesn't exist, the need isn't documented, and the pier is over-designed and too large by definition." On June 9, a planning board member asked Galbraith for a copy of the agreement. The next day Galbraith wrote to Biddeford's fire chief, "I would love to provide a letter to the Board" about an agreement between the fire department and UNE. (Email excerpts attached.)

"It is not the planner's job to write UNE's application for them," said Kyle Noble, a Biddeford resident and former city councilor. "He is way out of line. Begging the fire chief to manufacture a document is an insult to the intelligence and integrity of this board."

Coincidentally, discovery of the planner's appeal to the fire chief came after he wrote to the city attorney last week trying to limit the scope of planning board review. On Thursday he wrote that for UNE's proposed dock, a very large structure that would dominate the lower Saco River, the planning board must strictly avoid looking at tides, river depth, currents, silt build-up, and many other issues that typically affect any marine structure. "The Board may only base their decision on the specific criteria listed in the Site Plan and Shoreland Zoning laws as they specifically relate to Piers & Docks," he wrote.

Noble said area residents have faith in Biddeford's planning board members, despite efforts by other

government authorities to circumvent normal regulatory review and ignore public input.

“The general feeling is that the planning board members will successfully ward off all attempts by UNE and city staff to unfairly manipulate the process, as they have been trying to do all along. This board is capable of resisting maneuvers to short-circuit proper procedures,” he said.

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Whitten, Nan

From: Fishing Woes <fishingwoes@gmail.com>
Sent: Wednesday, July 9, 2025 4:34 PM
To: Whitten, Nan
Cc: Lewis, Kayla; Deschambault, Susan; Patoine, Larry; Angers, Roch; Beaudette, Stephen; Dubois, Matthew; Plotkin, Alexa; Galbraith, David; Center, Harry; randyseaver01@gmail.com; dinamendros@gmail.com; srichelieu@metln.org; newsdesk@sacobaynews.com; Iriqat, Adi
Subject: Re: Repeating official request to Biddeford City Planner

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

The mooring owners are anything but anonymous. We have been very public. We are:

Tom Hatch, mooring #12, Bob Brackett, mooring #150, Gregg McPherson, mooring #138, William Mitchell, mooring #48, Captain Shawn Tibbetts, mooring #126, Mike Ramunno, mooring # 46, and Steve Goebeil, mooring number 248.

We are unified, and we're not moving. We submitted a signed Letter of Notice to the Planning Board on May 21, 2025, and we sent a letter to UNE president James Herbert on July 3, 2025.

The site on the Saco River that the Planning Board is looking at this evening is unavailable to UNE. That's a fact.

On Tue, Jul 8, 2025 at 1:43 PM Whitten, Nan <Nan.Whitten@biddefordmaine.org> wrote:

> ***Good Afternoon***
>
> ***The purpose of the site walk is a workshop for the Planning Board; it is not a forum to make decisions or announcements as such. If he feels it is appropriate, the City Planner will make the announcements you request at the Planning Board meeting of July 16th.***
>
> ***If you would like to identify yourself, we would be happy to post the letter with the agenda packet but where it is anonymous, it will be kept in the file.***

Thank you for your input, we will pass it onto the applicant and keep it on file.

Nan Whitten

City of Biddeford

Office Manager

Planning & Development

207-284-9115

From: Fishing Woes <fishingwoes@gmail.com>
Sent: Tuesday, July 8, 2025 1:05 PM
To: Lewis, Kayla <kayla.lewis@biddefordmaine.org>; Deschambault, Susan <Susan.Deschambault@biddefordmaine.org>; Patoine, Larry <Larry.Patoine@biddefordmaine.org>; Angers, Roch <Roch.Angers@biddefordmaine.org>; Beaudette, Stephen <Stephen.Beaudette@biddefordmaine.org>; Dubois, Matthew <Matthew.Dubois@biddefordmaine.org>; Plotkin, Alexa <Alexa.Plotkin@biddefordmaine.org>; Galbraith, David <David.Galbraith@biddefordmaine.org>; Whitten, Nan <Nan.Whitten@Biddefordmaine.org>
Cc: randyseaver01@gmail.com; dinamendros@gmail.com; srichelieu@metln.org; newsdesk@sacobaynews.com
Subject: Repeating official request to Biddeford City Planner

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Since so much time and effort has been invested to arrange tomorrow's site walk at UNE, it is crucially important that Biddeford's city planner verbally inform everyone who makes the effort to attend, at the start of the meeting, that the viewing party will be looking out on a site on the river that is unavailable to UNE for building a pier. Thank you in advance for being fully transparent about this.

FACTS:

1. UNE has proposed a pier in a location that is unavailable to them. Other mariners are already legally moored in that spot, and have been for many years.

2. The current mooring holders categorically reject UNE's offer to pay for our relocation.

SUPPORTING INFORMATION IN DOCUMENTS:

1. Al Thibeault, memo June 11, 2025: "The Biddeford Mooring Permit Application clearly states 'The location is subject to change at any time **at the discretion of Harbor Master** or Deputy…'"

2. Biddeford Harbormaster, email to mooring holders, April 12, 2025: "Several mooring owners in the lower part of the Saco River have recently expressed concerns to me about the imminent removal or relocation of their mooring. You may have a similar concern. I am writing to let you know that, as Harbormaster, I have no plans to remove or relocate any existing mooring."

3. Mooring owners, letter to UNE president James Herbert, July 7, 2025: "We are the local mooring owners. We will all be affected by your proposed pier location, and two of us sit directly *on* your coveted location. *None of us are moving*."

Whitten, Nan

From: Pier Review <unepierreview@yahoo.com>
Sent: Thursday, July 10, 2025 9:59 AM
To: Randy Seaver; srichelieu@metln.org; newsdesk@sacobaynews.com; dinamendros@gmail.com; wmtw@wmtw.com; tvmail@wgme.com; desk@newscentermaine.com; sean.a.murphy@charter.com
Subject: Media update after yesterday's UNE pier site walk
Attachments: Put Pier Here Composite.jpg

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

- Regulatory review of UNE's proposed marine sciences research pier on the lower Saco River continued yesterday, Wednesday, July 9, 2025. The site walk began at 5:00 p.m. and was a repeat of the June 9 site walk, which Biddeford's city planner had scheduled despite knowing that three planning board members could not attend.
- The planner did not attend the site walk last night. His absence came after Tuesday's press announcement revealing his hasty attempt last month to persuade the planning board that some of some sort of official agreement was in place between the Biddeford Fire Department and UNE. (No such agreement exists.)
- Photo attached. In advance of the site walk, residents erected a sign on public land at the low tide mark. Text on the sign read, "PUT THE PIER HERE, LESS IMPACT ON THE MOORING FIELD AND NAVIGATION."
- The sign was in the suggested alternative location that Biddeford's harbormaster recommends for the pier. (The harbormaster is under orders from the City to remain silent about UNE's application.)
- The sign is in the general location UNE's attorney Ron Schneider claimed has no deep water, and therefore a pier there "would sit in water too shallow to use." Schneider made his false declaration while threatening to sue the City of Biddeford.
- During the site walk last night, Schneider ordered the former chairman of Biddeford's Harbor Commission to tell whoever put the sign up to remove it.
- The sign, however, was not on UNE's property.
- The sign was in the general location GEI Consultants described in a memo to UNE that directly contradicts Schneider. GEI is UNE's hired consultant. On November 28, 2023 they wrote, "The suggested alternative location does have greater depth at the main berth, approximately 11 to 12 feet at MLLW."
- Last week the city planner instructed the planning board that, in reaching a decision, it cannot consider factors like water depth, current, tides, other moorings, ice flow, etc.
- Even at this late stage of regulatory review, no certified Harbormaster has reviewed or approved UNE's application.

The Biddeford Planning Board meets next Wednesday, July 16, to continue its deliberations on UNE's application. The meeting will be at 6:00 p.m. at Biddeford City Hall.