



City of Biddeford Planning Board

March 19, 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: 998 6942 2742

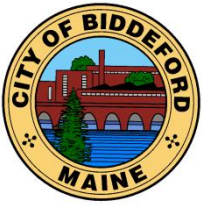
Passcode: 144576

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 Planning Board Meeting Minutes from March 5, 2025
6. Unfinished Business
7. New Business
 - 7.a 2024.33 Public Meeting to take comments and review a Preliminary Subdivision Application for Coastal Oaks, LLC. The property is located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone. The applicants propose to convert the existing vacant building into 25 +/- residential apartments.
 - 7.b 2024.32 Public Meeting and take comments to review a Preliminary 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.
 - 7.c 2025.01 Public Meeting and take comments to review a Site Plan Application for T & T Leasing, LLC. The property is located at 3 Digital Drive (Tax Map 15, Lot 7-4) in the I-1 Zone. The applicant proposes to construct a 7500 SF facility to rent units for commercial activities.
 - 7.d 2024.56 The Planning Board will review a Site Plan Amendment request by Gorrill Palmer for the York County Judicial Center to amend the previously approved landscaping. The location of the property is 515 Elm Street (Tax Map 88, Lot 5) in the B2, R1A zones.

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: March 5, 2025
Time: 6:00 PM
Location: Council Chambers & Zoom

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
Quorum Present: Alexa Plotkin, Chair, Larry Patoine, Sue Deschambault, Steve Beaudette (Alternate Member) & Kayla Lewis (Alternate Member)
Staff Present: David Galbraith, Adi Iriqat & Nan Whitten
Steve Beaudette will vote in place of Roch Angers & Kayla Lewis will vote in place of Matthew Dubois
3. Adjustments to the Agenda-None
4. Planner's Business-None
5. Consent Agenda
5.A. Review for approval Meeting Minutes for February 19, 2025
MOTIONS: 6:05PM
Motion- Patoine-Motion to approve Consent Agenda
Second- Deschambault
Vote- Motion passed unanimously
6. Unfinished Business-None
7. New Business
7.a 2025.06 A Shoreland Zoning Application for Jennifer and Rich Strabley to rebuild their Single Family Residential. The property is 25 Ocean Avenue (Tax Map 60, Lot 20) in the Coastal Residential Zone.
 - Iriqat introduced the project
 - 3-bedroom house to a 2 bedroom
 - Private Septic not sewer
 - Pulling the house forward to make it more conforming.
 - Garage will remain nonconforming
 - Jennifer & Rich Strabley represented the application.
 - PUBLIC COMMENTS
 - Wayne DeReice- 24 Ocean Avenue
 - Patoine-Existing building is not storm damage-no just the garageMOTIONS: 6:17PM

Motion-Patoine- Motion to Approve Case #2025.06 Shoreland Zoning Application for Jennifer & Rich Strabley (Tax Map 60, Lot 20) in the Coastal Residential Zoning District with the previously listed Conditions of Approval. (Patoine read the conditions)

Second-Deschambault

Vote-Unanimous Approval

7.b. 2023.31 Site Plan and Subdivision Application for Diversacorp Holdings LLC to construct four (4) residential condominium units, called Amari Condominiums. The property is at 20 Clifford Street (Tax Map 39, Lots 30-1 & 304) in Residential-2 Zone.

- Iriqat introduced the project
- Landscape Plan included
- Austen Fagan represented the application.
- Impacting no natural resource
- NO PUBLIC COMMENTS
- Lewis-Looking forward to seeing more condos in the area
- Patoine asked about comments regarding incomplete submission.
- Iriqat-all concerns satisfied
- Patoine-all questions on checklist have been answered-yes

MOTIONS: 6:24 PM

Motion-Lewis-Motion to Approve Case #2023.31 Site Plan and Subdivision Application for Diversacorp Holdings LLC (Tax Map 39, Lots 301-1 & 304), called Amari Condominiums, in the Residential-2 Zoning District with the adoption of the attached Findings of Fact (FOF) and recommended Conditions of Approval (COA) as written.

Second-Beaudette

Vote-Unanimous

7.c. 2025.03 The Biddeford Planning Board will review a Preliminary Site Plan & Subdivision Request for Reveler LLC. This is the proposed development of existing Pepperell Mill Building #30 into 11 residential units at 2 York Street (Tax Map 71, Lot 6-2) in the MSRD 3 Zone.

- Galbraith introduced the project
- Engineering & Fire Department questions have been answered
- Number of changes to site plan landscaping added
- Nonconforming parking lot
- Galbraith explained nonconforming parking lot
- Galbraith recommends approval
- Mike Barton from Reveler, Zach Stevens from acorn, Pete Heil, acorn, Ryan Senatore from PSA represented the applicant,
- They have been working with HPC, MDEP, SMPDC, state historical society
- Stevens went through the power point presentation
- Boundary line will be expanded
- Total of 15 spaces on site
- Utility upgrades electric & telecom, water, new lighting with wall-packs
- Requesting impervious surface waiver
- Senatore went through the plans
- NPS tax credit standards

- New windows and roofing all under the review of the parks service
- Attic will house the mechanical units
- Removing the fire escape on the rear for historic preservation
- NO PUBLIC COMMENTS
- Deschambault asked about the two-bedroom units
- Lewis asked why there is only 1 two-bedroom-historic rehab constraints and not practical in the geometry of the building
- Lewis concerned about the parking spaces and lack of bedrooms, who will be able to afford the apartment as a single.
- Galbraith said the project does meet parking requirements, the applicant will be doing 1 low-income apartment, and they are on the bus lines
- Deschambault explained how the apartment management does work with the applicants on parking.
- Patoine thinks the project is very well done.
- Plotkin had a question about angled parking, it seemed awkward & difficult
- Stevens they have run driving templates on these spots, and they do work.
- Lewis the parking lot is 2-way will this be possible with a full lot. Galbraith it's a small enough lot that people can see coming and going but it is a tight drive aisle.
- Plotkin asked about the waiver being requested for drainage
- Lewis-what is the status of the mail room, it will be in the lobby

MOTIONS: 6:51 PM

Motion-Beaudette-Motion to approve the request for drainage waivers

Second-Patoine

Motion- Beaudette-Motion to APPROVE Case # 2025.03 Preliminary Subdivision and Site Plan Review for Reveler LLC - Proposed development of existing building into 11 residential units at 2 York Street (Tax Map 71, Lot 6-2) in the MSRD 3 Zone.

Second-Patoine

Vote-Unanimous

Lewis stated that she did vote to approve it but does have concerns

7.d. 2025.07 A 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).

- Iriqat introduced the project
- The vacant building will be demolished (8,000 SF)
- Joey Fonesca-Bohler Engineering represented the application.
- Total parking 146 spaces
- Parking will be reconfigured for efficiency with drive-thru
- Jason Adams from Beauman Consulting discussed the traffic study they completed
- Galbraith explained that there were a number of parking spaces that backed out into the road. The applicant corrected this before being asked.
- NO PUBLIC COMMENTS
- Deschambault-has the back called to verify access to their lot-No
- Retaining wall was discussed

- Plotkin asked about portions of the parking lot and driving calming practices? People will be slowing due to more people, vehicles and landscaping.
- Plotkin spoke about another turn in the parking lot that is awkward, will this area be eased.
- Deschambault there needs to be another traffic review for the entire area
- Plotkin the way finding signs need to be updated

MOTIONS: 7:23 PM

Motion-Deschambault- Motion to Approve Case 2025.07 A 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).

Second-Beaudette

Vote-Unanimous

10. Other Business-Galbraith talked about the procedure with performance guarantees. He would like to make some changes to the procedures.

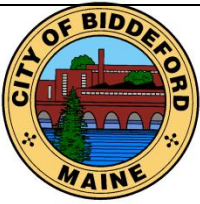
Galbraith also talked about procedure for Site Plans going into 3 meetings sketch, prelim & final.

11. Adjourn-7:29 PM

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

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: February 20, 2025

RE: 2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone.

MEETING DATE: March 19, 2025, at 6:00 PM

1) INTRODUCTION

Ethan Scott and King Weinstein of Coastal Oaks, LLC, purchased 12 Pearl Street, a .284-acre parcel with a three-story 21,000-sf brick building in the MSRD-1 zone. The sketch plan for this project was before the board on July 17, 2024. The applicant has returned with the proposal to convert the existing storage/vacant building into 20 residential units. While an additional fourth story was initially proposed during the sketch plan review, the structure will remain three stories.



Figure 1 A vertical view of the property

2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone.

The applicant carefully evaluated the potential impact of the renovation on the surrounding area, ensuring the project aligns with the City's long-term goals for urban revitalization and sustainability. The project aims to preserve a significant piece of Biddeford's industrial history while providing lasting benefits, including increasing the housing supply, offering affordable housing options, boosting property values, supporting local businesses, and creating new opportunities for residents and visitors.

2) PROJECT INFORMATION

1. Applicant:	Coastal Oaks, LLC 198 Saco Avenue, Old Orchard Beach, ME 04064
2. Owner of Property:	Same As Applicant
3. Agent:	Haley Ward, INC., C/O Drew Olehowski 120 Main Street, Suite 132, Saco, ME 04072
4. Surveyor:	Same As Agent
5. Project Location:	12 Pearl St
6. Project Tax Map /Lot #:	Tax Map 40, Lots 72
7. Lot Size:	.284
8. Base Zoning:	MSRD-1
9. Overlay Zoning:	N/A
10. Existing Use:	Storage/Vacant
11. Proposed Use:	3-story Residential Structure (20-units)
12. Approvals Required:	Preliminary Site & Subdivision Plan Historic Preservation Commission Review Fire Department Review Police Department Review Water Service Sewer Service Solid Waste Service Parking Agreement
13. Uses in the Vicinity:	Commercial
14. Waivers Needed:	Stormwater Management Plan Open Space
15. Waivers Granted:	N/A
16. Other Non-City Permits Required:	N/A
17. LDR Attachment A: Fees Paid:	Yes
18. Planning Board Review History:	Sketch Plan: July 17, 24. Preliminary Plan: March 19, 25

3) Existing conditions

The parcel at 12 Pearl Street (City Tax Map 40, Lot 72) is currently serviced by public water, sewer, and natural gas. It is fully developed and occupied by a three-story building with an approximate footprint of 7,000 square feet. A paved vehicle maneuvering area is located to the south and east of the building, while vegetated areas are limited to a narrow grass buffer along the north and west sides.



Figure 2 Buildings 12 Pearl Street— The existing structure is an empty former mill building that has remained vacant for numerous years.

4) Proposed Project

The building has three levels, including the basement. The applicant proposes converting it into 20 residential dwelling units across three stories.

Each floor will contain six one-bedroom units, and the second and third floors will each contain one studio unit for 20 units. The first floor will include a common space for mailboxes, utilities, and mechanical systems. Below is a table showing the following mix of units across the building's stories:

1st Floor	Six (6) one-bedroom units
2nd Floor	Six (6) one-bedroom units and one (1) studio = Seven (7) one-room units
3rd Floor	Six (6) one-bedroom units and one (1) studio= Seven (7) one-room units
Units Total	20 Units

The Applicants are also proposing exterior modifications, which anticipate the introduction of new windows and possibly removing some of the existing brick façades and replacing them with steel and glass. These items will require review and approval by the Historic Preservation Commission (HPC). The image below is part of the exterior modification the applicant is proposing. Notice the tower which will require HPC approval.

2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone.

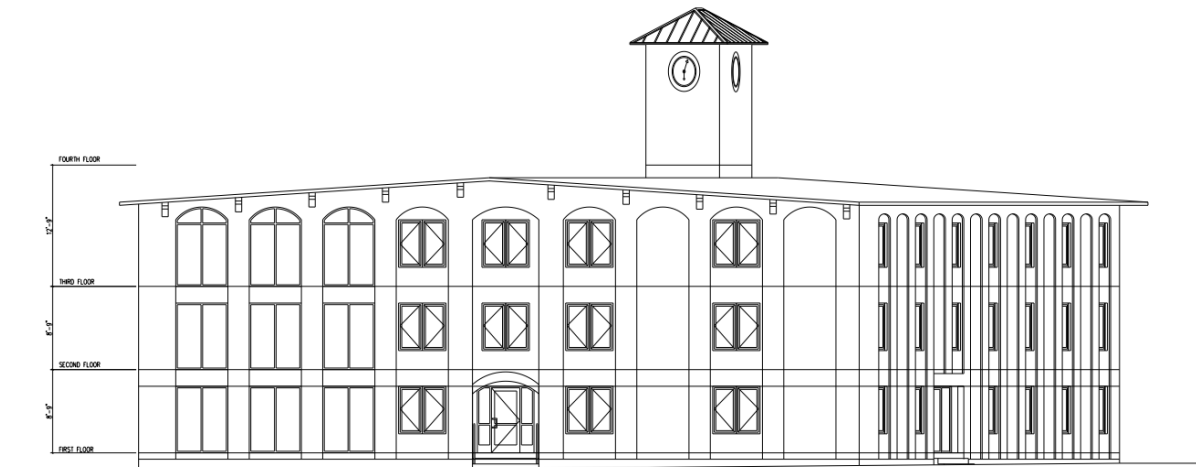


Figure 3 Eastern Elevation of the Building

Scope of work:

- Replacement of utility services
- Exterior lighting
- Repairing the retaining wall on Pearl Street
- Staircase addition
- Improvement to the building's exterior

There will be four entrances: One on Pearl Street by the retaining wall, one on Stone, one from the right-of-way in the parking lot, and one new one in the alleyway at the top of the retaining wall directly into the second floor. They don't have proposed signage yet but should make a note that there will be signage on the corner of Stone and Pearl, as well as the Pearl St entrance adjacent to the retaining wall.



Figure 4 12 Pearl Street – Existing Building Elevations

2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone.



Figure 5 Buildings 12 (highlighted in red) – Proposed 20-unit Buildings

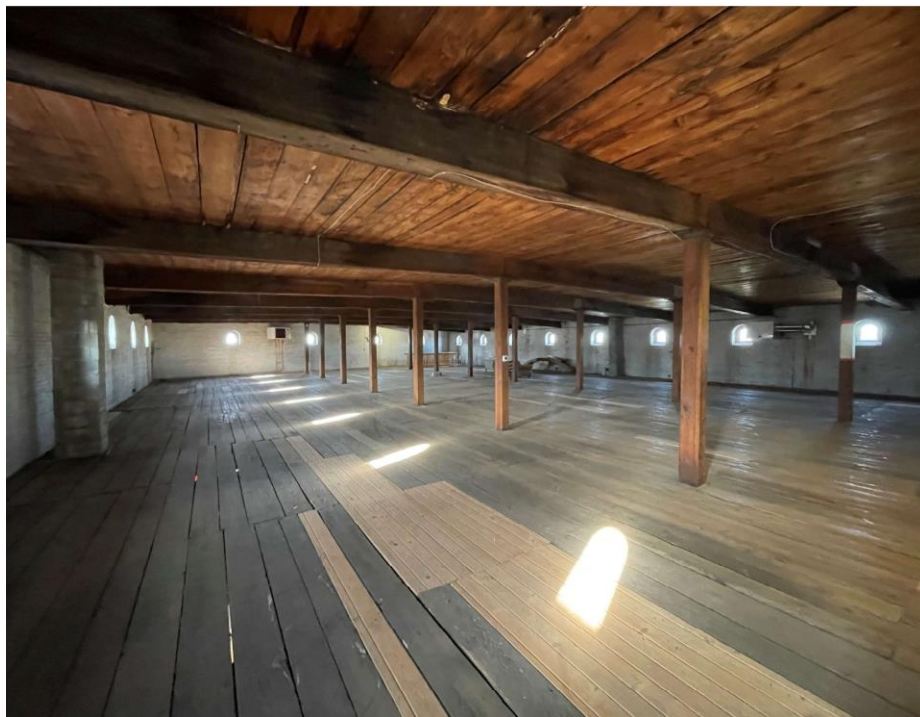


Figure 6 Building 12 – First Floor Interior Image

5) Review Process

Per the City Ordinance, this application is subject to the Planning Board's Site Plan (Land Development Regulations, Article XI) review and Subdivision Review (Chapter 66—Subdivisions) approval. This Application is for a “Preliminary Plan” review, and in addition to the Planning Board review and approval of the project, it also requires approval from the **Historic Preservation Committee**.

Waivers: Stormwater Management Plan and Open Space

Departmental Review Comments:

A. Planning Department:

In response to the Planning Department's comments, the applicant provided us with the following response:

"After further looking into the onsite parking topic, we have decided to eliminate proposed onsite parking. All tenant parking will be provided via an offsite parking garage. At the most, we may include one space dedicated to ADA/pick-ups/drop-offs. I believe this addresses many of the concerns raised below. A few other responses:

- I have already reached out to the HPC. They recommended that we attend a preliminary planning board meeting first in order to vet out our design some before going before the commission.
- We will provide engineering drawings for the retaining wall/steps for final submission.
- Minor landscaping was already proposed with the submitted design. Additional landscaping is now more feasible with the removal of onsite parking spaces."

As for the Planning Department's comments, they are as follows:

1. Building Elevations: The Preliminary Plan submittal shall include elevations identifying all proposed exterior building modifications, which will also need review and approval from the Historic Preservation Commission (HPC). These modifications shall specifically include proposed window and doorway modifications.
2. The Preliminary Plan Application shall include a detailed overview/narrative of all proposed property improvements.
3. ~~The existing retaining wall between Building 12 and Building 7 is leaning out. The wall is part of building 12's property. See the Picture below.~~

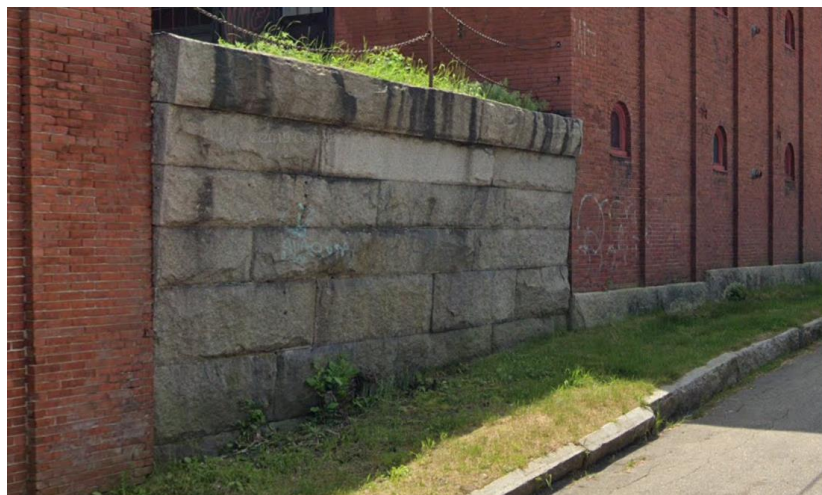


Figure 7 This retaining wall shall be verified for structural stability and any required corrective action shall be part of this redevelopment project

2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone.

4. Being a residential development, where will the main entrance be located, and will this include any exterior building modifications?
5. The existing site conditions contain a reasonably wide curb opening, which should be reduced to 24' in width. The current parking area behind the building should be converted into landscaped areas with trees and shrubs.
6. Before the Final Planning Board review, the Applicant shall include a signed perpetual parking agreement with Premium Parking for all of the development's required parking.
7. ~~The City's Peer Reviewer must review the plans, including the water and sewer utilities and any associated roadway patching repair.~~
8. ~~Concerns were expressed with the parking lot design and the ROW to Mulligans upper delivery area.~~
9. ~~The parking lot design also appears to be a one-way drive into the site and front-in parking, making exiting the site difficult without utilizing Stone Street. All vehicle maneuvering shall occur on site. Backing out of the proposed angled parking stalls does not seem feasible.~~
10. ~~The primary drive aisle is scaled at 14' in width, where 20'+ is required for two-way traffic. How are passenger vehicles expected to maneuver on site?~~
11. ~~The snow storage area seems inadequate, except for minimal snowfall. Snow shall be hauled off-site.~~
12. ~~The proposed building elevation modifications require the review and approval of the Historic Preservation Committee (HPC). The staff representative for the HPC is Brad Favreau, who can be contacted at Brad.Favreau@Biddefordmaine.org. The HPC would like to workshop the building elevation designs in a workshop. HPC review and approval shall be obtained before scheduling the Final Plan review with the Planning Board.~~
13. ~~Although the site has limited green space, landscaping should be incorporated, particularly along roadways.~~
14. ~~The retaining wall along Pearl Street will be modified with a section removed, and a new open-air stairwell is proposed behind most of the remaining retaining wall. Detailed, engineered plans and a sidewalk from the stairwell entrance to Pearl Street shall be provided.~~
15. A detailed plan for the dumpster enclosure with a concrete pad must be provided. Solid screen gates must also be included.
16. ~~The application originally proposed a 4th floor be added to the building. That is no longer being proposed and will not be part of this redevelopment application. Should an additional floor or roof-top amenity be proposed, the Planning Board and HPC review, and approval must be obtained.~~
17. ~~Ten percent of the proposed units shall be for low/moderate income rental apartments or a financial contribution of \$100,000 per required LMI units. This project will require three LMI units or a \$300,000 contribution to the City's Housing Trust Fund.~~

B. Code Enforcement:

There are no comments/concerns at this time.

C. Engineering / Public Works:

1. The Applicant shall provide interior storm and sanitary plumbing plans, confirming both gravity systems are separated and have separated downstream connections within the City's infrastructure. If the interior storm and sanitary piping are not separated or do not outfall into separated systems, the Applicant shall provide formal separation plans, including disconnecting roof drains/downspouts. The City's Director of Engineering shall review and approve the plans before any building or plumbing permits are issued.

2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone.

2. All vehicle maneuvering must occur on-site, and either Pearl Street or Stone Street may not be utilized for backing into/out of the property. Truck turning radius shall be shown on preliminary plan sets.
3. The City is designing a proposed force main on Lincoln Street that will be tied to Main Street. This force main route aims to remove redundant sewer routing at Horrigan Court Pump Station and reduce flows at two of the City's largest CSOs (Elm Street and Horrigan Court). The City would like 12 Pearl Street to pump to the proposed Lincoln Street force main, and the City will provide a force main stub in Lincoln Street for the connection.

D. Fire Department:

1. A sprinkler system design and the plans for a fire alarm system must be submitted as part of final Approval.
2. The applicant must confirm if they have contacted Maine Water for Hydrant Flow Testing to evaluate the fire main's water supply at the test hydrant's location.

6. Sample Motions:

A. Motion to Approve Case 2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone with the above-listed Conditions of Approval and Waivers for a Stormwater Management Plan and Open Space.

B. Motion to Table Case 2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone for the following reasons:

- 1) _____
- 2) _____
- 3) _____

C. Motion to Deny Case 2024.33 Preliminary Site Plan & Subdivision Review for Coastal Oaks, LLC: Proposal for the construction of 20 residential apartment units within Building 12 of the Pearl Development, located at 12 Pearl Street (Tax Map 40, Lot 72) in the MSRD-1 Zone for the following reasons:

- 1) _____
- 2) _____
- 3) _____



HALEY WARD®

APPLICATION FOR SITE PLAN AND PRELIMINARY SUBDIVISION REVIEW

TO THE CITY OF BIDDEFORD

FOR 12 PEARL STREET

Tax Map ID: Map 40, Lot 72

APPLICANT:

COASTAL OAKS, LLC

198 Saco Avenue | Old Orchard Beach, ME 04064



FEBRUARY 2024
JN: 13871.013

APPLICATION PREPARED BY:

Haley Ward, Inc.

120 Main Street, Suite 132 | Saco, ME 04072



February 12, 2025

City of Biddeford Planning Department
ATTN: David Galbraith
205 Main Street
Biddeford, ME 04005

Re: Site Plan and Subdivision Application for Renovation of Existing Mill Building | 12 Pearl Street | Biddeford, Maine

Dear David:

On behalf of **Coastal Oaks, LLC**, Haley Ward, Inc. (Haley Ward) is pleased to submit this Site Plan and Preliminary Subdivision Application for the proposed renovation and adaptive reuse of the existing mill building located at 12 Pearl Street in Biddeford, Maine. This project was last seen by City staff and the Planning Board for a Sketch Plan Review; this Planning Board meeting took place on June 26, 2024.

This project aims to preserve and revitalize this historically significant structure, while also contributing positively to the ongoing development of the downtown area. Our team is committed to enhancing the area's character while meeting modern safety, sustainability, and accessibility standards.

The proposed renovation includes repurposing the building for residential development, incorporating both residential and community spaces in a way that compliments the existing fabric of the neighborhood. The work will also focus on necessary structural improvements and updating the site to meet current codes, including improvements to parking, utilities, landscaping, and stormwater management, in compliance with the City of Biddeford's (City) Zoning and Land Use Regulations.

Attached to this application, you will find the required site plans, architectural renderings, a comprehensive analysis of the project's impact on traffic, utilities, and the surrounding environment, and other materials related to this development's conformance with applicable ordinance sections. We have carefully considered the potential effects of the renovation on the surrounding area and have worked to ensure that the project will align with the City's long-term goals for urban revitalization and sustainability.

We believe that the project will not only preserve an important piece of Biddeford's industrial history but also provide long-term benefits by increasing the housing supply, providing affordable housing options, increasing property values, supporting local businesses, and providing new opportunities for residents and visitors alike. We are excited about the potential of this renovation and look forward to working with the City to ensure the project meets all necessary standards and regulations.



Existing Conditions

The subject parcel is located at 12 Pearl Street and is identified on the City Tax Map as Map 40 Lot 72. The lot is fully developed and is occupied by a three-story building with a footprint of approximately 7,000 square feet. The parcel also contains a paved vehicle maneuvering area to the south and east of the building. Vegetated areas on the parcel are limited to a minor grass buffer along the north and west sides of the building. The building is currently equipped with public sewer and water services, as well as power and natural gas utilities. The following materials have been provided to assist with the analysis of the existing parcel.

Deed – Appendix A.

Location Map – Appendix B. The site is located at 12 Pearl Street, at the intersection of Pearl and Stone Street.

USDA Soils Map – Appendix C. The site is generally dominated by Urban Fill. Minimal site work is required for this development; the identified soil types are not expected to limit the project.

FEMA Flood Hazard Map – Appendix D. This site is not located within a mapped FEMA Flood Hazard Zone.

Existing Site/Building Photographs – Appendix E.

Project Description

The proposed development includes the renovation of an existing mill building at 12 Pearl Street. Improvements to the building interior generally include upgrades related to the creation of 20 residential apartment units. While an additional fourth story was originally proposed during the sketch plan review, the structure will remain as three stories. Each floor will contain six 1-bedroom units, and the second and third floors will each contain one studio unit for a total of 20 units. The first floor will also contain a common space for mailboxes, utilities, and mechanical systems.

The applicant will provide 10% of the proposed units as low/moderate income rental apartments.

Improvements to the exterior of the building will include new signage, light fixtures, and a clock tower. Preliminary architectural materials have been provided and will be updated per Planning Board/City staff feedback, as well as a review by the City's Historic Preservation Commission. Finalized materials will be provided prior to final Planning Board approval.

Site work for this development will include the replacement of utility services, the addition of on-site tenant parking spaces, the addition of exterior lighting, the repair of the existing retaining wall on Pearl Street, and the addition of a staircase for direct access to the second floor from Pearl Street. Further information on these improvements can be seen on the provided drawing set and elsewhere within this narrative.

The following materials have been provided to demonstrate the proposed improvements:



Architectural Renderings, Floor Plans, and Elevations – Appendix F.

Site Plan Drawings and Details – Appendix J.

Zoning

Per the Official Zoning Map of Biddeford, the project site is located within the MSRD-1 zone. According to the City's Zoning Ordinance, the goal of this district is to “*preserve the historic character of Biddeford while promoting the growth of businesses and residences in the district.*” We believe the nature of this development is a perfect match for this goal. The proposed residential dwelling units are an allowed-use within this zone.

It is our understanding that the existing lot conforms to all dimensional standards of this zone, and there are no proposed site improvements that would violate these standards.

Site Access and Parking

The site currently has a driveway off of Stone Street. This driveway will remain the primary access for this site and will be unmodified. The provided drawing set includes turning templates demonstrating the ability for larger vehicles to turnaround within the site.

Per the City Zoning Ordinance, two parking spaces are required per dwelling unit. While the owner has entered into an agreement with a nearby parking garage to meet the parking requirement, five off-street parking spaces have been provided on-site at the rear of the building for tenant use. A parking easement will be obtained for all off-street parking areas. A signed perpetual parking agreement with the off-site parking garage will be provided prior to final approval.

Traffic

A preliminary assessment of traffic impacts was performed using ITE's online Trip Generation tool. For a development classified by Land Use Code 220-Single multi-family housing (low-rise), this 20-unit use is expected to generate eight trips at the weekday PM peak hour. This is well below the Maine Department of Transportation's (MaineDOT) 100 trip threshold for requiring a Traffic Movement Permit. This development is not expected to create any significant, negative, traffic-related impacts on Pearl Street or the surrounding areas.

Stormwater

Site work associated with this development is minimal, consisting of only a new staircase, utilities, and areas designated for parking. Because this project will not significantly alter existing cover types or existing drainage patterns, a waiver is requested for Land Development Regulations Article VI, Section 61.

Erosion and Sedimentation Control

As mentioned above, site work associated with this development is minimal, consisting of only a new staircase, utilities, and areas designated for parking. Erosion controls will be used as necessary; these are expected to be limited to protection of surrounding catch basins via silt sacks. Please refer to the Erosion Control Plan in **Appendix G.**



Exterior Lighting

Exterior lighting will be limited to residential/decorative lighting at the building entrances. Lighting for the new off-street parking area at the rear of the building will also be provided via full-cutoff wall packs. Fixture cutsheets have been provided in **Appendix H**.

Utilities

The property is currently serviced by public water and sewer utilities, as well as power via Central Maine Power and natural gas. The existing sewer and utility connections will be abandoned and replaced via a new six-inch sewer service, a two-inch domestic water service, and a six-inch fire service. The locations of these utilities are shown on the proposed Site Plan. Ability to serve requests have been sent to the water and sewer departments and have been provided in **Appendix I**. Their responses will be provided prior to final Planning Board approval.

While the building currently has a combined sewer/stormwater system, the systems will be separated and will be discharged to separate systems as shown on the Site Plan. A final design showing the internal revisions to these systems will be provided prior to obtaining a Building Permit from the City.

The building will be updated to include a new fire suppression system. The applicant is currently working with fire suppression designer Dean & Allyn, Inc. This design will be provided prior to final Planning Board approval.

Solid Waste

The property is currently serviced by public trash-pickup. Residential waste generated by tenants will be collected in a dumpster to be located at the rear of the property adjacent to Stone Street. The applicant has reached out to Casella for an ability to serve letter. This confirmation will be provided prior to final Planning Board approval.

Protected Natural Resources

This development is located on a fully developed lot; there will be no disturbance to previously undisturbed areas. There are no protected natural resources located on or adjacent to the subject parcel. Because of this, no adverse impacts to protected natural resources are expected.

State Agency Review

This development is located on a fully developed lot; there will be no disturbance to previously undisturbed areas. Because of this, review by the Maine Department of Inland Fisheries and Wildlife and the Maine Natural Areas Program is not necessary. The Maine Historic Preservation Commission will be contacted if deemed necessary by the City HPC review.

Other Permits

No other permits, (other than standard Building, Electrical, etc.) are required for this development. This development does not meet the threshold criteria for any Maine Department of Environmental Protection permitting.



CONCLUSION

The Appendices listed below and presented throughout this application are intended to demonstrate that the proposed development will maintain compliance with the Town's performance standards for Major Site Developments.

APPENDIX	SECTION
A	Deed
B	Location Map
C	USDA Soils Report
D	FEMA Flood Hazard Map
E	Photolog
F	Architectural Renderings, Floor Plan, and Elevations
G	Erosion Control Plan
H	Fixture Cutsheets
I	Required Approvals
J	Drawings

Ten copies of this submission have been included for your use. We look forward to working with City staff and the Planning Board. If you have any questions regarding the information being submitted, please contact our office.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, PE
Project Manager

DJO/jok
Enc.



TABLE OF CONTENTS

APPLICATION

Application Form
Agent Authorization
Site Plan Review Checklist
Subdivision Checklist

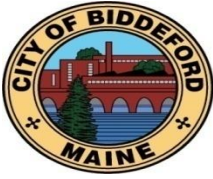
APPENDICES

Appendix A	Deed
Appendix B	Location Map
Appendix C	USDA Soils Report
Appendix D	FEMA Flood Hazard Map
Appendix E	Photolog
Appendix F	Architectural Renderings, Floor Plan, and Elevations
Appendix G	Erosion Control Plan
Appendix H	Fixture Cutsheets
Appendix I	Required Approvals
	<i>Historic Preservation Commission Review</i>
	<i>Fire Department Review</i>
	<i>Police Department Review</i>
	<i>Water Service</i>
	<i>Sewer Service</i>
	<i>Solid Waste Service</i>
Appendix J	Drawings
	<i>Cover Sheet</i>
	<i>Existing Conditions Plan</i>
	<i>Proposed Site Plan</i>
	<i>Lighting Plan</i>
	<i>Site Details</i>



APPLICATION

Application Form
Agent Authorization
Site Plan Review Checklist
Subdivision Checklist

**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: COASTAL OAKS, LLC
 Mailing Address: 198 SACO AVENUE, OLD ORCHARD BEACH, ME 04064
 Telephone: 207-710-7570
 Email: ETHANSCOTTDEVELOPMENT@GMAIL.COM

What is your legal interest in the property?

☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: SAME AS APPLICANT
 Mailing Address: _____
 Telephone: _____
 Email: _____

Agent's Information:

Name: HALEY WARD, INC., C/O DREW OLEHOWSKI
 Mailing Address: 120 MAIN STREET, SUITE 132, SACO, ME 04072
 Telephone: 207-989-4824
 Email: dolehowski@haleyward.com

Engineer/Surveyor's Information:

Name: ENGINEER - SAME AS AGENT
 Mailing Address: _____
 Telephone: _____
 Email: _____

Project Location and Lot Information:

Street Address: 12 PEARL STREET Drainage Watershed: SACO RIVER

Tax Map: 40 Lot: 72
 Current Zoning: MSRD-1 Shoreland Zoning: N/A

Size of Lot: _____ () acres () s.f. Lot Frontage: _____

Existing Use of Property: THE PROPERTY HISTORICALLY WAS USED FOR INDUSTRIAL PURPOSES AND IS CURRENTLY USED AS STORAGE.

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 INVOLVES THE RENOVATION OF 12 PEARL STREET FOR RESIDENTIAL USE. THE PROPOSED BUILDING WILL INCLUDE 20 DWELLING UNITS

Property to be Serviced by:

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

Limits of Disturbance: 0 (X)acres ()s.f.

Net change in impervious cover: 0 (X)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)

N/A If in a Shoreland Zone:

Percent of residential lot coverage (Max 20%): _____

Percent of structure expansion (Max 30%): _____

☒ If Subdivision Review, number of lots proposed: 1

N/A 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: ZERO

Total new square feet paving/parking: ZERO

Waiver Requests (attach details):

1. **STORMWATER MANAGEMENT PLAN**
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?: __ (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 02/12/2025

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_INDIVIDUAL 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 INDIVIDUAL 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

Drew Olehowski

From: Ethan Scott <ethanscottdevelopment@gmail.com>
Sent: Thursday, January 23, 2025 1:56 PM
To: Drew Olehowski
Cc: KING WEINSTEIN; Ethan Miester
Subject: Re: 12 pearl materials

Good Afternoon Drew,

This email is to confirm Coastal Oaks, LLC authorizes Haley Ward to act as its agent for permitting activities for the redevelopment of 12 Pearl Street in Biddeford, Maine.

Ethan Scott
Ethan Scott
Coastal Oaks, LLC
207-710-7570

On Thu, Jan 23, 2025 at 9:39 AM Drew Olehowski <dolehowski@haleyward.com> wrote:

Thanks, Ethan.

The agent authorization can just be a separate email saying “Coastal Oaks, LLC authorizes Haley Ward to act as its agent for permitting activities for the redevelopment of 12 Pearl Street in Biddeford, Maine” with your signature.

Please keep me updated on the architectural materials.

Regarding the sewer/stormdrain separation item – is this something you would like to address for this submission? This seems like a strange request for a site plan review, they don’t usually dig into the building design specifics. For now, I think it’s okay if we say those two systems will be internally separated and discharged into separated systems accordingly as shown on the site plan. I assume the architect is already working with an MEP team who will sort that out down the line. Just a reminder we have an MEP team and plumbing designer in-house who could assist if requested.

The next two planning board deadlines are 1/29 and 2/12. 1/29 would be a bit too tight. Do you think you could have the architecture items by 2/10? (we need a few days to assemble the physical applications.)

Thank you,

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488

This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author or HaleyWard, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone the information contained in this message or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

From: Ethan Scott <ethanscottdevelopment@gmail.com>
Sent: Wednesday, January 22, 2025 11:17 AM
To: Drew Olehowski <dolehowski@haleyward.com>
Cc: KING WEINSTEIN <krek1@aol.com>
Subject: Re: 12 pearl materials

On Tue, Jan 21, 2025 at 3:20 PM Drew Olehowski <dolehowski@haleyward.com> wrote:

Hey Ethan,

Could you please assist with the following items for the 12 Pearl Street city application?

1. More detailed information regarding the “mixed-use” aspect. We will need to know at a minimum the nature of this use, was it decided this will be a bar/restaurant? We will need to check the zoning ordinance to see if that use is allowed here. **We want to keep the proposal only residential for now with all units within the existing shell. After approvals we would like to propose additional units on the roof and a commercial restaurant/bar space. I have the architect working on revisions to the plans to show the staircases and elevator extending up to the roof for access and potential future use.**
2. Architectural materials – floor plans, elevations, renderings. I have the materials you sent me several months ago; have those changed been revised for the mixed-use area and removed 4th floor? **We have architectural floor plans of the unit layouts (attached) but are revising to**

show the top floor as potential future use. I'll see if he can also draft preliminary elevations.

- a. Are we still planning on (6) 1-bedrooms and 1 studio per floor, for 21 units total? **20 Total Units consisting of 18 (1) bedroom units and (2) studio units. The first floor studio was converted to a common space with mailboxes, utilities, mechanical, etc.**
 - b. Where will the main entrance be, at the rear where the paved parking area is? **There will be four entrances, One on Pearl Street by the retaining wall, one on Stone, one from the right-of-way in the parking lot, and one new one in the alley way at the top of the retaining wall directly into the second floor.**
3. The sketch plan notes state that there are proposed changes to the building exterior, such as replacement of brick façade, and windows. Will there be any new signage? Those pieces need to be included on the building elevations and will be reviewed by the historic commission. **We don't have proposed signage yet but should make a note that there will be signage on the corner of Stone and Pearl, as well as the Pearl St entrance adjacent to the retaining wall.**
 4. The sketch plan notes request plans for separation of stormdrain and sewer within the building, have these been prepared? **No, we only have the proposed utilities plan completed for the previous developer (attached).**
1. Are we still planning on replacing the collapsing retaining wall along Pearl Street with stairs to the 2nd floor? **Repairing, not replacing, and adding steps up to the entrance in the alley way.**
 2. Is the building sprinklered/will sprinklers be added? **Not currently but will be required.**
 3. Have you discussed the “open space” ordinance with the City? They require 1,000 SF of “Green space” per unit. There is no space on the property to provide this, so I will plan on a waiver request. **We will need to request a waiver for this. We do not have any space for this.**
 4. Have you formally purchased the property, and if so, could you provide a copy of the P&S or deed? **Yes. See attached.**
 5. Please provide a statement of agent authorization. **Do you have a template for us to sign?**

Once I have this info included, I will send you a copy of the application to review prior to submission.

Thank you,



Drew Olehowski, PE
Project Manager
t: 207.283.9151 d: 207.404.5893 m: 207.576.6488
a: 120 Main Street, Suite 132, Saco, ME 04072



This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Haley Ward, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you

may not use, copy, distribute or deliver to anyone this message (or any part of its contents) or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

--

Ethan Scott

Scott Development, LLC

207-710-7570

CITY OF BIDDEFORD - SITE PLAN APPLICATION DRAWING CHECKLIST

LAST REVISED: 05/17/23

CHECKLIST DIRECTIONS:

- 1. The following checklist must be completely filled out by the applicant for any Site Plan submittal to the Planning Department.
- 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 submittal information with non-acceptable reasoning will be rejected.
- 4. Items in **BLACK** are required for 'Preliminary Site Plan' approval & 'Final Site Plan' approval.
- 5. Items in **BLUE** are only required for 'Final Site Plan' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	12 Pearl Street
Planning Board # (if available):	
Applicant Name/Info:	Coastal Oaks, LLC
Submittal #/Type (Prelim/Final):	Preliminary
Submittal Date:	2/7/2025

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
1	GENERAL PLAN REQUIREMENTS				
A	Drawing specific legends (line types, hatches, etc.)	Yes			
B	Individual drawing layer control should be utilized: freeze/thawing, changing line weights, 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, 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			
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			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	Yes			
C	Site Location Map	Yes			
D	Sheet Set List of Drawings	Yes			
E	Tax Map and Lot ID	Yes			
F	Zoning & Shoreland Zone Information	Yes			
G	Existing Use Description	Yes			
H	Proposed Use Description	Yes			
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variiances requesting	Yes			
J	Name of Drainage Watershed	Yes			
K	Within the MS4 Urbanized Area (Yes/No)	Yes			
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	Yes			
M	Within the 100-year Flood Zone (Yes/No)	Yes			
N	Public Road Proposed (Yes/No)	Yes			
O	Private Road Proposed (Yes/No)	No			
P	Public Sewer Connection (Yes/No); if yes, need to include a proposed sewer flow calculation per Maine’s Subsurface Wastewater Disposal Rules, Chapter 241, Section 4 (Tables 4A & 4C)	Yes			
Q	Public Storm Drain Connection (Yes/No)	Yes			
R	Limits of Disturbance in acres	Yes			
S	Pervious Land Cover square footage, existing and proposed	Yes			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	Yes			
U	Building Roof square footage, existing and proposed	Yes			
V	Assigned Planning Board Number				
W	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
3	EXISTING CONDITIONS PLAN				
A	Horizontal & Vertical Datums annotated (NAD83 & NAVD88)	Yes			
B	Survey Benchmark Locations (with XYZ Coordinates annotated)	Yes			
C	Property & Right-of-Way Lines	Yes			
D	Boundary line information (bearings, distances, etc.)	Yes			
E	Property pin and monumentation locations	Yes			
F	Existing easements with proper ownership identified	Yes			
G	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	Yes			
H	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
I	100-year Flood Zone Limits & Elevation	Yes			
J	USDA-NRCS Soil Boundaries and Labels	Yes			
K	Existing contours with adequate contour labelling; minimum 1’ contour interval	Yes			
L	Existing building FFEs annotated	Yes			
M	Spot elevations for existing building corners, door entrances, accessible parking/walkways, road centerlines, and bottom/top of curbs	Yes			
N	Existing buildings & structures	Yes			
O	Existing pavement areas & number of parking spaces	Yes			
P	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	Yes			

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
Q	Existing site features (sidewalks, retaining walls, curbing, light poles, guide rails, dumpsters, fencing)	Yes			
R	Existing signage and striping	Yes			
S	Existing underground utility locations (storm, sewer, force main, water, gas, Elec, tele)	Yes			
T	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes			
U	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			
V	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	Yes			
W	Location of any borings, drinking wells, and monitoring wells	Yes			
4	SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN				
A	Limits-of-disturbance outlined and acreage annotated	Yes			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
C	100-year Flood Zone Limits	Yes			
D	Callout existing site features to be demolished/removed/replaced	Yes			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	Yes			
F	Hatch existing buildings and pavement to be removed	Yes			
G	Construction Entrance location(s)	Yes			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	Yes			
I	Stockpile and staging area(s) identified (with proper perimeter control)	Yes			
J	Inlet protection location(s)	Yes			
K	Note requiring contractor to implement dust control measures throughout construction	Yes			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	Yes			
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, show sediment trap/basin location(s) needed for constructability/phasing; provide sizing calculations				
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			
C	Proposed subdivision lot lines and labels	Yes			
D	Required Zoning Setbacks shown with dimensions and annotation	Yes			
E	Bulk requirement summary table (zoning/parking calculations)	Yes			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
G	100-year Flood Zone Limits	Yes			
H	Proposed building outlines, door entrances and loading docks	Yes			
I	Proposed building labels	Yes			
J	Proposed road extents; provide clear annotation if roads will be public or private	Yes			
K	Proposed parking and accessible parking locations; annotate parking space counts	Yes			
L	Proposed signage, parking striping, and traffic striping	Yes			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	Yes			
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	Yes			
O	Separate hatching for buildings, sidewalks, pavement, landscaping	Yes			
P	Proposed landscaping; detailed landscaping design should be on separate plans	Yes			
Q	Designated snow storage areas	Yes			
R	Proposed dumpster locations and trash removal access	Yes			
S	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	Yes			
T	Radial dimensions for all curbs, landscaped islands, sidewalks	Yes			
U	Road centerline stationing shown, labelled every 0+50' with curve data	Yes			
V	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	Yes			
W	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	Yes			
X	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	Yes			
C	Proposed Building Labels with Individual Finished Floor Elevations (FFE)s	Yes			
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	Yes			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	Yes			

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
F	Detailed grading for all ditches, swales, outfalls, and riprap	Yes			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	Yes			
H	Existing spot elevations for all asphalt and curb tie-in locations	Yes			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	Yes			
J	100-year Flood Zone Limits	Yes			
K	Proposed spot elevations for all important roadway geometric points and/or on a 50' maximum interval: low/high points, PC/PT, road centerline, edge-of-asphalt				
L	Proposed spot elevations for all curblines (bottom/top-of-curb) and sidewalks				
M	Proposed spot elevations for all parking and drive aisle geometry points				
N	Proposed spot elevations for all building corners and door-entry locations				
O	Proposed retaining wall/loading dock elevations (bottom/top of wall)				
P	Proposed spot elevations for all ADA ramp/landing/parking stall geometry points				
Q	Proposed % slope arrows for all ADA parking spaces and sidewalks				
R	Proposed longitudinal % slope arrows for drainage ditch centerlines				
S	Proposed % slope arrows for roads, parking areas, and landscape tie-in areas				
T	Estimated cut/fill earthwork volumes; if disturbing within Flood Zone, separate set of earthwork volumes required (site vs. within flood zone)				
7	ROAD PROFILES (if public/private road proposed)				
A	Existing surface; dashed and screened	Yes			
B	Proposed surface; continuous and bold	Yes			
C	Corresponding centerline stationing and curve data annotation	Yes			
D	Road cross-section including proposed surface cross slopes; include multiple sections for various road cross slope conditions proposed (crowned, superelevated)	Yes			
E	Horizontal and vertical scale bars	Yes			
F	Clear annotation if proposed road will be public or private	Yes			
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			
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			
8	UTILITY PLAN				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	Yes			
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	Yes			
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			
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	Yes			
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	Yes			
F	Proposed storm culverts, outfalls, and riprap locations and sizes	Yes			
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	Yes			
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	Yes			
I	Flow directional arrows for storm & sewer pipes	Yes			
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, light poles, bollards, foundations, guiderails)	Yes			
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)				
N	Grease trap & oil-water separator locations, sizes, elevations				
O	Water, gas, electric, and telecom sizes labelled				
9	UTILITY PROFILES				
A	Utility profiles for all gravity storm drains and sewer pipes, including all laterals, catch basins, culverts, and outfalls; profiles preferred to be aligned on the pipe centerline (not superimposed on the road centerline)				
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				
H	Known ledge or groundwater elevations				

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
	I For all storm drains, 25-year HGL must be shown on profiles with starting tailwater condition identified				
	J For storm outfalls, include riprap sizing and grading extents				
	K Horizontal and vertical scale bars				
10	DETAILS				
A	Road section detail, including pavement & gravel depths	Yes			
B	Sidewalk, paver, crosswalk, and any other pavement section details	Yes			
C	Pavement sawcut detail	Yes			
D	Utility trench/backfill detail	Yes			
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	Yes			
F	Signage, striping, and ADA details	Yes			
G	E&S notes and details; only show applicable/proposed measures	Yes			
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	Yes			
I	Storm outfall & riprap details	Yes			
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	Yes			
K	Pump station, grease trap, and oil-water separator details				
L	Conduit section details				
M	Miscellaneous details (as needed)				
11	LANDSCAPING, LIGHTING & PHOTOMETRIC PLANS				
A	As required by ordinance; at a minimum: locations, counts, and species/models 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	Yes			
B	Predevelopment & Post-development Drainage Area Maps, including: i. Subdrainage areas delineated and labeled ii. Points of Interest/Analysis shown and labeled iii. Hatching for different land cover areas (impervious, pervious, gravel) iv. Time of concentration (Tc) paths & durations v. Four City-standardized stormwater summary tables	No			
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			
D	A Performance Guarantee Cost Estimate utilizing Planning's template	no			
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	Project does not meet applicability threshold for SLODA		
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches) via the rational method; starting tailwater conditions/documentation must be clearly identified				
G	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				
H	Sizing calculations for any SWM water quality BMP or detention facility				
I	A stormwater maintenance manual for any proposed SWM water quality BMP or detention facility, including: i. Annual maintenance requirements ii. 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 iii. 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				
J	Salt Management Plan				
K	Sewer pump station sizing calculations				

SUBMITTAL REQUIREMENT		APPLICANT RESPONSE		CITY REVIEW RESPONSE	
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	REASON NOT PROVIDED/COMMENT	ACCEPTABLE (YES/NO-REVISE & RESUBMIT)	COMMENT
	L Sewer pump station 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				

SUBDIVISIONS

66 Attachment 2

City of Biddeford

Appendix B Required Information Checklist [Ord. of 6-20-1995]

In order for any application to be considered complete the following information must be provided at least two weeks prior to the Planning Board meeting. All plans for subdivisions shall contain the following information:

	Yes	No	N/A	Remarks
(1) Name of subdivision, owner and engineer or surveyor	X			
(2) Graphic scale, date, drawn, North point and its date, and whether it is true or magnetic	X			
(3) Boundaries of the tract	X			
(4) Existing zoning	X			
(5) Ownership and location of abutting properties	X			
(6) Name, location, width, profile, cross-section, radius of curves, angles of change in direction and center line length of all angles of change in direction and center line length of all proposed streets; other public ways, building lines and easements in the subdivision; intersection of existing streets	X			
(7) Type, location, profile and cross-section of all existing and/or proposed surface water drainage	X			
(8) Location of all existing and/or proposed utilities	X			
(9) Location of all existing and/or proposed sanitary sewers showing size, profile, and cross-section, or description, plan, location of other means of sewage disposal with evidence of successful soil evaluation	X			
(10) Topography at two-foot contour intervals, unless otherwise prescribed by the Board. In addition the location of existing natural or man-made features influencing the layout of the proposed subdivision shall be shown.	X			

BIDDEFORD CODE

	Yes	No	N/A	Remarks
(11) Lot lines and approximate dimensions	X			
(12) Proposed uses of property	X			
(13) Proposed public areas, if any	X			
(14) Copy of deed, or option for purchase, for land being subdivided	X			
(15) Reserved fire lane areas			X	
(16) Location of soil evaluation test pits for each lot on plan	X			
(17) Location of well or water supply for each lot	X			
(18) Aesthetics; trees, berms, shrubs, green strips, parks, etc.	X			
(19) Location and details for sedimentation and erosion control measures	X			
The preliminary of a subdivision shall be drawn at a scale no smaller than 100 feet (1 cm = 12 m) to the inch	X			
A preliminary plan shall include a location map insert, showing the relationship of the proposed subdivision to adjacent properties and public access, and drawn at no smaller scale than 2,000 feet (1 cm = 240 m) to the inch. It is suggested that reduced sections of City maps be used for this purpose.	X			

In addition to the above plat information, the Subdivider shall provide the following documents:

	Yes	No	N/A	Remarks
Valid deed or option indicating an interest held by the subdivider in the parcel of land	X			
Completed application form	X			
Narrative of the proposed project briefly describing the general nature of the project i.e., type of project; residential or commercial; number of lots intended to create	X			
Draft covenants and deeds for each lot proposed	X			
Easement documents for proposed rights-of-way for utilities, drainage ways, roadways and other	X			

SUBDIVISIONS

	Yes	No	N/A	Remarks
travelways or public amenities	X			
Statement of financial capability of subdivider to undertake the proposed project	X			
Statement identifying principals involved in the project	X			
Statement demonstrating that the subdividers have the technical capability to complete the proposed project as presented	X			
Copies of such covenants or deed restrictions as are intended to all or part of the tracts	X			
Review by water company, power company and City Engineering, Police and Fire Departments	X			

SUBDIVISIONS

66 Attachment 3

City of Biddeford

Appendix C Subdivision Review Criteria [Ord. of 6-20-1995]

The Board shall base its decision on the plans meeting the conditions and requirements outlined in this chapter; and that the plan meets in a positive fashion, the following:

	Yes	No	N/A	Remarks
1. The project will not result in undue water or air pollution. In making this determination the Board shall consider:	X			
(a) The elevation land, and its relation to the floodplains;	X			
(b) The nature of the soils and the subsoils;	X			
(c) The ability to adequately support waste disposal;	X			
(d) The slope of the land and its affects on effluents;	X			
(e) The availability of streams for the disposal of effluents; and	X			
(f) The applicable state and local health and water resources regulations	X			
2. The project has sufficient water available for the reasonably foreseeable needs of the subdivision	X			
3. The project will not cause an unreasonable burden on an existing water supply, if one is utilized	X			
4. The project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result	X			
5. The project will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads existing or proposed	X			
6. The project will provide for adequate sewage/waste disposal	X			

BIDDEFORD CODE

	Yes	No	N/A	Remarks
7. The project will not cause unreasonable burden on the ability of the municipality to dispose of solid waste and sewage if municipal services are to be utilized	X			
8. The project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas or public rights for physical or visual access to the shoreline	X			
9. The project is in conformance with a duly adopted subdivision regulation or ordinance, Comprehensive Plan, development plan, or land use plan. In making this determination the Board is authorized to interpret these ordinances and plans.	X			
10. The subdivider has adequate financial and technical capacity to meet the above-stated standards	X			
11. Whenever situated, in whole or in part, within 250 feet of any lake, pond, river, or tidal waters, the project will not adversely affect the quality of that body of water, or unreasonably affect the shoreline of that body of water; as indicated on the City of Biddeford's Official Zoning Map and referenced in the City's Comprehensive Plan	X			
12. The project will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater	X			
13. The subdivider will provide information, based on FEMA flood boundary, floodway, and flood insurance maps, whether or not the project is in a flood-prone area	X			
14. The project will not unreasonably obstruct abutting properties or structures access to direct sunlight	X			



APPENDIX A

DEED

DLN: 2193576

Space above for recording information

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS that **MCWILL-MCWAY LLC** a/k/a **MCWILL-MCWAY, LLC**, a Maine limited liability company with a principal place of business in Portland, County of Cumberland and State of Maine, for consideration paid, grants to **COASTAL OAKS, LLC**, a Maine limited liability company with a mailing address of 198 Saco Avenue, Old Orchard Beach, ME 04064, with Warranty Covenants, the following described real estate situated in the City of Biddeford, County of York, and State of Maine:

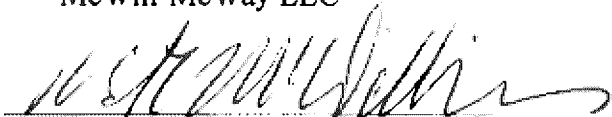
SEE EXHIBIT "A" ATTACHED HERETO AND
INCORPORATED HEREIN BY REFERENCE

Being the same premises conveyed to Grantor herein by deed of Atrix North Realty LLC, dated January 2, 2019 and recorded in the York County Registry of Deeds in Book 17874, Page 145.

IN WITNESS WHEREOF, said McWill-McWay LLC caused this instrument to be signed in its company name by Richard McWilliams, its Authorized Agent, thereunto duly authorized, this 6 day of December 2024.

Signed, sealed and delivered
in the presence of

McWill-McWay LLC



By: Richard McWilliams
Its: Authorized Agent

State of Maine
County of York, ss

December 6, 2024

Personally appeared Richard McWilliams, in his capacity as the Authorized Agent of McWill-McWay LLC, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of McWill-McWay LLC.

Before me,



Notary Public/Attorney at Law B. H. S. 295
Print Name: Paul D. Weinstein
My Commission Expires: _____

Maine R.E. Transfer Tax Paid

EXHIBIT A

A certain lot or parcel of land, with the building thereon, situated in the City of Biddeford, County of York and State of Maine, and more particularly described in deed from Pepperell Manufacturing Company to Warren's Furniture Company dated September 23, 1940, and recorded in the York County Registry of Deeds in Book 955, Page 271, as follows:

Beginning at the junction of the easterly side of a private way known as Stone Street and the southerly side of a private way known as Pearl Street, in said Biddeford, said point being fifty-four and thirty-seven hundredths (54.37) feet easterly from the corner board at the northeasterly corner of the house standing at the junction of the westerly side of Stone Street and the southerly side of Pearl Street and being ninety-eight and nine hundredths (98.09) feet northerly from the corner board at the southeasterly corner of house #37 on Stone Street, said point being marked by the corner of the brick wall at the northwesterly corner of the building standing on the lot herein conveyed; thence southerly by said Stone Street seventy-six (76.00) feet to the corner of the brick wall at the southwesterly corner of the building standing on the lot herein conveyed; thence easterly by the southerly face of the brick wall on the southerly side of the building standing on the lot herein conveyed and by a line which makes an included angle of one hundred eight degrees, twenty-two minutes ($108^{\circ} 22'$) with the last described line, eighty-five and sixty-five hundredths (85.65) feet to the corner of the brick wall at the southeasterly corner of the building standing on the lot herein conveyed; thence northerly by the easterly face of the brick wall on the easterly side of the building standing on the lot herein conveyed, seventy-one and ninety one hundredths (71.91) feet to said Pearl Street, said line makes an included angle of ninety degrees, nineteen minutes ($90^{\circ} 19'$) with the last described line; thence westerly by said Pearl Street one hundred ten (110.00) feet to the point of beginning.

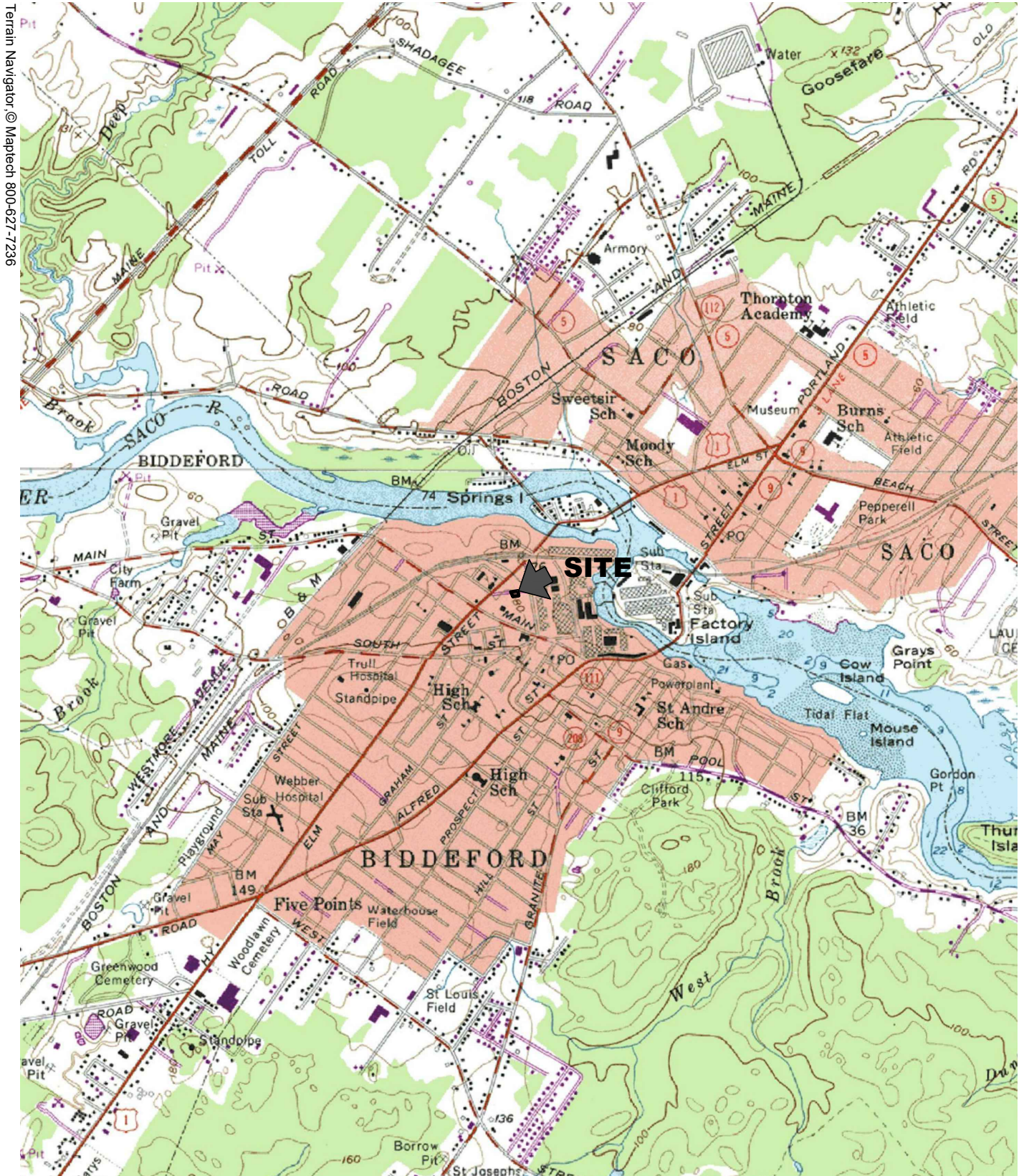
Together with the right of way and right for the eaves on the building standing on the lot herein conveyed to drop onto adjoining land set forth in warranty deed from Atrix North Realty, LLC, to McWill-McWay, LLC, dated January 2, 2019, and recorded in the York County Registry of Deeds in Book 17874, Page 145.

Together with a right of way to pass and repass, as set forth in said warranty deed from Atrix North Realty, LLC, to McWill-McWay, LLC, dated January 2, 2019, and recorded in said Registry of Deeds in Book 17874, Page 145, as affected by Common Use Area Agreement dated December 18, 2009, and recorded in said Registry in Book 15786, Page 896.



APPENDIX B

LOCATION MAP



Terrain Navigator. © Maptech 800-627-7236

SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
BIDDEFORD
@ 1:24,000



HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

**12 PEARL STREET
BIDDEFORD, MAINE
LOCATION MAP**

2025.01.29
13871.013



APPENDIX C
USDA SOILS 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.

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.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
York County, Maine.....	13
Ur—Urban land.....	13
References	15

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

Custom Soil Resource Report

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.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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
Ur	Urban land	0.5	100.0%
Totals for Area of Interest		0.5	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

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

Sulfihemists

Percent of map unit: 2 percent
Landform: Salt marshes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear

Custom Soil Resource Report

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

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

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



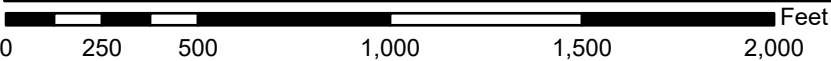
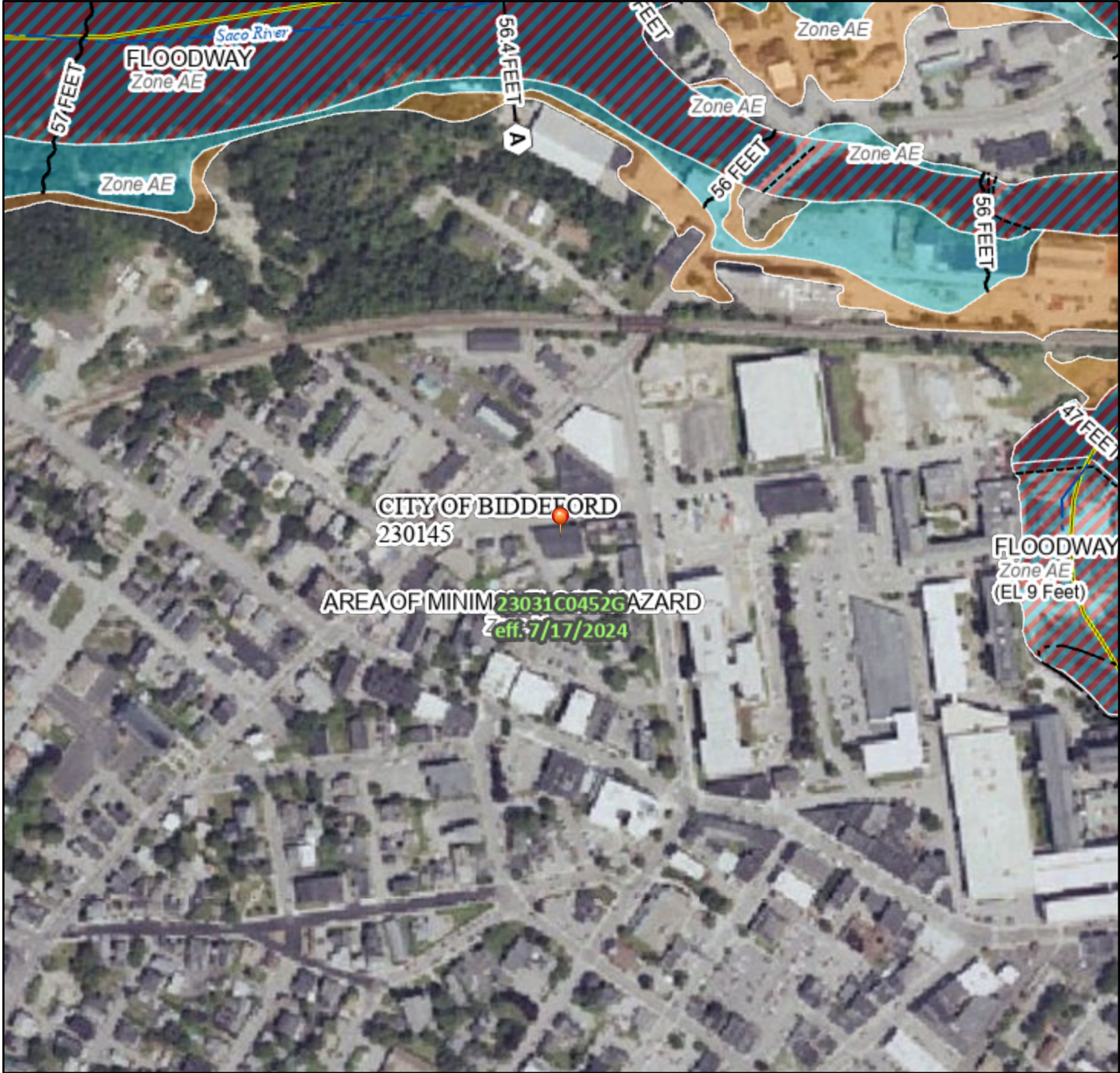
APPENDIX D

FEMA FLOOD HAZARD MAP

National Flood Hazard Layer FIRMette



70°27'45"W 43°29'56"N



1:6,000

70°27'7"W 43°29'30"N

Basemap Imagery Source: USGS National Map 2023

Legend

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

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
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/21/2025 at 7:37 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



APPENDIX E

PHOTOLOG



COASTAL OAKS, LLC
12 PEARL STREET, BIDDEFORD, MAINE

Photo No. 1	
Photo Date: 2.22.24	
Site Location: Biddeford, ME	
Description: Existing building seen from Pearl Street.	
Photo By: SDR	

Photo No. 2	
Photo Date: 10.5.2024	
Site Location: Biddeford, ME	
Description: Existing building seen from rear parking area. (Eastern and southern sides.)	
Photo By: SDR	



COASTAL OAKS, LLC
12 PEARL STREET, BIDDEFORD, MAINE

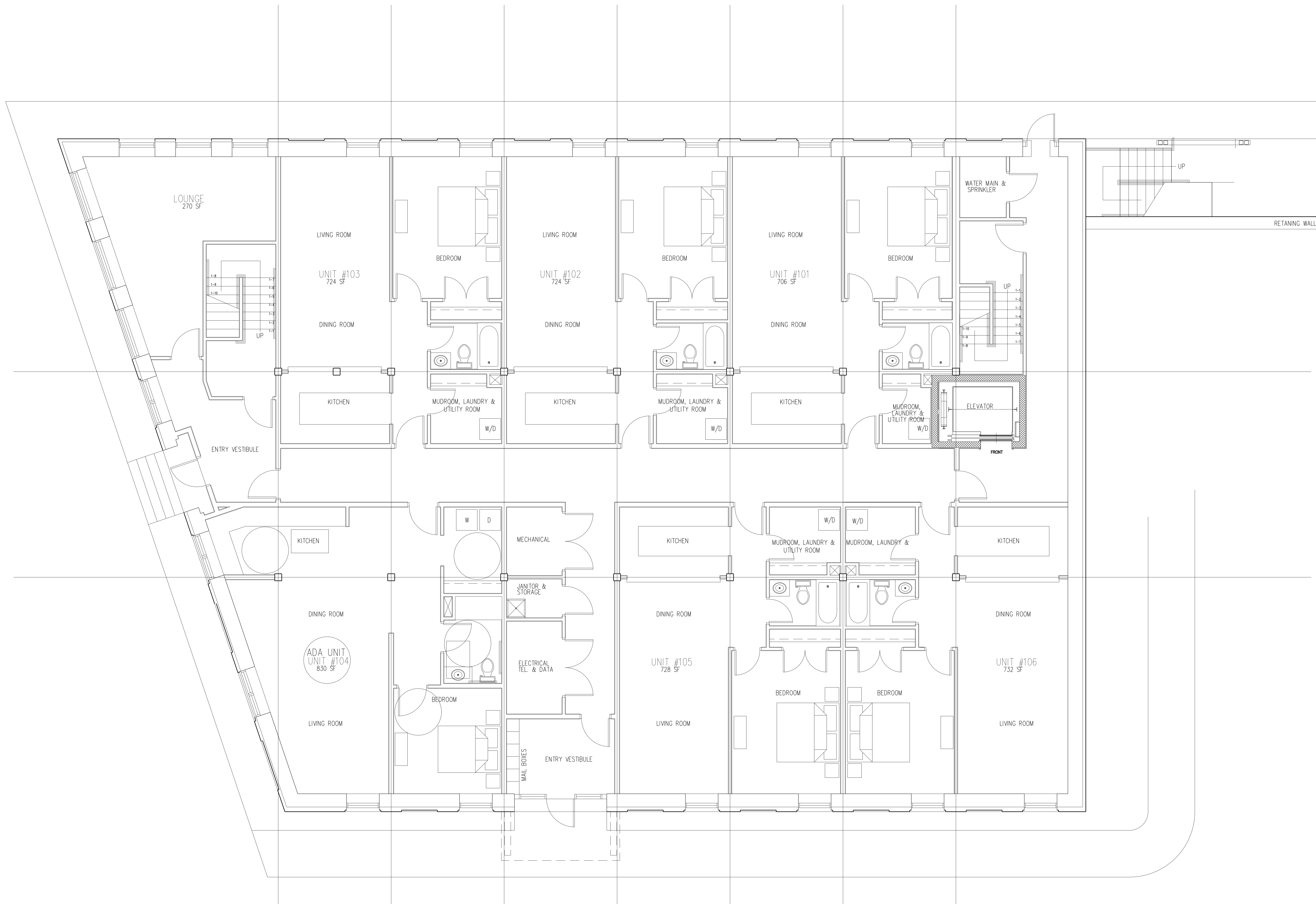
Photo No. 3	
Photo Date: 10.5.24	
Site Location: Biddeford, ME	
Description: Existing building seen from Stone Street. (Western and southern sides.)	
Photo By: SDR	

Photo No. 4	
Photo Date: 10.22.24	
Site Location: Biddeford, ME	
Description: Existing building Interior, second floor.	
Photo By: SDR	



APPENDIX F

ARCHITECTURAL RENDERINGS, FLOOR PLAN, AND ELEVATIONS



GROUND FLOOR PLAN

PROJECT TEAM:
ARCHITECT:
MICHAEL E. COUTURE, ARCHITECT
53 TECHNOLOGY LANE, #109
CONWAY, NH
(603) 387-5817
michael.e.couture@gmail.com

PROJECT NAME:
12 PEARL STREET
BIDDEFORD, MAINE

SHEET TITLE:
FIRST FLOOR PLAN

DRAWN BY:
MEC

SCALE:
1/4" = 1'-0"

DATE:
01.30.25

SHEET NUMBER:
A-101



SECOND FLOOR PLAN

PROJECT TEAM:
ARCHITECT:
MICHAEL E. COUTURE, ARCHITECT
53 TECHNOLOGY LANE, #109
CONWAY, NH
(603) 387-5817
michael.e.couture@gmail.com

PROJECT NAME:
12 PEARL STREET
BIDDEFORD, MAINE

SHEET TITLE:
SECOND FLOOR PLAN

DRAWN BY:
MEC

SCALE:
1/4" = 1'-0"

DATE:
01.30.25

SHEET NUMBER

A-201



THIRD FLOOR PLAN

PROJECT TEAM:
ARCHITECT:
MICHAEL E. COUTURE ARCHITECT
53 TECHNOLOGY LANE, #109
CONWAY, NH
(603) 387-5817
michael.e.couture@gmail.com

PROJECT NAME:
12 PEARL STREET
BIDDEFORD, MAINE

SHEET TITLE:
THIRD FLOOR PLAN

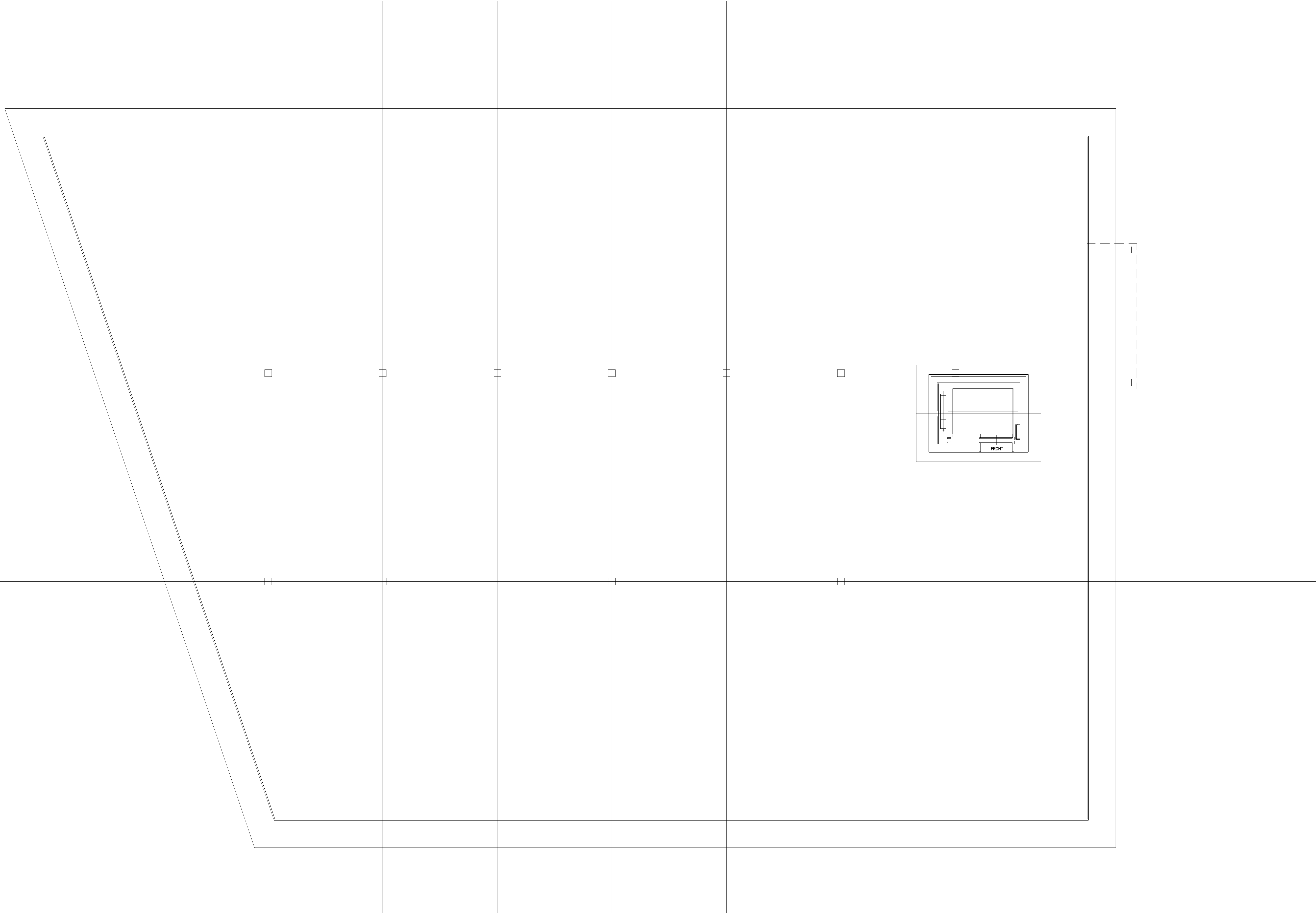
DRAWN BY:
MEC

SCALE:
1/4" = 1'-0"

DATE:
01.30.25

SHEET NUMBER

A-301



SHEET TITLE
FOURTH FLOOR PLAN

DRAWN BY:
MEC

SCALE:
1/4"=1'-0"

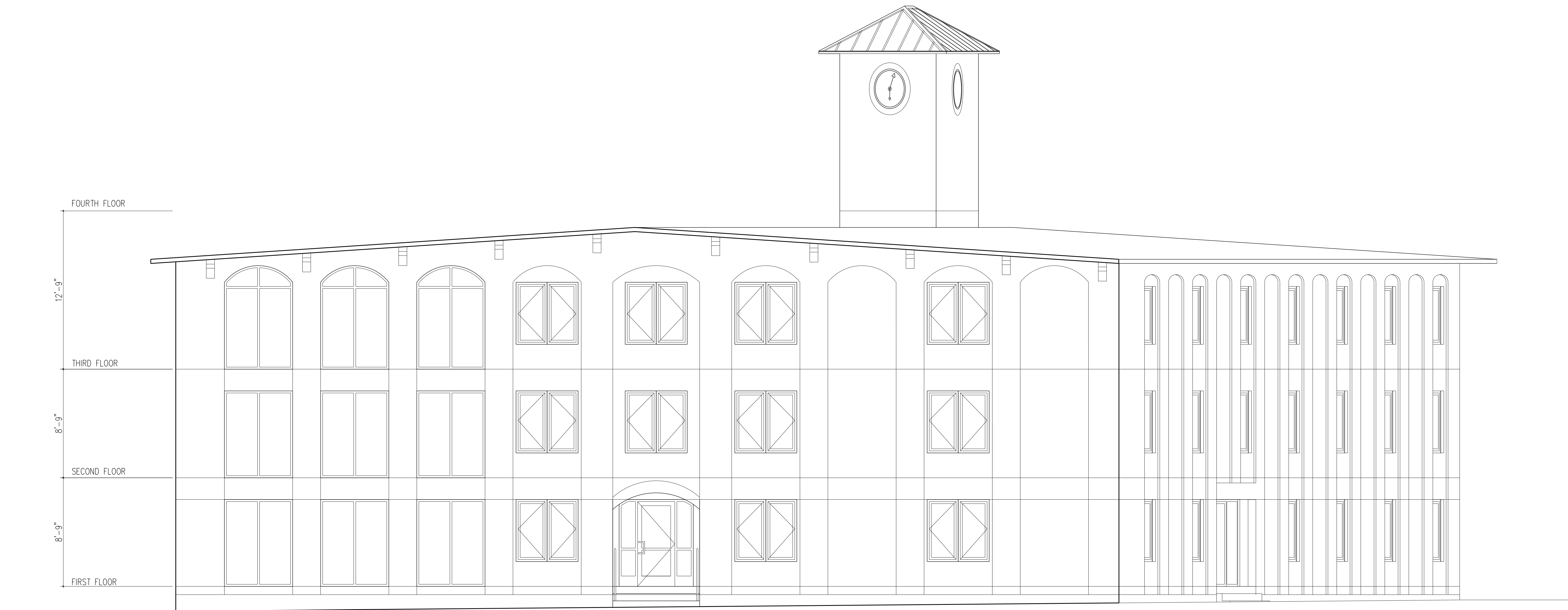
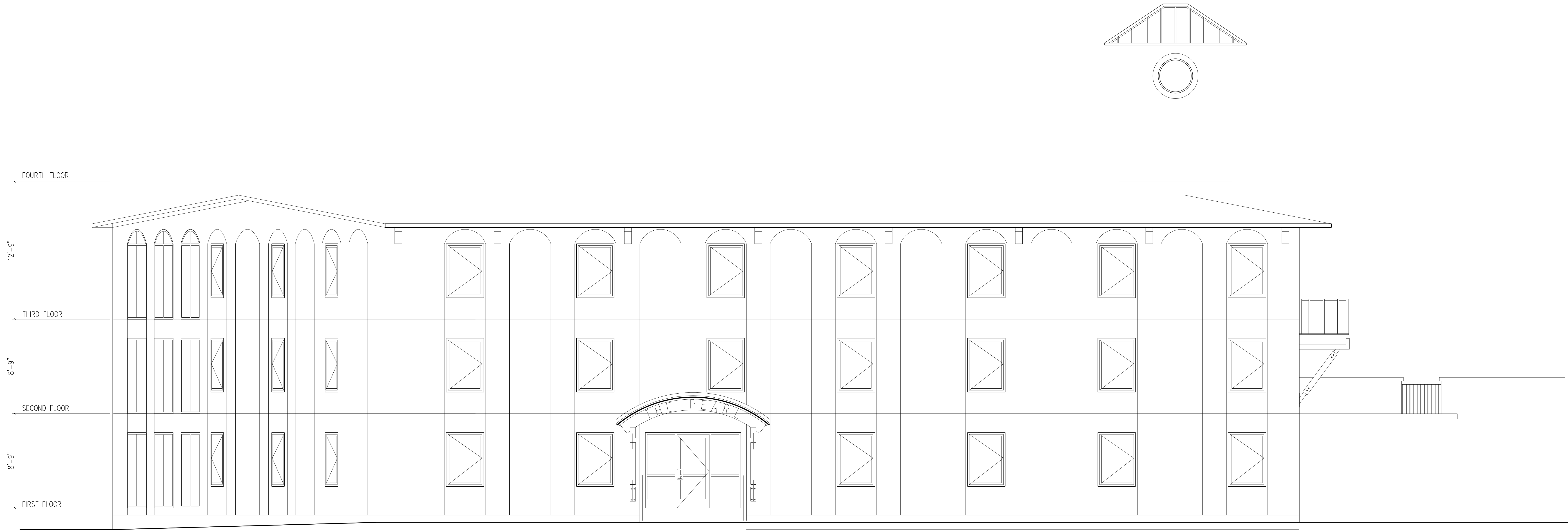
DATE:
01.30.25

SHEET NUMBER

A-401

PROJECT NAME:
12 PEARL STREET
BIDDEFORD, MAINE

PROJECT TEAM:
ARCHITECT:
MICHAEL E. COUTURE, ARCHITECT
53 TECHNOLOGY LANE, #109
CONWAY, NH
(603) 387-5817
michael.e.couture@gmail.com



PROJECT TEAM:
ARCHITECT:
MICHAEL E. COUTURE, ARCHITECT
53 TECHNOLOGY LANE, #109
CONWAY, NH
(603) 387-5817
michael.e.couture@gmail.com

PROJECT NAME:
12 PEARL STREET
BIDDEFORD, MAINE

SHEET TITLE:
ELEVATIONS

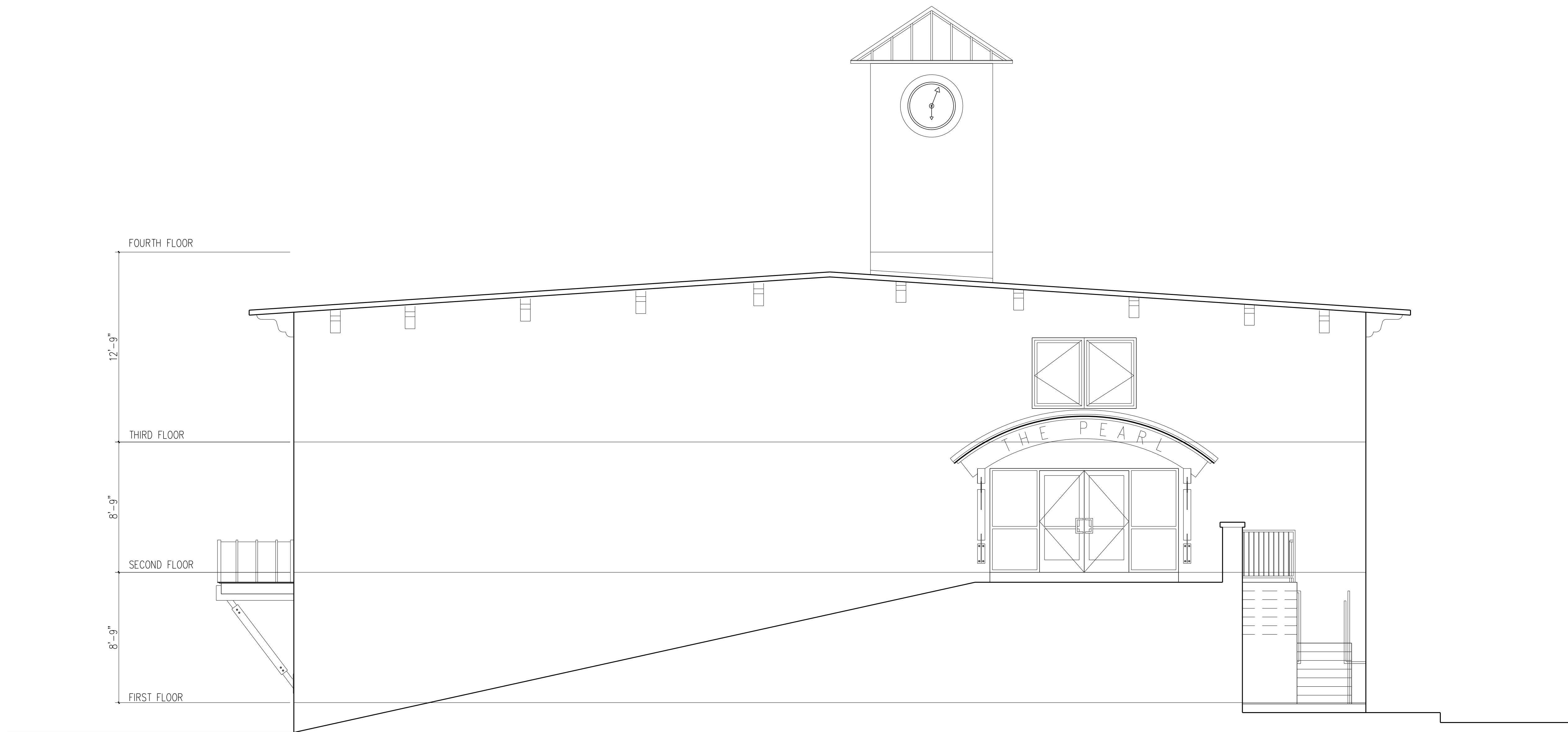
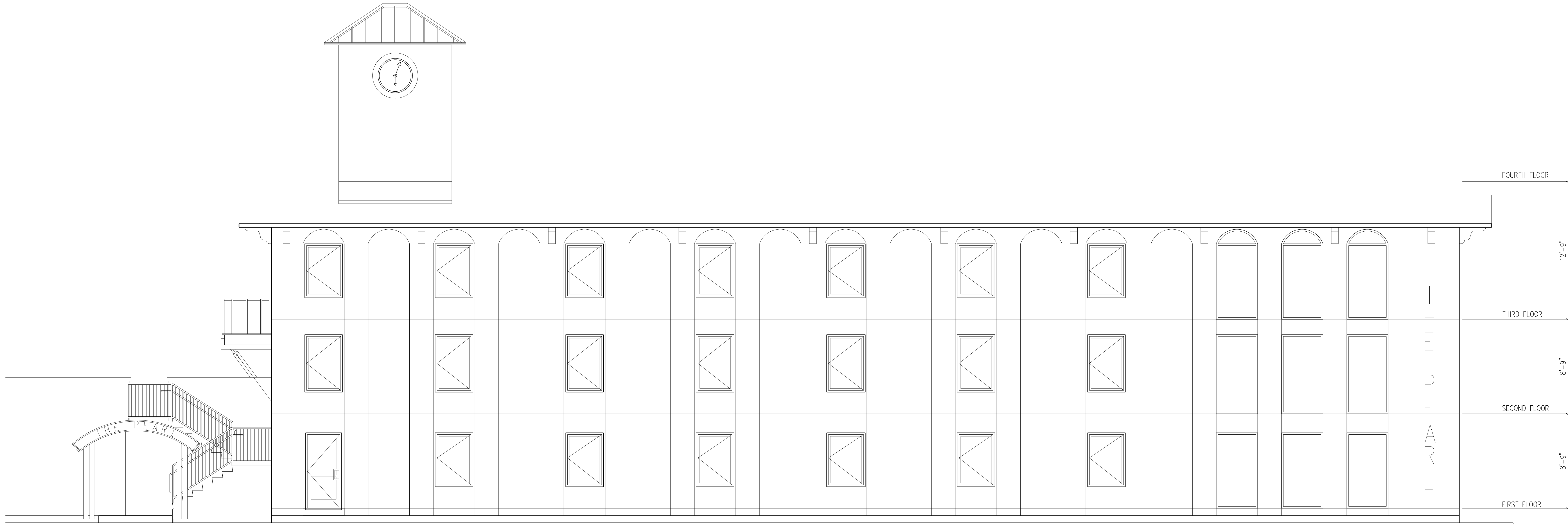
DRAWN BY:
MEC

SCALE:
1/4" = 1'-0"

DATE:
01.30.25

SHEET NUMBER

A-501



PROJECT TEAM:

ARCHITECT:
MICHAEL E. COUTURE, ARCHITECT
53 TECHNOLOGY LANE, #109
CONWAY, NH
(603) 387-5817
michael.e.couture@gmail.com

PROJECT NAME:

12 PEARL STREET
BIDDEFORD, MAINE

SHEET TITLE:

ELEVATIONS

DRAWN BY:

MEC

SCALE:

1/4"=1'-0"

DATE:

01.30.25

SHEET NUMBER

A-502



APPENDIX G

EROSION CONTROL PLAN



EROSION CONTROL

- A. Narrative. The proposed construction will require the implementation of temporary and permanent erosion control measures. These measures will be implemented in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual, prior to removal of any on-site vegetation or disturbance of any on-site soil. The general erosion and sediment control specifications and details, as provided within this section, are intended to describe measures to be used by contractors working on the site to maintain compliance with the standards established in the BMPs. These standards include information on temporary and permanent erosion control measures, rates of seeding and applied mulch, slope and soil stabilization, effect of construction schedule, and other details.

The proposed location and use of erosion control measures on-site are shown on the proposed site plan of this application. There are no known existing erosion control concerns with the site. Implementation of proper erosion control measures will be required by site conditions to confine sediment and debris within the limit of soil disturbance. Proper use and maintenance of erosion control measures will provide protection against off-site transport of sediment and discharge of sediment to undisturbed areas of the development.

- B. Completion Date. Summer 2026.
- C. Site Features. For site features, please refer to the enclosed plan.
- D. Temporary and Permanent Erosion Control Measures. For temporary and permanent erosion control measures, please refer to the enclosed plan.
- E. Limits of Disturbed Areas. Areas of disturbance will be limited to the proposed work shown on the enclosed plan.
- F. Design Drawings and Specifications. For design drawings, please refer to the enclosed plan. The following specifications will be utilized by the site contractor during construction of the project.



EROSION CONTROL PLAN SPECIFICATIONS

A. General

1. All work and measures will be as per the Maine Erosion and Sediment Control BMPs manual.
2. The following specifications will be employed.

B. Prior to Construction

1. Prior to beginning of construction, erosion and sedimentation controls shall be in place.

C. During Construction

1. Exposed soil surfaces will be treated immediately if they are to remain ungraded more than 30 days, or if they are at final grades.
2. Drainage ways, either designed or incidental, will have filter barriers installed.
3. All work and materials necessary to minimize sediment loss from the site will be provided.
4. All erosion control measures will be inspected and repaired after every rainfall greater than ½-inch and at least daily during rain events lasting longer than 24 hours.

D. Post Construction

1. Erosion control measures will be maintained until permanent soil stabilization has been achieved with a growth of vegetation greater than 90%.



SOIL PROTECTION AND EROSION CONTROL

PART 1 - GENERAL

1.01 Description of Work

- A. Provide and maintain devices to control erosion, siltation, sedimentation, and dust that occur during construction operations. Undertake every reasonable precaution and do whatever is necessary to avoid erosion of soil and to prevent silting of wetland areas and drainage ditches.
- B. Provide measures to control dust caused whether on or off the project site.
- C. Deficiencies in erosion control measures indicated by failures or erosion will be corrected as soon as reasonably possible by providing additional measures or different techniques to correct the situation and prevent subsequent erosion.
- D. Exposure of soils on embankments, excavations, and graded areas will be kept as short as possible. Initiate seeding and other erosion control practices as soon as reasonably possible.

1.02 Quality Assurance

- A. Conform to all requirements of applicable Federal, State and local permits and conform to the recommendations of the Maine Erosion and Sediment Control BMPs (see Part B below) whether the measures are specifically noted herein, or not.
- B. Standards: Maine Erosion and Sediment Control BMPs Manual, hereinafter called Erosion Control Handbook.

PART 2 - PRODUCTS

2.01 **Materials:** Use the following materials to implement and construct erosion control measures.

- A. Hay Bale: Rectangular shaped bales of hay or straw weighting at least 40 pounds per bale; free from noxious weed seeds and rough or woody materials.
- B. Mulch: Type and use as specified by the Erosion Control Handbook
 - 1. Long fibered hay or straw in dry condition and which are relatively free of weeds and foreign matter detrimental to plant life.
 - 2. Mulch netting: Plastic or nylon mesh netting with approximate openings of 1/4-inch to 1-inch.



- C. Permanent Seeding: Cut and fill slopes and disturbed areas will be stabilized with a meadow seed mix.

PART 3 - EXECUTION

3.01 Construction

A. Hay Bales:

1. Install as directed by Erosion Control Handbook, and stake with required stakes.

B. Mulch:

1. Undertake after each area has been properly prepared.
2. When seed for erosion control is sown prior to placing the mulch, place mulch on the seeded areas within 48 hours after seeding.
3. Blowing chopped mulch will be permitted.
4. Hay mulch should cover the ground enough to shade it, but the mulch should not be so thick that a person standing cannot see the ground through the mulch.
5. Remove matted mulch or bunches.

C. Temporary Erosion Control Matting (where necessary):

1. Surface Preparation:
 - a. Conform to grades for slopes and ditches shown on the drawings.
 - b. Finish to a smooth and even condition with all debris, roots, stones, and lumps raked out and removed.
 - c. Loosen soil surface to permit bedding of the matting.
 - d. Unless otherwise directed, apply seed prior to placement.
2. Installation:
 - a. Place strips lengthwise in the direction of the flow of water.
 - b. Where strips are laid parallel or meet as in a tee, overlap at least four inches.
 - c. Overlap ends at least six inches in a shingle fashion.
 - d. The up-slope end of each strip of the matting will be turned down and buried to a depth of not less than six inches with the soil firmly tamped against it.
 - e. Build check slots at right angles to the direction of the flow of water. Space so that one check slot or one end occurs within each 50 feet of slope length. Construct by placing a tight fold of the matting at least six inches vertically into the ground and tamp the same as up-slope ends.
 - f. Bury edges of matting around the edges of the catch basins and other structures.



- g. Where determined by the Engineers, additional seed will be spread over matting, particularly at those locations disturbed by building the slots. Matting will then be pressed onto the ground with a light lawn roller or by other satisfactory means.
 - h. Drive staples vertically into the ground flush with the surface.
 - i. On slopes flatter than 4:1, space staples not more than three feet and one row, alternately spaced, down the center.
 - j. On grades 4:1 or steeper, place in the same three rows, but spaced two feet apart.
 - k. On all overlapping or butting edges, double the number of staples, with the spacing halved; all ends of the matting and all required check slots will likewise have staples spaced every foot.
- D. Permanent Seeding:
 - 1. Seed with appropriate seeds and application rates as noted in Section 2.01C.
 - 2. Mulch areas where seeding has been applied. Do not mulch seeded areas where matting will be immediately installed.
- E. Topsoil Storage:
 - 1. Topsoil which is stockpiled on the site for use in loam applications will be placed out of natural drainages, in piles that have side slopes of 2:1 to 1.5:1.
 - 2. A trench (depth as required) will be constructed around the base of the pile to prevent eroding soil from washing into drainages.
- F. Dust Control: Utilize the application of sprinkled water to reduce the emission of airborne soil particulates from the Project site.
- G. Temporary Berms: Construct temporary barriers along the toe of embankments using side drains, as necessary.
- H. Temporary Basins: Construct temporary sedimentation basins adequate to avoid siltation of surface water bodies.
- I. Other Temporary Measures:
 - 1. Type and use will be as specified in the Erosion Control Handbook.
- J. Winter Stabilization Notes
 - 1. At this time, it is not expected that significant soil disturbance will occur during winter months or periods of heavy icing. If construction is performed during these times, the following construction practices will be followed.



- a. All disturbed areas not stabilized with stone or other measures will have approved erosion control matting installed and be dormant seeded.
- b. No frozen soil material or material containing significant snow or ice will be used for fill material.
- c. All material stockpiles will have silt fence and/or hay bales installed downgradient of piles.
- d. Follow general erosion control notes described previously wherever possible and as conditions permit.

3.02 Maintenance

- A. Inspect erosion control practices immediately after each rainfall greater than ½-inch and at least daily during rainfall lasting longer than 24 hours or snowmelt for damage. Provide maintenance and make appropriate repairs or replacement.
- B. Remove silt from around hay bales when it has reached one foot above grade or prior to expected heavy runoff or siltation.
- C. Repair matting if any staples become loosened or raised, or if any matting becomes loose, torn, or undermined, make satisfactory repairs immediately.

3.03 Removal of Temporary Erosion Control

- A. Remove temporary materials and devices when permanent soil stabilization has been substantially achieved. For vegetated areas, substantially complete means 95% vegetated cover has been established.
- B. Level and grade to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.
- C. Remove unsuitable materials from site and dispose of in a lawful manner.



INSPECTION AND MAINTENANCE

The following Maintenance Plan will be employed for this facility. Coastal Oaks, LLC will be responsible for all maintenance. Erosion control measures for this site were designed by:

Drew Olehowski, P.E.
Haley Ward, Inc.
120 Main Street, Suite 132
Saco, ME 04072
(207) 989-4824
dolehowski@haleyward.com

A Pre- and Post-Construction Maintenance Plan for the stormwater management system and erosion control measures are included in this section.



MAINTENANCE PLAN

The MDEP's Stormwater Management for Maine: Best Management Practices (2006), and the MDEP's Chapter 500: Stormwater Management were used as guidelines in the development of this Maintenance Plan. General maintenance requirements are listed below.

A. DURING CONSTRUCTION

The general contractor will be responsible for the inspection and maintenance of all stormwater management system components during construction.

Inspection: Inspection of disturbed and impervious areas, erosion control measures, materials' storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site will be performed at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. Inspections shall be conducted by a person with knowledge of erosion and stormwater control, including the standards and conditions in the permit.

Maintenance: All erosion control measures will be kept in effective operating condition until areas are permanently stabilized. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation will be completed within 7 calendar days and prior to any rainfall event.

Documentation: A log shall be kept summarizing the inspections and any corrective action taken. A copy of the log is provided at the end of this section, and is titled, Construction Inspection Log.

B. POST-CONSTRUCTION

The Owner or their assigns will be responsible for the inspection and maintenance of all stormwater management system components.

Inspection and Corrective Action

1. Vegetated Areas: Inspections and maintenance of vegetated areas will be performed early in the growing season or after significant rainfall to identify any erosion problems. Areas where erosion is evident will be covered with an appropriate lining, or erosive flows will be diverted to an area able to handle the flows. Any bare areas or areas with sparse growth will be replanted.
2. Storm Drain Inlet Protection: Inspections and maintenance of storm drain inlet protection will be performed weekly and following major storm events. The inlet protection device should be inspected for sand accumulation and debris that may reduce its capacity. Sediment build-up within storm drain inlet protection should be removed, as necessary. Remove inlet protection once site is stabilized.



3. Inspection shall be performed by an individual with experience and/or training on the maintenance and functions of these devices.



HOUSEKEEPING

1. Spill Prevention: During construction, controls will be used to prevent pollutants from being discharged from materials on-site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
2. Groundwater Protection: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater will not be stored or handled in areas of the site draining to an infiltration area. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
3. Fugitive Sediment and Dust: Actions will be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil will not be used for dust control. Water will be used for dust control during construction.

Operations during wet months that cause mud to be tracked off the site onto public roads will provide sweeping of the road areas at least once per week and prior to significant storm events.

4. Debris and Other Materials: Litter, construction debris, and chemicals exposed to stormwater will be prevented from becoming a pollutant source. The nature of this development will not cause problems related to debris and other materials.
5. Trench or Foundation De-Watering: If de-watering is necessary, the collected water will be removed from the ponded area and spread through natural wooded buffers or discharged into a construction sedimentation basin. The water will not be allowed to flow over disturbed areas to the site.



INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)		
	INSPECTION SCHEDULE	CORRECTIVE ACTIONS
VEGETATED AREAS	Annually early spring and after heavy rains	Inspect all slopes and embankments and replant areas of bare soil or with sparse growth
		Armor rill erosion areas with riprap or divert the runoff to a stable area
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and late fall and after heavy rains	Remove obstructions, sediments or debris from ditches, swales and other open channels
		Repair any erosion of the ditch lining
		Mow vegetated ditches
		Remove woody vegetation growing through riprap
		Repair any slumping side slopes
CULVERTS	Spring and late fall and after heavy rains	Repair riprap where underlying filter fabric or gravel is showing or if stones have dislodged
		Remove accumulated sediments and debris at the inlet, outlet, or within the conduit
		Remove any obstruction to flow
CATCHBASINS	Annually in the spring	Repair any erosion damage at the culvert's inlet and outlet
		Remove sediments and debris from the bottom of the basin and inlet grates
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed	Remove floating debris and oils (using oil absorptive pads) from any trap
		Clear and remove accumulated winter sand in parking lots and along roadways
		Sweep pavement to remove sediment
		Grade road shoulders and remove accumulated winter sand
		Grade gravel roads and gravel shoulders
		Clean-out the sediment within water bars or open-top culverts
RESOURCE AND TREATMENT BUFFERS	Annually in the spring	Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
		Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development
		Manage the buffer's vegetation with the requirements in any deed restrictions
		Repair any sign of erosion within a buffer
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains	Clean-out any accumulation of sediment within the spreader bays or turnout pools
		Mow non-wooded buffers no shorter than six inches and less than three times per year
		Inspect the embankments for settlement, slope erosion, piping, and slumping
		Mow the embankment to control woody vegetation
		Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks
		Remove and dispose of sediments and debris within the control structure
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall	Repair any damage to trash racks or debris guards
		Replace any dislodged stone in riprap spillways
		Remove and dispose of accumulated sediments within the impoundment and forebay
		Clean the basin of debris, sediment and hydrocarbons
		Provide for the removal and disposal of accumulated sediments within the basin
PROPRIETARY DEVICES	As specified by manufacturer	Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event
		Till, seed and mulch the basin if vegetation is sparse
OTHER PRACTICES	As specified for devices	Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
		Contract with a third-party for inspection and maintenance
		Follow the manufacturer's plan for cleaning of devices
		Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.

*This table is a general guide to maintenance and inspection practices for Erosion Control BMPs, not all apply to the project



APPENDIX H

FIXTURE CUTSHEETS



WDGE2 LED

Architectural Wall Sconce

Precision Refractive Optic



Catalog
Number

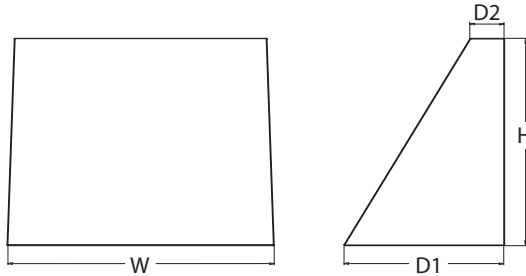
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 7"
Depth (D2): 1.5"
Height: 9"
Width: 11.5"
Weight: 13.5 lbs
 (without options)



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI)						
					P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		--	750	1,200	2,000	--	--	--	--
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	--	1,200	2,000	3,000	4,500	6,000	--
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	--	--
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	--	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	Precision Refractive			Standalone / nLight	--	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting	
WDGE2 LED	P0 ¹	27K 2700K	70CRI ⁴	T1S Type I Short	MVOLT	Shipped included	
	P1 ²	30K 3000K	80CRI LW ³ Limited Wavelength	T2M Type II Medium	347 ⁵	SRM Surface mounting bracket	Shipped separately
	P2 ²	40K 4000K		T3M Type III Medium	480 ⁵	ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only) ⁶	AWS 3/8inch Architectural wall spacer
	P3 ²	50K 5000K		T4M Type IV Medium	PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.		
	P4 ²	AMB ³ Amber		TFTM Forward Throw Medium			

Options	Finish
E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min) E20WC Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min) PE⁷ Photocell, Button Type DMG⁸ 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points. BAA Buy America(n) Act Compliant	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLTXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone
Standalone Sensors/Controls PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching. PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching PIR1FC3V Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation. PIRH1FC3V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation. Networked Sensors/Controls NLTAIR2 PIR nLightAIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights. NLTAIR2 PIRH nLightAIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights. See page 4 for out of box functionality	



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
 © 2019-2022 Acuity Brands Lighting, Inc. All rights reserved.

WDGE2 LED
 Rev. 11/21/22

Accessories

Ordered and shipped separately.

WDGEAWS DDBXD WEDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE2PBBW DDBXD U WEDGE2 surface-mounted back box (specify finish)

NOTES

- 1 PO option not available with sensors/controls.
- 2 P1-P4 not available with AMB and LW.
- 3 AMB and LW always go together.
- 4 70CRI only available with T3M and T4M.
- 5 347V and 480V not available with E10WH or E20WC.
- 6 Not qualified for DLC. Not available with emergency battery backup or sensors/controls.
- 7 PE not available in 480V or with sensors/controls.
- 8 DMG option not available with sensors/controls.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI)					30K (3000K, 80 CRI)					40K (4000K, 80 CRI)					50K (5000K, 80 CRI)					Amber (Limited Wavelength)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P0	7W	T1S	636	92	0	0	0	666	97	0	0	0	699	101	0	0	1	691	100	0	0	1	712	47	0	0	1
		T2M	662	96	0	0	0	693	101	0	0	0	728	106	0	0	0	719	104	0	0	0	741	48	0	0	0
		T3M	662	96	0	0	0	693	101	0	0	0	728	106	0	0	0	719	104	0	0	0	741	48	0	0	0
		T4M	648	94	0	0	0	679	98	0	0	0	712	103	0	0	0	704	102	0	0	0	726	47	0	0	0
		TFTM	652	95	0	0	0	683	99	0	0	0	717	104	0	0	0	708	103	0	0	0	730	48	0	0	1
P1	11W	T1S	1,105	99	0	0	1	1,157	104	0	0	1	1,215	109	0	0	1	1,200	107	0	0	1					
		T2M	1,150	103	0	0	1	1,204	108	0	0	1	1,264	113	0	0	1	1,249	112	0	0	1					
		T3M	1,150	103	0	0	1	1,205	108	0	0	1	1,265	113	0	0	1	1,250	112	0	0	1					
		T4M	1,126	101	0	0	1	1,179	106	0	0	1	1,238	111	0	0	1	1,223	110	0	0	1					
		TFTM	1,133	101	0	0	1	1,186	106	0	0	1	1,245	112	0	0	1	1,230	110	0	0	1					
P2	19W	T1S	1,801	95	1	0	1	1,886	99	1	0	1	1,981	104	1	0	1	1,957	103	1	0	1					
		T2M	1,875	99	1	0	1	1,963	103	1	0	1	2,061	109	1	0	1	2,037	107	1	0	1					
		T3M	1,876	99	1	0	1	1,964	103	1	0	1	2,062	109	1	0	1	2,038	107	1	0	1					
		T4M	1,836	97	1	0	1	1,922	101	1	0	1	2,018	106	1	0	1	1,994	105	1	0	1					
		TFTM	1,847	97	1	0	1	1,934	102	1	0	1	2,030	107	1	0	1	2,006	106	1	0	1					
P3	32W	T1S	2,809	87	1	0	1	2,942	92	1	0	1	3,089	96	1	0	1	3,052	95	1	0	1					
		T2M	2,924	91	1	0	1	3,062	95	1	0	1	3,215	100	1	0	1	3,176	99	1	0	1					
		T3M	2,925	91	1	0	1	3,063	95	1	0	1	3,216	100	1	0	1	3,177	99	1	0	1					
		T4M	2,862	89	1	0	1	2,997	93	1	0	1	3,147	98	1	0	1	3,110	97	1	0	1					
		TFTM	2,880	90	1	0	1	3,015	94	1	0	1	3,166	99	1	0	1	3,128	97	1	0	1					
P4	47W	T1S	3,729	80	1	0	1	3,904	84	1	0	1	4,099	88	1	0	1	4,051	87	1	0	1					
		T2M	3,881	83	1	0	1	4,063	87	1	0	1	4,267	91	1	0	1	4,216	90	1	0	1					
		T3M	3,882	83	1	0	1	4,065	87	1	0	1	4,268	91	1	0	1	4,217	90	1	0	1					
		T4M	3,799	81	1	0	1	3,978	85	1	0	1	4,177	90	1	0	1	4,127	88	1	0	1					
		TFTM	3,822	82	1	0	1	4,002	86	1	0	1	4,202	90	1	0	1	4,152	89	1	0	1					

Performance Package	System Watts	Dist. Type	27K (2700K, 70 CRI)					30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P0	7W	T3M	737	107	0	0	0	763	111	0	0	0	822	119	0	0	0	832	121	0	0	1
		T4M	721	105	0	0	0	746	108	0	0	0	804	117	0	0	1	814	118	0	0	1
P1	11W	T3M	1,280	115	0	0	1	1,325	119	0	0	1	1,427	128	1	0	1	1,445	129	1	0	1
		T4M	1,253	112	0	0	1	1,297	116	0	0	1	1,397	125	0	0	1	1,415	127	0	0	1
P2	19W	T3M	2,087	110	1	0	1	2,160	114	1	0	1	2,327	123	1	0	1	2,357	124	1	0	1
		T4M	2,042	108	1	0	1	2,114	111	1	0	1	2,278	120	1	0	1	2,306	121	1	0	1
P3	32W	T3M	3,254	101	1	0	1	3,369	105	1	0	1	3,629	113	1	0	1	3,675	114	1	0	1
		T4M	3,185	99	1	0	1	3,297	103	1	0	1	3,552	111	1	0	1	3,597	112	1	0	1
P4	47W	T3M	4,319	93	1	0	1	4,471	96	1	0	1	4,817	103	1	0	2	4,878	105	1	0	2
		T4M	4,227	91	1	0	1	4,376	94	1	0	2	4,714	101	1	0	2	4,774	102	1	0	2



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2022 Acuity Brands Lighting, Inc. All rights reserved.

WDGE2 LED
Rev. 11/21/22

Electrical Load

Performance Package	System Watts	Current (A)					
		120Vac	208Vac	240Vac	277Vac	347Vac	480Vac
P0	7.0	0.061	0.042	0.04	0.039	--	--
	9.0	--	--	--	--	0.031	0.021
P1	11.0	0.100	0.064	0.059	0.054	--	--
	14.1	--	--	--	--	0.046	0.031
P2	19.0	0.168	0.106	0.095	0.083	--	--
	22.8	--	--	--	--	0.067	0.050
P3	32.0	0.284	0.163	0.144	0.131	--	--
	37.1	--	--	--	--	0.107	0.079
P4	47.0	0.412	0.234	0.207	0.185	--	--
	53.5	--	--	--	--	0.153	0.112

Lumen Output in Emergency Mode (4000K, 80 CRI, T3M)

Option	Lumens
E10WH	1,358
E20WC	2,230

Lumen Ambient Temperature (LAT) Multipliers

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

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.97

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

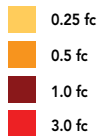
To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.93	>0.87

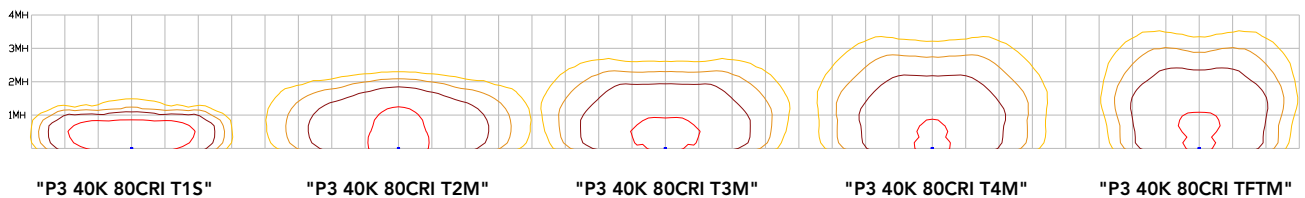
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting WDGE LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards.

LEGEND



MH = 10ft
Grid = 10ft x 10ft



Emergency Egress Options

Emergency Battery Backup

The emergency battery backup is integral to the luminaire — no external housing required! This design provides reliable emergency operation while maintaining the aesthetics of the product. All emergency battery backup configurations include an independent secondary driver with an integral relay to immediately detect loss of normal power and automatically energize the luminaire. The emergency battery will power the luminaire for a minimum duration of 90 minutes (maximum duration of three hours) from the time normal power is lost and maintain a minimum of 60% of the light output at the end of 90minutes.

Applicable codes: NFPA 70/NEC – section 700.16, NFPA 101 Life Safety Code Section 7.9



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2022 Acuity Brands Lighting, Inc. All rights reserved.

WDGE2 LED
Rev. 11/21/22

Motion/Ambient Sensor (PIR, PIRH)

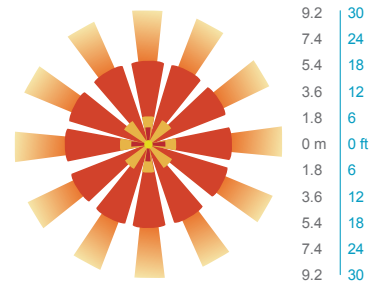
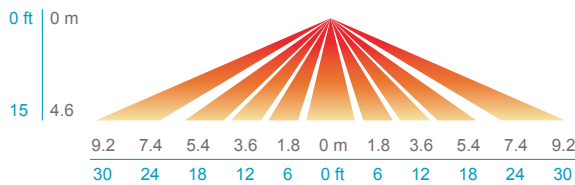
Motion/Ambient sensor (Sensor Switch MSOD) is integrated into the the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

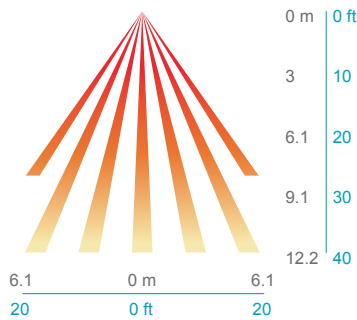
PIR

HIGH VIEW

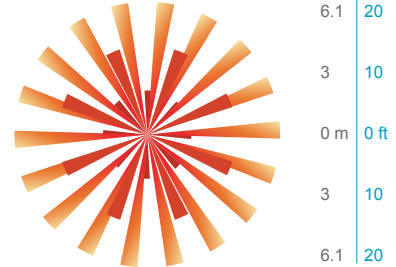


PIRH

SIDE VIEW



TOP VIEW



Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR1FC3V, PIRH1FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 1fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
NLTAIR2 PIR, NLTAIR2 PIRH (out of box)	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	7.5 min	5 min	Motion - 3 sec Photocell - 45 sec



Motion/Ambient Sensor

D = 7"

H = 9" (Standalone controls)

11" (nLight AIR controls, 2" antenna will be pointing down behind the sensor)

W = 11.5"



PBBW – Surface-Mounted Back Box

Use when there is no junction box available.

D = 1.75"

H = 9"

W = 11.5"



AWS – 3/8inch Architectural Wall Spacer

D = 0.38"

H = 4.4"

W = 7.5"

FEATURES & SPECIFICATIONS

INTENDED USE

Common architectural look, with clean rectilinear shape, of the WDGE LED was designed to blend with any type of construction, whether it be tilt-up, frame or brick. Applications include commercial offices, warehouses, hospitals, schools, malls, restaurants, and other commercial buildings.

CONSTRUCTION

The single-piece die-cast aluminum housing integrates secondary heat sinks to optimize thermal transfer from the internal light engine heat sinks and promote long life. The driver is mounted in direct contact with the casting for a low operating temperature and long life. The die-cast door frame is fully gasketed with a one-piece solid silicone gasket to keep out moisture and dust, providing an IP66 rating for the luminaire.

FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Standard Super Durable colors include dark bronze, black, natural aluminum, sandstone and white. Available in textured and non-textured finishes.

OPTICS

Individually formed acrylic lenses are engineered for superior application efficiency which maximizes the light in the areas where it is most needed. The WDGE LED has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L91/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%. Luminaire comes with built in 6kV surge protection, which meets a minimum Category C low exposure (per ANSI/IEEE C62.41.2). Fixture ships standard with 0-10v dimmable driver.

INSTALLATION

A universal mounting plate with integral mounting support arms allows the fixture to hinge down for easy access while making wiring connections. The 3/8" Architectural Wall Spacer (AWS) can be used to create a floating appearance or to accommodate small imperfections in the wall surface. The ICW option can be used to mount the luminaire inverted for indirect lighting in dry and damp locations. Design can withstand up to a 1.5 G vibration load rating per ANSI C136.31.

LISTINGS

CSA certified to U.S. and Canadian standards. Luminaire is IP66 rated. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified. International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 2700K and 3000K color temperature only and SRM mounting only.

BUY AMERICAN ACT

Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations.

Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



APPENDIX I

REQUIRED APPROVALS

Historic Preservation Commission Review

Fire Department Review

Police Department Review

Water Service

Sewer Service

Solid Waste Service

Drew Olehowski

From: Favreau, Brad <Brad.Favreau@Biddefordmaine.org>
Sent: Tuesday, January 28, 2025 12:33 PM
To: Schaffer, Leah; Drew Olehowski
Cc: Ethan Scott; Galbraith, David
Subject: RE: 12 Pearl Street HPC review

You don't often get email from brad.favreau@biddefordmaine.org. [Learn why this is important](#)

Hi Drew,

Along with the information shown on the link Leah sent below, here's a link directly to the application form:

[Fillable-Certificate-of-Appropriateness-Application-2024](#)

The Building at 12 Pearl Street is a Contributing structure as part of the Biddeford/Saco Mills Historic District. As such, the commission will consider this application carefully, and destroying defining features of the building should be avoided.

I'm happy to discuss your application further if you wish.

Brad Favreau

From: Schaffer, Leah <Leah.Schaffer@biddefordmaine.org>
Sent: Tuesday, January 28, 2025 11:23 AM
To: dolehowski <dolehowski@haleyward.com>
Cc: Ethan Scott <ethanscottdevelopment@gmail.com>; Galbraith, David <David.Galbraith@biddefordmaine.org>; Favreau, Brad <Brad.Favreau@Biddefordmaine.org>
Subject: Re: 12 Pearl Street HPC review

Drew,

Great to hear from you. The person you will want to reach out to is Brad Favreau. He is the city staff person that oversees the Historic Preservation Commission.

More information can be found here for what is needed for submission.

<https://www.biddefordmaine.org/2208/Biddeford-Historic-Preservation-Program>

To answer a few of your questions below. Brad can confirm these as well.

- MHPC is not necessarily needed unless the building is individually listed on the Historic Registry or you are using tax credits.
- We require plans, elevations, and exterior material selections/cut sheets. Details especially for windows and trim work are helpful. If anything is being replaced even if not being moved it will still need to be reviewed. Existing photos with location notes are also helpful.
- Signage is reviewed by the subcommittee which is myself and Brad but the location would be reviewed by the full committee.
- Cut sheets and locations for exterior lighting are helpful.

- You can do the review concurrently or before planning board approval. I would typically recommend having at least preliminary planning board review done so that any major changes or comments that the planning board has can be included in your initial historic submission.

Best,

Leah

•

From: Drew Olehowski <dolehowski@haleyward.com>

Sent: Tuesday, January 28, 2025 8:29 AM

To: Schaffer, Leah <Leah.Schaffer@biddefordmaine.org>

Cc: Leah Schaffer <leah@mobilestudiodesign.com>; Ethan Scott <ethanscottdevelopment@gmail.com>; Galbraith, David <David.Galbraith@biddefordmaine.org>

Subject: 12 Pearl Street HPC review

Caution: This is an external email. Please take care when clicking links or opening attachments. When in doubt, contact the IT Department

Hey Leah,

Hope you are doing well. As you may be aware, we are assisting with a proposed development located at 12 Pearl Street. The project generally consists of the renovation of the existing building to accommodate residential use. External improvements to the building will be minor, such as installation of lighting and signage (there is no longer a proposed 4th floor.) I understand this work will require review by the HPC. Could you please provide detail on what you will need for your review? This is probably more of a question for David, but should your review occur before we submit an application to the Planning Department, or does your review occur simultaneously with other city staff review? Also, do projects under your jurisdiction also require a separate review by MHPC?

Thank you!



Drew Olehowski, PE
Project Manager

t: 207.283.9151 d: 207.404.5893 m: 207.576.6488

a: 120 Main Street, Suite 132, Saco, ME 04072



This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Haley Ward, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone this message (or any part of its contents) or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

Drew Olehowski

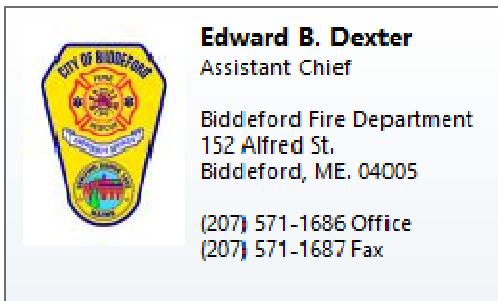
From: Dexter, Edward <Edward.Dexter@Biddefordmaine.org>
Sent: Thursday, January 30, 2025 3:09 PM
To: Drew Olehowski
Cc: Galbraith, David; Ethan Scott; Ethan Miester
Subject: Re: 12 Pearl Street Review
Attachments: Outlook-2beez3qz

Good afternoon Drew:

Thank you for the preliminary plans and information. The hydrants that are located in the area are at an acceptable location but you will have to reach out to Maine Water to see what they have listed for flow. As you get closer to bringing this to the Planning Department we will need a sprinkler design and the plans for a fire alarm system.

I hope that helps get you started.

Have a good day,
Ed Dexter



From: Drew Olehowski <dolehowski@haleyward.com>
Sent: Thursday, January 30, 2025 12:28 PM
To: Dexter, Edward <Edward.Dexter@Biddefordmaine.org>

Cc: Galbraith, David <David.Galbraith@biddefordmaine.org>; Ethan Scott <ethanscottdevelopment@gmail.com>; Ethan Miester <emiester@haleyward.com>
Subject: 12 Pearl Street Review

Caution: This is an external email. Please take care when clicking links or opening attachments.
When in doubt, contact the IT Department

Good Afternoon, Ed,

Haley Ward is current assisting with the municipal permitting of a development at 12 Pearl Street in Biddeford, Maine. Please see the attached request letter, as well as the preliminary site plan drawing. Let me know if any further information is needed.

Thank you,



Drew Olehowski, PE
Project Manager
t: 207.283.9151 d: 207.404.5893 m: 207.576.6488
a: 120 Main Street, Suite 132, Saco, ME 04072



This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Haley Ward, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone this message (or any part of its contents) or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.



January 30th, 2025

City of Biddeford, Police Department
Attn: JoAnne Fisk, Chief
39 Alfred Street
Biddeford, Maine, 04005
joanne.fisk@biddefordmaine.org

Re: Police Department Review Request | 12 Pearl Street | Biddeford, Maine

Dear Chief Fisk,

Coastal Oaks LLC is proposing a renovation of the existing building located at 12 Pearl Street in Biddeford, Maine. The existing three-story building will be converted into a 20-unit residential apartment building.

As required by the City of Biddeford's Land Development Regulation's Article XI, Section 2, A (6), we are requesting confirmation that the proposed renovation meets necessary public safety standards. We have attached a location map and preliminary plan set to facilitate your review. Please forward your response to our office located at One Merchants Plaza, Suite 701, Bangor, Maine 04401, or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.



Drew Olehowski, PE
Project Manager

djo
Enc. Location Map, Preliminary Plans



January 30th, 2025

Maine Water
Attn: Engineering Department
466 South Street
Biddeford, Maine, 04005
customerservice@mainewater.com

Re: Ability to Serve Request | 12 Pearl Street | Biddeford, Maine

To whom it may concern,

Coast Oaks Development LLC is proposing a renovation of the existing building located at 12 Pearl Street in Biddeford, Maine. The three-story building will be converted into a 20-unit residential apartment building. The first floor will be primarily common space and will include a mailbox and a utility room. The second and third floors will include 18 single bedroom units and 2 studio units.

Each unit will include a 1 washer, 1 dryer, 1 kitchen sink, 1 bathroom sink, 1 toilette, and 1 bathtub/shower stall. Based on this configuration, we expect the water demand for each unit to be 220 gallons per day (gpd) for a **total demand of 4,400 gpd**. The building will also include a new fire suppression system, we have reached out to the Biddeford Fire Department as well for their feedback.

As required by the City of Biddeford's Site Plan/Subdivision review process, we are requesting confirmation that the adjacent water infrastructure has the capacity to service the proposed development. We have attached a location map and preliminary plan set to facilitate your review. Please forward your response to our office located at One Merchants Plaza, Suite 701, Bangor, Maine 04401, or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, PE
Project Manager

djo
Enc. Preliminary Plans, Location Map



January 30th, 2025

Town of Biddeford, Wastewater Division
Attn: Alex Buechner
63 Water Street
Biddeford, ME 04005
alex.buechner@biddefordmaine.org

Re: Ability to Serve Request | 12 Pearl Street | Biddeford, Maine

Dear Alex,

Coast Oaks Development LLC is proposing a renovation of the existing building located at 12 Pearl Street in Biddeford, Maine. The existing three-story building will be converted into a 20-unit residential apartment building.

Design Flows for Single Family Dwelling Units from the *State of Maine's Subsurface Wastewater Disposal Rules*, were used to estimate the sewer demand for this project. Each unit will include a 1 washer, 1 dryer, 1 kitchen sink, 1 bathroom sink, 1 toilette, and 1 bathtub/ shower stall. Based on this configuration, we expect the sewer demand for each unit to be 180 gallons per day (gpd) for a **total demand of 3,600 gpd**.

As required by the City of Biddeford's Land Development Regulation's Article XI, Section 2, A (4), we are requesting confirmation that the City's wastewater infrastructure has the capacity to service the proposed development. We have attached a location map and preliminary plan set to facilitate your review. Please forward your response to our office located at One Merchants Plaza, Suite 701, Bangor, Maine 04401, or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, PE
Project Manager

djo
Enc. Location Map, Preliminary Plans



Haley Ward
Drew Olehowske
One Merchants Plaza Suite 701
Bangor ME 04401

February 3, 2025

RE: Ability to Serve Request 12 Pearl Street Biddeford, ME

This letter is to confirm that Pine Tree Waste Inc./Casella Waste located in Scarborough, Maine, has the capabilities to pick up, and dispose of annual volumes of (CDD) construction demolition debris as well as CDD material and MSW generated by 12 Pearl Street Biddeford, ME 04005. The end site for this material will be:

Juniper Ridge Landfill
2828 Bennoch Road
Alton, Me 44088
MDEP Permit # S-020700-WD-N-A

The Transfer Station this construction debris and MSW will go to is.

Casella Transfer Station
594 County Road
Westbrook, Me 04092

This letter is not a quote for service. It is a statement of capabilities. The sole purpose of this letter is to communicate the willingness and capabilities that Pine Tree Waste Inc./Casella Waste has towards providing this service as requested. If you have any questions or concerns, please do not hesitate to give me a call.

Sincerely,

Bill Bennett
Casella Waste
Pine Tree Waste Inc.
87 Pleasant Hill Road
Scarborough, ME 04074
Cell: 653-4426
Fax: 883-1954
William.bennett@casella.com



APPENDIX J

DRAWINGS

Cover Sheet

Existing Conditions Plan

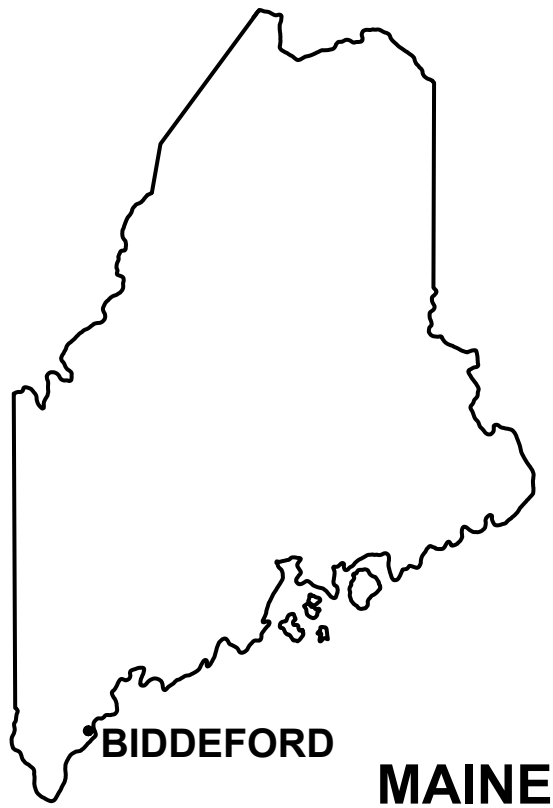
Proposed Site Plan

Lighting Plan

Site Details

12 PEARL STREET

BIDDEFORD, MAINE



PROJECT INFORMATION

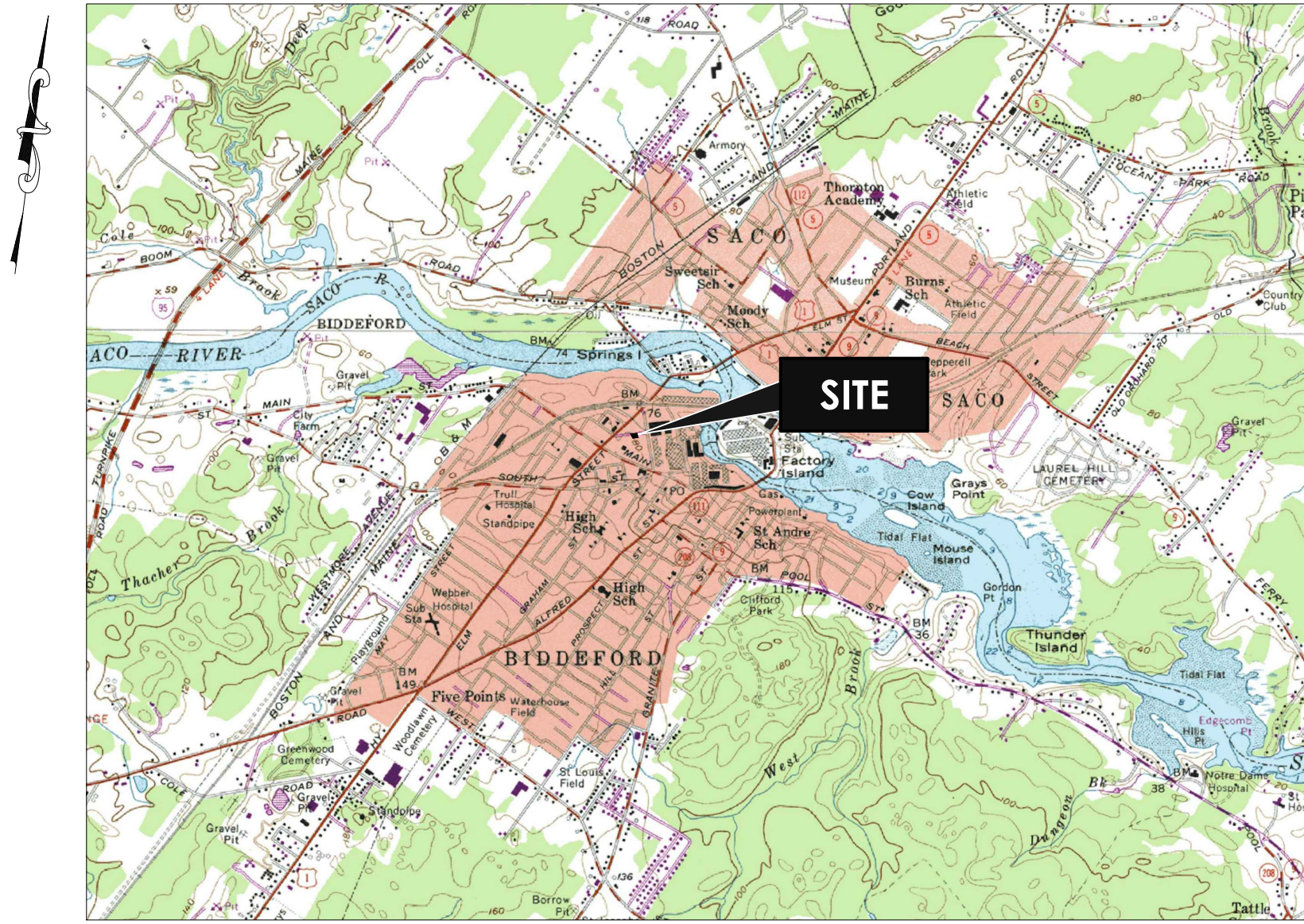
CIVIL ENGINEER
HALEY WARD
ATTN: DREW OLEHOWSKI, PE.
120 MAIN STREET, SUITE 132
SACO, MAINE 04072
T: 207.283.9151

DEVELOPER
COASTAL OAKS, LLC
ATTN: ETHAN SCOTT
198 SACO AVENUE
OLD ORCHARD BEACH, MAINE 04064

SURVEYOR
DOW & COLUMBE, INC.
13 PARK STREET
SACO, MAINE 04072
T: 207.284.4521

PERMITS AND APPROVALS:

- CITY OF BIDDEFORD SITE PLAN PERMIT
- CITY OF BIDDEFORD SUBDIVISION PERMIT



LOCATION MAP

INDEX OF DRAWINGS

C000	COVER SHEET
V101	EXISTING CONDITIONS & DEMOLITION PLAN
C101	SITE PLAN
C501	SITE DETAILS
C502	SITE DETAILS

NOT FOR CONSTRUCTION
FEBRUARY 12, 2025



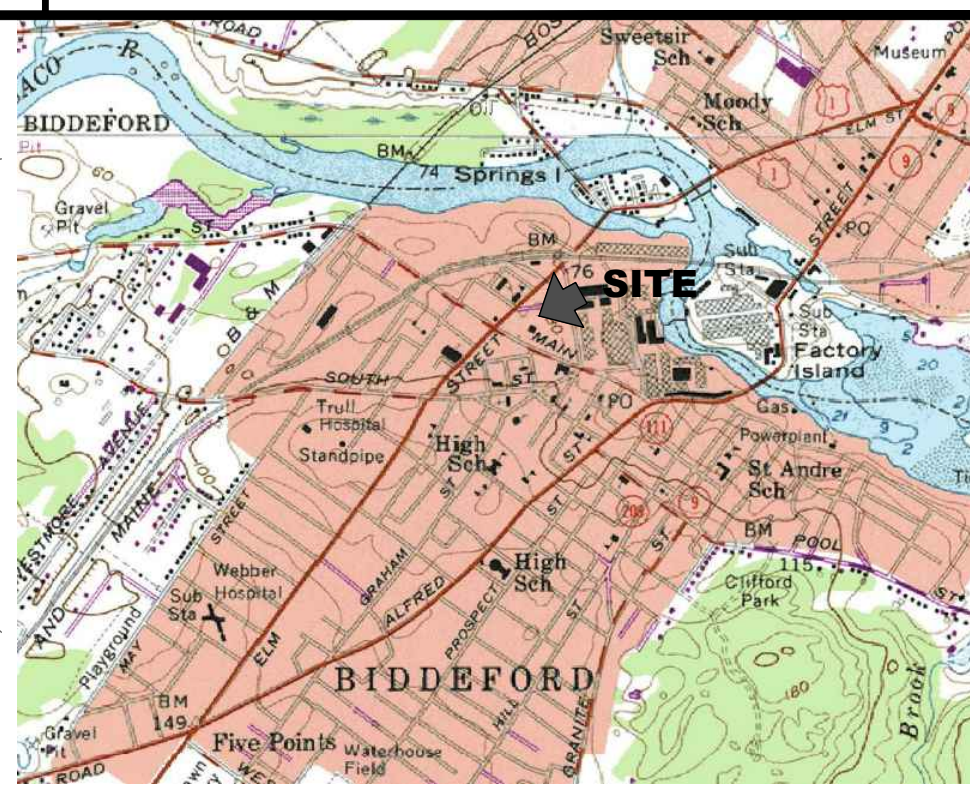
THIS IS TO CERTIFY THAT AFTER REVIEWING THE SITE PLAN SUBMISSION INFORMATION FOR THE PROJECT SHOWN ON THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN THE LAND USE CODE OF THE CITY OF BIDDEFORD, MAINE AND IN ACCORDANCE WITH THE SITE PLAN APPLICATION REQUIREMENTS, THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THIS PLAN ALONG WITH ITS ADDITIONAL SUBMISSION INFORMATION HAS MET ALL THE CRITERIA SET FORTH AND THEREFORE THE SITE PLAN IS APPROVED.

APPROVED BY THE CITY OF BIDDEFORD PLANNING BOARD ON:

PLANNING BOARD SIGNED ON:

LIGHTING SCHEDULE :		CATALOG NUMBER	DESCRIPTION	LAMP LUMENS	LUMEN MULTIPLIER	LLF	WATTS	MOUNTING HEIGHT
SYMBOL	QUANTITY							
	2	WDGE2 LED P0 27K 70CRI T15	WDGE2 LED WITH P0 - PERFORMANCE PACKAGE, 2700K, 70CRI, TYPE 1 SHORT OPTIC	750	1	1	6.9	10'

PROPOSED TIE-IN TO EXISTING SEWER MANHOLE, CONTRACTOR TO INSPECT STRUCTURE TO ENSURE IT IS IN GOOD CONDITION.
INV. IN: 65.56
INV. OUT (EX): 65.46



LOCATION MAP: USGS QUADRANGLE: BIDDEFORD MAPTECH® USGS TOPOGRAPHIC SERIES™, ©MAPTECH®, INC. 978-833-3000 WWW.MAPTECH.COM/TOPO

LEGEND:

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		
BENCHMARK		
SURVEY STATION		
MANHOLE		
UTILITY POLE		
WELL		
WATER VALVE		
SIGN		
CATCH BASIN		
HYDRANT		
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
MAJOR FOOT CONTOUR		
MINOR FOOT CONTOUR		
STORM DRAIN		
SANITARY SEWER		
OVERHEAD UTILITIES		
UNDERGROUND UTILITIES		
CHAIN LINK FENCE		
TREE LINE		
VEGETATED AREA		
PAVED SURFACE		

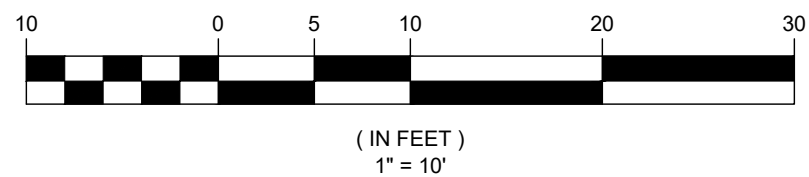
PARKING NOTE:

REQUIRED SPACES:
2 PER UNIT
20 UNITS = 40 SPACES
PROVIDED SPACES:
5 ON SITE
REMAINDER: OFFSITE PARKING GARAGE

PLAN REFERENCE:

- REFERENCE IS MADE TO A PLAN ENTITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR McWILL-McWAY, LLC", PREPARED BY DOW & COULOMBE, INC. & DATED MARCH 10, 2020.

GRAPHIC SCALE



PARCEL INFORMATION			
MAP / LOT:		MAP 40, LOT 72	
LOT AREA (ACRES):		0.28	
ZONE OR DISTRICT:		MSRD 1	
EXISTING USE:		VACANT	
FLOOD ZONE:		N/A	
WATER:		PUBLIC	
SEWER:		PUGLIC	
RECORD OWNER:		COASTAL OAKS, LLC.	
SITE DEVELOPMENT DATA			
		SF	AC
EXISTING IMPERVIOUS (TO REMAIN):	11763		0.27
EXISTING IMPERVIOUS (TO BE REMOVED):	412		0.01
NEW BUILDINGS	0		0.00
NEW PAVEMENT	475		0.01
NEW IMPERVIOUS:	475		0.01
TOTAL IMPERVIOUS:	11826		0.27
TOTAL DEVELOPED:	12317		0.28
DESIGN STANDARDS			
		REQ'D	PROVIDED
MAXIMUM BUILDING HEIGHT (FT)	60		30.25
PARKING			
		REQ'D	PROVIDED
PROVIDED PARKING	2/UNIT (20 UNITS = 40 SPACES)		5
NOTE: REMAINDER OF SPACES TO BE PROVIDED VIA OFF-SITE PARKING GARAGE			
PROJECT INFORMATION			
APPLICANT:	COASTAL OAKS, LLC.		
	198 SAGO AVENUE		
	OLD ORCHARD BEACH, MAINE 04064		
ENGINEER:	HALEY WARD, INC.		
	ATTN: DREW OLEHOWSKI, P.E.		
	120 MAIN STREET		
	SUITE 132		
	SAGO, MAINE 04072		

LIGHTING NOTES:

- EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
- CALCULATIONS MAY OR MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
- READINGS SHOWN ARE INITIAL HORIZONTAL FOOT CANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
- CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNERS REPRESENTATIVE.
- THE LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
- DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.
- ALL PROPOSED EXTERIOR LIGHT FIXTURES ARE FULL CUT OFF AND ADHERE TO IESNA DARK SKY STANDARDS.

GENERAL CONSTRUCTION NOTES

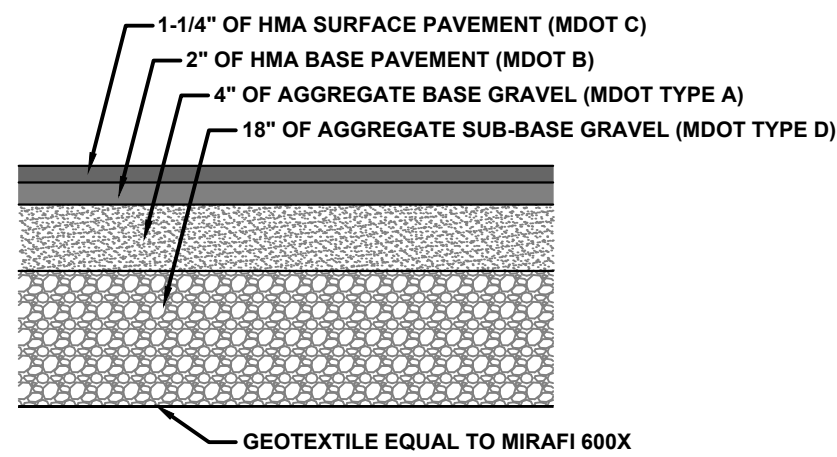
- CONTRACTOR TO PROVIDE OWNER AND ENGINEER WITH A WORK PLAN OUTLINING THE WORK SCHEDULE, TRAFFIC CONTROL PLAN, AND WORK AREA BARRICADING PLAN TO BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT
- THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY CONDITION OR OCCURRENCE THAT REPRESENTS A CHANGE IN PROJECT SCOPE. VERBAL NOTIFICATION IS REQUIRED PRIOR TO PROCEEDING WITH THE WORK OF THE PROJECT AND WRITTEN NOTIFICATION MUST BE PROVIDED. REQUESTS FOR FEE ADJUSTMENTS WILL NOT BE CONSIDERED UNLESS PROPER NOTICE IS GIVEN
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS AS REQUIRED TO PERFORM THE WORK AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
- THE CONTRACTOR SHALL SUPERVISE AND INSPECT THE WORK OF THIS PROJECT IN AN EFFICIENT AND COMPETENT MANNER. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE WORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. A REPRESENTATIVE OF THE GENERAL CONTRACTOR SHALL BE PRESENT DURING ALL PHASES OF THE WORK.
- SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY STANDARDS OF APPLICABLE LAWS, BUILDING AND CONSTRUCTION CODES, THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND THE REQUIREMENTS OF TITLE 9 OF THE CODE OF FEDERAL REGULATIONS, PART 1926, "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION".
- THE LOCATIONS OF ALL PROPERTY LINES AND RIGHT OF WAYS ARE APPROXIMATE (SHOWN FOR REFERENCE ONLY), UNLESS NOTED OTHERWISE. PROPERTY LINES AND RIGHT OF WAYS SHOWN ARE NOT INTENDED TO REPRESENT LEGAL BOUNDARIES.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING TOPOGRAPHY AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING PIPE SIZES, INVERTS, AND LOCATIONS, AND SHALL INCLUDE IN SUBMITTAL PRIOR TO ORDERING.
- LAYOUT OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL GRADE AND LAYOUT CONTROL. LAYOUT SHOULD BE PERFORMED WITH SURVEY EQUIPMENT AND OVERSEEN BY A LICENSED SURVEYOR. A CAD FILE WILL BE AVAILABLE TO THE CONTRACTOR.
- THE WORK SHALL INCORPORATE EROSION CONTROL MEASURES WHICH ARE COMPLIANT WITH THE LATEST VERSION OF "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES".
- CONTRACTOR SHALL BE REQUIRED TO PROVIDE DUST CONTROL FOR PROJECT WHICH CAN INCLUDE, BUT IS NOT LIMITED TO, WATER AND CALCIUM CHLORIDE. COST IS INCIDENTAL TO THE PROJECT.
- RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, GATES, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
- HOURS FOR THE PROJECT WILL BE MONDAY THROUGH FRIDAY, FROM 7:00 AM TO 7:00 PM, UNLESS OTHERWISE AUTHORIZED BY THE OWNER.
- CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT WITHIN THE CONFINES OF THE RIGHT OF WAY OF THE STREETS AND UTILITY EASEMENTS. ANY ACTIVITY, MATERIAL STORAGE ETC, TAKING PLACE ON PRIVATE PROPERTY SHALL BE WITH THE EXPRESS WRITTEN PERMISSION OF THE OWNER AND PROPERTY OWNER AND COORDINATED WITH THE OWNER. WORK OUTSIDE OF THESE LIMITS MAY BE REQUIRED. THE OWNER WILL COORDINATE SECURING EASEMENTS FOR THIS WORK.
- DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT TOWN OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT EQUIPMENT FLUIDS FROM REACHING ANY WATER COURSE. ANY INADVERTENT FLUID DISCHARGES SHALL BE IMMEDIATELY CLEANED FROM THE WATERS USING WHATEVER MEANS NECESSARY, AS DETERMINED BY THE ENGINEER.
- ALL FINISH SURFACES SHALL BE INSTALLED TO PROMOTE POSITIVE DRAINAGE. IN NO WAY SHALL THE NEW FINISH SURFACES CREATE DRAINAGE PROBLEMS THAT DID NOT EXIST PRIOR TO CONSTRUCTION.
- RESTORE ALL AREAS DISTURBED BY CONTRACTORS OPERATION TO ORIGINAL CONDITIONS (GRAVEL, PAVEMENT, GRASS, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF ROADS, CURBS, PARKING SURFACES AND LAWNS DAMAGED BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE PROJECT.
- ALL MATERIALS SCHEDULED FOR REMOVAL SHALL BE DISPOSED OF IN A LEGAL MANNER BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY DEMOLITION MATERIALS.
- DISPOSAL OF SURPLUS SOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SURPLUS MATERIAL SHALL NOT BE DISPOSED OF ON THE PROJECT SITE. DISPOSAL SHALL BE MADE ONLY AT WASTE AREAS WHICH ARE LICENSED TO ACCEPT SUCH MATERIALS. UNLESS THE MATERIAL IS ACCEPTABLE FOR USE AS FILL IN OTHER AREAS OF THE PROJECT. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY SURPLUS SOIL MATERIALS.
- CONTRACTOR SHALL MAINTAIN TRAFFIC IN A SAFE MANNER AT ALL TIMES DURING CONSTRUCTION. MDOT TRAFFIC CONTROL AND SIGNAGE REQUIREMENTS SHALL APPLY ON BUZZELL ROAD. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION. THE ROADS SHALL NOT BE CLOSED TO TRAFFIC WITHOUT PERMISSION FROM THE CITY OF BIDDEFORD.
- DRIVEWAY APRONS SHALL BE PAVED TO MATCH PROPOSED ROADWAY. APRON DIMENSIONS SHALL BE APPROVED BEFORE PAVING. APRON AREAS SHOWN ON THE PLANS ARE APPROXIMATE.
- PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT WILL BE RESET AT THE CONTRACTOR'S EXPENSE, BY A REGISTERED LAND SURVEYOR APPROVED BY THE ENGINEER.
- THE OWNER REQUIRES THAT UPON COMPLETION OF CONSTRUCTION, A COMPLETE SET OF "AS-BUILT" DRAWINGS THAT REFLECT ANY AND ALL MODIFICATIONS WITHIN THE PUBLIC RIGHT OF WAY BE SUBMITTED TO THE CITY OF BIDDEFORD. THESE DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL (CAD) DRAWING AND HARD COPY FORMAT. A CAD FILE WILL BE AVAILABLE TO THE CONTRACTOR.

DUMPSTER PAD AND ENCLOSURE DETAIL

NTS

EROSION CONTROL NOTES

- ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BMPs, PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
- SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
- SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
- ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
- A SUITABLE BINDER SUCH AS CURASOL OR TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
- IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDING WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
- IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
- ALL CATCH BASINS ARE TO BE PROTECTED BY STRAW BALE OR SILTFENCE IN ACCORDANCE WITH SECTION B-3 STORM DRAIN INLET PROTECTION OF THE MAINE BMP HANDBOOK. SURROUNDING AREAS CAN BE EXCAVATED OR LEFT LOW AS A SEDIMENT TRAP. CURB INLETS SHALL BE PROTECTED BY GUTTERGATORS, OR APPROVED EQUIVALENT.
- INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 9 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
- THE CONTRACTOR SHALL PROVIDE A SEDIMENT BASIN FOR ALL WATER PUMPED FROM EXCAVATIONS. BASIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES". THE CONTRACTOR SHALL SUBMIT FOR REVIEW/APPROVAL PRIOR TO BEGINNING ANY PROJECT WORK.
- DEWATERING
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.
- BASIC STANDARDS - EROSION CONTROL MEASURES:
MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE
- CONTRACTOR WILL BE RESPONSIBLE FOR FOLLOWING PROCEDURES FOUND IN THE "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" (PUBLISHED MARCH 2015). THE PUBLICATION CAN BE FOUND AT: [HTTP://WWW.MAINE.GOV/DEP/LAND/EROSION/IESBCBMPS/INDEX.HTML](http://www.maine.gov/dep/land/erosion/iesbcbmps/index.html).



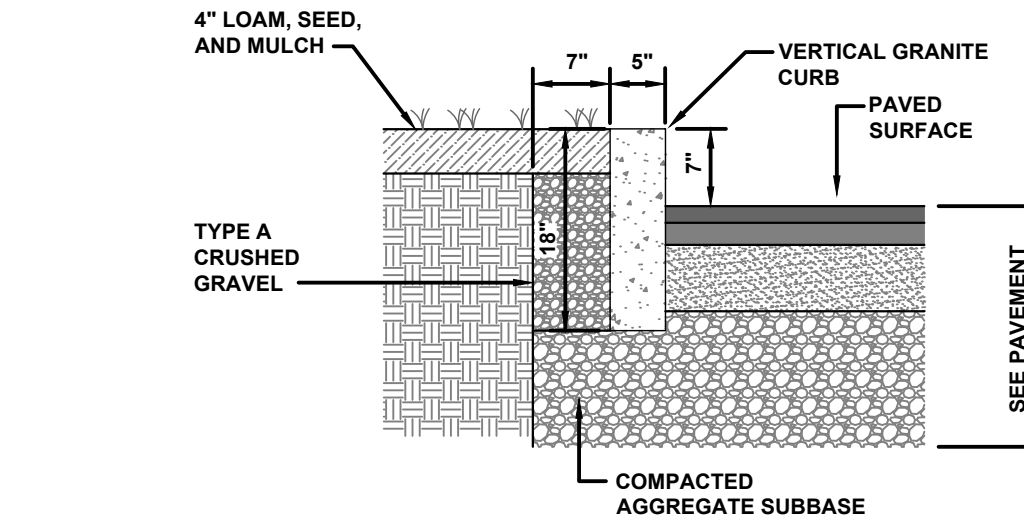
NOTE:
CONTRACTOR TO PROVIDE ROADWAY BUILDUP AS SPECIFIED ABOVE OR MATCH EXISTING, WHICHEVER IS GREATER.

TYPICAL ROADWAY BUILDUP DETAIL

NTS

EROSION CONTROL MIX BERM DETAILS

NTS



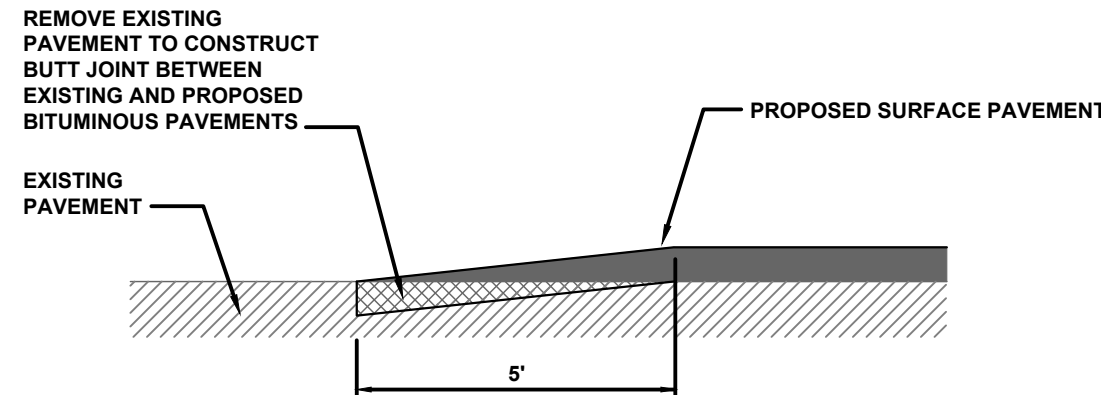
TYPICAL VERTICAL GRANITE CURB DETAIL

NTS

SEDIMENT SACK INLET PROTECTION DETAIL

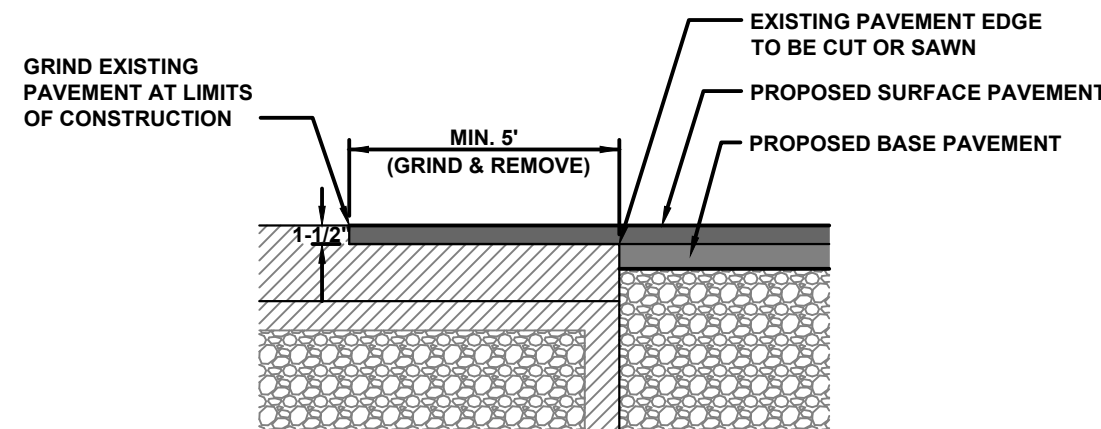
N.T.S.

(MAY BE USED AS AN ALTERNATE TO HAY BALES)



TYPICAL ASPHALT PAVEMENT BUTT JOINT DETAIL

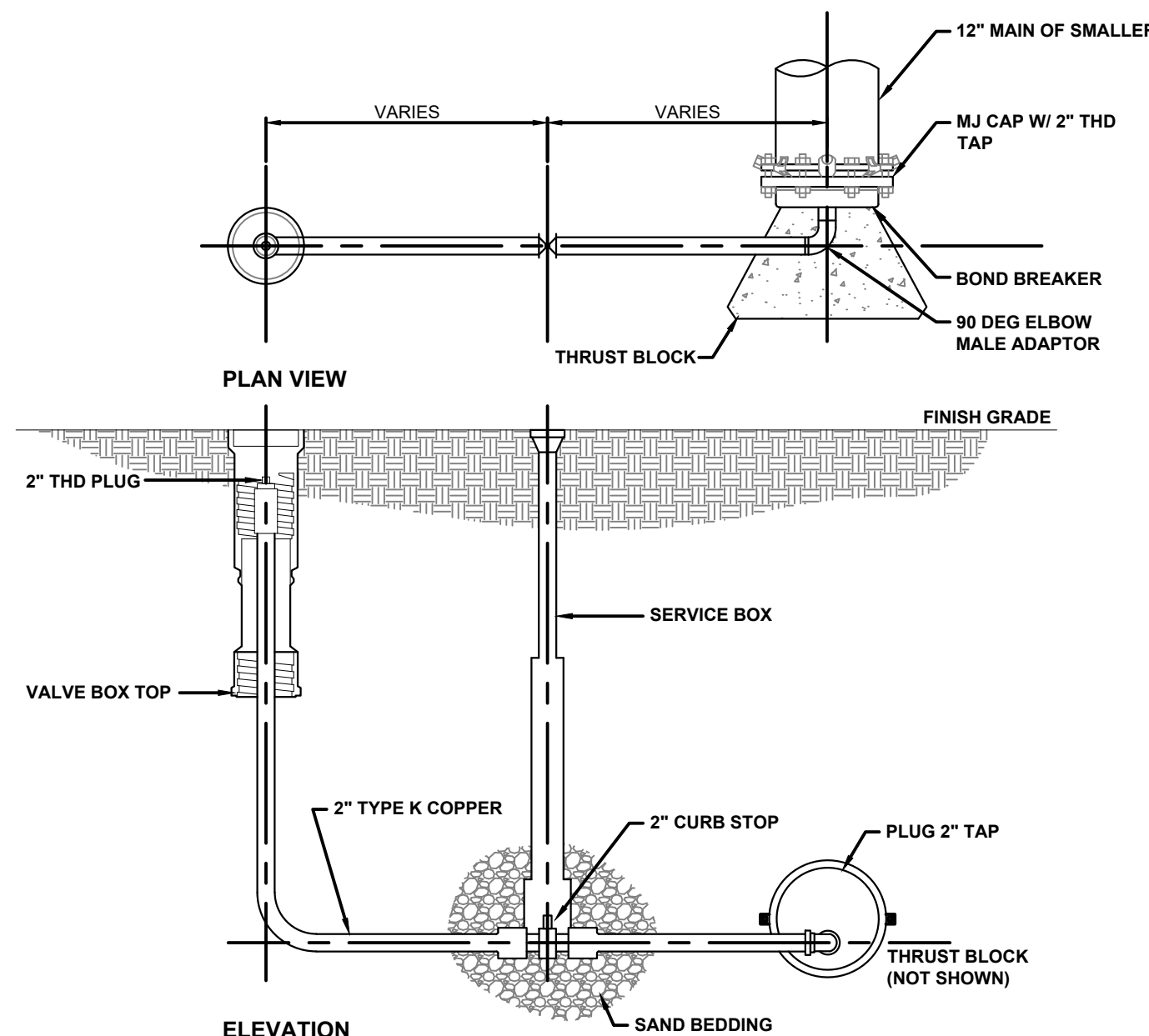
N.T.S.



- NOTES:
- EXTEND NEW SURFACE PAVEMENT ACROSS BUTT JOINT IN BASE COURSE.
 - PROVIDE TACK COAT ON ALL SURFACES OF EXISTING PAVEMENT TO BE COVERED.

TYPICAL ASPHALT PAVEMENT GRINDING DETAIL

NTS



WATER MAIN BLOWOFF ASSEMBLY DETAIL

NTS

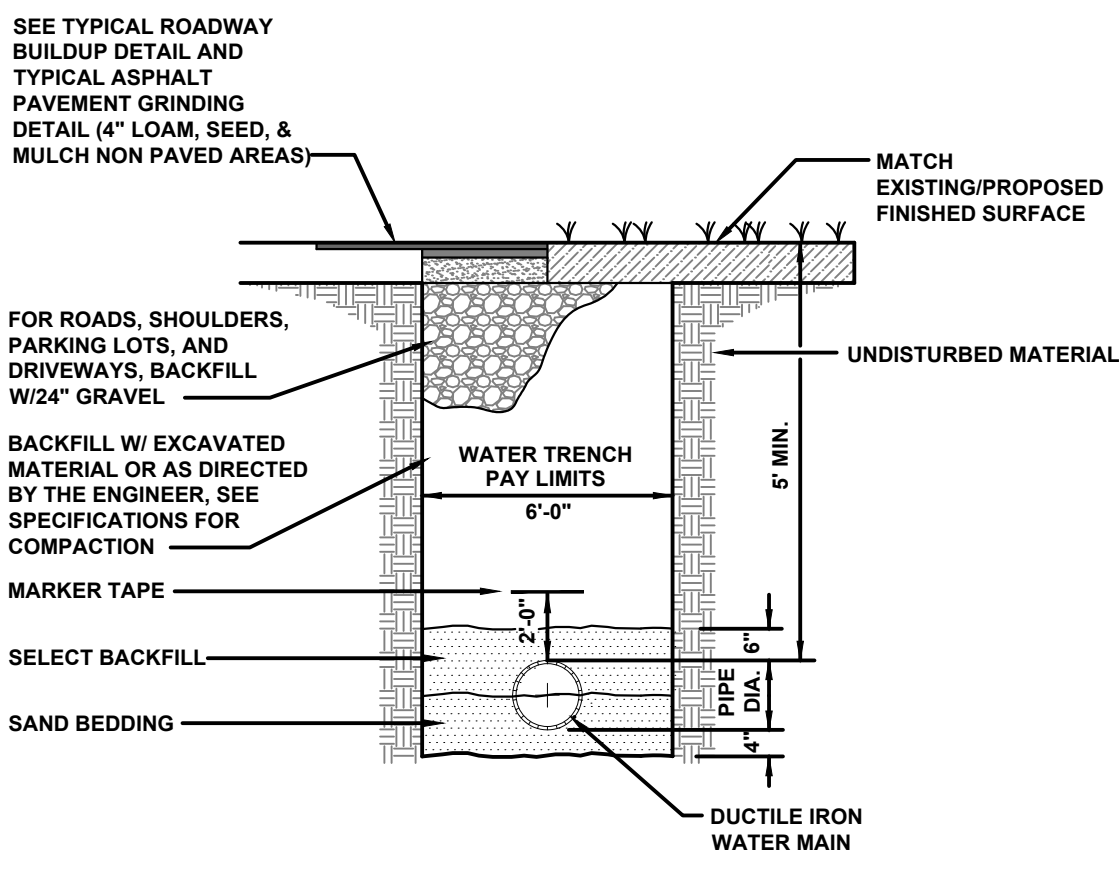
ANCHORAGE DETAILS

NTS

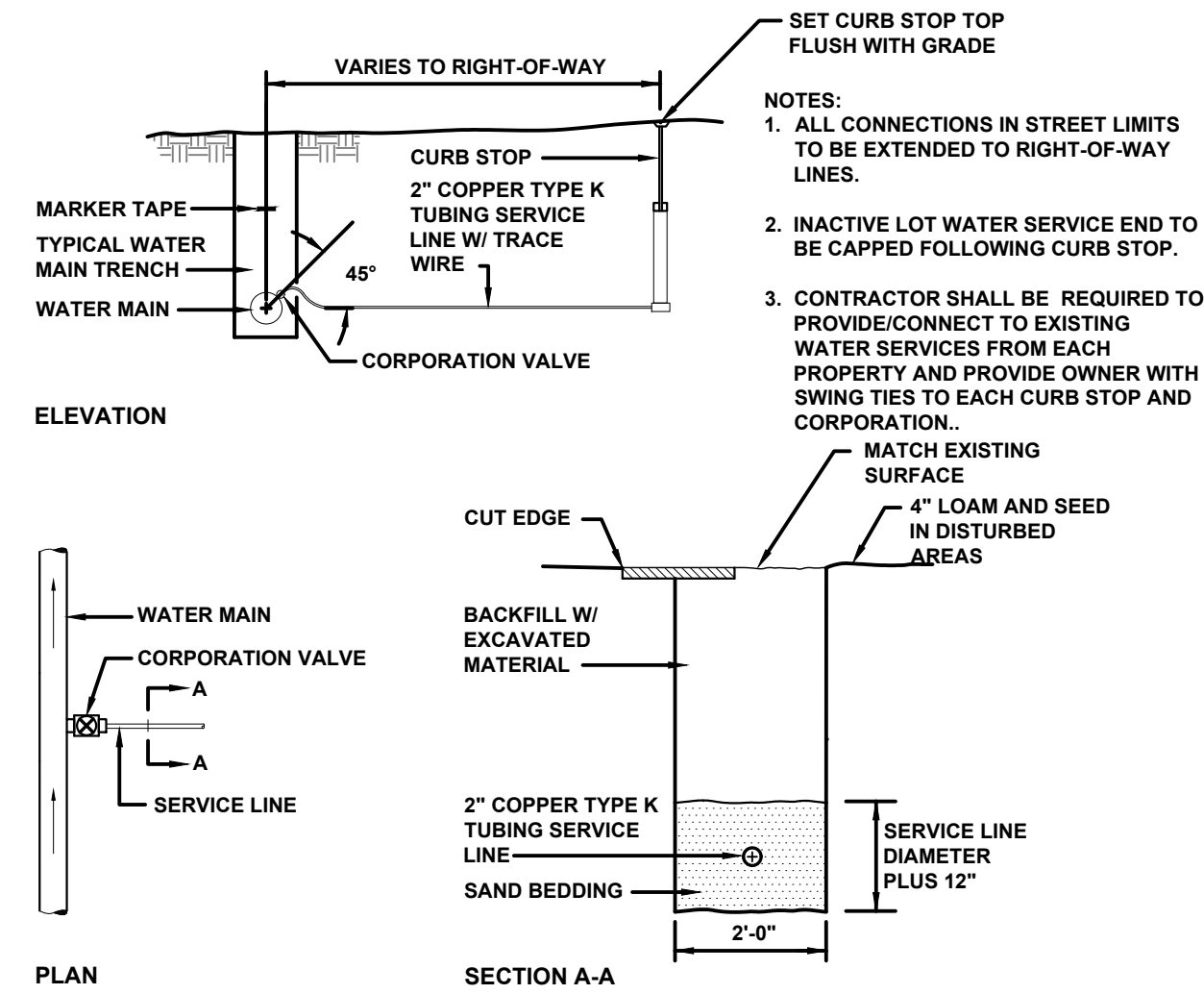
TYPICAL TRENCH DETAIL - DUCTILE IRON WATER MAIN

MAIN

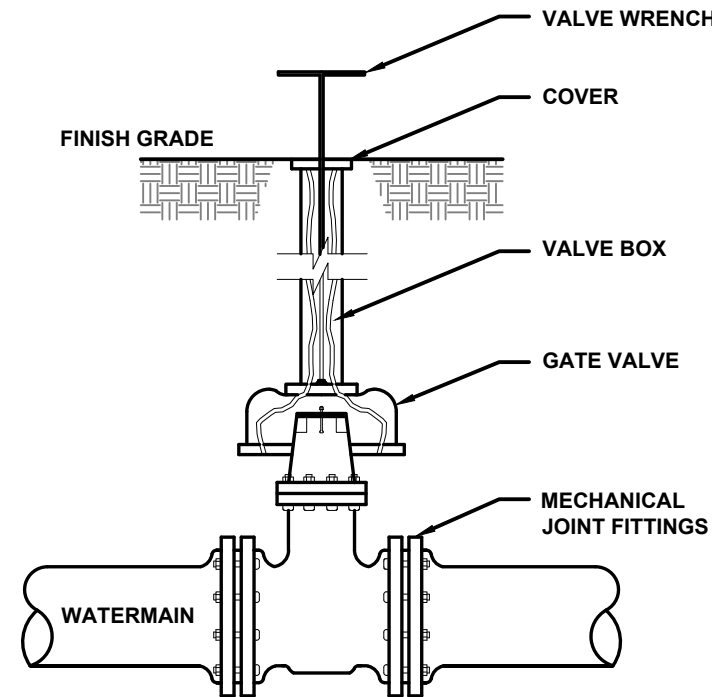
NTS



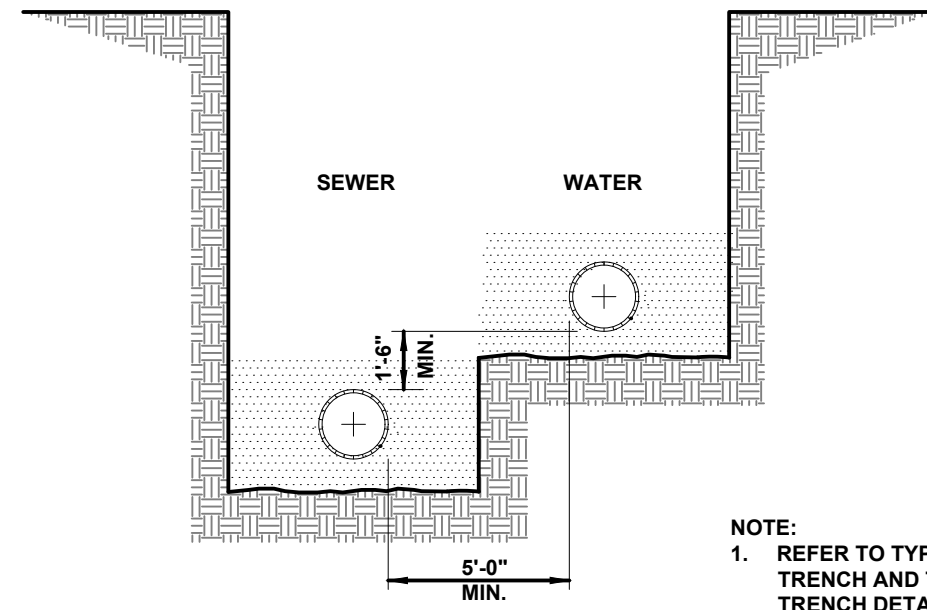
- NOTE:
- MATCH EXISTING SURFACE FINISH, EXCEPT WHERE NOTED. IN LAWN AREAS INSTALL 4" OF LOAM AND SEED AND MULCH.



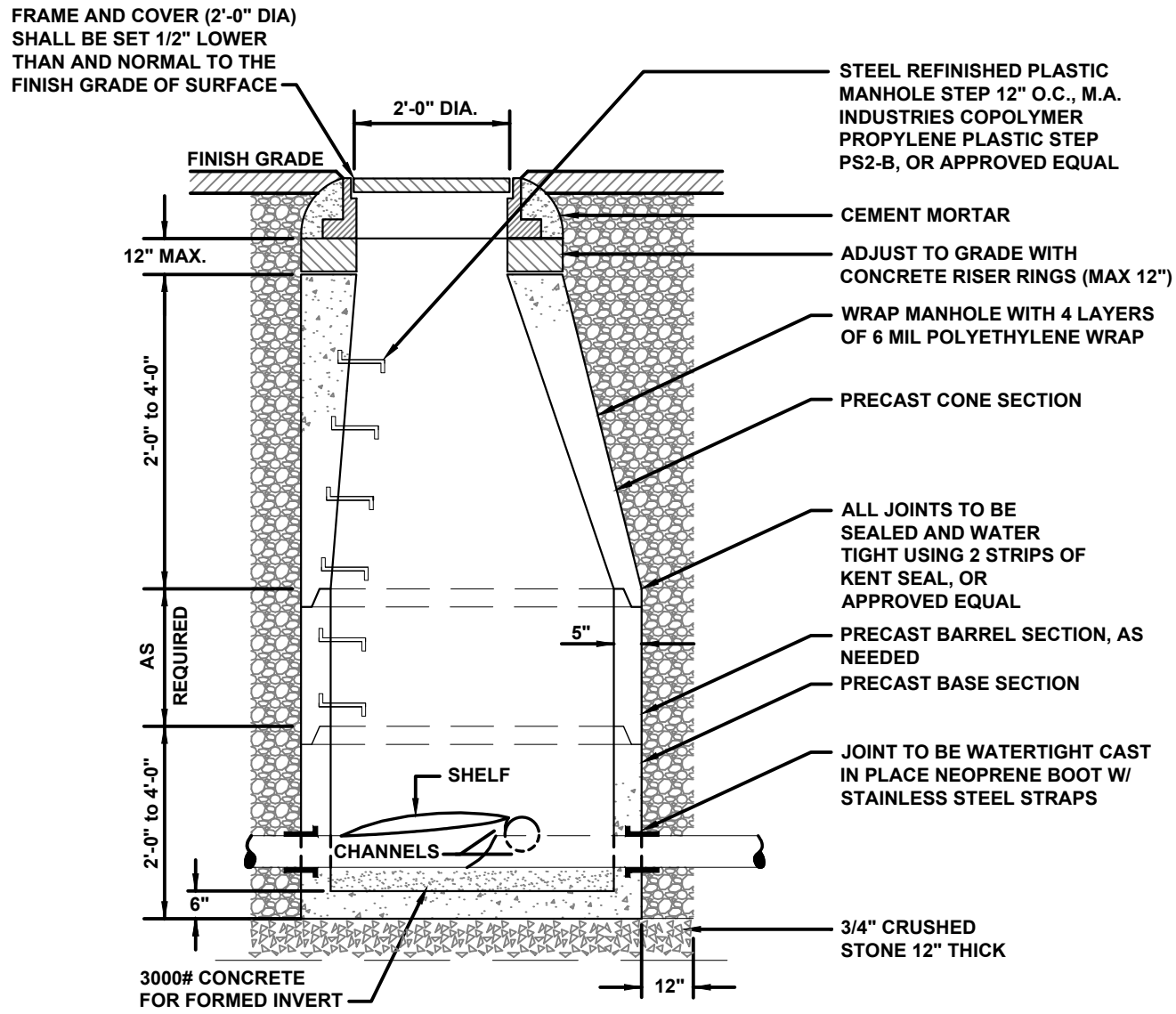
TYPICAL WATER SERVICE DETAIL
NTS



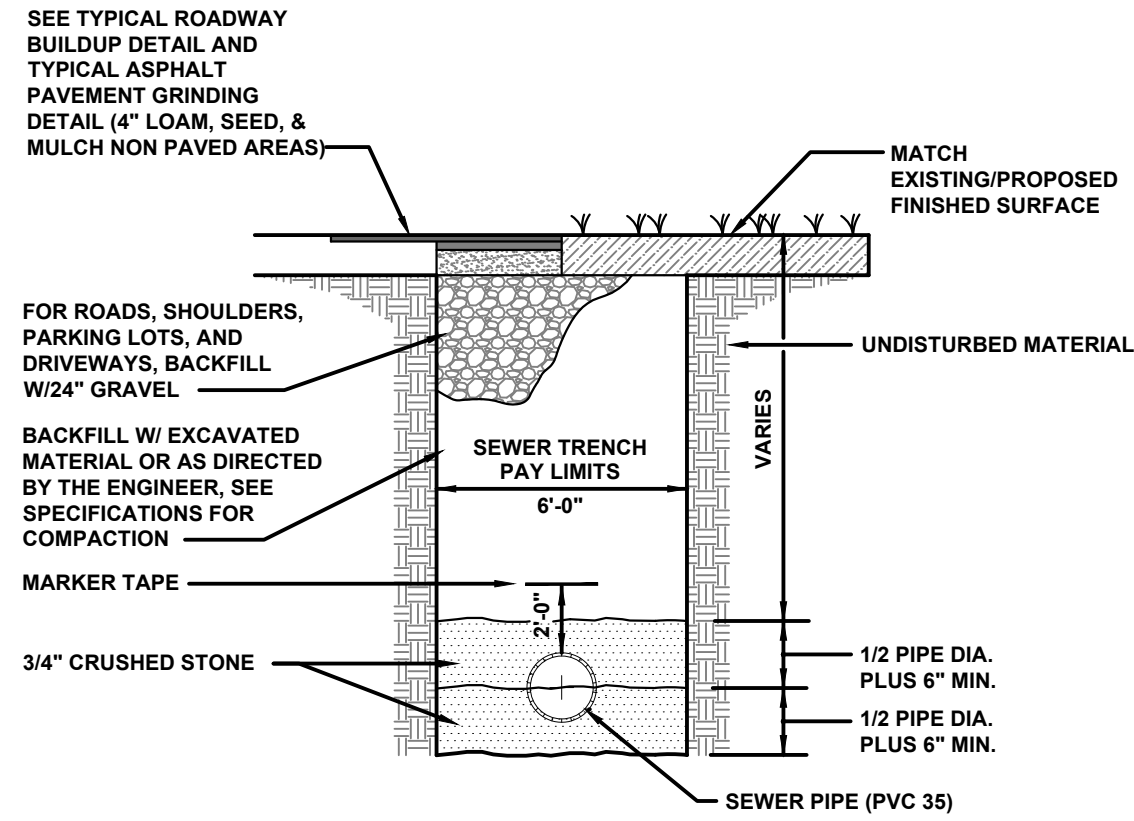
TYPICAL GATE VALVE DETAIL
NTS



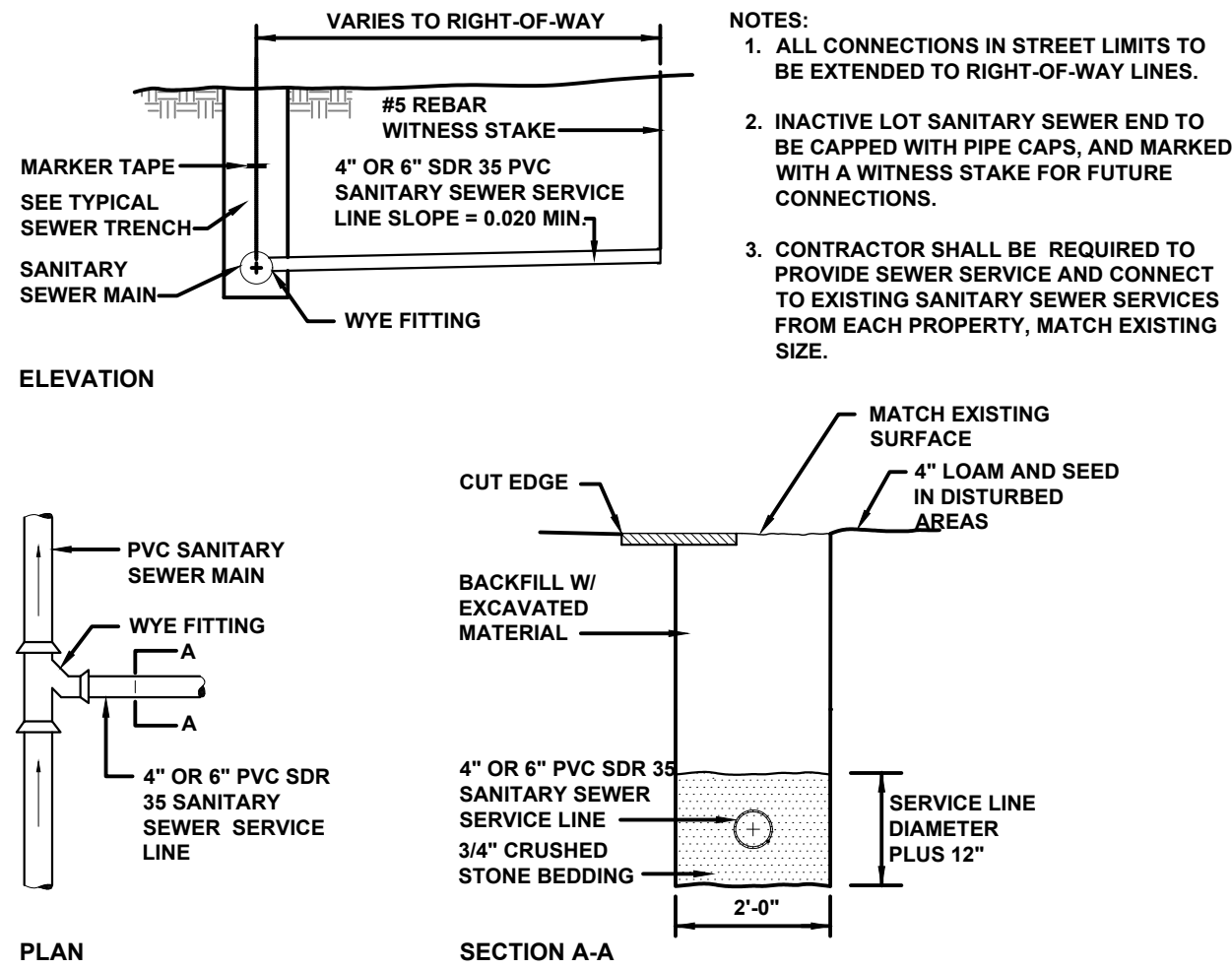
TYPICAL SEWER / WATER SEPARATION DETAIL
NTS



TYPICAL MANHOLE DETAIL
NTS

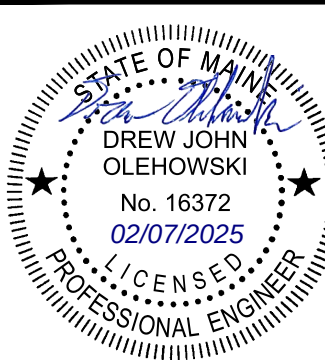


TYPICAL SEWER TRENCH DETAIL
NTS



TYPICAL SANITARY SEWER SERVICE DETAIL
NTS

REV.	DATE	DESCRIPTION	BY	CHK
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING WWW.HALEYWARD.COM One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
12 PEARL STREET BIDDEFORD, MAINE				
TITLE				
SITE DETAILS				
DATE		2025.02.12	SCALE	
NTS				
DRAWN BY	DESIGNED BY	CHECKED BY		
PJM	DJO	DJO		
PROJECT No.		13871.013		
DRAWING No.		C502		REV.



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 final submittals.
2. Applicant to confirm all of the items listed are included within the submittal. Any missing items must have an explanation.
3. City to review applicant's submittal and checklist responses. Projects missing substantial submittal information will be returned to the applicant.
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/Variations (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 (FFE's)
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

ial Site Plan & Subdivision submittals. No checklist is required
dequate reasoning to justify their absence.
on with non-acceptable reasoning will be rejected and require

INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED
YES	C101
YES	N/A
YES	C101
YES	V101
YES	ALL SHEETS
YES	
YES	COVER
YES	COVER
YES	COVER
YES	COVER
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
NO	
NO	
NO	
NO	
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
NO	
NO	
YES	
YES	V101
YES	V101
YES	V101

YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
NO	
NO	
NO	
YES	C101
NO	
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
YES	C101
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
NO	
YES	C101
YES	C101
YES	C101

YES	
YES	APPLICATION NARRATIVE
YES	APPLICATION NARRATIVE
NO	
NO	
NO	
NO	
NO	
NO	
NO	

for sketch submittals.

ed to resubmit.

[illegible]

WAIVER REQUESTED DUE TO NO CHANGES TO EXISTING COVER TYPES OR FLOW PATHS.
REQUEST LETTER PROVIDED
TO BE PROVIDED PRIOR TO FINAL APPRROVAL. PROPOSED SITE WORK IS MINIMAL

SLODA NOT APPLICABLE

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT

12 Pearl Street

N/A

Coastal Oaks, LLC

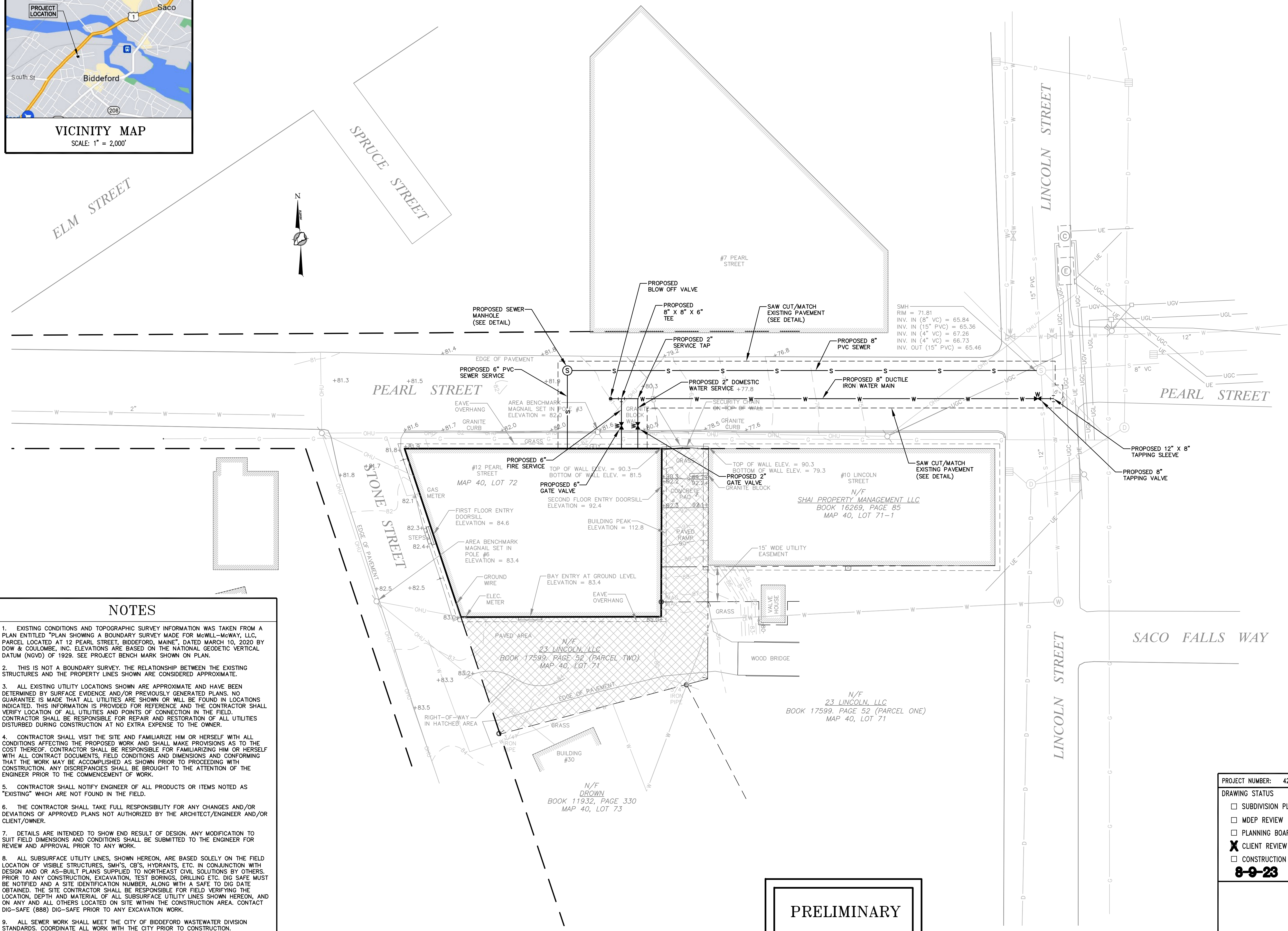
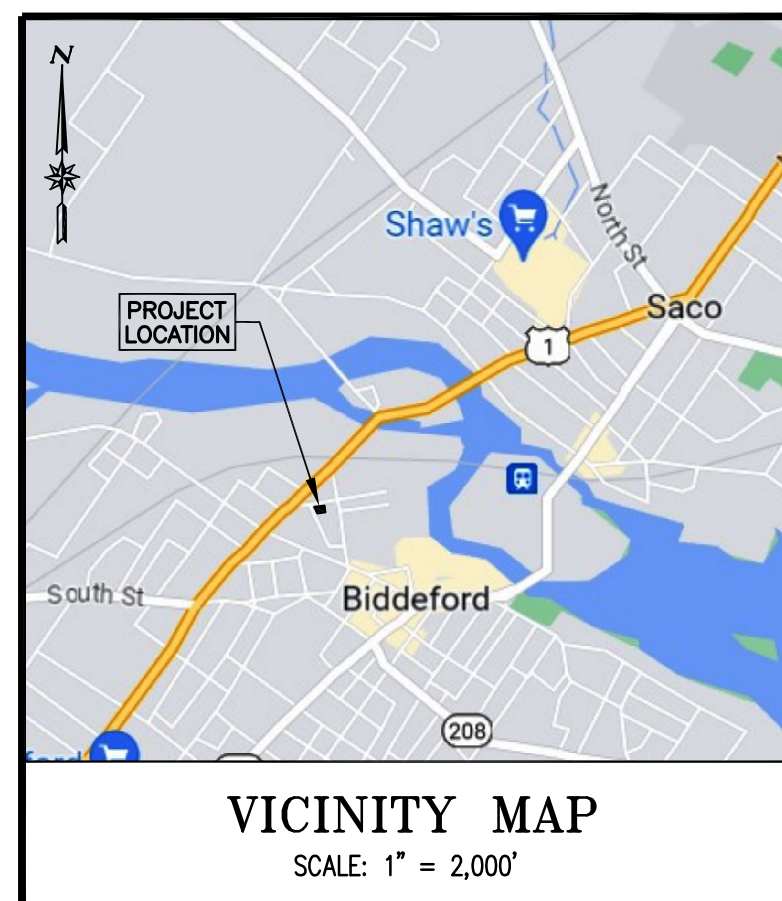
Preliminary Site Plan/Subdivision

2.12.2025

CITY REVIEW RESPONSE

COMMENT	
---------	--

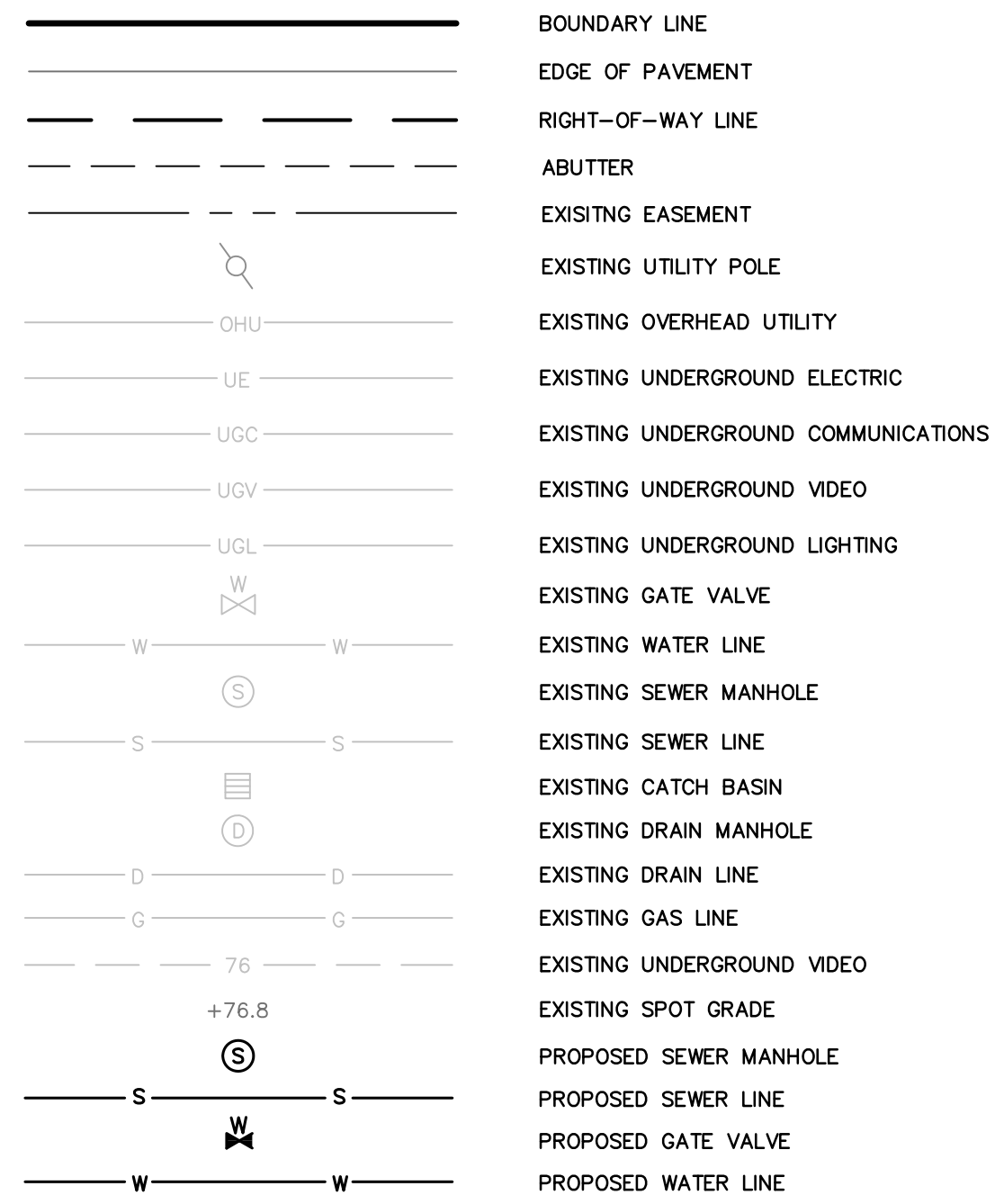
[illegible]



INDEX

1. SITE & UTILITY PLAN
2. PLAN SHOWING A BOUNDARY SURVEY (DOW & COULOMBE, INC.)
3. CONSTRUCTION DETAILS - SHEET 1
4. CONSTRUCTION DETAILS - SHEET 2

LEGEND



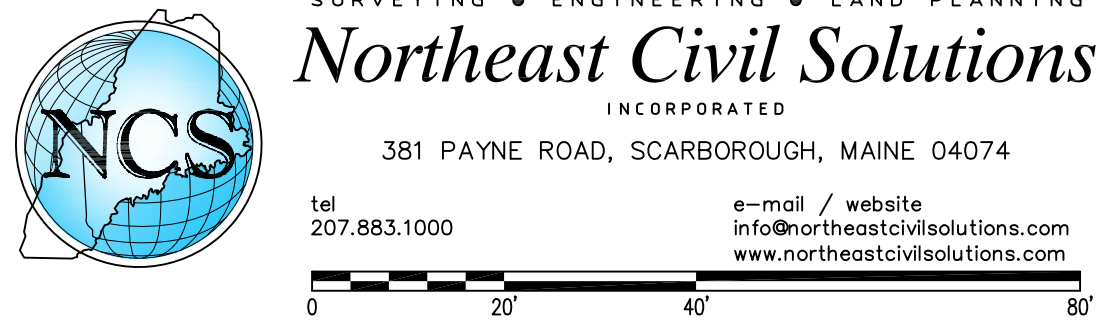
NOTES

1. EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY INFORMATION WAS TAKEN FROM A PLAN ENTITLED "PLAN SHOWING A BOUNDARY SURVEY MADE FOR McWILL--MCGRAW, LLC, A PARCEL LOCATED AT 12000 S. HICKORY STREET, BLOOMINGDALE, ILLINOIS, DATED 03/10/2020 BY DAVID W. COUGHLIN, INC. ELEVATION DATA BASED ON THE NATIONAL GEODETIC DATUM OF 1983. SEE PROJECT BENCH MARK SHOWN ON PLAN.
2. THIS IS NOT A BOUNDARY SURVEY. THE RELATIONSHIP BETWEEN THE EXISTING STRUCTURES AND THE PROPERTY LINES SHOWN ARE CONSIDERED APPROXIMATE.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND HAVE BEEN DETERMINED BY SURFACE EVIDENCE AND/OR PREVIOUSLY GENERATED PLANS. NO GUARANTEE IS MADE THAT ALL UTILITIES ARE SHOWN OR WILL BE FOUND IN LOCATIONS INDICATED. THIS INFORMATION IS PROVIDED FOR REFERENCE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND POINTS OF CONNECTION IN THE FIELD. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND RESTORATION OF ALL UTILITIES DISTURBED DURING CONSTRUCTION AT NO EXTRA EXPENSE TO THE OWNER.
4. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CITY ORDINANCES, ORDINANCES, AND REGULATIONS AND CONFORMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
5. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
6. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND/OR DEVIATIONS OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
7. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SITE FIELD DIMENSIONS AND CONDITIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
8. ALL SUBSURFACE UTILITY LINES, SHOWN HEREIN, ARE BASED SOLELY ON THE FIELD LOCATION OF VISIBLE STRUCTURES, S.M.A.'S, G.S., HYDRANTS, ETC. IN CONJUNCTION WITH DESIGN AND/OR BUILDING PLANS. CONTRACTOR IS RESPONSIBLE FOR SOLUTIONS BY OTHERS. PRIOR TO ANY CONSTRUCTION, EXCAVATION, TEST BORINGS, DRILLING ETC. DIG SAFE MUST BE NOTIFIED AND A SITE IDENTIFICATION NUMBER, ALONG WITH A SAFE TO DIG DATE AND CONTACT INFORMATION MUST BE PROVIDED TO THE CITY OF BLOOMINGDALE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION, DEPTH AND MATERIAL OF ALL SUBSURFACE UTILITY LINES SHOWN HEREIN, AND ON ANY AND ALL OTHERS LOCATED ON SITE WITHIN THE CONSTRUCTION AREA. CONTACT DIG SAFE (888) DIG-SAFE PRIOR TO ANY EXCAVATION WORK.
9. ALL SEWER WORK SHALL MEET THE CITY OF BLOOMINGDALE WASTEWATER DIVISION STANDARDS. COORDINATE ALL WORK WITH THE CITY PRIOR TO CONSTRUCTION.
10. ALL WATER LINE WORK SHALL MEET THE MAINE WATER COMPANY STANDARDS. COORDINATE ALL WORK WITH MAINE WATER COMPANY PRIOR TO CONSTRUCTION.
11. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED PRIOR TO THE START OF WORK.

THIS PLAN IS FOR REVIEW
PURPOSES ONLY AND IS NOT
INTENDED FOR CONSTRUCTION
OR RECORDING

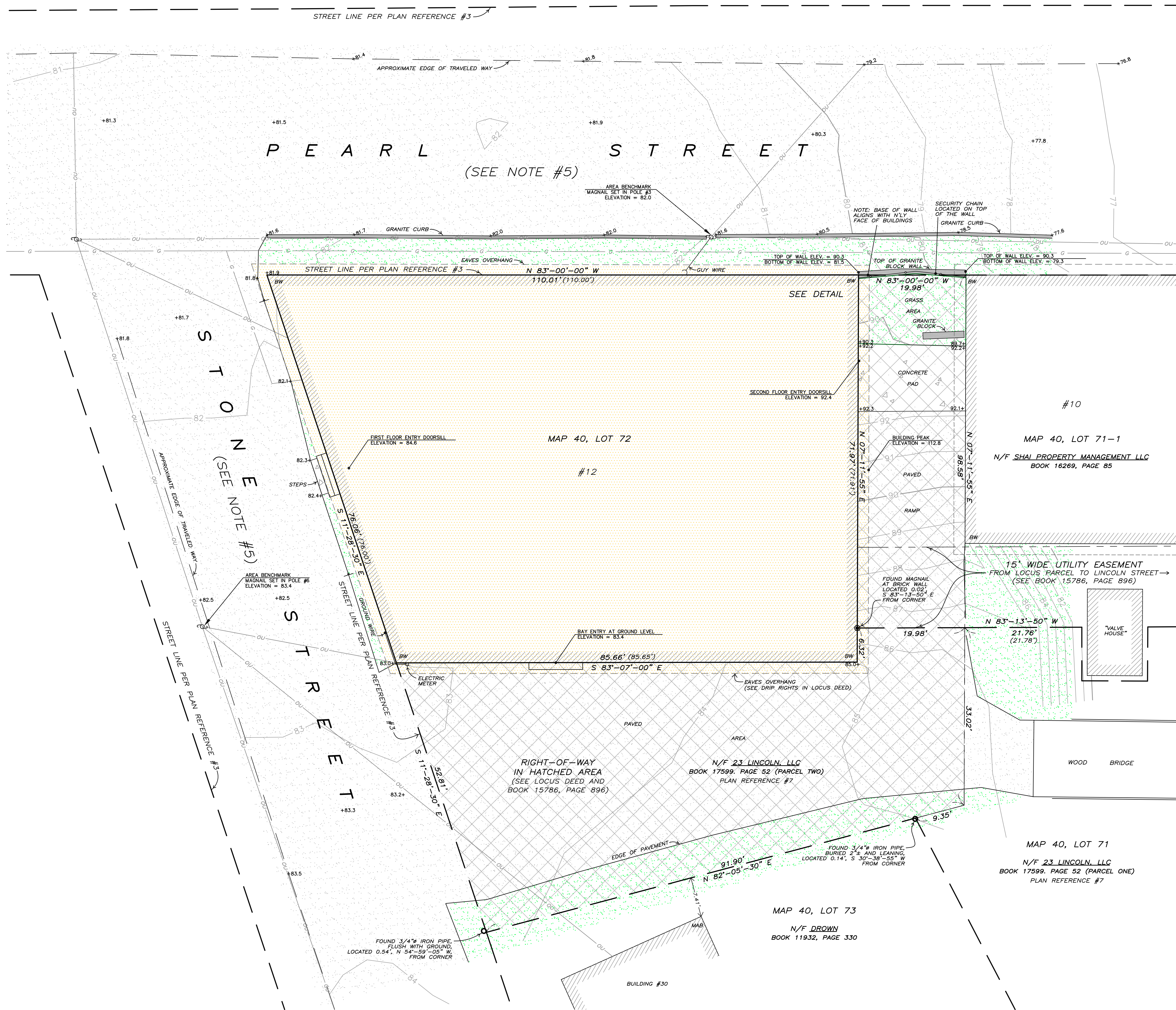
Revision:	By:	Date:	Change:
1	SMA	8/9/23	SUBMITTED FOR CLIENT REVIEW

PROJECT NUMBER: 42846	ACAD FILE: 42846-SITE.DWG	SCALE: 1" = 20'	DATE: AUGUST 9, 2023
DRAWING STATUS		Drawing Name:	
☐ SUBDIVISION PLAN ☐ MDEP REVIEW ☐ PLANNING BOARD ☒ CLIENT REVIEW ☐ CONSTRUCTION		SITE & UTILITY PLAN Project Name: PROPOSED UTILITY IMPROVEMENTS 12 PEARL STREET, BIDDEFORD, MAINE 04005	
8-9-23		Owner/Applicant: McWILL-McWAY, LLC 20 TATE STREET #1, PORTLAND, MAINE 04102	



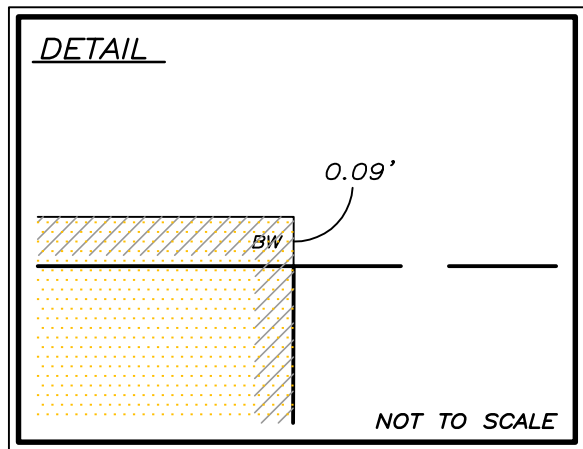
PRELIMINARY

MAGNETIC 1929 (PER PLAN REFERENCE #5)



LEGEND :

- SET IRON ROD WITH CAP (UNLESS OTHERWISE NOTED)
- UTILITY POLE
- φ DIAMETER
- N/F NOW OR FORMERLY
- BW BRICKWORK
- MAB METAL OVER ASBESTOS SIDING
- SIGN
- CHAIN LINK FENCE
- OU OVERHEAD UTILITY LINES
- G UNDERGROUND GAS (SEE NOTE #9)
- 80 CONTOUR LINE
- 80.0+ SPOT ELEVATION (AT PLUS SIGN)



LOCUS DEED REFERENCES :

ATRIX NORTH REALTY LLC
TO
McWILL-McWAY, LLC
JANUARY 2, 2019 BOOK 17874, PAGE 145
SEE ALSO:
BOOK 15786, PAGE 896 (COMMON USE AREA AGREEMENT)

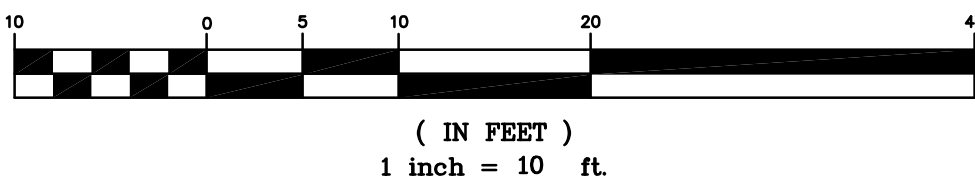
PLAN REFERENCES :

- "PLAN SHOWING LAND ON PEARL & STONE STS. BIDDEFORD-MAINE", DATED SEPTEMBER 14, 1940 BY LIBBY & DOW AND RECORDED AT YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 15, PAGE 6.
- "PLAN SHOWING LAND ON PEARL & LINCOLN STS. BIDDEFORD, MAINE", DATED MAY 1, 1941 BY LIBBY & DOW AND RECORDED AT Y.C.R.D. IN PLAN BOOK 15, PAGE 9.
- "PLAN SHOWING LAND CONVEYED IN A PROPOSED SALE BY THE PEPPERELL MANUFACTURING CO. TO THE CITY OF BIDDEFORD", DATED JANUARY 19, 1946 BY LIBBY & DOW AND RECORDED AT Y.C.R.D. IN PLAN BOOK 14, PAGE 18.
- "PLAN SHOWING LAND ON LINCOLN STREET BIDDEFORD-MAINE", DATED MAY 3, 1949 BY LIBBY & DOW AND RECORDED AT Y.C.R.D. IN PLAN BOOK 15, PAGE 28.
- "PLAN OF LAND MADE FOR HENRY R. & MURIEL P. PELLETIER BIDDEFORD-MAINE", DATED NOVEMBER 20, 1991 BY DOW & COULOMBE, INC.
- "12 PEARL STREET, BIDDEFORD, MAINE -- FOR: VACATION PROPERTIES, INC. -- PROPOSED SITE DEVELOPMENT AND SUBDIVISION PLAN", DATED JUNE 21, 2007 AND REVISED AUGUST 15, 2007 AND SEPTEMBER 19, 2007 BY ASSOCIATED DESIGN PARTNERS INC. AND RECORDED AT Y.C.R.D. IN PLAN BOOK 324, PAGE 33.
- "PLAN SHOWING A BOUNDARY SURVEY MADE FOR THE 23 LINCOLN STREET, LLC", DATED APRIL 7, 2015, BY DOW & COULOMBE, INC.

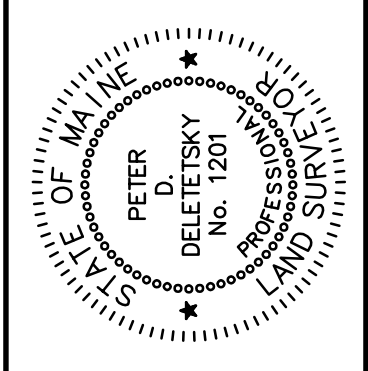
NOTES :

- TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS SURVEY CONFORMS TO STATE OF MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS' STANDARDS; CHAPTER 90, ADOPTED APRIL, 2001. EXCEPTIONS: A PROPOSED LEGAL DESCRIPTION WAS NOT PREPARED. A SURVEYOR'S REPORT WAS NOT PREPARED.
- AREA EQUALS 7,050 SQUARE FEET OR 0.161 ACRE.
- ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929
- INFORMATION IN PARENTHESES COPIED FROM DEED AND PLAN REFERENCES.
- ACCORDING TO A DOCUMENT FROM THE CITY CLERK'S OFFICE DATED APRIL 7, 1958 PEARL STREET AND STONE STREET WERE ACCEPTED AS PUBLIC STREETS. THE MEASUREMENTS DESCRIBED IN SAID DOCUMENT MATCH PLAN REFERENCE #3.
- ACCORDING TO THE LOCUS DEED, THE SUBJECT PARCEL WAS CONVEYED TOGETHER WITH A RIGHT OF WAY OVER A STRIP OF LAND LYING SOUTHERLY AND EASTERLY OF THE SUBJECT PARCEL, SHOWN AS THE HATCHED AREA ON THIS PLAN. SEE LOCUS DEED AND BOOK 15786, PAGE 896 FOR MORE DETAILS AND CONDITIONS.
- ACCORDING TO THE LOCUS DEED, THE SUBJECT PARCEL WAS CONVEYED TOGETHER WITH THE RIGHT OF WAY OVER THE BUILDING TO DRIP ON TO THE ADJOINING LAND. SEE SAID DEED FOR MORE DETAILS.
- ACCORDING TO THE LOCUS DEED AND THE "COMMON USE AREA AGREEMENT" FOUND IN DEED BOOK 15786, PAGE 896, THE SUBJECT PARCEL IS SUBJECT TO TERMS, CONDITIONS, AND EASEMENTS.
- THE UNDERGROUND GAS LINE SHOWN IS BASED ON PAINT MARKS FOUND ON THE PAVEMENT.

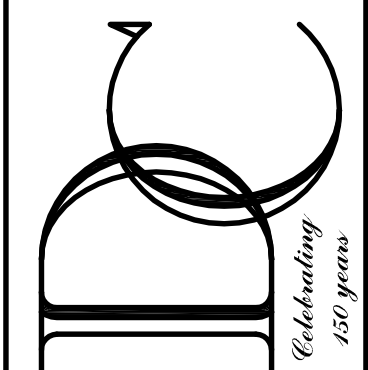
GRAPHIC SCALE



No.	Revision	Date



PLAN SHOWING A BOUNDARY SURVEY MADE FOR
McWILL-McWAY, LLC
(MAILING ADDRESS : C/O STEVE BLAIS, BLAIS CIVIL ENGINEERS
27 GORHAM ROAD, SUITE 207, SCARBOROUGH, ME 04074)
PARCEL LOCATED AT 12 PEARL STREET
BIDDEFORD MAINE

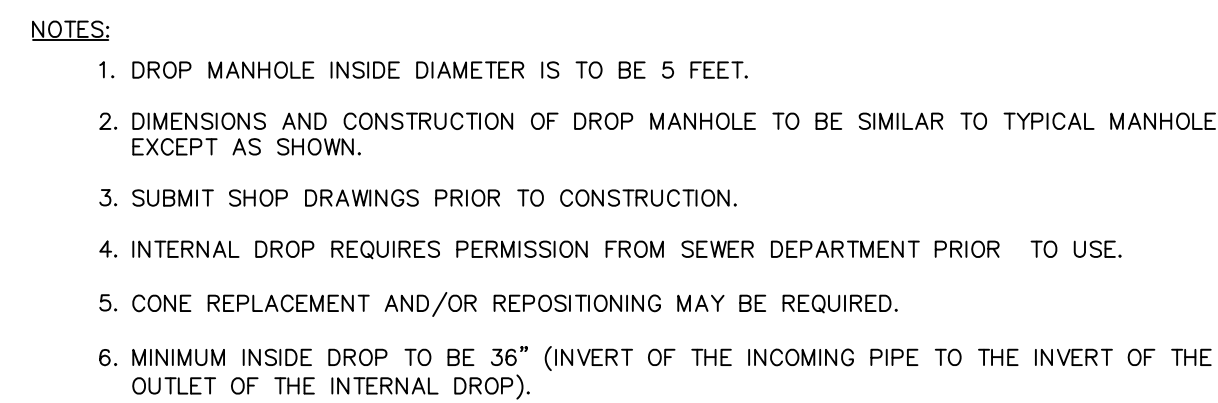


Dow & Coulombe, Inc.
Land Surveyors & Land Planners Since 1864
13 Park Street, Saco, Maine 04072
Telephone: (207)284-4521 • Fax: (207)284-4522
info@dowcoulombe.com • www.dowcoulombe.com

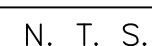
Date:
MARCH 10, 2020
H. Scale: Drawn by:
1" = 10' JWS
Chk'd by: Appv'd by:
MJC PDD
SHEET 1 OF 1

ZONE-10
Dwgs2020\BLAIS10

1. LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. HOUSE LATERALS SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES



N.T.S



TRENCH WIDTH W_s OR W_u		
DIAMETER OF PIPE D	W_u	W_s
	UNSHEETED	SHEETED
12" & SMALLER	3'-0"	4'-2"
15"	3'-2"	4'-4"
18"	3'-6"	4'-8"
21"	3'-10"	5'-0"
24"	4'-2"	5'-4"
27"	4'-6"	5'-8"
30"	4'-10"	6'-0"
36"	5'-6"	6'-8"
42"	6'-2"	7'-4"
48"	6'-10"	8'-0"

TRENCH WIDTH DATA

NOTE:
MANHOLE, FRAME AND COVER SHALL BE DESIGNED
TO WITHSTAND HS-20 LOADING.

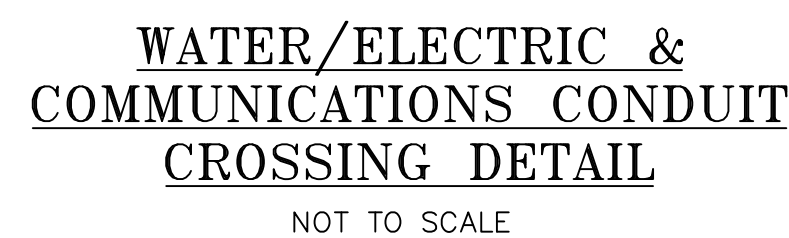
NOT TO SCALE



1. ALIGNMENT, TO BE BUILT ON SMOOTH RADIUS, CHANNEL TO BE SHAPED TO ACCEPT ADDITIONAL INLET PIPES.
2. MANHOLE FRAME & COVER PER MDOT STANDARD
3. PROVIDE 2' LONG (MAX.) STUBS FOR ALL PIPES ENTERING OR LEAVING SEWER MANHOLES
4. THE MANHOLES SHALL BE VACUUM TESTED AND THE SEWER PIPELINE TESTED USING A LOW PRESSURE AIR TEST IN ACCORDANCE WITH TOWN SPECIFICATIONS.
5. FOR SHALLOW MANHOLES, A 2' CONE MAY BE USED.
6. FLEXIBLE RUBBER BOOT OR APPROVED EQUAL SHALL BE EQUIPPED WITH A MINIMUM OF 2 STAINLESS STEEL BANDS

ALL SEWER PIPES
SHALL BE INSTALLED
WITH THE BELLS
UPGRADIENT.

1. MAINTAIN MIN. 5'-0" COVER OVER WATER MAIN. INSTALL DEEPER IF REQUIRED TO MAINTAIN 18" SEPARATION AT UTILITY CROSSING. REFER TO TYPICAL WATER MAIN TRENCH SECTION.
2. REFER TO UNDERGROUND CONDUIT DETAILS.



1. MAINTAIN MIN. 5'-0" COVER OVER WATER MAIN. INSTALL DEEPER IF REQUIRED TO MAINTAIN 18" SEPARATION AT UTILITY CROSSING. REFER TO TYPICAL WATER MAIN TRENCH SECTION.
2. REFER TO TYPICAL STORM DRAIN TRENCH SECTION.



PRELIMINARY



N.T.S.

THIS PLAN IS FOR REVIEW
PURPOSES ONLY AND IS NOT
INTENDED FOR CONSTRUCTION
OR RECORDING

Revision:	By:	Date:	Change:
1	SMA	8/9/23	SUBMITTED FOR CLIENT REVIEW

PROJECT NUMBER: 42846	ACAD FILE: 42846-DETAILS.DWG	SCALE: AS NOTED	DATE: AUGUST 9, 2023
-----------------------	------------------------------	-----------------	----------------------

Drawing Name:

CONSTRUCTION DETAILS – SHEET 1

Project Name and Location:
PROPOSED UTILITY IMPROVEMENTS
12 PEARL STREET, BIDDEFORD, MAINE 04005

Prepared For:
McWILL-McWAY, LLC
20 TATE STREET #1, PORTLAND, MAINE 04102



SURVEYING • ENGINEERING • LAND PLANNING

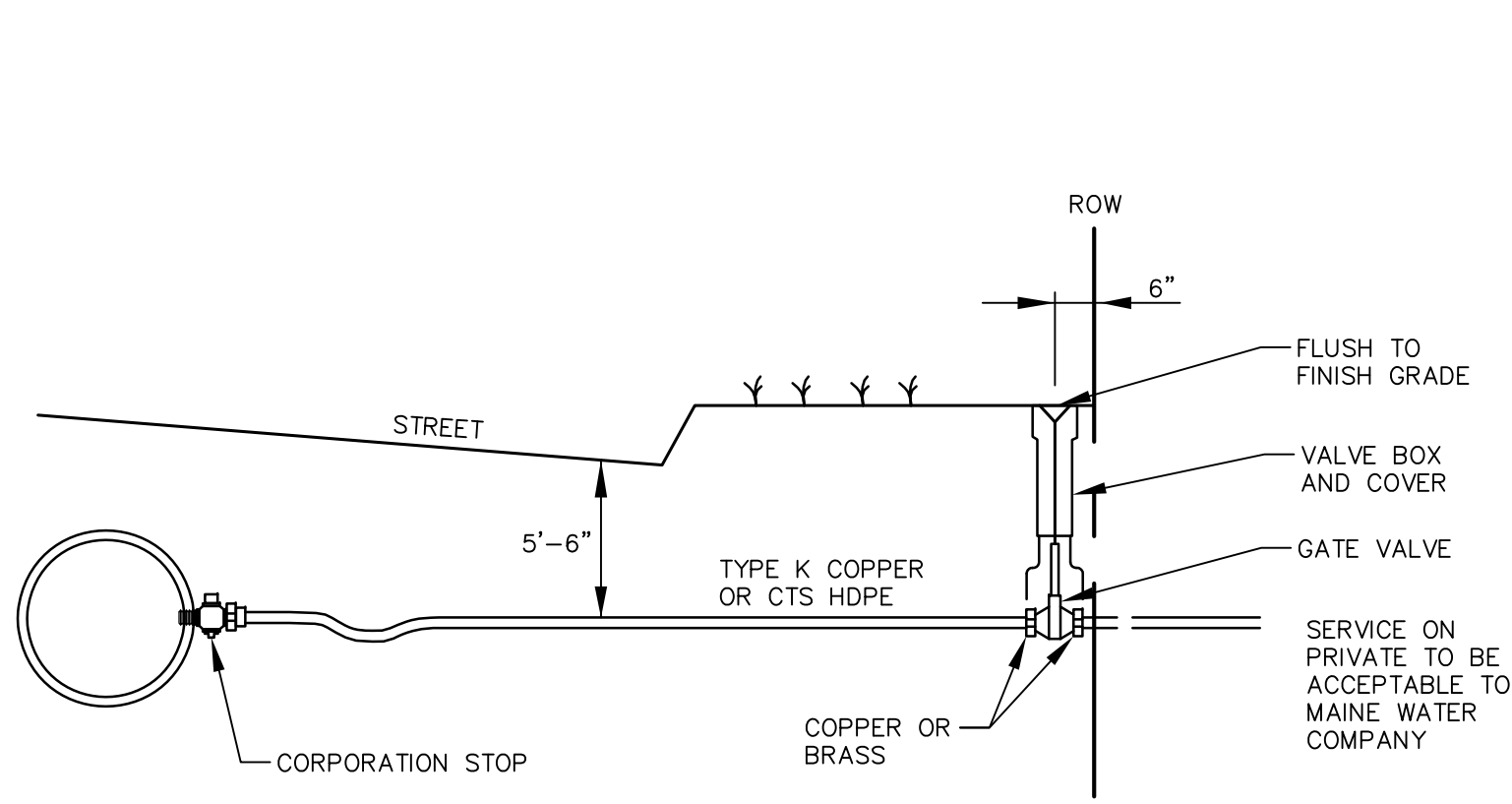
Northeast Civil Solutions

INCORPORATED

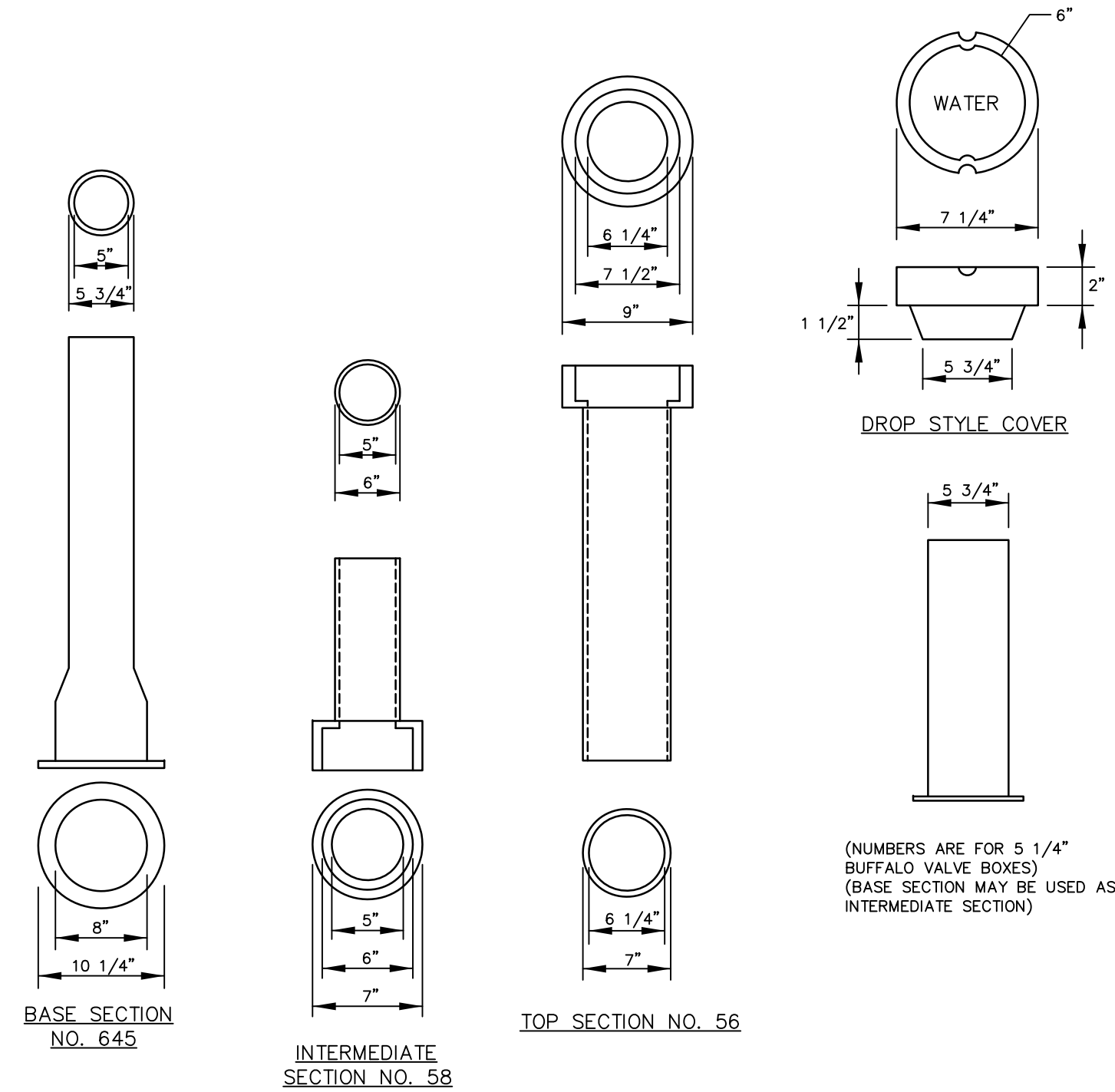
381 PAYNE ROAD, SCARBOROUGH, MAINE 04074

tel
207.883.1000

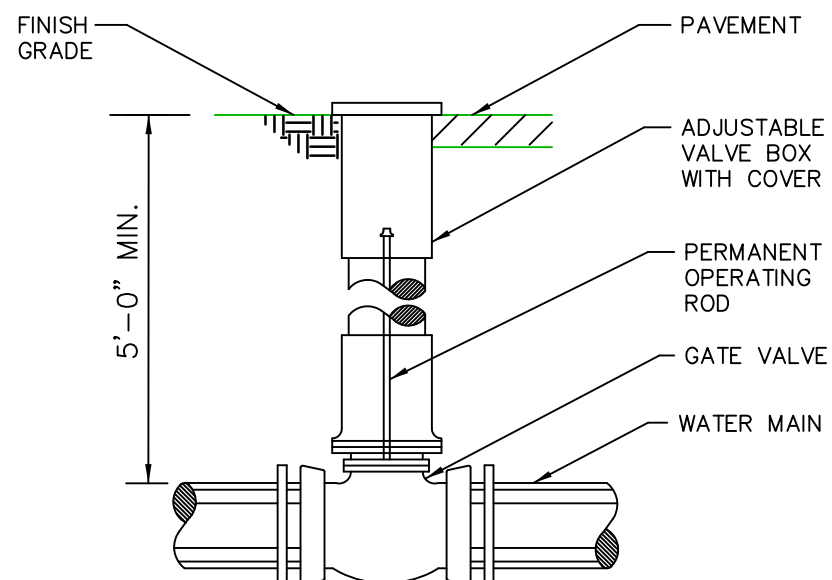
e-mail / website
info@northeastcivilsolutions.com
www.northeastcivilsolutions.com



TYPICAL SERVICE CONNECTION
NOT TO SCALE

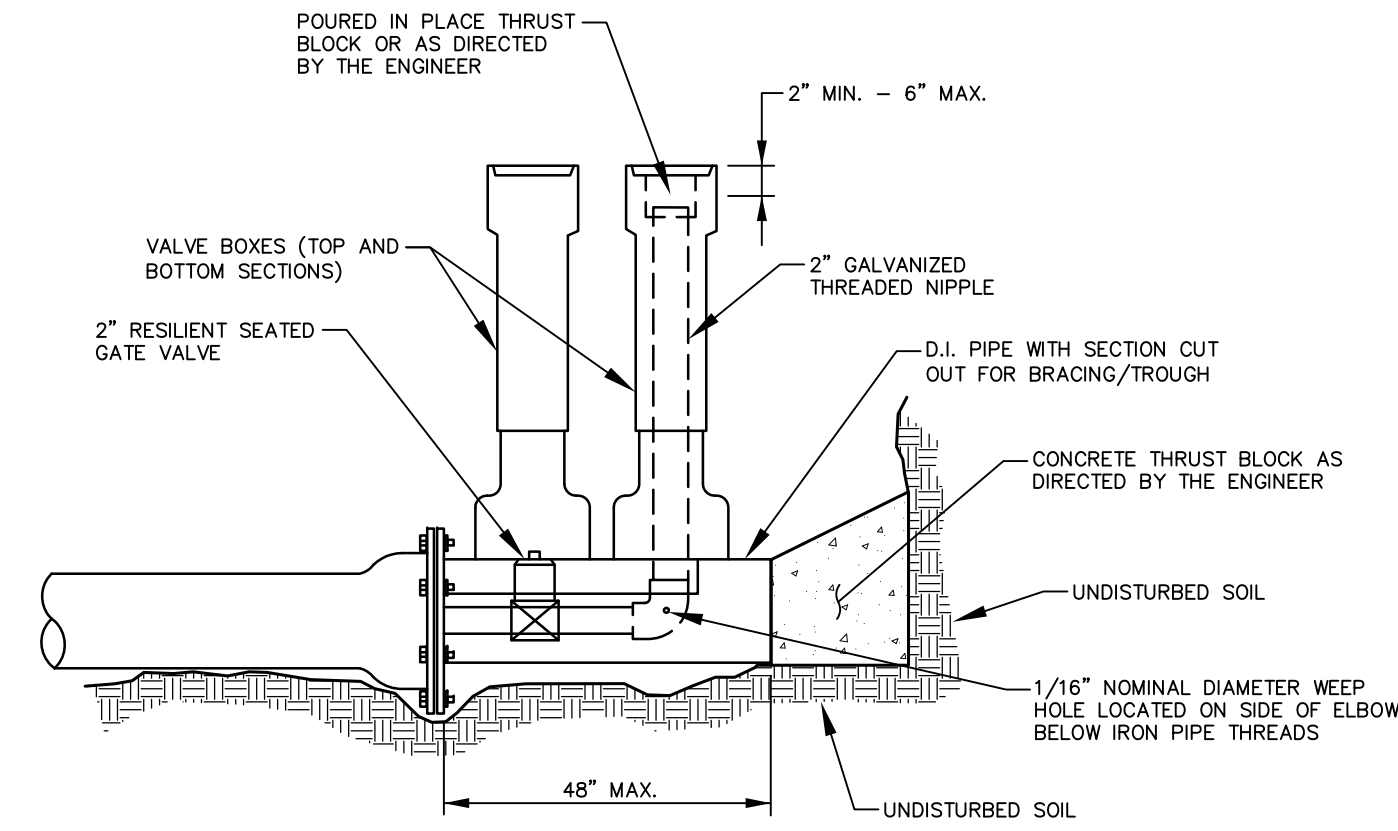
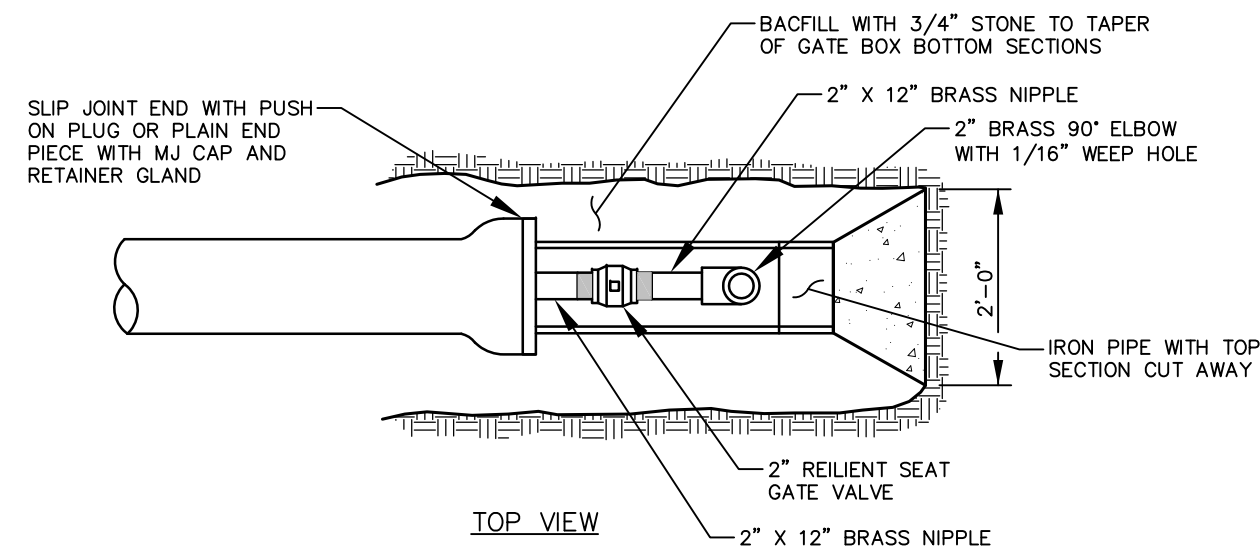


VALVE BOX & COVER
NOT TO SCALE

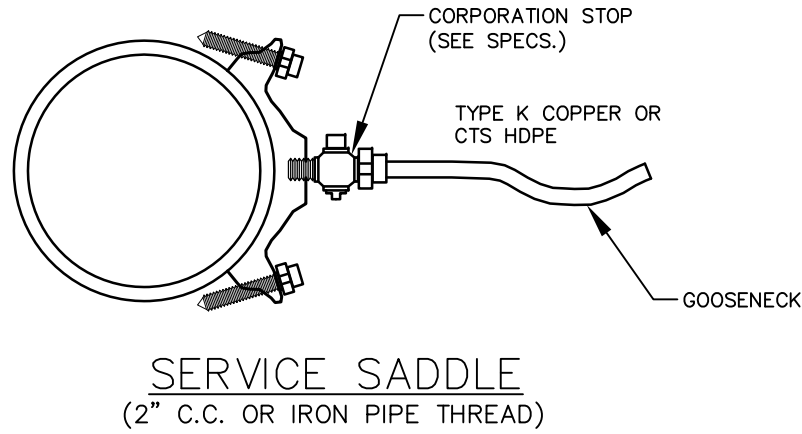


NOTE: UNLESS OTHERWISE INDICATED ALL GATE VALVES SHALL HAVE PERMANENTLY INSTALLED OPERATING RODS TERMINATING AT LEAST 2'-0" AND NOT MORE THAN 3'-0" BELOW THE TOP OF THE VALVE BOX.

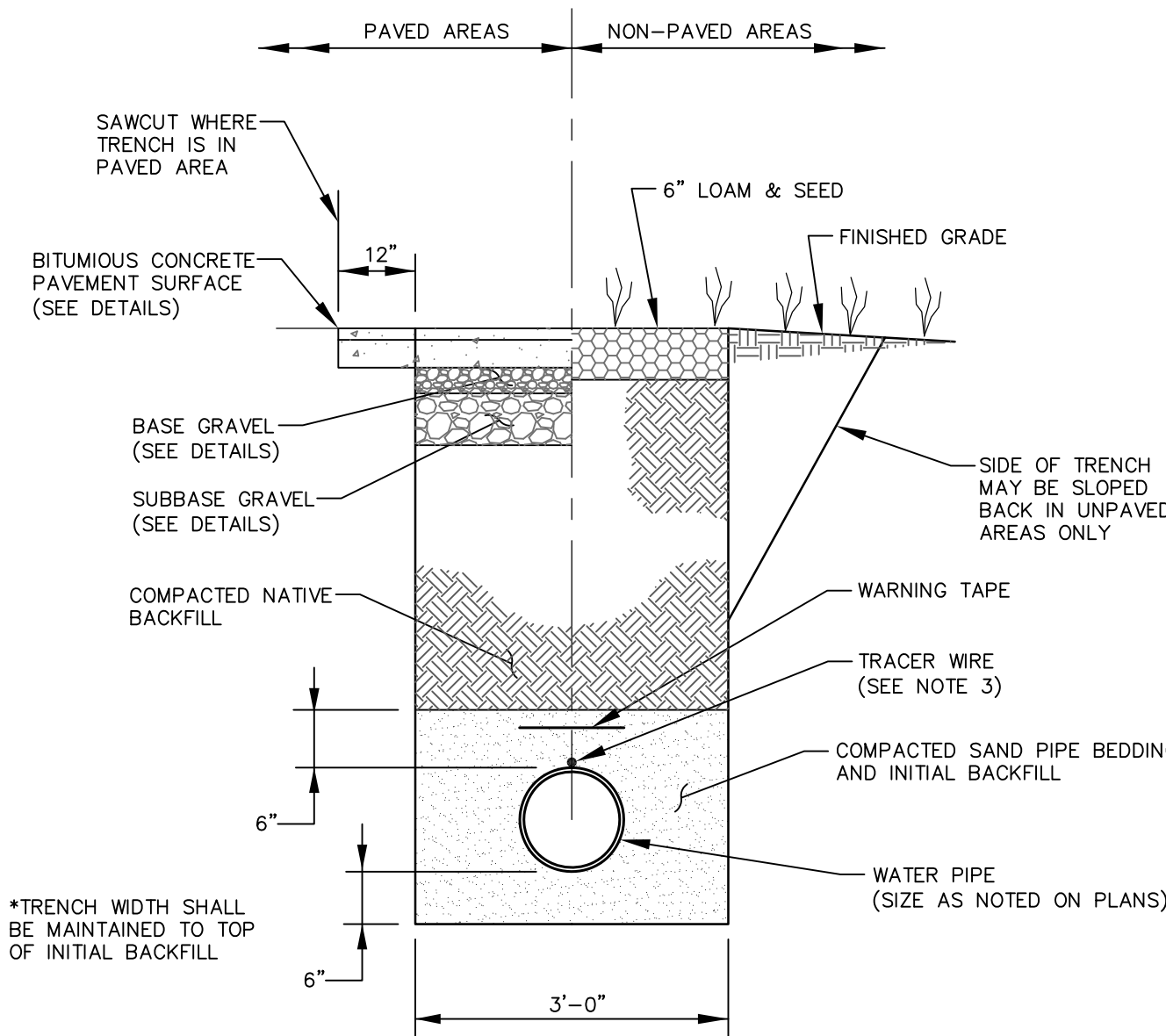
BURIED GATE VALVE
NOT TO SCALE



STANDARD 2" BLOW OFF
NOT TO SCALE

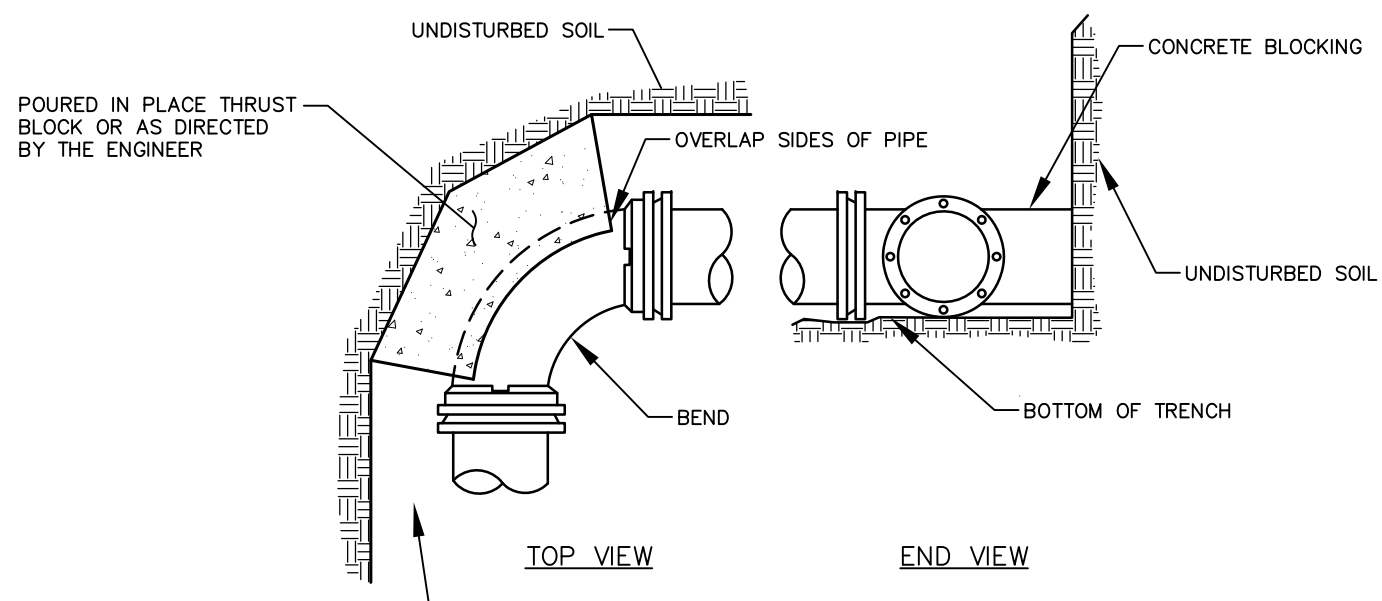


SERVICE SADDLE
(2" C.C. OR IRON PIPE THREAD)

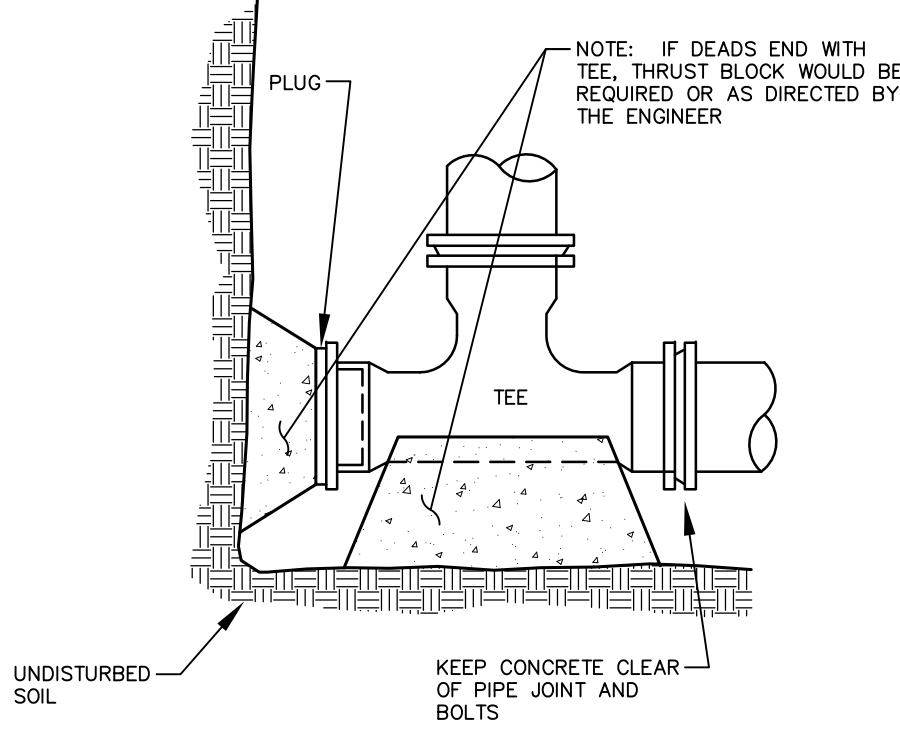


- NOTES:
1. APPLIES AT ROADWAYS, DRIVEWAYS, SIDEWALKS, AND LANDSCAPED AREAS.
 2. SAND AND BACKFILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 12 INCHES IN DEPTH AND SHALL BE COMPACTED TO A MINIMUM OF 92 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. BASE AND SUBBASE MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN DEPTH AND SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
 3. NONMETALLIC PIPE SHALL BE PARALLELED BY A METALLIC TRACER WIRE GROUNDED TO METAL AT THE CURB STOP VALVE AND INTERIOR PLUMBING. TRACER WIRE SHALL BE 12 AWG STRANDED COPPER WITH AN HMV-PE JACKET.

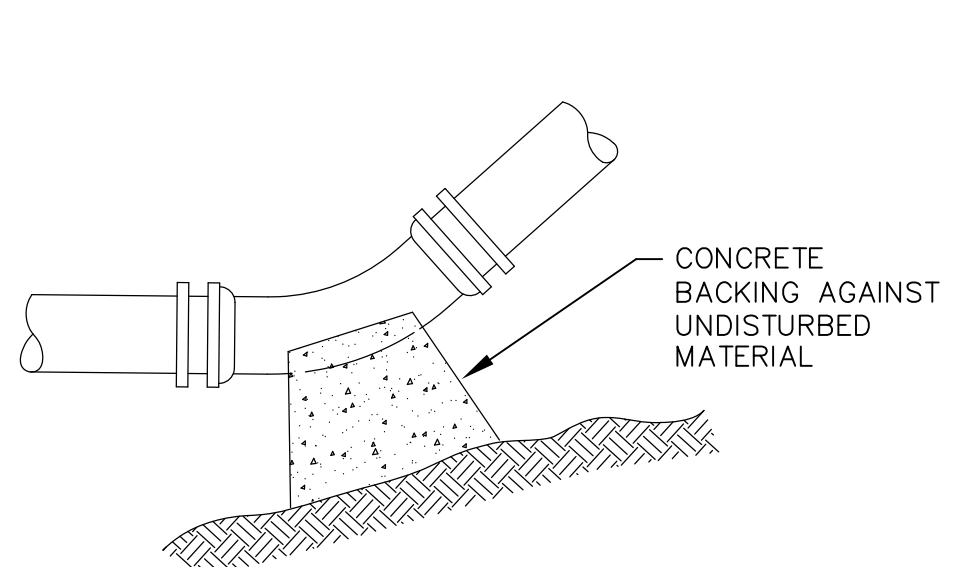
WATER TRENCH
NOT TO SCALE



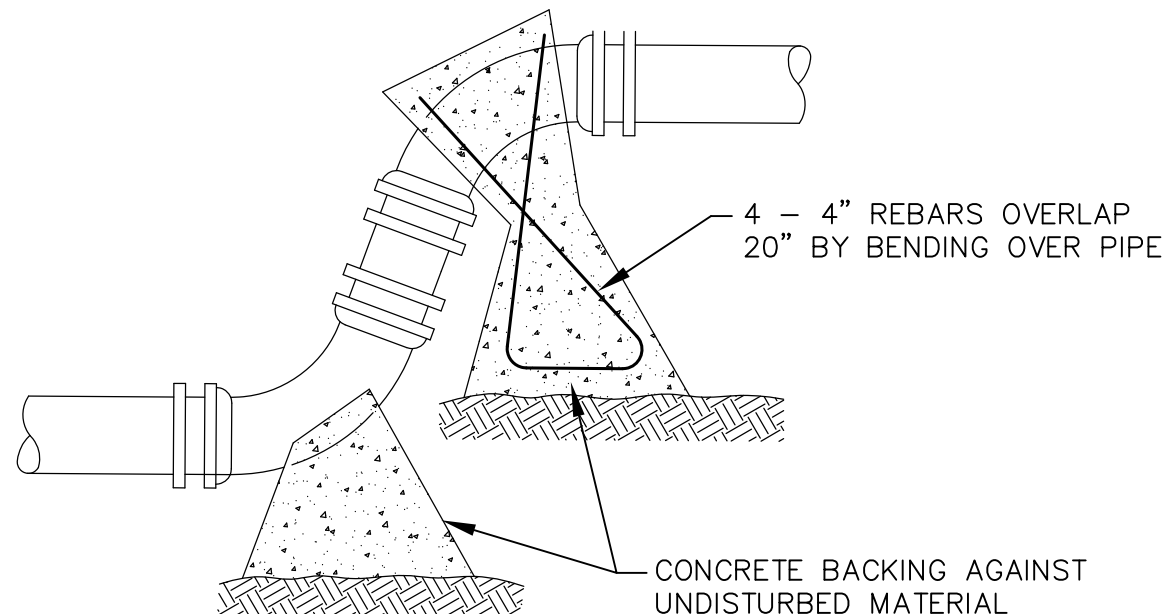
STANDARD BEND BLOCKING
NOT TO SCALE



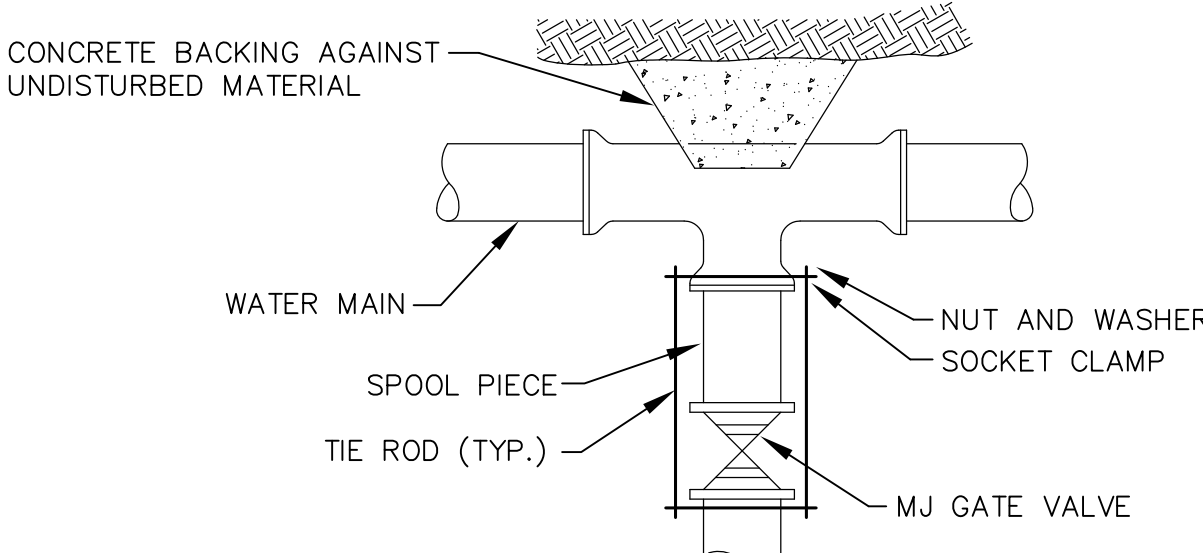
STANDARD TEE BLOCKING
NOT TO SCALE



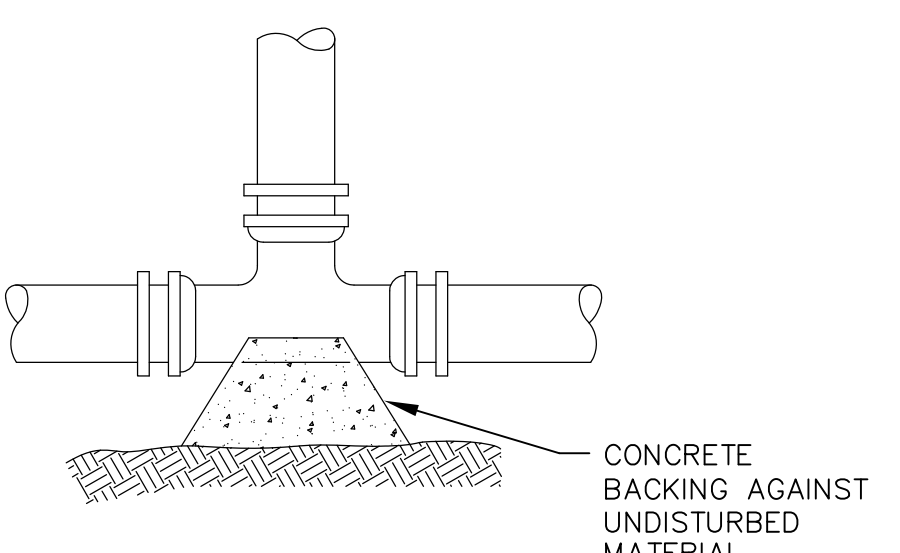
TYPICAL BEND
NOT TO SCALE



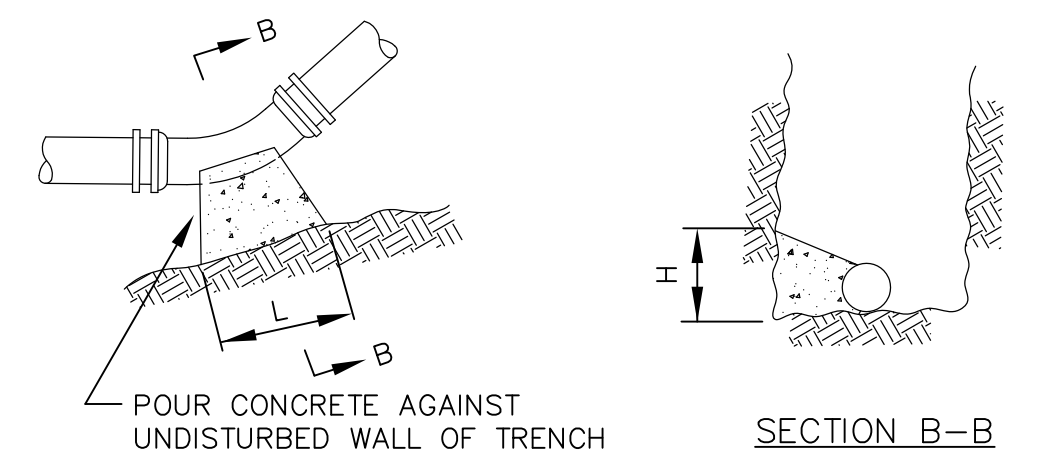
TYPICAL OFF-SET
NOT TO SCALE



TYPICAL VALVE CONNECTION
RESTRAINED JOINT TEE
NOT TO SCALE



TYPICAL TEE
NOT TO SCALE



BEARING AREAS — SQUARE FEET					
NOMINAL DIAMETER OF FITTING	FITTING				
	DEAD END	BRANCH OF TEE	90° BEND	45° BEND	BEND SMALLER THAN 45° GREATER THAN 10"
6"	2	2	3	2	2
8"	4	4	5	3	2
10"	6	6	8	4	2
12"	8	8	10	6	3
14"	12	12	16	9	4
16"	12	12	20	10	5

- NOTES
1. ALL BENDS, TEE HYDRANTS AND DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.
 2. BEARING AREA IS AREA OF CONCRETE IN CONTACT WITH WALL OF TRENCH=HxL.
 3. HEIGHT (H) AND LENGTH (L) AS REQUIRED TO OBTAIN BEARING AREA IN TABLE.

THRUST BLOCK DETAILS
NOT TO SCALE

Revision	By	Date	Change
1	SMA	8/9/23	SUBMITTED FOR CLIENT REVIEW

PROJECT NUMBER: 42846	ACAD FILE: 42846-DETAILS.DWG	SCALE: AS NOTED	DATE: AUGUST 9, 2023
-----------------------	------------------------------	-----------------	----------------------

Drawing Name: CONSTRUCTION DETAILS - SHEET 2	
Project Name and Location: PROPOSED UTILITY IMPROVEMENTS 12 PEARL STREET, BIDDEFORD, MAINE 04005	
Prepared For: McWILL-McWAY, LLC 20 TATE STREET #1, PORTLAND, MAINE 04102	

SHEET 4 OF 4	2-9-23		SURVEYING • ENGINEERING • LAND PLANNING Northeast Civil Solutions INCORPORATED 381 PAYNE ROAD, SCARBOROUGH, MAINE 04074 tel 207.883.1000 e-mail / website info@northeastcivilsolutions.com www.northeastcivilsolutions.com
--------------	--------	--	--

PRELIMINARY

THIS PLAN IS FOR REVIEW
PURPOSES ONLY AND IS NOT
INTENDED FOR CONSTRUCTION
OR RECORDING



January 30th, 2025

Town of Biddeford, Wastewater Division
Attn: Alex Buechner
63 Water Street
Biddeford, ME 04005
alex.buechner@biddefordmaine.org

Re: Ability to Serve Request | 12 Pearl Street | Biddeford, Maine

Dear Alex,

Coast Oaks Development LLC is proposing a renovation of the existing building located at 12 Pearl Street in Biddeford, Maine. The existing three-story building will be converted into a 20-unit residential apartment building.

Design Flows for Single Family Dwelling Units from the *State of Maine's Subsurface Wastewater Disposal Rules*, were used to estimate the sewer demand for this project. Each unit will include a 1 washer, 1 dryer, 1 kitchen sink, 1 bathroom sink, 1 toilette, and 1 bathtub/ shower stall. Based on this configuration, we expect the sewer demand for each unit to be 180 gallons per day (gpd) for a **total demand of 3,600 gpd**.

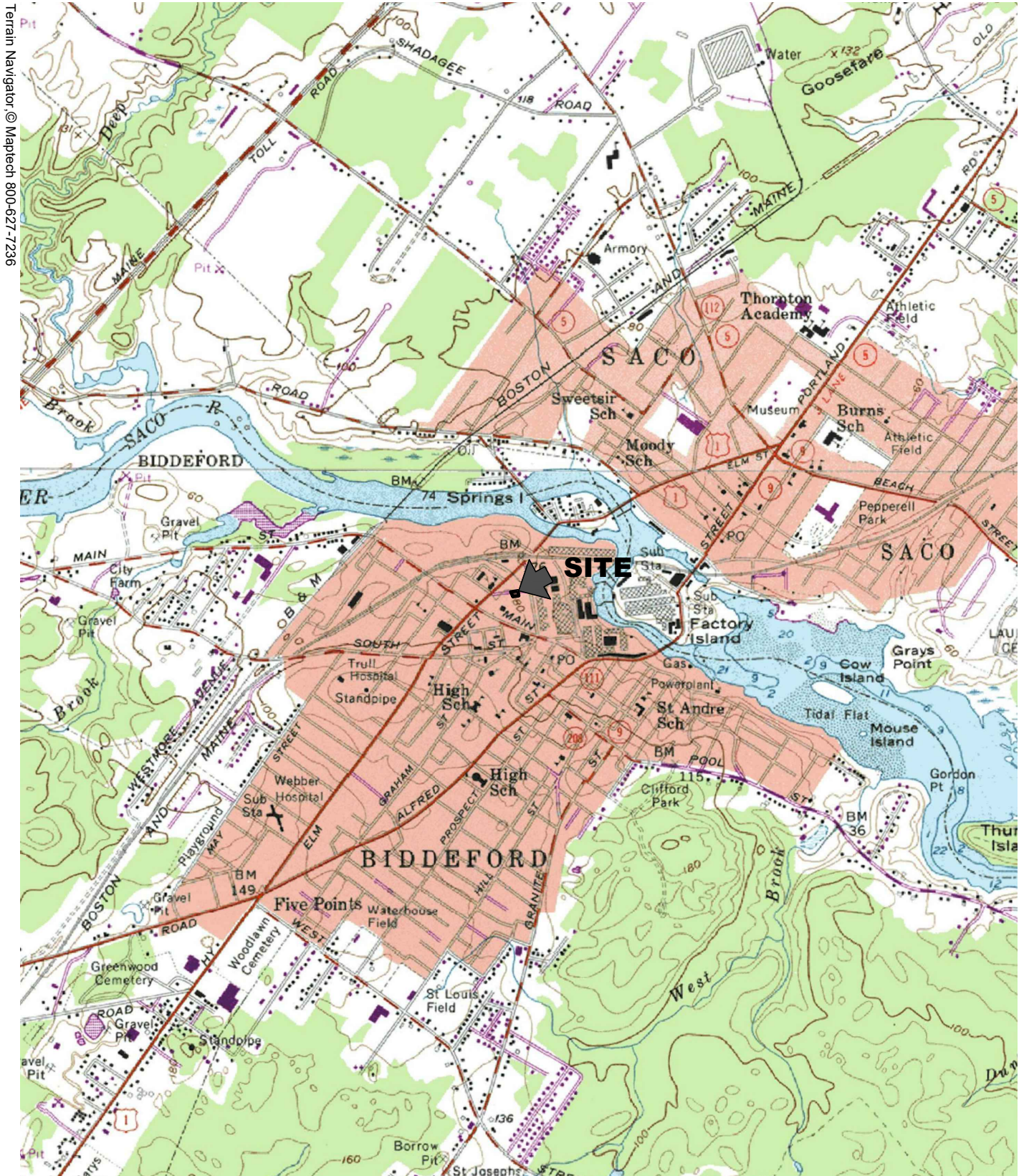
As required by the City of Biddeford's Land Development Regulation's Article XI, Section 2, A (4), we are requesting confirmation that the City's wastewater infrastructure has the capacity to service the proposed development. We have attached a location map and preliminary plan set to facilitate your review. Please forward your response to our office located at One Merchants Plaza, Suite 701, Bangor, Maine 04401, or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, PE
Project Manager

djo
Enc. Location Map, Preliminary Plans



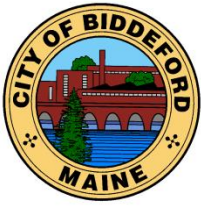
SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
BIDDEFORD
@ 1:24,000



HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

12 PEARL STREET BIDDEFORD, MAINE LOCATION MAP

2025.01.29
13871.013



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, City Planner & Deputy Director of the Planning & Development Dept.

DATE: March 12, 2025

RE: **2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.**

MEETING DATE: March 19, 2025, at 6:00 PM

1. INTRODUCTION

This application was last before the Planning Board on June 26, 2024. This application is being presented



by Drew Olehowski of Haley Ward, Inc, for Ethan Scott (D.B.A. Coastal Oaks LLC.) jointly referred to as "Applicants or Applicant". The application is for a nine (9) lot subdivision, consisting of eight (8) single-family residential lots and one lot proposed as openspace. The subject property is approximately 17.45-acres in area and is located in both the Rural Farm (RF) and Suburban Residential 1 (SR-1). The proposed development lots would be served by private septic systems and would connect to public water via a proposed public water extension to the site via Sokokis Road.

2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.

Planning Board Hearing Date: March 19, 2025



Belle Woods / 512 Pool Street / Aerial Image May 7, 2024 / Lot Clearing



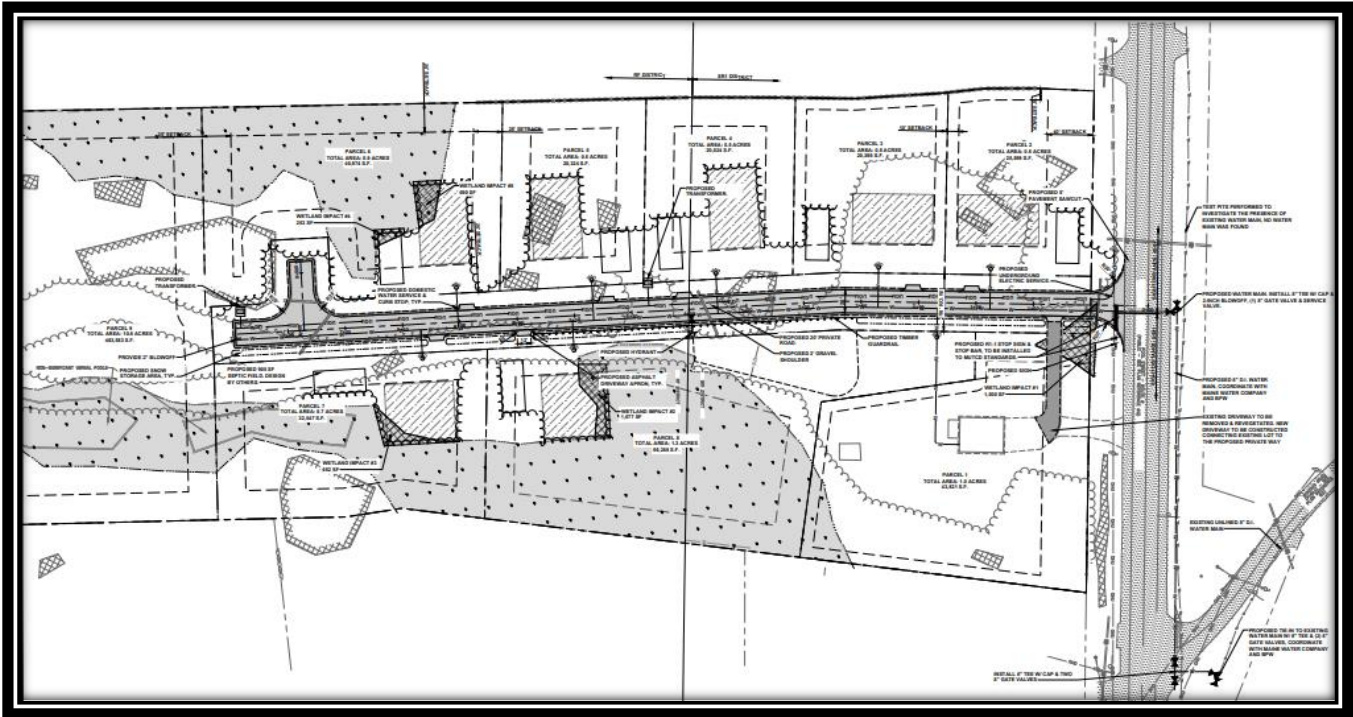
Existing conditions - Google Earth Image – August 2024

2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.

Planning Board Hearing Date: March 19, 2025

As proposed the lots within the subdivision will be accessed via a 850-foot long, 20-foot-wide private residential roadway with 2-foot-wide gravel shoulders. A hammerhead turnaround, meeting the Fire Departments standards, has been provided at the end of the proposed roadway. The roadway is proposed to be a private way serving the lots which will be owned and maintained by the Homeowners Association who will be responsible for the ownership, maintenance (snow removal, sanding, etc.) and repair. The proposed street entrance on Pool Street has 450'+ site distance in both directions. The lots will be served by private septic systems and public water that will be brought to the site via a proposed 8" watermain extension from an existing 8" watermain within Skokis Road. The water line extension will be brought up from Sokokis Road (northwest) along Pool Street and into the Belle Woods Subdivision. The waterline shall cross Pool Street via directional boring as requested by the Public Works Director.

The Applicant is proposing a nine (9) lot single-family residential subdivision. Lot 1 is currently developed with a single-family house which currently is addressed and has vehicle access on Pool Road. The proposed subdivision will relocate the existing driveway so the property will be accessed via the proposed private street. The property will also be required to be re-addressed as part of this proposed development. Lots 2 through 7 are each approximately 0.50 acres in area, and lot 8 is approximately 1.5 acres and these lots will also have single-family home constructed upon them. Lot # 9 is 12-acres in area and as proposed "will be dedicated to either a conservation / openspace or will be dedicated to potential future development – this lot will be retained by the owner".



Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision

As outlined in the project narrative, *“the Applicant has sent review request letters to the Maine Historic Preservation Commission (MHPC), Maine Natural Areas Program (MNAP), and the Maine Department of Inland Fisheries and Wildlife (MDIFW) to confirm that the site will not impact and historical or archeological*

2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.

Planning Board Hearing Date: March 19, 2025

resources, significant natural areas, or significant wildlife habitats. A copy of the letters can be found in Appendix F and the responses will be forwarded to the Town upon receipt.

2. PROJECT DATA/INFORMATION

1.	Applicant:	Coastal Oaks. LLC (Ethan Scott) 198 Saco Avenue Old Orchard Beach, ME 04064
2.	Owner of Property:	Same as applicant
3.	Agent – Sketch Plan:	Paul Weinstein-Weinstein Leovell & Ordway, PA 431 Main Street Saco, ME 04072
	Agent – Preliminary:	Haley Ward, Inc (Drew Olehowski) 120 Main Street, #132 Saco, ME 04072
4.	Surveyor:	MP Design Consultants 118 Turnpike Road, Suite 200 Southborough, MA 01772
5.	Project Location:	512 Pool Street
6.	Project Tax Map #/Lot #:	Tax Map 9, Lot 31
7.	Lot Size:	17.45 Acres
8.	Base Zoning:	RF/SR1
9.	Overlay Zoning:	N/A
10.	Existing Use:	Vacant Land with 1 single family home
11.	Proposed Use:	8 Single Family Homes
12.	Approvals Required:	Subdivision/Site Plan
13.	Uses in the Vicinity:	Residential
14.	Waivers Needed:	a. None
18.	Waivers Granted:	a. None
22.	Other Non-City Permits Required:	
23.	LDR Attachment A: Fees Paid:	Sketch Plan - fees paid Preliminary Plan -
25.	Planning Board Review History: Sketch Plan-June 26, 2024; Preliminary Plan Review 3-19-2025;	

3. REVIEW PROCESS

Per City ordinance, this application is subject to Subdivision Review (Chapter 66 – Subdivisions) and approval by the Planning Board. This process, at minimum, requires the following:

2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.

Planning Board Hearing Date: March 19, 2025

- A. Sketch Plan Review and Approval
- B. Preliminary Subdivision Review and Approval
- C. Final Subdivision Review and Approval

4. GENERAL REVIEW COMMENTS:

- **APPLICATION COMPLETENESS:** This application is for subdivision preliminary plan review and Staff continues to work with the applicant on a few minor items. The application has been determined to be complete.
- **ZONING:** The subject property has a split zoning as it is zoned Suburban Residential 1 (SR-1) adjacent to Pool Street and Rural Farm (RF) for the majority of the proposed lots including the proposed openspace. The proposed development will disturb over an acre one (1) acre of land but will create less than one (1) acre of impervious area, and as stated within the application, *"therefore, only a Stormwater Permit by Rule is required to be obtained from the Maine Department of Environmental Protection (MDEP). The project proposes to impact less than 4,300 square feet of wetland area; therefore, a Natural Resources Protection Act permit from the Maine Department of Environmental Protection is not required"*.
- **REVIEW STANDARDS:**

In general, staff found the sketch plan application to satisfy City subdivision requirements.
- **WAIVERS:** The applicant is not seeking any waivers currently.

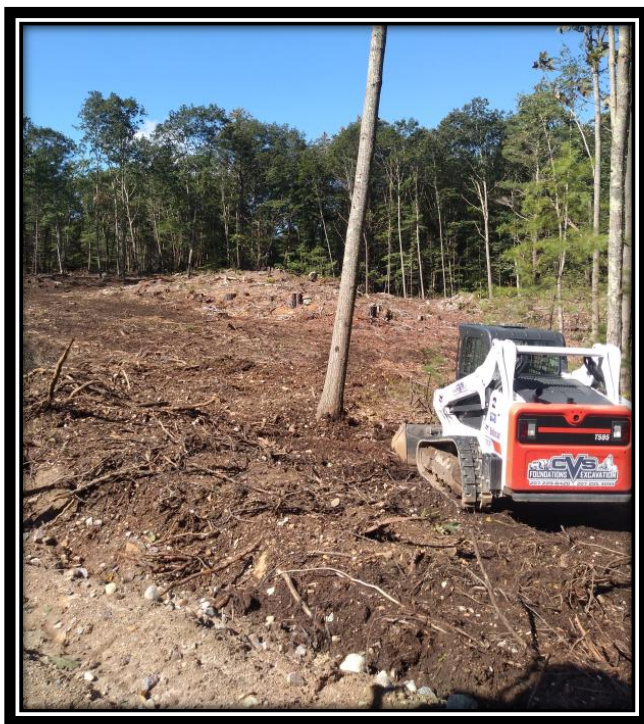
5. STAFF REVIEW COMMENTS:

A. Planning Department Comments:

- 1) **Timber Harvesting:** The property had a State approved forestry plan for the property that was granted to Beaulieu Logging (Harvest # 2301688). Due to the previously identified wetlands, and the amount of clearing that was done on the property, **City Staff previously requested written confirmation, from the State, that the clearing that occurred on the property did not exceed the issued Harvest Permit and that no wetlands were filled / impacted beyond what the State may have approved. The requested documentation has not been received. Staff recommends requiring said conformation letter prior to the project being scheduled for Final Subdivision Review.**

2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.

Planning Board Hearing Date: March 19, 2025



Timber Harvesting – Lot Clearing

- 2) Driveway Relocation: The driveway to the recently constructed house should be relocated so that the lot gains vehicle access from the proposed roadway rather than Pool Street.
- 3) Submittal Requirement – Lot Area: The preliminary application shall include the entire parcel including the 12-acres of Lot # 9 which is proposed to *“be dedicated to either a conservation / openspace or will be dedicated to potential future development – this lot will be retained by the owner”*.
- 4) Street Name: The proposed private roadway shall be named on the preliminary application plans. The City’s E-911 Addressing Officer shall review and approve the proposed roadway name to verify that the name will not conflict with any existing street names or developments.
- 5) Additional Staff and Peer review comments are attached within the Board’s application packets.

6. STAFF RECOMMENDATION

Staff continues to work with the Applicants to resolve minor issues with the proposed development. Staff are supportive of the proposed subdivision and recommend the Planning Board approve the Preliminary Subdivision Plans as outlined within the application, Staff report and supporting documentation.

2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision - Proposed Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.

Planning Board Hearing Date: March 19, 2025

7. SAMPLE MOTIONS

- A. Motion to Approve: I motion to APPROVE Case # 2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision) a proposed single-family residential subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts.
- B. Motion to Deny I motion to DENY Case # 2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision) a proposed single-family residential subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts, for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.
- C. Motion to Table: I motion to TABLE Case # 2024.32 Preliminary Plan Review for Belle Woods Subdivision (formerly Coastal Oaks Subdivision) a proposed single-family residential subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) located within the Rural Farm (RF) and Suburban Residential 1 (SR-1) zoning Districts, for the following reasons:
- 1) _____.
 - 2) _____.
 - 3) _____.

Date: **3/13/2025**

Project No.: **22061F**

To: **David Galbraith, City Planner**
Adi Iriqat, Assistant Planner

From: **Christine Rinehart, PE**
Ron May, EI

Subject: **2024.32, Coastal Oaks, 512 Pool Street, Preliminary Subdivision Review**

As requested by the City of Biddeford, Wright-Pierce has reviewed the Preliminary Subdivision Application for a proposed 9-lot subdivision. The proposed development is located at 512 Pool Street in Biddeford, Maine (Map 9, Lot 31) and is located in the Rural Farm (RF) and Suburban Residential (SR1) zones. The proposed development includes a 9-lot subdivision with a private road located on approximately 17.45 acres. Lot 1 is currently developed as a single-family house lot. Lot 9 will be retained by the Owner and either dedicated to conservation/open space or will be dedicated to potential future development. Lots will be served by individual subsurface wastewater disposal systems and public water, requiring an extension of the public water main.

Documents Reviewed by Wright-Pierce

- Preliminary Subdivision Review Application, 512 Pool Street Subdivision, City of Biddeford, Maine, prepared by Haley Ward, Inc. for Coastal Oaks, LLC, dated February 2025.
- Belle Woods Preliminary Subdivision Review, 512 Pool Street, Biddeford, Maine, Civil Plans, prepared by Haley Ward, issued for preliminary, dated February 25, 2025.
- Sketch Plan Planning Board Staff Report, dated April 9, 2023, RE: 2024.32 Sketch Plan for Coastal Oaks - Proposed Nine (9) Lot, Single-family Residential Subdivision consisting of 9-lot subdivision (8 residential & 1 openspace) to be located at 512 Pool Road (Tax ID# Lot 9 Lot 31) Rural Farm (RF) and Suburban Residential 1 (SR-1), meeting date June 26, 2024 at 5:00 PM.

Review Comments

Applicant should provide written responses to review comments recommending clarification or further information to be provided by the Applicant.

Staff Review Committee (SRC) Comments/City Coordination Items

1. **Coordination items for the City are indicated within the Review Comments in red font.**
2. We reviewed the Staff Review Comments within the Sketch Plan Staff Report, dated April 9, 2023, and have the following comments:
 - a. Planning Department Comment 1: During the pre-application meeting it was mentioned that the project proposed to extend public water to the site via Sokokis Road. Preliminary application plans shall include the water connection as being proposed, and the method of installation (directional bored preferred over trench cut).
WP Comment: The proposed water connection has been added to the Plans. Correspondence provided between the Applicant and Maine Water confirms directional boring will not be feasible due to close proximity to ledge. Trench excavation and ledge removal will be required.

- b. Planning Department Comment 2: Timber Harvesting: The property had a State approved forestry plan for the property that was granted to Beaulieu Logging (Harvest # 2301688). Due to the previously identified wetlands, and the amount of clearing that was done on the property, City Staff would like written confirmation, from the State, that the clearing that occurred on the property did not exceed the issued Harvest Permit and that no wetlands were filled / impacted beyond what the State may have approved.

WP Comment: The Applicant should submit this requested confirmation from the State.

- c. Planning Board Comment 3: The submitted Topography and Boundary Survey illustrates two (2) vernal pools and their respective 250' setback. Lots # 5, 6, 7 & 8 are within the required setback. Are these vernal pools classified as "significant"? If so, it would appear that lots 6, 7 & 8 would be unbuildable. Please confirm.

WP Comment: According to the Vernal Pool Survey Memo by Mainely Soils, LLC included in the application package, the vernal pools are considered non-significant. Maine Department of Inland Fisheries and Wildlife (MDIFW) concurrence is not included on the Vernal Pool Assessment Forms.

- d. Planning Board Comment 5: The preliminary application shall include the entire parcel and the disposition of the "remaining land" shall be specified (remain with the Homeowners Association or gifted to a land trust?).

WP Comment: According to the application package, Lot 9 is approximately 12-acres in size and will be dedicated to either conservation/open space or will be dedicated to potential future development – this lot will be retained by the Owner. The Applicant should confirm and specify the disposition of the "remaining land" on the Subdivision Plan.

- e. Planning Board Comment 12: The proposed entranceway off Pool Street shall be illustrated and shall also show the turning templates for all fire apparatus movements at Pool Street and at the on-site hammerhead turn-around.

WP Comment: The Pool Street entrance has been illustrated. Turning movements have not been provided for the Pool Street Entrance or turn-around.

- f. Planning Board Comment 15: The proposed street is to remain private and will not be accepted by the City of Biddeford as a public street. As such homeowner's association documents shall be submitted including roadway ownership, maintenance including snow removal. The HOA shall also include any common drainage areas and their annual maintenance. A note of this nature shall be included on the recorded plan set.

WP Comment: The application package states HOA documents will be provided for final approval. A note has also been added to the subdivision plan.

Checklist

See comments on attached Site Plan & Subdivision Application Drawing Checklist. Comments in the checklist have not been included in the review comments below.

Chapter 34 – Environment, Article VI Post-Construction Stormwater Discharge

1. Confirm applicability under the Post-Construction Stormwater Discharge Ordinance, and submit a post-construction stormwater management plan meeting the requirements of Chapter 34, Article VI as applicable.

Chapter 62 – Streets, Sidewalks and Other Public Places, Construction Standards

1. Section 62-126, Table A states that surface asphalt should be MDOT C Mix. Although this is an old MDOT classification method, MDOT C Mix is most similar to 12.5 mm mix. The Typical Roadway Buildup Detail notes

9.5 MM surface pavement. This mix should be called out as MDOT C Mix (12.5 MM) on the Plans Typical Roadway Buildup Detail, not 9.5 MM.

Chapter 66 – Subdivisions

66-70 – Prerequisites to Approval of Subdivision

1. Subsection (b)(2)a. states that in no case will the post-development off-site drainage rate exceed the predevelopment rate, unless reviewed by the City Engineering Department and specifically approved by the Planning Board upon the Department's recommendation. Based on the provided stormwater report, the post-development off-site drainage rate exceeds pre-development at Summation Point 3 for a 25-Year storm event. Post-development rates also exceed pre-development at Summation Points 1-3 for 2- and 10-Year storm events. The Applicant states that because of their conservative modeling and that the increases seen are less than 1 cubic foot per second (cfs), the increases are considered insignificant. We believe that this is fair reasoning by the Applicant.
2. Subsection (3)b. states that where septic systems are proposed, a complete HHE-200 Form for each lot shall be provided to include a certification by the City's Plumbing Inspector. However, houses are not proposed to be constructed at this time. HHE-200 forms should be submitted prior to construction.

66-71 Status of Land Susceptible to Flooding or Not Suitable for Development

1. Subsection (c) states land fitting this criteria shall include areas indicated as being in the one-hundred-year flood zone; wetland soils as defined in Article II, Definitions, of the Biddeford Zoning Ordinance. Lots 6, 7, and 8 are approximately 50%, or more, covered in wetlands. There are building envelopes proposed partially over wetland features and the building on Lot 7 is near a vernal pool that has standing water in it in the application package pictures. Building within wetlands can lead to structural issues. We recommend ensuring all building foundations are outside of wetlands. There is also a portion of a septic field proposed on Lot 6 over a wetland feature which could be an environmental concern and likely wouldn't drain well.

Land Development Regulations, Article VI Performance Standards

Section 44 Net Density Calculations

1. Subsection A.5. lists prime agricultural and unique soils in the rural farm zone that the soil conservation service considers of statewide significance. Soil Lyman fine sandy loam (LnB) is present on the site according to the Soil Report in the application package and is designated as prime if irrigated. As stated in the LDR, if such soils are likely to be present, the Planning Board shall require a high-intensity soils survey, or a report by a registered soils scientist or a registered professional engineer experienced in geotechnics, in order to determine the location and extent of said soils. To the greatest extent possible, buildings shall not be sited on these soils. A high intensity soils survey was included on Drawing V102, which shows Lyman-Turnbridge and Brayton soils; however, no soil report was included in the application package. We recommend referring to this section of the LDR and consulting with the Natural Resources Conservation Service and/or a soil scientist to determine if the Lyman series soils would be considered prime.

Section 50 Preservation of Landscape/Natural Vegetation

1. Subsection A. states that plans presented to the Board shall have a detailed landscaping plan, indicating the type and number of trees, shrubs or other plantings that will be placed on the property. The plan shall clearly show the location of each type of planting (this does not necessarily require specific siting of each single planting). The landscaping plan shall bear the seal of a landscape architect licensed in the State of Maine. The property is shown to remain mostly vegetated. **City to determine if this requirement is applicable.**

Section 51 Private Ways and Roads

1. Subsection D.2.a. states that adequate light shall be provided on all streets. The number and location of all streetlights shall be installed according to the following guideline: In non-urban areas lights shall be located at all intersections and to service three homes. A note on the plan shall state, "The City of Biddeford shall not be responsible of the cost of materials, installation, maintenance, or power for the streetlighting. The homeowner's association shall assume all costs associated with the lighting system." A lighting plan has not been provided.

Section 61 Stormwater Management

1. See comment 1 under Section 66-70 above.

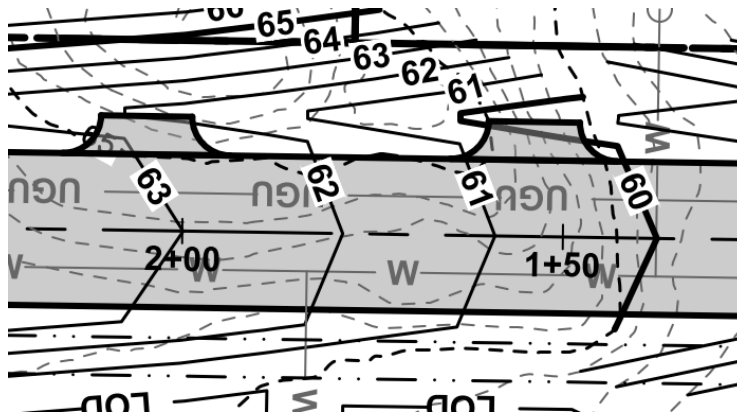
Section 70 Wildlife Preservation

1. 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 MDIFW indicates there are no significant habitat areas involved in the project area or abutting adjacent land. The submitted letter from MDIFW indicates, "at this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project area." It should be confirmed that the Maine State Vernal Pool Assessment Forms included in the Wetland Delineation Memorandum were provided to the MDIFW for review and concurrence that the significant pools are considered not significant. Copies of the Vernal Pool Assessment Forms indicating MDIFW review should be provided to the City.

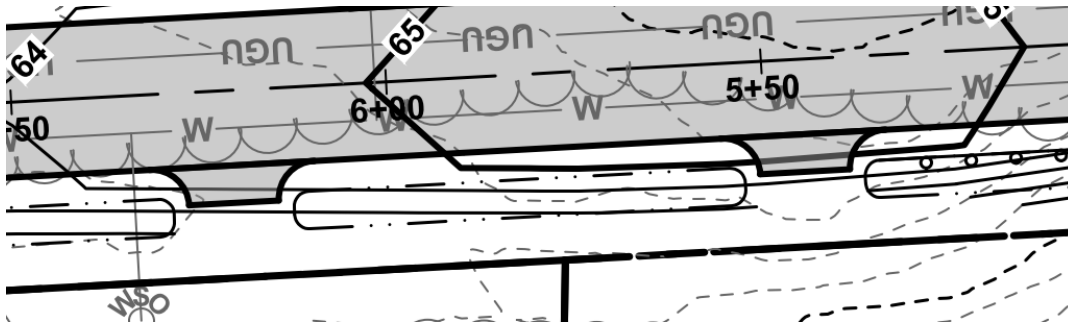
Additional Comments

1. Drainage
 - a. Clarify how the outlet controls for Detention Pond A are intended to operate. A 6" HDPE outlet pipe set at the bottom of Detention Pond A is shown. How will detention be provided if the outlet is on the bottom of the pond? A 6" pipe at the bottom of the detention area will also be prone to clogging. We recommend an outlet control structure.
 - b. There should be riprap at the outlet end of the 15" cross culvert discharging to Detention Pond A.
 - c. Update inverts on the Stormwater Control Structure Detail to coincide with the Plans.
 - d. We recommend the emergency spillway detail also include a side profile view and show riprap on both the inside and outside of the pond berm, instead of just the outside.
 - e. Provide details for riprap inlet and outlet protection.

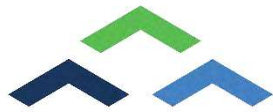
- f. Driveway aprons are shown extended into the middle of the ditch on the northwesterly side of the road. They should be extended to the edge of the right of way with culverts to convey stormwater across them.



- g. Clarify the intent of Outlet Control Structure 1 and why there isn't a simple open cross culvert at this location. It appears the Stormwater Control Structure Detail is intended to represent this but the inverts are different than those noted on the grading plan. Invert, rim, and all other elevations should match on plan, detail, and model. We recommend clarifying the detail name, so it is clear it is for OCS 1 as well.
2. Steep grade changes are shown at the driveway apron locations on the southeasterly side of the road. Revise grading to be appropriate for a driveway entrance. Refer to MaineDOT driveway design guidelines.



3. While it is understood that Maine Department of Environmental Protection (DEP) Natural Resources Protection Act (NRPA) permitting is not required because the applicant is proposing wetland disturbances under the 4,300 square foot threshold, there are still notification/approval requirements through the US Army Corps of Engineers for direct wetland impacts. Is the intent for this to occur prior to final subdivision approval or by individual lot owners in the future prior to building?
4. Where does the existing house get its water service from? Only a proposed water service is shown.
5. Show the private road right of way on the Typical Roadway Cross Section.



HALEY WARD®

PRELIMINARY SUBDIVISION REVIEW

**TO THE CITY OF BIDDEFORD
FOR 512 POOL STREET SUBDIVISION**

Tax Map 9, Lot 31 | Biddeford, ME

APPLICANT:

Coastal Oaks, LLC

198 Saco Avenue | Old Orchard Beach, ME 04064



FEBRUARY 26, 2025

JN: 13871.019

PREPARED BY:

Haley Ward, Inc.

120 Main Street, Suite 132 | Saco, ME 04072

February 26, 2025

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

Re: 512 Pool Street | Preliminary Subdivision Review

Dear Planning Department:

On behalf of Coastal Oaks, LLC. (the Applicant), our office is pleased to submit this preliminary subdivision review application for a proposed 9-lot subdivision located at 512 Pool Street in Biddeford, Maine. This application is being submitted in accordance with the City of Biddeford's subdivision regulations and zoning requirements.

The proposed subdivision is designed to create nine residential lots while preserving the character of the surrounding area and ensuring compliance with all applicable local and state land use regulations. The project has been thoughtfully planned to address considerations such as traffic impact, environmental sustainability, stormwater management, and utility services. We have engaged with qualified professionals to develop a subdivision plan that meets all necessary standards and provides a positive addition to the community.

Enclosed with this application, you will find the required site plans, engineering reports, environmental assessments, and all other relevant documentation for your review. We look forward to working collaboratively with the Planning Board and city staff to address any questions or concerns throughout the review process. Please see below for additional narratives describing various aspects of the development.

EXISTING CONDITIONS

The proposed development is located at 512 Pool Street (the "Site,") and is identified as Biddeford Tax Map 9, Lot 31. The subject parcel is approximately 17.45 acres and is undeveloped and wooded except for one single-family home that was constructed in 2024. The proposed subdivision area was also selectively harvested of existing woody vegetation, in accordance with a State-approved forestry plan (Harvest #2301688.) Please refer to the "Existing Conditions" plan provided within the drawing set for a current representation of the tree line. The following materials have been provided to assist with the analysis of the existing parcel:



Deed – Appendix A

Location Map – Appendix B

USDA Soils Map – Appendix C The Site is generally dominated by Lyman loam and Lyman-Rock outcrop complexes. Several areas of exposed ledge are present within the development area – these areas are shown on the Existing Conditions Plan.

A High Intensity Soils Survey was performed on this parcel in January 2025. The results of this report generally align with those seen in the USDA report. A copy of this survey has been provided within the drawing set.

FEMA Flood Hazard Map – Appendix D – This Site is not located within a mapped FEMA Flood Hazard Zone.

Natural Resources Report – Appendix E – A Natural Resources survey was prepared by Mainley Soils in 2023. This survey identified several wetlands and two non-significant vernal pools within the project area. The limits of the delineated natural resources are shown on the attached Plans and there are no required setbacks from these areas based on the results of the study.

Sensitive Historic/Natural Areas – Appendix F – Correspondence with the Maine Department of Inland fisheries and Wildlife, the Maine Historic Preservation Commission, and the Maine Natural Areas Program have been notified of the proposed development. MHPC and MNAP have no concerns with this development. MDIFW has noted several potential endangered species habitats, along with recommended buffers from these areas. These habitats are typically found in wetland and stream habitats. By placing our development along a ridge in the middle of the parcel, we have successfully avoided significant impacts to these resources to the extent that we feel is necessary to prevent impacts to potential endangered species.

PROPOSED DEVELOPMENT

The Applicant is proposing a nine-lot subdivision. Lot 1 is currently developed as a single-family house lot, is approximately 1 acre in size and was sold to an individual lot owner in 2024. Lots 2 through 8 will be developed as single-family house lots. Lots 2 through 7 are approximately 0.5 acres in size, while Lot 8 is approximately 1.5 acres in size, totaling approximately 5.2 acres of area to be subdivided. Lot 9 is approximately 12-acres in size and will be dedicated to either conservation/open space or will be dedicated to potential future development – this lot will be retained by the Owner.

An 850-foot long, 20-foot wide, paved roadway with 2-foot-wide gravel shoulders is proposed to provide access to the proposed lots. The proposed roadway is classified as



a minor residential street, it will include a dead-end hammerhead turnaround and has been designed per Chapter 62 of the City's Land Use Ordinance, the roadway will remain private and will be owned and maintained by a homeowner's association. The applicant will finalize a road name with City Staff as part of the Subdivision Review process. Homeowner Association documents will be provided for Final approval.

Each lot will be served by an individual subsurface wastewater disposal system. Soil test pits indicating the suitability of the soil to support these systems on each lot are shown on the Subdivision Plan. Test pit logs have been provided in **Appendix G**. The lots will be served by public water – this will be accomplished by extending the public water main from the intersection of Pool Street and Sokokis Road to the Site. Power and communications infrastructure will be provided from Central Maine Power's existing network on Pool Street.

Correspondence with various City staff and utility authorities have been provided in **Appendix H**. Responses not received at the time of this submission will be provided to the City upon receipt, or prior to Final approval.

The applicant is proposing to develop both the road, and the individual lots.

ZONING

Per Biddeford's Official Zoning Map, the project site is located within both the Rural Farm, RF and Suburban Residential, SR1 zones. According to the City's Zoning Ordinance, Single-family homes are a permitted use within both zones. The Zoning limits and related setbacks are shown on the Subdivision Plan.

Below is a table identifying the dimensional requirements outlined within Table B of the City's Land Use Ordinance. The lots will be served by public water and private sewer. The proposed lots will adhere to the following dimensions:

Zoning District	Minimum Lot Size	Frontage	Minimum setback	Maximum Heights
SR1	20,000 SF	100 feet	Major ROW: 40 feet Side: 10 feet Rear: 10 feet	35 feet
RF, Single Family	20,000 SF	120 Feet	Major ROW: 40 feet Side: 25 feet Rear: 25 feet	35 feet



CONDITIONS AND WAIVERS

No waivers are requested for the proposed development at this time.

SITE ACCESS

As described above, the proposed subdivision will be accessed by a new road built to the standards of the City's Land Use Ordinance, Chapter 62. The road is intended to remain private – the required notations for this have been included on the drawing set.

TRAFFIC

A preliminary assessment of traffic was performed through the use of ITE's Trip Generation Manual. For a development classified by Land Use Code 210-Single Family Housing, for a development with 8 units, the expected peak hour trip generation is 10 trips. This is well below the MaineDOT's 100 trip threshold for requiring a Traffic Movement Permit. This development is not expected to create any significant, negative, traffic-related impacts to Pool Street or the surrounding areas.

LANDSCAPING

No landscaping is proposed for this development. Existing vegetation will be maintained to the greatest extent possible to provide a visual buffer between the development and Pool Street and abutting properties.

STORMWATER

The proposed development has been designed to adhere to the stormwater standards listed within The City's Site Plan Review Ordinance, per instruction from the City Engineer. Because the applicant is proposing to develop both the access road and the lots, efforts have been made to keep the total proposed impervious area quantity below 1 acre, removing the need for an MDEP stormwater permit. The drawings include restrictions on the impervious area allowed per lot to ensure this limitation will be adhered to. Please refer to **Appendix I** for the Stormwater Management Report prepared for this development.

EROSION AND SEDIMENT CONTROL

The proposed development has been designed to adhere to the erosion control standards listed within The City's Site Plan Review Ordinance. Please refer to **Appendix J** for the Erosion and Sedimentation Control Plan prepared for this development.

LIGHTING

A photometric lighting plan is provided within the drawing set. Specifications for the proposed lighting fixtures can be found in **Appendix K**. Lighting is limited to the proposed roadway – lighting of individual lots will be the responsibility of the individual lot owner.



UTILITIES

As described above, each lot will be served by an individual subsurface wastewater disposal system. Soils data indicating the suitability of these systems has been provided in **Appendix G**. The lots will be served by public water – this will be accomplished by extending the public water main from the intersection of Pool Street and Sokokis Road to the Site. Power and communications infrastructure will be provided from Central Maine Power's existing network on Pool Street. Correspondence with the local water authority has been provided in **Appendix H**.

SOLID WASTE

Recyclable and solid waste will be handled by a contracted waste service vendor retained by the Applicant. Each lot will utilize individual barrels – there will be no dumpsters/centralized waste collection areas. Due to the proposed single-family house lot use, the development is not expected to generate any hazardous waste.

STATE AGENCY REVIEW

State agency project review request letters have been sent to the Maine Historic Preservation Commission (MHPC), Maine Natural Areas Program (MNAP), and the Maine Department of Inland Fisheries and Wildlife (MDIFW) to confirm that the site will not impact any historical or archeological resources, significant natural areas, or significant wildlife habitats. A copy of the letters can be found in **Appendix F**, and the responses will be forwarded to the Town upon receipt.

OTHER PERMITS

The proposed development will disturb greater than 1 acre of land area but will create less than 1 acre of impervious area; therefore, only a Stormwater Permit by Rule is required to be obtained from the Maine Department of Environmental Protection.

The project proposes to impact less than 4,300 square feet of wetland area; therefore, a Natural Resources Protection Act permit from the Maine Department of Environmental Protection is not required.

AS described above, the development will not generate 100 or more peak hour vehicular trips; therefore, a Traffic Movement Permit from the Maine Department of Transportation is not required.

CONCLUSION

This is a general overview of the elements we intend to cover with the Board, and we look forward to reviewing the content in more detail with you and the Planning Board. With the submission of this application packet, we respectfully request inclusion on the next available Planning Board agenda, at which time the Board might consider taking a preliminary approval action for the project.



Please find the following items included with this submission:

APPENDIX	SECTION
A	Deed
B	Location Map
C	USDA Soils Map
D	FEMA Flood Hazard Map
E	Natural Resources Report
F	Sensitive Historic/Natural Areas
G	Test Pit Logs
H	Correspondence
I	Stormwater Management Report
J	Erosion and Sedimentation Control Plan
K	Proposed Lighting Fixtures

If you have any questions regarding the information being submitted, please contact our office.

Sincerely,
Haley Ward, Inc.

Drew J. Olehowski, P.E.
Project Manager

DJO/Imb

**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: COASTAL OAKS, LLC ATTN: ETHAN SCOTT
 Mailing Address: 198 SACO AVENUE, OLD ORCHARD BEACH, ME 04064
 Telephone: 207-710-7570
 Email: ETHANSCOTTDEVELOPMENT@GMAIL.COM

What is your legal interest in the property?

☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: SAME AS APPLICANT
 Mailing Address: _____
 Telephone: _____
 Email: _____

Agent's Information:

Name: HALEY WARD, INC. ATTN: DREW OLEHOWSKI, PE
 Mailing Address: 120 MAIN STREET, #132, SACO, ME 04072
 Telephone: 207-989-4824
 Email: DOLEHOWSKI@HALEYWARD.COM

Engineer/Surveyor's Information:

Name: SAME AS AGENT
 Mailing Address: _____
 Telephone: _____
 Email: _____

Project Location and Lot Information:

Street Address: 512 POOL STREET Drainage Watershed: SACO RIVER
Tax Map: 9 Lot: 31
Current Zoning: RF/SR1 Shoreland Zoning: NO
 Size of Lot: 17.45 (X) acres () s.f. Lot Frontage: _____
 Existing Use of Property: VACANT AND UNDEVELOPED (WOODED), EXCEPT FOR ONE SINGLE FAMILY HOME CONSTRUCTED IN 2024

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:

9 LOT SUBDIVISION - 8 LOTS TO INCLUDE (1) SINGLE FAMILY HOME, 9TH LOT TO BE DEDICATED TO EITHER OPEN SPACE/CONSERVATION, OR FUTURE DEVELOPMENT . PRIVATE ROAD. UTILITIES INCLUDE PRIVATE SEPTIC, AND PUBLIC WATER EXTENDED FROM SOKOKIS ROAD.

Property to be Serviced by:

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

Limits of Disturbance: _____ () 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%): _____

Percent of structure expansion (Max 30%): _____

☒ If Subdivision Review, number of lots proposed: 9

☒ If a Private Way is proposed, number of lots served: 9

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

Total new square feet footprint of structure: _____

Total new square feet paving/parking: _____

Waiver Requests (attach details):

1. _____
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?: ☒ (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 02/26/2025

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

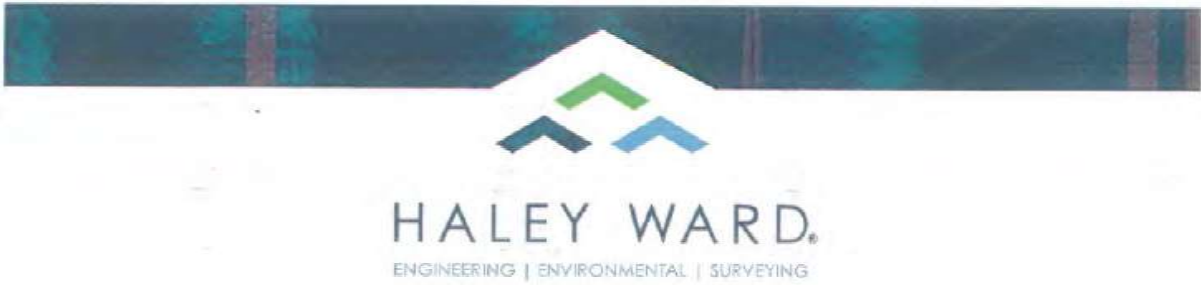
DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)
 - *Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVIDUAL 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 INDIVIDUAL 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



November 11, 2024

To Whom It May Concern:

Please be advised that Haley Ward, Inc. is hereby authorized to act on behalf of Coastal Oaks, LLC for local and state permitting for the proposed residential development located at 512 Pool Street in Biddeford, Maine.

Ethan Scott
Printed Name and Title

[Signature]
Signature

11/11/24
Date

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:	
Planning Board # (if available):	
Applicant Name/Info:	
Submittal #/Type (Prelim/Final):	
Submittal Date:	

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)
1	GENERAL PLAN REQUIREMENTS				
A	Drawing specific legends (linetypes, hatches, etc.)	YES	C001		
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			
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	C000		
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	C000		
C	Site Location Map	YES	C000		
D	Sheet Set List of Drawings	YES	C000		
E	Tax Map and Lot ID	YES	C101		
F	Zoning & Shoreland Zone Information	YES	C101		
G	Existing Use Description	YES	SEE APPLICATION		
H	Proposed Use Description	YES	SEE APPLICATION		
I	Required Waiver/Variations (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES	SEE APPLICATION		
J	Name of Drainage Watershed	YES	SEE APPLICATION		
K	Within the MSA Urbanized Area (Yes/No)	YES	SEE APPLICATION		
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	SEE APPLICATION		
M	Within the 100-year Flood Zone (Yes/No)	YES	SEE APPLICATION		
N	Public Road Proposed (Yes/No)	YES	SEE APPLICATION		
O	Private Road Proposed (Yes/No)	YES	SEE APPLICATION		
P	Public Sewer Connection (Yes/No)	YES	SEE APPLICATION		
Q	Public Storm Drain Connection (Yes/No)	YES	SEE APPLICATION		
R	Limits of Disturbance in square feet and acres	YES	SEE APPLICATION		
S	Previous Land Cover square footage, existing and proposed	YES	SEE APPLICATION		
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	SEE APPLICATION		
U	Building Roof square footage, existing and proposed	YES	SEE APPLICATION		
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	1/V102		
B	Property & Right-of-Way Lines	YES	1/V102		
C	Boundary line information (bearings, distances, etc.)	YES	1/V102		
D	Property pin and monumentation locations	YES	1/V102		
E	Existing easements with proper ownership identified	YES	1/V102		
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	1/V102		
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	1/V102		
H	100-year Flood Zone Limits & Elevation	NO		NOT APPLICABLE	
I	Existing contours with adequate contour labelling; minimum 1' contour interval	YES	1/V102		
J	Existing building FFEs annotated	NO		NOT APPLICABLE - NO SIGNIFICANT CHANGES TO EXISTING BUILDING	
K	Spot elevations for all tie-in locations (curb cuts, property line)	YES	C103		
L	Existing buildings & structures	YES	V102		
M	Existing pavement areas & number of parking spaces	YES	V102		
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	NO		NOT APPLICABLE - NO ADA FEATURE CURRENTLY ON SITE	
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	1/V102		
P	Existing signage and striping	YES	1/V102		
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	1/V102		

R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	1/V102			
S	Run, 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	1/V102			
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	YES	1/V102			
U	Location of any borings, drinking wells, and monitoring wells	YES	1/V102			
4	SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN					
A	Limits-of-disturbance outlined and acreage annotated	YES	C100			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C100			
C	100-year Flood Zone Limits	YES	C100			
D	Callout existing site features to be demolished/removed/replaced	YES	C100			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES	C100			
F	Plat existing buildings and pavement to be removed	YES	C100			
G	Construction Entrance location(s)	YES	C100			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	C100			
I	Stockpile and staging area(s) identified (with proper perimeter control)	YES	C100			
J	Inlet protection location(s)	YES	C100			
K	Note requiring contractor to implement dust control measures throughout construction	YES	C100			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	YES	C100			
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 viewpoint scale greater than 1"x20"					
B	Existing property and right-of-way lines	YES	C101			
C	Proposed subdivision lot lines and labels	YES	C101			
D	Required Zoning Setbacks shown with dimensions and annotation	YES	C101			
E	Bulk requirement summary table (zoning/parking calculations)	YES	C101			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C101			
G	100-year Flood Zone Limits	YES	C101			
H	Proposed building outlines, door entrances and loading docks	YES	C101	TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE		
I	Proposed building labels	YES	C101	TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE		
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C101			
K	Proposed parking and accessible parking locations; annotate parking space counts	NO		NO PARKING PROPOSED - TO BE PROVIDED BY PRIVATE DRIVEWAYS AND/OR GARAGES		
L	Proposed signage, parking striping, and traffic striping	YES	C101			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	NO		NO ADA FEATURES EXISTING OR PROPOSED		
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C101			
O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	C101			
P	Designated snow storage areas	YES	C101			
Q	Proposed dumpster locations and trash removal access	YES	C101	TRASH REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS.		
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	C102			
S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	C102			
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	YES	C102			
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.	YES	C101			
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	YES	C101			
W	Planning Board signature block for final recording	YES	C101			
6	GRADING PLAN					
A	Partial Grading Plans needed for any viewpoint greater than 1"x20"					
B	Limits-of-disturbance outlined and acreage annotated	YES	C103			
C	Proposed Building Labels with individual Finished Floor Elevations (FFE)s	NO		TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE		
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	C103			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	C103			
F	Detailed grading for all ditches, swales, outfalls, and riprap	YES	C103			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	C103			
H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	C103			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C103			
J	100-year Flood Zone Limits	YES	C103			
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/curb-lines)					
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	YES	C103		
B	Proposed surface: continuous and bold	YES	C103		
C	Road design speed must be clearly identified	YES	C103		
D	Corresponding centerline stationing and curve data annotation	YES	C103		
E	<u>All vertical curves must identify the proposed % values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-25 & 3-27.</u>				
F	Clear annotation if proposed road will be public or private	YES	C103		
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	C103		
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	C103		
8	UTILITY PLAN				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C102		
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C102		
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	C102		
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	C102		
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C102		
F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	C102		
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C102		
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C102		
I	Flow directional arrows for storm & sewer pipes	YES	C102		
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	C102		
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	YES	C501		
B	Sidewalk, paver, crosswalk, and any other pavement section details	YES	C501		
C	Pavement sawcut & shiplap details	YES	C501		
D	Utility trench/backfill detail	YES	C501/C502		
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	C501/C502		
F	Signage, striping, and ADA details	YES	C501		
G	IBS notes and details	YES	C001	PROVIDED ON NOTES SHEET	
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	C501/C502		
I	Storm outfall & riprap details	YES	C100	PROVIDED ON EROSION CONTROL PLAN	
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	YES	C501		
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	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 reports/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)	NO	REQUEST SENT, APPROVAL NOT YET RECEIVED.		
D	A Performance Guarantee Cost Estimate utilizing Planning's template	NO	TO BE PROVIDED FOR FINAL APPROVAL		
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	SLODA NOT APPLICABLE		
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified				
G	Public sewer pump station sizing calculations and maintenance plan				
H	Greatest trap sizing calculations				
I	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more				
J	Summary list & copy of any required DOT/DEP/USACE permits & approvals				

SUBDIVISIONS

66 Attachment 2

City of Biddeford

Appendix B Required Information Checklist [Ord. of 6-20-1995]

In order for any application to be considered complete the following information must be provided at least two weeks prior to the Planning Board meeting. All plans for subdivisions shall contain the following information:

	Yes	No	N/A	Remarks
(1) Name of subdivision, owner and engineer or surveyor	X			
(2) Graphic scale, date, drawn, North point and its date, and whether it is true or magnetic	X			
(3) Boundaries of the tract	X			
(4) Existing zoning	X			
(5) Ownership and location of abutting properties	X			
(6) Name, location, width, profile, cross-section, radius of curves, angles of change in direction and center line length of all angles of change in direction and center line length of all proposed streets; other public ways, building lines and easements in the subdivision; intersection of existing streets	X			
(7) Type, location, profile and cross-section of all existing and/or proposed surface water drainage	X			
(8) Location of all existing and/or proposed utilities	X			
(9) Location of all existing and/or proposed sanitary sewers showing size, profile, and cross-section, or description, plan, location of other means of sewage disposal with evidence of successful soil evaluation	X			
(10) Topography at two-foot contour intervals, unless otherwise prescribed by the Board. In addition the location of existing natural or man-made features influencing the layout of the proposed subdivision shall be shown.	X			

BIDDEFORD CODE

	Yes	No	N/A	Remarks
(11) Lot lines and approximate dimensions	X			
(12) Proposed uses of property	X			
(13) Proposed public areas, if any	X			
(14) Copy of deed, or option for purchase, for land being subdivided	X			
(15) Reserved fire lane areas			X	
(16) Location of soil evaluation test pits for each lot on plan	X			
(17) Location of well or water supply for each lot	X			
(18) Aesthetics; trees, berms, shrubs, green strips, parks, etc.	X			
(19) Location and details for sedimentation and erosion control measures	X			
The preliminary of a subdivision shall be drawn at a scale no smaller than 100 feet (1 cm = 12 m) to the inch	X			
A preliminary plan shall include a location map insert, showing the relationship of the proposed subdivision to adjacent properties and public access, and drawn at no smaller scale than 2,000 feet (1 cm = 240 m) to the inch. It is suggested that reduced sections of City maps be used for this purpose.	X			

In addition to the above plat information, the Subdivider shall provide the following documents:

	Yes	No	N/A	Remarks
Valid deed or option indicating an interest held by the subdivider in the parcel of land	X			
Completed application form	X			
Narrative of the proposed project briefly describing the general nature of the project i.e., type of project; residential or commercial; number of lots intended to create	X			
Draft covenants and deeds for each lot proposed	X			
Easement documents for proposed rights-of-way for utilities, drainage ways, roadways and other	X			

SUBDIVISIONS

	Yes	No	N/A	Remarks
travelways or public amenities	X			
Statement of financial capability of subdivider to undertake the proposed project	X			
Statement identifying principals involved in the project	X			
Statement demonstrating that the subdividers have the technical capability to complete the proposed project as presented	X			
Copies of such covenants or deed restrictions as are intended to all or part of the tracts	X			
Review by water company, power company and City Engineering, Police and Fire Departments	X			

SUBDIVISIONS

66 Attachment 3

City of Biddeford

Appendix C Subdivision Review Criteria [Ord. of 6-20-1995]

The Board shall base its decision on the plans meeting the conditions and requirements outlined in this chapter; and that the plan meets in a positive fashion, the following:

	Yes	No	N/A	Remarks
1. The project will not result in undue water or air pollution. In making this determination the Board shall consider:	X			
(a) The elevation land, and its relation to the floodplains;	X			
(b) The nature of the soils and the subsoils;	X			
(c) The ability to adequately support waste disposal;	X			
(d) The slope of the land and its affects on effluents;	X			
(e) The availability of streams for the disposal of effluents; and	X			
(f) The applicable state and local health and water resources regulations	X			
2. The project has sufficient water available for the reasonably foreseeable needs of the subdivision	X			
3. The project will not cause an unreasonable burden on an existing water supply, if one is utilized	X			
4. The project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result	X			
5. The project will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads existing or proposed	X			
6. The project will provide for adequate sewage/waste disposal	X			

BIDDEFORD CODE

	Yes	No	N/A	Remarks
7. The project will not cause unreasonable burden on the ability of the municipality to dispose of solid waste and sewage if municipal services are to be utilized	X			
8. The project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas or public rights for physical or visual access to the shoreline	X			
9. The project is in conformance with a duly adopted subdivision regulation or ordinance, Comprehensive Plan, development plan, or land use plan. In making this determination the Board is authorized to interpret these ordinances and plans.	X			
10. The subdivider has adequate financial and technical capacity to meet the above-stated standards	X			
11. Whenever situated, in whole or in part, within 250 feet of any lake, pond, river, or tidal waters, the project will not adversely affect the quality of that body of water, or unreasonably affect the shoreline of that body of water; as indicated on the City of Biddeford's Official Zoning Map and referenced in the City's Comprehensive Plan	X			
12. The project will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater	X			
13. The subdivider will provide information, based on FEMA flood boundary, floodway, and flood insurance maps, whether or not the project is in a flood-prone area	X			
14. The project will not unreasonably obstruct abutting properties or structures access to direct sunlight	X			



APPENDIX A

LOCATION MAP

DLN: 1002340240520

**WARRANTY DEED
(Maine Short Form)**

KNOW ALL PERSONS BY THESE PRESENTS, That I, **HARRY B. CENTER, II** of Yarmouth, County of Cumberland and State of Maine, owner of an undivided one-third interest; I, **TERESA M. BARTON** of Alameda, County of Alameda, State of California, owner of an undivided one-third interest; and we, **ANTHONY C. SERPICO** of Scarborough, County of Cumberland and State of Maine and **MARGARET T. SERPICO** formerly known as Margaret C. Serpico Pull, of 14 Goodale Avenue, Saco, County of York, State of Maine, for consideration paid, grant to **COASTAL OAKS, LLC**, a Maine Limited Liability Company with a mailing address of 198 Saco Avenue, Old Orchard Beach, Maine, with Warranty Covenants, a certain lot or parcel of land situated in the City of Biddeford, County of York and State of Maine, bounded and described as follows:

SEE EXHIBIT A ATTACHED HERETO AND INCORPORATED HEREIN.

IN WITNESS WHEREOF, Harry B. Center, II, Teresa M. Barton, Anthony C. Serpico and Margaret T. Serpico have set their hands and seals this 5th day of July, 2023.

Witness to all

Harry B. Center, II
Harry B. Center, II

Witness

Teresa M. Barton
Teresa M. Barton
by Harry B. Center, II her Attorney in Fact

Witness

Anthony C. Serpico
Anthony C. Serpico

Witness

Margaret T. Serpico
Margaret T. Serpico
By Anthony C. Serpico her Attorney in Fact

Maine R.E. Transfer Tax Paid

STATE OF MAINE
YORK, ss.

July 5, 2023

Then personally appeared the above named Harry B. Center, II and acknowledged the foregoing instrument to be his free act and deed.

Before me,



Notary Public/Maine Attorney at Law

Ba# 5285

Paul D. Weinstein
(Print Name)

STATE OF MAINE
COUNTY OF YORK

July 5, 2023

Then personally appeared the above named Harry B. Center, II, in his capacity as Attorney in Fact for Teresa M. Barton and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of Teresa M. Barton

Before me,



Notary Public/Maine Attorney at Law

Ba# 5285

Paul D. Weinstein
(Print Name)

STATE OF MAINE
YORK, ss.

July 5, 2023

Then personally appeared the above named Anthony C. Serpico, individually and in his capacity as Attorney in Fact for **Margaret T. Serpico**, and acknowledged the foregoing instrument to be his free act in deed, the free act in deed in his capacity as Attorney in Fact for Margaret T. Serpico, and the free act and deed of Margaret T. Serpico.

Before me,



Notary Public/Maine Attorney at Law

Ba# 5285

Paul D. Weinstein
(Print Name)

EXHIBIT A

A certain lot or parcel of land situated in Biddeford, bounded and described as follows:

BEGINNING at an iron pipe driven into the ground on the southwesterly side of the Pool Road as relocated by the State Highway Commission in 1957, said iron pipe being the easterly corner of land now or formerly of one Emerson;

THENCE southwesterly by said land of Emerson as follows: S 53° 55' W by the remains of a stone wall eighty-eight and 18/100 (88.18) feet to an iron pipe driven into the ground;

THENCE S 48° 40' W by said stone wall one hundred eighty and 45/100 (180.45) feet to a drill hole;

THENCE S 49° 55' W by said stone wall two hundred Fifty-two and 34/100 (252.34) feet to a drill hole;

THENCE S 51° 10' W by the remains of a stone wall four hundred thirty and 95/100 (430.95) feet to an iron pipe driven into the ground;

THENCE S 47° 10' W by said stone wall one hundred three and 8/10 (103.8) feet to a drill hole;

THENCE S 49° 15' W by said stone wall one hundred eighty-three and 3/10 (183.3) feet to a drill hole;

THENCE S 53° 05' W by said stone wall one hundred eighty-three and 11/100 (183.11) feet to a drill hole;

THENCE S 47° 35' W by said stone wall one hundred forty-eight 8/10 (148.8) feet to a drill hole;

THENCE S 48° 50' W by said stone wall one hundred seventeen and 6/10 (117.6) feet to a drill hole;

THENCE S 53° 20' W by said stone wall two hundred forty-six and 55/100 (246.55) feet to a drill hole;

THENCE S 51° 20' W by said stone wall one hundred six and 45/100 (106.45) feet to a drill hole;

THENCE S 62° 25' W by said stone wall fifty-two and 55/100 (52.55) feet to a drill hole at the corner of said stone wall and land formerly of Goldthwaite and Hill;

THENCE southeasterly by said land formerly of Goldthwaite and Hill as follows: S 44° 55' E by a row of stone heaps two hundred thirty-six and 61/100 (236.61) feet to an iron pipe in a stone heap;

THENCE S 49° 50' E sixty-eight and 47/100 (68.47) feet to a drill hole in a stone heap;

THENCE S 44° 10' E through a stone heap forty-five (45) feet to an iron pipe driven into the ground and land of owners unknown;

THENCE northeasterly by said land of owners unknown and/or partly by land formerly of Ward and partly by land formerly of Goldthwaite as follows: N 51° 25' E six hundred forty-five and 02/100 (645.02) feet to a drill hole at the end of a stone wall;

THENCE N 51° 25' E six hundred forty-five and 02/100 (645.02) feet to a drill hole at the end of a stone wall;

THENCE N 51° E ninety-one and 2/10 (91.2) feet to a point;

THENCE N 51° 35' E by said stone wall one hundred ninety-seven and 63/100 (197.63) feet to a point;

THENCE N 52° E by said stone wall two hundred one (201) feet to a point;

THENCE N 50° E by said wall and by the remains of an old fence three hundred nine and 5/10 (309.5) feet to a stone heap;

THENCE N 42° 55' E by the remains of an old fence forty-nine and 23/100 (49.23) feet to a point;

THENCE N 58° 10' E by an old wire fence six hundred one (601) feet to an iron pipe driven into the ground on the southwesterly side of the Pool Road;

THENCE N 39° 03' W by said southwesterly side of the Pool Road fifteen and 87/100 (15.87) feet to a State Highway Commission granite stone set in the ground;

THENCE N 39° 02' W and by said southwesterly side of the Pool Road four hundred twenty and 67/100 (420.67) feet to the point of beginning.

The above bearings refer to the 1962 Magnetic Meridian.

Reference for title is made to the following: 1) corrective deed from Harry B. Center, II, Personal Representative of the Estate of Joseph Carmine Serpico, to Samuel Serpico and Florence Serpico, Mary A. Barton and Paul J. Barton, and Philomene A. Center and Harry B. Center, II, dated March 15, 1999, and recorded in the York County Registry of Deeds in Book 9362, Page 182; 2) quitclaim deed from Samuel Serpico and Florence Serpico to Anthony C. Serpico and Margaret C. Serpico Pull dated September 18, 2000, and recorded in the York County Registry of Deeds in Book 10224, Page 197; 3) and quitclaim deed from Paul J. Barton to Teresa M. Barton and Paul J. Barton dated December 31, 2009, and recorded in said Registry in Book 15821, Page 456. The said Philomene A. Center died on June 7, 2012, with her interest passing to Harry B. Center, II, as surviving joint tenant, by operation of law. The said Paul J. Barton died on September 12, 2020, with his interest passing to Teresa M. Barton, as surviving joint tenant, by operation of law.



APPENDIX B

LOCATION MAP



SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
BIDDEFORD
@ 1:24,000



HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

**512 POOL STREET
BIDDEFORD, MAINE
LOCATION MAP**

2024.10.10
13871.019



APPENDIX C

USDA SOILS MAP



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.

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.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
York County, Maine.....	13
Bm—Biddeford mucky peat, 0 to 3 percent slopes.....	13
LnB—Lyman loam, 3 to 8 percent slopes, rocky.....	14
LyB—Lyman-Rock outcrop complex, 3 to 8 percent slopes.....	16
LyC—Lyman-Rock outcrop complex, 8 to 15 percent slopes.....	18
References	22

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

Custom Soil Resource Report

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.

Custom Soil Resource Report
Soil Map



Custom Soil Resource Report

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
Bm	Biddeford mucky peat, 0 to 3 percent slopes	0.7	6.3%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	5.2	45.2%
LyB	Lyman-Rock outcrop complex, 3 to 8 percent slopes	0.0	0.0%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	5.6	48.5%
Totals for Area of Interest		11.5	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

Bm—Biddeford mucky peat, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2t0jn

Elevation: 10 to 1,200 feet

Mean annual precipitation: 33 to 60 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Biddeford and similar soils: 82 percent

Minor components: 18 percent

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

Description of Biddeford

Setting

Landform: Marine terraces, river valleys

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Concave

Across-slope shape: Concave, linear

Parent material: Organic material over glaciomarine deposits

Typical profile

Oe - 0 to 12 inches: mucky peat

Eg - 12 to 16 inches: silt loam

Bg - 16 to 45 inches: silty clay

Cg - 45 to 65 inches: clay

Properties and qualities

Slope: 0 to 3 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D

Ecological site: F144BY002ME - Marine Terrace Depression, F144BY304ME - Wet Clay Flat

Hydric soil rating: Yes

Minor Components

Scantic

Percent of map unit: 9 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F144BY001ME - Marine Terrace Flat
Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 6 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Swanville

Percent of map unit: 2 percent
Landform: Lake plains, marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Lamoine

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

LnB—Lyman loam, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq7
Elevation: 0 to 520 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: Farmland of statewide importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent

Custom Soil Resource Report

Minor components: 14 percent

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

Description of Lyman, Rocky

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: 3 to 8 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): 2s

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Tunbridge, rocky

Percent of map unit: 6 percent

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

Hydric soil rating: No

Skerry, rocky

Percent of map unit: 5 percent

Landform: Hills, mountains

Custom Soil Resource Report

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Hermon, rocky

Percent of map unit: 2 percent

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

Hydric soil rating: No

Brayton, rocky

Percent of map unit: 1 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

LyB—Lyman-Rock outcrop complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2trqh

Elevation: 0 to 560 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: 65 percent

Rock outcrop: 20 percent

Minor components: 15 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

Custom Soil Resource Report

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: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

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: 3 to 8 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

Hydric soil rating: Unranked

Minor Components

Skerry, very stony

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Brayton, very stony

Percent of map unit: 4 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Hermon, very stony

Percent of map unit: 3 percent

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 3 percent

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

Hydric soil rating: No

LyC—Lyman-Rock outcrop complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2trqj

Custom Soil Resource Report

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
Minor components: 13 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

Custom Soil Resource Report

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

Minor Components

Skerry, very stony

Percent of map unit: 4 percent

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Hermon, very stony

Percent of map unit: 4 percent

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

Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 3 percent

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

Hydric soil rating: No

Brayton, very stony

Percent of map unit: 2 percent

Custom Soil Resource Report

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

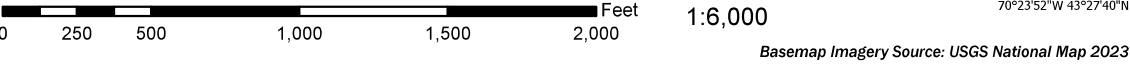
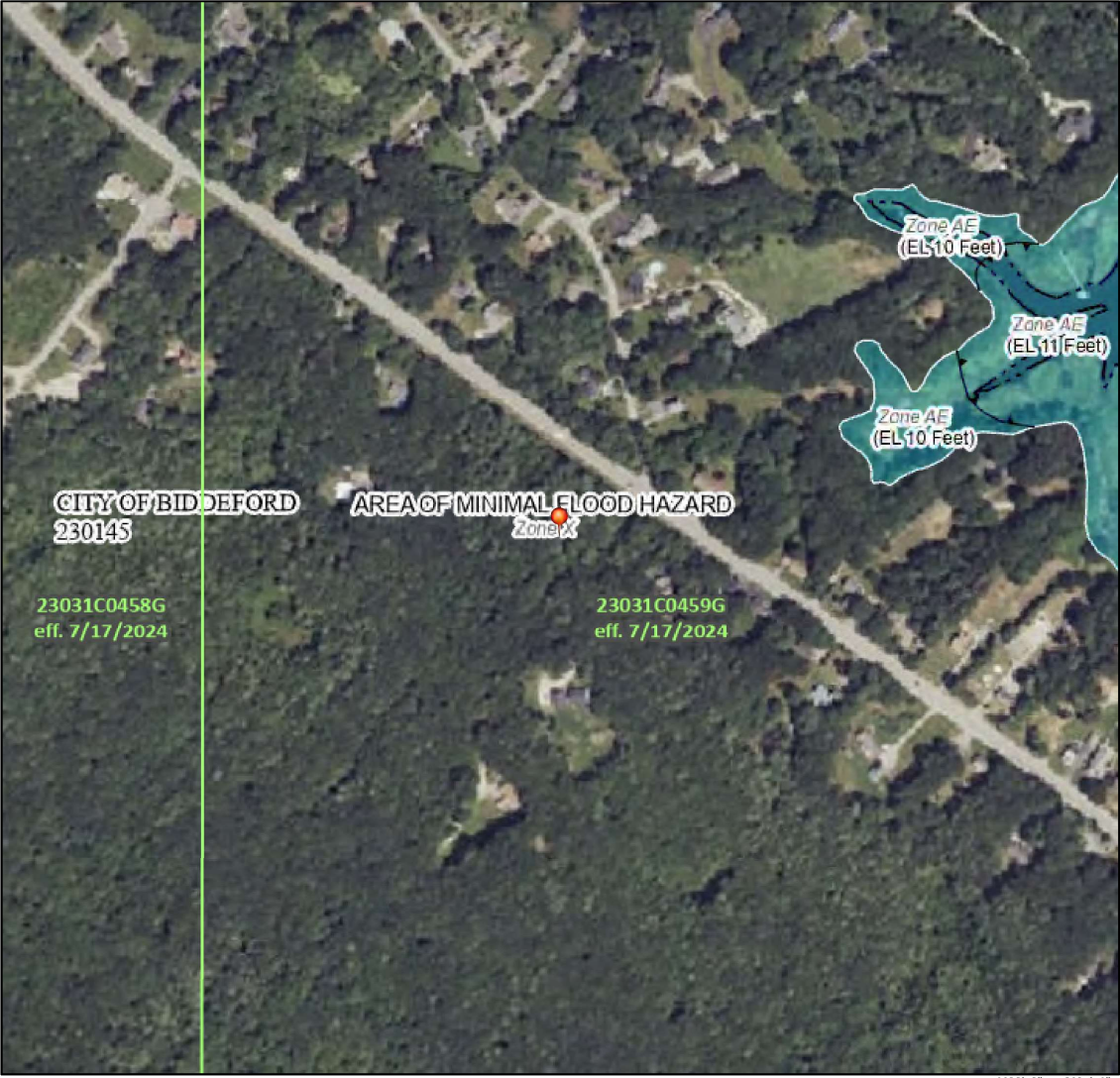


APPENDIX D

FEMA FLOOD HAZARD MAP

National Flood Hazard Layer FIRMette

70°24'29"W 43°28'6"N



Basemap Imagery Source: USGS National Map 2023

Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE)
		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
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/10/2024 at 9:23 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



APPENDIX E

NATURAL RESOURCES REPORT

To: Josh Eon
Colliers Engineering
Brunswick, Maine

Date: January 26, 2023



From: Alex Finamore, CWS, LSE
Mainely Soils, LLC

Re: 512 Pool Street, Biddeford, ME – Wetland Delineation
Memorandum

At the request of Colliers Engineering (the “Client”), Mainely Soils, LLC conducted on-site wetland and waterbody delineations at an approximately 18.5 acre parcel located at 512 Pool Street in Biddeford, Maine. The Client is assisting the property owner in developing the property. Mainely Soils conducted these field investigations to provide baseline environmental data to inform the proposed re-use of the site. The natural resources assessments described in this report were completed in January 2023. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

PROJECT DESCRIPTION

The project site is located within a zone of residential development along the Pool Street corridor. The proposed development site is currently vacant forested land. Surrounding land use to the north, east, and west is residential and forested land to the south. In total, the wetland and waterbody delineation survey area encompassed approximately 18.5 acres, identified by the City of Biddeford as Tax Map 9 Lot 31.

SITE DESCRIPTION

The Study Area occurs in the Southern Coastal biophysical region of Maine (McMahon, 1990). The Southern Coastal biophysical region is characterized by relatively flat terrain, with elevations generally ranging up to 100 feet above sea level. Bedrock is frequently exposed and covered by thin glacial deposits. Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Extensive coarse-grained glaciomarine deposits occur in the central portion of the South Coastal Region and along its western margin. The survey area is located within the Saco River watershed (Hydrologic Unit Classification (HUC) 8 identification 01060002), although surface water drainage within the site and vicinity is highly altered by existing developed land surfaces and stormwater management systems.

The Natural Resource Conservation Service soil survey mapping identifies the native soils at the site as being primarily formed within loamy supraglacial till on glaciated uplands (Lyman series) (Web Soil Survey, 2023). Soils within the wetland areas in the southern portion of the site are shown to be formed within glaciomarine or glaciolacustrine deposits on coastal lowlands and river valleys (Scantic series). The Lyman series is a shallow to bedrock soil that is somewhat excessively drained while the Scantic series is a silt loam soil that is poorly drained.

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area on January 19, 2023. Mainely Soils delineated the boundary of wetlands in accordance with the Army Corps of Engineers 1987 Wetland Delineation Manual (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement, 2012). All wetland delineations were conducted using the Routine Determination Methods, which requires that a wetland contain a dominance of hydrophytic vegetation, hydric soils, and evidence of hydrology in order to be considered a wetland. Wetland boundaries were located and demarcated using pink day-glow flagging, with each flag labeled with the corresponding alphabetic wetland identification code and a flag number (i.e. A-1). Wetland flag locations were recorded in the field using a Trimble® GPS unit capable of sub meter accuracy, post processed, and transferred and incorporated onto project mapping.

Mainely Soils completed one wetland and one upland Regional Supplement data form along the boundary of each identified wetland system to document the boundary. Additional field notes were also taken to record the classification of each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States, general site characteristics, unique qualities observed during the site assessment, and other considerations relevant to investigation findings and the future completion of a wetlands functions and values assessment in accordance with the Highway Methodology Workbook: Supplement. Mainely Soils took representative photographs of each wetland, drew labeled field sketches of the wetland boundary on an aerial photograph-based map, and recorded notes on the flagging sequence for each wetland.

Mainely Soils surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. No streams were identified within the site.

Vernal pools are small (usually less than one acre), seasonal wetlands that lack perennial inlet or outlet streams and have no permanent fish populations (Calhoun and deMaynadier 2004). Vernal pools are valuable wetland wildlife habitat because of their potentially high biological productivity and use as breeding habitat by specialized animal communities. The characteristics of vernal pools including size, duration of flooding, substrate type and vegetative community are directly affected by a variety of factors such as landscape setting, surficial geology, soil type, and surrounding vegetation (Maine Audubon Society 1999).

As onsite investigations took place in winter outside of the vernal pool indicator breeding season, a preliminary Vernal pool survey was conducted within the Study Area to identify and potential pool locations. Wetland A contained two isolated basins that contained up to 12 inches of standing water at the time of the delineation. Both areas may have the potential to support vernal pool indicator species breeding activity.

Study Results

Using the methodologies described above, Mainely Soils conducted a wetland delineation on January 19, 2023. A description of the identified resources follows. Supporting attachments Representative Photographs (Attachment 1). Wetland Delineation Data Forms can be provided upon request..

Wetlands at the project site consisted of five features, all of which were palustrine seasonally saturated forested wetlands (PFO1E) dominated by deciduous trees (Cowardin et al, 1979). Wetlands A, B, C, and D all drain in a southwesterly direction offsite. Wetland E is a small isolated depression along Pool Street. Dominant wetland vegetation includes red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), gray birch (*Betula populifolia*), white pine (*Pinus strobus*), winterberry (*Ilex verticillata*), cinnamon fern (*Osmunda cinnamomea*), and sensitive fern (*Onoclea sensibilis*). Soils within the wetland had a dark sandy loam surface overlaying a depleted loamy sand substratum. Evidence of wetland hydrology included pockets of water stained leaves, and saturation within 12" of the soil surface at the time of field investigations on January 19, 2023.

Wetland A contained two areas of standing water which may have the potential to support vernal pool indicator species breeding activity. A formal vernal pool survey is recommended during the indicator species peak breeding window, typically between April 1 and May 10 for Southern Maine.

No jurisdictional streams were observed onsite.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding wetland and waterbody resources. This information is intended to be used for project planning purposes and to support

permitting needs. Five PFO1E wetlands were delineated on the site, and were identified as Wetlands A–E. No streams were located onsite. Two potential vernal pools were found within Wetland A.

Wetlands are regulated by the U.S. Army Corps of Engineers under the federal Clean Water Act, and by the Maine Department of Environmental Protection under the Maine Natural Resources Protection Act (NRPA). The State of Maine further differentiates wetlands under NRPA by regulating certain wetlands as “wetlands of special significance” (WOSS). None of the wetlands within the site constitute a WOSS under NRPA, although they are still subject to NRPA jurisdiction as non-WOSS wetlands. A formal vernal pool survey is recommended during the indicator species peak breeding window, typically between April 1 and May 10 for Southern Maine.

Wetlands within the survey area may be further regulated under municipal ordinances, such as Shoreland Zone, Site Plan Review, or other local ordinances. Impacts to wetlands resulting from proposed project development require that permits first be obtained from the MDEP and the USACE before proceeding with construction, and where applicable, municipal governing bodies. Consultation with these agencies early in the project design process is encouraged.

References:

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat in the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31 103pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- McMahon, J.S. 1990. The Biophysical Regions of Maine: Patterns in the Landscape and Vegetation. University of Maine.
- U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. ERDC/EL TR-12-01. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Web Soil Survey. 2023. U.S. Department of Agriculture – Natural Resources Conservation Service. <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Attachments:

1. Representative Site Photographs

Attachment 1
Representative Site Photographs

Natural Resource Photographs – 1/19/2023
512 Pool Street, Biddeford, Maine



Photo 1: View looking southerly at Wetland 1 from flag 1



Photo 2: View looking southerly at Wetland 1 and PVP 1 from flag 22

Natural Resource Photographs – 1/19/2023
512 Pool Street, Biddeford, Maine



Photo 3: View looking southerly at Wetland 2 from flag 1



Photo 4: View looking westerly at Wetland C from flag 1



To: Josh Eon, PLS (ME)
Colliers Engineering & Design
41 Church Street
Brunswick, Maine 04011

Date: May 16, 2023

From: Alexander A. Finamore, CWS,
LSE
Mainely Soils, LLC

Re: Vernal Pool Survey
512 Pool Street – Biddeford, Maine

Project Description

At the request of Colliers Engineering & Design (the “Client”), Mainely Soils conducted on-site a vernal pool survey at an approximately 18.5 acre parcel located at 512 Pool Street in Biddeford, Maine. Mainely Soils conducted these field investigations to provide baseline environmental data to inform the proposed use of the site. The natural resources assessments described in this report were completed on April 17 and 30 of 2023. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

The project site is located within a zone of residential development along the Pool Street corridor in the Town of Biddeford. The proposed site consists of 18.5 acres of vacant forested land. Surrounding land use of the site is residential. The parcel is identified by the Town of Biddeford as Tax Map 9, Lot 31. The proposed use of the site is a residential subdivision. Wetlands were previously delineated by Mainely Soils in January of 2023.

Study Methodology

Vernal pools are small (usually less than one acre), seasonal wetlands that lack perennial inlet or outlet streams and have no permanent fish populations (Calhoun and deMaynadier 2004). Vernal pools are valuable wetland wildlife habitat because of their potentially high biological productivity and use as breeding habitat by specialized animal communities. The characteristics of vernal pools including size, duration of flooding, substrate type and vegetative community are directly affected by a variety of factors such as landscape setting, surficial geology, soil type, and surrounding vegetation (Maine Audubon Society 1999).

Chapter 335 of DEP Rules – Significant Wildlife Habitat defines a vernal pool as follows:

“A vernal pool, also referred to as a seasonal forest pool, is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubrachipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition.”

“Optimal times for counting egg masses of pool-breeding amphibians vary according to geographic location and weather. For instance, during cold springs, breeding can begin as much as 2 weeks later than it does in warm, wet springs. The optimal time to count masses is just past the peak breeding period. For wood frogs, this occurs approximately 2 weeks after they start full choruses. Wood frog egg masses hatch very quickly and are difficult to count much past peak breeding. Salamanders have a more extended breeding period and their eggs do not hatch as quickly as those of wood frogs. Therefore, surveys to count salamander egg masses should be conducted slightly later in the breeding season, generally 2–3 weeks following wood frog egg mass counts. The following are rough guidelines for optimal times for counting egg masses:”

Geographic Region	Wood Frogs	Spotted & Blue Spotted Salamanders
Northern Maine	May 5– May 20	June 5
Central Maine	April 5 – May 10	May 5 – May 25
Southern Maine	April 10 – April 25	April 20 – May 10

Vernal pool surveys were conducted at the subject site on April 17th and 30th of 2023. Mainely Soils identified pooled areas containing water and exhibiting other physical characteristics typically associated with vernal pools. Specifically, Mainely Soils evaluated the contour of the pool bottom and sides, the current depth of water in the pool, the substrate of the pool bottom, and the presence of an inlet or outlet in the form of a perennial stream. When a vernal pool depression is found, a standard field survey data form was completed to document the location and general surroundings and the pool was photographed. In addition, survey points were taken using a global positioning system (GPS) unit (Trimble GeoXT) to delineate the pool boundary.

Mainely Soils relied on two primary criteria: (1) direct evidence of amphibian breeding activity; and (2) evidence of seasonal flooding and drying within a topographic depression not connected to a river, stream or brook. Direct evidence of amphibian breeding activity included the observation of breeding adults, egg masses, and larvae of the following amphibian species: wood frog, spotted salamander, blue-spotted salamander, and four-toed salamander. Other evidence of vernal pool habitat may include the presence of fairy shrimp in the water column. Evidence of seasonal flooding and drying included the observation of water marks on trees, shrubs and boulders, water stained leaves with silt deposits, and buttressed tree trunks and exposed roots.

Confirmation of amphibian breeding included the presence of individual adults in the pool taking part in courtship activities, egg masses, wood frog tadpoles, or Ambystomid salamander larvae. Once it would be determined that an area was functioning as a vernal pool, further assessment was conducted to determine if it was significant (per state regulations). Criteria for identifying an SVP include:

- Species abundance (number of egg masses);
- Blue spotted salamanders – Presence of 10 or more egg masses
- Spotted salamanders – Presence of 20 or more egg masses
- Wood frogs – Presence of 40 or more egg masses
- Presence of fairy shrimp (presence in any life stage); or
- Use of the pool by one or more state-listed endangered or threatened species that commonly require a vernal pool to complete a critical life stage.

If any one of these criteria were met, the pool was considered significant.

Overall, vernal pools were classified into one of four categories: (1) MDEP SVPs, as discussed above; (2) U.S. Army Corps of Engineers (ACOE) significant (manmade) vernal pools, including man made or other manipulated features that met the state criteria for amphibian egg mass counts; (3) ACOE non-significant (natural or manmade) vernal pools, including both natural and manmade features that did not meet the state criteria for amphibian egg mass counts; and (4) non-jurisdictional features which includes all other areas where amphibian breeding was documented but did not meet the state criteria for egg mass counts or the state and federal definitions of a vernal pool.

Two features within the study area contained evidence of vernal pool indicator species. Some other areas of standing water were observed within the wetland areas present, but did not contain vernal pool indicator species.

Study Results

Overall, vernal pools are classified into one of four categories: (1) MDEP SVPs, as discussed above; (2) U.S. Army Corps of Engineers (ACOE) significant (manmade) vernal pools, including man-made or other manipulated features that met the state criteria for amphibian egg mass counts; (3) ACOE non-significant (natural or manmade) vernal pools, including both natural and manmade features that did not meet the state criteria for amphibian egg mass counts; and (4) non-jurisdictional features which includes all other areas where amphibian breeding was documented but did not meet the state criteria for egg mass counts or the state and federal definitions of a vernal pool.

Two features have been identified within the study area (See Attachment 2 – Maine State Vernal Pool Assessment Form) . Vernal Pools one and two were located within a long narrow depression within a narrow wetland complex. The pools were approximately 1–4 feet deep and 30 to 40 feet wide. There was a presence of wood frog and spotted salamander egg masses, although it did not contain the abundance of egg masses to meet the threshold to be considered significant by the MDEP; and therefore not considered significant. Therefore, Vernal Pools one and two found onsite would be considered an ACOE non-significant vernal pools. See attached photo log (Attachment 1) for representative views of the pool and vernal pool indicator species onsite.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding vernal pool resources. This information is intended to be used for project planning purposes and to support permitting needs. Two vernal pools were identified onsite and were characterized as an ACOE non-significant vernal pool. Please feel free to reach out to Mainely Soils for any questions regarding the information presented above.

References:

Calhoun, A.J.K., and P.G. deMaynadier. 2004. Forestry habitat management guidelines for vernal pool wildlife. MCA Technical Paper No. 6, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.

Attachments:

Attachment 1 – Photo Log

Attachment 2 – Maine State Vernal Pool Assessment Forms

512 Pool Street – Biddeford, Maine – Vernal Pool Memorandum
Page 4 of 5
May 16 2023

Attachment 1 Representative Site Photographs

Natural Resource Photographs – 1/19/2023
512 Pool Street, Biddeford, Maine



Photo 5: View looking westerly at Wetland D from flag 11



Photo 6: View looking westerly at Wetland E from flag 1

Vernal Pool Photographs – 4/17/2023 & 4/30/2023
512 Pool Street – Biddeford, Maine



Photo 1: View looking southwest at Vernal Pool 1



Photo 2: View looking northeast at Vernal Pool 1

Vernal Pool Photographs - 4/17/2023 & 4/30/2023
512 Pool Street - Biddeford, Maine



Photo 3: Spotted salamander egg mass within Vernal Pool 1



Photo 4: Hatching wood frog egg mass in Vernal Pool 1

Vernal Pool Photographs – 4/17/2023 & 4/30/2023
512 Pool Street – Biddeford, Maine



Photo 5: View looking southwest at Vernal Pool 2



Photo 6: View looking northeast at Vernal Pool 2



Photo 6: Spotted salamander egg mass in Vernal Pool 2

512 Pool Street – Biddeford, Maine – Vernal Pool Memorandum
Page 5 of 5
May 16 2023

Attachment 2

Maine State Vernal Pool Assessment Forms



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: VP-2

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Alexander Finamore
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: ☐ same as observer ☐ other _____
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes
- c. Project Name: Biddeford Pool Lot

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? ☐ Yes ☐ No If no, was landowner permission obtained for survey? ☐ Yes ☐ No
- b. Landowner's contact information (required)
- Name: SERPICO, ANTHONY & MARGARET &, BART Phone: _____
- Street Address: 16 Goodale Avenue City: Saco State: ME Zip: 04072
- c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

- a. Location Township: Biddeford

Brief site directions to the pool (using mapped landmarks):

Head southeast on Pool Street from downtown Biddeford. Site is on the right before Angel Lane private drive.

b. Mapping Requirements

- i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70 24'15.74" Latitude/Northing: 43 27'48.94"

Coordinate system: NAD83

Check one: ☐ GIS shapefile

- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (Best)

☐ The pool perimeter is delineated by multiple GPS points. (Excellent)

- Include map or spreadsheet with coordinates.

☐ The above GPS point is at the center of the pool. (Good)

☐ The center of the pool is approximately _____ m ☐ ft ☐ in the compass direction of _____ degrees from the above GPS point. (Acceptable)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ☐ Isolated depression ☐ Pool associated with larger wetland complex
☐ Floodplain depression ☐ Other: _____

■ Check all wetland types that best apply to this pool:

- | | | | |
|--|---|--|---|
| ☒ Forested swamp | ☐ Wet meadow | ☐ Slow stream | ☐ Dug pond or borrow pit |
| ☐ Shrub swamp | ☐ Lake or pond cove | ☐ Floodplain | |
| ☐ Peatland (fen or bog) | ☐ Abandoned beaver flowage | ☐ Mostly unvegetated pool | ☐ Roadside ditch |
| ☐ Emergent marsh | ☐ Active beaver flowage | ☐ ATV or skidder rut | ☐ Other: _____ |

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ☐ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- ☐ Permanent ☐ Semi-permanent (drying partially in all years and completely in drought years) ☐ Ephemeral (drying out completely in most years) ☐ Unknown

Explain:

Deep sphagnum moss with leaf litter in deepest portions of the wetland

■ Maximum depth at survey: ☐ 0-12" (0-1 ft.) ☐ 12-36" (1-3 ft.) ☐ 36-60" (3-5 ft.) ☐ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ☐ m ☐ ft Length: 150 ☐ m ☐ ft

■ Predominate substrate in order of increasing hydroperiod:

- | | |
|---|---|
| ☐ Mineral soil (bare, leaf-litter bottom, or upland mosses present) | ☐ Organic matter (peat/muck) shallow or restricted to deepest portion |
| ☐ Mineral soil (sphagnum moss present) | ☐ Organic matter (peat/muck) deep and widespread |

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- | | |
|---|---|
| ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) | ☐ Wet site ferns (e.g. royal fern, marsh fern) |
| ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern) | ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly) |
| ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern) | ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes) |
| ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle) | ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead) |
| ☐ Sphagnum moss (anchored or suspended) | ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
| | ☐ No vegetation in pool |

■ Faunal indicators (check all that apply):

- ☐ Fish ☐ Bullfrog or Green Frog tadpoles ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ☐ No inlet or outlet ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
☐ Intermittent inlet or outlet ☐ Other or Unknown (explain): _____



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/17/2020, 4/30/2020

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? ☐ Yes ☐ No
- Was the entire pool surveyed for egg masses? ☐ Yes ☐ No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog	0	0		3	3							
Spotted Salamander	5	5		3	3	F	M					
Blue-spotted Salamander	0	0		3	3							
Fairy Shrimp ³	0	0		3	3							

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool associated with narrow wetland complex in depression between bedrock outcrop and old road bed

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only

Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ Significant ☐ Potentially Significant but lacking critical data ☐ Not Significant due to: ☐ does not meet biological criteria. ☐ does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: VP-2

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Alexander Finamore
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: ☐ same as observer ☐ other _____
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes
- c. Project Name: Biddeford Pool Lot

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? ☐ Yes ☐ No If no, was landowner permission obtained for survey? ☐ Yes ☐ No
- b. Landowner's contact information (required)
- Name: SERPICO, ANTHONY & MARGARET &, BART Phone: _____
- Street Address: 16 Goodale Avenue City: Saco State: ME Zip: 04072
- c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

- a. Location Township: Biddeford

Brief site directions to the pool (using mapped landmarks):

Head southeast on Pool Street from downtown Biddford. Site is on the right before Angel Lane private drive.

b. Mapping Requirements

- i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70 24'15.74" Latitude/Northing: 43 27'48.94"

Coordinate system: NAD83

- Check one: ☐ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (Best)
 - ☐ The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
 - ☐ The above GPS point is at the center of the pool. (Good)
 - ☐ The center of the pool is approximately _____ m ☐ ft ☐ in the compass direction of _____ degrees from the above GPS point. (Acceptable)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ☐ Isolated depression
 ☒ Pool associated with larger wetland complex
☐ Floodplain depression
 ☐ Other: _____

■ Check all wetland types that best apply to this pool:

- | | | | |
|--|---|--|---|
| ☒ Forested swamp | ☐ Wet meadow | ☐ Slow stream | ☐ Dug pond or borrow pit |
| ☒ Shrub swamp | ☐ Lake or pond cove | ☐ Floodplain | |
| ☐ Peatland (fen or bog) | ☐ Abandoned beaver flowage | ☐ Mostly unvegetated pool | ☐ Roadside ditch |
| ☐ Emergent marsh | ☐ Active beaver flowage | ☐ ATV or skidder rut | ☐ Other: _____ |

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ☒ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- ☐ Permanent
 ☐ Semi-permanent (drying partially in all years and completely in drought years)
 ☒ Ephemeral (drying out completely in most years)
 ☐ Unknown

Explain:

Deep sphagnum moss with leaf litter in deepest portions of the wetland

■ Maximum depth at survey: ☐ 0-12" (0-1 ft.) ☐ 12-36" (1-3 ft.) ☐ 36-60" (3-5 ft.) ☐ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ☐ m ☐ ft Length: 150 ☐ m ☐ ft

■ Predominate substrate in order of increasing hydroperiod:

- ☐ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
 ☐ Organic matter (peat/muck) shallow or restricted to deepest portion
☒ Mineral soil (sphagnum moss present)
 ☐ Organic matter (peat/muck) deep and widespread

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- | | |
|--|---|
| ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) | ☒ Wet site ferns (e.g. royal fern, marsh fern) |
| ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern) | ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly) |
| ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern) | ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes) |
| ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle) | ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead) |
| ☒ Sphagnum moss (anchored or suspended) | ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
| | ☐ No vegetation in pool |

■ Faunal indicators (check all that apply):

- ☐ Fish
 ☐ Bullfrog or Green Frog tadpoles
 ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ☐ No inlet or outlet
 ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
☐ Intermittent inlet or outlet
 ☐ Other or Unknown (explain): _____



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/17/2020, 4/30/2020

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? ☐ Yes ☐ No
- Was the entire pool surveyed for egg masses? ☐ Yes ☐ No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog	0	0		3	3							
Spotted Salamander	5	5		3	3	F	M					
Blue-spotted Salamander	0	0		3	3							
Fairy Shrimp ³	0	0		3	3							

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool associated with narrow wetland complex in depression between bedrock outcrop and old road bed

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only

Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ Significant ☐ Potentially Significant but lacking critical data ☐ Not Significant due to: ☐ does not meet biological criteria. ☐ does not meet MDEP vernal pool criteria.

Comments:



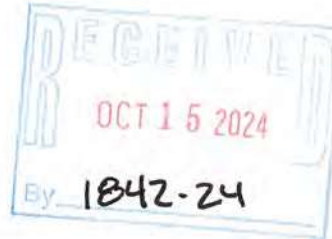
APPENDIX F

SENSITIVE HISTORIC/NATURAL AREAS



October 14, 2024

Maine Historic Preservation Commission
Attn: Ms. Megan Rideout
55 Capitol Street
65 State House Station
Augusta, Maine 04333-0065
megan.m.rideout@maine.gov



Re: 512 Pool Street, Biddeford, Maine | Subdivision Review

Dear Ms. Rideout:

Haley Ward Inc. is currently assisting Coastal Oaks, LLC with the preparation of a Preliminary Subdivision Review application for the construction of a nine-lot subdivision at 512 Pool Street in Biddeford, Maine. Currently, the property is mostly undeveloped and wooded, except for one single family home that was constructed in 2024.

Per permitting requirements, we are submitting this request to your office to determine if any historical sites of concern are located within the project area. Because the project is located in a residential zone and will be residential in use, we do not expect any nearby structures to be negatively impacted by this development. Additional homes in this subdivision will be aesthetically similar to the subdivision's first home, which can be seen on Google street view.

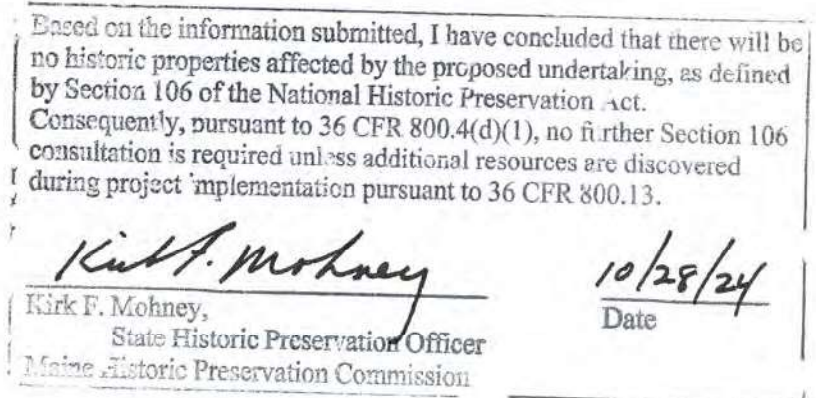
With this inquiry, we have submitted a location map, and a preliminary project layout. Any response can be forwarded to our office located at One Merchants Plaza, Suite 701, Bangor, Maine 04401 or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, P.E.
Civil Engineer

DJO/jok
Enc.



Maine Historic Preservation Commission | 10.14.2024 | 13871.019



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 28, 2024

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

Via email: dolehowski@haleyward.com

Re: Rare and exemplary botanical features in proximity to: #13871.019, Residential Subdivision, Map 9 Lot 31, 512 Pool Street, Biddeford, Maine

Dear Drew Olehowski:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received October 14, 2024 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. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

**Rare and Exemplary Botanical Features within 4 miles of
Project: #13871.019, Residential Subdivision, Map 9 Lot 31, 512 Pool Street, Biddeford, Maine**

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
American Sea-blite						
	T	S2	G5	2010-08-04	14	Tidal wetland (non-forested, wetland)
Beach Plum						
	E	S1	G4	2006-07-17	3	Rocky coastal (non-forested, upland)
	E	S1	G4	1933-06-21	9	Rocky coastal (non-forested, upland)
	E	S1	G4	1932-09	12	Rocky coastal (non-forested, upland)
	E	S1	G4	2017-06-07	22	Rocky coastal (non-forested, upland)
Beach Wormwood						
	SC	S1S2	G5T5	2011-10-28	6	
	SC	S1S2	G5T5	2011-11-02	7	
Brackish Tidal Marsh						
		S3	GNR	2009-07-29	1	
Button Sedge						
	SC	S2	G5	1880-09-06	2	
	SC	S2	G5	2000-08-15	3	
Clothed Sedge						
	E	S1	G5	2006-06-16	8	Dry barrens (partly forested, upland)
Coastal Dune-marsh Ecosystem						
		S3	GNR	2009	1	
Creeping Spike-moss						
	E	S2	G5	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested,
	E	S2	G5	1920-07-30	6	Open wetland, not coastal nor rivershore (non-forested,
Dwarf Glasswort						
	T	S1	G5	1981-09-16	2	Tidal wetland (non-forested, wetland)
	T	S1	G5	2010-08-04	8	Tidal wetland (non-forested, wetland)

Estuary Bur-marigold						
SC	S3	G4	2009-07-30	35	Tidal wetland (non-forested, wetland)	
Freshwater Tidal Marsh						
	S2	G4?	2009-07-30	1		
Hollow Joe-pye Weed						
SC	S2	G5	1989-08-21	1	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	1989-08-22	3	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	2006-08-07	5	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	1994-06-06	6	Open wetland, not coastal nor rivershore (non-forested,	
Horned Pondweed						
SC	S2	G5	1907-08-18	10	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2000-08-28	15	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2007-07-05	19	Tidal wetland (non-forested, wetland)	
Lilaeopsis						
SC	S2	G5	2012-10-21	10	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2007-07-05	11	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2007-08-14	12	Tidal wetland (non-forested, wetland)	
Long-spined Sandbur						
PE	SH	G5	1984	1	Rocky coastal (non-forested, upland)	
Mudwort						
SC	S3	G5	2009-07-30	35	Tidal wetland (non-forested, wetland)	
Oak - Hickory Forest						
	S1	G4G5	2012-10-11	3		
Pale Green Orchis						
SC	S2	G4?T4Q	1991	36	Non-tidal rivershore (non-forested, seasonally wet),Open	
Parker's Pipewort						
SC	S3	G3	2017-08-31	33	Tidal wetland (non-forested, wetland)	
Pitch Pine Bog						

Pitch Pine Bog						
	S2	G3G5	2015-09-29	20		
Pitch Pine Dune Woodland						
	S1	G2	2014-05-08	8		
Pitch Pine Woodland						
	S3	G2	2016-08-09	30		
Pocket Swamp						
	S2	G5	2014-05-08	4		
	S2	G5	2020-06-12	18		
	S2	G5	2020-06-12	33		
Pygmyweed						
	SC	S2S3	G5	2009-07-29	25	Open water (non-forested, wetland)
	SC	S2S3	G5	2007-07-05	28	Open water (non-forested, wetland)
Salt-hay Saltmarsh						
	S3	G5	2010-10-14	12		
	S3	G5	2020-09-22	13		
	S3	G5	2020-09-22	15		
	S3	G5	2016-07-12	23		
	S3	G5	2009	27		
Saltmarsh False-foxglove						
	SC	S3	G5	2010-08-04	6	Tidal wetland (non-forested, wetland)
	SC	S3	G5	1982	9	Tidal wetland (non-forested, wetland)
	SC	S3	G5	1982	12	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2006-07-17	18	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2010-08-04	34	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2020-09-22	43	Tidal wetland (non-forested, wetland)
Sassafras						
	SC	S2	G5	2006-07-17	16	Hardwood to mixed forest (forest, upland),Old field/
Schreber's Wood-aster						
	PE	SX	G4	1894-09	1	Rocky coastal (non-forested, upland)

Slender Blue Flag						
	T	S2	G4G5	1995-07-18	18	Tidal wetland (non-forested, wetland)
Small Reed Grass						
	SC	S3	G5	2000-08-15	12	Old field/roadside (non-forested, wetland or upland)
	SC	S3	G5	2006-08-08	14	Old field/roadside (non-forested, wetland or upland)
	SC	S3	G5	2010-09-07	15	Old field/roadside (non-forested, wetland or upland)
Smooth Winterberry Holly						
	SC	S3	G5	1979	13	Forested wetland
	SC	S3	G5	2011-10-28	30	Forested wetland
	SC	S3	G5	2004	36	Forested wetland
	SC	S3	G5	2020-6-12	39	Forested wetland
	SC	S3	G5	2012-10	44	Forested wetland
Southern Slender Ladies'-tresses						
	PE	SH	G5T4T5	1918-08-27	1	Dry barrens (partly forested, upland)
Spongy-leaved Arrowhead						
	SC	S3	G5T4	2012-10-21	42	Tidal wetland (non-forested, wetland)
Stiff Arrowhead						
	SC	S2	G5	2006-06-16	15	Tidal wetland (non-forested, wetland)
Sweet Pepper-bush						
	SC	S2	G5	1989-08-01	8	Hardwood to mixed forest (forest, upland),Forested
	SC	S2	G5	1917-09	9	Hardwood to mixed forest (forest, upland),Forested
Tidal Marsh Estuary Ecosystem						
		S3	GNR	2010-10-14	4	
Water Pimpernel						
	SC	S3	G5	2012-10-21	26	Tidal wetland (non-forested, wetland)

Date Exported: 2024-10-28 08:06

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 G1	Critically Imperiled – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 G2	Imperiled – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 G3	Vulnerable – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 G4	Apparently Secure – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 G5	Secure – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX GX	Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH GH	Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery.
S#S# G#G#	Range Rank – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU GU	Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR SNR	Unranked – Global or subnational conservation status not yet assessed.
SNA GNA	Not Applicable – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems).
Qualifier	Definition
S#? G#?	Inexact Numeric Rank – Denotes inexact numeric rank.
Q	Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The “Q” modifier is only used at a global level.
T#	Intraspecific Taxon (trinomial) – The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	Endangered – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	Threatened – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	Special Concern – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	Potentially Extirpated – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	Excellent – Excellent estimated viability/ecological integrity.
B	Good – Good estimated viability/ecological integrity.
C	Fair – Fair estimated viability/ecological integrity.
D	Poor – Poor estimated viability/ecological integrity.
E	Extant – Verified extant, but viability/ecological integrity not assessed.
H	Historical – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	Extirpated – Documented loss of population/destruction of habitat.
U	Unrankable – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	Not Ranked – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
<http://www.maine.gov/dacf/mnap>





STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



January 27, 2025

Drew Olehowski
Haley Ward
120 Main Street, Suite 132
Saco, ME 04072

RE: Information Request - 512 Pool Street, Subdivision, Biddeford Project ID 8580

Dear Drew:

Per your request, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information sources for known locations of Endangered, Threatened, and Special Concern (Rare) species; designated Essential and Significant Wildlife Habitats; inland fisheries and aquatic habitats; and other protected natural resource concerns within the vicinity of the **512 Pool Street, Subdivision, Biddeford** project, pursuant to MDIFW's authority. Please note that as project details are lacking, our comments should be considered preliminary. For the purposes of this review, we assume that tree clearing is proposed.

Our Department has not mapped any Essential Habitats that would be affected by this project.

ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

Bat Species

Of the eight species of bats that occur in Maine, four species are afforded protection under Maine's Endangered Species Act (MESA, 12 M.R.S 12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Blanding's Turtle

Blanding's turtles, a State Endangered species, have been documented within the proposed project area. In Maine, Blanding's turtles are found most frequently in vernal pools, acidic wetlands and larger marsh complexes, within blocks of forested habitat. They also use small streams, shrub swamps, wet meadows, bogs, and forested swamps. Development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations. Additionally, development projects that lead to significant increases in local traffic volume will likely lead to increased roadkill and possible extirpation of the local population. If these habitats are present in

January 27, 2025

Letter to Drew Olehowski, Haley Ward

Comments RE: 512 Pool Street, Subdivision, Biddeford

the project area, we recommend that they be avoided and buffered by 250 feet of undisturbed, natural vegetation with no new no development or permanent habitat conversion within this zone.

Spotted Turtle

Spotted turtles, a State Threatened species, have been documented in the proposed project area. Spotted turtles are most frequently found in southern and coastal Maine in forested settings with complexes of small acidic wetlands and vernal pools. They also use small streams, shrub swamps, wet meadows, bogs, and forested swamps. Development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations. Additionally, development projects that lead to significant increases in local traffic volume can lead to increased roadkill and possible extirpation of the local population. If these habitats are present, we recommend they be avoided and buffered with 250-foot intact vegetated buffers.

Rare Dragonfly Species

Both the Arrowhead Spiketail and Southern Pygmy Clubtail have been documented in the stream adjacent to the proposed project. These are two of the state's rarest dragonflies, both listed as Species of Special Concern due to low population numbers and sensitivity to aquatic and riparian habitat degradation. To conserve important habitat functions for these rare dragonfly populations, and other aquatic fish and wildlife values, MDIFW recommend the protection of a permanent 250-foot forested, riparian corridor along the stream in this location. Please contact Beth Swartz (Beth.Swartz@maine.gov) with our Wildlife Diversity Section should any work be planned within this buffer or if you have any further questions about the rare dragonflies and our riparian management recommendations.

SIGNIFICANT WILDLIFE HABITAT

Significant Vernal Pools

At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Therefore, their absence from resource maps is not necessarily indicative of an absence on the ground. We recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

January 27, 2025

Letter to Drew Olehowski, Haley Ward

Comments RE: 512 Pool Street, Subdivision, Biddeford

AQUATIC RESOURCES

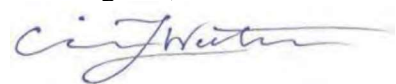
Fish Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fisheries and aquatic habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we recommend additional consultation with the municipality, and other state resource and regulatory agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance. For information on federally listed species, contact the U.S. Fish and Wildlife Service's Maine Field Office (207-469-7300, mainefieldoffice@fws.gov).

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,



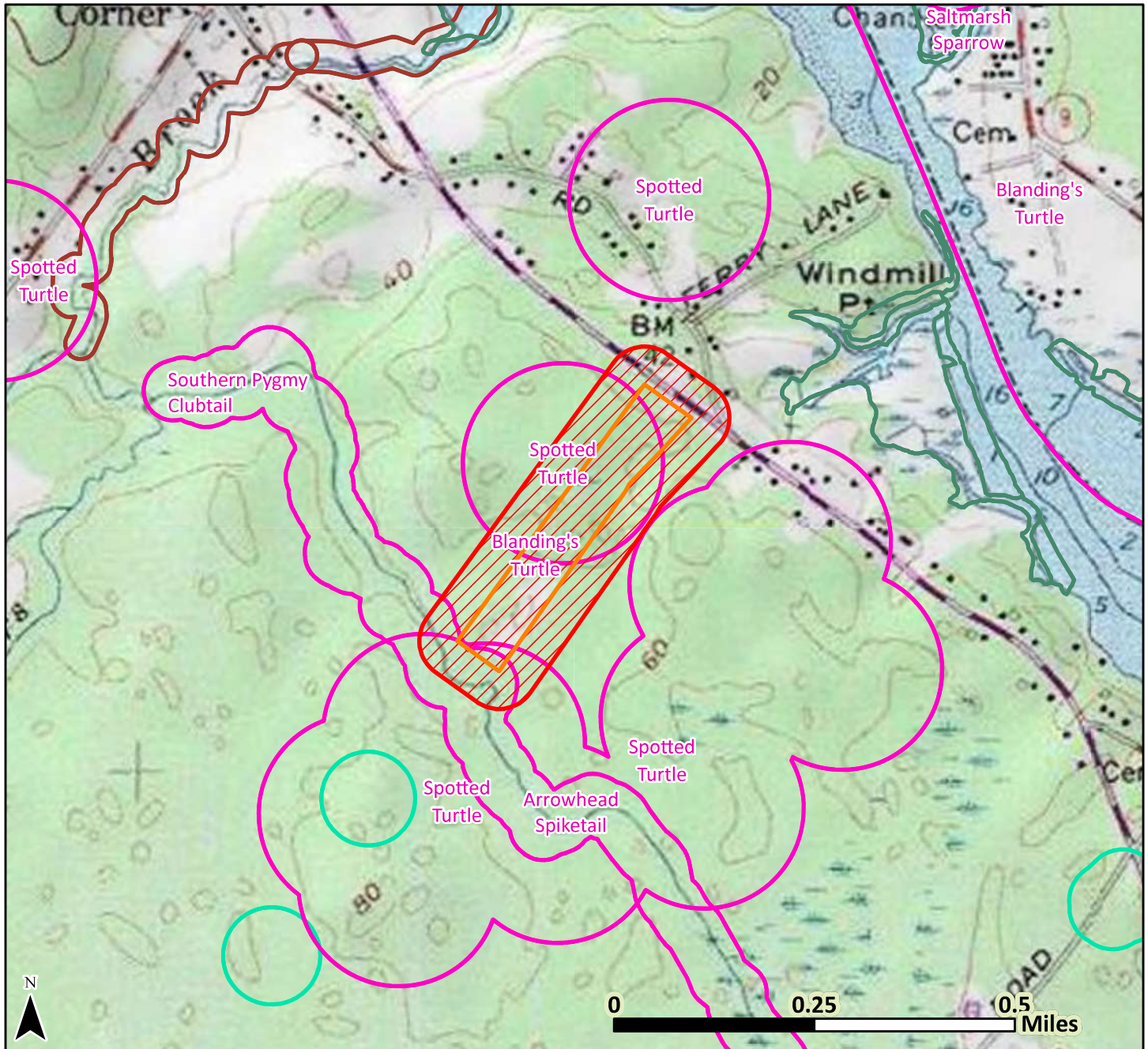
Ciara Wentworth
Natural Resource Biologist



Maine Department of Inland Fisheries and Wildlife
Project Area Review of Fish and Wildlife Observations and Priority Habitats

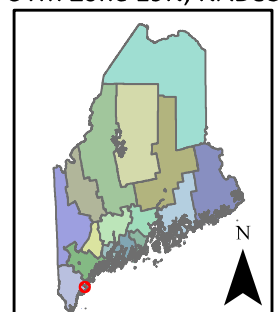
512 Pool Street, Subdivision, Biddeford

Project ID 8580_9923



- | | |
|-------------------|-----------------------------|
| County Boundary | E, T, & SC Species |
| Township Boundary | Significant Vernal Pool |
| Project Footprint | Special Concern Fish |
| Search Area | Tidal Waterfowl/Wading Bird |

Date: 10/23/2024
Projection:
UTM Zone 19N, NAD83



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.



APPENDIX G

TEST PIT LOGS



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7553

October 4, 2024

Mr. Ethan Scott
Coastal Oaks LLC
198 Saco Avenue
Old Orchard Beach, ME 04064

Re: Preliminary soil evaluation, proposed 8 lot subdivision 512 Pool Street Biddeford, Maine

Dear Ethan,

I have completed a preliminary soil evaluation the proposed 8 lot subdivision located at 512 Pool Street Biddeford, ME. The soil evaluation was conducted in accordance with the Maine Subsurface Wastewater Disposal Rules dated September 2023, as amended. I evaluated two hand excavated soil test pits on each lot. The soils found are glacial till shallow over ledge with depths to the limiting factor ranging from 15 to 26 inches. Lot 1 is an existing developed house and Lot 2 has a septic design already prepared for it.

The soils as evaluated meet the minimum requirements of the state rules. In my opinion, there are suitable soils and area on each lot for a septic system. A septic system for a 3-bedroom home could be an Eljen Indrain system with a minimum of 20 units. Septic designs can be completed in the future. Soil test pit log descriptions and location of test pits are attached.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton C.S.S., L.S.E.
Certified Soil Scientist #216
Licensed Site Evaluator #263

Enc.

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
512 Pool StreetApplicant Name:
Coastal Oaks LLCProject Location (municipality):
BiddefordExploration Symbol # TP-1 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40				
50				
60				

Soil Details by S.E. 2 AII 4 15 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-2 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40				
50				
60				

Soil Details by S.E. 2 AIII 4 15 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-3 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

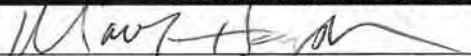
Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40				
50				
60				

Soil Details by S.E. 2 AIII 6 16 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-4 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Brown	
20				
30				
40				
50				
60				

Soil Details by S.E. 2 AIII 6 16 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

INVESTIGATOR INFORMATION AND SIGNATURESignature 

Date 10/04/2024

Name Printed Mark J. Hampton

Cert/Lic/Reg. # 263/216

Title ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
512 Pool StreetApplicant Name:
Coastal Oaks LLCProject Location (municipality):
BiddefordExploration Symbol # TP-5 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40				
50				
60				

Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	☐ Groundwater
	2	AII	6	15 "	☐ Restrictive Layer
	Profile	Condition	Percent	Depth	☒ Bedrock
S.S.	Soil Series/Phase Name:				
			☐ Hydric	Hydrologic	
			☐ Non-hydric	Soil Group	

Exploration Symbol # TP-6 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40				
50				
60				

Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	☐ Groundwater
	2	AIII	6	15 "	☐ Restrictive Layer
	Profile	Condition	Percent	Depth	☒ Bedrock
S.S.	Soil Series/Phase Name:				
			☐ Hydric	Hydrologic	
			☐ Non-hydric	Soil Group	

Exploration Symbol # TP-7 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40				
50				
60				

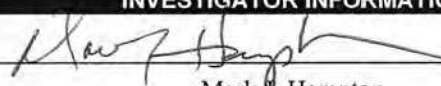
Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	☐ Groundwater
	2	AIII	2	26 "	☐ Restrictive Layer
	Profile	Condition	Percent	Depth	☒ Bedrock
S.S.	Soil Series/Phase Name:				
			☐ Hydric	Hydrologic	
			☐ Non-hydric	Soil Group	

Exploration Symbol # TP-8 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Brown	
20				
30				
40				
50				
60				

Soil Details by	S.E.	Soil Classification	Slope	Limiting Factor	☐ Groundwater
	2	AIII	2	24 "	☐ Restrictive Layer
	Profile	Condition	Percent	Depth	☒ Bedrock
S.S.	Soil Series/Phase Name:				
			☐ Hydric	Hydrologic	
			☐ Non-hydric	Soil Group	

INVESTIGATOR INFORMATION AND SIGNATURE

Signature		Date	10/04/2024
Name Printed	Mark J. Hampton	Cert/Lic/Reg. #	263/216
Title	☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer		

affix professional seal

7553

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION		Maine Dept. Health & Human Services Div. Environmental Health, 11SHS (207) 287-2070 Fax: (207) 287-4172	
PROPERTY LOCATION		>> CAUTION: LPI APPROVAL REQUIRED <<	
City, Town, or Plantation	Biddeford	Town/City	Permit #
Street or Road	512 Pool Street	Date Permit Issued	Fee: \$ Double Fee Charged []
Subdivision, Lot #	6+2		L.P.I. #
OWNER/APPLICANT INFORMATION		Local Plumbing Inspector Signature	
Name (last, first, MI)	Coastal Oaks LLC	Fee: \$	state min fee \$ Locally adopted fee
Mailing Address of	198 Saco Avenue	Copy: [] Owner [] Town [] State	
Owner/Applicant	Old Orchard Beach 04064	The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.	
Daytime Tel. #	934-7622	Municipal Tax Map #	Lot #
OWNER OR APPLICANT STATEMENT I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.		CAUTION: INSPECTION REQUIRED I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.	
Signature of Owner or Applicant		Local Plumbing Inspector Signature	
Date		(1st) date approved	
		(2nd) date approved	
PERMIT INFORMATION			
TYPE OF APPLICATION	THIS APPLICATION REQUIRES	DISPOSAL SYSTEM COMPONENTS	
1. First Time System	1. No Rule Variance	1. Complete Non-engineered System	
2. Replacement System	2. First Time System Variance	2. Primitive System (graywater & alt. toilet)	
Type replaced:	a. Local Plumbing Inspector Approval	3. Alternative Toilet, specify:	
Year installed:	b. State & Local Plumbing Inspector Approval	4. Non-engineered Treatment Tank (only)	
3. Expanded System	3. Replacement System Variance	5. Holding Tank, gallons	
a. <25% Expansion	a. Local Plumbing Inspector Approval	6. Non-engineered Disposal Field (only)	
b. >25% Expansion	b. State & Local Plumbing Inspector Approval	7. Separated Laundry System	
4. Experimental System	4. Minimum Lot Size Variance	8. Complete Engineered System (2000 gpd or more)	
5. Seasonal Conversion	5. Seasonal Conversion Permit	9. Engineered Treatment Tank (only)	
		10. Engineered Disposal Field (only)	
		11. Pre-treatment, specify:	
		12. Miscellaneous Components	
SIZE OF PROPERTY	DISPOSAL SYSTEM TO SERVE	TYPE OF WATER SUPPLY	
13 SQ. FT.	1. Single Family Dwelling Unit No. of Bedrooms: 3	1. Drilled Well 2. Dug Well 3. Private	
ACRES	2. Multiple Family Dwelling, No. of Units:	4. Public 5. Other	
SHORELAND ZONING	3. Other: (specify)		
Yes No	Current Use Seasonal Year Round Undeveloped		
DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)			
TREATMENT TANK	DISPOSAL FIELD TYPE & SIZE	GARBAGE DISPOSAL UNIT	DESIGN FLOW
1. Concrete	1. Stone Bed 2. Stone Trench	1. No 2. Yes 3. Maybe	270 gallons per day
a. Regular	3. Proprietary Device	If Yes or Maybe, specify one below:	BASED ON:
b. Low Profile	a. cluster array c. Linear	a. multi-compartment tank	1. Table 4A (dwelling unit(s))
2. Plastic	b. regular load d. H-20 load	b. tanks in series	2. Table 4C (other facilities)
3. Other:	4. Other:	c. increase in tank capacity	SHOW CALCULATIONS for other facilities
CAPACITY: 1000 GAL.	SIZE: 960 sq. ft. lin. ft.	d. Filter on Tank Outlet	
SOIL DATA & DESIGN CLASS	DISPOSAL FIELD SIZING	EFFLUENT/EJECTOR PUMP	LATITUDE AND LONGITUDE
PROFILE CONDITION	1. Medium---2.6 sq. ft. / gpd	1. Not Required	at center of disposal area
2 / AIII	2. Medium---Large 3.3 sq. ft. / gpd	2. May Be Required	Lat. 43 d 27 m 52 s
at Observation Hole # TP1	3. Large---4.1 sq. ft. / gpd	3. Required	Lon. 70 d 24 m 10 s
Depth 15 "	4. Extra Large---5.0 sq. ft. / gpd	Specify only for engineered systems:	if g.p.s, state margin of error: 15
of Most Limiting Soil Factor		DOSE: gallons	
SITE EVALUATOR STATEMENT			
I certify that on 09/27/2024 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).			
Site Evaluator Signature		263	09/27/2024
Mark Hampton		SE #	Date
Site Evaluator Name Printed		207-756-2900	
		Telephone Number	E-mail Address
Note : Changes to or deviations from the n should be confirmed with the Site Evaluator.			

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation

Street, Road, Subdivision

Owner's Name

Biddeford

512 Pool Street

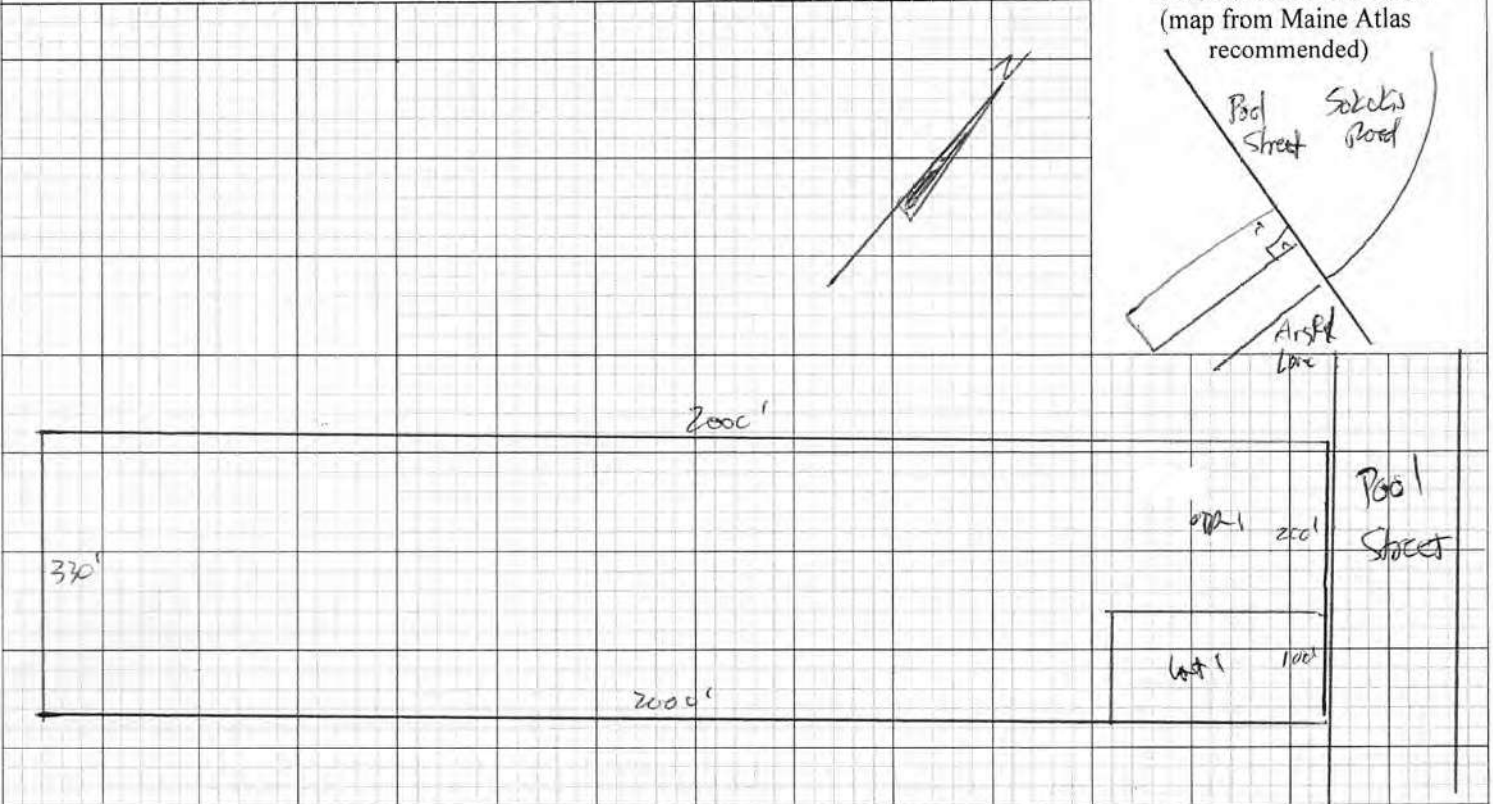
Lot 2

Coastal Oaks LLC

SITE PLAN

Scale 1" = 300 ft. or as shown

SITE LOCATION PLAN
(map from Maine Atlas
recommended)



SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP1 ☒ Test Pit ☐ Boring ☐
" Depth of Organic Horizon Above Mineral Soil

Observation Hole ☐ Test Pit ☐ Boring ☐
" Depth of Organic Horizon Above Mineral Soil

	Texture	Consistency	Color	Mottling
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	None Noted
20		LEDGE		
30				
40				
50				

	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	☐ Ground Water
<u>2</u> <u>All</u>	<u>4</u> %	<u>15</u> "	☐ Restrictive Layer
Profile Condition			☒ Bedrock
			☐ Pit Depth

Soil Classification	Slope	Limiting Factor	☐ Ground Water
Profile Condition	%	"	☐ Restrictive Layer
			☐ Bedrock
			☐ Pit Depth

W. J. Thompson

Site Evaluator Signature

263

SE #

09/27/2024

Date

Page 2 of 3
HHE-200 Rev. 02/11

755-3

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

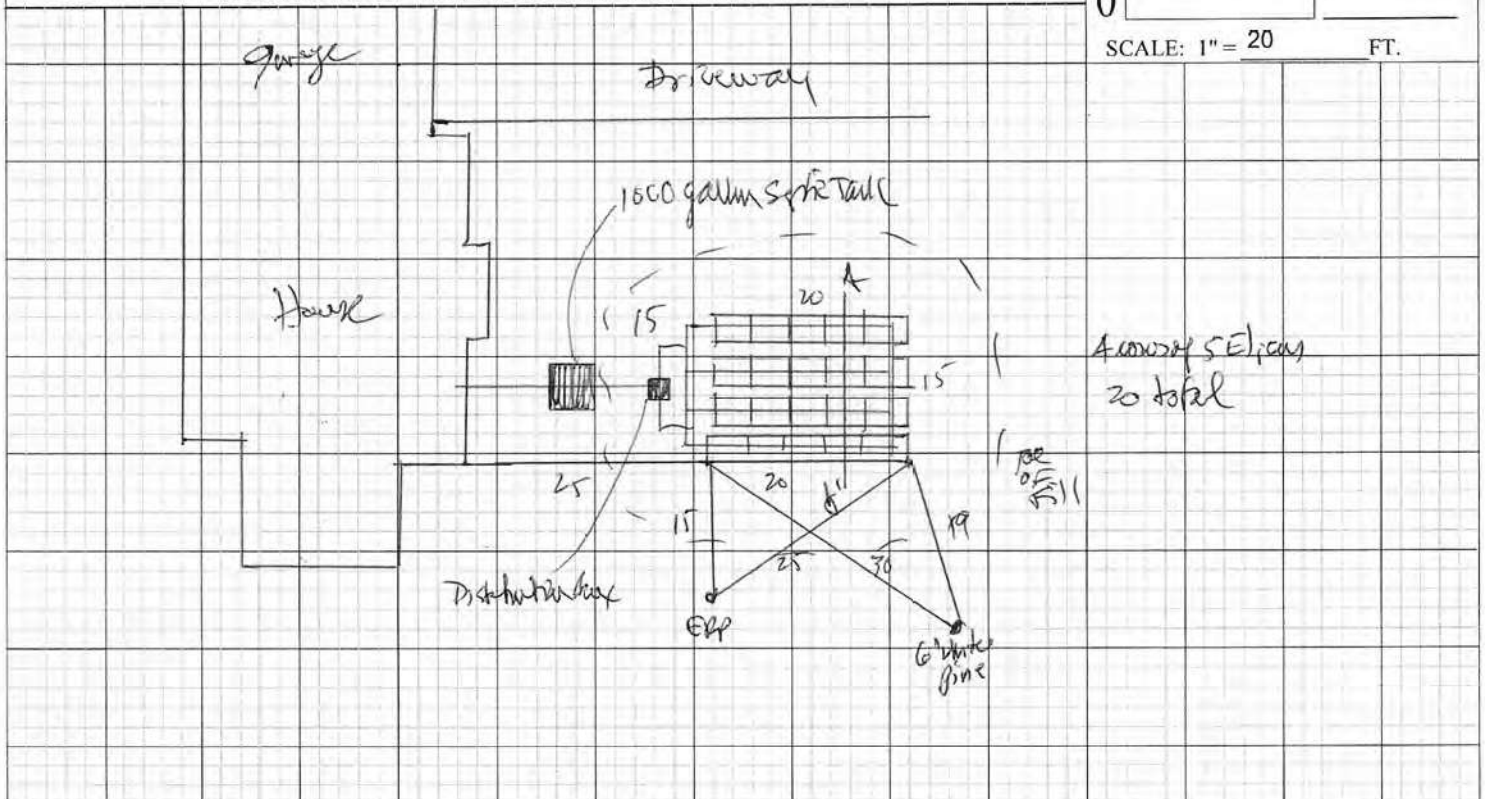
Town, City, Plantation
Biddeford

Street, Road, Subdivision
512 Pool Street Lot 2

Owner's Name
Coastal Oaks LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

0
SCALE: 1" = 20 FT.



FILL REQUIREMENTS

Depth of Fill (Upslope) 33
Depth of Fill (Downslope) 36

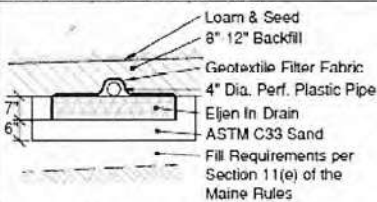
CONSTRUCTION ELEVATIONS

Finished Grade Elevation -23
Top of Distribution Pipe or Proprietary Device -35
Bottom of Disposal Area -46

ELEVATION REFERENCE POINT

Location & Description: Nail 54 inches up 10 inch diameter oak
Reference Elevation: 0

DISPOSAL AREA CROSS SECTION

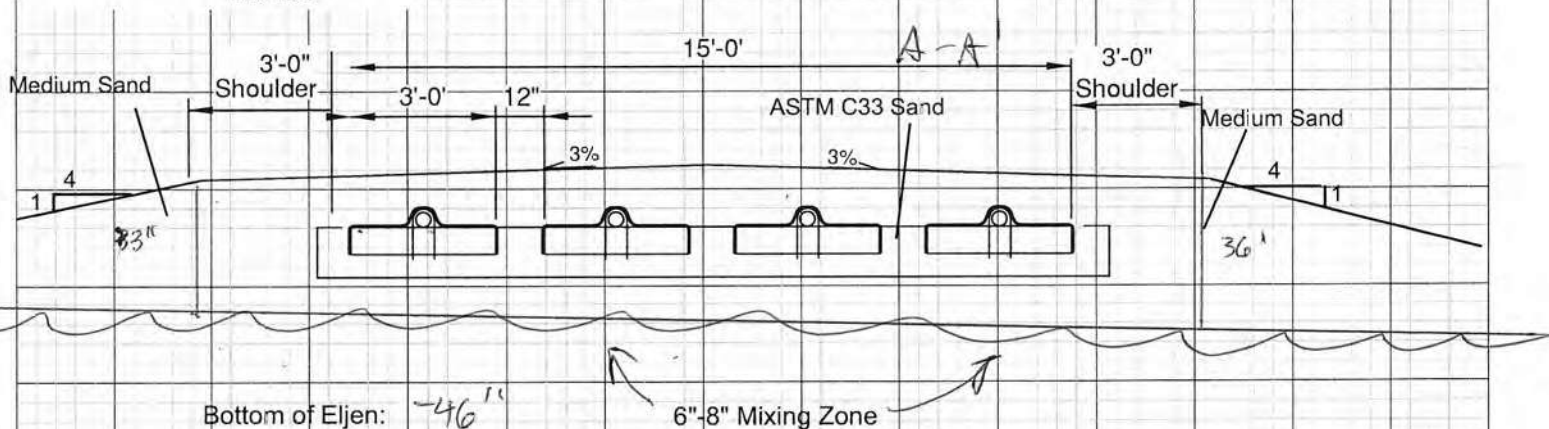


Note: All ground to be filled must be scarified.

Note: Materials and installation shall be in accordance with Maine Subsurface Wastewater Disposal Rules dated 9/23 as amended

Scale

Horizontal 1" = 4 ft.
Vertical 1" = 4 ft.



Site Evaluator Signature

263

SE #

09/27/2024

Date

Page 3 of 3
HHE-200 Rev. 02/11



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

HHE-200 Notes

(All work should be in accordance with the Maine Subsurface Wastewater Rules dated 9/23, as amended.)

Construction:

Construction of the disposal area should be done in dry conditions at temperatures above 32 degrees.

The ERP and ties points are not to be altered by anyone except the site evaluator.

Minimum distances:

- Septic tank to foundation or post (8 ft), well (50 ft), property line (10 ft)
- Disposal bed to foundation (20 feet), slab/post (15 feet), well (100 feet), property line (10 feet)

All septic tanks, pump stations, and pretreatment units must have a minimum of one watertight riser to grade, min. 18" wide.

All pump stations and pipes to be insulated with 2" of rigid polystyrene if to be installed above the frost line.

All distribution boxes to be set on a firm base, perfectly level, and backfilled appropriately to avoid any shifting. For Eljen In-drain designs, unless specified otherwise, two pipes must exit the side outlets of the distribution box into a manifold pipe which is connected to the distribution pipes that lay on top of the Eljen units.

Backfill on top of disposal beds must be graded to a minimum of 3% slope to avoid any ponding of surface water over the bed.

All ground to be filled must be scarified. All organic material to be removed, but the original soils must be maintained as much as possible. The top 6"-8" of soils to be broken up and loosened with backhoe teeth, etc. and minimum 4" of backfill material is to be mixed into the soil to create a mixing zone.

Any disposal bed installed partially or fully above original grade must have a minimum of a 3' shoulder before sloping at a 4:1 (or less).

Backfill material must be gravelly coarse sand as specified in Table 12A of Chap. 241, except for Eljen designs which require ASTM C33 sand (referred to as medium sand on design).

Disposal areas to be covered with a minimum of 4" of loam and seeded.

Use:

Septic tanks should be pumped on a regular basis, generally every 3 years, or when sludge and scum comprise approximately 1/3 of the tank capacity.

Garbage disposals are not recommended. This design has not incorporated the use of a garbage disposal or water treatment system unless specified.

No vehicular traffic should occur over any septic system component unless specified in the design.



APPENDIX H

CORRESPONDENCE

Drew Olehowski

From: Patrick Gere <Patrick.Gere@MaineWater.com>
Sent: Friday, December 20, 2024 8:45 AM
To: Ethan Scott; Drew Olehowski
Cc: KING WEINSTEIN KING REAL ESTATE
Subject: RE: 512 Pool St - Biddeford

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Folks,

Based on the test pits provided that indicate depth to ledge between 1.25 feet and 2.16 feet below ground surface, directional drilling is not feasible. Plan to install the waterworks infrastructure via open trench with extensive ledge removal.

We will need to see the location of the hydrant on the plans. The main will be 8-inch diameter to the hydrant and can reduce after the hydrant lateral. How many potential units are feasible in the rear lot? We want to ensure any future development will be appropriately served from the proposed main.

Thanks,
Patrick

Patrick Gere, PE
Project Engineer



Cell: 207-468-8808

From: Ethan Scott <ethanscottdevelopment@gmail.com>
Sent: Thursday, December 19, 2024 4:32 PM
To: Drew Olehowski <dolehowski@haleyward.com>
Cc: Patrick Gere <Patrick.Gere@MaineWater.com>; KING WEINSTEIN KING REAL ESTATE <king198@icloud.com>
Subject: Re: 512 Pool St - Biddeford

CAUTION: This email originated outside the SJWG organization.

Yes, see below for depths and attached corresponding plans. We want to leave the rear lot under our ownership, with potential future expansion. But no plans for that at the moment.

On Thu, Dec 19, 2024 at 3:33 PM Drew Olehowski <dolehowski@haleyward.com> wrote:

Thanks, Patrick.

- I'll let Ethan weigh in, but there are no plans for additional lots at this time.
- We just confirmed with the fire department that a hydrant will be required.

- It's my understanding that test pits may have already been done on Pool Street. Ethan can you confirm?

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488

This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author or HaleyWard, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone the information contained herein or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

From: Patrick Gere <Patrick.Gere@MaineWater.com>
Sent: Tuesday, December 17, 2024 2:31 PM
To: Drew Olehowski <dolehowski@haleyward.com>
Cc: Ethan Scott <ethanscottdevelopment@gmail.com>
Subject: RE: 512 Pool St - Biddeford

Hi Drew,

See attached plan markups and questions below.

- Are there plans for future expansion / additional units in Lot 9 remaining land?
- Are hydrants required?
- We will need to review test pits to confirm depth to ledge / ability to directional drill under Pool Street.
- Extend the proposed main through the Sokokis Rd intersection.

Thank you,

Patrick

Patrick Gere, PE

Project Engineer



Cell: 207-468-8808

From: Drew Olehowski <dolehowski@haleyward.com>
Sent: Tuesday, December 3, 2024 8:05 AM
To: Patrick Gere <Patrick.Gere@MaineWater.com>
Cc: Ethan Scott <ethanscottdevelopment@gmail.com>
Subject: RE: 512 Pool St - Biddeford

CAUTION: This email originated outside the SJWG organization.

Hi Patrick,

For this Preliminary Subdivision review, the City doesn't explicitly ask for the Ability to Serve determination, but they do require "Review by the water company." I'll need to check with the fire department on if a new hydrant is required.

I have attached our current plan set. Lot 1 already contains a serviced single-family home. Each of the other 7 lots will have a single-family home; the expected floor plan for these homes is attached.

As you'll see, our water infrastructure is still fairly schematic at this point. I am trying to get a hold of the City to see if they need more detail for this preliminary submission. Regarding additional info, are items such as sizes/materials/valves/blow off locations something you'd like us to show for your review, or is that something your department will request as needed?

Thank you,

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488

This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author or HaleyWard, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone the information contained herein, and you should not take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

From: Patrick Gere <Patrick.Gere@MaineWater.com>
Sent: Monday, December 2, 2024 11:44 AM

To: Drew Olehowski <dolehowski@haleyward.com>

Subject: RE: 512 Pool St - Biddeford

You don't often get email from patrick.gere@mainewater.com. [Learn why this is important](#)

Hi Drew,

You can send the plans to me for review. Do you need an Ability to Serve determination to support project permitting? If so, please provide us with either a fixture count or complete and return the IAPMO Water Demand Calculator to support the domestic service size determination.

<https://www.iapmo.org/we-stand/water-demand-calculator/>

Also include the fire service demand if required and currently known. Are you proposing hydrants within the subdivision?

Thank you,

Patrick

Patrick Gere, PE

Project Engineer



Cell: 207-468-8808

From: mintzh@mintz-hoke.com <mintzh@mintz-hoke.com>

Sent: Wednesday, November 27, 2024 8:59 AM

To: MWC - Mailbox - Customer Service <CustomerService@MaineWater.com>

Subject: The Form 'Contact Us Form' was submitted

CAUTION: This email originated outside the SJWG organization.



Contact Us Submission

Submission Details

Full Name

Drew J Olehowski

Company

Haley Ward

Street Address

512 Pool Street

City

Biddeford

State

Maine

Zip Code

04005

Phone

2075766488

Email Address

dolehowski@haleyward.com

Request for Copies

Other

Other

Hello, I am currently working on a proposed subdivision application for a 9-lot subdivision at 512 Pool Street in Biddeford. As part of municipal review, we are required to have our plans reviewed by the local water authority. Please let me know who I can share these plans with. Thank you,

Your Message or Question

▪

Drew Olehowski

From: Drew Olehowski
Sent: Tuesday, December 3, 2024 8:12 AM
To: Milligan, Tom; Chekan, Craig; edward.dexter@biddefordmaine.org; steven.gorton@biddefordmaine.org; Fecteau, Roby
Cc: Galbraith, David; Ethan Scott
Subject: 512 Pool Street preliminary subdivision
Attachments: 13871.019-SET.pdf

Good morning,

Attached is the current plan set for the proposed 512 Pool street subdivision. Per the City's Subdivision Required Information checklist, we are required to have this plan reviewed by City Engineering, Police, and Fire Departments. I am not sure if these reviews are supposed to happen before or after a formal submission; I have cc'd David for further instruction.

David,

Would it be possible for us to submit 1 copy of this application for a "completeness review," prior to the production of the additional copies?

Roby,

Ethan let me know you were looking for a plan set depicting existing and future wetland impacts. As shown on Sheet C101, the only impacts will be 1,500 SF directly adjacent to Pool Street. Building development areas will be restricted on each lot to avoid further impacts.

Thank you,



HALEY WARD
AN EMPLOYEE-OWNED COMPANY
HALEYWARD.COM

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488
a: 120 Main Street, Suite 132, Saco, ME 04072



This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Halley Ward, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone this message (or any part of its contents) or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyard.com.



APPENDIX I

STORMWATER MANAGEMENT REPORT



STORMWATER MANAGEMENT

NARRATIVE

The intent of this Stormwater Management Plan is to comply with the requirements of the Maine Department of Environmental Protection (MDEP) Chapter 500 regulations and The City of Biddeford's Land Use Ordinance. This project involves the development of a 9-lot subdivision at 512 Pool Street in Biddeford, Maine.

The subject parcel is approximately 17.45 acres and is undeveloped and wooded except for one single-family home that was constructed in 2024. The proposed subdivision area was also selectively harvested of existing woody vegetation, in accordance with a State-approved forestry plan (Harvest #2301688.)

Erosion control measures will be in place prior to the start of any construction. Temporary and permanent measures will be installed in accordance with the Erosion and Sedimentation Control Plan provided with this application. Upon completion of the construction and stabilization of all disturbed areas, the temporary erosion control measures will be removed.

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION – CHAPTER 500 STANDARDS.

The proposed development has been designed to adhere to the stormwater standards listed within The City's Land Use Ordinance. Because the applicant is proposing to develop both the access road and the lots, efforts have been made to keep the total proposed impervious area quantity below 1 acre, removing the need for an MDEP stormwater permit. The drawings include restrictions on the impervious area allowed per lot to ensure this limitation will be adhered to. Because the project will disturb greater than 1 acre of land area, a Permit by Rule will be filed with the MDEP.

CITY OF BIDDEFORD STANDARDS

The following sections of the Biddeford Land Use Code dictate the stormwater management requirements for this project. The ordinance language has been provided in bold italics, followed by a demonstration of how the applicable criteria have been met.

Article IV, Section 61 – Stormwater Management



- 1. All new construction and development, whether or not served by a stormwater collection and transportation system, shall be designed to reflect or resemble, as nearly as possible, natural runoff conditions in terms of volume, velocity and location of runoff.**
- 2. If runoff, after development, would exceed predevelopment runoff conditions, the offsite impact must be evaluated in terms of potential soil erosion and sedimentation, drainage capacity, and the land use/land cover characteristics. Appropriate methods of reducing off-site impact shall be employed.**
- 3. Stormwater management evaluations and designs shall be based on a twenty-four-hour, twenty-five-year occurrence interval storm.**
- 4. The Planning Board may, when it deems it appropriate, require calculations that are based on a fifty-year storm.**

To meet this standard, HydroCAD calculations were performed to compare pre-development and post-development conditions. Curve numbers and peak runoff flows were calculated using HydroCAD.

The pre-development site is undeveloped woodland. Soils on the site per the USDA web soil survey are classified as loams and rock outcrops (hydrologic group D.) Slopes on site vary, with some flat areas (0-2%), and many steep areas (15%+)

The pre-development drainage analysis area was broken into three sub-watersheds, with three summation points. The northeastern portion of the site drains to the northeast, with runoff collected alongside Pool Street and conveyed to the eastern side of the road via an existing cross culvert (Summation Point 1.) The center of the site drains to the southeast to a large wetland area (Summation Point 2.) The western corner of the site drains to the northwest, to another large wetland area (Summation Point 3.) The southern corner of the site drains to the south (Summation Point 4.)

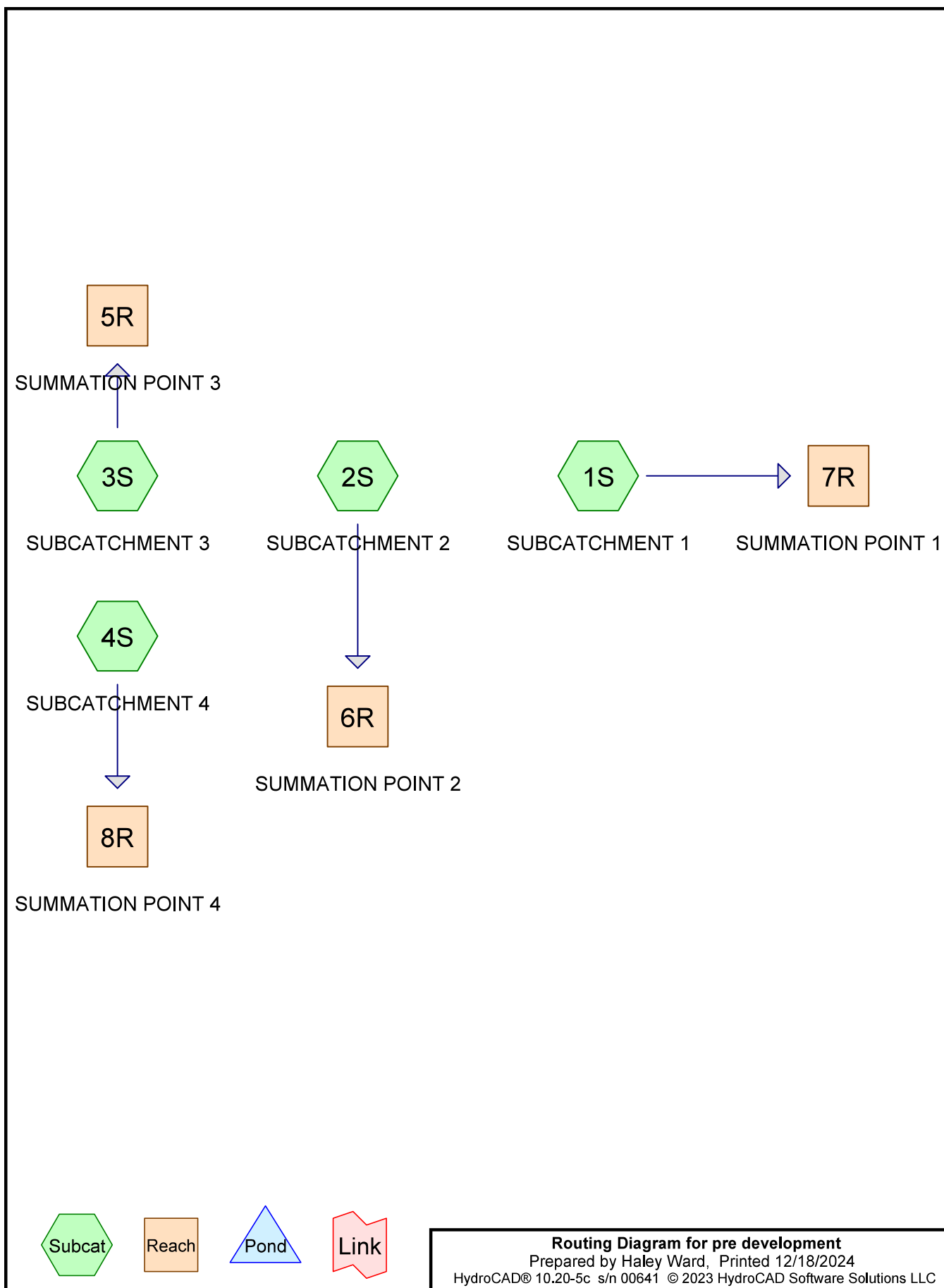
The post-development site was broken into 7 subareas encompassing the same footprint as the pre-development analysis area. Summation Points were chosen in similar areas between pre-development and post-development to compare peak flow runoff for the 2-year, 10-year, and 25-year storm events.

Based on results of the HydroCAD, it is expected that stormwater runoff from the site will be similar or lessened in post-development conditions as in pre-development conditions. Overall, it is expected that runoff from the site will be similar to post-development conditions and a similar stormwater runoff will be realized. A comparison of each of the watershed areas in both Pre- and Post-Development is organized in the table below.



		2 Year (cfs)	10 Year (cfs)	25 Year (cfs)	25 Year Net Change (cfs)
Summation Point 1	Pre	2.28	4.54	6.48	-0.16
	Post	2.89	4.80	6.32	
Summation Point 2	Pre	3.32	6.73	9.71	-0.25
	Post	4.01	7.01	9.46	
Summation Point 3	Pre	1.81	3.67	5.28	+0.36
	Post	2.14	4.04	5.64	
Summation Point 4	Pre	0.28	0.58	0.83	0
	Post	0.28	0.58	0.83	

As can be seen in the table above, all summation points will see similar post development flow rates. This was accomplished through the use of two stormwater detention areas with outlet controls. While there are minor increases observed, they are based on conservative modeling and can be considered insignificant (<1 cfs increase.) Within the HydroCAD model, each of the subdivision parcels were given the "1-acre/2-acre lot" cover type designation, implying that the entire lot would be developed. This is conservative, as each lot has been given an allowed development area envelope (shown on the subdivision plan,) which is only a fraction of the parcel size.



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 2

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=88,998 sf 6.84% Impervious Runoff Depth>1.24"
Flow Length=410' Tc=16.7 min CN=78 Runoff=2.28 cfs 0.210 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=201,036 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=730' Tc=40.2 min CN=77 Runoff=3.32 cfs 0.447 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=68,129 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=260' Tc=13.1 min CN=77 Runoff=1.81 cfs 0.153 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.28 cfs 0.023 af

Reach 5R: SUMMATIONPOINT 3 Inflow=1.81 cfs 0.153 af
Outflow=1.81 cfs 0.153 af

Reach 6R: SUMMATIONPOINT 2 Inflow=3.32 cfs 0.447 af
Outflow=3.32 cfs 0.447 af

Reach 7R: SUMMATIONPOINT 1 Inflow=2.28 cfs 0.210 af
Outflow=2.28 cfs 0.210 af

Reach 8R: SUMMATIONPOINT 4 Inflow=0.28 cfs 0.023 af
Outflow=0.28 cfs 0.023 af

Total Runoff Area = 8.452 ac Runoff Volume = 0.833 af Average Runoff Depth = 1.18"
98.35% Pervious = 8.312 ac 1.65% Impervious = 0.140 ac

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 3

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 2.28 cfs @ 12.24 hrs, Volume= 0.210 af, Depth> 1.24"
 Routed to Reach 7R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
82,911	77	Woods, Good, HSG D
* 6,087	98	IMPERVIOUS
88,998	78	Weighted Average
82,911		93.16% Pervious Area
6,087		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 3.32 cfs @ 12.58 hrs, Volume= 0.447 af, Depth> 1.16"
 Routed to Reach 6R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
201,036	77	Woods, Good, HSG D
201,036		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 4

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 1.81 cfs @ 12.19 hrs, Volume= 0.153 af, Depth> 1.18"
 Routed to Reach 5R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
68,129	77	Woods, Good, HSG D
68,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.5	45	0.1100	1.66		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.1	260	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 0.28 cfs @ 12.16 hrs, Volume= 0.023 af, Depth> 1.18"
 Routed to Reach 8R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			

Summary for Reach 5R: SUMMATION POINT 3

Inflow Area = 1.564 ac, 0.00% Impervious, Inflow Depth > 1.18" for 2 YEAR event
 Inflow = 1.81 cfs @ 12.19 hrs, Volume= 0.153 af
 Outflow = 1.81 cfs @ 12.19 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 5

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 6R: SUMMATION POINT 2

Inflow Area = 4.615 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 YEAR event
Inflow = 3.32 cfs @ 12.58 hrs, Volume= 0.447 af
Outflow = 3.32 cfs @ 12.58 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 7R: SUMMATION POINT 1

Inflow Area = 2.043 ac, 6.84% Impervious, Inflow Depth > 1.24" for 2 YEAR event
Inflow = 2.28 cfs @ 12.24 hrs, Volume= 0.210 af
Outflow = 2.28 cfs @ 12.24 hrs, Volume= 0.210 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 8R: SUMMATION POINT 4

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 1.18" for 2 YEAR event
Inflow = 0.28 cfs @ 12.16 hrs, Volume= 0.023 af
Outflow = 0.28 cfs @ 12.16 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=88,998 sf 6.84% Impervious Runoff Depth>2.44"
Flow Length=410' Tc=16.7 min CN=78 Runoff=4.54 cfs 0.415 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=201,036 sf 0.00% Impervious Runoff Depth>2.33"
Flow Length=730' Tc=40.2 min CN=77 Runoff=6.73 cfs 0.897 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=68,129 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=260' Tc=13.1 min CN=77 Runoff=3.67 cfs 0.307 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.58 cfs 0.045 af

Reach 5R: SUMMATIONPOINT 3 Inflow=3.67 cfs 0.307 af
Outflow=3.67 cfs 0.307 af

Reach 6R: SUMMATIONPOINT 2 Inflow=6.73 cfs 0.897 af
Outflow=6.73 cfs 0.897 af

Reach 7R: SUMMATIONPOINT 1 Inflow=4.54 cfs 0.415 af
Outflow=4.54 cfs 0.415 af

Reach 8R: SUMMATIONPOINT 4 Inflow=0.58 cfs 0.045 af
Outflow=0.58 cfs 0.045 af

Total Runoff Area = 8.452 ac Runoff Volume = 1.664 af Average Runoff Depth = 2.36"
98.35% Pervious = 8.312 ac 1.65% Impervious = 0.140 ac

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 2

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 4.54 cfs @ 12.23 hrs, Volume= 0.415 af, Depth> 2.44"
 Routed to Reach 7R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
82,911	77	Woods, Good, HSG D
* 6,087	98	IMPERVIOUS
88,998	78	Weighted Average
82,911		93.16% Pervious Area
6,087		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 6.73 cfs @ 12.56 hrs, Volume= 0.897 af, Depth> 2.33"
 Routed to Reach 6R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
201,036	77	Woods, Good, HSG D
201,036		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 3

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 3.67 cfs @ 12.19 hrs, Volume= 0.307 af, Depth> 2.36"
 Routed to Reach 5R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
68,129	77	Woods, Good, HSG D
68,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.5	45	0.1100	1.66		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.1	260	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 0.58 cfs @ 12.16 hrs, Volume= 0.045 af, Depth> 2.36"
 Routed to Reach 8R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			

Summary for Reach 5R: SUMMATION POINT 3

Inflow Area = 1.564 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10 YEAR event
 Inflow = 3.67 cfs @ 12.19 hrs, Volume= 0.307 af
 Outflow = 3.67 cfs @ 12.19 hrs, Volume= 0.307 af, Atten= 0%, Lag= 0.0 min

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 4

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 6R: SUMMATION POINT 2

Inflow Area = 4.615 ac, 0.00% Impervious, Inflow Depth > 2.33" for 10 YEAR event
Inflow = 6.73 cfs @ 12.56 hrs, Volume= 0.897 af
Outflow = 6.73 cfs @ 12.56 hrs, Volume= 0.897 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 7R: SUMMATION POINT 1

Inflow Area = 2.043 ac, 6.84% Impervious, Inflow Depth > 2.44" for 10 YEAR event
Inflow = 4.54 cfs @ 12.23 hrs, Volume= 0.415 af
Outflow = 4.54 cfs @ 12.23 hrs, Volume= 0.415 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 8R: SUMMATION POINT 4

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10 YEAR event
Inflow = 0.58 cfs @ 12.16 hrs, Volume= 0.045 af
Outflow = 0.58 cfs @ 12.16 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=88,998 sf 6.84% Impervious Runoff Depth>3.50"
Flow Length=410' Tc=16.7 min CN=78 Runoff=6.48 cfs 0.596 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=201,036 sf 0.00% Impervious Runoff Depth>3.38"
Flow Length=730' Tc=40.2 min CN=77 Runoff=9.71 cfs 1.299 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=68,129 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=260' Tc=13.1 min CN=77 Runoff=5.28 cfs 0.444 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.83 cfs 0.065 af

Reach 5R: SUMMATIONPOINT 3 Inflow=5.28 cfs 0.444 af
Outflow=5.28 cfs 0.444 af

Reach 6R: SUMMATIONPOINT 2 Inflow=9.71 cfs 1.299 af
Outflow=9.71 cfs 1.299 af

Reach 7R: SUMMATIONPOINT 1 Inflow=6.48 cfs 0.596 af
Outflow=6.48 cfs 0.596 af

Reach 8R: SUMMATIONPOINT 4 Inflow=0.83 cfs 0.065 af
Outflow=0.83 cfs 0.065 af

Total Runoff Area = 8.452 ac Runoff Volume = 2.405 af Average Runoff Depth = 3.41"
98.35% Pervious = 8.312 ac 1.65% Impervious = 0.140 ac

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 2

Summary for Subcatchment 1S: SUBCATCHMENT 1

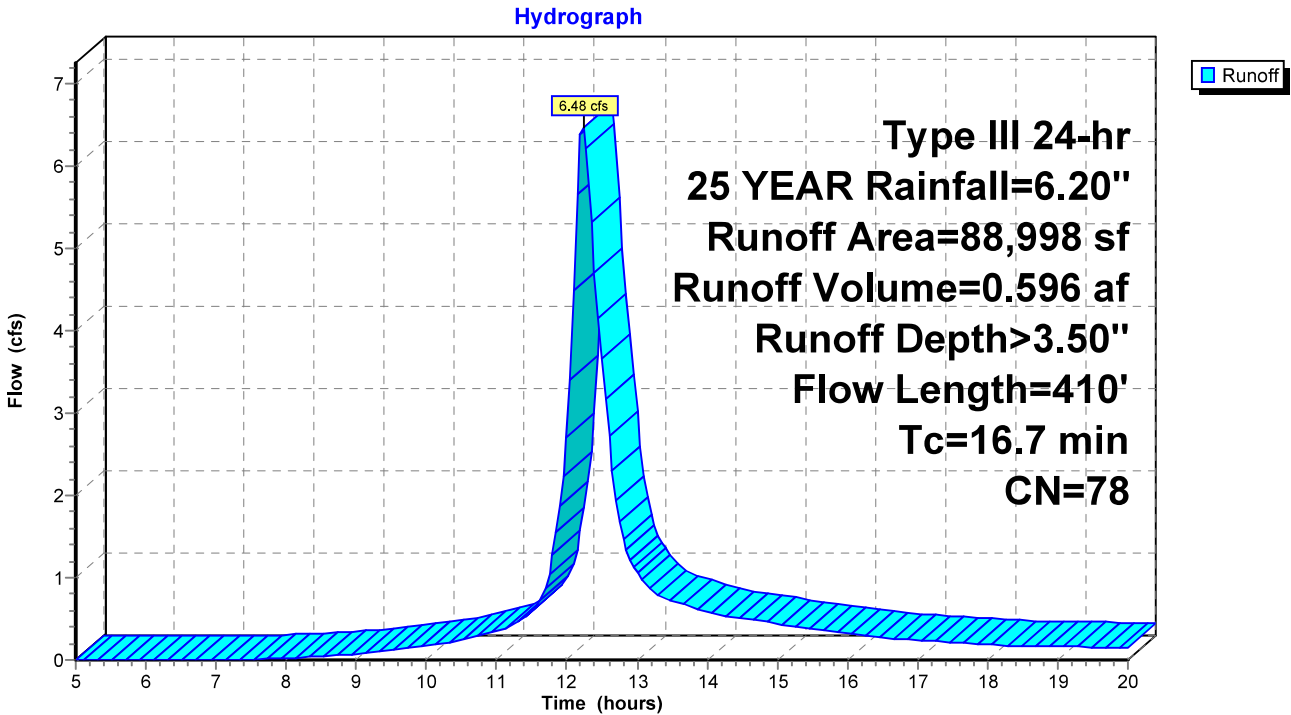
Runoff = 6.48 cfs @ 12.23 hrs, Volume= 0.596 af, Depth> 3.50"
Routed to Reach 7R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
82,911	77	Woods, Good, HSG D
* 6,087	98	IMPERVIOUS
88,998	78	Weighted Average
82,911		93.16% Pervious Area
6,087		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			

Subcatchment 1S: SUBCATCHMENT 1



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 3

Summary for Subcatchment 2S: SUBCATCHMENT 2

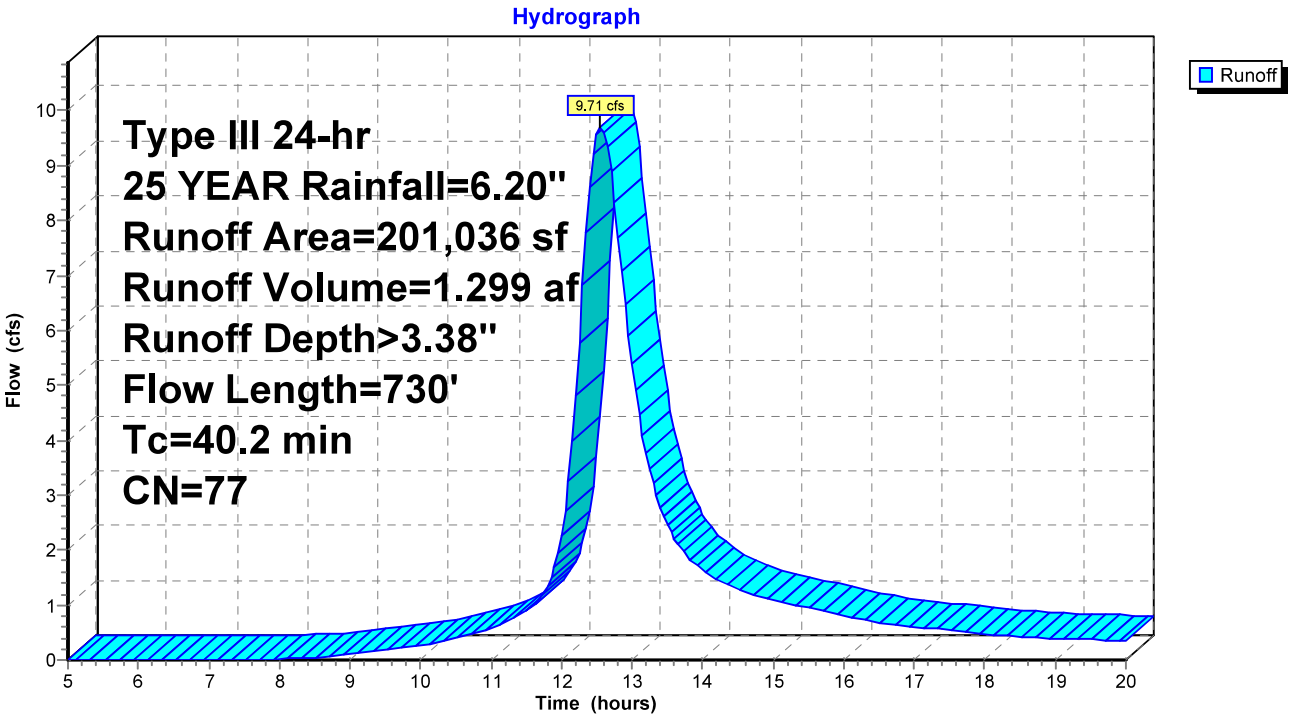
Runoff = 9.71 cfs @ 12.55 hrs, Volume= 1.299 af, Depth> 3.38"
Routed to Reach 6R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
201,036	77	Woods, Good, HSG D
201,036		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			

Subcatchment 2S: SUBCATCHMENT 2



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 4

Summary for Subcatchment 3S: SUBCATCHMENT 3

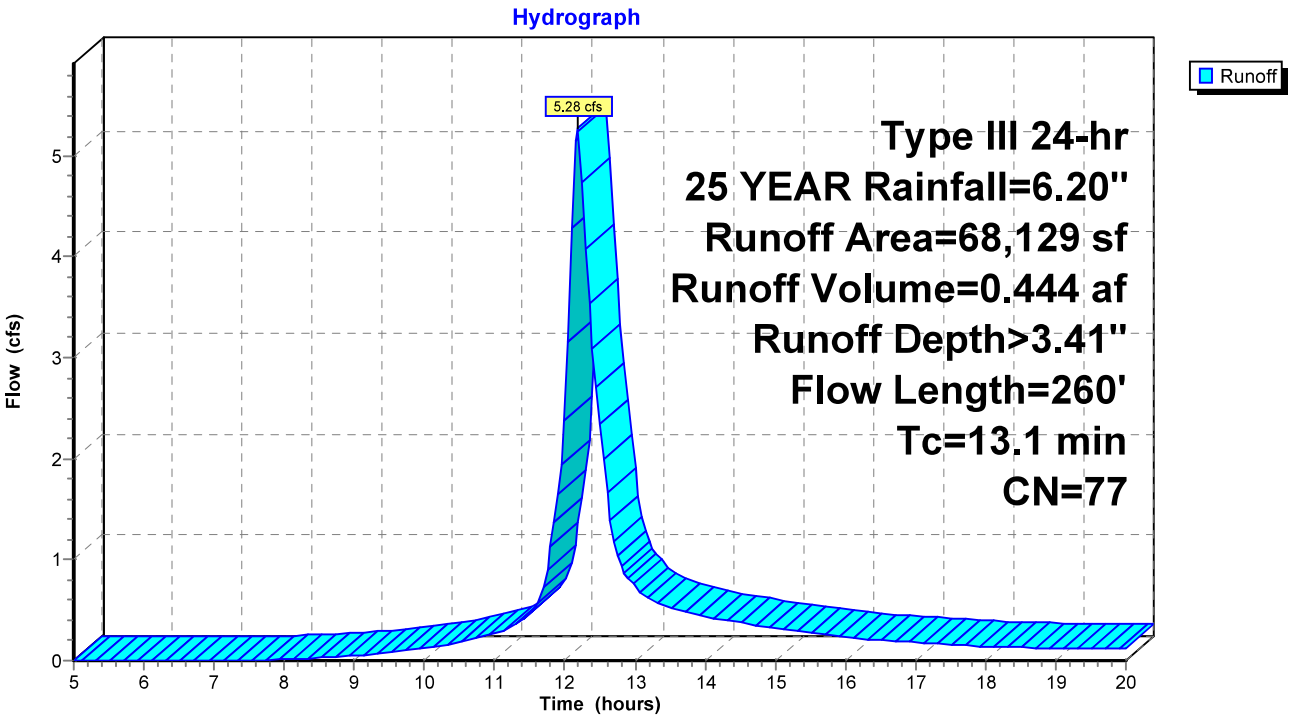
Runoff = 5.28 cfs @ 12.18 hrs, Volume= 0.444 af, Depth> 3.41"
Routed to Reach 5R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
68,129	77	Woods, Good, HSG D
68,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.5	45	0.1100	1.66		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.1	260	Total			

Subcatchment 3S: SUBCATCHMENT 3



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 5

Summary for Subcatchment 4S: SUBCATCHMENT 4

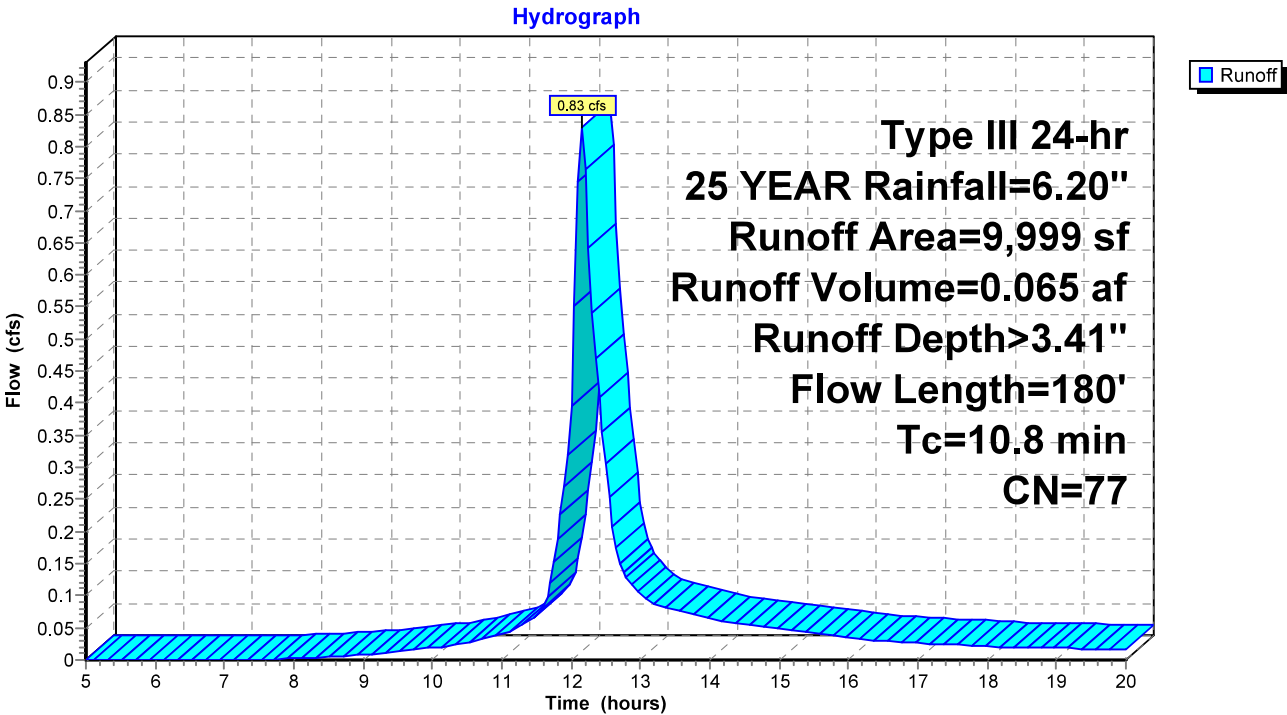
Runoff = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af, Depth> 3.41"
Routed to Reach 8R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			

Subcatchment 4S: SUBCATCHMENT 4



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 6

Summary for Reach 5R: SUMMATION POINT 3

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

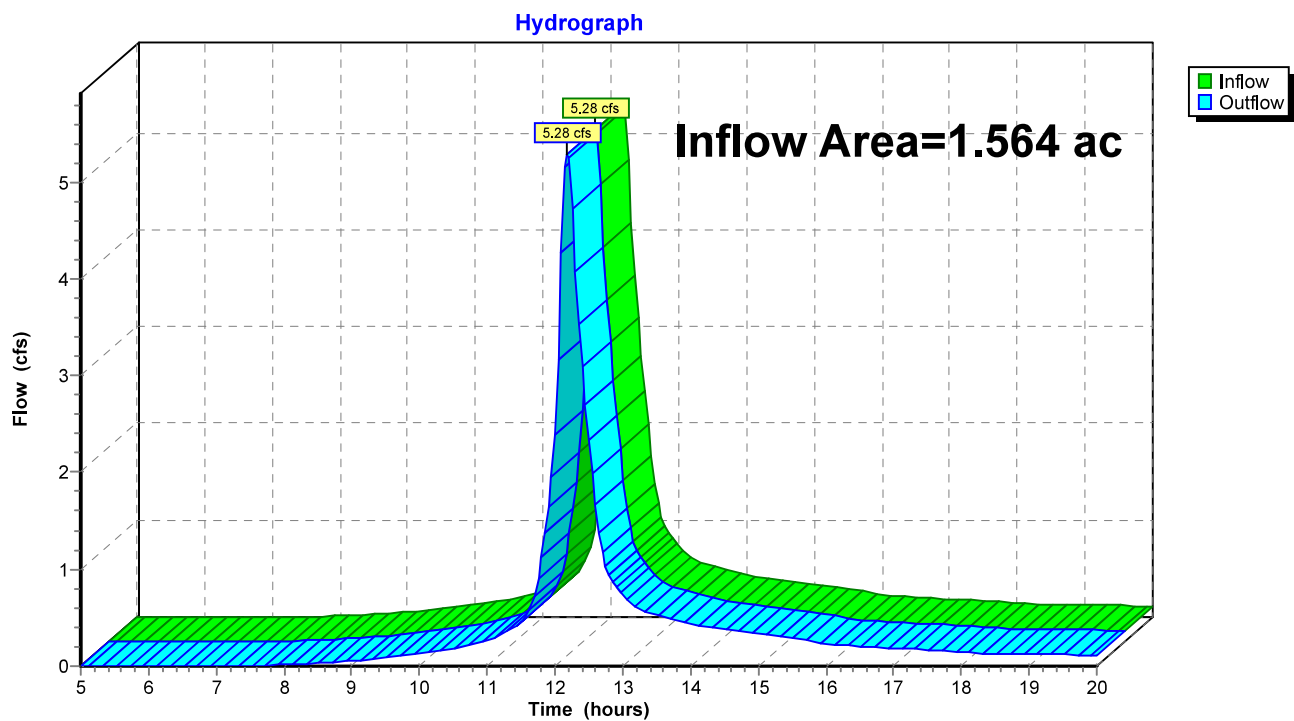
Inflow Area = 1.564 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25 YEAR event

Inflow = 5.28 cfs @ 12.18 hrs, Volume= 0.444 af

Outflow = 5.28 cfs @ 12.18 hrs, Volume= 0.444 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 5R: SUMMATION POINT 3



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 7

Summary for Reach 6R: SUMMATION POINT 2

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

Inflow Area = 4.615 ac, 0.00% Impervious, Inflow Depth > 3.38" for 25 YEAR event

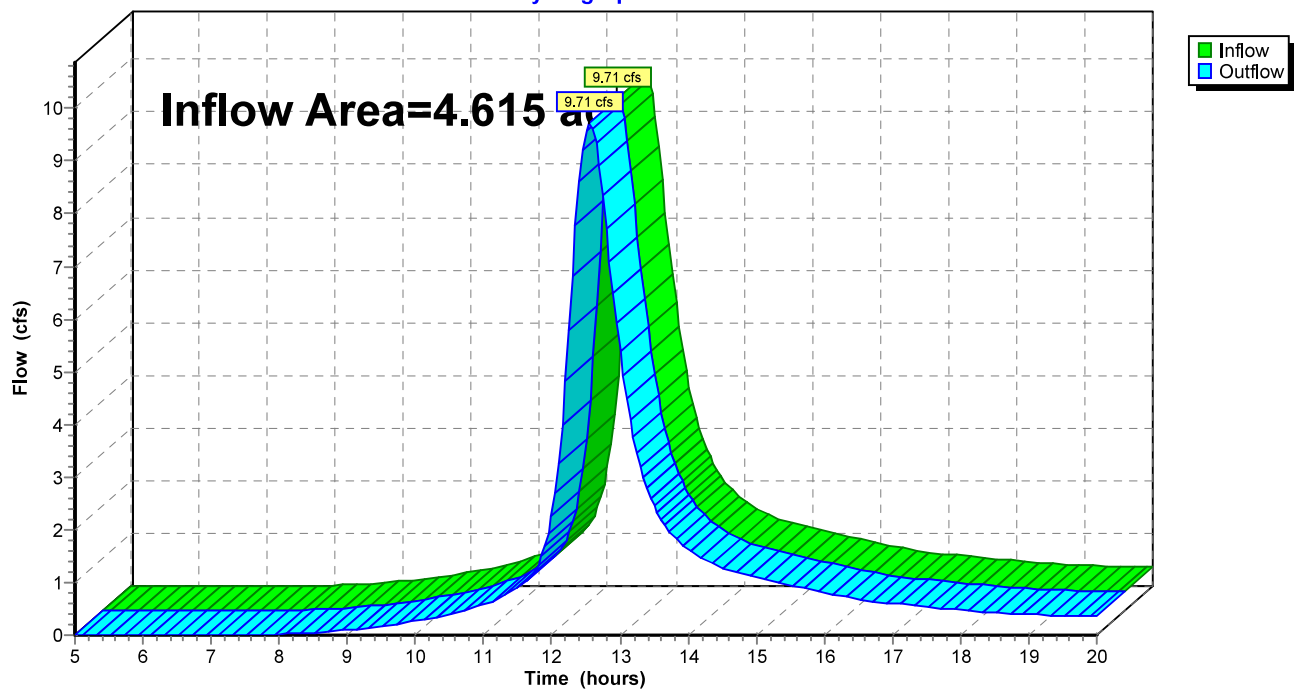
Inflow = 9.71 cfs @ 12.55 hrs, Volume= 1.299 af

Outflow = 9.71 cfs @ 12.55 hrs, Volume= 1.299 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 6R: SUMMATION POINT 2

Hydrograph



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 8

Summary for Reach 7R: SUMMATION POINT 1

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

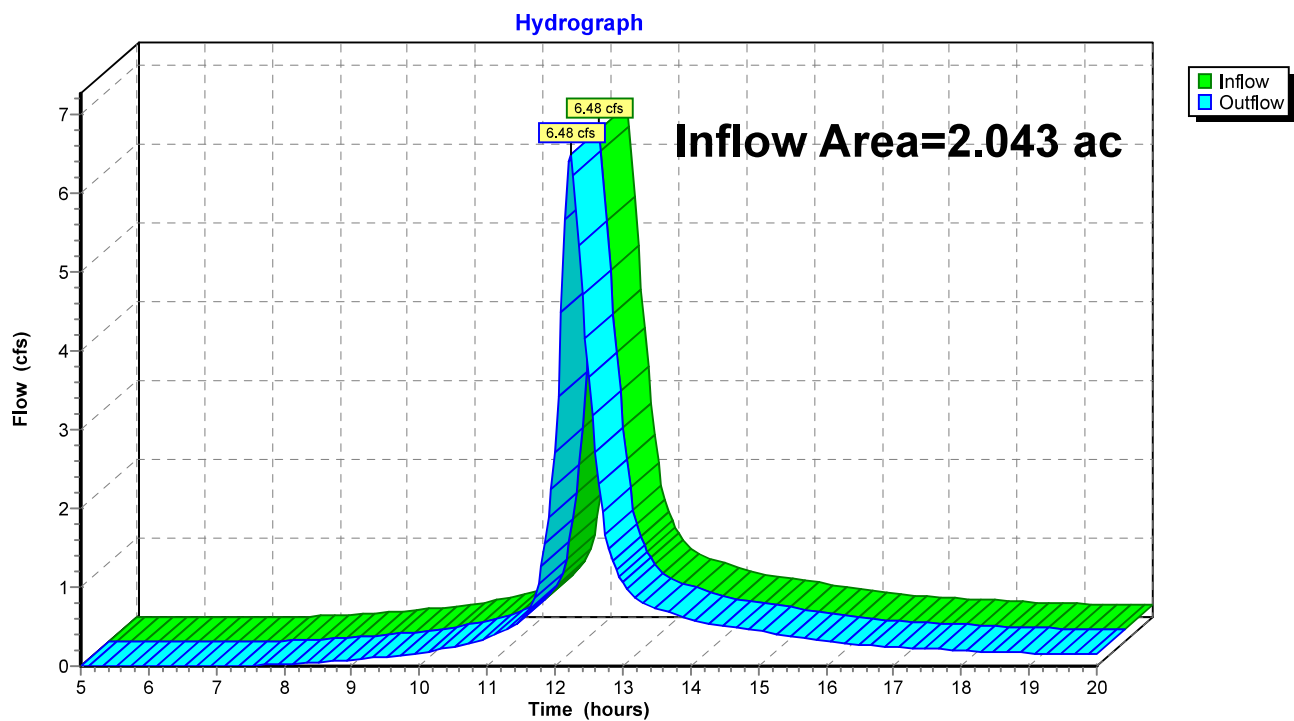
Inflow Area = 2.043 ac, 6.84% Impervious, Inflow Depth > 3.50" for 25 YEAR event

Inflow = 6.48 cfs @ 12.23 hrs, Volume= 0.596 af

Outflow = 6.48 cfs @ 12.23 hrs, Volume= 0.596 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 7R: SUMMATION POINT 1



Summary for Reach 8R: SUMMATION POINT 4

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

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25 YEAR event

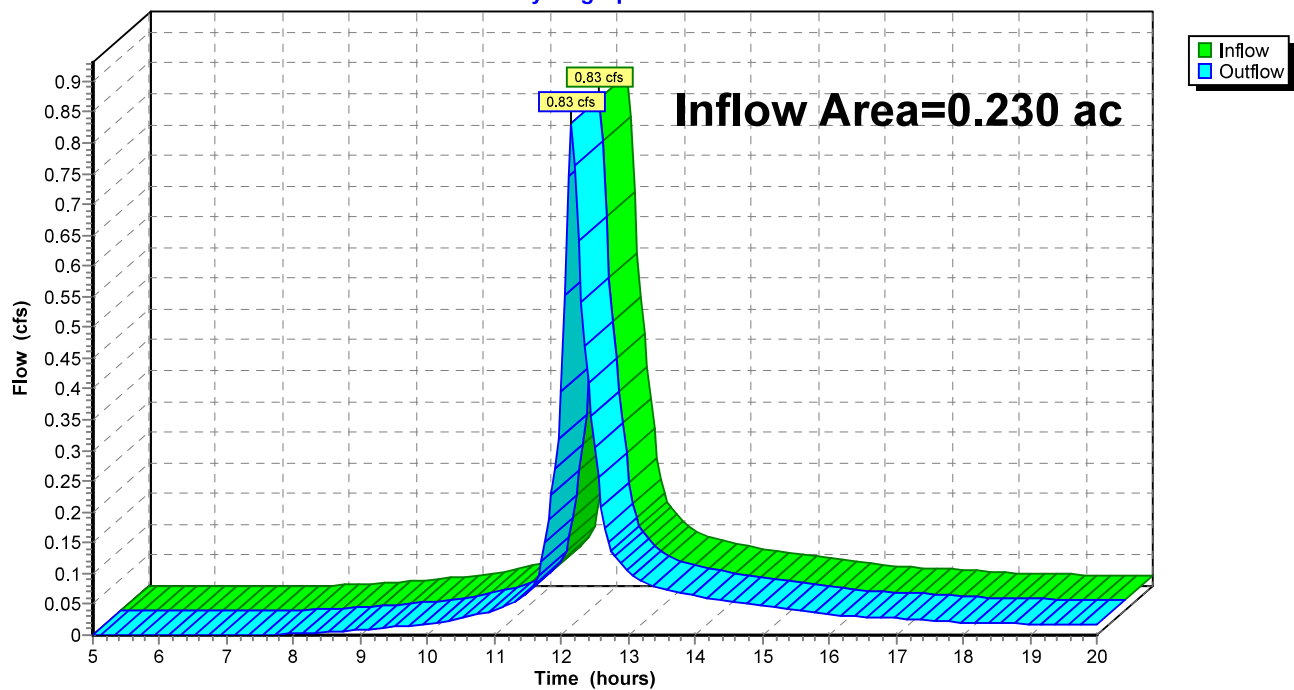
Inflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af

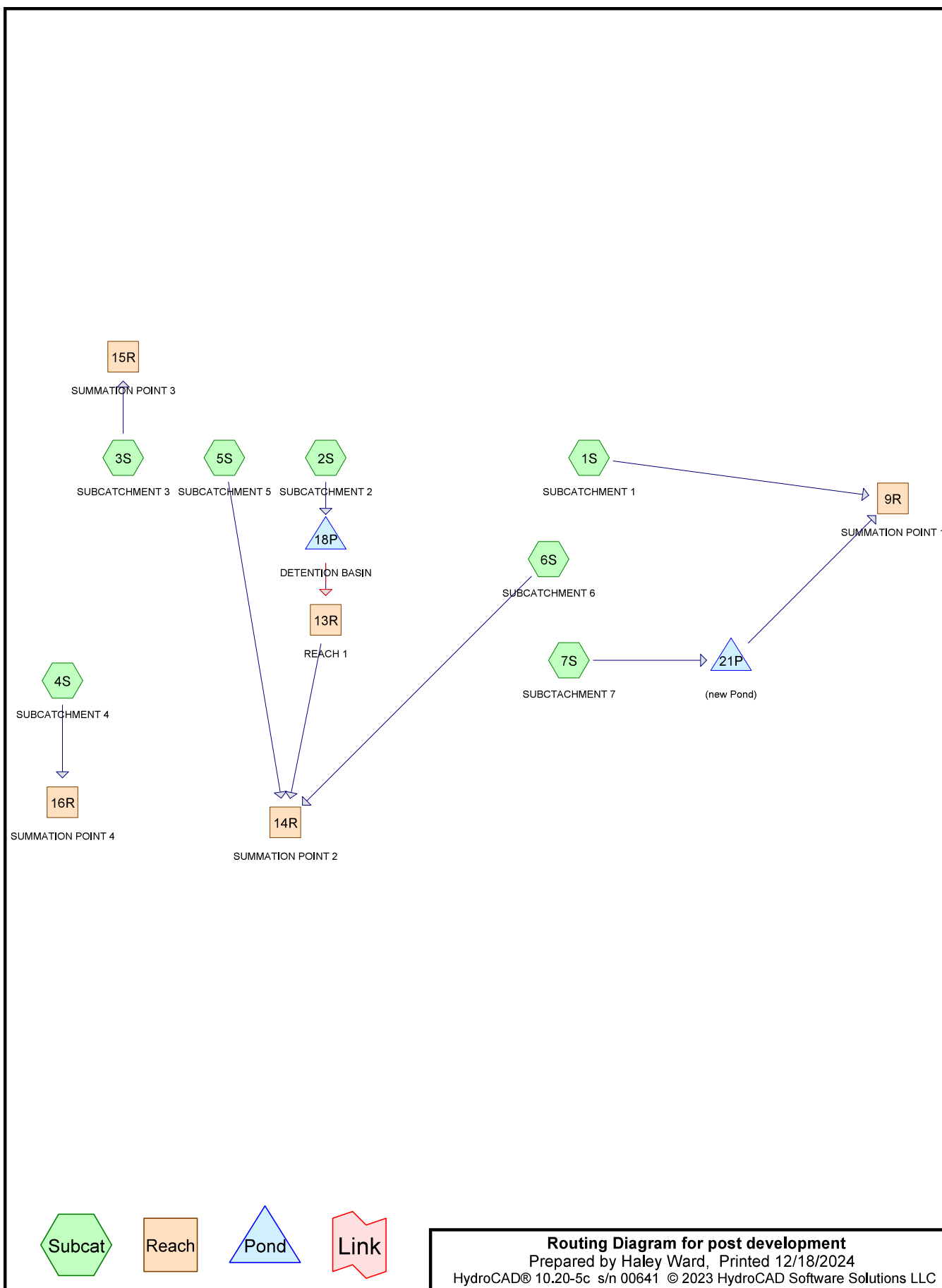
Outflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: SUMMATION POINT 4

Hydrograph





post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 2

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=59,711 sf 28.77% Impervious Runoff Depth>1.71"
Flow Length=410' Tc=16.7 min CN=85 Runoff=2.14 cfs 0.196 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=43,473 sf 28.04% Impervious Runoff Depth>1.71"
Flow Length=206' Slope=0.0600 '/' Tc=14.6 min CN=85 Runoff=1.64 cfs 0.143 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=65,439 sf 12.31% Impervious Runoff Depth>1.43"
Flow Length=260' Tc=12.9 min CN=81 Runoff=2.14 cfs 0.179 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.28 cfs 0.023 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=10,683 sf 42.72% Impervious Runoff Depth>1.88"
Tc=5.0 min CN=87 Runoff=0.57 cfs 0.038 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=146,086 sf 17.30% Impervious Runoff Depth>1.55"
Flow Length=730' Tc=40.2 min CN=83 Runoff=3.26 cfs 0.434 af

Subcatchment7S: SUBCATCHMENT7 Runoff Area=32,744 sf 29.08% Impervious Runoff Depth>1.72"
Flow Length=215' Tc=8.2 min CN=85 Runoff=1.49 cfs 0.108 af

Reach 9R: SUMMATIONPOINT 1 Inflow=2.89 cfs 0.303 af
Outflow=2.89 cfs 0.303 af

Reach 13R: REACH 1 Avg. Flow Depth=0.05' Max Vel=0.95 fps Inflow=0.66 cfs 0.138 af
n=0.035 L=130.0' S=0.0300 '/' Capacity=118.23 cfs Outflow=0.66 cfs 0.137 af

Reach 14R: SUMMATIONPOINT 2 Inflow=4.01 cfs 0.610 af
Outflow=4.01 cfs 0.610 af

Reach 15R: SUMMATIONPOINT 3 Inflow=2.14 cfs 0.179 af
Outflow=2.14 cfs 0.179 af

Reach 16R: SUMMATIONPOINT 4 Inflow=0.28 cfs 0.023 af
Outflow=0.28 cfs 0.023 af

Pond 18P: DETENTION BASIN Peak Elev=59.03' Storage=1,902 cf Inflow=1.64 cfs 0.143 af
Primary=0.66 cfs 0.138 af Secondary=0.00 cfs 0.000 af Outflow=0.66 cfs 0.138 af

Pond 21P: (new Pond) Peak Elev=53.47' Storage=811 cf Inflow=1.49 cfs 0.108 af
Outflow=0.76 cfs 0.107 af

Total Runoff Area = 8.451 ac Runoff Volume = 1.120 af Average Runoff Depth = 1.59"
79.14% Pervious = 6.688 ac 20.86% Impervious = 1.763 ac

post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=59,711 sf 28.77% Impervious Runoff Depth>3.07"
Flow Length=410' Tc=16.7 min CN=85 Runoff=3.77 cfs 0.350 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=43,473 sf 28.04% Impervious Runoff Depth>3.07"
Flow Length=206' Slope=0.0600 '/' Tc=14.6 min CN=85 Runoff=2.90 cfs 0.255 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=65,439 sf 12.31% Impervious Runoff Depth>2.70"
Flow Length=260' Tc=12.9 min CN=81 Runoff=4.04 cfs 0.338 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.58 cfs 0.045 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=10,683 sf 42.72% Impervious Runoff Depth>3.27"
Tc=5.0 min CN=87 Runoff=0.99 cfs 0.067 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=146,086 sf 17.30% Impervious Runoff Depth>2.86"
Flow Length=730' Tc=40.2 min CN=83 Runoff=5.94 cfs 0.799 af

Subcatchment7S: SUBCATCHMENT7 Runoff Area=32,744 sf 29.08% Impervious Runoff Depth>3.08"
Flow Length=215' Tc=8.2 min CN=85 Runoff=2.62 cfs 0.193 af

Reach 9R: SUMMATIONPOINT 1 Inflow=4.80 cfs 0.543 af
Outflow=4.80 cfs 0.543 af

Reach 13R: REACH 1 Avg. Flow Depth=0.06' Max Vel=1.08 fps Inflow=0.92 cfs 0.249 af
n=0.035 L=130.0' S=0.0300 '/' Capacity=118.23 cfs Outflow=0.92 cfs 0.249 af

Reach 14R: SUMMATIONPOINT 2 Inflow=7.01 cfs 1.115 af
Outflow=7.01 cfs 1.115 af

Reach 15R: SUMMATIONPOINT 3 Inflow=4.04 cfs 0.338 af
Outflow=4.04 cfs 0.338 af

Reach 16R: SUMMATIONPOINT 4 Inflow=0.58 cfs 0.045 af
Outflow=0.58 cfs 0.045 af

Pond 18P: DETENTION BASIN Peak Elev=59.77' Storage=3,717 cf Inflow=2.90 cfs 0.255 af
Primary=0.92 cfs 0.249 af Secondary=0.00 cfs 0.000 af Outflow=0.92 cfs 0.249 af

Pond 21P: (new Pond) Peak Elev=53.85' Storage=1,809 cf Inflow=2.62 cfs 0.193 af
Outflow=1.07 cfs 0.192 af

Total Runoff Area = 8.451 ac Runoff Volume = 2.048 af Average Runoff Depth = 2.91"
79.14% Pervious = 6.688 ac 20.86% Impervious = 1.763 ac

post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=59,711 sf 28.77% Impervious Runoff Depth>4.22"
Flow Length=410' Tc=16.7 min CN=85 Runoff=5.14 cfs 0.482 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=43,473 sf 28.04% Impervious Runoff Depth>4.22"
Flow Length=206' Slope=0.0600 '/' Tc=14.6 min CN=85 Runoff=3.93 cfs 0.351 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=65,439 sf 12.31% Impervious Runoff Depth>3.81"
Flow Length=260' Tc=12.9 min CN=81 Runoff=5.64 cfs 0.477 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.83 cfs 0.065 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=10,683 sf 42.72% Impervious Runoff Depth>4.45"
Tc=5.0 min CN=87 Runoff=1.32 cfs 0.091 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=146,086 sf 17.30% Impervious Runoff Depth>3.98"
Flow Length=730' Tc=40.2 min CN=83 Runoff=8.19 cfs 1.113 af

Subcatchment7S: SUBCATCHMENT7 Runoff Area=32,744 sf 29.08% Impervious Runoff Depth>4.23"
Flow Length=215' Tc=8.2 min CN=85 Runoff=3.55 cfs 0.265 af

Reach 9R: SUMMATIONPOINT 1 Inflow=6.32 cfs 0.747 af
Outflow=6.32 cfs 0.747 af

Reach 13R: REACH 1 Avg. Flow Depth=0.06' Max Vel=1.14 fps Inflow=1.08 cfs 0.344 af
n=0.035 L=130.0' S=0.0300 '/' Capacity=118.23 cfs Outflow=1.08 cfs 0.344 af

Reach 14R: SUMMATIONPOINT 2 Inflow=9.46 cfs 1.548 af
Outflow=9.46 cfs 1.548 af

Reach 15R: SUMMATIONPOINT 3 Inflow=5.64 cfs 0.477 af
Outflow=5.64 cfs 0.477 af

Reach 16R: SUMMATIONPOINT 4 Inflow=0.83 cfs 0.065 af
Outflow=0.83 cfs 0.065 af

Pond 18P: DETENTION BASIN Peak Elev=60.34' Storage=5,385 cf Inflow=3.93 cfs 0.351 af
Primary=1.08 cfs 0.344 af Secondary=0.00 cfs 0.000 af Outflow=1.08 cfs 0.344 af

Pond 21P: (new Pond) Peak Elev=54.15' Storage=2,791 cf Inflow=3.55 cfs 0.265 af
Outflow=1.26 cfs 0.265 af

Total Runoff Area = 8.451 ac Runoff Volume = 2.845 af Average Runoff Depth = 4.04"
79.14% Pervious = 6.688 ac 20.86% Impervious = 1.763 ac

post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 2

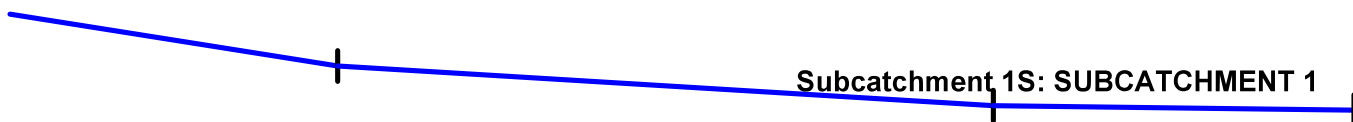
Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 5.14 cfs @ 12.22 hrs, Volume= 0.482 af, Depth> 4.22"
 Routed to Reach 9R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
8,027	77	Woods, Good, HSG D
* 6,604	98	IMPERVIOUS
2,772	80	>75% Grass cover, Good, HSG D
42,308	85	1/2 acre lots, 25% imp, HSG D
59,711	85	Weighted Average
42,530		71.23% Pervious Area
17,181		28.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			



post development

Prepared by Haley Ward

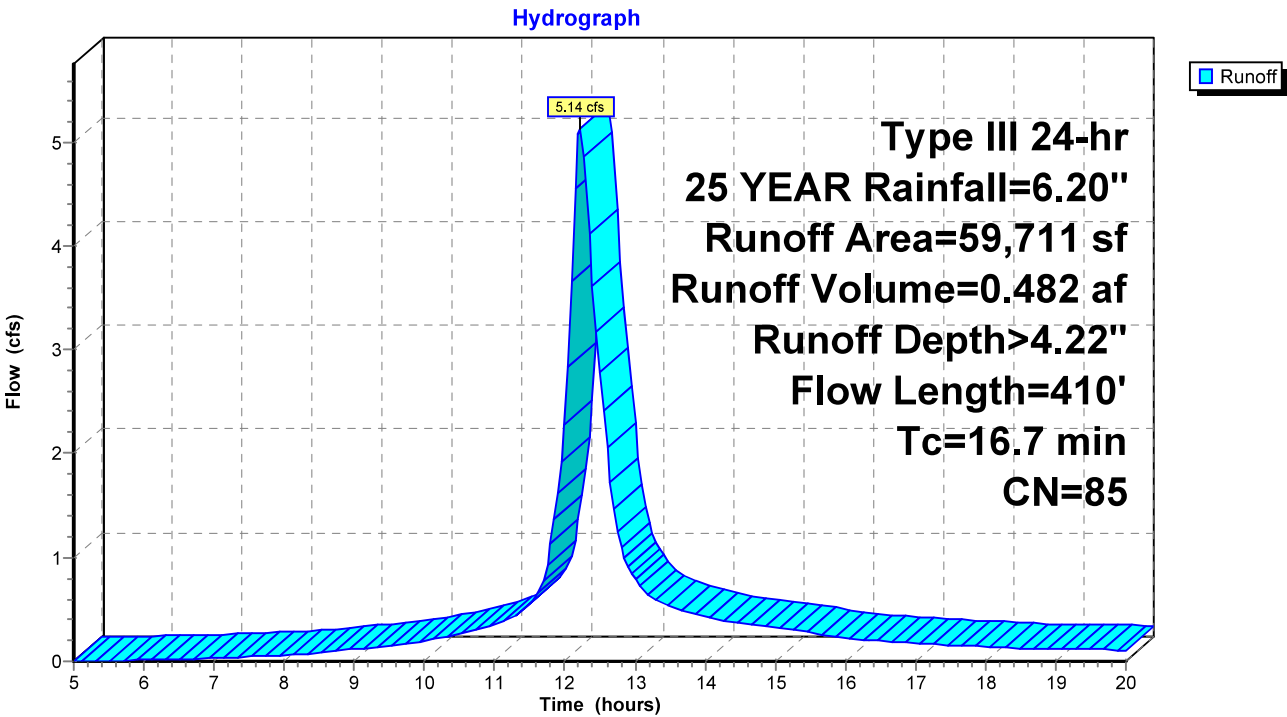
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 3

Subcatchment 1S: SUBCATCHMENT 1



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 4

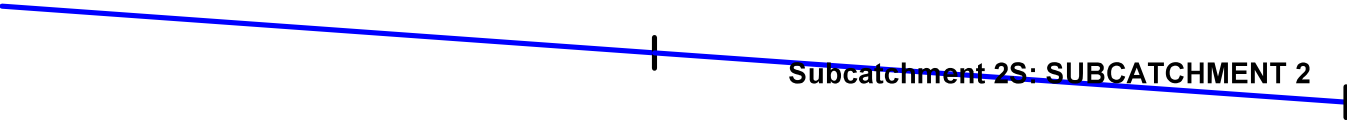
Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 3.93 cfs @ 12.20 hrs, Volume= 0.351 af, Depth> 4.22"
Routed to Pond 18P : DETENTION BASIN

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 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
	761	77	Woods, Good, HSG D
*	4,834	98	IMPERVIOUS
	8,459	80	>75% Grass cover, Good, HSG D
	29,419	85	1/2 acre lots, 25% imp, HSG D
	43,473	85	Weighted Average
	31,284		71.96% Pervious Area
	12,189		28.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	100	0.0600	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	106	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
14.6	206	Total			



post development

Prepared by Haley Ward

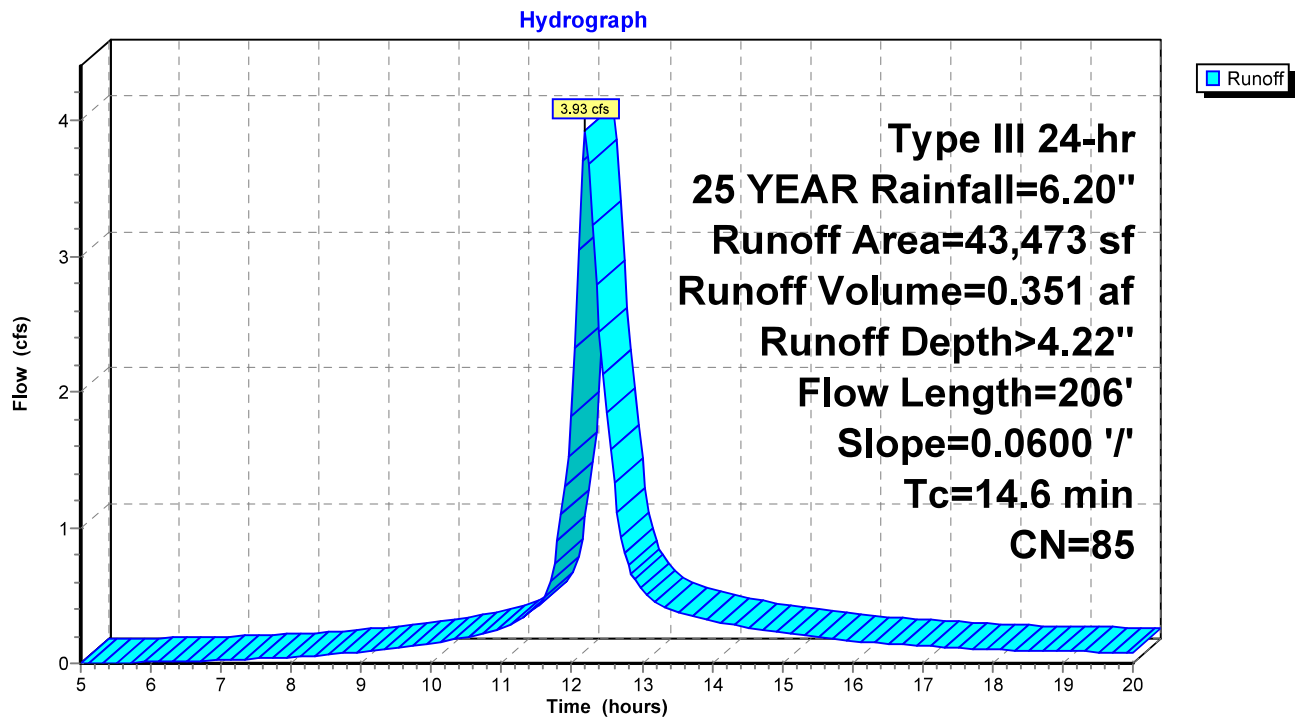
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 5

Subcatchment 2S: SUBCATCHMENT 2



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 6

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 5.64 cfs @ 12.18 hrs, Volume= 0.477 af, Depth> 3.81"
Routed to Reach 15R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
33,227	77	Woods, Good, HSG D
32,212	85	1/2 acre lots, 25% imp, HSG D
65,439	81	Weighted Average
57,386		87.69% Pervious Area
8,053		12.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	45	0.1100	2.32		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.9	260	Total			



post development

Prepared by Haley Ward

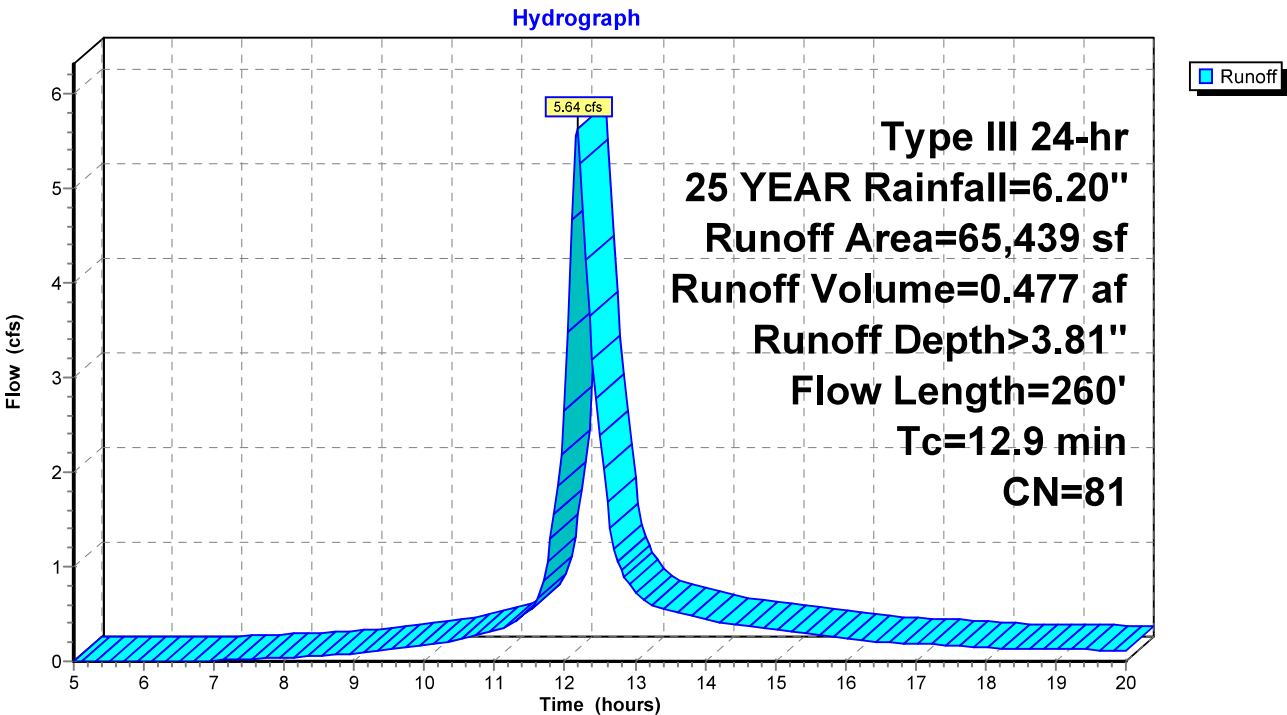
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 7

Subcatchment 3S: SUBCATCHMENT 3



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 8

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af, Depth> 3.41"
Routed to Reach 16R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

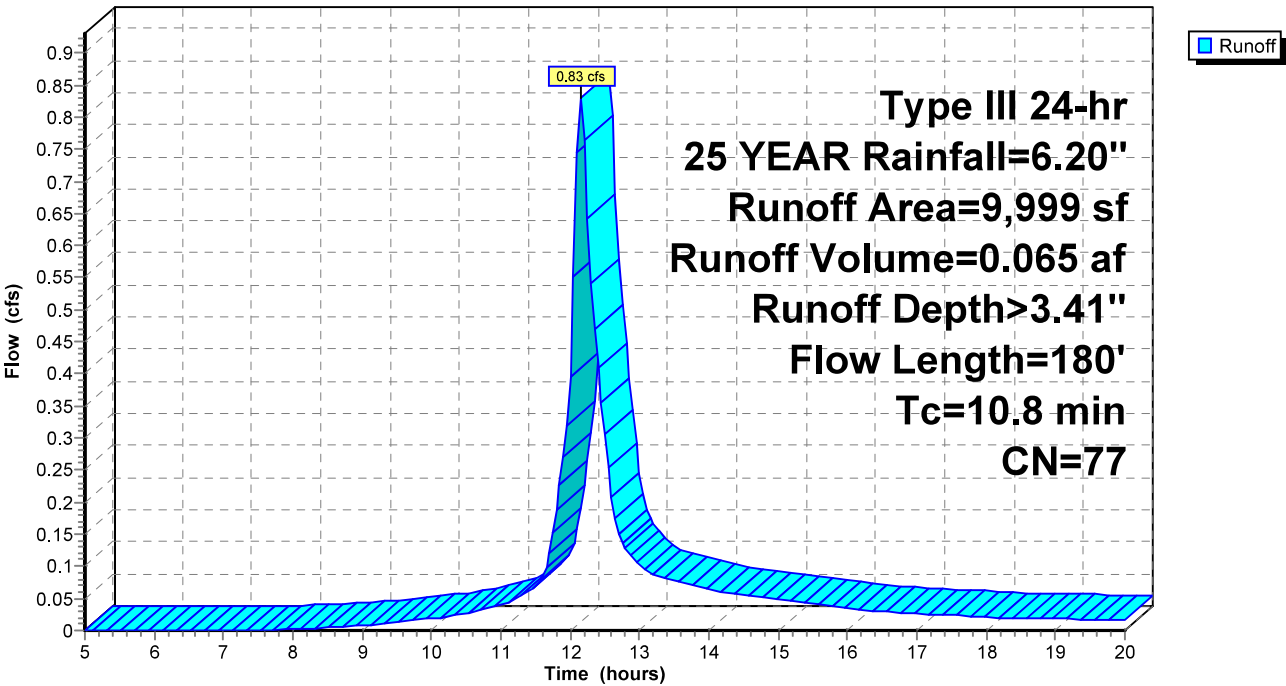
Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			



Subcatchment 4S: SUBCATCHMENT 4

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 9

Summary for Subcatchment 5S: SUBCATCHMENT 5[49] Hint: $T_c < 2dt$ may require smaller dt

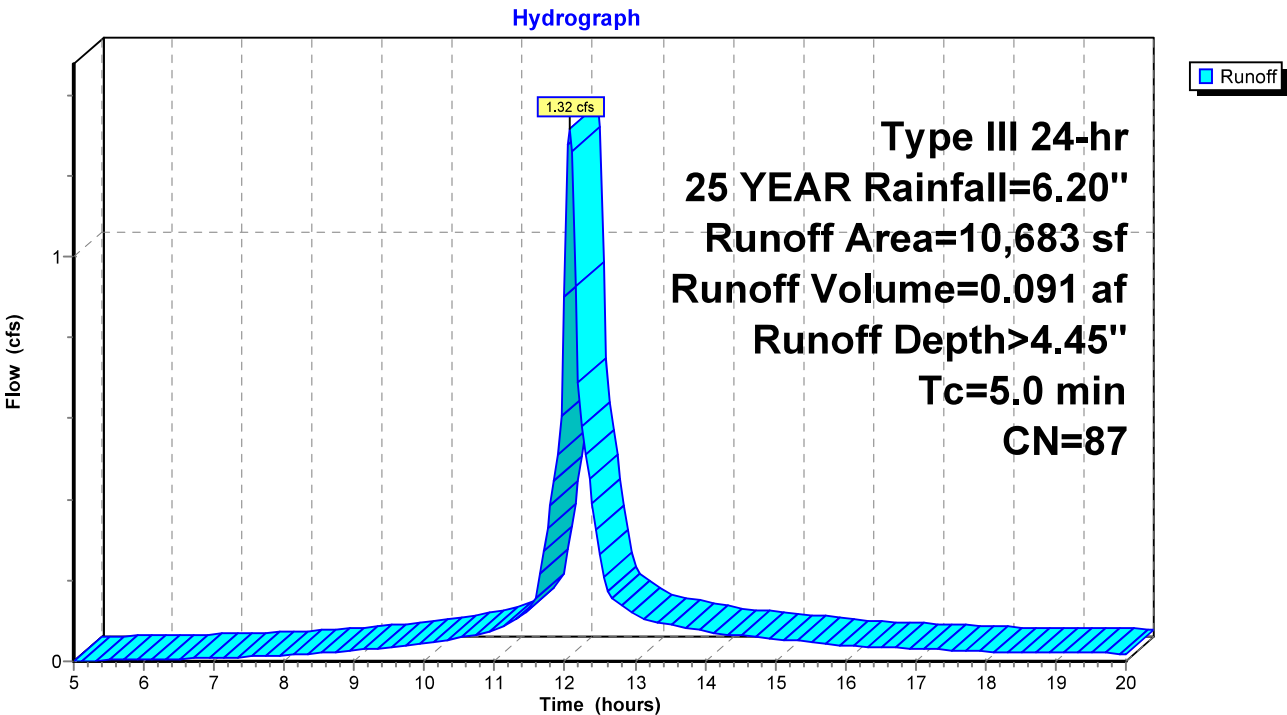
Runoff = 1.32 cfs @ 12.07 hrs, Volume= 0.091 af, Depth> 4.45"
Routed to Reach 14R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
	767	77	Woods, Good, HSG D
*	4,473	98	IMPERVIOUS
	5,078	80	>75% Grass cover, Good, HSG D
	365	85	1/2 acre lots, 25% imp, HSG D
	10,683	87	Weighted Average
	6,119		57.28% Pervious Area
	4,564		42.72% Impervious Area

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

Subcatchment 5S: SUBCATCHMENT 5



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 11

Summary for Subcatchment 6S: SUBCATCHMENT 6

Runoff = 8.19 cfs @ 12.54 hrs, Volume= 1.113 af, Depth> 3.98"
Routed to Reach 14R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
40,697	77	Woods, Good, HSG D
* 6,376	98	IMPERVIOUS
4,512	80	>75% Grass cover, Good, HSG D
94,501	84	1 acre lots, 20% imp, HSG D
146,086	83	Weighted Average
120,810		82.70% Pervious Area
25,276		17.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			



post development

Prepared by Haley Ward

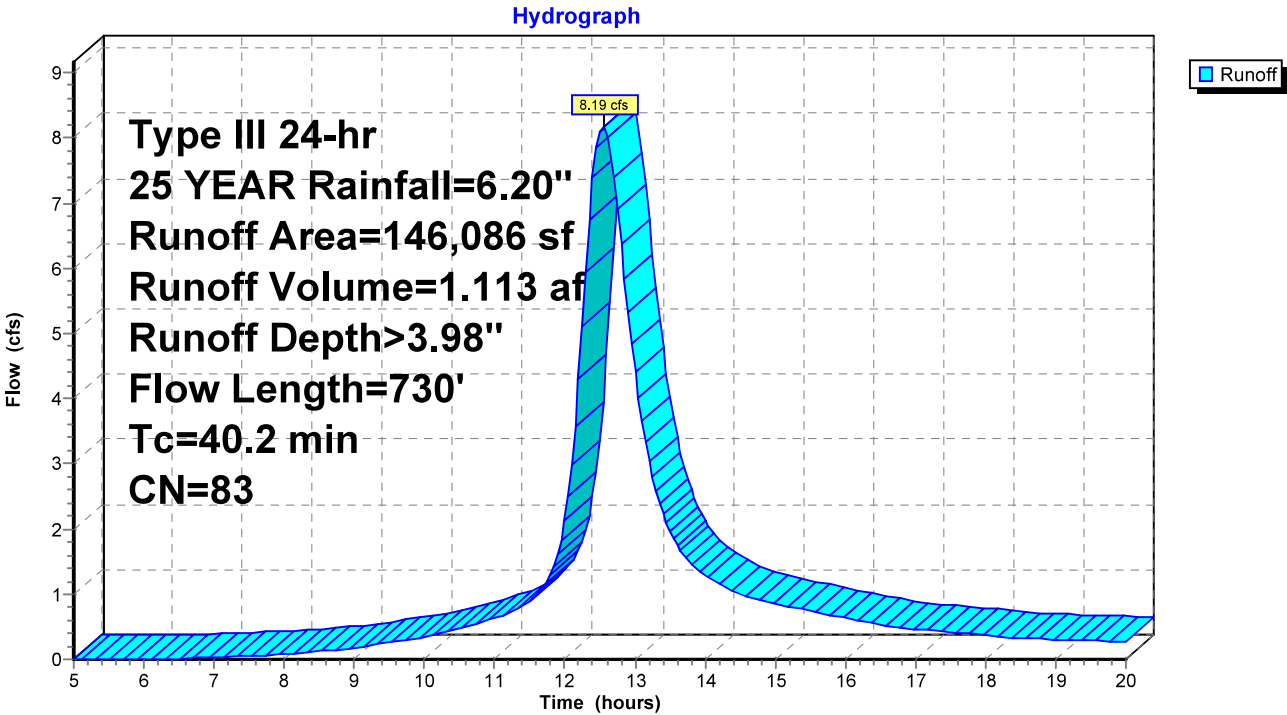
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 12

Subcatchment 6S: SUBCATCHMENT 6



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 13

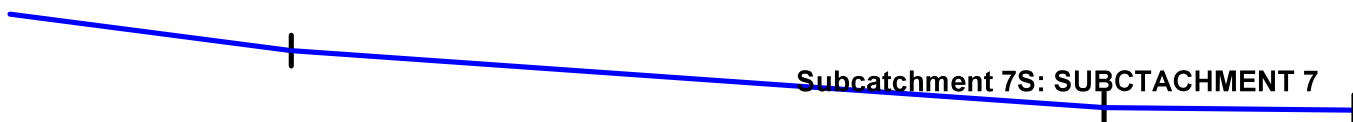
Summary for Subcatchment 7S: SUBCTACHMENT 7

Runoff = 3.55 cfs @ 12.11 hrs, Volume= 0.265 af, Depth> 4.23"
 Routed to Pond 21P : (new Pond)

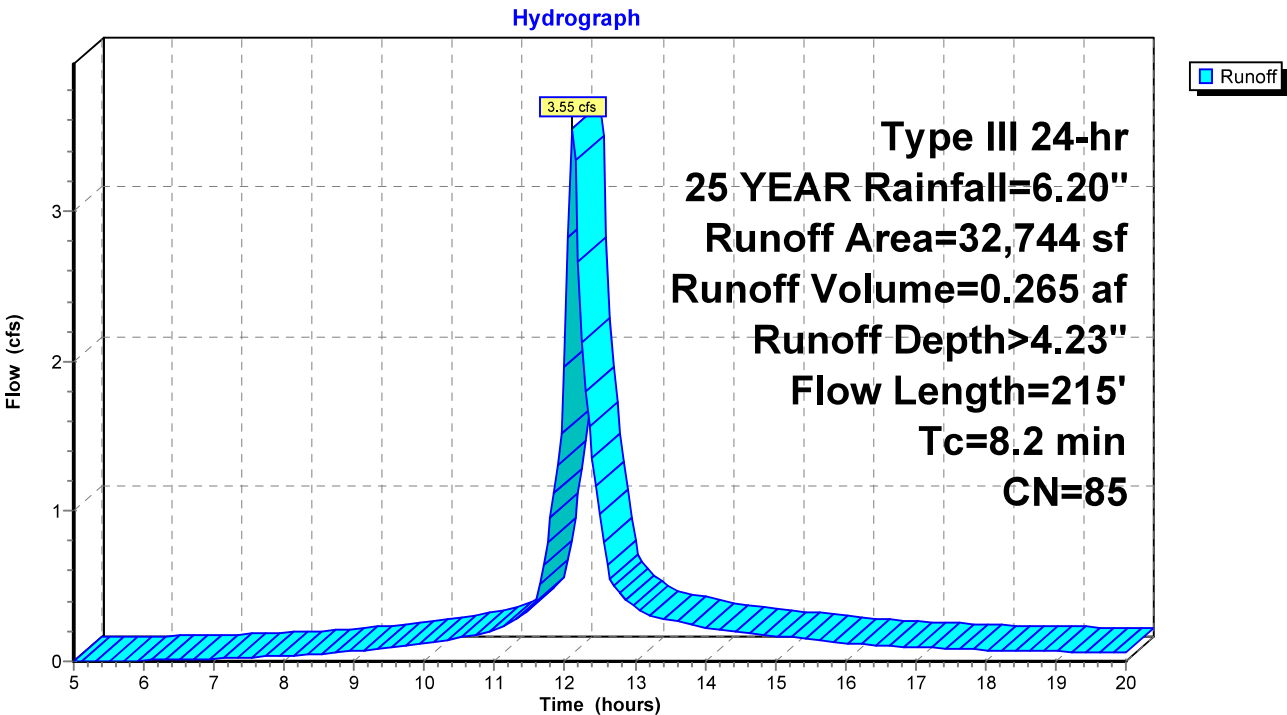
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
2,462	77	Woods, Good, HSG D
* 4,964	98	IMPERVIOUS
2,525	80	>75% Grass cover, Good, HSG D
22,793	84	1 acre lots, 20% imp, HSG D
32,744	85	Weighted Average
23,221		70.92% Pervious Area
9,523		29.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	45	0.1300	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	130	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.3	40	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	215	Total			



Subcatchment 7S: SUBCTACHMENT 7



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 15

Summary for Reach 9R: SUMMATION POINT 1

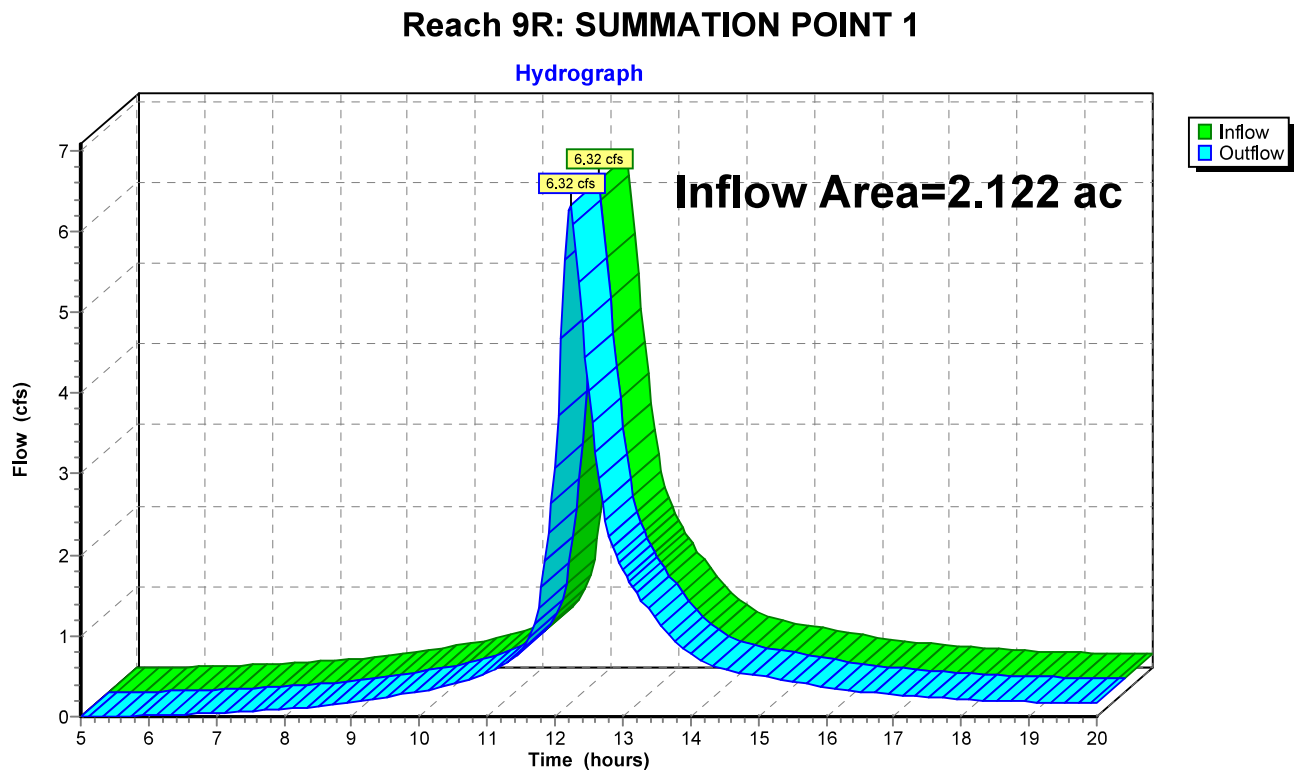
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.122 ac, 28.88% Impervious, Inflow Depth > 4.22" for 25 YEAR event

Inflow = 6.32 cfs @ 12.23 hrs, Volume= 0.747 af

Outflow = 6.32 cfs @ 12.23 hrs, Volume= 0.747 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 16

Summary for Reach 13R: REACH 1

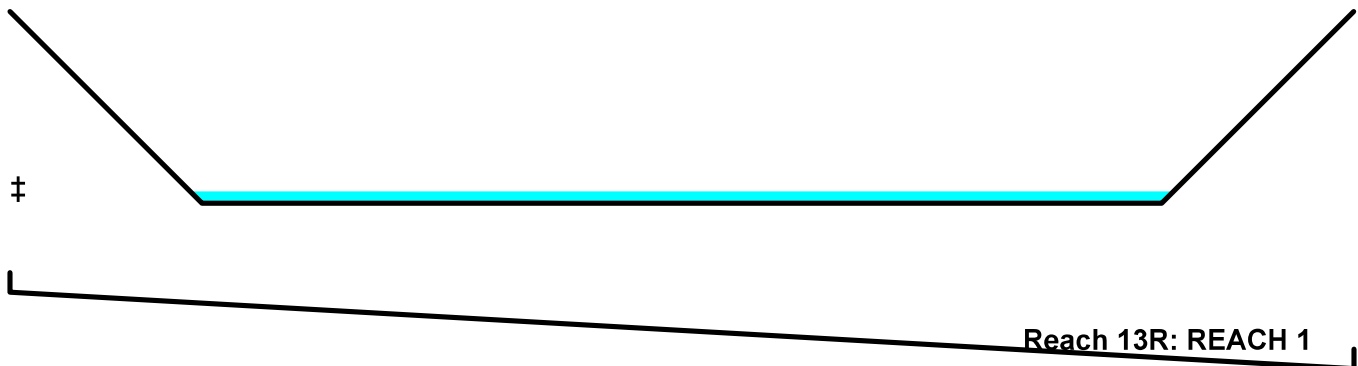
[65] Warning: Inlet elevation not specified

Inflow Area = 0.998 ac, 28.04% Impervious, Inflow Depth > 4.14" for 25 YEAR event
Inflow = 1.08 cfs @ 12.66 hrs, Volume= 0.344 af
Outflow = 1.08 cfs @ 12.71 hrs, Volume= 0.344 af, Atten= 0%, Lag= 3.1 min
Routed to Reach 14R : SUMMATION POINT 2

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 1.9 min
Avg. Velocity= 0.61 fps, Avg. Travel Time= 3.6 min

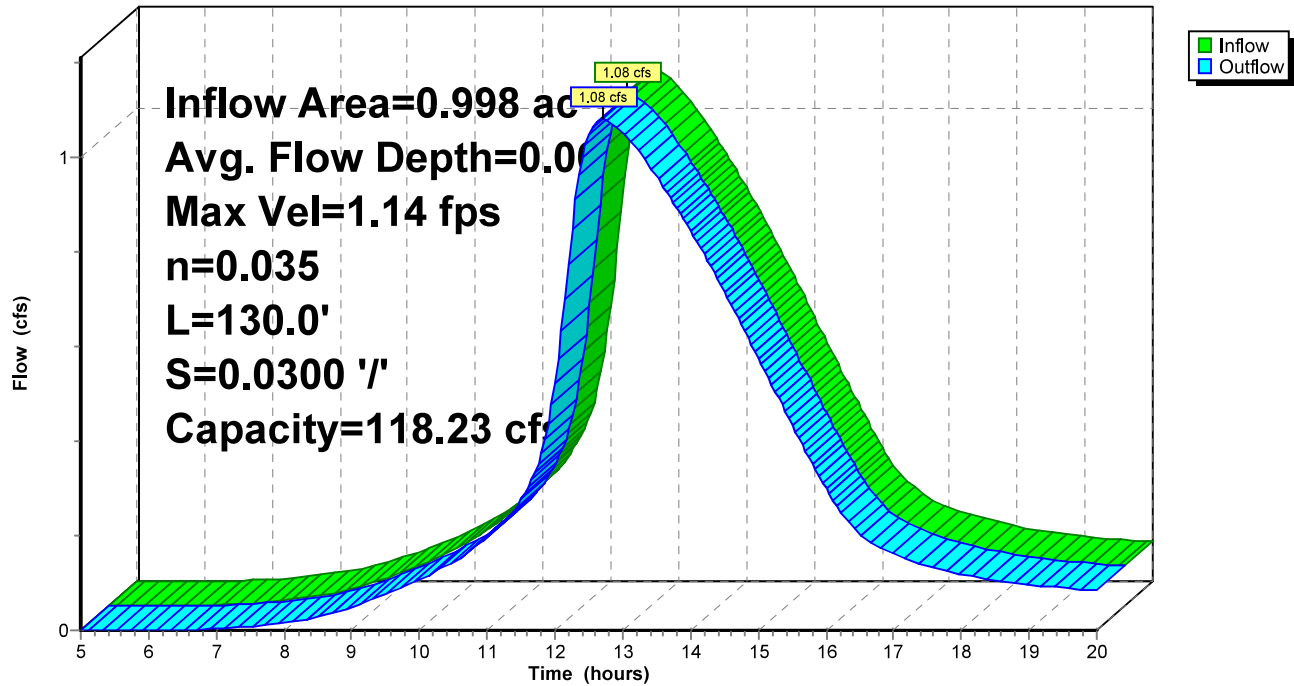
Peak Storage= 123 cf @ 12.68 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 15.37'
Bank-Full Depth= 1.00' Flow Area= 18.0 sf, Capacity= 118.23 cfs

15.00' x 1.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 130.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -3.90'



Reach 13R: REACH 1

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 18

Summary for Reach 14R: SUMMATION POINT 2

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

Inflow Area = 4.597 ac, 20.99% Impervious, Inflow Depth > 4.04" for 25 YEAR event

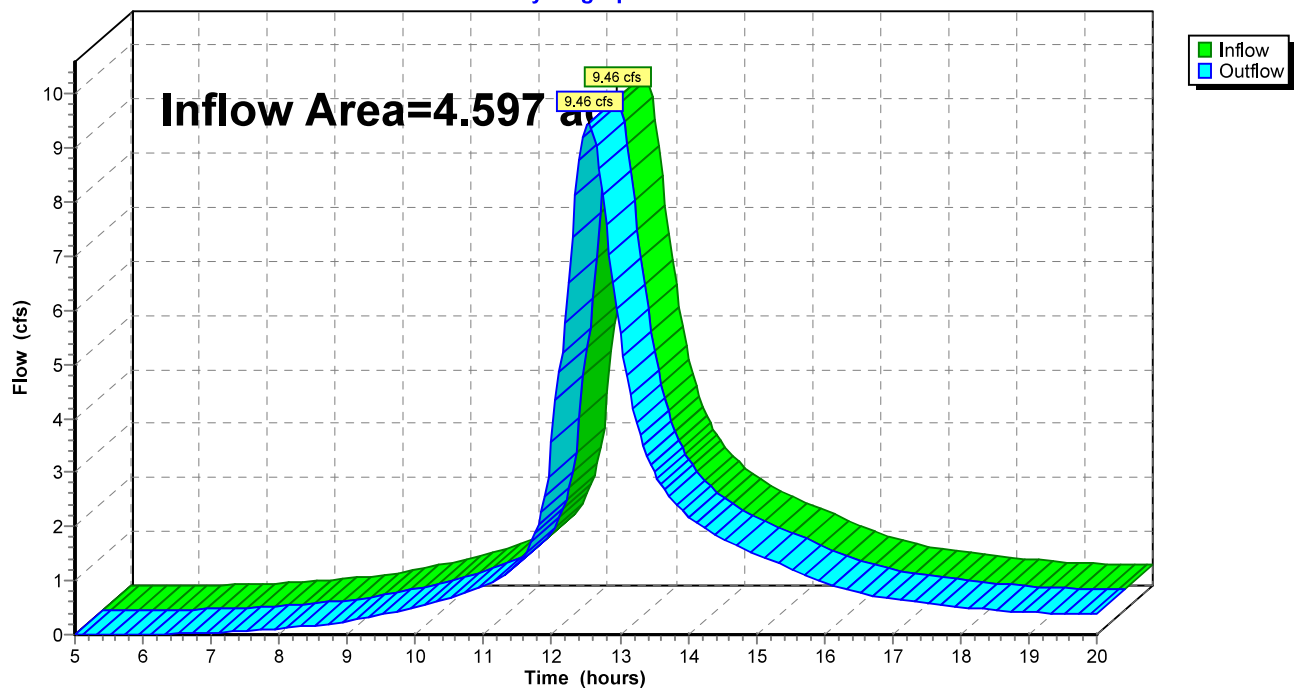
Inflow = 9.46 cfs @ 12.54 hrs, Volume= 1.548 af

Outflow = 9.46 cfs @ 12.54 hrs, Volume= 1.548 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 14R: SUMMATION POINT 2

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 19

Summary for Reach 15R: SUMMATION POINT 3

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

Inflow Area = 1.502 ac, 12.31% Impervious, Inflow Depth > 3.81" for 25 YEAR event

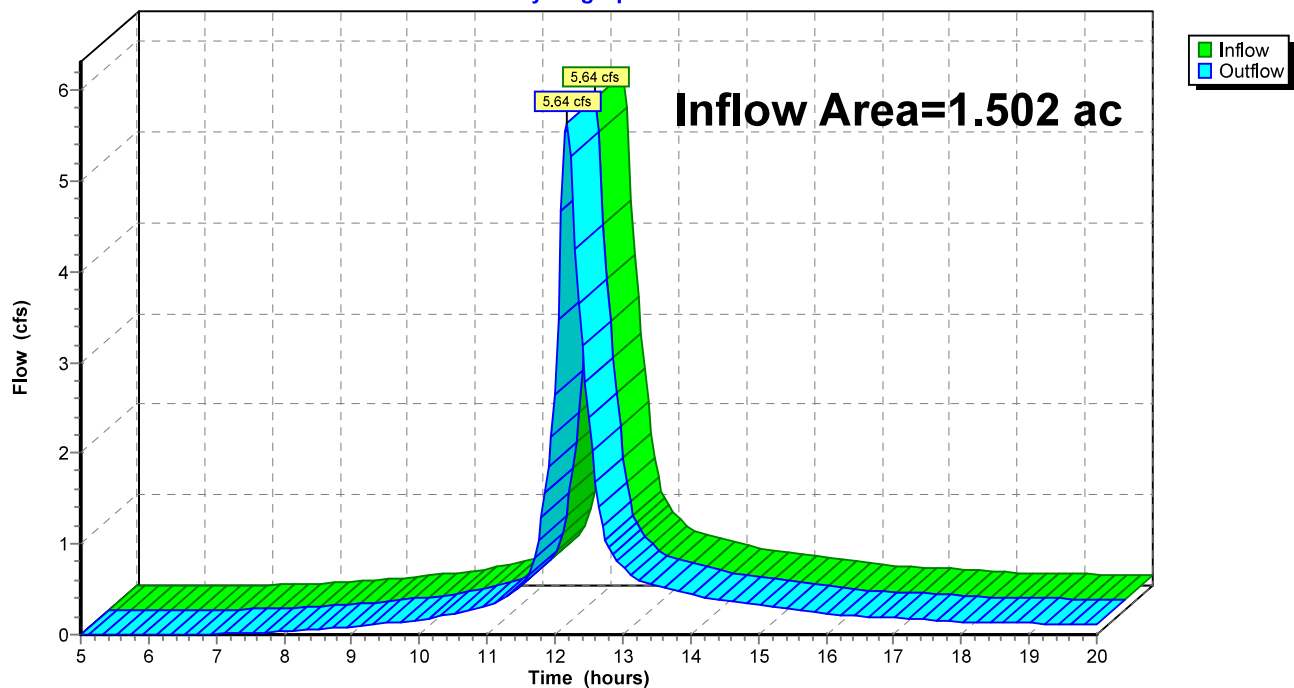
Inflow = 5.64 cfs @ 12.18 hrs, Volume= 0.477 af

Outflow = 5.64 cfs @ 12.18 hrs, Volume= 0.477 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 15R: SUMMATION POINT 3

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 20

Summary for Reach 16R: SUMMATION POINT 4

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

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25 YEAR event

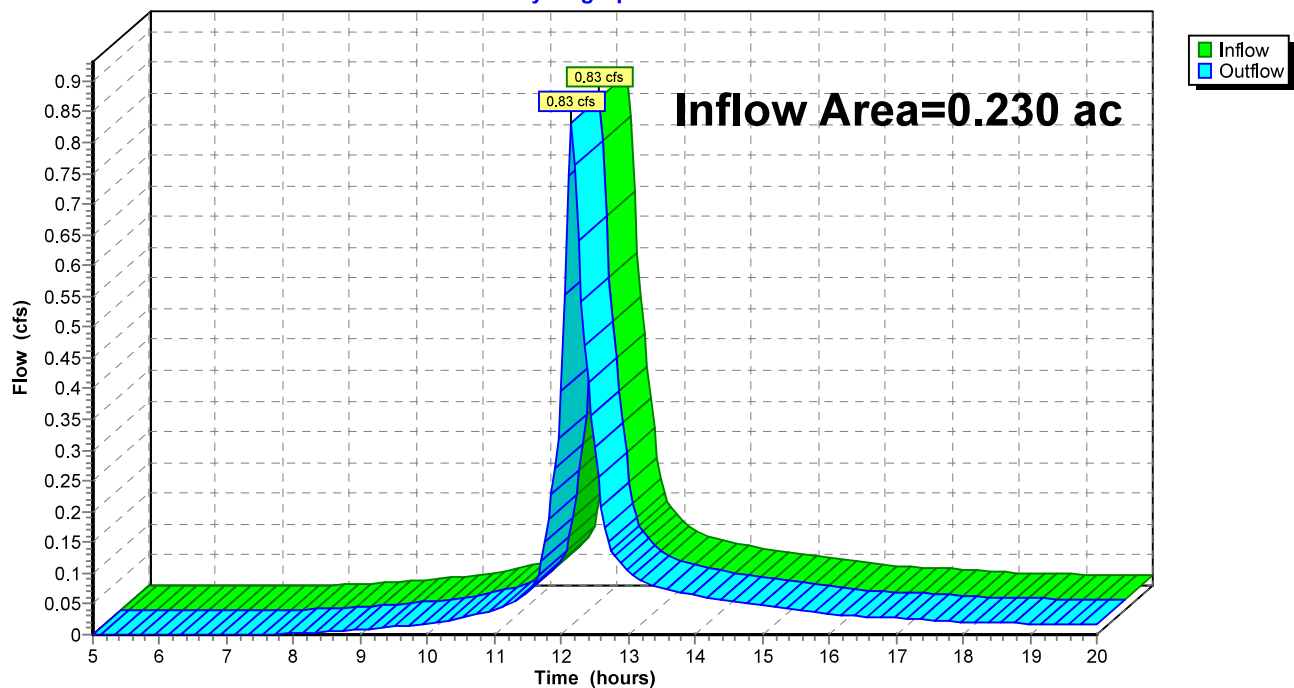
Inflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af

Outflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 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 16R: SUMMATION POINT 4

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 21

Summary for Pond 18P: DETENTION BASIN

Inflow Area = 0.998 ac, 28.04% Impervious, Inflow Depth > 4.22" for 25 YEAR event
 Inflow = 3.93 cfs @ 12.20 hrs, Volume= 0.351 af
 Outflow = 1.08 cfs @ 12.66 hrs, Volume= 0.344 af, Atten= 73%, Lag= 27.7 min
 Primary = 1.08 cfs @ 12.66 hrs, Volume= 0.344 af
 Routed to Reach 13R : REACH 1
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Routed to Reach 13R : REACH 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 60.34' @ 12.66 hrs Surf.Area= 3,125 sf Storage= 5,385 cf

Plug-Flow detention time= 58.5 min calculated for 0.343 af (98% of inflow)
 Center-of-Mass det. time= 50.7 min (825.8 - 775.1)

Volume	Invert	Avail.Storage	Storage Description
#1	58.00'	9,478 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.00	1,481	0	0
59.00	2,175	1,828	1,828
61.50	3,945	7,650	9,478

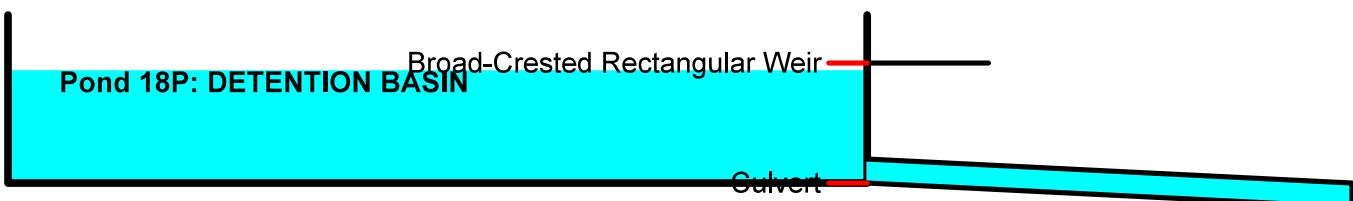
Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	6.0" Round Culvert L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.00' / 57.50' S= 0.0250 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	60.50'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.08 cfs @ 12.66 hrs HW=60.34' (Free Discharge)

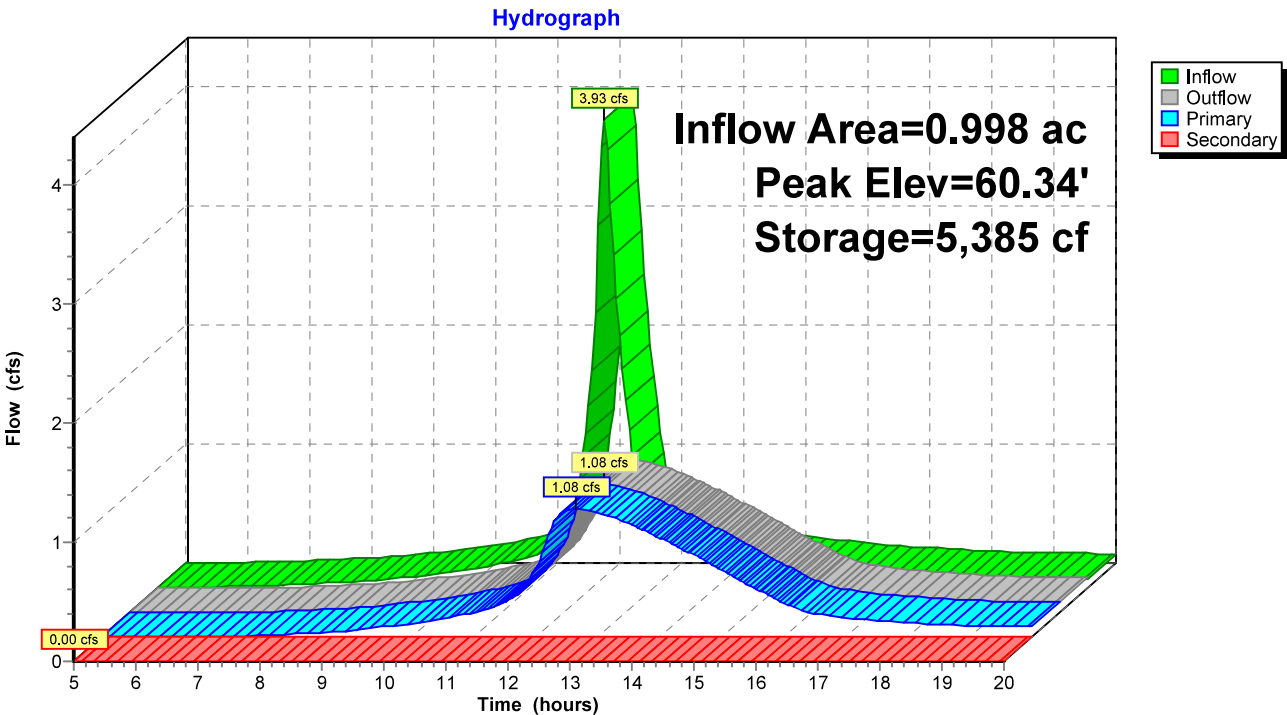
↑ **1=Culvert** (Inlet Controls 1.08 cfs @ 5.50 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=58.00' (Free Discharge)

↑ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)



Pond 18P: DETENTION BASIN



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 23

Summary for Pond 21P: (new Pond)

[44] Hint: Outlet device #3 is below defined storage

Inflow Area = 0.752 ac, 29.08% Impervious, Inflow Depth > 4.23" for 25 YEAR event
 Inflow = 3.55 cfs @ 12.11 hrs, Volume= 0.265 af
 Outflow = 1.26 cfs @ 12.43 hrs, Volume= 0.265 af, Atten= 65%, Lag= 18.7 min
 Primary = 1.26 cfs @ 12.43 hrs, Volume= 0.265 af
 Routed to Reach 9R : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 54.15' @ 12.43 hrs Surf.Area= 3,581 sf Storage= 2,791 cf

Plug-Flow detention time= 18.3 min calculated for 0.265 af (100% of inflow)
 Center-of-Mass det. time= 17.8 min (787.8 - 769.9)

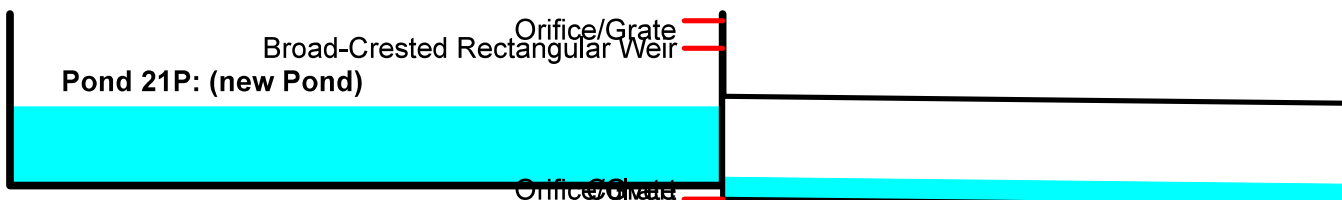
Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	9,380 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	1,256	0	0
54.00	3,321	2,289	2,289
55.00	5,109	4,215	6,504
55.50	6,398	2,877	9,380

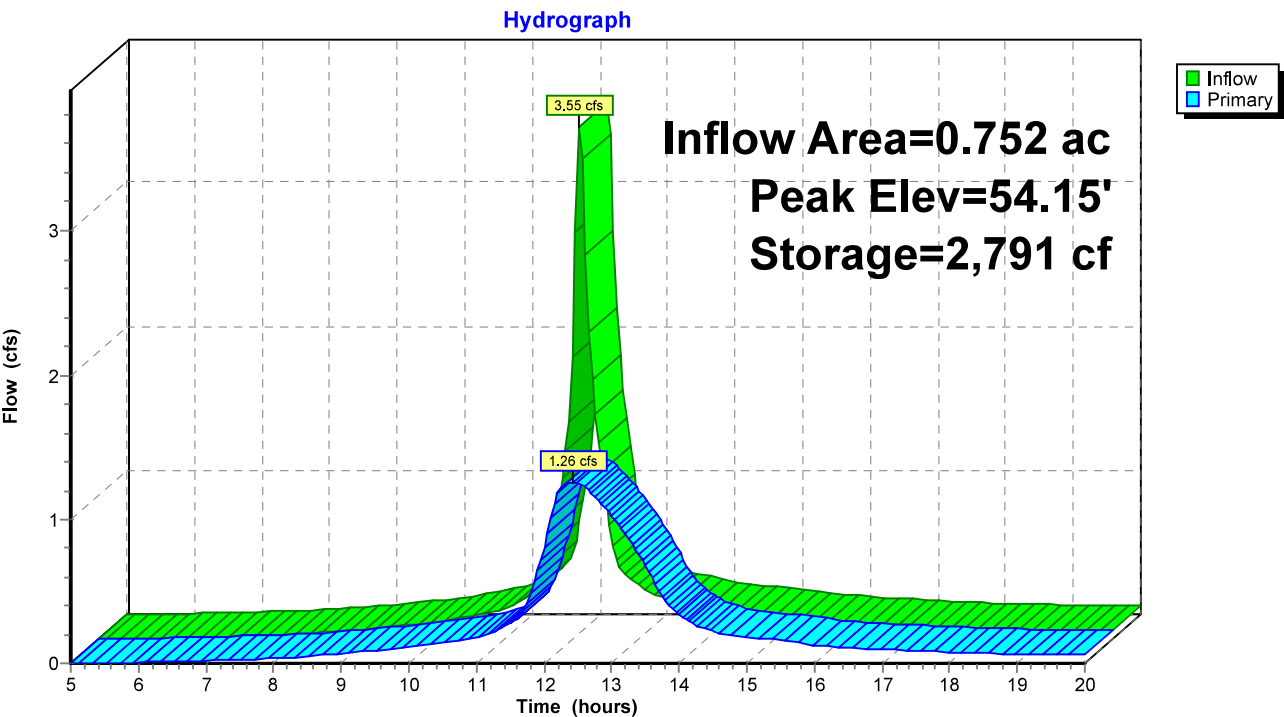
Device	Routing	Invert	Outlet Devices
#1	Primary	52.80'	18.0" Round Culvert L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.70' S= 0.0025 ' S= 0.0025 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.00'	1.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	52.80'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	55.40'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.26 cfs @ 12.43 hrs HW=54.14' (Free Discharge)

1=Culvert (Passes 1.26 cfs of 4.24 cfs potential flow)
 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
 3=Orifice/Grate (Orifice Controls 1.26 cfs @ 5.03 fps)
 4=Orifice/Grate (Controls 0.00 cfs)



Pond 21P: (new Pond)





APPENDIX J

EROSION AND SEDIMENTATION CONTROL PLAN



EROSION AND SEDIMENTATION CONTROL PLAN

- A. Narrative. The proposed construction will require the implementation of temporary and permanent erosion control measures. These measures will be implemented in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual, prior to removal of any on-site vegetation or disturbance of any on-site soil. The general erosion and sediment control specifications and details, as provided within this section, are intended to describe measures to be used by contractors working on the site to maintain compliance with the standards established in the BMPs. These standards include information on temporary and permanent erosion control measures, rates of seeding and applied mulch, slope and soil stabilization, effect of construction schedule, and other details.

The proposed location and use of erosion control measures on-site are shown on the site plan. There are no known existing erosion control concerns with the site. Implementation of proper erosion control measures will be required by site contractors to confine sediment and debris within the limit of soil disturbance. Proper use and maintenance of erosion control measures will provide protection against off-site transport of sediment and discharge of sediment to undisturbed areas of the development.

- B. Completion Date. Fall 2025
- C. Site Features. For site features please refer to the enclosed plan.
- D. Temporary and Permanent Erosion Control Measures. For temporary and permanent erosion control measures please refer to the enclosed plan.
- E. Limits of Disturbed Areas. Areas of disturbance will be limited to the proposed work shown on the enclosed plan. All areas disturbed areas not made impervious will be seeded and mulched to establish vegetated growth.
- F. Design Drawings and Specifications. For design drawings please refer to the enclosed plan. The following specifications will be utilized by the site contractor during construction of the project.



EROSION CONTROL PLAN SPECIFICATIONS

A. General

1. All work and measures will be as per the Maine Erosion and Sediment Control BMPs manual.
2. The following specifications will be employed.

B. Prior to Construction

1. Prior to beginning construction, erosion and sedimentation controls shall be in place.

C. During Construction

1. Exposed soil surfaces will be treated immediately if they are to remain ungraded more than 30 days, or if they are at final grades.
2. Drainage ways, either designed or incidental, will have filter barriers installed.
3. All work and materials necessary to minimize sediment loss from the site will be provided.
4. All erosion control measures will be inspected and repaired after every rainfall greater than ½-inch and at least daily during rain events lasting longer than 24 hours.

D. Post Construction

1. Erosion control measures will be maintained until permanent soil stabilization has been achieved with a growth of vegetation greater than 90%.



SOIL PROTECTION AND EROSION CONTROL

PART 1 - GENERAL

1.01 Description of Work

- A. Provide and maintain devices to control erosion, siltation, sedimentation, and dust that occur during construction operations. Undertake every reasonable precaution and do whatever is necessary to avoid erosion of soil and to prevent silting of wetland areas and drainage ditches.
- B. Provide measures to control dust caused whether on or off the project site.
- C. Deficiencies in erosion control measures indicated by failures or erosion will be corrected as soon as reasonably possible by providing additional measures or different techniques to correct the situation and prevent subsequent erosion.
- D. Exposure of soils on embankments, excavations, and graded areas will be kept as short as possible. Initiate seeding and other erosion control practices as soon as reasonably possible.

1.02 Quality Assurance

- A. Conform to all requirements of applicable Federal, State and local permits and conform to the recommendations of the Maine Erosion and Sediment Control BMPs whether the measures are specifically noted herein, or not.
- B. Standards: Maine Erosion and Sediment Control BMPs Manual, hereinafter called Erosion Control Handbook.

PART 2 - PRODUCTS

2.01 **Materials:** Use the following materials to implement and construct erosion control measures.

- A. Hay Bale: Rectangular shaped bales of hay or straw weighting at least 40 pounds per bale; free from noxious weed seeds and rough or woody materials.
- B. Mulch: Type and use as specified by the Erosion Control Handbook
 - 1. Long fibered hay or straw in dry condition and which are relatively free of weeds and foreign matter detrimental to plant life.
 - 2. Mulch netting: Plastic or nylon mesh netting with approximate openings of ¼-inch to 1-inch.



C. Permanent Seeding: Cut and fill slopes and disturbed areas will be stabilized as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.
2. In lieu of tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil additives will be incorporated into the soil prior to seeding.
3. Following seed bed preparation, back slopes will be seeded to a mixture of 83% creeping red fescue, and 17% rye grass. Seeding rate is 3 lbs. per 1,000 square feet. Lawn quality sod may be substituted for seed.
4. Hay mulch at the rate of 90 lbs. per 1,000 square feet of a hydro-application of asphalt, wood, or paper fiber will be applied following seeding. A suitable binder such as curason or terrtack will be used on hay mulch for wind control.
5. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and a cover crop of rye at the rate of 112 lbs/acre or 3 lbs/1,000 sq. ft. will be applied. The rye seeding will be preceded by an application of 3 tons of lime and 800 lbs. of 10-20-20 fertilizer or its equivalent and covered by a layer of jute mat to aide in stabilization.

PART 3 - EXECUTION

3.01 Construction

A. Hay Bales:

1. Install as directed by Erosion Control Handbook, and stake with required stakes.

B. Mulch:

1. Undertake after each area has been properly prepared.
2. When seed for erosion control is sown prior to placing the mulch, place mulch on the seeded areas within 48 hours after seeding.
3. Blowing chopped mulch will be permitted.
4. Hay mulch should cover the ground enough to shade it, but the mulch should not be so thick that a person standing cannot see the ground through the mulch.
5. Remove matted mulch or bunches.

C. Temporary Erosion Control Matting (where necessary):

1. Surface Preparation:
 - a. Conform to grades for slopes and ditches shown of the drawings.
 - b. Finish to a smooth and even condition with all debris, roots, stones, and lumps raked out and removed.



- c. Loosen soil surface to permit bedding of the matting.
- d. Unless otherwise directed, apply seed prior to placement.

2. Installation:

- a. Place strips lengthwise in the direction of the flow of water.
- b. Where strips are laid parallel or meet as in a tee, overlap at least four inches.
- c. Overlap ends at least six inches in a shingle fashion.
- d. The up-slope end of each strip of the matting will be turned down and buried to a depth of not less than six inches with the soil firmly tamped against it.
- e. Build check slots at right angles to the direction of the flow of water. Space so that one check slot or one end occurs within each 50 feet of slope length. Construct by placing a tight fold of the matting at least six inches vertically into the ground, and tamp the same as up-slope ends.
- f. Bury edges of matting around the edges of the catch basins and other structures.
- g. Where determined by the Engineers, additional seed will be spread over matting, particularly at those locations disturbed by building the slots. Matting will then be pressed onto the ground with a light lawn roller or by other satisfactory means.
- h. Drive staples vertically into the ground flush with the surface.
- i. On slopes flatter than 4:1, space staples not more than three feet and one row, alternately spaced, down the center.
- j. On grades 4:1 or steeper, place in the same three rows, but spaced two feet apart.
- k. On all overlapping or butting edges, double the number of staples, with the spacing halved; all ends of the matting and all required check slots will likewise have staples spaced every foot.

D. Permanent Seeding:

- 1. Seed with appropriate seeds and application rates as noted in Section 2.01D.
- 2. Mulch areas where seeding has been applied. Do not mulch seeded areas where matting will be immediately installed.

E. Topsoil Storage:

- 1. Topsoil which is stockpiled on the site for use in loam applications will be placed out of natural drainages, in piles that have side slopes of 2:1 to 1.5:1.
- 2. A trench (depth as required) will be constructed around the base of the pile to prevent eroding soil from washing into drainages.

F. Dust Control: Utilize the application of sprinkled water to reduce the emission of airborne soil particulates from the Project site.



- G. Temporary Berms: Construct temporary barriers along the toe of embankments using side drains as necessary.
- H. Temporary Basins: Construct temporary sedimentation basins adequate to avoid siltation of surface water bodies.
- I. Other Temporary Measures:
 - 1. Type and use will be as specified in the Erosion Control Handbook.
- J. Winter Stabilization Notes
 - 1. At this time it is not expected that significant soil disturbance will occur during winter months or periods of heavy icing. If construction is performed during these times, the following construction practices will be followed.
 - a. All disturbed areas not stabilized with stone or other measures will have approved erosion control matting installed and be dormant seeded.
 - b. No frozen soil material or material containing significant snow or ice will be used for fill material.
 - c. All material stockpiles will have silt fence and/or hay bales installed downgradient of piles.
 - d. Follow general erosion control notes described previously wherever possible and as conditions permit.

3.02 Maintenance

- A. Inspect erosion control practices immediately after each rainfall greater than ½-inch and at least daily during rainfall lasting longer than 24 hours or snowmelt for damage. Provide maintenance and make appropriate repairs or replacement.
- B. Remove silt from around hay bales when it has reached one foot above grade or prior to expected heavy runoff or siltation.
- C. Repair matting if any staples become loosened or raised, or if any matting becomes loose, torn, or undermined, make satisfactory repairs immediately.

3.03 Removal of Temporary Erosion Control

- A. Remove temporary materials and devices when permanent soil stabilization has been substantially achieved. For vegetated areas, substantially complete means 95% vegetated cover has been established.



- B. Level and grade to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.
- C. Remove unsuitable materials from site and dispose of in a lawful manner.



INSPECTION AND MAINTENANCE

The following Maintenance Plan will be employed for this facility. Coastal Oaks, LLC will be responsible for all inspection and maintenance during construction. The Homeowner's Association will be responsible post construction. Erosion control measures for this site were designed by:

Drew Olehowski, P.E.
Haley Ward, Inc.
120 Main Street, #132
Saco, Maine 04072
207-989-4824
dolehowski@haleyward.com

A Pre- and Post-Construction Maintenance Plan for the stormwater management system and erosion control measures are included in this section.



MAINTENANCE PLAN

The MDEP's Stormwater Management for Maine: Best Management Practices (2006), and the MDEP's Chapter 500: Stormwater Management were used as guidelines in the development of this Maintenance Plan. General maintenance requirements are listed below.

A. DURING CONSTRUCTION

The general contractor will be responsible for the inspection and maintenance of all stormwater management system components during construction.

Inspection: Inspection of disturbed and impervious areas, erosion control measures, materials' storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site will be performed at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. Inspections shall be conducted by a person with knowledge of erosion and stormwater control, including the standards and conditions in the permit.

Maintenance: All erosion control measures will be kept in effective operating condition until areas are permanently stabilized. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation will be completed within 7 calendar days and prior to any rainfall event.

Documentation: A log shall be kept summarizing the inspections and any corrective action taken. A copy of the log is provided at the end of this section, and is titled, Construction Inspection Log.

B. POST-CONSTRUCTION

The Owner or their assigns will be responsible for the inspection and maintenance of all stormwater management system components.

Inspection and Corrective Action

1. Vegetated Areas: Inspections and maintenance of vegetated areas will be performed early in the growing season or after significant rainfall to identify any erosion problems. Areas where erosion is evident will be covered with an appropriate lining, or erosive flows will be diverted to an area able to handle the flows. Any bare areas or areas with sparse growth will be replanted.
2. Detention areas:
 - Detention areas should be inspected semi-annually and following major storm events. Debris and sediment buildup should be removed from the basin and outlet structures as needed.



3. Inspection: shall be performed by an individual with experience and/or training on the maintenance and functions of these devices.



HOUSEKEEPING

1. Spill Prevention - During construction, controls will be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
2. Groundwater Protection - During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater will not be stored or handled in areas of the site draining to an infiltration area. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
3. Fugitive Sediment and Dust - Actions will be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil will not be used for dust control. Water will be used for dust control during construction.

Operations during wet months that cause mud to be tracked off the site onto public roads will provide sweeping of the road areas at least once per week and prior to significant storm events.

4. Debris and Other Materials - Litter, construction debris, and chemicals exposed to stormwater will be prevented from becoming a pollutant source. The nature of this development will not cause problems related to debris and other materials.
5. Trench or Foundation De-Watering - If de-watering is necessary, the collected water will be removed from the ponded area and spread through natural wooded buffers or discharged into a construction sedimentation basin. The water will not be allowed to flow over disturbed areas to the site.



Coastal Oaks, LLC
CONSTRUCTION INSPECTION LOG

INSPECTION DATE	INSPECTOR (NAME AND QUALIFICATIONS)	MAJOR OBSERVATIONS	WORK PERFORMED

Notes

- 1) Major Observations include the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major Observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.
- 2) Work Performed will include a description of the corrective action taken, the date the corrective action was taken, and the name and qualifications of the person taking the corrective actions
- 3) The log must be made accessible to MDEP staff and a copy must be provided upon request.
- 4) The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

13871.019

512 POOL STREET
MAJOR SUBDIVISION REVIEW



COASTAL OAKS, LLC
BMP INSPECTION LOG

DATE	INSPECTOR (NAME AND QUALIFICATIONS)	ID NUMBER	BMP STRUCTURE	WORK PERFORMED	COMMENTS

Notes

- 1) If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal.
- 2) BMP structures shall be numbered sequentially and located on attached site map.
- 3) The log must be made accessible to MDEP staff and a copy must be provided upon request.
- 4) The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.



INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)		
	INSPECTION SCHEDULE	CORRECTIVE ACTIONS
VEGETATED AREAS	Annually early spring and after heavy rains	Inspect all slopes and embankments and replant areas of bare soil or with sparse growth
		Armor rill erosion areas with riprap or divert the runoff to a stable area
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and late fall and after heavy rains	Remove obstructions, sediments or debris from ditches, swales and other open channels
		Repair any erosion of the ditch lining
		Mow vegetated ditches
		Remove woody vegetation growing through riprap
		Repair any slumping side slopes
CULVERTS	Spring and late fall and after heavy rains	Repair riprap where underlying filter fabric or gravel is showing or if stones have dislodge
		Remove accumulated sediments and debris at the inlet, outlet, or within the conduit
		Remove any obstruction to flow
CATCHBASINS	Annually in the spring	Repair any erosion damage at the culvert's inlet and outlet
		Remove sediments and debris from the bottom of the basin and inlet grates
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed	Remove floating debris and oils (using oil absorptive pads) from any trap
		Clear and remove accumulated winter sand in parking lots and along roadways
		Sweep pavement to remove sediment
		Grade road shoulders and remove accumulated winter sand
		Grade gravel roads and gravel shoulders
		Clean-out the sediment within water bars or open-top culverts
RESOURCE AND TREATMENT BUFFERS	Annually in the spring	Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
		Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development
		Manage the buffer's vegetation with the requirements in any deed restrictions
		Repair any sign of erosion within a buffer
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains	Clean-out any accumulation of sediment within the spreader bays or turnout pools
		Mow non-wooded buffers no shorter than six inches and less than three times per year
		Inspect the embankments for settlement, slope erosion, piping, and slumping
		Mow the embankment to control woody vegetation
		Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks
		Remove and dispose of sediments and debris within the control structure
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall	Repair any damage to trash racks or debris guards
		Replace any dislodged stone in riprap spillways
		Remove and dispose of accumulated sediments within the impoundment and forebay
		Clean the basin of debris, sediment and hydrocarbons
		Provide for the removal and disposal of accumulated sediments within the basin
PROPRIETARY DEVICES	As specified by manufacturer	Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event
		Till, seed and mulch the basin if vegetation is sparse
OTHER PRACTICES	As specified for devices	Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
		Contract with a third-party for inspection and maintenance
OTHER PRACTICES	As specified for devices	Follow the manufacturer's plan for cleaning of devices
		Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.



APPENDIX K

PROPOSED LIGHTING FIXTURES

VIPER Area/Site

VIPER LUMINAIRE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



CONTROL TECHNOLOGY



SERVICE PROGRAMS



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

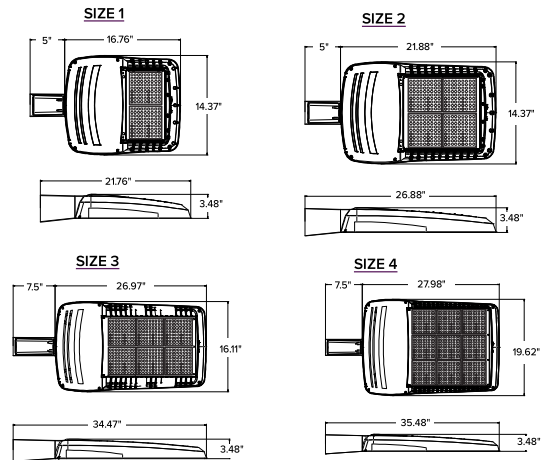
ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0-10V Dimming Drivers are standard. Select CD option to have dimming leads extended outside the luminaire. Must specify if wiring leads are to be greater than the 6" standard.
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

MICROSTRIKE | STRIKE OPTICS



	EPA				Config
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to <https://www.currentlighting.com/resources/america-solutions>).
- FCC CFR Title 47 Part 15, Class A

WARRANTY

- 5 year warranty



DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

Gray Shading = Service Program Limit of 15 luminaires

QS10

Example: VP-2-320L-145-3K7-2-R-UNV-A3-BLT

CATALOG #

VP							
Series	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
VP Viper	Micro Strike	1 Size 1	160L-35 ⁶ 5500 lumens 160L-50 ⁶ 7500 lumens 160L-75 10000 lumens 160L-100 12500 lumens 160L-115 15000 lumens 160L-135 18000 lumens 160L-160 21000 lumens 320L-145 21000 lumens 320L-170 24000 lumens 320L-185 27000 lumens 320L-210 30000 lumens 320L-235 33000 lumens 320L-255 36000 lumens 320L-315 ⁶ 40000 lumens 480L-285 40000 lumens 480L-320 44000 lumens 480L-340 48000 lumens 480L-390 52000 lumens 480L-425 55000 lumens 480L-470 60000 lumens 720L-435 60000 lumens 720L-475 65000 lumens 720L-515 70000 lumens 720L-565 ⁶ 75000 lumens 720L-600 ⁶ 80000 lumens CLO Custom Lumen Output ¹	AP AP-Amber Phosphor Converted 27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 35K8 3500K, 80 CRI 3K9 3000K, 90 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QW Type 5 Square Wide	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2					
		3 Size 3					
		4 Size 4					

Mounting	Color	Options	Network Control Options
A Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter)	BLT Black Matte Textured	F Fusing	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,3,4}
A_ Arm mount for round pole ²	BLS Black Gloss Smooth	2PF Dual Power Feed	NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,3,4}
ASQU Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern	DBT Dark Bronze Matte Textured	2DR Dual Driver	NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{3,4}
A_U Universal arm mount for round pole ²	DBS Dark Bronze Gloss Smooth	TE Tooless Entry	WIR LightGRID+ In-Fixture Module ^{3,4}
AAU Adjustable arm for pole mounting (universal drill pattern)	GTT Graphite Matte Textured	BC Backlight Control ⁸	WIRSC LightGRID+ Module and Occupancy Sensor ^{3,4}
AA_U Adjustable arm mount for round pole ²	LGS Light Grey Gloss Smooth	TB Terminal Block	Stand Alone Sensors
ADU Decorative upswept Arm (universal drill pattern)	LGT Light Grey Gloss Textured	CD Customer Dimming	BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
AD_U Decorative upswept arm mount for round pole ²	PSS Platinum Silver Smooth		BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
MAF Mast arm fitter for 2-3/8" OD horizontal arm	WHT White Matte Textured		BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens
K Knuckle	WHS White Gloss Smooth		7PR 7-Pin Receptacle ⁴
T Trunnion	VGT Verde Green Textured		7PR-SC 7-Pin Receptacle with shorting cap ⁴
WB Wall Bracket, horizontal tenon with MAF	Color Option		7PR-TL 7-Pin PCR with photocontrol
WM Wall mount bracket with decorative upswept arm	CC Custom Color		3PR 3-Pin twist lock ⁴
WA Wall mount bracket with adjustable arm			3PR-SC 3-Pin receptacle with shorting cap ⁴
			3PR-TL 3-Pin PCR with photocontrol ⁴
			Programmed Controls
			SCP_F Sensor Control Programmable, 8F or 40F ⁹
			ADD AutoDim Timer Based Dimming ¹⁰
			ADT AutoDim Time of Day Dimming ¹⁰
			Photocontrols
			PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information.

2 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole

3 – Networked Controls cannot be combined with other control options

4 – Not available with 2PF option

5 – Not available with Dual Driver option

6 – Some voltage restrictions may apply when combined with controls

7 – Not available with 480V

8 – BC not available on 4F and type 5 distributions

9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

10 – Please refer to page 8 for AutoDim ordering guide



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

STRIKE OPTIC – ORDERING GUIDE

Example: VP-ST-1-36L-39-3K7-2-UNV-A-BLT

CATALOG #							
VP							
Series	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
VP Viper	ST Strike	1 Size 1	36L-39 ⁸ 5500 lumens 36L-55 ⁸ 7500 lumens 36L-85 10000 lumens 36L-105 12500 lumens 36L-120 14000 lumens	27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 3K9 3000K, 90 CRI 35K8 3500K, 80 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	FR Auto Front Row 2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QN Type 5 Square Narrow 5QW Type 5 Square Wide 5QM Type 5 Square Medium 5W Type 5 Wide (Round) 5RW Type 5 Rectangular C Corner Optic TC Tennis Court Optic	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2	72L-115 15000 lumens 72L-145 18000 lumens 72L-180 21000 lumens 72L-210 24000 lumens 72L-240 27000 lumens				
		3 Size 3	108L-215 ⁸ 27000 lumens 108L-250 30000 lumens 108L-280 33000 lumens 108L-325 36000 lumens 108L-365 40000 lumens				
		4 Size 4	162L-320 40000 lumens 162L-365 ¹⁰ 44000 lumens 162L-405 48000 lumens 162L-445 52000 lumens 162L-485 55000 lumens 162L-545 ⁸ 60000 lumens				
			CLO Custom Lumen Output ¹				

Mounting	Color	Options	Network Control Options
A Arm mount for square pole/flat surface A_ Arm mount for round pole ³ ASQU Universal arm mount for square pole A_U Universal arm mount for round pole ³ AAU Adjustable arm for pole mounting (universal drill pattern) AA_U Adjustable arm mount for round pole ³ ADU Decorative upswept Arm (universal drill pattern) AD_U Decorative upswept arm mount for round pole ³ MAF Mast arm fitter for 2-3/8" OD horizontal arm K Knuckle T Trunnion WB Wall Bracket, horizontal tenon with MAF WM Wall mount bracket with decorative upswept arm WA Wall mount bracket with adjustable arm	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 LGT Light Grey Gloss Textured PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{1,2,7,8,9} 2PF Dual Power Feed 2DR Dual Driver TE Toolless Entry BC Backlight Control TB Terminal Block CD Customer Dimming	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,4,5} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,4,5} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{4,5} WIR LightGRID+ In-Fixture Module ^{4,5} WIRSC LightGRID+ Module and Occupancy Sensor ^{4,5} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens 7PR 7-Pin Receptacle ⁴ 7PR-SC 7-Pin Receptacle with shorting cap ⁴ 7PR-TL 7-Pin PCR with photocontrol 3PR 3-Pin twist lock ⁴ 3PR-SC 3-Pin receptacle with shorting cap ⁴ 3PR-TL 3-Pin PCR with photocontrol ⁴ Programmed Controls SCP-_F Sensor Control Programmable, 8F or 40F ¹¹ ADD AutoDim Timer Based Dimming ¹² ADT AutoDim Time of Day Dimming ¹² Photocontrols PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option
9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.
12 – Please refer to page 8 for AutoDim ordering guide

VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONT'D)

CATALOG #

Accessory Type		Size	Option		Color		
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	BLS	Black Gloss Smooth
		2	Size 2	HSS-90-F	House Side Shield 90° Front	BLT	Black Matte Textured
		3	Size 3	HSS-90-S	House Side Shield 90° Side	DBS	Dark Bronze Gloss Smooth
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side	DBT	Dark Bronze Matte Textured
				HSS-270-FSS	House Side Shield 270° Front/Side/Side	GTT	Graphite Matte Textured
				HSS-270-FSB	House Side Shield 270° Front/Side/Back	LGS	Light Gray Gloss Smooth
				HSS-360	House Side Shield 360°	PSS	Platinum Silver Smooth
				BC	Back Light Control	WHS	White Gloss Smooth
				A	Arm Mount for square pole/flat surface	WHT	White Matte Textured
				ASQU	Universal Arm Mount for square pole	VGT	Green Landscape Decorative
MTG	Mounting			AAU	Adjustable Arm for pole mounting	LEG	Legacy Colors
				ADU	Decorative upswept Arm	Color Option	
				RPA	Round Pole Adapter	CC	Custom Color
				MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm		
				K	Knuckle		
				T	Trunnion		
				WB	Wall Bracket (compatible with universal arm mounts)		
Accessory Type			Option				
MSC	Miscellaneous			BIRD SPK	Bird Spike		

Current Control Solutions — Accessories (Sold Separately)	
NX Lighting Controls	
☐	NXOFM-1R1D-UNV On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC
LightGRID+ Lighting Control	
☐	WIR-RME-L On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC
☐	SCP-REMOTE Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor
For additional information related to these accessories please visit currentlighting.com/beacon . Options provided for use with integrated sensor, please view specification sheet ordering information table for details.	

VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration



OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY



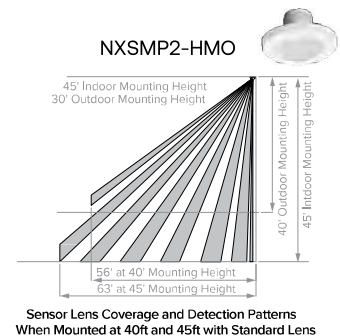
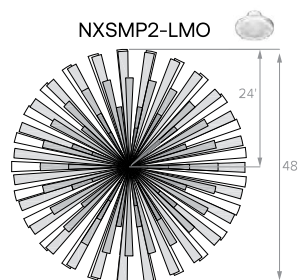
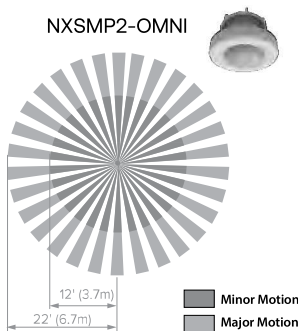
Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
		Networkable	Grouping	Scheduling	Occupancy/Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UV	✓	✓	✓	Paired with external control	✓	✓	✓	✓	-		NXOFM1R1D-UV
	NXW	✓	✓	✓	-	-	✓	✓	✓	-		NXW
	NXWS12F	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXWS12F
	NXWS16F	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXWS16F
	NXWS40F	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXWS40F
LightGRID+	WIR	✓	-	✓	-	-	✓	✓	Gateway	-		WIR
	WIR-RME-L	✓	-	✓	-	-	✓	✓	Gateway	-		WIR-RME-L
	WIRSC	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	-	-	-	✓	✓	✓	✓	✓	12ft		BTSO-12F
	BTS-14F	-	-	-	✓	✓	✓	✓	✓	14ft		BTS-14F
	BTS-40F	-	-	-	✓	✓	✓	✓	✓	40ft		BTS-40F

DEFAULT SETTINGS

NX Wireless	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	15 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	0%
	Daylight Sensor	Disabled
	Bluetooth	Enabled
	2.4GHz Wireless Mesh	On
	"Passcode Factory Passcode: HubbN3T!"	Enabled

Stand Alone	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	8 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	50%
	Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS



NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminaires and program NX system settings.

Apple App: <https://apps.apple.com/us/app/nx-lighting-controls/id962112904>

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&q=US



Apple App



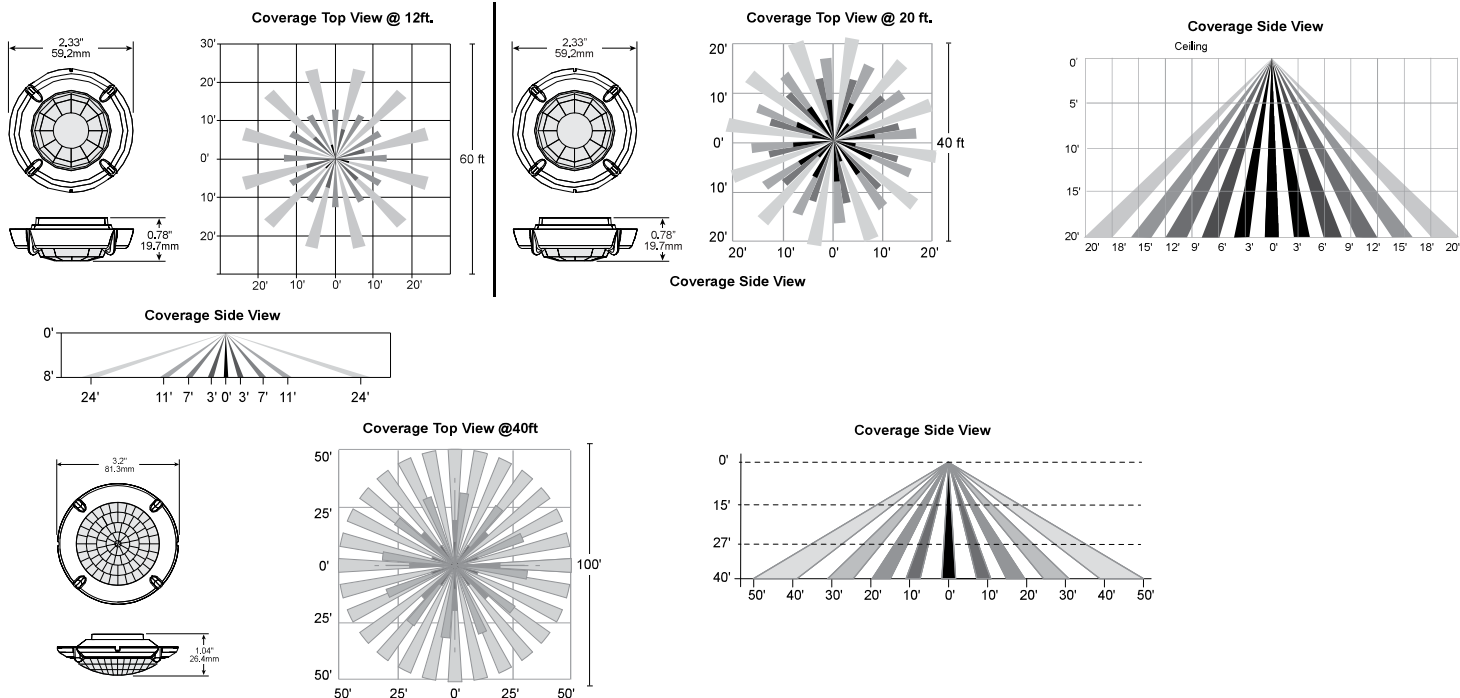
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	-	-	-	✓	✓	✓	✓	-	8ft or 40ft	SCP_F
	ADD	AutoDIM Timer Based Dimming	-	-	✓	-	-	-	✓	-	-	ADD
	ADT	AutoDIM Time of Day Dimming	-	-	✓	-	-	-	✓	-	-	ADT
	7PR	7-Pin Receptacle	-	-	Paired with external control	-	Paired with external control	-	Paired with external control	-	-	7PR
	7PR-SC	7-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-	-	 7PR-SC
	3PR	3-Pin twist lock	-	-	-	-	-	-	Paired with external control	-	-	3PR
	3PR-SC	3-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-	-	 3PR-SC
	3PR-TL	3-Pin with photocontrol	-	-	-	-	✓	-	✓	-	-	 3PR-TL

COVERAGE PATTERNS FOR SCP_F





VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

ORDERING GUIDE

Auto Dim Code	Timer Base (ADD) Auto-Dim Options		Auto Dim Cod	Time of Day (ADT) Auto-Dim Options	Code	Auto-Dim Brightness	Code	Auto-Dim Return Options	Code	Auto-Dim Brightness
D1	Delay 1 hour	OR	T0	Delay Midnight	0	100% Brightness	R1	Delay 1 hour or 1 AM	0	100% Brightness
D2	Delay 2 hours		T1	Delay 1 AM	1	10% Brightness	R2	Delay 2 hours or 2 AM	1	10% Brightness
D3	Delay 3 hours		T2	Delay 2 AM	2	20% Brightness	R3	Delay 3 hours or 3 AM	2	20% Brightness
D4	Delay 4 hours		T3	Delay 3 AM	3	30% Brightness	R4	Delay 4 hours or 4 AM	3	30% Brightness
D5	Delay 5 hours		T4	Delay 10 PM	4	40% Brightness	R5	Delay 5 hours or 5 AM	4	40% Brightness
D6	Delay 6 hours		T5	Delay 11 PM	5	50% Brightness	R6	Delay 6 hours or 6 AM	5	50% Brightness
D7	Delay 7 hours		T6	Delay 6 PM	6	60% Brightness	R7	Delay 7 hours or 7 AM	6	60% Brightness
D8	Delay 8 hours		T7	Delay 7 PM	7	70% Brightness	R8	Delay 8 hours or 8 AM	7	70% Brightness
D9	Delay 9 hours		T8	Delay 8 PM	8	80% Brightness	R9	Delay 9 hours or 9 AM	8	80% Brightness
D0	Delay 0 hours		T9	Delay 9 PM	9	90% Brightness	R0	Delay 0 hours or 12 AM	9	90% Brightness

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L ₇₀ (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier	Micro Strike Lumen Multiplier				Strike Lumen Multiplier			
0°C	32°F	1.03	CCT	70 CRI	80 CRI	90 CRI	CCT	70 CRI	80 CRI	90 CRI
10°C	50°F	1.01	2700K	–	0.841	–	2700K	0.9	0.81	0.62
20°C	68°F	1.00	3000K	0.977	0.861	0.647	3000K	0.933	0.853	0.659
25°C	77°F	1.00	3500K	–	0.900	–	3500K	0.959	0.894	0.711
30°C	86°F	0.99	4000K	1	0.926	0.699	4000K	1	0.9	0.732
40°C	104°F	0.98	5000K	1	0.937	0.791	5000K	1	0.9	0.732
			AP-Amber Phosphor Converted Multiplier				Monochromatic Amber Multiplier			
			Amber	0.710			Amber	See Amber Spec Sheet		

VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS	162					
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

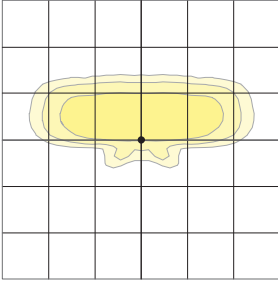
VIPER Area/Site

VIPER LUMINAIRE

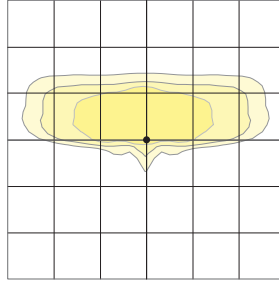
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

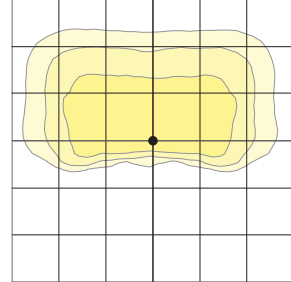
Type 2



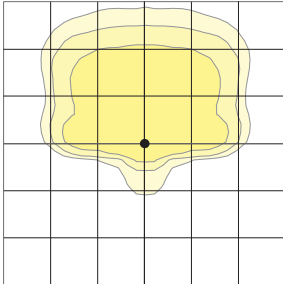
Type 3



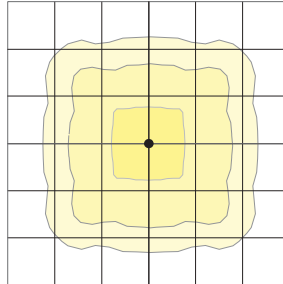
Type 4 Wide



Type 4F



Type 5QW



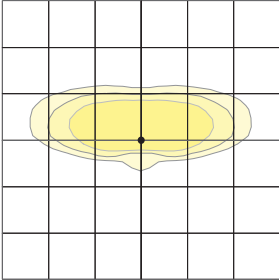
VIPER Area/Site

VIPER LUMINAIRE

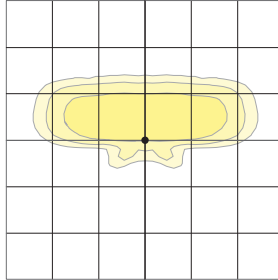
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

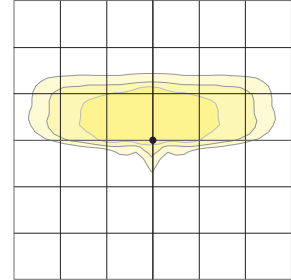
Type FR – Front Row/Auto Optic



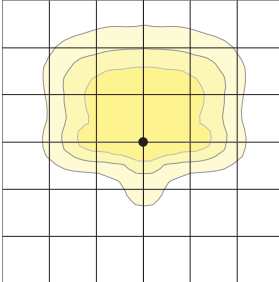
Type 2



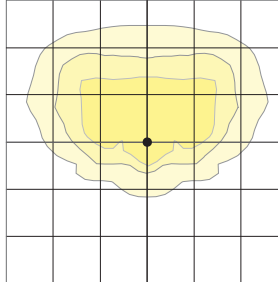
Type 3



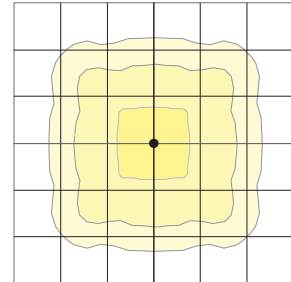
Type 4 Forward



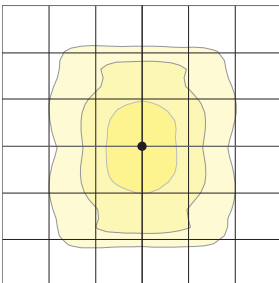
Type 4 Wide



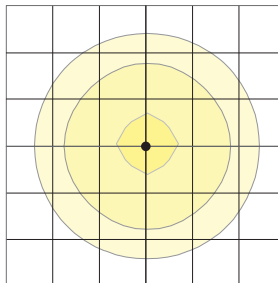
Type 5QM



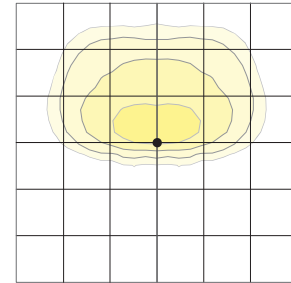
Type 5RW (rectangular)



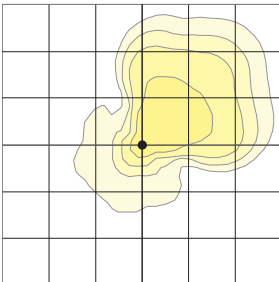
Type 5W (round wide)



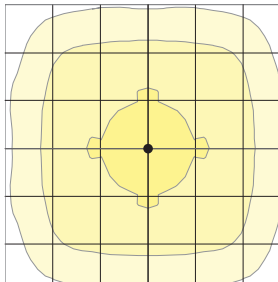
Type TC



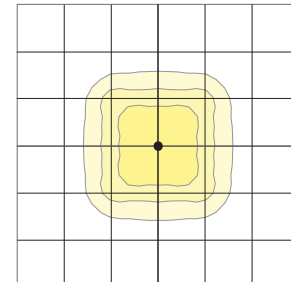
Type Corner



Type 5QW



Type 5QN



VIPER Area/Site

VIPER LUMINAIRE

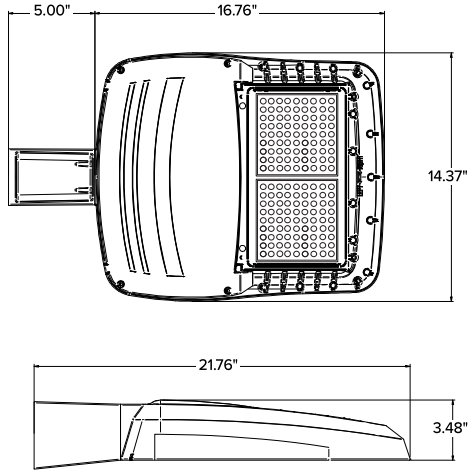
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

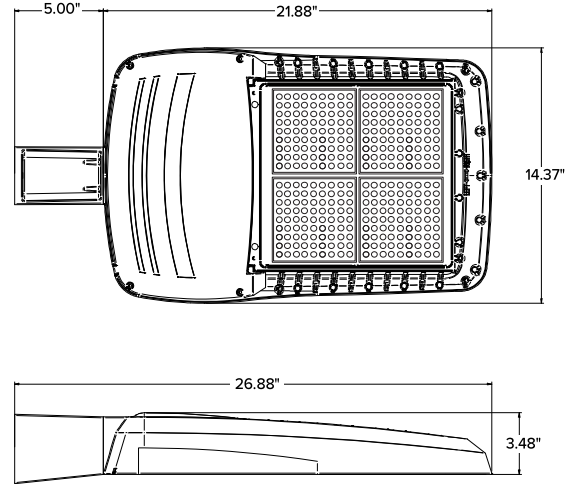
CATALOG #: _____

DIMENSIONS

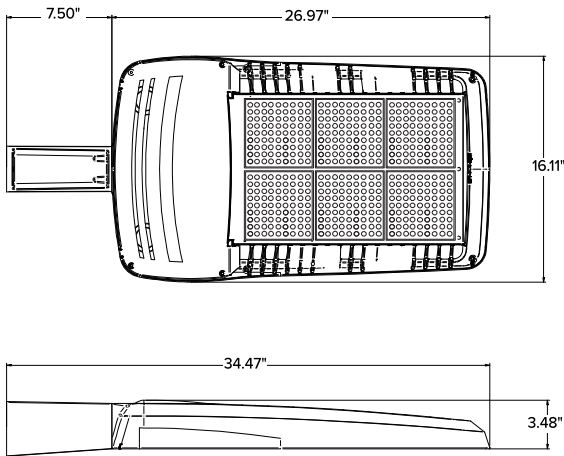
SIZE 1



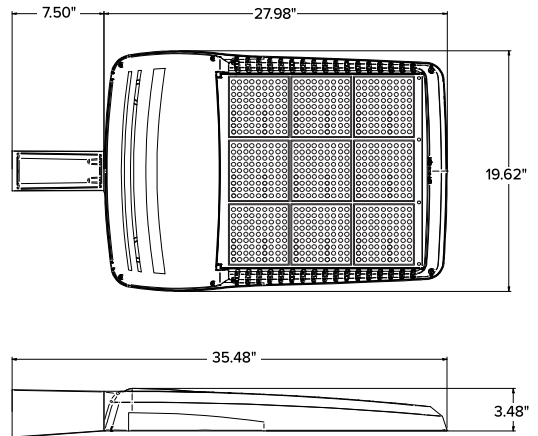
SIZE 2



SIZE 3



SIZE 4



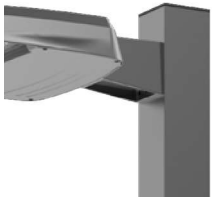
	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

VIPER Area/Site

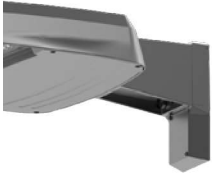
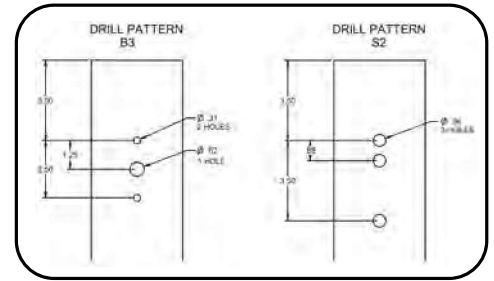
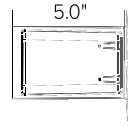
VIPER LUMINAIRE

MOUNTING



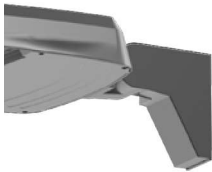
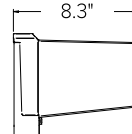
A-STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)



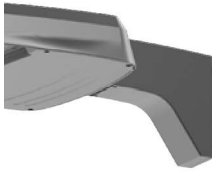
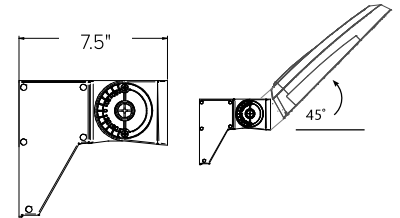
ASQU-UNIVERSAL ARM MOUNT

Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



AAU-ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 5° aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



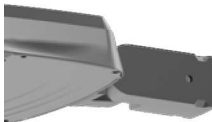
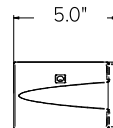
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



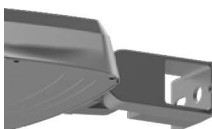
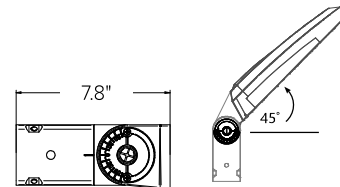
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



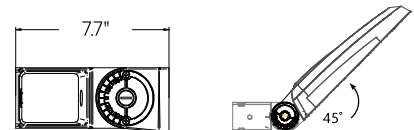
K-KNUCKLE

Rotatable in 5-degree aiming angle increments, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



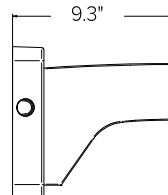
T-TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM-WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



VIPER Area/Site

VIPER LUMINAIRE

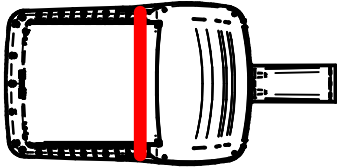
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

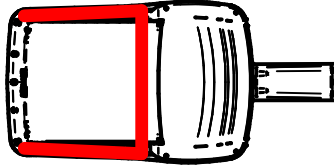
HSS has a depth of 5" for all Viper sizes

Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

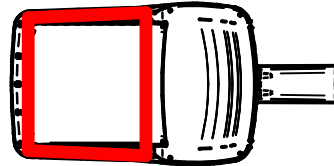
VPR2x HSS-90-B-xx



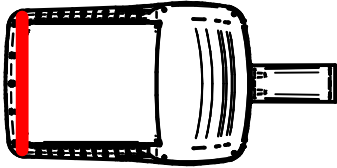
VPR2x HSS-270-BSS-xx



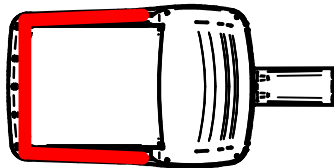
VPR2x HSS-360-xx



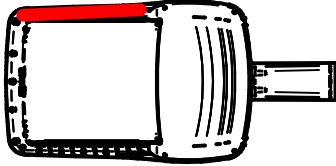
VPR2x HSS-90-F-xx



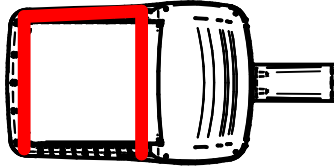
VPR2x HSS-270-FSS-xx



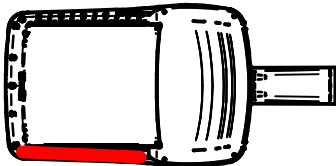
VPR2x HSS-90-S-xx



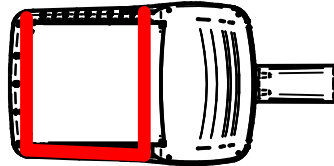
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx

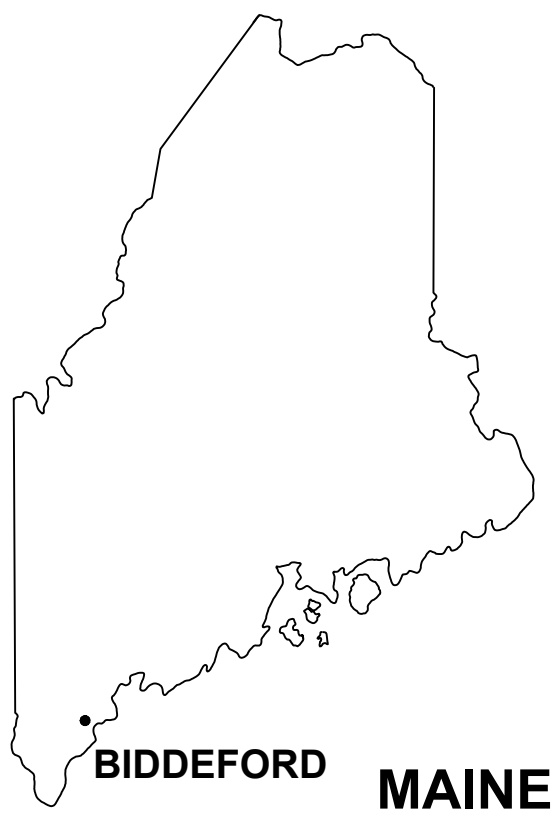


VPR2x HSS-270-FSB-xx



BELLE WOODS PRELIMINARY SUBDIVISION REVIEW

512 POOL STREET, BIDDEFORD, MAINE



PROJECT INFORMATION

CIVIL ENGINEER HALEY WARD, INC. ATTN: DREW OLEHOWSKI, PE 120 MAIN STREET, SUITE 132 SACO, MAINE 04072 T: 207.283.9151	OWNER/APPLICANT COASTAL OAKS, LLC ATTN: ETHAN SCOTT 198 SACO AVENUE OLD ORCHARD BEACH, MAINE T: 207.710.7570	
SURVEYOR COLLIERS ENGINEERING & DESIGN ATTN: JOSHUA EON, PLS 234 MAIN STREET, 1st & 2nd FLOOR BIDDEFORD, MAINE 04005 T: 207.481.7080	ENVIRONMENTAL CONSULTANT MAINELY SOILS LLC. ATTN: ALEX FINAMORE, ME-LSE 440 SWAMP ROAD DURHAM, MAINE 04222 T: 207.650.4313	
UTILITY PROVIDERS WATER MAINE WATER COMPANY 93 INDUSTRIAL PARK ROAD SACO, MAINE 04072 T: 800.287.1643	SEWER CITY OF BIDDEFORD WASTEWATER DIVISION 63 WATER STREET BIDDEFORD, MAINE 04005 T: 207.282.1350	ELECTRIC CENTRAL MAINE POWER 83 EDISON DRIVE AUGUSTA, MAINE 04330 T: 800.750.4000

- PERMITS AND APPROVALS:**
- CITY OF BIDDEFORD SITE PLAN REVIEW - UNDER REVIEW
 - CITY OF BIDDEFORD SUBDIVISION APPLICATION - UNDER REVIEW



LOCATION MAP

INDEX OF DRAWINGS

C000	COVER SHEET
C001	GENERAL NOTES, ABBREVIATIONS, & LEGEND
1	TOPOGRAPHIC & BOUNDARY SURVEY
V102	EXISTING CONDITIONS & HIGH INTENSITY SOIL SURVEY
C100	SITE DEMOLITION AND EROSION CONTROL PLAN
C101	PRELIMINARY SUBDIVISION PLAN
C102	SITE LAYOUT & UTILITY PLAN
C103	OVERALL GRADING & UTILITY PLAN
C501	SITE DETAILS
C701	PRE-DEVELOPMENT HYDROLOGY PLAN
C702	POST-DEVELOPMENT HYDROLOGY PLAN

NOT FOR CONSTRUCTION
FEBRUARY 25, 2025



FILE LOCATION: P:\MET18871\LAND\WEINS\TENS19\12 POOL ST. 04066.CAD, J:\ESCHVAL\18871\018-CR-R.DWG, 2025.02.21, 10:28 AM

EROSION CONTROL NOTES

- ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BMPS, PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
- SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
- SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
- ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
- A SUITABLE BINDER SUCH AS CURASOL OR TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
- IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDINGS WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
- IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
- ALL CATCH BASINS ARE TO BE PROTECTED BY STRAW BALE OR SILTFENCE IN ACCORDANCE WITH SECTION B-3. STORM DRAIN INLET PROTECTION OF THE MAINE BMP HANDBOOK. SURROUNDING AREAS CAN BE EXCAVATED OR LEFT LOW AS A SEDIMENT TRAP. CURB INLETS SHALL BE PROTECTED BY GUTTERGATORS, OR APPROVED EQUIVALENT.
- INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 9 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
- THE CONTRACTOR SHALL PROVIDE A SEDIMENT BASIN FOR ALL WATER PUMPED FROM EXCAVATIONS. BASIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES". THE CONTRACTOR SHALL SUBMIT FOR REVIEW/APPROVAL PRIOR TO BEGINNING ANY PROJECT WORK.
- CONSTRUCTION OVERSIGHT:
THE CONTRACTOR WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF 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 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.
- LOT GRADING AND DRIVEWAY LOCATION
INSPECTIONS BY A PROFESSIONAL ENGINEER WILL CONSIST OF A VISIT TO THE SITE PRIOR TO CONSTRUCTION TO CONSULT WITH THE EARTHWORK CONTRACTOR AND A POST CONSTRUCTION MEETING TO CONFIRM GRADING ON LOTS AND FOR ALL DRIVEWAYS TO ENSURE RUNOFF IS DIRECTED ACCORDING TO PLANS AND TO OVERSEE THE RE-STABILIZATION OF THE LOT INTO A VEGETATED COVER.
- DEWATERING
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADE IN EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.
- BASIC STANDARDS - EROSION CONTROL MEASURES:
MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

CONTRACTOR WILL BE RESPONSIBLE FOR FOLLOWING PROCEDURES FOUND IN THE "MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS" (PUBLISHED MARCH 2015). THE PUBLICATION CAN BE FOUND AT: [HTTP://WWW.MAINE.GOV/DEP/LAND/EROSION/BMPS/INDEX.HTML](http://www.maine.gov/dep/land/erosion/bmps/index.html)

GENERAL CONSTRUCTION NOTES

- CONTRACTOR TO PROVIDE OWNER AND ENGINEER WITH A WORK PLAN OUTLINING THE WORK SCHEDULE, TRAFFIC CONTROL PLAN, AND WORK AREA BARRICADING PLAN TO BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD, UTILITY COMPANIES, DIG SAFE, AND EMERGENCY SERVICES, WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY CONDITION OR OCCURRENCE THAT REPRESENTS A CHANGE IN PROJECT SCOPE. VERBAL NOTIFICATION IS REQUIRED PRIOR TO PROCEEDING WITH THE WORK OF THE PROJECT AND WRITTEN NOTIFICATION MUST BE PROVIDED. REQUESTS FOR FEE ADJUSTMENTS WILL NOT BE CONSIDERED UNLESS PROPER NOTICE IS GIVEN.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS AS REQUIRED TO PERFORM THE WORK AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
- THE CONTRACTOR SHALL SUPERVISE AND INSPECT THE WORK OF THIS PROJECT IN AN EFFICIENT AND COMPETENT MANNER. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE WORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. A REPRESENTATIVE OF THE GENERAL CONTRACTOR SHALL BE PRESENT DURING ALL PHASES OF THE WORK.
- SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY STANDARDS OF APPLICABLE LAWS, BUILDING AND CONSTRUCTION CODES, THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND THE REQUIREMENTS OF TITLE 9 OF THE CODE OF FEDERAL REGULATIONS, PART 1926, "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION".
- THE LOCATIONS OF ALL PROPERTY LINES AND RIGHT OF WAYS ARE APPROXIMATE (SHOWN FOR REFERENCE ONLY). UNLESS NOTED OTHERWISE, PROPERTY LINES AND RIGHT OF WAYS SHOWN ARE NOT INTENDED TO REPRESENT LEGAL BOUNDARIES.
- THE LOCATION, TYPE AND SIZE OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. DEPTH OF SERVICES ARE UNKNOWN AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. EXCAVATING TEST PITS AS NECESSARY TO VERIFY UTILITY LOCATIONS AND DEPTHS SHALL BE INCIDENTAL TO THIS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING TOPOGRAPHY AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING PIPE SIZES, INVERTS, AND LOCATIONS, AND SHALL INCLUDE IN SUBMITTAL PRIOR TO ORDERING.
- LAYOUT OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL GRADE AND LAYOUT CONTROL. LAYOUT SHOULD BE PERFORMED WITH SURVEY EQUIPMENT AND OVERSEEN BY A LICENSED SURVEYOR. A CAD FILE WILL BE AVAILABLE TO THE CONTRACTOR.
- THE WORK SHALL INCORPORATE EROSION CONTROL MEASURES WHICH ARE COMPLIANT WITH THE LATEST VERSION OF "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES".
- CONTRACTOR SHALL BE REQUIRED TO PROVIDE DUST CONTROL FOR PROJECT WHICH CAN INCLUDE, BUT IS NOT LIMITED TO, WATER AND CALCIUM CHLORIDE. COST IS INCIDENTAL TO THE PROJECT.
- RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, GATES, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT SAFE WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
- HOURS FOR THE PROJECT WILL BE MONDAY THROUGH FRIDAY, FROM 7:00 AM TO 7:00 PM, UNLESS OTHERWISE AUTHORIZED BY THE OWNER.
- CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT WITHIN THE CONFINES OF THE RIGHT OF WAY OF THE STREETS AND UTILITY EASEMENTS. ANY ACTIVITY, MATERIAL STORAGE ETC., TAKING PLACE ON PRIVATE PROPERTY SHALL BE WITH THE EXPRESS WRITTEN PERMISSION OF THE OWNER AND PROPERTY OWNER AND COORDINATED WITH THE OWNER. WORK OUTSIDE OF THESE LIMITS MAY BE REQUIRED. THE OWNER WILL COORDINATE SECURING EASEMENTS FOR THIS WORK.
- DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT TOWN OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.

- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT EQUIPMENT FLUIDS FROM REACHING ANY WATER COURSE. ANY INADVERTENT FLUID DISCHARGES SHALL BE IMMEDIATELY CLEANED FROM THE WATERS USING WHATEVER MEANS NECESSARY, AS DETERMINED BY THE ENGINEER.
- ALL WATER MAINS AND SERVICES WILL HAVE A MINIMUM 6.0 FEET OF COVER UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
- DECHLORINATION OF DISINFECTION WATER WILL BE A REQUIREMENT DURING THE PIPE DISINFECTION PROCESS.
- THE CONTRACTOR SHALL PROVIDE THRUST BLOCKS AT ALL TEES AND BENDS IN THE NEW WATER MAIN PIPING UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL BACKFILL TRENCH FOLLOWING EACH DAYS CONSTRUCTION. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT UNLESS APPROVED BY ENGINEER AND PROPERLY BARRICADED (IE. SNOW FENCING, CHAIN LINK FENCING, JERSEY BARRIER OR APPROVED EQUAL. CAUTION RIBBON AND EQUIPMENT PLACEMENT WILL NOT BE APPROVED AS BARRICADING. CONTRACTOR IS RESPONSIBLE TO MAINTAIN TRENCH AS DIRECTED BY THE ENGINEER
- ALL FINISH SURFACES SHALL BE INSTALLED TO PROMOTE POSITIVE DRAINAGE. IN NO WAY SHALL THE NEW FINISH SURFACES CREATE DRAINAGE PROBLEMS THAT DID NOT EXIST PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL CONTACT UTILITY POLE OWNERS ADJACENT TO AREAS OF EXCAVATION TO ARRANGE POLE SUPPORT DURING EXCAVATION. BRACING OF UTILITY POLES WHERE REQUIRED SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE UNLESS OTHERWISE NOTED.
- ALL SIGNING, SIGNAL, AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MDOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- RESTORE ALL AREAS DISTURBED BY CONTRACTORS OPERATION TO ORIGINAL CONDITIONS (GRAVEL, PAVEMENT, GRASS, CURB, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF ROADS, CURBS, PARKING SURFACES AND LAWNS DAMAGED BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE PROJECT.
- EXISTING FACILITIES, PLANTINGS AND IMPROVEMENTS (I.E. TREES, LIGHT POLES, SIGNS, CONCRETE SIDEWALK, ETC.) SHALL BE REMOVED AND REPLACED OR PROTECTED AS REQUIRED DURING CONSTRUCTION. THE ASSOCIATED COSTS ARE INCIDENTAL TO THE PROJECT.
- ALL MATERIALS SCHEDULED FOR REMOVAL SHALL BE DISPOSED OF IN A LEGAL MANNER BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY DEMOLITION MATERIALS.
- DISPOSAL OF SURPLUS SOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SURPLUS MATERIAL SHALL NOT BE DISPOSED OF ON THE PROJECT SITE. DISPOSAL SHALL BE MADE ONLY AT WASTE AREAS WHICH ARE LICENSED TO ACCEPT SUCH MATERIALS. UNLESS THE MATERIAL IS ACCEPTABLE FOR USE AS FILL IN OTHER AREAS OF THE PROJECT. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY SURPLUS SOIL MATERIALS.
- ALL PROPOSED WATER MAIN PIPING SHALL BE CLASS 52 DUCTILE IRON AND ALL PROPOSED STORM DRAIN PIPING SHALL BE HDPE SMOOTH INTERIOR/CORRUGATED EXTERIOR.
- ALL PROPOSED WATER SERVICE PIPING SHALL BE 1" TYPE K COPPER UNLESS OTHERWISE NOTED.
- INSTALL FOUR BRONZE WEDGES AT ALL DUCTILE IRON BELL & SPIGOT JOINTS IN WATER MAIN, COST INCIDENTAL TO WATER MAIN INSTALLATION.
- ALL MATERIALS, COMPONENTS, PRODUCTS, SYSTEMS AND COATINGS THAT COME INTO CONTACT WITH DRINKING WATER MUST BE CERTIFIED TO MEET NSF/ANSI STANDARD 61.
- JOINTS SHALL BE RUBBER GASKETED PUSH-ON OR MECHANICAL JOINT TYPE. GASKETS SHALL BE MADE OF SBR RUBBER. FOR WATER MAIN LOCATED WITHIN PETROLEUM HYDROCARBON AND/OR CHLORINATED SOLVENT CONTAMINATED SOILS, GASKETS SHALL BE MADE OF OIL RESISTANT BUNA-N NITRILE RUBBER. WHEN CONTAMINATED SOIL IS ENCOUNTERED UNEXPECTEDLY IN THE FIELD, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER. ALL JOINTS SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF ANSI/AWWA C111/A21.11.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY WATER SERVICE TO THE RESIDENCES, AS NEEDED, TO MAINTAIN WATER SERVICE DURING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN TEMPORARY WATER THROUGHOUT CONSTRUCTION OF THE PROJECT. A PAY ITEM HAS BEEN PROVIDED FOR THIS WORK. THE CONTRACTOR SHALL PROVIDE A TEMPORARY WATER SERVICE PLAN TO THE OWNER AND ENGINEER FOR APPROVAL PRIOR TO INSTALLATION SYSTEM. COST TO PROVIDE PLAN SHALL BE INCIDENTAL TO ITEM. TEMPORARY WATER SERVICE PLAN SHALL INCLUDE PIPE MATERIAL, PIPE ROUTING, BURIAL DEPTHS WHERE NEEDED, DISINFECTION PROCESS AND ANY OTHER INFORMATION THAT MAY BE REQUIRED FOR APPROVAL.
- AT THE END OF EACH DAY'S WORK, THE CONTRACTOR SHALL SPRAY THE INSIDE OF THE END OF WATER PIPE WITH SODIUM HYPOCHLORITE AND BLOCK PIPE OVERNIGHT WITH SANITARY WATERTIGHT PLUG TO PREVENT ANIMALS FROM ENTERING PIPE.
- PROPOSED SERVICES SHALL BE PROVIDED FROM THE NEW MAIN TO THE RIGHT-OF-WAY, OR AS INDICATED ON THE PLANS.
- CONTRACTOR SHALL INSTALL A WATER SERVICE TO EACH LOT.
- COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LANDOWNERS AT LEAST TWO DAYS (48 HOURS) PRIOR TO DISRUPTION. ALL UTILITY COORDINATION IS RESPONSIBILITY OF CONTRACTOR.
- WATER SERVICES SHALL NOT BE DISCONTINUED AT ANY HOUSE PRIOR TO 10:00 AM WITHOUT WRITTEN NOTIFICATION TO THE PROPERTY OWNER.
- ALL EXISTING WATER MAINS, STORM DRAINS AND SEWER MAINS ABANDONED SHALL BE CAPPED AND FILLED WITH FLOWABLE FILL, COST SHALL BE INCIDENTAL TO PROJECT.
- UNLESS OTHERWISE NOTED, RIM ELEVATIONS FOR PROPOSED MANHOLE AND CATCH BASIN STRUCTURES SHALL BE FIELD ADJUSTED TO FINISHED GRADES IN ACCORDANCE WITH DETAILS.
- ALL TEST PITS NECESSARY TO LOCATE SERVICES SHALL BE INCIDENTAL TO THE PROJECT.
- CONTRACTOR SHALL MAINTAIN TRAFFIC IN A SAFE MANNER AT ALL TIMES DURING CONSTRUCTION. MDOT TRAFFIC CONTROL AND SIGNAGE REQUIREMENTS SHALL APPLY ON THE TOWN OF MILFORD STREETS. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION. THE ROADS SHALL NOT BE CLOSED TO TRAFFIC WITHOUT PERMISSION FROM THE TOWN OF MILFORD.
- DRIVEWAY APRONS SHALL BE PAVED TO MATCH PROPOSED ROADWAY. APRON DIMENSIONS SHALL BE APPROVED BEFORE PAVING. APRON AREAS SHOWN ON THE PLANS ARE APPROXIMATE.
- PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT WILL BE RESET AT THE CONTRACTOR'S EXPENSE, BY A REGISTERED LAND SURVEYOR APPROVED BY THE ENGINEER.

ABBREVIATIONS

@	AT	MAX.	MAXIMUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MDOT	MAINE DEPT. OF TRANSPORTATION
APPROX.±	APPROXIMATELY	MH MIN	MANHOLE MINIMUM
BLDG	BUILDING	N	NORTHING
CL	CENTERLINE	NE	NORTHEAST
CB	CATCH BASIN	N.T.S.	NOT TO SCALE
CLR	CLEAR	NWT	NON WOVEN GEOTEXTILE
CMP	CORRUGATED METAL PIPE	OD	OUTSIDE DIAMETER
CO	CLEANOUT	O.C.	ON CENTER
CPE	CORRUGATED POLYETHYLENE	OH	OVERHEAD
		OZ	OUNCES
		PERF	PERFORATED
DI	DUCTILE IRON		
DIA.	DIAMETER	PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
E	EASTING	PVC	POLYVINYL CHLORIDE
EL	ELEVATION	PL	PROPERTY LINE
EFM	EXISTING FORCE MAIN	POH	PROPOSED OVERHEAD ELECTRIC
EPS	EXTRUDED POLYSTYRENE	FUGE	PROPOSED UNDERGROUND ELECTRIC
FM	FORCEMAIN	R	RADIUS
GAL	GALLON	S	SLOPE
GALV	GALVANIZED	SCL	STORMWATER COLLECTION LINE
		SCS	STORMWATER COLLECTION SYSTEM
GPH	GALLONS PER HOUR	SDR	STANDARD DIMENSION RATIO
GP	GALLONS PER MINUTE	SE	SOUTHEAST
		SHT	SHEET
HDPE	HIGH DENSITY POLYETHYLENE	SO	SQUARE
HP	HORSEPOWER	SS	STAINLESS STEEL
		SY	SQUARE YARD
ID	INSIDE DIAMETER		
IN.	INCHES	TBM	TEMPORARY BENCH MARK
INT.	INTERSECTION	TOC	TOP OF CONCRETE
INV.	INVERT	TYP	TYPICAL

LEGEND:

ITEMS SHOWN MAY NOT APPEAR ON PLANS

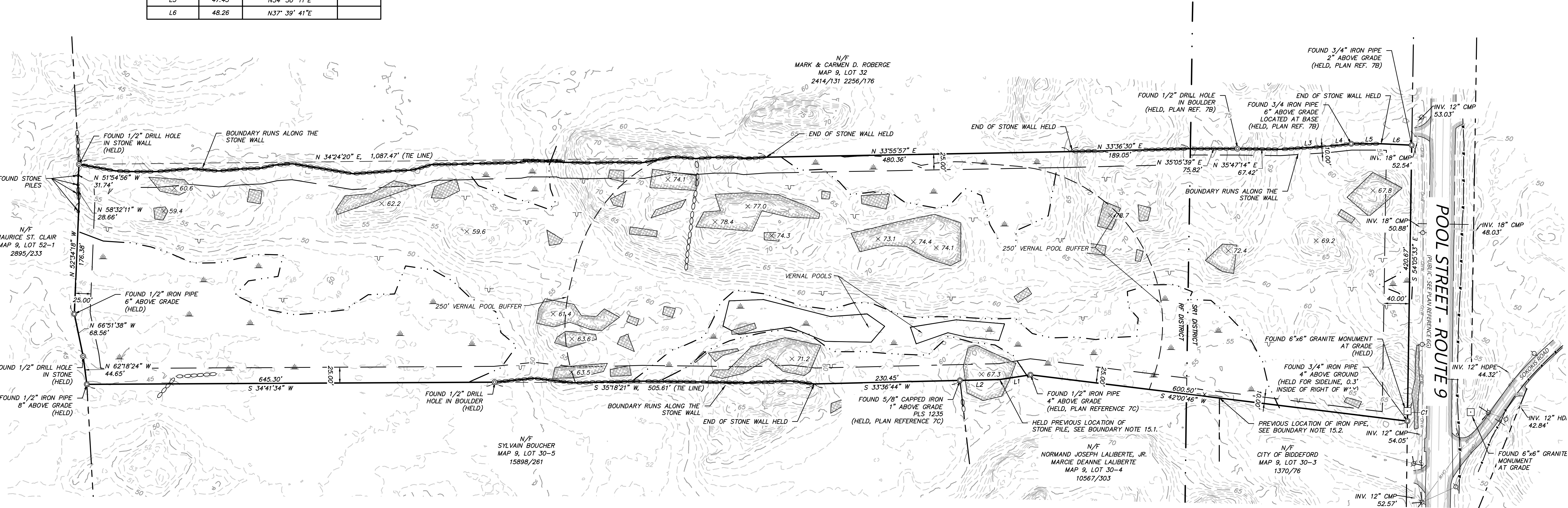
DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		
BENCHMARK		
SURVEY STATION		
IRON PIN		
DRILL HOLE		
BOUND		
TEST PIT		
SEWER MANHOLE		
GAS VALVE		
UTILITY POLE		
GUY ANCHOR		
ELECTRICAL MANHOLE		
TRANSFORMER		
PULLBOX		
WELL		
WATER VALVE		
WATER SHUTOFF		
HYDRANT		
AIR RELIEF VALVE		
DRAINAGE MANHOLE		
CATCH BASIN		
CURB INLET		
PARKING LIGHT		
FLOOD LIGHT		
SITE LIGHT		
SIGN		
TRASH CAN		
FLAGPOLE		
MONITORING WELL		
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
CURBING		
MAJOR FOOT CONTOUR	100	100
MINOR FOOT CONTOUR	98	98
WATERLINE	W	W
STORM DRAIN	SD	SD
UNDER DRAIN	UD	UD
SANITARY SEWER	SS	SS
FORCE MAIN	FM	FM
OVERHEAD UTILITIES	OHU	OHU
UNDERGROUND UTILITIES	UGU	UGU
GAS LINE	GAS	GAS
CHAIN LINK FENCE	X	X
GUARDRAIL		
SILT FENCE		SF
TREE LINE		

GRAVEL SURFACE	
PAVED SURFACE	
CONCRETE SURFACE	
BUILDING FOOTPRINT	
WETLANDS	
RIPRAP	
LEDGE OUTCROPPING	
BUILDING ENVELOPE	

REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING WWW.HALEYWARD.COM One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
GENERAL NOTES, ABBREVIATIONS & LEGEND				
DATE 2025.02.25		SCALE NTS		
DRAWN BY PJM	DESIGNED BY ---	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
DRAWING No. C001				



PARCEL LINE AND CURVE SEGMENTS			
SEGMENT	LENGTH	BEARING / DELTA	RADIUS
C1	15.82	0°02'22"	22918.33
L1	49.51	S26° 17' 50"W	
L2	62.70	S33° 46' 05"W	
L3	75.82	N31° 25' 40"E	
L4	37.16	N28° 47' 23"E	
L5	47.43	N34° 50' 11"E	
L6	48.26	N37° 39' 41"E	



LEGEND	
	PROPERTY LINE
	EDGE OF PAVEMENT
	WETLAND LINE
	TREELINE
	OVERHEAD WIRE
	UNDER GROUND WATER MAIN
	STORM PIPE
	LEDGE
	MAJOR CONTOUR
	MINOR CONTOUR
	SPOT ELEVATION
	ABUTTER LINE
	MUNICIPAL ZONE BOUNDARY
	WATER SERVICE BOX
	HYDRANT
	REBAR
	MONUMENT FND
	SIGN
	MAILBOX
	UTILITY POLE
	GUY WIRE
	STONE PILE
	LEDGE
	GPS POINT

GENERAL NOTES:

1. THE RECORD OWNERS OF THE LOCUS PARCEL IS AS FOLLOWS:

PAUL J. BARTON & TERESA M. BARTON BY DEED DATED DECEMBER 31, 2009 AND RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD) IN BOOK 15821, PAGE 456.

2. THE PROPERTY IS SHOWN AS LOT 31 ON THE CITY OF BIDDEFORD, MAINE TAX MAP 9, AND IS LOCATED IN BOTH THE RURAL FARM (RF) DISTRICT & SUBURBAN RESIDENTIAL (SR1) DISTRICT.

3. SPACE AND BULK CRITERIA FOR THE SR1 & RF DISTRICTS ARE AS FOLLOWS:

	RF DISTRICT 20,000 S.F.*	SR1 DISTRICT 20,000 S.F.*
MINIMUM LOT SIZE:	120 FEET*	100 FEET*
MINIMUM STREET FRONTAGE:	25 FEET*	40 FEET*
MINIMUM FRONT YARD:	25 FEET	10 FEET
MINIMUM SIDE YARD:	25 FEET	10 FEET
MINIMUM REAR YARD:	25 FEET	10 FEET
MAXIMUM BUILDING HEIGHT:	35 FEET	35 FEET

* SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.

4. TOTAL AREA OF PARCEL IS APPROXIMATELY 17.45 ACRES.

5. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY COLLIERS ENGINEERING & DESIGN INC. IN APRIL OF 2023.

6. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY COLLIERS ENGINEERING & DESIGN INC. IN APRIL OF 2023. TRADITIONAL SURVEY MEANS AND METHODS SUPPLEMENTED WITH SUAS BASED LIDAR WERE EMPLOYED IN THE COLLECTION OF THIS TOPOGRAPHIC INFORMATION. ALL DATA REMOTELY COLLECTED HAS BEEN TESTED TO MEET AND/OR EXCEED THE NATIONAL MAPPING STANDARDS FOR 1 FOOT CONTOUR INTERVALS SET FORTH BY THE AMERICAN SOCIETY FOR PHOTOGRAMMETRY & REMOTE SENSING (ASPRS).

7. PLAN REFERENCES:

- "MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP - STATE AID HIGHWAY NO. 2 - FEDERAL AID SECONDARY PROJECT 5 0112 (4) - S.H.C. FILE NO. 16-116 - SHEET 5 OF 5, DATED JANUARY, 1957 AND RECORDED IN PLAN BOOK 31, PAGE 7.
- "PLAN OF LAND OF CARMEN & MARK ROBERGE ON THE NEW POOL ROAD - BIDDEFORD, ME" PREPARED BY ASSOCIATED PLANNING, DATED SEPTEMBER 15, 1979 AND RECORDED IN PLAN BOOK 101, PAGE 39.
- "PLAN SHOWING A STANDARD BOUNDARY SURVEY OF PROPERTY OF JAMES F. CHRETIEN" PREPARED BY WILLIAM PIERCE, P.L.S. #1235, DATED DECEMBER 13, 2000 AND RECORDED IN PLAN BOOK 261, PAGE 33.

8. BOOK AND PAGE REFERENCES SHOWN HEREON ARE IN REFERENCE TO THE YORK COUNTY REGISTRY OF DEEDS (Y.C.R.D.).

9. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NADE83. ELEVATIONS DEPICTED HEREON ARE NAVD88, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.

10. UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD C/ASCE 38-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.

11. LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR BIDDEFORD, MAINE, YORK COUNTY, COMMUNITY-PANEL NUMBER 2301450005B HAVING AN EFFECTIVE DATE OF MAY 15, 1994. THE ENTIRETY OF THE PARCEL FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF MINIMAL FLOODING.

12. A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE IN JANUARY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINELY SOILS LLC. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS. ALL WETLAND FLAGS WERE LOCATED USING GLOBAL POSITIONING SYSTEMS (GPS) TECHNOLOGY CAPABLE OF SUB-METER ACCURACY.

13. A VERNAL POOL SURVEY WAS PERFORMED DURING APRIL AND MAY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINELY SOILS LLC. THIS SURVEY CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN CHAPTER 335, SECTION 9, OF THE NATURAL RESOURCE PROTECTION ACT, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

14. DEED REFERENCES:

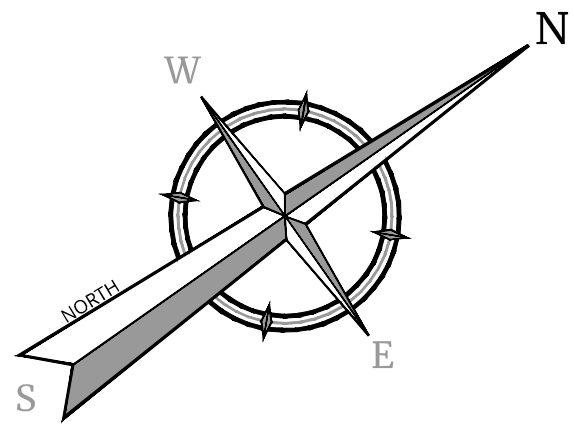
14.1. JOSEPH CARMINE SERPICO (ESTATE) TO MARY A. & PAUL J. BARTON, DATED OCTOBER 19, 1998, RECORDED IN DEED BOOK 9095, PAGE 336.

15. BOUNDARY NOTES:

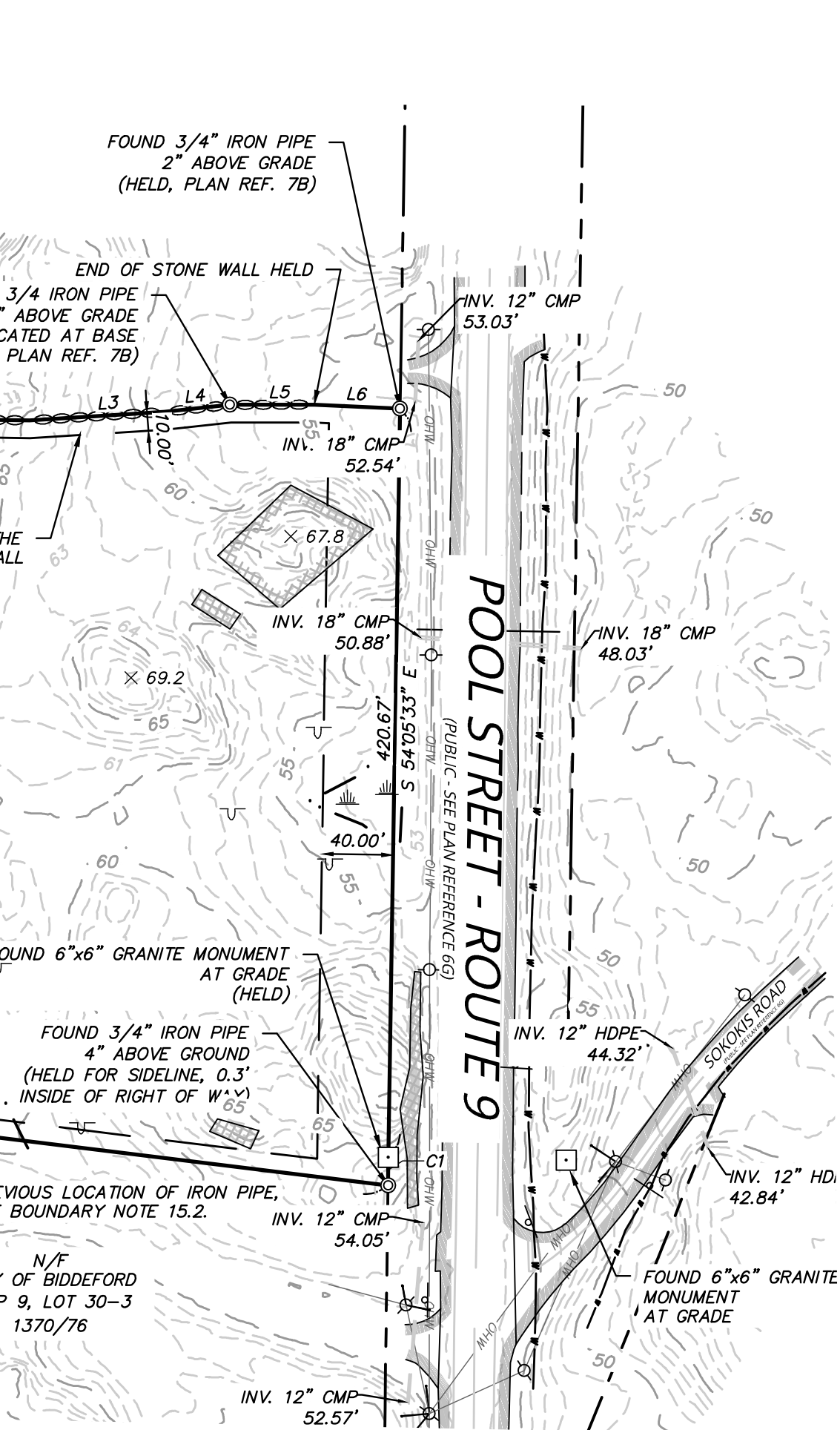
15.1. THE STONE HEAP AS CALLED FOR IN DEED REFERENCE 14.1 AND SHOWN ON PLAN REFERENCE 7C WAS NOT RECOVERED IN THE FIELD. THE BEARINGS SHOWN ON PLAN REFERENCE 7C AND MONUMENTS FOUND IN THE FIELD WERE USED TO REESTABLISH ITS LOCATION.

15.2. THE IRON PIPE SHOWN ON PLAN REFERENCE 7C WAS NOT RECOVERED. THE PREVIOUS LOCATION WAS DETERMINED UTILIZING PLAN REFERENCE 7C AS WELL AS HOLDING A DISTANCE OF 300.9' NORTH EASTERLY FROM THE FOUND IRON PIPE TO THE SOUTH WEST.

16. THE BOUNDARY BETWEEN THE RF ZONE & THE SR1 ZONE WAS DETERMINED UTILIZING THE ONLINE GIS SERVICES PROVIDED BY THE CITY OF BIDDEFORD. 350 FEET FROM THE SOUTHERLY SIDE OF THE POOL STREET RIGHT OF WAY WAS HELD AS MEASURED.



VICINITY MAP
BIDDEFORD, MAINE N.T.S.



SURVEYORS CERTIFICATION:

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT WAS PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

JOSHUA R. EGAN, MAINE, PLS 2558
DATE: 6/30/2023



SCALE: 1" = 80'

Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m)

Colliers

Engineering
& Design

www.colliersengineering.com

Copyright © 2023, Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the service was contracted or to whom it is certified. This drawing may not be copied, revised, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Doing Business as

MASER CONSULTING

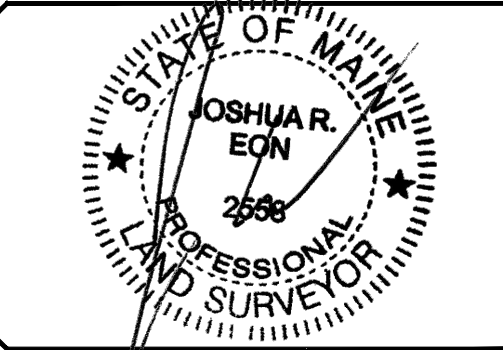


Know what's below.
Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS
VISIT: WWW.CALL811.COM

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF
EXCAVATORS, DESIGNERS, OR ANY PERSON
PREPARING TO DISTURB THE EARTH'S
SURFACE ANYWHERE IN ANY STATE

REV	DATE	DRAWN BY	DESCRIPTION
1	6/30/23	JRE	ISSUED TO CLIENT
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			



TOPOGRAPHIC & BOUNDARY
SURVEY

FOR
COASTAL OAKS LLC

512 POOL ST
YORK COUNTY
BIDDEFORD, MAINE
TAX MAP 9 LOT 31

RECORD OWNER
ANTHONY & MARGARET
SERPICO
16 GOODALE AVE
SACO, ME

Colliers

Engineering
& Design
#

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/17/2023	JRE	DJH
PROJECT NUMBER:	DRAWING NAME:		
23002285A	23002285A_POOLRD_BIDDEFORD		

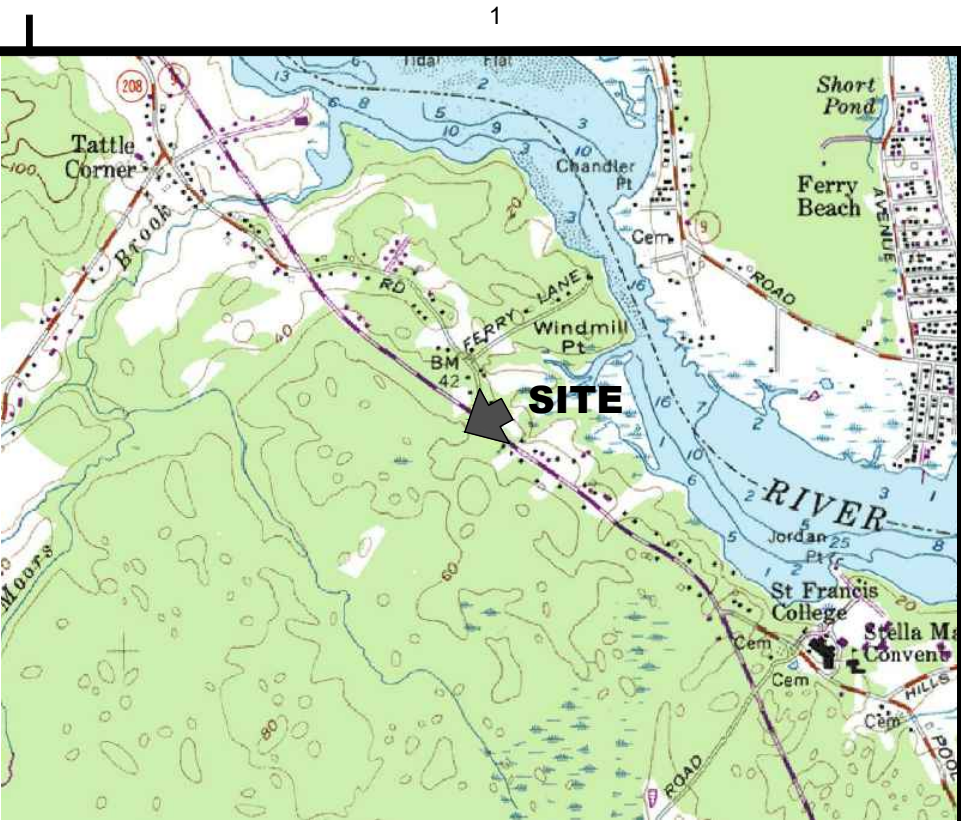
BOUNDARY AND
TOPOGRAPHIC SURVEY

SHEET NUMBER:

1 of 1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

FILE LOCATION: P:\MET13871\HNDL WEBS TENG19\512 POOL ST 3D\0502.CAD, TILESCHVALKEE\513871\01\BASE.DWG, 2025.02.21, 10:28 AM

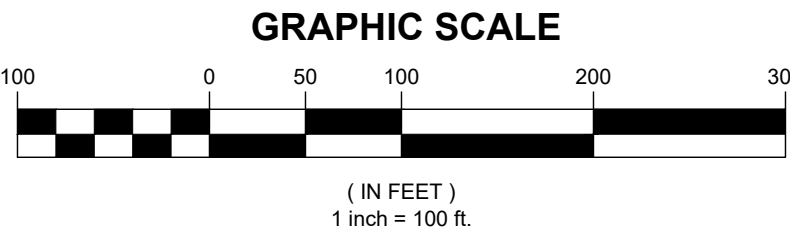


LOCATION MAP: USGS QUADRANGLE, BIDDEFORD
MAPTECH® USGS TOPOGRAPHIC SERIES™
SCALE: 1"=2000'
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

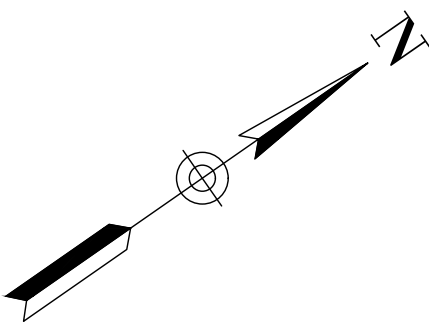
LEGEND:	
DESCRIPTION	EXISTING
DEED AND LAID OUT	D&L
BENCHMARK	
SURVEY STATION	
MONUMENT	
PIN FOUND	
PIPE FOUND	
SET 5/8" REBAR WITH SURVEYOR'S CAP (PLS #2324)	
SEWER MANHOLE	
UTILITY POLE	
CATCH BASIN	
HYDRANT	
WELL	
TREES	
PROPERTY LINE	
APPROXIMATE EXTERIOR PROPERTY LINE	
OVERHEAD UTILITY LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CENTERLINE	
TIE / REFERENCE LINE	
STONE WALL	
FENCE	
HIGH WATER MARK (SEE NOTE 4)	
TREELINE	
MINOR FOOT CONTOUR	
MAJOR FOOT CONTOUR	

LEGEND FOR SOIL MAPS:	
DRAINAGE CLASS	
• EXCESSIVELY WELL DRAINED	EWD
• WELL DRAINED	WD
• MODERATELY WELL DRAINED	MWD
• SOMEWHAT POORLY DRAINED	SPD
• POORLY DRAINED	PD
• VERY POORLY DRAINED	VPD
SLOPE DESIGNATION	
• 0-3%	A
• 3-8%	B
• 8-15%	C
• 15-25%	D
• >25%	E

NOTE:
HIGH INTENSITY SOIL SURVEY HAS BEEN PREPARED BY MARK HAMPTON ASSOCIATES, INC. IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, AND THE MAINE BOARD OF CERTIFICATION OF GEOLOGISTS AND SOIL SCIENTISTS.



REV	DATE	DESCRIPTION	BY	CHK
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824 WWW.HALEYWARD.COM				
PROJECT 512 POOL STREET BIDDEFORD, MAINE, 04005				
TITLE EXISTING CONDITIONS & HIGH INTENSITY SOILS SURVEY				
DATE 2024.02.25		SCALE 1"=100'		
DRAWN BY PJM	DESIGNED BY —	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
DRAWING No. V102				



NOTES:

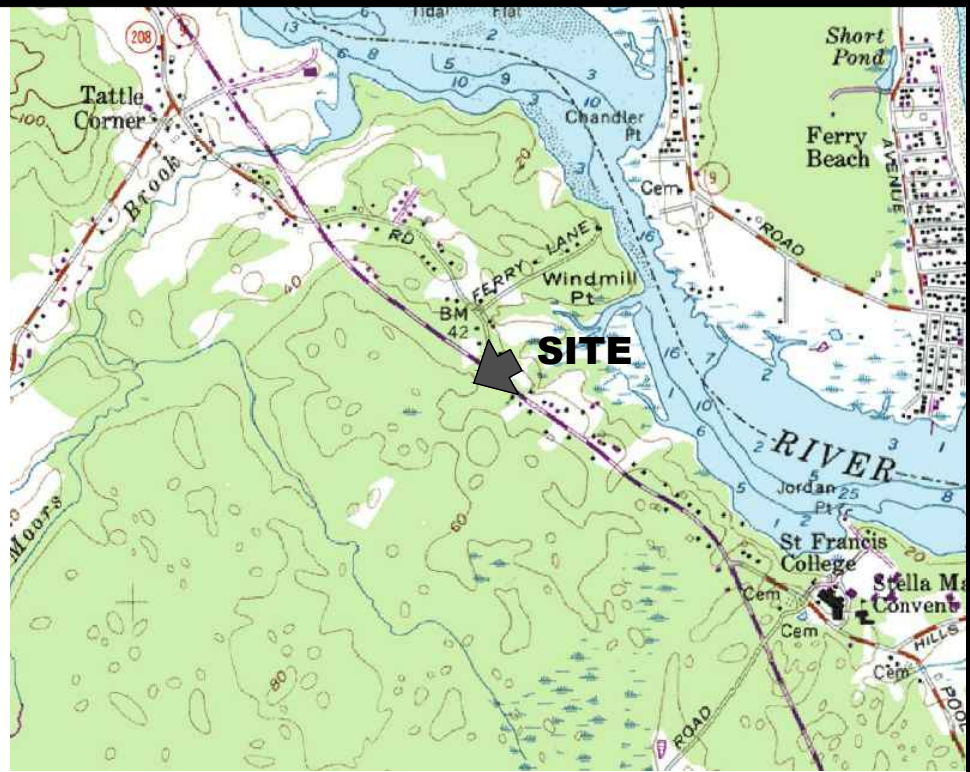
- BELLE WOODS IS PROPOSED AS A PRIVATE ROAD. PROPOSED PRIVATE ROADS SHALL NOT BE SUBMITTED FUTURE PUBLIC ROAD ACCEPTANCE.
- PRIVATE ROADWAY SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE CITY OF BIDDEFORD SHALL NOT BE RESPONSIBLE FOR ANY MAINTAINANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
- ROAD IS DESIGNED TO MEET MINOR RESIDENTIAL ROAD WAY STANDARDS AS DEFINED IN THE CITY OF BIDDEFORD, ME CODE OF ORDINANCES, ARTICLE VI, SECTION 51.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD, UTILITY COMPANIES, DIG SAFE, AND EMERGENCY SERVICES WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
- WETLAND IMPACTS ARE CUMULATIVE FOR ALL LOTS. ANY WETLAND IMPACTS BY INDIVIDUAL LOT OWNER MAY REQUIRE PERMITTING THROUGH MDEP.
- REFER TO PARCEL 2 FOR TYPICAL SR1 DISTRICT SETBACKS, REFER TO PARCEL 6 FOR TYPICAL RF DISTRICT SETBACKS.
- TRASH STORAGE & REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS, PICKED UP & MANAGED BY PRIVATE COMPANY, NO DUMPSTER IS PROPOSED.

PLAN REFERENCES:

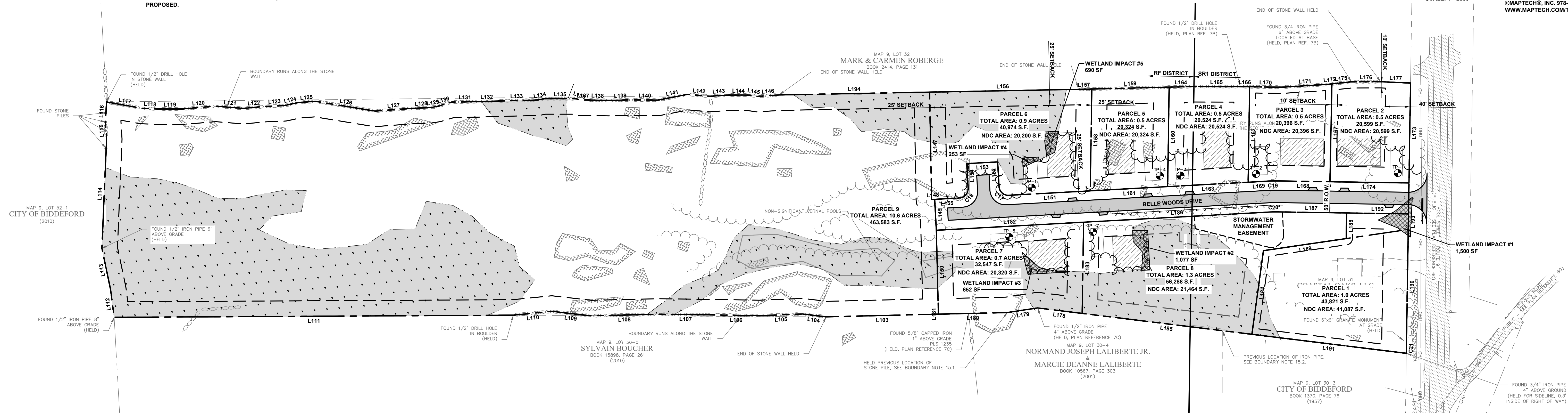
- REFERENCE IS MADE TO A PLAN ENTITLED "TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY COLLERS ENGINEERING & DESIGN & DATED MAY 17, 2023.
- A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE IN JANUARY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINLY SOILS LLC. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS. ALL WETLAND FLAGS WERE LOCATED USING GLOBAL POSITIONING SYSTEMS (GPS) TECHNOLOGY CAPABLE OF SUB-METER ACCURACY.
- A VERNAL POOL SURVEY WAS PERFORMED DURING APRIL AND MAY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINLY SOILS LLC. THIS SURVEY CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN CHAPTER 335, SECTION 9, OF THE NATURAL RESOURCE PROTECTION ACT, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- VERNAL POOLS DELINEATED ON THIS PLAN ARE CONSIDERED NON-SIGNIFICANT, REFER TO NATURAL RESOURCE SURVEY & REPORT.

NATURAL RESOURCE NOTES:

- A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE IN JANUARY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINLY SOILS LLC. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS. ALL WETLAND FLAGS WERE LOCATED USING GLOBAL POSITIONING SYSTEMS (GPS) TECHNOLOGY CAPABLE OF SUB-METER ACCURACY.
- A VERNAL POOL SURVEY WAS PERFORMED DURING APRIL AND MAY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINLY SOILS LLC. THIS SURVEY CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN CHAPTER 335, SECTION 9, OF THE NATURAL RESOURCE PROTECTION ACT, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- VERNAL POOLS DELINEATED ON THIS PLAN ARE CONSIDERED NON-SIGNIFICANT, REFER TO NATURAL RESOURCE SURVEY & REPORT.



LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
MAPTECH® USGS TOPOGRAPHIC SERIES™
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO



PARCEL INFORMATION

MAP / LOT:	MAP 9, LOT 31	
LOT AREA (ACRES):	17.45	
ZONE OR DISTRICT:	RF/SR1	
EXISTING USE:	SINGLE FAMILY RESIDENTIAL	
FLOOD ZONE:	N/A	
WATER:	PUBLIC	
SEWER:	PRIVATE SEPTIC	
RECORD OWNER/APPLICANT:	COASTAL OAKS, LLC	

SITE DEVELOPMENT DATA

	SF	AC
EXISTING IMPERVIOUS (TO BE REMOVED):	2251	0.05
EXISTING IMPERVIOUS (TO REMAIN):	1302	0.03
NEW PAVEMENT	16185	0.37
TOTAL IMPERVIOUS (ROAD & EX. LOT):	17487	0.40

DESIGN STANDARDS

	REQ'D	PROVIDED
MINIMUM ROAD FRONTAGE (FT)	120 RF / 100 SR1	125 (MIN.)
MINIMUM SETBACK, FRONT YARD (FT)	25 RF / 40 SR1	25 RF / 40 SR1
MINIMUM SETBACK, OTHER YARDS (FT)	25 RF / 10 SR1	25 RF / 10 SR1
MINIMUM LOT SIZE	20,000 SF	20,188 SF (MIN.)
MAXIMUM BUILDING HEIGHT (FT)	35 FT	<35 FT

PROJECT INFORMATION

APPLICANT:	COASTAL OAKS LLC
	ATTN: ETHAN SCOTT
	198 SACO AVENUE
	OLD ORCHARD BEACH, MAINE 04064
ENGINEER:	HALEY WARD, INC.
	ATTN: DREW OLEHOWSKI, P.E.
	120 MAIN STREET
	SUITE 132
	SACO, MAINE 04072

Line Table

Line #	Length	Direction
L103	181.655	S33° 36' 43.72"W
L104	38.409	S41° 58' 20.48"W
L105	69.756	S32° 41' 22.12"W
L106	74.329	S36° 00' 35.70"W
L107	89.473	S35° 42' 13.79"W
L108	108.844	S33° 39' 01.81"W
L109	63.465	S41° 32' 14.19"W
L110	62.442	S29° 16' 48.64"W
L111	645.301	S34° 41' 34.18"W
L112	44.646	N62° 18' 23.58"W
L113	68.565	N66° 51' 37.96"W
L114	176.379	N52° 34' 17.60"W
L115	28.657	N58° 32' 10.73"W
L116	31.735	N61° 54' 56.46"W
L117	58.434	N45° 08' 59.14"E
L118	25.633	N37° 23' 10.48"E
L119	38.948	N35° 07' 35.02"E
L120	54.724	N30° 07' 44.93"E
L121	44.705	N39° 41' 53.11"E
L122	35.451	N29° 45' 25.60"E

Line Table

Line #	Length	Direction
L123	30.978	N32° 37' 57.95"E
L124	22.921	N22° 34' 07.38"E
L125	28.215	N30° 54' 13.88"E
L126	97.598	N44° 19' 40.50"E
L127	61.021	N30° 47' 11.27"E
L128	27.924	N32° 39' 07.24"E
L129	11.822	N25° 37' 51.13"E
L130	24.421	N18° 20' 21.27"E
L131	42.142	N34° 02' 13.15"E
L132	29.608	N33° 10' 11.92"E
L133	67.040	N33° 35' 10.48"E
L134	10.662	N23° 31' 15.83"E
L135	52.133	N35° 01' 29.90"E
L136	6.372	N53° 40' 23.43"E
L137	9.835	N34° 56' 32.59"E
L138	37.389	N36° 02' 44.66"E
L139	36.408	N35° 36' 57.12"E
L140	42.496	N35° 34' 55.88"E
L141	48.829	N23° 54' 52.54"E
L142	36.192	N39° 59' 55.47"E

Line Table

Line #	Length	Direction
L143	29.704	N30° 58' 10.96"E
L144	33.367	N35° 08' 30.62"E
L145	13.963	N43° 49' 18.70"E
L146	35.185	N31° 14' 46.97"E
L147	173.488	S56° 04' 03.28"E
L148	5.000	N31° 52' 21.63"E
L149	50.000	S58° 07' 38.37"E
L150	135.480	S56° 23' 16.28"E
L151	131.888	S31° 52' 21.63"W
L152	39.849	N58° 07' 38.37"W
L153	50.000	S31° 52' 21.63"W
L154	39.849	S58° 07' 38.37"E
L155	40.000	S31° 52' 21.63"W
L156	237.117	N33° 55' 56.72"E
L157	25.191	N33° 36' 29.51"E
L158	164.493	S54° 07' 18.00"E
L159	125.098	N33° 36' 29.51"E
L160	160.695	S54° 07' 18.00"E
L161	125.306	S31° 52' 21.63"W
L162	154.189	S54° 07' 18.00"E

Line Table

Line #	Length	Direction
L163	130.318	S31° 52' 21.63"W
L164	38.763	N33° 36' 29.51"E
L165	75.821	N35° 05' 39.23"E
L166	15.454	N35° 47' 13.67"E
L167	158.043	S53° 50' 39.13"E
L168	86.252	S35° 52' 42.00"W
L169	33.839	S31° 52' 21.63"W
L170	51.965	N35° 47' 13.67"E
L171	75.818	N31° 25' 39.86"E
L172	5.487	N28° 47' 22.73"E
L173	161.310	S54° 05' 32.64"E
L174	127.767	S35° 52' 42.00"W
L175	31.669	N28° 47' 22.73"E
L176	47.432	N34° 50' 10.53"E
L177	48.256	N37° 39' 41.04"E
L178	72.614	S42° 00' 46.19"W
L179	49.506	S28° 17' 49.91"W
L180	111.489	S33° 38' 44.54"W
L181	0.105	N56° 23' 16.27"W
L182	238.362	N31° 52' 21.63"E

Line Table

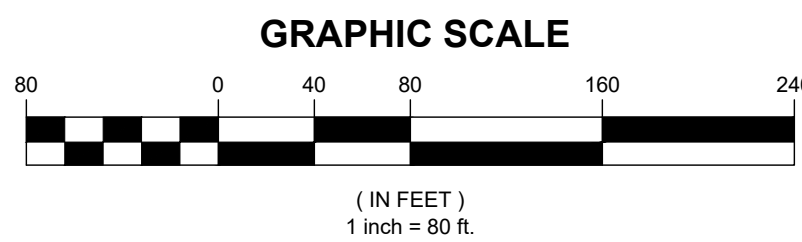
Line #	Length	Direction
L183	147.306	S54° 07' 18.00"E
L184	136.410	S47° 08' 09.00"E
L185	276.458	S42° 00' 46.19"W
L186	302.990	N31° 52' 21.63"E
L187	113.993	N35° 52' 42.00"E
L188	41.352	S54° 05' 32.64"E
L189	135.220	S28° 41' 56.00"W
L190	184.174	S54° 05' 32.64"E
L191	251.430	S42° 00' 46.19"W
L192	100.000	N35° 52' 42.00"E
L193	25.191	S54° 05' 32.64"E
L194	243.247	N33° 55' 56.72"E

Curve Table

Curve #	Length	Radius	Delta
C17	23.562	15,000	90.0000
C18	23.562	15,000	90.0000
C21	15.824	22918.330	0.0396
C19	12.235	175,000	4.0057
C20	8.739	125,000	4.0057

NET DENSITY CALCULATIONS

GROSS PARCEL AREA	760,178 SF
UNSUITABLE LAND:	
1. PORTIONS OF LOT WITHIN 100-YEAR FLOODPLAIN	0 SF
2. UNSUITABLE LAND (STEEP SLOPES, DRAINAGE OR SUBSOIL CONDITIONS) *SEE NOTE A	60,590 SF
3. SUBJECT TO EASEMENTS/ROW	0 SF
4. COVERED BY SURFACE WATERS (PONDS, WETLAND, ETC.)	224,874 SF
5. SOILS OF STATEWIDE SIGNIFIGANCE WITHIN RF ZONE	0 SF
6. LAND WITHIN RESOURCE PROTECTION ZONE	0 SF
6. LAND IN RF ZONE WITHIN SHORELAND ZONE SETBACK	0 SF
7. UNRECLAIMED EXTRACTIVE INDUSTRY OPERATIONS	0 SF
NOTES:	
A. POORLY DRAINED SOILS IDENTIFIED BY HIGH INTENSITY SOIL SURVEY ARE CONFINED TO WETLAND AREAS AND ARE INCLUDED UNDER SECTION 4. COVERED BY SURFACE WATERS.	
SUBTOTAL	285,464 SF
TOTAL NET RESIDENTIAL AREA	474,714 SF
MIN. LOT AREA	20,000 SF
PERMITTED NET DENSITY (NET RESIDENTIAL AREA/MIN. LOT AREA)	24 UNITS



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				

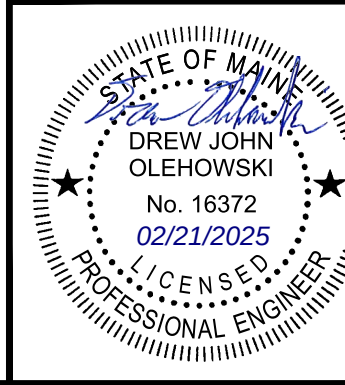
NOT FOR CONSTRUCTION



One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824

PROJECT	COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005
---------	--

TITLE	PRELIMINARY SUBDIVISION PLAN
DATE	2025.02.25
SCALE	1"=80'
DRAWN BY	PJM
DESIGNED BY	PJM
CHECKED BY	DJO
PROJECT No.	13871.019
DRAWING No.	C101
REV.	



THIS IS TO CERTIFY THAT AFTER REVIEWING THE SITE PLAN SUBMISSION INFORMATION FOR THE PROJECT SHOWN ON THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN THE LAND USE CODE OF THE CITY OF BIDDEFORD, MAINE AND IN ACCORDANCE WITH THE SITE PLAN APPLICATION REQUIREMENTS, THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THIS PLAN ALONG WITH ITS ADDITIONAL SUBMISSION INFORMATION HAS MET ALL THE CRITERIA SET FORTH AND THEREFORE THE SITE PLAN IS APPROVED.

APPROVED BY THE CITY OF BIDDEFORD PLANNING BOARD ON: _____

PLANNING BOARD SIGNED ON: _____

STATE OF MAINE
YORK, SS.
REGISTRY OF DEEDS
RECEIVED AND FILED

20

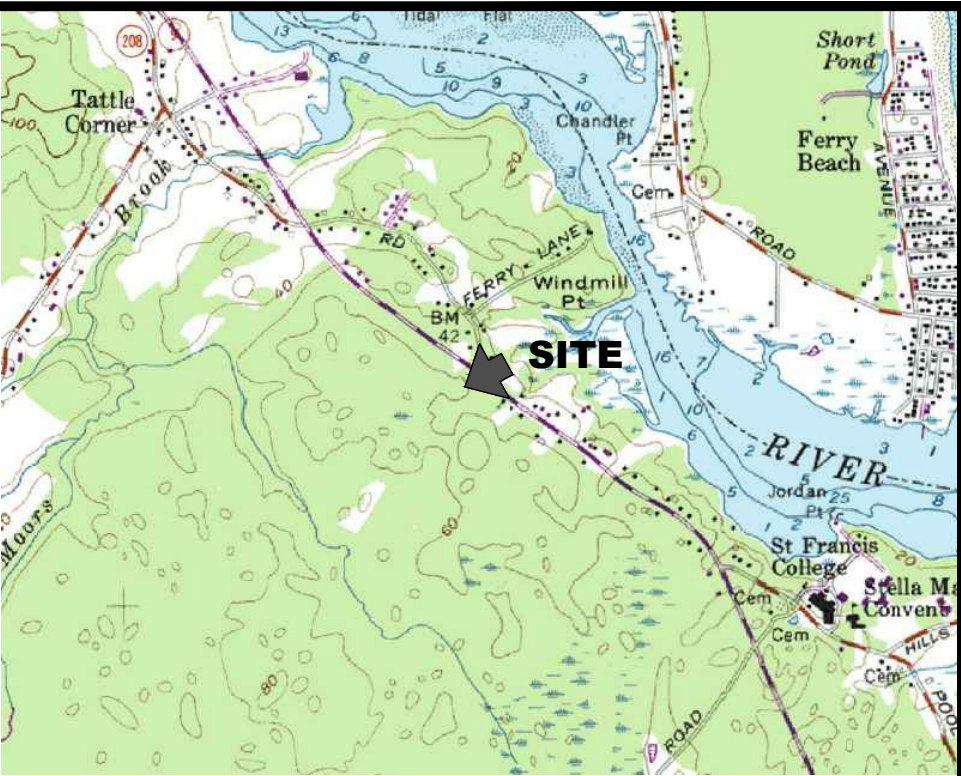
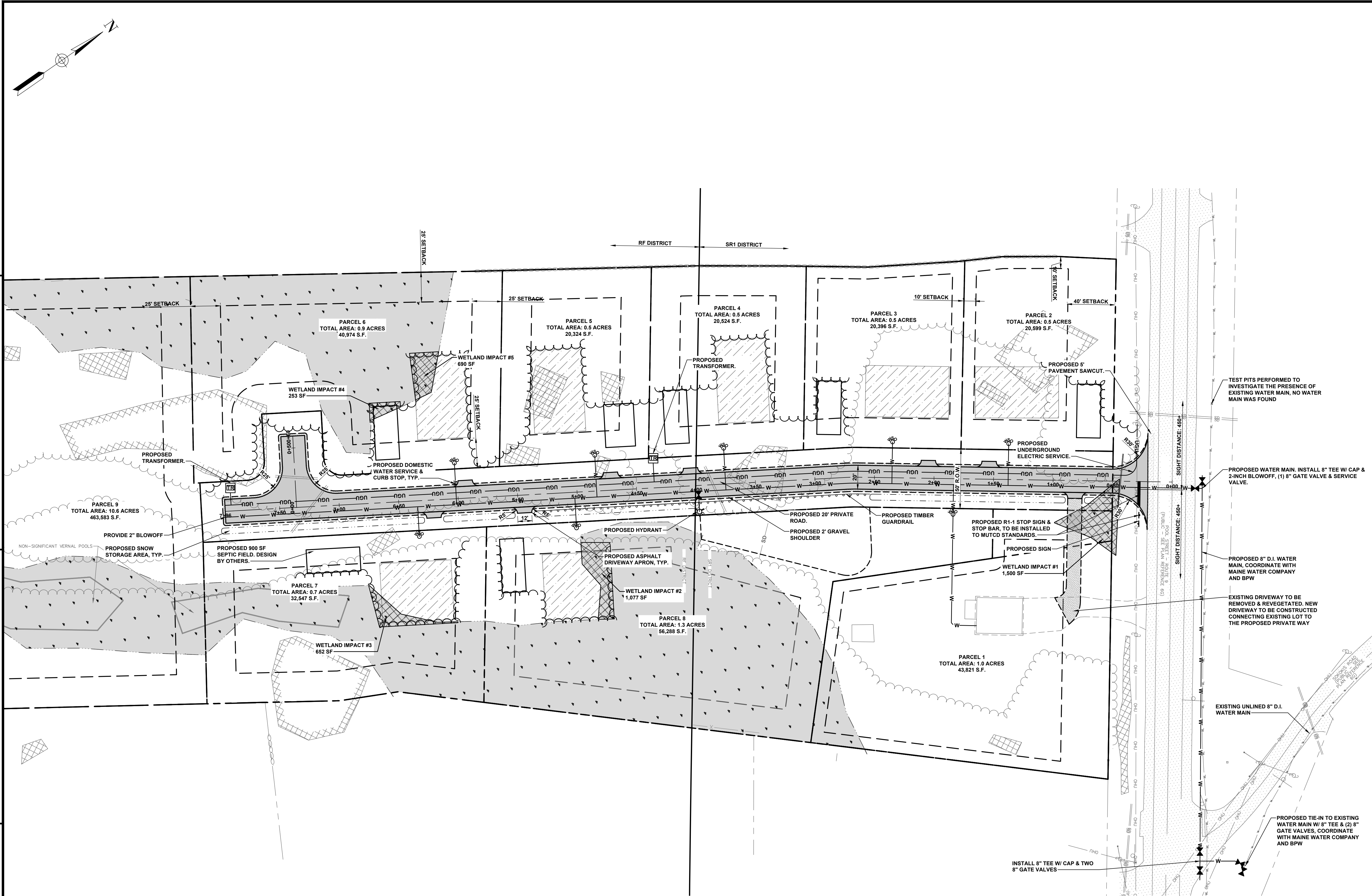
h m M.

Attest

Register

RECORDED AS MAP FILE:

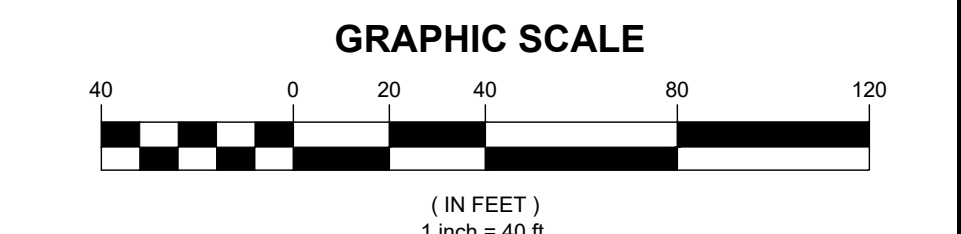
FILE LOCATION: P:\MET1\887-1\HND\WEINS\TENG\1912\POOL ST. 030525.CAD; FILESCHEMA\13871\018AC-SP.DWG; 2025.02.21 10:28 AM



LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

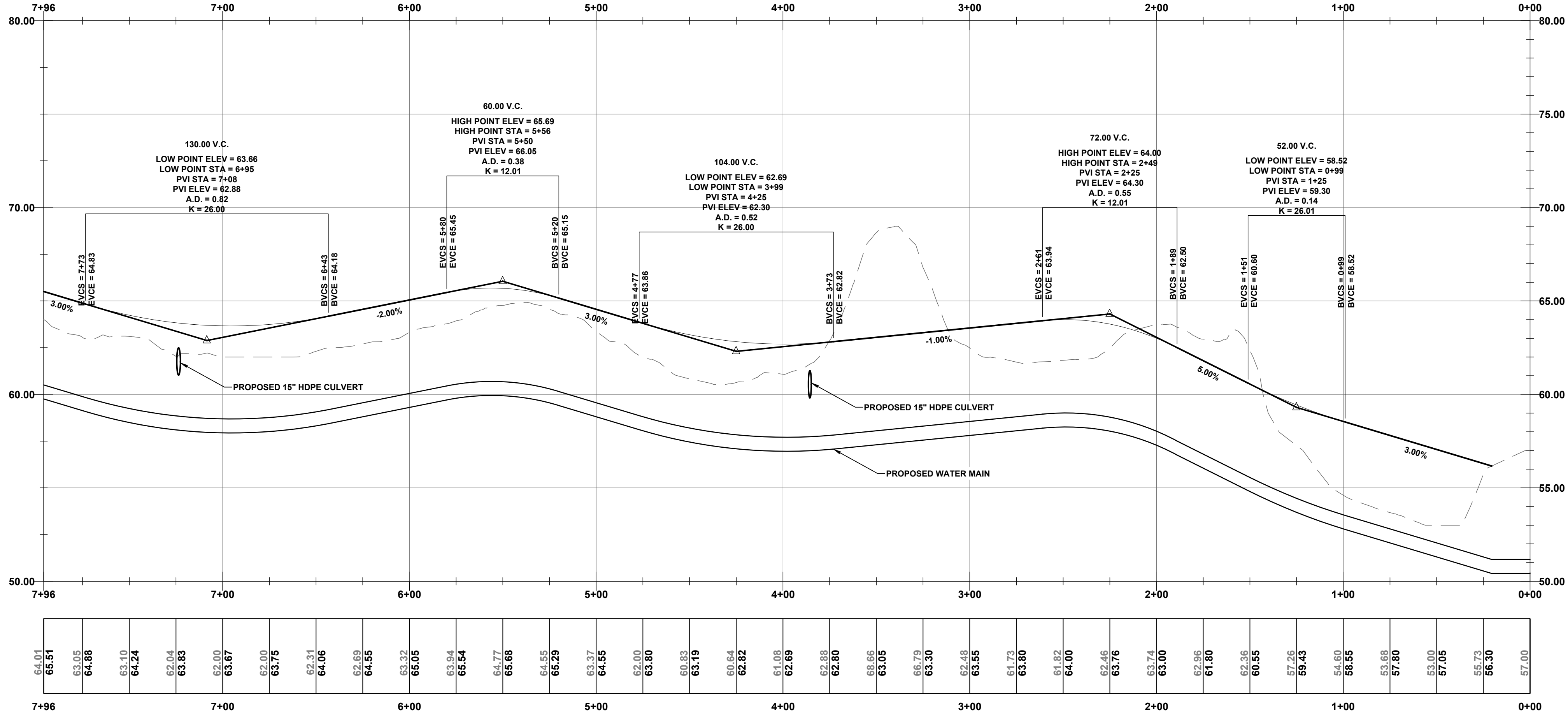
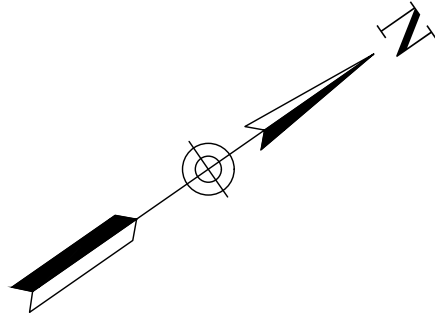
- WATER UTILITY NOTES:**
1. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 5' OF COVER WITH NO MORE THAN 5.5'.
 2. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 10' SEPARATION FROM OTHER UTILITIES, UNLESS MUTUALLY AGREED UPON BY ALL.
 3. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 3' SEPARATION FROM EXISTING MAINE WATER INFRASTRUCTURE, UNLESS CONNECTING TO EXISTING INFRASTRUCTURE.
 4. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 5' SEPARATION FROM PROPERTY LINES.
 5. ALL NEW NON-METALLIC WATER LINES MUST BE RUN WITH TRACER WIRE.
 6. ANY MATERIALS SPECIFIED AS HDPE WILL BE PE4710 CC3. ALL LINES 4" OR GREATER WILL BE DR9 DIPS.
 7. ALL WATER INFRASTRUCTURE WILL COMPLY WITH MAINE WATER SPECIFICATIONS.
 8. ANY DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON EXISTING RECORDS AND MAY NOT REFLECT ACTUAL REQUIRED LENGTHS.

- ELECTRICAL UTILITY NOTES:**
1. FINAL ELECTRICAL INFRASTRUCTURE LAYOUT TO BE COORDINATED WITH CMP.
- PLAN REFERENCE:**
1. REFERENCE IS MADE TO A MADE ENTITLED "TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY COLLERS ENGINEERING & DESIGN & DATED MAY 17, 2023.

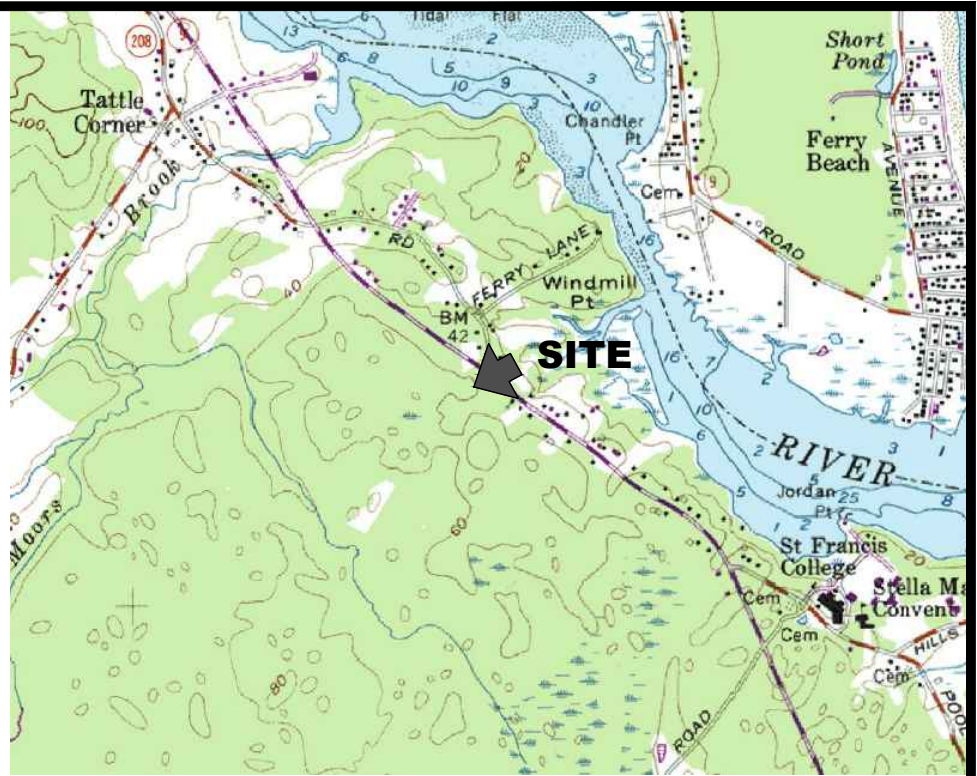


REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
SITE LAYOUT & UTILITY PLAN				
DATE		SCALE		
2025.02.25		1"=40'		
DRAWN BY		DESIGNED BY	CHECKED BY	
PJM		PJM	DJO	
PROJECT No.		13871.019		
DRAWING No.		C102		REV.

FILE LOCATION: P:\MET1887\LAND\WEINSTEIN\019\512 POOL ST. 04066.CAD, FILESCHEM\11871\019\512 POOL ST. 04066.CAD, 2025.02.21, 10:28 AM



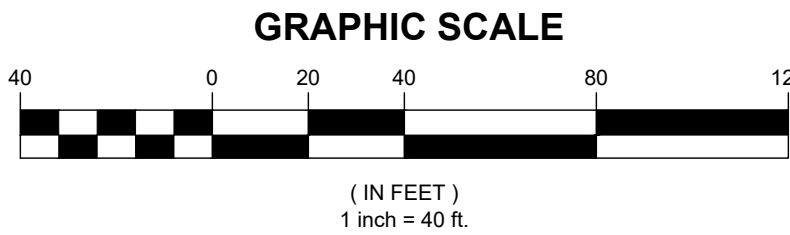
PROFILE VIEW OF PRIMARY ROAD - STA 0+00 TO 7+96
SCALE: H: 1"=40' / V: 1"=4'



LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

- NOTES:**
- BELLE WOODS IS PROPOSED AS A PRIVATE ROAD. PROPOSED PRIVATE ROADS SHALL NOT BE SUBMITTED FOR FUTURE PUBLIC ROAD ACCEPTANCE.
 - PRIVATE ROADWAY SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE CITY OF BIDDEFORD SHALL NOT BE RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
 - ROAD IS DESIGNED TO MEET MINOR RESIDENTIAL ROADWAY STANDARDS AS DEFINED IN THE CITY OF BIDDEFORD, ME CODE OF ORDINANCES, ARTICLE VI, SECTION 51.
 - THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD, UTILITY COMPANIES, DIG SAFE, AND EMERGENCY SERVICES WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
 - WETLAND IMPACTS ARE CUMULATIVE FOR ALL LOTS, ANY WETLAND IMPACTS BY INDIVIDUAL LOT OWNER MAY REQUIRE PERMITTING THROUGH MDEP.
 - REFER TO PARCEL 2 FOR TYPICAL SR1 DISTRICT SETBACKS, REFER TO PARCEL 6 FOR TYPICAL RF DISTRICT SETBACKS.
 - TRASH STORAGE & REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS, PICKED UP & MANAGED BY PRIVATE COMPANY, NO DUMPSTER IS PROPOSED.

PLAN REFERENCE:
1. REFERENCE IS MADE TO A MADE ENTITLED "TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY COLLERS ENGINEERING & DESIGN & DATED MAY 17, 2023.



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824 WWW.HALEYWARD.COM				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
OVERALL GRADING PLAN & PROFILE				
DATE 2025.02.25		SCALE 1"=40'		
DRAWN BY PJM	DESIGNED BY PJM	CHECKED BY DJO		
PROJECT No. 13871.019		DRAWING No.		
No. 16372 02/21/2025 DREW JOHN OLEHOWSKI LICENSED PROFESSIONAL ENGINEER		REV.		
C103				

TYPICAL ROADWAY BUILDUP DETAIL
NTS

NTS

TYPICAL STOP BAR DETAIL

NTS

WATER MAIN BLOWOFF ASSEMBLY DETAIL

NTS

TYPICAL ROADWAY CROSS SECTION

NTS

TYPICAL TIMBER GUARDRAIL DETAIL

NTS

TYPICAL TRENCH DETAIL - DUCTILE IRON WATER MAIN

NTS

NTS

TYPICAL WATER SERVICE DETAIL

NTS

TYPICAL ASPHALT PAVEMENT BUTT JOINT DETAIL
N.T.S.

N.T.S.

- NOTES:**
1. EXTEND NEW SURFACE PAVEMENT ACROSS BUTT JOINT IN BASE COURSE.
 2. PROVIDE TACK COAT ON ALL SURFACES OF EXISTING PAVEMENT TO BE COVERED.

TYPICAL ASPHALT PAVEMENT GRINDING DETAIL
NTS

NTS

NOTE:
ANCHOR ALL 1/16, 1/8, AND 1/4" BENDS
ANCHOR ALL TEES W / BRANCH LARGER
THAN 6". PLACE CONCRETE AGAINST
UNDISTURBED EARTH OR COMPACTED FILL.

PIPE SIZE (IN.)	BEARING SURFACE, FT. ²				
	TEE, 90°	45°	22 1/2°	11 1/4°	
2	1.0	1.0	1.0	1.0	
3	1.0	1.0	1.0	1.0	
4	1.2	1.0	1.0	1.0	
6	2.6	1.4	1.0	1.0	
8	4.6	2.5	1.4	1.0	
10	7.2	3.9	2.0	1.0	
12	10.4	5.6	2.8	1.5	
14	14.2	7.7	3.9	2.0	
16	16.5	10.0	5.0	2.5	
18	23.4	12.7	6.4	3.3	

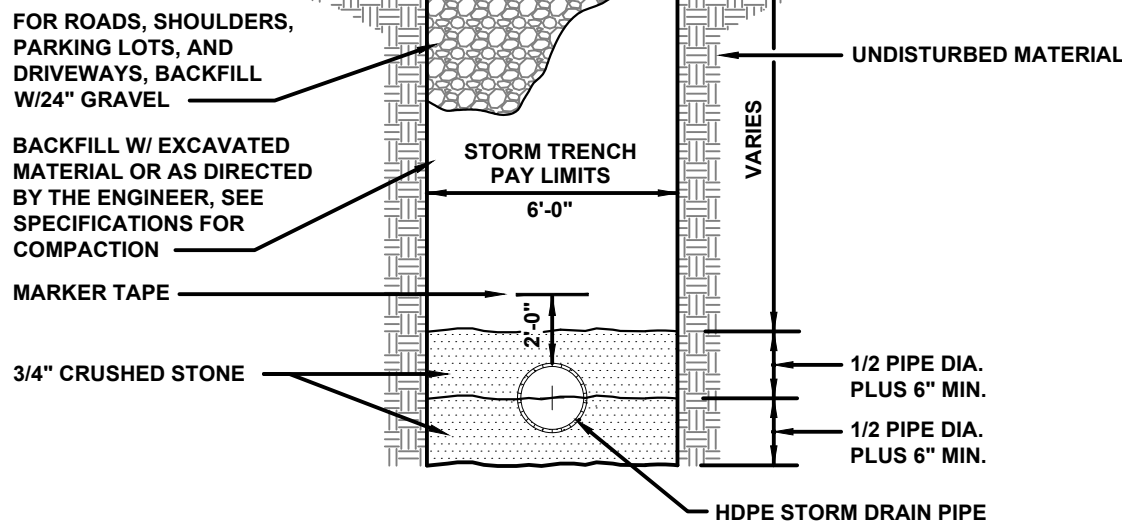
ANCHORAGE DETAILS

NTS

TYPICAL GATE VALVE DETAIL

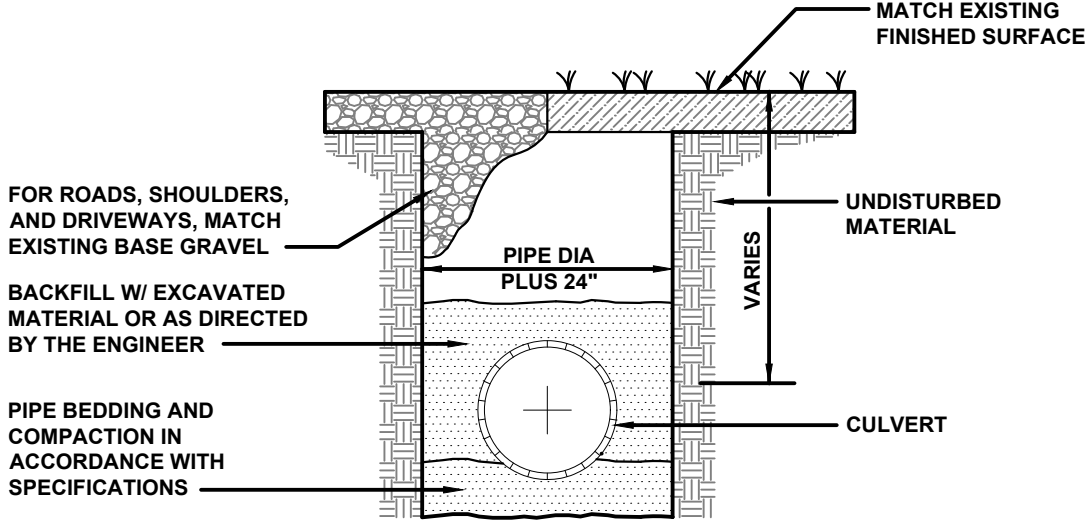
NTS

SEE TYPICAL ROADWAY BUILDUP DETAIL AND TYPICAL ASPHALT PAVEMENT GRINDING DETAIL (4" LOAM, SEED, & MULCH NON PAVED AREAS)



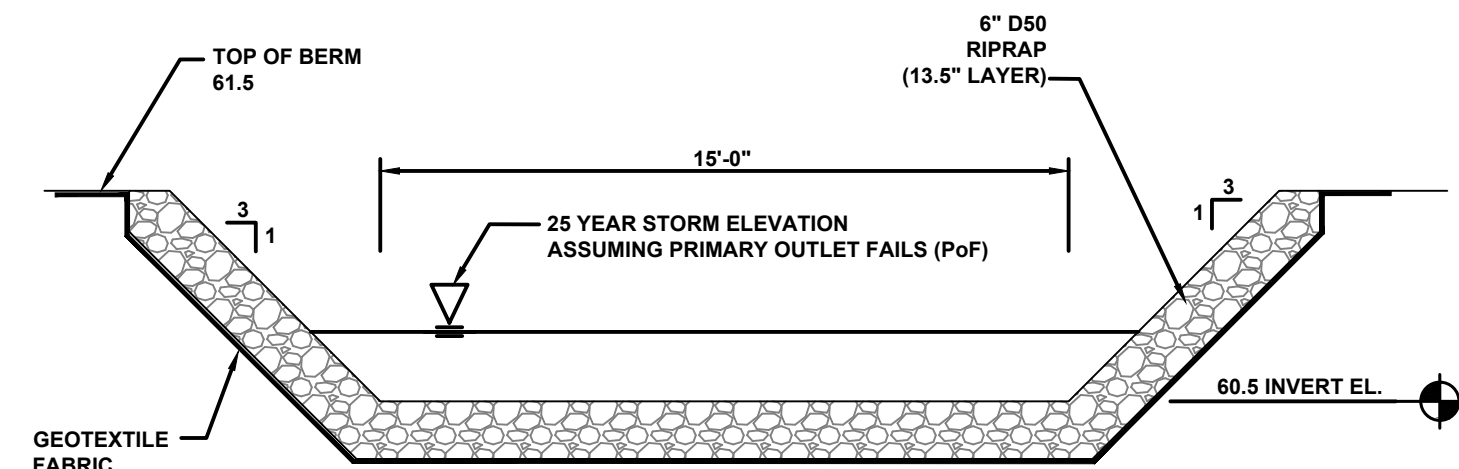
NOTE:
1. MATCH EXISTING SURFACE FINISH, EXCEPT WHERE NOTED. IN LAWN AREAS INSTALL 4" OF LOAM AND SEED AND MULCH.

TYPICAL STORM DRAIN TRENCH DETAIL
NTS

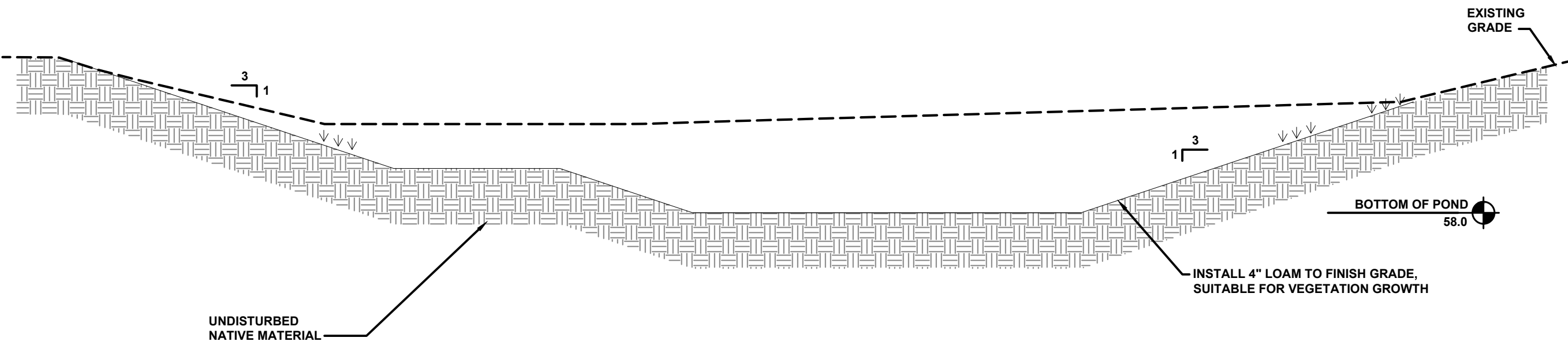


NOTE:
1. PAYMENT LIMITS SHALL BE 6' WIDE (3' EACH SIDE OF CULVERT)

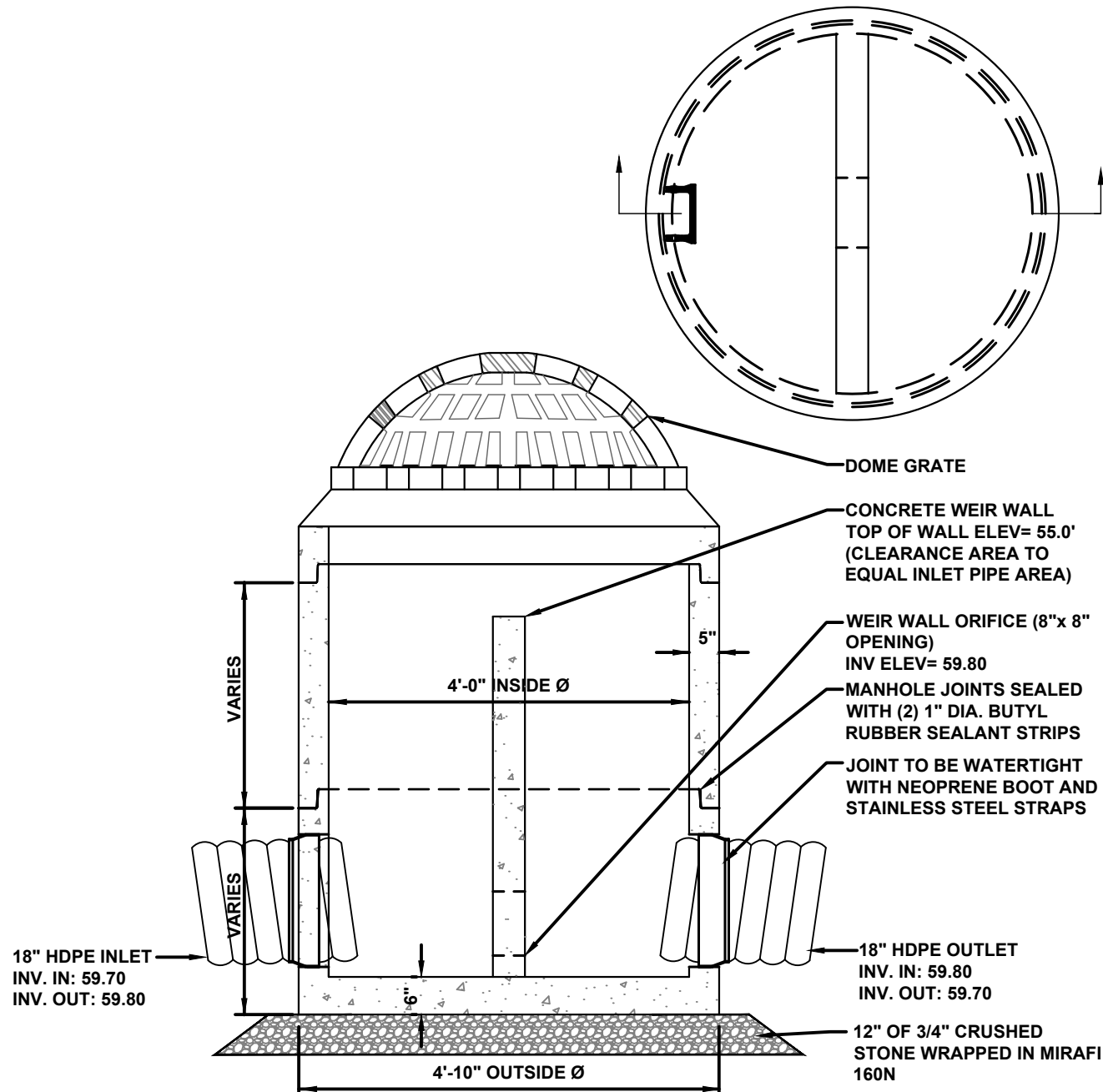
TYPICAL CULVERT TRENCH DETAIL
NTS



EMERGENCY SPILLWAY DETAIL
N.T.S.

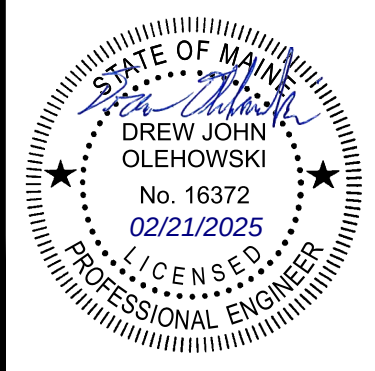


DETENTION POND SECTION
N.T.S.

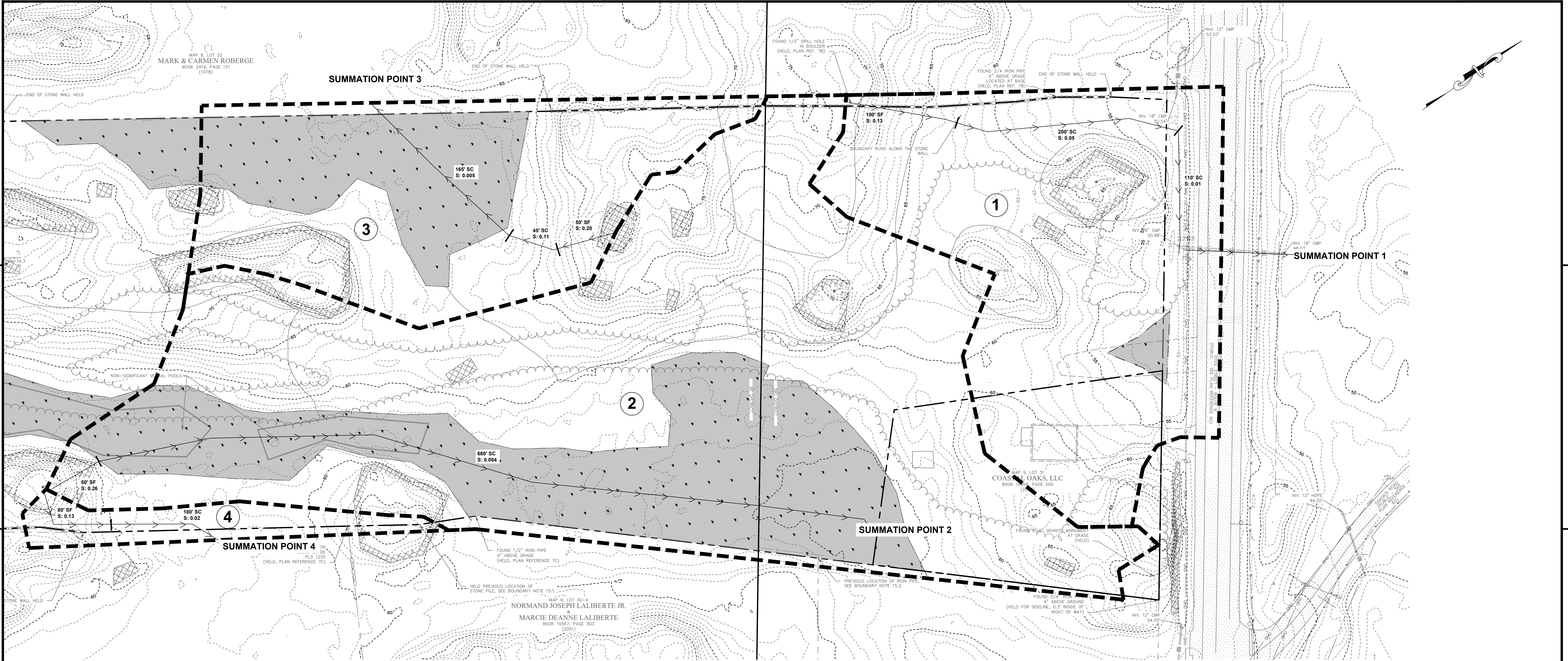


STORMWATER CONTROL STRUCTURE DETAIL
N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824 WWW.HALEYWARD.COM				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
SITE DETAILS				
DATE 2025.02.25		SCALE NTS		
DRAWN BY PJM	DESIGNED BY PJM	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
DRAWING No. C502				

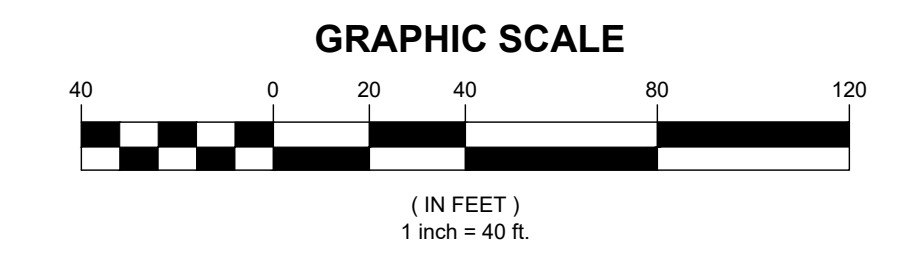


FILE LOCATION: P:\MET1887\HNDL WEINS TEN\919-512 POOL ST -04056.CAD, FILESCAD\11887\018\CH\HYD.WG 2025.02.21, 10:28 AM



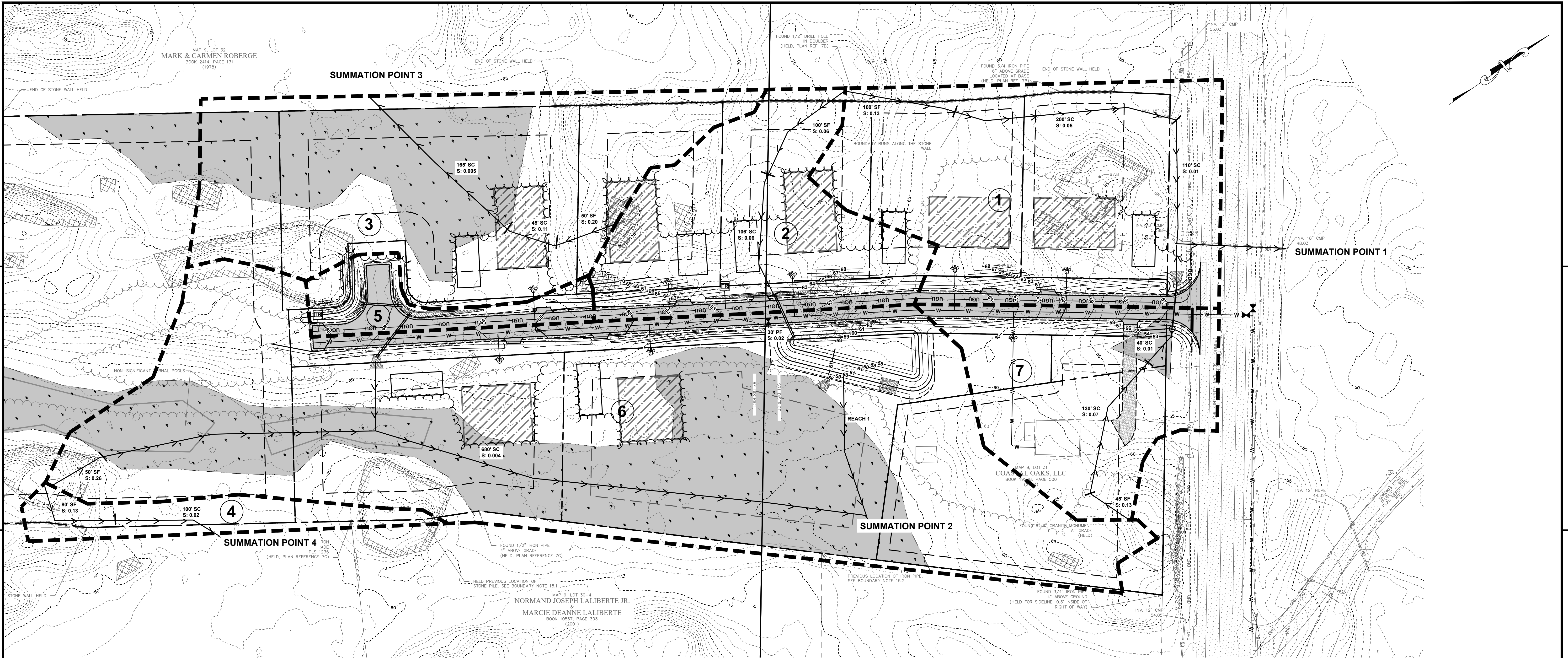
PRE LEGEND:

	PROPERTY LINE
	WATERSHED BOUNDARY LINE
	WATERSHED DESIGNATION
	TIME OF CONCENTRATION FLOW PATH
	FLOW PATH DESCRIPTION
50' SF	SHEET FLOW
SF	SHALLOW CONCENTRATED FLOW
SC	CHANNEL FLOW
CF	PIPE FLOW
PF	



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824 WWW.HALEYWARD.COM				
PROJECT COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE PRE-DEVELOPMENT HYDROLOGY PLAN				
DATE 2025.02.25		SCALE 1"=40'		
DRAWN BY PJM	DESIGNED BY DJO	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
		C701		

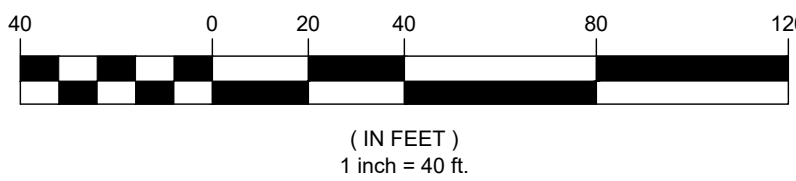
FILE LOCATION: P:\MET1887\HNDL WEINS TEN\919-512 POOL ST SUBDIVISION\1887\018\CH\HY DWG 2025.02.25.10.28 AM



POST LEGEND:

- PROPERTY LINE
- WATERSHED BOUNDARY LINE
- WATERSHED DESIGNATION
- TIME OF CONCENTRATION FLOW PATH
- FLOW PATH DESCRIPTION
- 50' SF
- SF
- SC
- CF
- PF
- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- PIPE FLOW

GRAPHIC SCALE



REV.	DATE	DESCRIPTION	BY	CHK.
------	------	-------------	----	------

DRAWING ISSUE STATUS

NOT FOR CONSTRUCTION

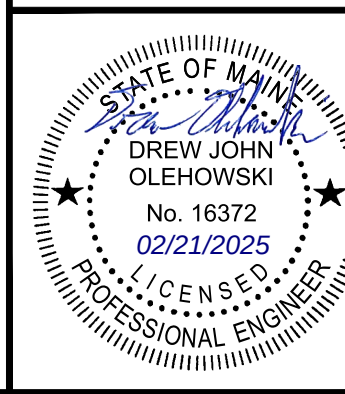


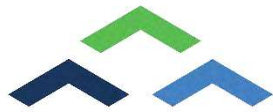
HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
One Merchants Plaza, Suite 701
Bangor, Maine 04401
207.989.4824

PROJECT
COASTAL OAKS LLC
198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064
BELLE WOODS - SUBDIVISION
512 POOL STREET, BIDDEFORD, MAINE 04005

POST-DEVELOPMENT HYDROLOGY PLAN

DATE 2025.02.25		SCALE 1"=40'	
DRAWN BY PJM	DESIGNED BY DJO	CHECKED BY DJO	
PROJECT No. 13871.019		REV.	
DRAWING No. C702			





HALEY WARD®

PRELIMINARY SUBDIVISION REVIEW

**TO THE CITY OF BIDDEFORD
FOR 512 POOL STREET SUBDIVISION**

Tax Map 9, Lot 31 | Biddeford, ME

APPLICANT:

Coastal Oaks, LLC

198 Saco Avenue | Old Orchard Beach, ME 04064



FEBRUARY 26, 2025

JN: 13871.019

PREPARED BY:

Haley Ward, Inc.

120 Main Street, Suite 132 | Saco, ME 04072

February 26, 2025

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

Re: 512 Pool Street | Preliminary Subdivision Review

Dear Planning Department:

On behalf of Coastal Oaks, LLC. (the Applicant), our office is pleased to submit this preliminary subdivision review application for a proposed 9-lot subdivision located at 512 Pool Street in Biddeford, Maine. This application is being submitted in accordance with the City of Biddeford's subdivision regulations and zoning requirements.

The proposed subdivision is designed to create nine residential lots while preserving the character of the surrounding area and ensuring compliance with all applicable local and state land use regulations. The project has been thoughtfully planned to address considerations such as traffic impact, environmental sustainability, stormwater management, and utility services. We have engaged with qualified professionals to develop a subdivision plan that meets all necessary standards and provides a positive addition to the community.

Enclosed with this application, you will find the required site plans, engineering reports, environmental assessments, and all other relevant documentation for your review. We look forward to working collaboratively with the Planning Board and city staff to address any questions or concerns throughout the review process. Please see below for additional narratives describing various aspects of the development.

EXISTING CONDITIONS

The proposed development is located at 512 Pool Street (the "Site,") and is identified as Biddeford Tax Map 9, Lot 31. The subject parcel is approximately 17.45 acres and is undeveloped and wooded except for one single-family home that was constructed in 2024. The proposed subdivision area was also selectively harvested of existing woody vegetation, in accordance with a State-approved forestry plan (Harvest #2301688.) Please refer to the "Existing Conditions" plan provided within the drawing set for a current representation of the tree line. The following materials have been provided to assist with the analysis of the existing parcel:



Deed – Appendix A

Location Map – Appendix B

USDA Soils Map – Appendix C The Site is generally dominated by Lyman loam and Lyman-Rock outcrop complexes. Several areas of exposed ledge are present within the development area – these areas are shown on the Existing Conditions Plan.

A High Intensity Soils Survey was performed on this parcel in January 2025. The results of this report generally align with those seen in the USDA report. A copy of this survey has been provided within the drawing set.

FEMA Flood Hazard Map – Appendix D – This Site is not located within a mapped FEMA Flood Hazard Zone.

Natural Resources Report – Appendix E – A Natural Resources survey was prepared by Mainley Soils in 2023. This survey identified several wetlands and two non-significant vernal pools within the project area. The limits of the delineated natural resources are shown on the attached Plans and there are no required setbacks from these areas based on the results of the study.

Sensitive Historic/Natural Areas – Appendix F – Correspondence with the Maine Department of Inland fisheries and Wildlife, the Maine Historic Preservation Commission, and the Maine Natural Areas Program have been notified of the proposed development. MHPC and MNAP have no concerns with this development. MDIFW has noted several potential endangered species habitats, along with recommended buffers from these areas. These habitats are typically found in wetland and stream habitats. By placing our development along a ridge in the middle of the parcel, we have successfully avoided significant impacts to these resources to the extent that we feel is necessary to prevent impacts to potential endangered species.

PROPOSED DEVELOPMENT

The Applicant is proposing a nine-lot subdivision. Lot 1 is currently developed as a single-family house lot, is approximately 1 acre in size and was sold to an individual lot owner in 2024. Lots 2 through 8 will be developed as single-family house lots. Lots 2 through 7 are approximately 0.5 acres in size, while Lot 8 is approximately 1.5 acres in size, totaling approximately 5.2 acres of area to be subdivided. Lot 9 is approximately 12-acres in size and will be dedicated to either conservation/open space or will be dedicated to potential future development – this lot will be retained by the Owner.

An 850-foot long, 20-foot wide, paved roadway with 2-foot-wide gravel shoulders is proposed to provide access to the proposed lots. The proposed roadway is classified as



a minor residential street, it will include a dead-end hammerhead turnaround and has been designed per Chapter 62 of the City's Land Use Ordinance, the roadway will remain private and will be owned and maintained by a homeowner's association. The applicant will finalize a road name with City Staff as part of the Subdivision Review process. Homeowner Association documents will be provided for Final approval.

Each lot will be served by an individual subsurface wastewater disposal system. Soil test pits indicating the suitability of the soil to support these systems on each lot are shown on the Subdivision Plan. Test pit logs have been provided in **Appendix G**. The lots will be served by public water – this will be accomplished by extending the public water main from the intersection of Pool Street and Sokokis Road to the Site. Power and communications infrastructure will be provided from Central Maine Power's existing network on Pool Street.

Correspondence with various City staff and utility authorities have been provided in **Appendix H**. Responses not received at the time of this submission will be provided to the City upon receipt, or prior to Final approval.

The applicant is proposing to develop both the road, and the individual lots.

ZONING

Per Biddeford's Official Zoning Map, the project site is located within both the Rural Farm, RF and Suburban Residential, SR1 zones. According to the City's Zoning Ordinance, Single-family homes are a permitted use within both zones. The Zoning limits and related setbacks are shown on the Subdivision Plan.

Below is a table identifying the dimensional requirements outlined within Table B of the City's Land Use Ordinance. The lots will be served by public water and private sewer. The proposed lots will adhere to the following dimensions:

Zoning District	Minimum Lot Size	Frontage	Minimum setback	Maximum Heights
SR1	20,000 SF	100 feet	Major ROW: 40 feet Side: 10 feet Rear: 10 feet	35 feet
RF, Single Family	20,000 SF	120 Feet	Major ROW: 40 feet Side: 25 feet Rear: 25 feet	35 feet



CONDITIONS AND WAIVERS

No waivers are requested for the proposed development at this time.

SITE ACCESS

As described above, the proposed subdivision will be accessed by a new road built to the standards of the City's Land Use Ordinance, Chapter 62. The road is intended to remain private – the required notations for this have been included on the drawing set.

TRAFFIC

A preliminary assessment of traffic was performed through the use of ITE's Trip Generation Manual. For a development classified by Land Use Code 210-Single Family Housing, for a development with 8 units, the expected peak hour trip generation is 10 trips. This is well below the MaineDOT's 100 trip threshold for requiring a Traffic Movement Permit. This development is not expected to create any significant, negative, traffic-related impacts to Pool Street or the surrounding areas.

LANDSCAPING

No landscaping is proposed for this development. Existing vegetation will be maintained to the greatest extent possible to provide a visual buffer between the development and Pool Street and abutting properties.

STORMWATER

The proposed development has been designed to adhere to the stormwater standards listed within The City's Site Plan Review Ordinance, per instruction from the City Engineer. Because the applicant is proposing to develop both the access road and the lots, efforts have been made to keep the total proposed impervious area quantity below 1 acre, removing the need for an MDEP stormwater permit. The drawings include restrictions on the impervious area allowed per lot to ensure this limitation will be adhered to. Please refer to **Appendix I** for the Stormwater Management Report prepared for this development.

EROSION AND SEDIMENT CONTROL

The proposed development has been designed to adhere to the erosion control standards listed within The City's Site Plan Review Ordinance. Please refer to **Appendix J** for the Erosion and Sedimentation Control Plan prepared for this development.

LIGHTING

A photometric lighting plan is provided within the drawing set. Specifications for the proposed lighting fixtures can be found in **Appendix K**. Lighting is limited to the proposed roadway – lighting of individual lots will be the responsibility of the individual lot owner.



UTILITIES

As described above, each lot will be served by an individual subsurface wastewater disposal system. Soils data indicating the suitability of these systems has been provided in **Appendix G**. The lots will be served by public water – this will be accomplished by extending the public water main from the intersection of Pool Street and Sokokis Road to the Site. Power and communications infrastructure will be provided from Central Maine Power's existing network on Pool Street. Correspondence with the local water authority has been provided in **Appendix H**.

SOLID WASTE

Recyclable and solid waste will be handled by a contracted waste service vendor retained by the Applicant. Each lot will utilize individual barrels – there will be no dumpsters/centralized waste collection areas. Due to the proposed single-family house lot use, the development is not expected to generate any hazardous waste.

STATE AGENCY REVIEW

State agency project review request letters have been sent to the Maine Historic Preservation Commission (MHPC), Maine Natural Areas Program (MNAP), and the Maine Department of Inland Fisheries and Wildlife (MDIFW) to confirm that the site will not impact any historical or archeological resources, significant natural areas, or significant wildlife habitats. A copy of the letters can be found in **Appendix F**, and the responses will be forwarded to the Town upon receipt.

OTHER PERMITS

The proposed development will disturb greater than 1 acre of land area but will create less than 1 acre of impervious area; therefore, only a Stormwater Permit by Rule is required to be obtained from the Maine Department of Environmental Protection.

The project proposes to impact less than 4,300 square feet of wetland area; therefore, a Natural Resources Protection Act permit from the Maine Department of Environmental Protection is not required.

AS described above, the development will not generate 100 or more peak hour vehicular trips; therefore, a Traffic Movement Permit from the Maine Department of Transportation is not required.

CONCLUSION

This is a general overview of the elements we intend to cover with the Board, and we look forward to reviewing the content in more detail with you and the Planning Board. With the submission of this application packet, we respectfully request inclusion on the next available Planning Board agenda, at which time the Board might consider taking a preliminary approval action for the project.



Please find the following items included with this submission:

APPENDIX	SECTION
A	Deed
B	Location Map
C	USDA Soils Map
D	FEMA Flood Hazard Map
E	Natural Resources Report
F	Sensitive Historic/Natural Areas
G	Test Pit Logs
H	Correspondence
I	Stormwater Management Report
J	Erosion and Sedimentation Control Plan
K	Proposed Lighting Fixtures

If you have any questions regarding the information being submitted, please contact our office.

Sincerely,
Haley Ward, Inc.

Drew J. Olehowski, P.E.
Project Manager

DJO/Imb

**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: **COASTAL OAKS, LLC ATTN: ETHAN SCOTT**
Mailing Address: **198 SACO AVENUE, OLD ORCHARD BEACH, ME 04064**
Telephone: **207-710-7570**
Email: **ETHANSCOTTDEVELOPMENT@GMAIL.COM**

What is your legal interest in the property?

☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: **SAME AS APPLICANT**
Mailing Address: _____
Telephone: _____
Email: _____

Agent's Information:

Name: **HALEY WARD, INC. ATTN: DREW OLEHOWSKI, PE**
Mailing Address: **120 MAIN STREET, #132, SACO, ME 04072**
Telephone: **207-989-4824**
Email: **DOLEHOWSKI@HALEYWARD.COM**

Engineer/Surveyor's Information:

Name: **SAME AS AGENT**
Mailing Address: _____
Telephone: _____
Email: _____

Project Location and Lot Information:

Street Address: **512 POOL STREET** Drainage Watershed: **SACO RIVER**
Tax Map: **9** Lot: **31**
Current Zoning: **RF/SR1** Shoreland Zoning: **NO**
Size of Lot: **17.45** (X) acres () s.f. Lot Frontage: _____
Existing Use of Property: **VACANT AND UNDEVELOPED (WOODED), EXCEPT FOR ONE SINGLE FAMILY HOME CONSTRUCTED IN 2024**

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:

9 LOT SUBDIVISION - 8 LOTS TO INCLUDE (1) SINGLE FAMILY HOME, 9TH LOT TO BE DEDICATED TO EITHER OPEN SPACE/CONSERVATION, OR FUTURE DEVELOPMENT . PRIVATE ROAD. UTILITIES INCLUDE PRIVATE SEPTIC, AND PUBLIC WATER EXTENDED FROM SOKOKIS ROAD.

Property to be Serviced by:

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

Limits of Disturbance: _____ () 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%): _____

Percent of structure expansion (Max 30%): _____

☒ If Subdivision Review, number of lots proposed: 9

☒ If a Private Way is proposed, number of lots served: 9

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

Total new square feet footprint of structure: _____

Total new square feet paving/parking: _____

Waiver Requests (attach details):

1. _____
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 02/26/2025

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

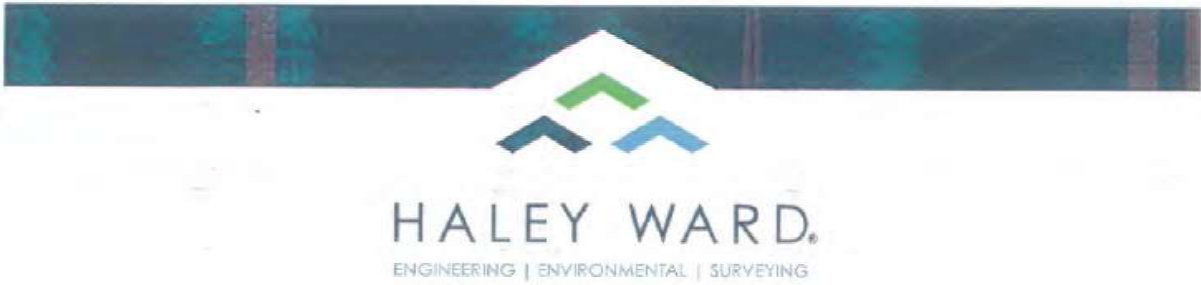
DIGITAL SUBMITTAL REQUIREMENTS FOR FINAL APPROVAL:

- A) INDIVIDUALLY NAMED PDFs OF EACH DRAWING (NOT A COMBINED PDF SET)
 - *Individual Drawing PDF Naming Format: 'PROJECT/SHEETSET NAME_INDIVIDUAL 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 INDIVIDUAL 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



November 11, 2024

To Whom It May Concern:

Please be advised that Haley Ward, Inc. is hereby authorized to act on behalf of Coastal Oaks, LLC for local and state permitting for the proposed residential development located at 512 Pool Street in Biddeford, Maine.

Ethan Scott
Printed Name and Title

[Signature]
Signature

11/11/24
Date

CITY OF BIDDEFORD - SITE PLAN & SUBDIVISION APPLICATION DRAWING CHECKLIST

LAST REVISED: 11/26/2024

CHECKLIST DIRECTIONS:

- 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.
- Applicant to confirm **all** of the items listed are included within the submittal. **Any** missing items must have **adequate** reasoning to justify their absence.
- 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**.
- Items in **BLACK** are required for 'Preliminary' approval & 'Final' approval.
- Items in **BLUE** are only required for 'Final' approval.

SUBMITTAL INFORMATION - TO BE FILLED OUT BY APPLICANT	
Project Name:	
Planning Board # (if available):	
Applicant Name/Info:	
Submittal #/Type (Prelim/Final):	
Submittal Date:	

ITEM NUMBER	SUBMITTAL REQUIREMENT	APPLICANT RESPONSE		CITY REVIEW RESPONSE	
		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	C001		
	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			
	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	C000		
	B Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	C000		
	C Site Location Map	YES	C000		
	D Sheet Set List of Drawings	YES	C000		
	E Tax Map and Lot ID	YES	C101		
	F Zoning & Shoreland Zone Information	YES	C101		
	G Existing Use Description	YES	SEE APPLICATION		
	H Proposed Use Description	YES	SEE APPLICATION		
	I Required Waiver/Variations (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES	SEE APPLICATION		
	J Name of Drainage Watershed	YES	SEE APPLICATION		
	K Within the MSA Urbanized Area (Yes/No)	YES	SEE APPLICATION		
	L Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	SEE APPLICATION		
	M Within the 100-year Flood Zone (Yes/No)	YES	SEE APPLICATION		
	N Public Road Proposed (Yes/No)	YES	SEE APPLICATION		
	O Private Road Proposed (Yes/No)	YES	SEE APPLICATION		
	P Public Sewer Connection (Yes/No)	YES	SEE APPLICATION		
	Q Public Storm Drain Connection (Yes/No)	YES	SEE APPLICATION		
	R Limits of Disturbance in square feet and acres	YES	SEE APPLICATION		
	S Previous Land Cover square footage, existing and proposed	YES	SEE APPLICATION		
	T Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	SEE APPLICATION		
	U Building Roof square footage, existing and proposed	YES	SEE APPLICATION		
	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	1/V102		
	B Property & Right-of-Way Lines	YES	1/V102		
	C Boundary line information (bearings, distances, etc.)	YES	1/V102		
	D Property pin and monumentation locations	YES	1/V102		
	E Existing easements with proper ownership identified	YES	1/V102		
	F Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	1/V102		
	G Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	1/V102		
	H 100-year Flood Zone Limits & Elevation	NO		NOT APPLICABLE	
	I Existing contours with adequate contour labelling; minimum 1' contour interval	YES	1/V102		
	J Existing building FFEs annotated	NO		NOT APPLICABLE - NO SIGNIFICANT CHANGES TO EXISTING BUILDING	
	K Spot elevations for all tie-in locations (curb cuts, property line)	YES	C103		
	L Existing buildings & structures	YES	V102		
	M Existing pavement areas & number of parking spaces	YES	V102		
	N Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	NO		NOT APPLICABLE - NO ADA FEATURE CURRENTLY ON SITE	
	O Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	1/V102		
	P Existing signage and striping	YES	1/V102		
	Q Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	1/V102		

R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	1/V102			
S	Run, 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	1/V102			
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	YES	1/V102			
U	Location of any borings, drinking wells, and monitoring wells	YES	1/V102			
4 SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN						
A	Limits-of-disturbance outlined and acreage annotated	YES	C100			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C100			
C	100-year Flood Zone Limits	YES	C100			
D	Callout existing site features to be demolished/removed/replaced	YES	C100			
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES	C100			
F	Plat existing buildings and pavement to be removed	YES	C100			
G	Construction Entrance location(s)	YES	C100			
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	C100			
I	Stockpile and staging area(s) identified (with proper perimeter control)	YES	C100			
J	Inlet protection location(s)	YES	C100			
K	Note requiring contractor to implement dust control measures throughout construction	YES	C100			
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	YES	C100			
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 viewpoint scale greater than 1"=20'					
B	Existing property and right-of-way lines	YES	C101			
C	Proposed subdivision lot lines and labels	YES	C101			
D	Required Zoning Setbacks shown with dimensions and annotation	YES	C101			
E	Bulk requirement summary table (zoning/parking calculations)	YES	C101			
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C101			
G	100-year Flood Zone Limits	YES	C101			
H	Proposed building outlines, door entrances and loading docks	YES	C101	TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE		
I	Proposed building labels	YES	C101	TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE		
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C101			
K	Proposed parking and accessible parking locations; annotate parking space counts	NO		NO PARKING PROPOSED - TO BE PROVIDED BY PRIVATE DRIVEWAYS AND/OR GARAGES		
L	Proposed signage, parking striping, and traffic striping	YES	C101			
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	NO		NO ADA FEATURES EXISTING OR PROPOSED		
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C101			
O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	C101			
P	Designated snow storage areas	YES	C101			
Q	Proposed dumpster locations and trash removal access	YES	C101	TRASH REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS.		
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	C102			
S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	C102			
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	YES	C102			
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.	YES	C101			
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	YES	C101			
W	Planning Board signature block for final recording	YES	C101			
6 GRADING PLAN						
A	Partial Grading Plans needed for any viewpoint greater than 1"=20'					
B	Limits-of-disturbance outlined and acreage annotated	YES	C103			
C	Proposed Building Labels with individual Finished Floor Elevations (FFE)s	NO		TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE		
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	C103			
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	C103			
F	Detailed grading for all ditches, swales, outfalls, and riprap	YES	C103			
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	C103			
H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	C103			
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C103			
J	100-year Flood Zone Limits	YES	C103			
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/curbline)					
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	YES	C103		
B	Proposed surface: continuous and bold	YES	C103		
C	Road design speed must be clearly identified	YES	C103		
D	Corresponding centerline stationing and curve data annotation	YES	C103		
E	<u>All vertical curves must identify the proposed % values and confirm they meet the minimum design speed thresholds listed in AASHTO's Green Book Tables 3-25 & 3-27.</u>				
F	Clear annotation if proposed road will be public or private	YES	C103		
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	C103		
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	C103		
8	UTILITY PLAN				
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C102		
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C102		
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	C102		
D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	C102		
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C102		
F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	C102		
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C102		
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C102		
I	Flow directional arrows for storm & sewer pipes	YES	C102		
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	C102		
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	YES	CS01		
B	Sidewalk, paver, crosswalk, and any other pavement section details	YES	CS01		
C	Pavement sawcut & shiplap details	YES	CS01		
D	Utility trench/backfill detail	YES	CS01/CS02		
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	CS01/CS02		
F	Signage, striping, and ADA details	YES	CS01		
G	IBS notes and details	YES	CS01	PROVIDED ON NOTES SHEET	
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	CS01/CS02		
I	Storm outfall & riprap details	YES	C100	PROVIDED ON EROSION CONTROL PLAN	
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	YES	CS01		
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	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 reports/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)	NO	REQUEST SENT, APPROVAL NOT YET RECEIVED.		
D	A Performance Guarantee Cost Estimate utilizing Planning's template	NO	TO BE PROVIDED FOR FINAL APPROVAL		
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	SLODA NOT APPLICABLE		
F	25-year hydraulic calculations for all storm conveyance infrastructure (pipes, culverts, drainage ditches); starting tailwater conditions/documentation must be clearly identified				
G	Public sewer pump station sizing calculations and maintenance plan				
H	Greatest trap sizing calculations				
I	Homeowner Association (HOA) agreement for any private road serving two (2) lots or more				
J	Summary list & copy of any required DOT/DEP/USACE permits & approvals				

SUBDIVISIONS

66 Attachment 2

City of Biddeford

Appendix B Required Information Checklist [Ord. of 6-20-1995]

In order for any application to be considered complete the following information must be provided at least two weeks prior to the Planning Board meeting. All plans for subdivisions shall contain the following information:

	Yes	No	N/A	Remarks
(1) Name of subdivision, owner and engineer or surveyor	X			
(2) Graphic scale, date, drawn, North point and its date, and whether it is true or magnetic	X			
(3) Boundaries of the tract	X			
(4) Existing zoning	X			
(5) Ownership and location of abutting properties	X			
(6) Name, location, width, profile, cross-section, radius of curves, angles of change in direction and center line length of all angles of change in direction and center line length of all proposed streets; other public ways, building lines and easements in the subdivision; intersection of existing streets	X			
(7) Type, location, profile and cross-section of all existing and/or proposed surface water drainage	X			
(8) Location of all existing and/or proposed utilities	X			
(9) Location of all existing and/or proposed sanitary sewers showing size, profile, and cross-section, or description, plan, location of other means of sewage disposal with evidence of successful soil evaluation	X			
(10) Topography at two-foot contour intervals, unless otherwise prescribed by the Board. In addition the location of existing natural or man-made features influencing the layout of the proposed subdivision shall be shown.	X			

BIDDEFORD CODE

	Yes	No	N/A	Remarks
(11) Lot lines and approximate dimensions	X			
(12) Proposed uses of property	X			
(13) Proposed public areas, if any	X			
(14) Copy of deed, or option for purchase, for land being subdivided	X			
(15) Reserved fire lane areas			X	
(16) Location of soil evaluation test pits for each lot on plan	X			
(17) Location of well or water supply for each lot	X			
(18) Aesthetics; trees, berms, shrubs, green strips, parks, etc.	X			
(19) Location and details for sedimentation and erosion control measures	X			
The preliminary of a subdivision shall be drawn at a scale no smaller than 100 feet (1 cm = 12 m) to the inch	X			
A preliminary plan shall include a location map insert, showing the relationship of the proposed subdivision to adjacent properties and public access, and drawn at no smaller scale than 2,000 feet (1 cm = 240 m) to the inch. It is suggested that reduced sections of City maps be used for this purpose.	X			

In addition to the above plat information, the Subdivider shall provide the following documents:

	Yes	No	N/A	Remarks
Valid deed or option indicating an interest held by the subdivider in the parcel of land	X			
Completed application form	X			
Narrative of the proposed project briefly describing the general nature of the project i.e., type of project; residential or commercial; number of lots intended to create	X			
Draft covenants and deeds for each lot proposed	X			
Easement documents for proposed rights-of-way for utilities, drainage ways, roadways and other	X			

SUBDIVISIONS

	Yes	No	N/A	Remarks
travelways or public amenities	X			
Statement of financial capability of subdivider to undertake the proposed project	X			
Statement identifying principals involved in the project	X			
Statement demonstrating that the subdividers have the technical capability to complete the proposed project as presented	X			
Copies of such covenants or deed restrictions as are intended to all or part of the tracts	X			
Review by water company, power company and City Engineering, Police and Fire Departments	X			

SUBDIVISIONS

66 Attachment 3

City of Biddeford

Appendix C Subdivision Review Criteria [Ord. of 6-20-1995]

The Board shall base its decision on the plans meeting the conditions and requirements outlined in this chapter; and that the plan meets in a positive fashion, the following:

	Yes	No	N/A	Remarks
1. The project will not result in undue water or air pollution. In making this determination the Board shall consider:	X			
(a) The elevation land, and its relation to the floodplains;	X			
(b) The nature of the soils and the subsoils;	X			
(c) The ability to adequately support waste disposal;	X			
(d) The slope of the land and its affects on effluents;	X			
(e) The availability of streams for the disposal of effluents; and	X			
(f) The applicable state and local health and water resources regulations	X			
2. The project has sufficient water available for the reasonably foreseeable needs of the subdivision	X			
3. The project will not cause an unreasonable burden on an existing water supply, if one is utilized	X			
4. The project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result	X			
5. The project will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads existing or proposed	X			
6. The project will provide for adequate sewage/waste disposal	X			

BIDDEFORD CODE

	Yes	No	N/A	Remarks
7. The project will not cause unreasonable burden on the ability of the municipality to dispose of solid waste and sewage if municipal services are to be utilized	X			
8. The project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas or public rights for physical or visual access to the shoreline	X			
9. The project is in conformance with a duly adopted subdivision regulation or ordinance, Comprehensive Plan, development plan, or land use plan. In making this determination the Board is authorized to interpret these ordinances and plans.	X			
10. The subdivider has adequate financial and technical capacity to meet the above-stated standards	X			
11. Whenever situated, in whole or in part, within 250 feet of any lake, pond, river, or tidal waters, the project will not adversely affect the quality of that body of water, or unreasonably affect the shoreline of that body of water; as indicated on the City of Biddeford's Official Zoning Map and referenced in the City's Comprehensive Plan	X			
12. The project will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater	X			
13. The subdivider will provide information, based on FEMA flood boundary, floodway, and flood insurance maps, whether or not the project is in a flood-prone area	X			
14. The project will not unreasonably obstruct abutting properties or structures access to direct sunlight	X			



APPENDIX A

LOCATION MAP

DLN: 1002340240520

**WARRANTY DEED
(Maine Short Form)**

KNOW ALL PERSONS BY THESE PRESENTS, That I, **HARRY B. CENTER, II** of Yarmouth, County of Cumberland and State of Maine, owner of an undivided one-third interest; I, **TERESA M. BARTON** of Alameda, County of Alameda, State of California, owner of an undivided one-third interest; and we, **ANTHONY C. SERPICO** of Scarborough, County of Cumberland and State of Maine and **MARGARET T. SERPICO** formerly known as Margaret C. Serpico Pull, of 14 Goodale Avenue, Saco, County of York, State of Maine, for consideration paid, grant to **COASTAL OAKS, LLC**, a Maine Limited Liability Company with a mailing address of 198 Saco Avenue, Old Orchard Beach, Maine, with Warranty Covenants, a certain lot or parcel of land situated in the City of Biddeford, County of York and State of Maine, bounded and described as follows:

SEE EXHIBIT A ATTACHED HERETO AND INCORPORATED HEREIN.

IN WITNESS WHEREOF, Harry B. Center, II, Teresa M. Barton, Anthony C. Serpico and Margaret T. Serpico have set their hands and seals this 5th day of July, 2023.

Witness to all

Harry B. Center, II
Harry B. Center, II

Witness

Teresa M. Barton
Teresa M. Barton
by Harry B. Center, II her Attorney in Fact

Witness

Anthony C. Serpico
Anthony C. Serpico

Witness

Margaret T. Serpico
Margaret T. Serpico
By Anthony C. Serpico her Attorney in Fact

Maine R.E. Transfer Tax Paid

STATE OF MAINE
YORK, ss.

July 5, 2023

Then personally appeared the above named Harry B. Center, II and acknowledged the foregoing instrument to be his free act and deed.

Before me,



Notary Public/Maine Attorney at Law

Ba# 5285

Paul D. Weinstein
(Print Name)

STATE OF MAINE
COUNTY OF YORK

July 5, 2023

Then personally appeared the above named Harry B. Center, II, in his capacity as Attorney in Fact for Teresa M. Barton and acknowledged the foregoing instrument to be his free act and deed in said capacity and the free act and deed of Teresa M. Barton

Before me,



Notary Public/Maine Attorney at Law

Ba# 5285

Paul D. Weinstein
(Print Name)

STATE OF MAINE
YORK, ss.

July 5, 2023

Then personally appeared the above named Anthony C. Serpico, individually and in his capacity as Attorney in Fact for **Margaret T. Serpico**, and acknowledged the foregoing instrument to be his free act in deed, the free act in deed in his capacity as Attorney in Fact for Margaret T. Serpico, and the free act and deed of Margaret T. Serpico.

Before me,



Notary Public/Maine Attorney at Law

Ba# 5285

Paul D. Weinstein
(Print Name)

EXHIBIT A

A certain lot or parcel of land situated in Biddeford, bounded and described as follows:

BEGINNING at an iron pipe driven into the ground on the southwesterly side of the Pool Road as relocated by the State Highway Commission in 1957, said iron pipe being the easterly corner of land now or formerly of one Emerson;

THENCE southwesterly by said land of Emerson as follows: S 53° 55' W by the remains of a stone wall eighty-eight and 18/100 (88.18) feet to an iron pipe driven into the ground;

THENCE S 48° 40' W by said stone wall one hundred eighty and 45/100 (180.45) feet to a drill hole;

THENCE S 49° 55' W by said stone wall two hundred Fifty-two and 34/100 (252.34) feet to a drill hole;

THENCE S 51° 10' W by the remains of a stone wall four hundred thirty and 95/100 (430.95) feet to an iron pipe driven into the ground;

THENCE S 47° 10' W by said stone wall one hundred three and 8/10 (103.8) feet to a drill hole;

THENCE S 49° 15' W by said stone wall one hundred eighty-three and 3/10 (183.3) feet to a drill hole;

THENCE S 53° 05' W by said stone wall one hundred eighty-three and 11/100 (183.11) feet to a drill hole;

THENCE S 47° 35' W by said stone wall one hundred forty-eight 8/10 (148.8) feet to a drill hole;

THENCE S 48° 50' W by said stone wall one hundred seventeen and 6/10 (117.6) feet to a drill hole;

THENCE S 53° 20' W by said stone wall two hundred forty-six and 55/100 (246.55) feet to a drill hole;

THENCE S 51° 20' W by said stone wall one hundred six and 45/100 (106.45) feet to a drill hole;

THENCE S 62° 25' W by said stone wall fifty-two and 55/100 (52.55) feet to a drill hole at the corner of said stone wall and land formerly of Goldthwaite and Hill;

THENCE southeasterly by said land formerly of Goldthwaite and Hill as follows: S 44° 55' E by a row of stone heaps two hundred thirty-six and 61/100 (236.61) feet to an iron pipe in a stone heap;

THENCE S 49° 50' E sixty-eight and 47/100 (68.47) feet to a drill hole in a stone heap;

THENCE S 44° 10' E through a stone heap forty-five (45) feet to an iron pipe driven into the ground and land of owners unknown;

THENCE northeasterly by said land of owners unknown and/or partly by land formerly of Ward and partly by land formerly of Goldthwaite as follows: N 51° 25' E six hundred forty-five and 02/100 (645.02) feet to a drill hole at the end of a stone wall;

THENCE N 51° 25' E six hundred forty-five and 02/100 (645.02) feet to a drill hole at the end of a stone wall;

THENCE N 51° E ninety-one and 2/10 (91.2) feet to a point;

THENCE N 51° 35' E by said stone wall one hundred ninety-seven and 63/100 (197.63) feet to a point;

THENCE N 52° E by said stone wall two hundred one (201) feet to a point;

THENCE N 50° E by said wall and by the remains of an old fence three hundred nine and 5/10 (309.5) feet to a stone heap;

THENCE N 42° 55' E by the remains of an old fence forty-nine and 23/100 (49.23) feet to a point;

THENCE N 58° 10' E by an old wire fence six hundred one (601) feet to an iron pipe driven into the ground on the southwesterly side of the Pool Road;

THENCE N 39° 03' W by said southwesterly side of the Pool Road fifteen and 87/100 (15.87) feet to a State Highway Commission granite stone set in the ground;

THENCE N 39° 02' W and by said southwesterly side of the Pool Road four hundred twenty and 67/100 (420.67) feet to the point of beginning.

The above bearings refer to the 1962 Magnetic Meridian.

Reference for title is made to the following: 1) corrective deed from Harry B. Center, II, Personal Representative of the Estate of Joseph Carmine Serpico, to Samuel Serpico and Florence Serpico, Mary A. Barton and Paul J. Barton, and Philomene A. Center and Harry B. Center, II, dated March 15, 1999, and recorded in the York County Registry of Deeds in Book 9362, Page 182; 2) quitclaim deed from Samuel Serpico and Florence Serpico to Anthony C. Serpico and Margaret C. Serpico Pull dated September 18, 2000, and recorded in the York County Registry of Deeds in Book 10224, Page 197; 3) and quitclaim deed from Paul J. Barton to Teresa M. Barton and Paul J. Barton dated December 31, 2009, and recorded in said Registry in Book 15821, Page 456. The said Philomene A. Center died on June 7, 2012, with her interest passing to Harry B. Center, II, as surviving joint tenant, by operation of law. The said Paul J. Barton died on September 12, 2020, with his interest passing to Teresa M. Barton, as surviving joint tenant, by operation of law.



APPENDIX B

LOCATION MAP



SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
BIDDEFORD
@ 1:24,000



HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

**512 POOL STREET
BIDDEFORD, MAINE
LOCATION MAP**

2024.10.10
13871.019



APPENDIX C

USDA SOILS MAP



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.

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.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
York County, Maine.....	13
Bm—Biddeford mucky peat, 0 to 3 percent slopes.....	13
LnB—Lyman loam, 3 to 8 percent slopes, rocky.....	14
LyB—Lyman-Rock outcrop complex, 3 to 8 percent slopes.....	16
LyC—Lyman-Rock outcrop complex, 8 to 15 percent slopes.....	18
References	22

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

Custom Soil Resource Report

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.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

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
Bm	Biddeford mucky peat, 0 to 3 percent slopes	0.7	6.3%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	5.2	45.2%
LyB	Lyman-Rock outcrop complex, 3 to 8 percent slopes	0.0	0.0%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	5.6	48.5%
Totals for Area of Interest		11.5	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

Bm—Biddeford mucky peat, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2t0jn

Elevation: 10 to 1,200 feet

Mean annual precipitation: 33 to 60 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Biddeford and similar soils: 82 percent

Minor components: 18 percent

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

Description of Biddeford

Setting

Landform: Marine terraces, river valleys

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Concave

Across-slope shape: Concave, linear

Parent material: Organic material over glaciomarine deposits

Typical profile

Oe - 0 to 12 inches: mucky peat

Eg - 12 to 16 inches: silt loam

Bg - 16 to 45 inches: silty clay

Cg - 45 to 65 inches: clay

Properties and qualities

Slope: 0 to 3 percent

Surface area covered with cobbles, stones or boulders: 0.0 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: D

Ecological site: F144BY002ME - Marine Terrace Depression, F144BY304ME - Wet Clay Flat

Hydric soil rating: Yes

Minor Components

Scantic

Percent of map unit: 9 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F144BY001ME - Marine Terrace Flat
Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 6 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Swanville

Percent of map unit: 2 percent
Landform: Lake plains, marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Lamoine

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

LnB—Lyman loam, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq7
Elevation: 0 to 520 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: Farmland of statewide importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent

Custom Soil Resource Report

Minor components: 14 percent

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

Description of Lyman, Rocky

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: 3 to 8 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): 2s

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Tunbridge, rocky

Percent of map unit: 6 percent

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

Hydric soil rating: No

Skerry, rocky

Percent of map unit: 5 percent

Landform: Hills, mountains

Custom Soil Resource Report

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Hermon, rocky

Percent of map unit: 2 percent

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

Hydric soil rating: No

Brayton, rocky

Percent of map unit: 1 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

LyB—Lyman-Rock outcrop complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2trqh

Elevation: 0 to 560 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: 65 percent

Rock outcrop: 20 percent

Minor components: 15 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

Custom Soil Resource Report

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: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.5 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

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: 3 to 8 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

Hydric soil rating: Unranked

Minor Components

Skerry, very stony

Percent of map unit: 5 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Brayton, very stony

Percent of map unit: 4 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Hermon, very stony

Percent of map unit: 3 percent

Landform: Mountains, hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 3 percent

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

Hydric soil rating: No

LyC—Lyman-Rock outcrop complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2trqj

Custom Soil Resource Report

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

Minor components: 13 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

Custom Soil Resource Report

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

Minor Components

Skerry, very stony

Percent of map unit: 4 percent

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Hermon, very stony

Percent of map unit: 4 percent

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

Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 3 percent

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

Hydric soil rating: No

Brayton, very stony

Percent of map unit: 2 percent

Custom Soil Resource Report

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

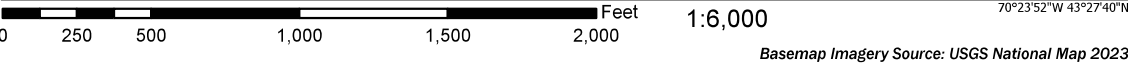
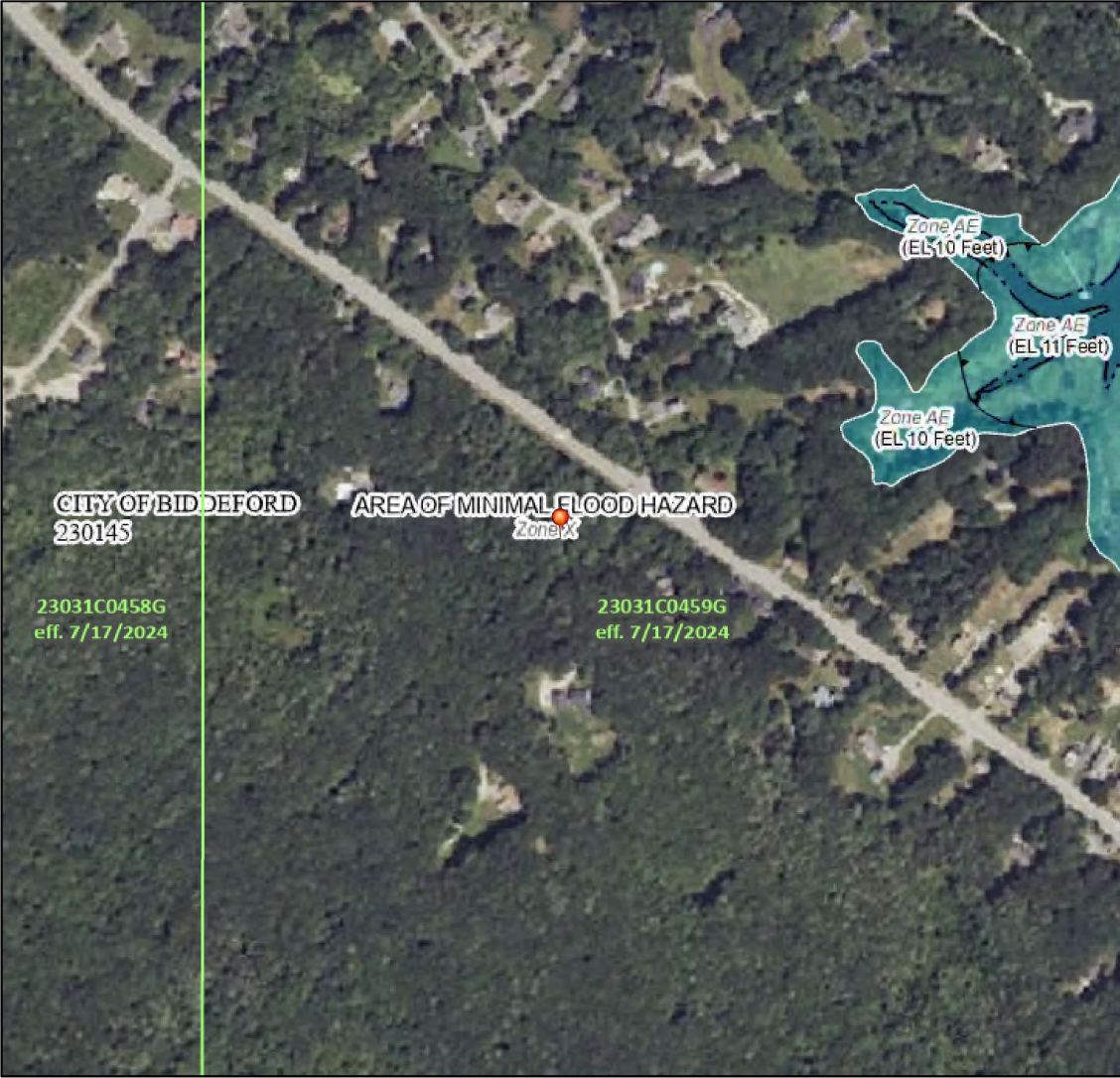


APPENDIX D

FEMA FLOOD HAZARD MAP

National Flood Hazard Layer FIRMette

70°24'29"W 43°28'6"N



Basemap Imagery Source: USGS National Map 2023

Legend

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

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
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		Digital Data Available
		No Digital Data Available
MAP PANELS		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/10/2024 at 9:23 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



APPENDIX E

NATURAL RESOURCES REPORT

To: Josh Eon
Colliers Engineering
Brunswick, Maine

Date: January 26, 2023



From: Alex Finamore, CWS, LSE
Mainely Soils, LLC

Re: 512 Pool Street, Biddeford, ME – Wetland Delineation
Memorandum

At the request of Colliers Engineering (the “Client”), Mainely Soils, LLC conducted on-site wetland and waterbody delineations at an approximately 18.5 acre parcel located at 512 Pool Street in Biddeford, Maine. The Client is assisting the property owner in developing the property. Mainely Soils conducted these field investigations to provide baseline environmental data to inform the proposed re-use of the site. The natural resources assessments described in this report were completed in January 2023. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

PROJECT DESCRIPTION

The project site is located within a zone of residential development along the Pool Street corridor. The proposed development site is currently vacant forested land. Surrounding land use to the north, east, and west is residential and forested land to the south. In total, the wetland and waterbody delineation survey area encompassed approximately 18.5 acres, identified by the City of Biddeford as Tax Map 9 Lot 31.

SITE DESCRIPTION

The Study Area occurs in the Southern Coastal biophysical region of Maine (McMahon, 1990). The Southern Coastal biophysical region is characterized by relatively flat terrain, with elevations generally ranging up to 100 feet above sea level. Bedrock is frequently exposed and covered by thin glacial deposits. Along the immediate coast, soils are generally deep sands (where beaches occur) or shallow sandy loams that are well to excessively drained. Extensive coarse-grained glaciomarine deposits occur in the central portion of the South Coastal Region and along its western margin. The survey area is located within the Saco River watershed (Hydrologic Unit Classification (HUC) 8 identification 01060002), although surface water drainage within the site and vicinity is highly altered by existing developed land surfaces and stormwater management systems.

The Natural Resource Conservation Service soil survey mapping identifies the native soils at the site as being primarily formed within loamy supraglacial till on glaciated uplands (Lyman series) (Web Soil Survey, 2023). Soils within the wetland areas in the southern portion of the site are shown to be formed within glaciomarine or glaciolacustrine deposits on coastal lowlands and river valleys (Scantic series). The Lyman series is a shallow to bedrock soil that is somewhat excessively drained while the Scantic series is a silt loam soil that is poorly drained.

Study Methodology

Mainely Soils conducted wetland delineation field work within the survey area on January 19, 2023. Mainely Soils delineated the boundary of wetlands in accordance with the Army Corps of Engineers 1987 Wetland Delineation Manual (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement, 2012). All wetland delineations were conducted using the Routine Determination Methods, which requires that a wetland contain a dominance of hydrophytic vegetation, hydric soils, and evidence of hydrology in order to be considered a wetland. Wetland boundaries were located and demarcated using pink day-glow flagging, with each flag labeled with the corresponding alphabetic wetland identification code and a flag number (i.e. A-1). Wetland flag locations were recorded in the field using a Trimble® GPS unit capable of sub meter accuracy, post processed, and transferred and incorporated onto project mapping.

Mainely Soils completed one wetland and one upland Regional Supplement data form along the boundary of each identified wetland system to document the boundary. Additional field notes were also taken to record the classification of each wetland in accordance with the Classification of Wetlands and Deepwater Habitats of the United States, general site characteristics, unique qualities observed during the site assessment, and other considerations relevant to investigation findings and the future completion of a wetlands functions and values assessment in accordance with the Highway Methodology Workbook: Supplement. Mainely Soils took representative photographs of each wetland, drew labeled field sketches of the wetland boundary on an aerial photograph-based map, and recorded notes on the flagging sequence for each wetland.

Mainely Soils surveyed the site for streams, in accordance with the State of Maine Natural Resources Protection Act stream criteria and definitions. No streams were identified within the site.

Vernal pools are small (usually less than one acre), seasonal wetlands that lack perennial inlet or outlet streams and have no permanent fish populations (Calhoun and deMaynadier 2004). Vernal pools are valuable wetland wildlife habitat because of their potentially high biological productivity and use as breeding habitat by specialized animal communities. The characteristics of vernal pools including size, duration of flooding, substrate type and vegetative community are directly affected by a variety of factors such as landscape setting, surficial geology, soil type, and surrounding vegetation (Maine Audubon Society 1999).

As onsite investigations took place in winter outside of the vernal pool indicator breeding season, a preliminary Vernal pool survey was conducted within the Study Area to identify and potential pool locations. Wetland A contained two isolated basins that contained up to 12 inches of standing water at the time of the delineation. Both areas may have the potential to support vernal pool indicator species breeding activity.

Study Results

Using the methodologies described above, Mainely Soils conducted a wetland delineation on January 19, 2023. A description of the identified resources follows. Supporting attachments Representative Photographs (Attachment 1). Wetland Delineation Data Forms can be provided upon request..

Wetlands at the project site consisted of five features, all of which were palustrine seasonally saturated forested wetlands (PFO1E) dominated by deciduous trees (Cowardin et al, 1979). Wetlands A, B, C, and D all drain in a southwesterly direction offsite. Wetland E is a small isolated depression along Pool Street. Dominant wetland vegetation includes red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), gray birch (*Betula populifolia*), white pine (*Pinus strobus*), winterberry (*Ilex verticillata*), cinnamon fern (*Osmunda cinnamomea*), and sensitive fern (*Onoclea sensibilis*). Soils within the wetland had a dark sandy loam surface overlaying a depleted loamy sand substratum. Evidence of wetland hydrology included pockets of water stained leaves, and saturation within 12" of the soil surface at the time of field investigations on January 19, 2023.

Wetland A contained two areas of standing water which may have the potential to support vernal pool indicator species breeding activity. A formal vernal pool survey is recommended during the indicator species peak breeding window, typically between April 1 and May 10 for Southern Maine.

No jurisdictional streams were observed onsite.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding wetland and waterbody resources. This information is intended to be used for project planning purposes and to support

permitting needs. Five PFO1E wetlands were delineated on the site, and were identified as Wetlands A–E. No streams were located onsite. Two potential vernal pools were found within Wetland A.

Wetlands are regulated by the U.S. Army Corps of Engineers under the federal Clean Water Act, and by the Maine Department of Environmental Protection under the Maine Natural Resources Protection Act (NRPA). The State of Maine further differentiates wetlands under NRPA by regulating certain wetlands as “wetlands of special significance” (WOSS). None of the wetlands within the site constitute a WOSS under NRPA, although they are still subject to NRPA jurisdiction as non-WOSS wetlands. A formal vernal pool survey is recommended during the indicator species peak breeding window, typically between April 1 and May 10 for Southern Maine.

Wetlands within the survey area may be further regulated under municipal ordinances, such as Shoreland Zone, Site Plan Review, or other local ordinances. Impacts to wetlands resulting from proposed project development require that permits first be obtained from the MDEP and the USACE before proceeding with construction, and where applicable, municipal governing bodies. Consultation with these agencies early in the project design process is encouraged.

References:

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitat in the United States. U.S. Fish and Wildlife Service. FWS/OBD-79/31 103pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- McMahon, J.S. 1990. The Biophysical Regions of Maine: Patterns in the Landscape and Vegetation. University of Maine.
- U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. ERDC/EL TR-12-01. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Web Soil Survey. 2023. U.S. Department of Agriculture – Natural Resources Conservation Service. <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

Attachments:

1. Representative Site Photographs

Attachment 1
Representative Site Photographs

Natural Resource Photographs – 1/19/2023
512 Pool Street, Biddeford, Maine



Photo 1: View looking southerly at Wetland 1 from flag 1



Photo 2: View looking southerly at Wetland 1 and PVP 1 from flag 22

Natural Resource Photographs – 1/19/2023
512 Pool Street, Biddeford, Maine



Photo 3: View looking southerly at Wetland 2 from flag 1



Photo 4: View looking westerly at Wetland C from flag 1



To: Josh Eon, PLS (ME)
Colliers Engineering & Design
41 Church Street
Brunswick, Maine 04011

Date: May 16, 2023

From: Alexander A. Finamore, CWS,
LSE
Mainely Soils, LLC

Re: Vernal Pool Survey
512 Pool Street – Biddeford, Maine

Project Description

At the request of Colliers Engineering & Design (the “Client”), Mainely Soils conducted on-site a vernal pool survey at an approximately 18.5 acre parcel located at 512 Pool Street in Biddeford, Maine. Mainely Soils conducted these field investigations to provide baseline environmental data to inform the proposed use of the site. The natural resources assessments described in this report were completed on April 17 and 30 of 2023. In addition to describing the identified resources this report describes the existing conditions within the study area, and the methodologies employed for the assessments.

The project site is located within a zone of residential development along the Pool Street corridor in the Town of Biddeford. The proposed site consists of 18.5 acres of vacant forested land. Surrounding land use of the site is residential. The parcel is identified by the Town of Biddeford as Tax Map 9, Lot 31. The proposed use of the site is a residential subdivision. Wetlands were previously delineated by Mainely Soils in January of 2023.

Study Methodology

Vernal pools are small (usually less than one acre), seasonal wetlands that lack perennial inlet or outlet streams and have no permanent fish populations (Calhoun and deMaynadier 2004). Vernal pools are valuable wetland wildlife habitat because of their potentially high biological productivity and use as breeding habitat by specialized animal communities. The characteristics of vernal pools including size, duration of flooding, substrate type and vegetative community are directly affected by a variety of factors such as landscape setting, surficial geology, soil type, and surrounding vegetation (Maine Audubon Society 1999).

Chapter 335 of DEP Rules – Significant Wildlife Habitat defines a vernal pool as follows:

“A vernal pool, also referred to as a seasonal forest pool, is a natural, temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition.”

“Optimal times for counting egg masses of pool-breeding amphibians vary according to geographic location and weather. For instance, during cold springs, breeding can begin as much as 2 weeks later than it does in warm, wet springs. The optimal time to count masses is just past the peak breeding period. For wood frogs, this occurs approximately 2 weeks after they start full choruses. Wood frog egg masses hatch very quickly and are difficult to count much past peak breeding. Salamanders have a more extended breeding period and their eggs do not hatch as quickly as those of wood frogs. Therefore, surveys to count salamander egg masses should be conducted slightly later in the breeding season, generally 2–3 weeks following wood frog egg mass counts. The following are rough guidelines for optimal times for counting egg masses:”

Geographic Region	Wood Frogs	Spotted & Blue Spotted Salamanders
Northern Maine	May 5– May 20	June 5
Central Maine	April 5 – May 10	May 5 – May 25
Southern Maine	April 10 – April 25	April 20 – May 10

Vernal pool surveys were conducted at the subject site on April 17th and 30th of 2023. Mainely Soils identified pooled areas containing water and exhibiting other physical characteristics typically associated with vernal pools. Specifically, Mainely Soils evaluated the contour of the pool bottom and sides, the current depth of water in the pool, the substrate of the pool bottom, and the presence of an inlet or outlet in the form of a perennial stream. When a vernal pool depression is found, a standard field survey data form was completed to document the location and general surroundings and the pool was photographed. In addition, survey points were taken using a global positioning system (GPS) unit (Trimble GeoXT) to delineate the pool boundary.

Mainely Soils relied on two primary criteria: (1) direct evidence of amphibian breeding activity; and (2) evidence of seasonal flooding and drying within a topographic depression not connected to a river, stream or brook. Direct evidence of amphibian breeding activity included the observation of breeding adults, egg masses, and larvae of the following amphibian species: wood frog, spotted salamander, blue-spotted salamander, and four-toed salamander. Other evidence of vernal pool habitat may include the presence of fairy shrimp in the water column. Evidence of seasonal flooding and drying included the observation of water marks on trees, shrubs and boulders, water stained leaves with silt deposits, and buttressed tree trunks and exposed roots.

Confirmation of amphibian breeding included the presence of individual adults in the pool taking part in courtship activities, egg masses, wood frog tadpoles, or Ambystomid salamander larvae. Once it would be determined that an area was functioning as a vernal pool, further assessment was conducted to determine if it was significant (per state regulations). Criteria for identifying an SVP include:

- Species abundance (number of egg masses);
- Blue spotted salamanders – Presence of 10 or more egg masses
- Spotted salamanders – Presence of 20 or more egg masses
- Wood frogs – Presence of 40 or more egg masses
- Presence of fairy shrimp (presence in any life stage); or
- Use of the pool by one or more state-listed endangered or threatened species that commonly require a vernal pool to complete a critical life stage.

If any one of these criteria were met, the pool was considered significant.

Overall, vernal pools were classified into one of four categories: (1) MDEP SVPs, as discussed above; (2) U.S. Army Corps of Engineers (ACOE) significant (manmade) vernal pools, including man made or other manipulated features that met the state criteria for amphibian egg mass counts; (3) ACOE non-significant (natural or manmade) vernal pools, including both natural and manmade features that did not meet the state criteria for amphibian egg mass counts; and (4) non-jurisdictional features which includes all other areas where amphibian breeding was documented but did not meet the state criteria for egg mass counts or the state and federal definitions of a vernal pool.

Two features within the study area contained evidence of vernal pool indicator species. Some other areas of standing water were observed within the wetland areas present, but did not contain vernal pool indicator species.

Study Results

Overall, vernal pools are classified into one of four categories: (1) MDEP SVPs, as discussed above; (2) U.S. Army Corps of Engineers (ACOE) significant (manmade) vernal pools, including man-made or other manipulated features that met the state criteria for amphibian egg mass counts; (3) ACOE non-significant (natural or manmade) vernal pools, including both natural and manmade features that did not meet the state criteria for amphibian egg mass counts; and (4) non-jurisdictional features which includes all other areas where amphibian breeding was documented but did not meet the state criteria for egg mass counts or the state and federal definitions of a vernal pool.

Two features have been identified within the study area (See Attachment 2 – Maine State Vernal Pool Assessment Form) . Vernal Pools one and two were located within a long narrow depression within a narrow wetland complex. The pools were approximately 1–4 feet deep and 30 to 40 feet wide. There was a presence of wood frog and spotted salamander egg masses, although it did not contain the abundance of egg masses to meet the threshold to be considered significant by the MDEP; and therefore not considered significant. Therefore, Vernal Pools one and two found onsite would be considered an ACOE non-significant vernal pools. See attached photo log (Attachment 1) for representative views of the pool and vernal pool indicator species onsite.

Summary

The information contained in this memorandum was collected in order to provide detailed, on-site information regarding vernal pool resources. This information is intended to be used for project planning purposes and to support permitting needs. Two vernal pools were identified onsite and were characterized as an ACOE non-significant vernal pool. Please feel free to reach out to Mainely Soils for any questions regarding the information presented above.

References:

Calhoun, A.J.K., and P.G. deMaynadier. 2004. Forestry habitat management guidelines for vernal pool wildlife. MCA Technical Paper No. 6, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.

Attachments:

Attachment 1 – Photo Log

Attachment 2 – Maine State Vernal Pool Assessment Forms

512 Pool Street – Biddeford, Maine – Vernal Pool Memorandum
Page 4 of 5
May 16 2023

Attachment 1 Representative Site Photographs

Natural Resource Photographs – 1/19/2023
512 Pool Street, Biddeford, Maine



Photo 5: View looking westerly at Wetland D from flag 11



Photo 6: View looking westerly at Wetland E from flag 1

Vernal Pool Photographs – 4/17/2023 & 4/30/2023
512 Pool Street – Biddeford, Maine



Photo 1: View looking southwest at Vernal Pool 1



Photo 2: View looking northeast at Vernal Pool 1

Vernal Pool Photographs - 4/17/2023 & 4/30/2023
512 Pool Street - Biddeford, Maine



Photo 3: Spotted salamander egg mass within Vernal Pool 1



Photo 4: Hatching wood frog egg mass in Vernal Pool 1

Vernal Pool Photographs – 4/17/2023 & 4/30/2023
512 Pool Street – Biddeford, Maine



Photo 5: View looking southwest at Vernal Pool 2



Photo 6: View looking northeast at Vernal Pool 2



Photo 6: Spotted salamander egg mass in Vernal Pool 2

512 Pool Street – Biddeford, Maine – Vernal Pool Memorandum
Page 5 of 5
May 16 2023

Attachment 2

Maine State Vernal Pool Assessment Forms



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: VP-2

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Alexander Finamore
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: ☐ same as observer ☐ other _____
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes
- c. Project Name: Biddeford Pool Lot

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? ☐ Yes ☐ No If no, was landowner permission obtained for survey? ☐ Yes ☐ No
- b. Landowner's contact information (required)
- Name: SERPICO, ANTHONY & MARGARET &, BART Phone: _____
- Street Address: 16 Goodale Avenue City: Saco State: ME Zip: 04072
- c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

- a. Location Township: Biddeford

Brief site directions to the pool (using mapped landmarks):

Head southeast on Pool Street from downtown Biddeford. Site is on the right before Angel Lane private drive.

b. Mapping Requirements

- i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70 24'15.74" Latitude/Northing: 43 27'48.94"

Coordinate system: NAD83

Check one: ☐ GIS shapefile

- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (Best)

☐ The pool perimeter is delineated by multiple GPS points. (Excellent)

- Include map or spreadsheet with coordinates.

☐ The above GPS point is at the center of the pool. (Good)

☐ The center of the pool is approximately _____ m ☐ ft ☐ in the compass direction of _____ degrees from the above GPS point. (Acceptable)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ☐ Isolated depression ☐ Pool associated with larger wetland complex
☐ Floodplain depression ☐ Other: _____

■ Check all wetland types that best apply to this pool:

- | | | | |
|--|---|--|---|
| ☒ Forested swamp | ☐ Wet meadow | ☐ Slow stream | ☐ Dug pond or borrow pit |
| ☐ Shrub swamp | ☐ Lake or pond cove | ☐ Floodplain | |
| ☐ Peatland (fen or bog) | ☐ Abandoned beaver flowage | ☐ Mostly unvegetated pool | ☐ Roadside ditch |
| ☐ Emergent marsh | ☐ Active beaver flowage | ☐ ATV or skidder rut | ☐ Other: _____ |

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ☐ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- ☐ Permanent ☐ Semi-permanent (drying partially in all years and completely in drought years) ☐ Ephemeral (drying out completely in most years) ☐ Unknown

Explain:

Deep sphagnum moss with leaf litter in deepest portions of the wetland

■ Maximum depth at survey: ☐ 0-12" (0-1 ft.) ☐ 12-36" (1-3 ft.) ☐ 36-60" (3-5 ft.) ☐ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ☐ m ☐ ft Length: 150 ☐ m ☐ ft

■ Predominate substrate in order of increasing hydroperiod:

- | | |
|---|---|
| ☐ Mineral soil (bare, leaf-litter bottom, or upland mosses present) | ☐ Organic matter (peat/muck) shallow or restricted to deepest portion |
| ☐ Mineral soil (sphagnum moss present) | ☐ Organic matter (peat/muck) deep and widespread |

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- | | |
|---|---|
| ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) | ☐ Wet site ferns (e.g. royal fern, marsh fern) |
| ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern) | ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly) |
| ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern) | ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes) |
| ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle) | ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead) |
| ☐ Sphagnum moss (anchored or suspended) | ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
| | ☐ No vegetation in pool |

■ Faunal indicators (check all that apply):

- ☐ Fish ☐ Bullfrog or Green Frog tadpoles ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ☐ No inlet or outlet ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
☐ Intermittent inlet or outlet ☐ Other or Unknown (explain): _____



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/17/2020, 4/30/2020

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? ☐ Yes ☐ No
- Was the entire pool surveyed for egg masses? ☐ Yes ☐ No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog	0	0		3	3							
Spotted Salamander	5	5		3	3	F	M					
Blue-spotted Salamander	0	0		3	3							
Fairy Shrimp ³	0	0		3	3							

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool associated with narrow wetland complex in depression between bedrock outcrop and old road bed

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only

Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ Significant ☐ Potentially Significant but lacking critical data ☐ Not Significant due to: ☐ does not meet biological criteria. ☐ does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: VP-2

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Alexander Finamore
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: ☐ same as observer ☐ other _____
- b. Contact and credentials previously provided? ☐ No (submit Addendum 1) ☐ Yes
- c. Project Name: Biddeford Pool Lot

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? ☐ Yes ☐ No If no, was landowner permission obtained for survey? ☐ Yes ☐ No
- b. Landowner's contact information (required)
- Name: SERPICO, ANTHONY & MARGARET &, BART Phone: _____
- Street Address: 16 Goodale Avenue City: Saco State: ME Zip: 04072
- c. ☐ Large Projects: check if separate project landowner data file submitted

4. VERNAL POOL LOCATION INFORMATION

- a. Location Township: Biddeford

Brief site directions to the pool (using mapped landmarks):

Head southeast on Pool Street from downtown Biddford. Site is on the right before Angel Lane private drive.

b. Mapping Requirements

- i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70 24'15.74" Latitude/Northing: 43 27'48.94"

Coordinate system: NAD83

- Check one: ☐ GIS shapefile
- send to Jason.Czapiga@maine.gov; observer has reviewed shape accuracy (Best)
 - ☐ The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
 - ☐ The above GPS point is at the center of the pool. (Good)
 - ☐ The center of the pool is approximately _____ m ☐ ft ☐ in the compass direction of _____ degrees from the above GPS point. (Acceptable)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- ☐ Isolated depression ☒ Pool associated with larger wetland complex
☐ Floodplain depression ☐ Other: _____

■ Check all wetland types that best apply to this pool:

- | | | | |
|--|---|--|---|
| ☒ Forested swamp | ☐ Wet meadow | ☐ Slow stream | ☐ Dug pond or borrow pit |
| ☒ Shrub swamp | ☐ Lake or pond cove | ☐ Floodplain | |
| ☐ Peatland (fen or bog) | ☐ Abandoned beaver flowage | ☐ Mostly unvegetated pool | ☐ Roadside ditch |
| ☐ Emergent marsh | ☐ Active beaver flowage | ☐ ATV or skidder rut | ☐ Other: _____ |

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: ☒ Natural ☐ Natural-Modified ☐ Unnatural ☐ Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- ☐ Permanent ☐ Semi-permanent (drying partially in all years and completely in drought years) ☒ Ephemeral (drying out completely in most years) ☐ Unknown

Explain:

Deep sphagnum moss with leaf litter in deepest portions of the wetland

■ Maximum depth at survey: ☐ 0-12" (0-1 ft.) ☐ 12-36" (1-3 ft.) ☐ 36-60" (3-5 ft.) ☐ >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: 35 ☐ m ☐ ft Length: 150 ☐ m ☐ ft

■ Predominate substrate in order of increasing hydroperiod:

- | | |
|---|---|
| ☐ Mineral soil (bare, leaf-litter bottom, or upland mosses present) | ☐ Organic matter (peat/muck) shallow or restricted to deepest portion |
| ☒ Mineral soil (sphagnum moss present) | ☐ Organic matter (peat/muck) deep and widespread |

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- | | |
|--|---|
| ☐ Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) | ☒ Wet site ferns (e.g. royal fern, marsh fern) |
| ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern) | ☒ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly) |
| ☒ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern) | ☒ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes) |
| ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle) | ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead) |
| ☒ Sphagnum moss (anchored or suspended) | ☐ Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
| | ☐ No vegetation in pool |

■ Faunal indicators (check all that apply):

- ☐ Fish ☐ Bullfrog or Green Frog tadpoles ☐ Other: _____

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- ☐ No inlet or outlet ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
☐ Intermittent inlet or outlet ☐ Other or Unknown (explain): _____



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/17/2020, 4/30/2020

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? ☐ Yes ☐ No
- Was the entire pool surveyed for egg masses? ☐ Yes ☐ No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog	0	0		3	3							
Spotted Salamander	5	5		3	3	F	M					
Blue-spotted Salamander	0	0		3	3							
Fairy Shrimp ³	0	0		3	3							

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	☐	☐	☐		Wood Turtle	☐	☐	☐	
Spotted Turtle	☐	☐	☐		Ribbon Snake	☐	☐	☐	
Ringed Boghaunter	☐	☐	☐		Other:	☐	☐	☐	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

☐ SVP ☐ Potential SVP ☒ Non Significant VP ☐ Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool associated with narrow wetland complex in depression between bedrock outcrop and old road bed

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

For MDIFW use only

Reviewed by MDIFW Date: _____ Initials: _____

This pool is: ☐ Significant ☐ Potentially Significant but lacking critical data ☐ Not Significant due to: ☐ does not meet biological criteria. ☐ does not meet MDEP vernal pool criteria.

Comments:



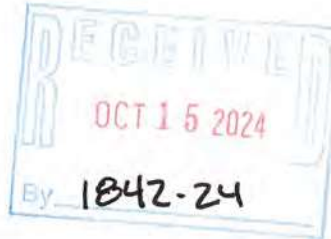
APPENDIX F

SENSITIVE HISTORIC/NATURAL AREAS



October 14, 2024

Maine Historic Preservation Commission
Attn: Ms. Megan Rideout
55 Capitol Street
65 State House Station
Augusta, Maine 04333-0065
megan.m.rideout@maine.gov



Re: 512 Pool Street, Biddeford, Maine | Subdivision Review

Dear Ms. Rideout:

Haley Ward Inc. is currently assisting Coastal Oaks, LLC with the preparation of a Preliminary Subdivision Review application for the construction of a nine-lot subdivision at 512 Pool Street in Biddeford, Maine. Currently, the property is mostly undeveloped and wooded, except for one single family home that was constructed in 2024.

Per permitting requirements, we are submitting this request to your office to determine if any historical sites of concern are located within the project area. Because the project is located in a residential zone and will be residential in use, we do not expect any nearby structures to be negatively impacted by this development. Additional homes in this subdivision will be aesthetically similar to the subdivision's first home, which can be seen on Google street view.

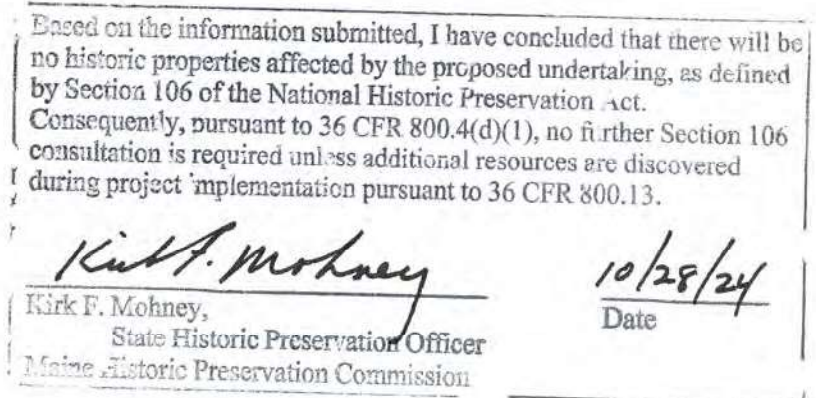
With this inquiry, we have submitted a location map, and a preliminary project layout. Any response can be forwarded to our office located at One Merchants Plaza, Suite 701, Bangor, Maine 04401 or by email at dolehowski@haleyward.com.

Thank you for your assistance in this matter.

Sincerely,
Haley Ward, Inc.

Drew Olehowski, P.E.
Civil Engineer

DJO/jok
Enc.



Maine Historic Preservation Commission | 10.14.2024 | 13871.019



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 28, 2024

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

Via email: dolehowski@haleyward.com

Re: Rare and exemplary botanical features in proximity to: #13871.019, Residential Subdivision, Map 9 Lot 31, 512 Pool Street, Biddeford, Maine

Dear Drew Olehowski:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received October 14, 2024 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. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

**Rare and Exemplary Botanical Features within 4 miles of
Project: #13871.019, Residential Subdivision, Map 9 Lot 31, 512 Pool Street, Biddeford, Maine**

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
American Sea-blite						
	T	S2	G5	2010-08-04	14	Tidal wetland (non-forested, wetland)
Beach Plum						
	E	S1	G4	2006-07-17	3	Rocky coastal (non-forested, upland)
	E	S1	G4	1933-06-21	9	Rocky coastal (non-forested, upland)
	E	S1	G4	1932-09	12	Rocky coastal (non-forested, upland)
	E	S1	G4	2017-06-07	22	Rocky coastal (non-forested, upland)
Beach Wormwood						
	SC	S1S2	G5T5	2011-10-28	6	
	SC	S1S2	G5T5	2011-11-02	7	
Brackish Tidal Marsh						
		S3	GNR	2009-07-29	1	
Button Sedge						
	SC	S2	G5	1880-09-06	2	
	SC	S2	G5	2000-08-15	3	
Clothed Sedge						
	E	S1	G5	2006-06-16	8	Dry barrens (partly forested, upland)
Coastal Dune-marsh Ecosystem						
		S3	GNR	2009	1	
Creeping Spike-moss						
	E	S2	G5	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested,
	E	S2	G5	1920-07-30	6	Open wetland, not coastal nor rivershore (non-forested,
Dwarf Glasswort						
	T	S1	G5	1981-09-16	2	Tidal wetland (non-forested, wetland)
	T	S1	G5	2010-08-04	8	Tidal wetland (non-forested, wetland)

Estuary Bur-marigold						
SC	S3	G4	2009-07-30	35	Tidal wetland (non-forested, wetland)	
Freshwater Tidal Marsh						
	S2	G4?	2009-07-30	1		
Hollow Joe-pye Weed						
SC	S2	G5	1989-08-21	1	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	1989-08-22	3	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	2006-08-07	5	Open wetland, not coastal nor rivershore (non-forested,	
SC	S2	G5	1994-06-06	6	Open wetland, not coastal nor rivershore (non-forested,	
Horned Pondweed						
SC	S2	G5	1907-08-18	10	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2000-08-28	15	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2007-07-05	19	Tidal wetland (non-forested, wetland)	
Lilaeopsis						
SC	S2	G5	2012-10-21	10	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2007-07-05	11	Tidal wetland (non-forested, wetland)	
SC	S2	G5	2007-08-14	12	Tidal wetland (non-forested, wetland)	
Long-spined Sandbur						
PE	SH	G5	1984	1	Rocky coastal (non-forested, upland)	
Mudwort						
SC	S3	G5	2009-07-30	35	Tidal wetland (non-forested, wetland)	
Oak - Hickory Forest						
	S1	G4G5	2012-10-11	3		
Pale Green Orchis						
SC	S2	G4?T4Q	1991	36	Non-tidal rivershore (non-forested, seasonally wet),Open	
Parker's Pipewort						
SC	S3	G3	2017-08-31	33	Tidal wetland (non-forested, wetland)	
Pitch Pine Bog						

Pitch Pine Bog						
	S2	G3G5	2015-09-29	20		
Pitch Pine Dune Woodland						
	S1	G2	2014-05-08	8		
Pitch Pine Woodland						
	S3	G2	2016-08-09	30		
Pocket Swamp						
	S2	G5	2014-05-08	4		
	S2	G5	2020-06-12	18		
	S2	G5	2020-06-12	33		
Pygmyweed						
	SC	S2S3	G5	2009-07-29	25	Open water (non-forested, wetland)
	SC	S2S3	G5	2007-07-05	28	Open water (non-forested, wetland)
Salt-hay Saltmarsh						
	S3	G5	2010-10-14	12		
	S3	G5	2020-09-22	13		
	S3	G5	2020-09-22	15		
	S3	G5	2016-07-12	23		
	S3	G5	2009	27		
Saltmarsh False-foxglove						
	SC	S3	G5	2010-08-04	6	Tidal wetland (non-forested, wetland)
	SC	S3	G5	1982	9	Tidal wetland (non-forested, wetland)
	SC	S3	G5	1982	12	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2006-07-17	18	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2010-08-04	34	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2020-09-22	43	Tidal wetland (non-forested, wetland)
Sassafras						
	SC	S2	G5	2006-07-17	16	Hardwood to mixed forest (forest, upland),Old field/
Schreber's Wood-aster						
	PE	SX	G4	1894-09	1	Rocky coastal (non-forested, upland)

Slender Blue Flag						
	T	S2	G4G5	1995-07-18	18	Tidal wetland (non-forested, wetland)
Small Reed Grass						
	SC	S3	G5	2000-08-15	12	Old field/roadside (non-forested, wetland or upland)
	SC	S3	G5	2006-08-08	14	Old field/roadside (non-forested, wetland or upland)
	SC	S3	G5	2010-09-07	15	Old field/roadside (non-forested, wetland or upland)
Smooth Winterberry Holly						
	SC	S3	G5	1979	13	Forested wetland
	SC	S3	G5	2011-10-28	30	Forested wetland
	SC	S3	G5	2004	36	Forested wetland
	SC	S3	G5	2020-6-12	39	Forested wetland
	SC	S3	G5	2012-10	44	Forested wetland
Southern Slender Ladies'-tresses						
	PE	SH	G5T4T5	1918-08-27	1	Dry barrens (partly forested, upland)
Spongy-leaved Arrowhead						
	SC	S3	G5T4	2012-10-21	42	Tidal wetland (non-forested, wetland)
Stiff Arrowhead						
	SC	S2	G5	2006-06-16	15	Tidal wetland (non-forested, wetland)
Sweet Pepper-bush						
	SC	S2	G5	1989-08-01	8	Hardwood to mixed forest (forest, upland),Forested
	SC	S2	G5	1917-09	9	Hardwood to mixed forest (forest, upland),Forested
Tidal Marsh Estuary Ecosystem						
		S3	GNR	2010-10-14	4	
Water Pimpernel						
	SC	S3	G5	2012-10-21	26	Tidal wetland (non-forested, wetland)

Date Exported: 2024-10-28 08:06

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of critically imperiled (1) to secure (5). Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 G1	Critically Imperiled – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 G2	Imperiled – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 G3	Vulnerable – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 G4	Apparently Secure – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 G5	Secure – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX GX	Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH GH	Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery.
S#S# G#G#	Range Rank – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU GU	Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR SNR	Unranked – Global or subnational conservation status not yet assessed.
SNA GNA	Not Applicable – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems).
Qualifier	Definition
S#? G#?	Inexact Numeric Rank – Denotes inexact numeric rank.
Q	Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The "Q" modifier is only used at a global level.
T#	Infraspecific Taxon (trinomial) – The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	Endangered – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	Threatened – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	Special Concern – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	Potentially Extirpated – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	Excellent – Excellent estimated viability/ecological integrity.
B	Good – Good estimated viability/ecological integrity.
C	Fair – Fair estimated viability/ecological integrity.
D	Poor – Poor estimated viability/ecological integrity.
E	Extant – Verified extant, but viability/ecological integrity not assessed.
H	Historical – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	Extirpated – Documented loss of population/destruction of habitat.
U	Unrankable – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	Not Ranked – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
<http://www.maine.gov/dacf/mnap>





STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



January 27, 2025

Drew Olehowski
Haley Ward
120 Main Street, Suite 132
Saco, ME 04072

RE: Information Request - 512 Pool Street, Subdivision, Biddeford Project ID 8580

Dear Drew:

Per your request, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information sources for known locations of Endangered, Threatened, and Special Concern (Rare) species; designated Essential and Significant Wildlife Habitats; inland fisheries and aquatic habitats; and other protected natural resource concerns within the vicinity of the **512 Pool Street, Subdivision, Biddeford** project, pursuant to MDIFW's authority. Please note that as project details are lacking, our comments should be considered preliminary. For the purposes of this review, we assume that tree clearing is proposed.

Our Department has not mapped any Essential Habitats that would be affected by this project.

ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

Bat Species

Of the eight species of bats that occur in Maine, four species are afforded protection under Maines Endangered Species Act (MESA, 12 M.R.S 12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Blanding's Turtle

Blanding's turtles, a State Endangered species, have been documented within the proposed project area. In Maine, Blanding's turtles are found most frequently in vernal pools, acidic wetlands and larger marsh complexes, within blocks of forested habitat. They also use small streams, shrub swamps, wet meadows, bogs, and forested swamps. Development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations. Additionally, development projects that lead to significant increases in local traffic volume will likely lead to increased roadkill and possible extirpation of the local population. If these habitats are present in

January 27, 2025

Letter to Drew Olehowski, Haley Ward

Comments RE: 512 Pool Street, Subdivision, Biddeford

the project area, we recommend that they be avoided and buffered by 250 feet of undisturbed, natural vegetation with no new no development or permanent habitat conversion within this zone.

Spotted Turtle

Spotted turtles, a State Threatened species, have been documented in the proposed project area. Spotted turtles are most frequently found in southern and coastal Maine in forested settings with complexes of small acidic wetlands and vernal pools. They also use small streams, shrub swamps, wet meadows, bogs, and forested swamps. Development activity that compromises riparian integrity or migration permeability among seasonally critical wetlands can lead to degradation of habitat quality and potential loss of local populations. Additionally, development projects that lead to significant increases in local traffic volume can lead to increased roadkill and possible extirpation of the local population. If these habitats are present, we recommend they be avoided and buffered with 250-foot intact vegetated buffers.

Rare Dragonfly Species

Both the Arrowhead Spiketail and Southern Pygmy Clubtail have been documented in the stream adjacent to the proposed project. These are two of the state's rarest dragonflies, both listed as Species of Special Concern due to low population numbers and sensitivity to aquatic and riparian habitat degradation. To conserve important habitat functions for these rare dragonfly populations, and other aquatic fish and wildlife values, MDIFW recommend the protection of a permanent 250-foot forested, riparian corridor along the stream in this location. Please contact Beth Swartz (Beth.Swartz@maine.gov) with our Wildlife Diversity Section should any work be planned within this buffer or if you have any further questions about the rare dragonflies and our riparian management recommendations.

SIGNIFICANT WILDLIFE HABITAT

Significant Vernal Pools

At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Therefore, their absence from resource maps is not necessarily indicative of an absence on the ground. We recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

January 27, 2025

Letter to Drew Olehowski, Haley Ward

Comments RE: 512 Pool Street, Subdivision, Biddeford

AQUATIC RESOURCES

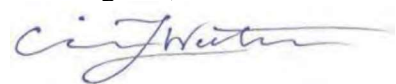
Fish Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fisheries and aquatic habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we recommend additional consultation with the municipality, and other state resource and regulatory agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance. For information on federally listed species, contact the U.S. Fish and Wildlife Service's Maine Field Office (207-469-7300, mainefieldoffice@fws.gov).

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,



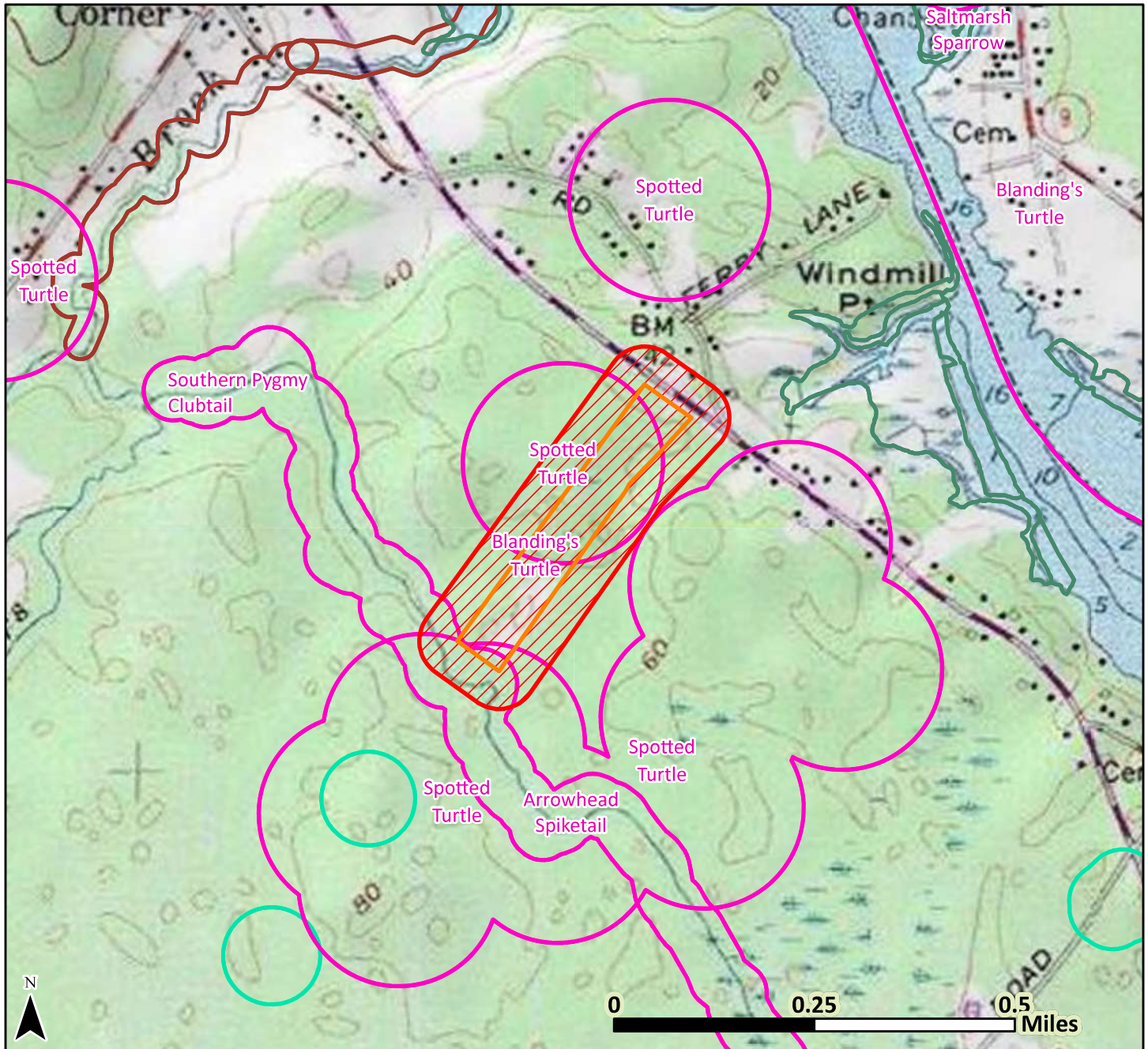
Ciara Wentworth
Natural Resource Biologist



Maine Department of Inland Fisheries and Wildlife
Project Area Review of Fish and Wildlife Observations and Priority Habitats

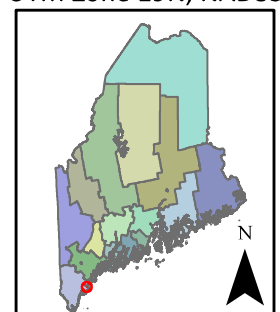
512 Pool Street, Subdivision, Biddeford

Project ID 8580_9923



- | | |
|-------------------|-----------------------------|
| County Boundary | E, T, & SC Species |
| Township Boundary | Significant Vernal Pool |
| Project Footprint | Special Concern Fish |
| Search Area | Tidal Waterfowl/Wading Bird |

Date: 10/23/2024
Projection:
UTM Zone 19N, NAD83



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.



APPENDIX G

TEST PIT LOGS



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

7553

October 4, 2024

Mr. Ethan Scott
Coastal Oaks LLC
198 Saco Avenue
Old Orchard Beach, ME 04064

Re: Preliminary soil evaluation, proposed 8 lot subdivision 512 Pool Street Biddeford, Maine

Dear Ethan,

I have completed a preliminary soil evaluation the proposed 8 lot subdivision located at 512 Pool Street Biddeford, ME. The soil evaluation was conducted in accordance with the Maine Subsurface Wastewater Disposal Rules dated September 2023, as amended. I evaluated two hand excavated soil test pits on each lot. The soils found are glacial till shallow over ledge with depths to the limiting factor ranging from 15 to 26 inches. Lot 1 is an existing developed house and Lot 2 has a septic design already prepared for it.

The soils as evaluated meet the minimum requirements of the state rules. In my opinion, there are suitable soils and area on each lot for a septic system. A septic system for a 3-bedroom home could be an Eljen Indrain system with a minimum of 20 units. Septic designs can be completed in the future. Soil test pit log descriptions and location of test pits are attached.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton C.S.S., L.S.E.
Certified Soil Scientist #216
Licensed Site Evaluator #263

Enc.

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
512 Pool StreetApplicant Name:
Coastal Oaks LLCProject Location (municipality):
BiddefordExploration Symbol # TP-1 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AII 4 15 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-2 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 4 15 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-3 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

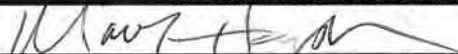
Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 6 16 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-4 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 6 16 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

INVESTIGATOR INFORMATION AND SIGNATURESignature 

Date 10/04/2024

Name Printed Mark J. Hampton

Cert/Lic/Reg. # 263/216

Title ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
512 Pool StreetApplicant Name:
Coastal Oaks LLCProject Location (municipality):
BiddefordExploration Symbol # TP-5 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AII 6 15 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-6 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 6 15 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-7 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30				
40		LEDGE		
50				
60				

Soil Details by S.E. 2 AIII 2 26 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

Exploration Symbol # TP-8 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Brown	
20				
30				
40		LEDGE		
50				
60				

Soil Details by S.E. 2 AIII 2 24 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 S.S. Profile Condition Percent Depth ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Series/Phase Name: _____ Soil Group _____

INVESTIGATOR INFORMATION AND SIGNATURE

Signature Mark J. Hampton Date 10/04/2024
 Name Printed Mark J. Hampton Cert/Lic/Reg. # 263/216
 Title ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
512 Pool StreetApplicant Name:
Coastal Oaks LLCProject Location (municipality):
BiddefordExploration Symbol # TP-9 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AII 4 18 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 Profile Condition Percent Depth
 S.S. Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Group

Exploration Symbol # TP-10 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 4 16 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 Profile Condition Percent Depth
 S.S. Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Group

Exploration Symbol # TP-11 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

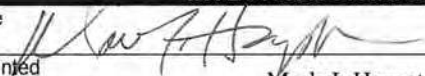
Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Red Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 6 16 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 Profile Condition Percent Depth
 S.S. Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Group

Exploration Symbol # TP-12 ☒ Test Pit ☐ Boring ☐ Probe
" Organic horizon thickness _____ Ground surface elev. _____
" Depth of exploration or to refusal _____

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Sandy Loam	Friable	Dark Brown	None Noted
10	Sandy Loam	Friable	Brown	
20				
30		LEDGE		
40				
50				
60				

Soil Details by S.E. 2 AIII 6 17 " ☐ Groundwater ☐ Restrictive Layer ☒ Bedrock
 Profile Condition Percent Depth
 S.S. Soil Series/Phase Name: ☐ Hydric ☐ Non-hydric Hydrologic
 Soil Group

INVESTIGATOR INFORMATION AND SIGNATURESignature 
Name Printed Mark J. HamptonDate 10/04/2024
Cert/Lic/Reg. # 263/216Title ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

7553

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION		Maine Dept. Health & Human Services Div. Environmental Health, 11SHS (207) 287-2070 Fax: (207) 287-4172	
PROPERTY LOCATION		>> CAUTION: LPI APPROVAL REQUIRED <<	
City, Town, or Plantation	Biddeford	Town/City	Permit #
Street or Road	512 Pool Street	Date Permit Issued	Fee: \$ Double Fee Charged ☐
Subdivision, Lot #	6+2		L.P.I. #
OWNER/APPLICANT INFORMATION		Local Plumbing Inspector Signature	
Name (last, first, MI)	Coastal Oaks LLC	Fee: \$	state min fee \$ Locally adopted fee
	Owner ☒ Applicant ☐	Copy: ☐ Owner ☐ Town ☐ State	
Mailing Address of	198 Saco Avenue	The Subsurface Wastewater Disposal System shall not be installed until a Permit is issued by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.	
Owner/Applicant	Old Orchard Beach 04064		
Daytime Tel. #	934-7622	Municipal Tax Map #	Lot #
OWNER OR APPLICANT STATEMENT I state and acknowledge that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.		CAUTION: INSPECTION REQUIRED I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. (1st) date approved	
Signature of Owner or Applicant _____ Date _____		Local Plumbing Inspector Signature _____ (2nd) date approved _____	
PERMIT INFORMATION			
TYPE OF APPLICATION	THIS APPLICATION REQUIRES	DISPOSAL SYSTEM COMPONENTS	
1. First Time System 2. Replacement System Type replaced: _____ Year installed: _____ 3. Expanded System a. <25% Expansion b. >25% Expansion 4. Experimental System 5. Seasonal Conversion	1. No Rule Variance 2. First Time System Variance a. Local Plumbing Inspector Approval b. State & Local Plumbing Inspector Approval 3. Replacement System Variance a. Local Plumbing Inspector Approval b. State & Local Plumbing Inspector Approval 4. Minimum Lot Size Variance 5. Seasonal Conversion Permit	1. Complete Non-engineered System 2. Primitive System (graywater & alt. toilet) 3. Alternative Toilet, specify: _____ 4. Non-engineered Treatment Tank (only) 5. Holding Tank, _____ gallons 6. Non-engineered Disposal Field (only) 7. Separated Laundry System 8. Complete Engineered System (2000 gpd or more) 9. Engineered Treatment Tank (only) 10. Engineered Disposal Field (only) 11. Pre-treatment, specify: _____ 12. Miscellaneous Components	
SIZE OF PROPERTY 13 SQ. FT. ACRES	DISPOSAL SYSTEM TO SERVE 1. Single Family Dwelling Unit No. of Bedrooms: 3 2. Multiple Family Dwelling, No. of Units: _____ 3. Other: _____ (specify) _____ Current Use Seasonal Year Round Undeveloped	TYPE OF WATER SUPPLY 1. Drilled Well 2. Dug Well 3. Private 4. Public 5. Other	
SHORELAND ZONING Yes No	DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)		
TREATMENT TANK 1. Concrete a. Regular b. Low Profile 2. Plastic 3. Other: _____ CAPACITY: 1000 GAL.	DISPOSAL FIELD TYPE & SIZE 1. Stone Bed 2. Stone Trench 3. Proprietary Device a. cluster array c. Linear b. regular load d. H-20 load 4. Other: _____ SIZE: 960 sq. ft. lin. ft.	GARBAGE DISPOSAL UNIT 1. No 2. Yes 3. Maybe If Yes or Maybe, specify one below: a. multi-compartment tank b. _____ tanks in series c. increase in tank capacity d. Filter on Tank Outlet	DESIGN FLOW 270 gallons per day BASED ON: 1. Table 4A (dwelling unit(s)) 2. Table 4C (other facilities) SHOW CALCULATIONS for other facilities
SOIL DATA & DESIGN CLASS PROFILE CONDITION 2 / AIII at Observation Hole # TP1 Depth 15 " of Most Limiting Soil Factor	DISPOSAL FIELD SIZING 1. Medium---2.6 sq. ft. / gpd 2. Medium---Large 3.3 sq. ft. / gpd 3. Large---4.1 sq. ft. / gpd 4. Extra Large---5.0 sq. ft. / gpd	EFFLUENT/EJECTOR PUMP 1. Not Required 2. May Be Required 3. Required Specify only for engineered systems: DOSE: _____ gallons	3. Section 4G (meter readings) ATTACH WATER METER DATA LATITUDE AND LONGITUDE at center of disposal area Lat. 43 d 27 m 52 s Lon. 70 d 24 m 10 s if g.p.s, state margin of error: 15
SITE EVALUATOR STATEMENT			
I certify that on 09/27/2024 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).			
Site Evaluator Signature Mark Hampton		263 SE # 207-756-2900	09/27/2024 Date
Site Evaluator Name Printed		Telephone Number	E-mail Address
Note : Changes to or deviations from the		n should be confirmed with the Site Evaluator.	

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation

Street, Road, Subdivision

Owner's Name

Biddeford

512 Pool Street

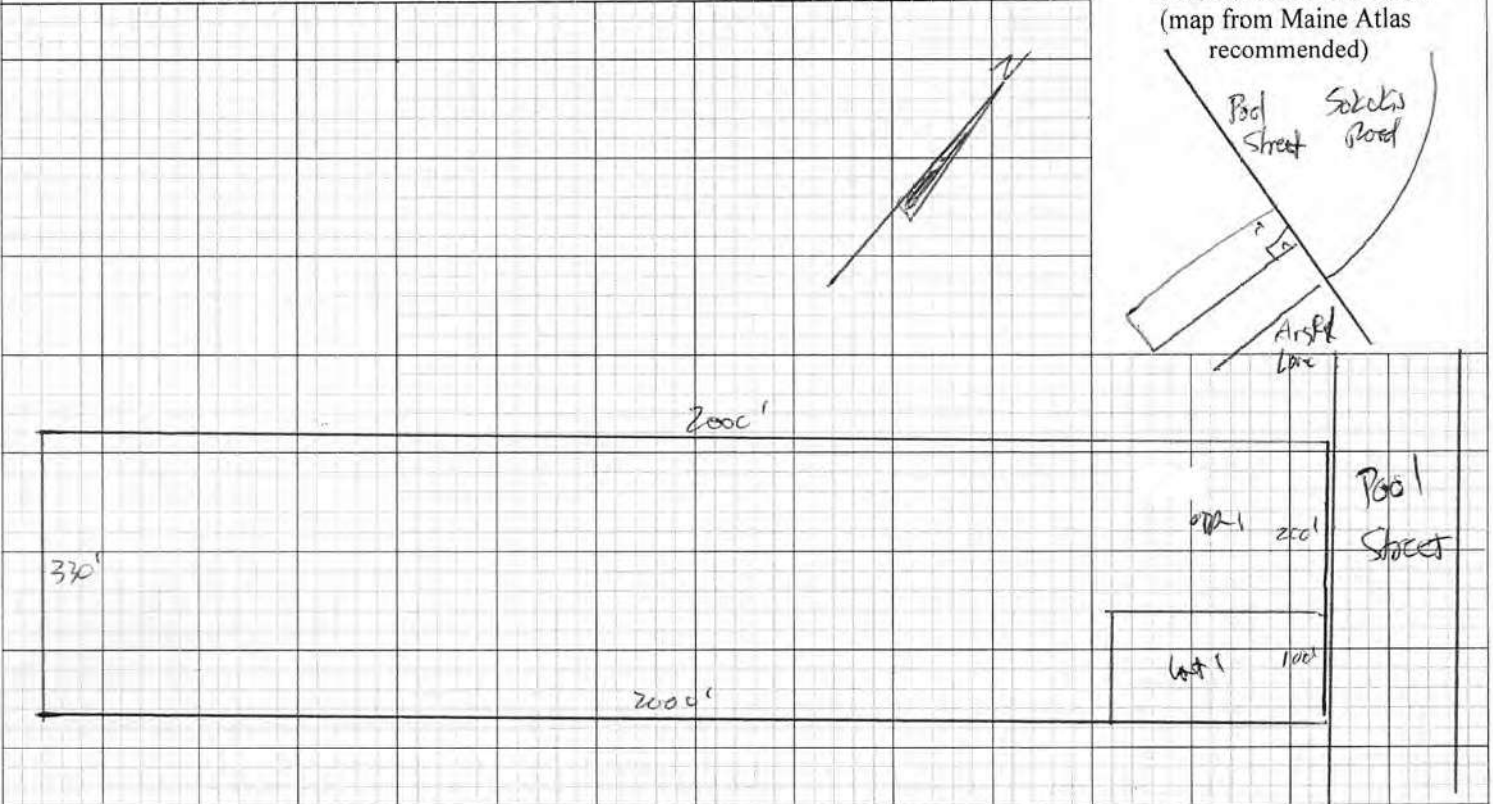
Lot 2

Coastal Oaks LLC

SITE PLAN

Scale 1" = 300 ft. or as shown

SITE LOCATION PLAN
(map from Maine Atlas
recommended)



SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP1 ☒ Test Pit ☐ Boring ☐
" Depth of Organic Horizon Above Mineral Soil

Observation Hole ☐ Test Pit ☐ Boring ☐
" Depth of Organic Horizon Above Mineral Soil

	Texture	Consistency	Color	Mottling
0	Sandy Loam	Friable	Dark Brown	
10	Sandy Loam	Friable	Brown	None Noted
20		LEDGE		
30				
40				
50				

	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	☐ Ground Water
<u>2</u> <u>All</u>	<u>4</u> %	<u>15</u> "	☐ Restrictive Layer
Profile Condition			☒ Bedrock
			☐ Pit Depth

Soil Classification	Slope	Limiting Factor	☐ Ground Water
Profile Condition	%	"	☐ Restrictive Layer
			☐ Bedrock
			☐ Pit Depth

W. J. Throck

Site Evaluator Signature

263

SE #

09/27/2024

Date

Page 2 of 3
HHE-200 Rev. 02/11

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

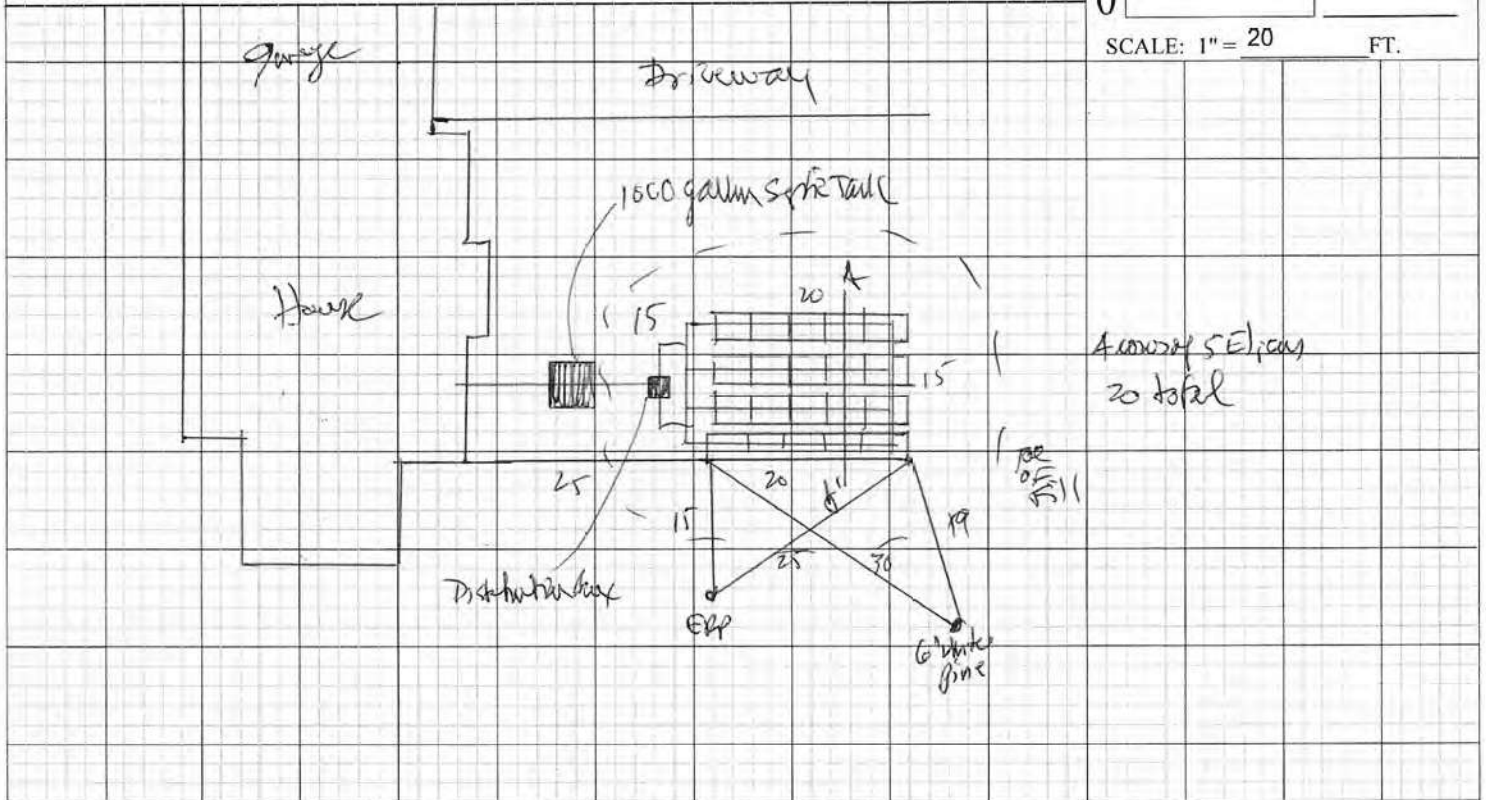
Town, City, Plantation
Biddeford

Street, Road, Subdivision
512 Pool Street Lot 2

Owner's Name
Coastal Oaks LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

0
SCALE: 1" = 20 FT.



FILL REQUIREMENTS

Depth of Fill (Upslope) 33
Depth of Fill (Downslope) 36

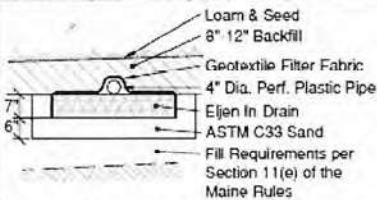
CONSTRUCTION ELEVATIONS

Finished Grade Elevation -23
Top of Distribution Pipe or Proprietary Device -35
Bottom of Disposal Area -46

ELEVATION REFERENCE POINT

Location & Description: Nail 54 inches up 10 inch diameter oak
Reference Elevation: 0

DISPOSAL AREA CROSS SECTION

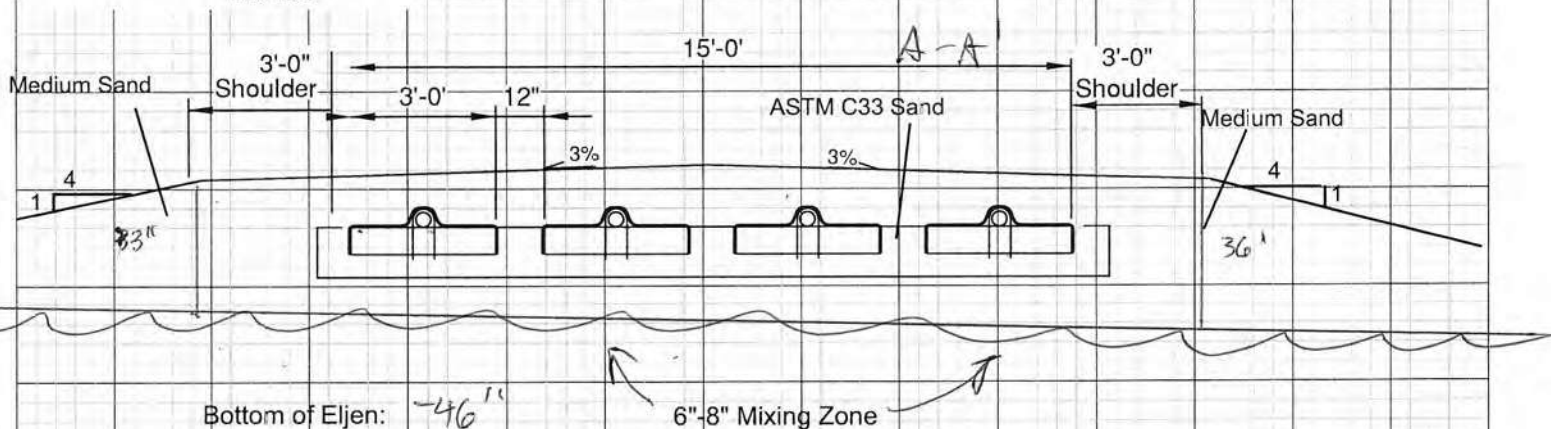


Note: All ground to be filled must be scarified.

Note: Materials and installation shall be in accordance with Maine Subsurface Wastewater Disposal Rules dated 9/23 as amended

Scale

Horizontal 1" = 4 ft.
Vertical 1" = 4 ft.



Site Evaluator Signature

263

SE #

09/27/2024

Date

Page 3 of 3
HHE-200 Rev. 02/11



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

HHE-200 Notes

(All work should be in accordance with the Maine Subsurface Wastewater Rules dated 9/23, as amended.)

Construction:

Construction of the disposal area should be done in dry conditions at temperatures above 32 degrees.

The ERP and ties points are not to be altered by anyone except the site evaluator.

Minimum distances:

- Septic tank to foundation or post (8 ft), well (50 ft), property line (10 ft)
- Disposal bed to foundation (20 feet), slab/post (15 feet), well (100 feet), property line (10 feet)

All septic tanks, pump stations, and pretreatment units must have a minimum of one watertight riser to grade, min. 18" wide.

All pump stations and pipes to be insulated with 2" of rigid polystyrene if to be installed above the frost line.

All distribution boxes to be set on a firm base, perfectly level, and backfilled appropriately to avoid any shifting. For Eljen In-drain designs, unless specified otherwise, two pipes must exit the side outlets of the distribution box into a manifold pipe which is connected to the distribution pipes that lay on top of the Eljen units.

Backfill on top of disposal beds must be graded to a minimum of 3% slope to avoid any ponding of surface water over the bed.

All ground to be filled must be scarified. All organic material to be removed, but the original soils must be maintained as much as possible. The top 6"-8" of soils to be broken up and loosened with backhoe teeth, etc. and minimum 4" of backfill material is to be mixed into the soil to create a mixing zone.

Any disposal bed installed partially or fully above original grade must have a minimum of a 3' shoulder before sloping at a 4:1 (or less).

Backfill material must be gravelly coarse sand as specified in Table 12A of Chap. 241, except for Eljen designs which require ASTM C33 sand (referred to as medium sand on design).

Disposal areas to be covered with a minimum of 4" of loam and seeded.

Use:

Septic tanks should be pumped on a regular basis, generally every 3 years, or when sludge and scum comprise approximately 1/3 of the tank capacity.

Garbage disposals are not recommended. This design has not incorporated the use of a garbage disposal or water treatment system unless specified.

No vehicular traffic should occur over any septic system component unless specified in the design.



APPENDIX H

CORRESPONDENCE

Drew Olehowski

From: Patrick Gere <Patrick.Gere@MaineWater.com>
Sent: Friday, December 20, 2024 8:45 AM
To: Ethan Scott; Drew Olehowski
Cc: KING WEINSTEIN KING REAL ESTATE
Subject: RE: 512 Pool St - Biddeford

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Folks,

Based on the test pits provided that indicate depth to ledge between 1.25 feet and 2.16 feet below ground surface, directional drilling is not feasible. Plan to install the waterworks infrastructure via open trench with extensive ledge removal.

We will need to see the location of the hydrant on the plans. The main will be 8-inch diameter to the hydrant and can reduce after the hydrant lateral. How many potential units are feasible in the rear lot? We want to ensure any future development will be appropriately served from the proposed main.

Thanks,
Patrick

Patrick Gere, PE
Project Engineer



Cell: 207-468-8808

From: Ethan Scott <ethanscottdevelopment@gmail.com>
Sent: Thursday, December 19, 2024 4:32 PM
To: Drew Olehowski <dolehowski@haleyward.com>
Cc: Patrick Gere <Patrick.Gere@MaineWater.com>; KING WEINSTEIN KING REAL ESTATE <king198@icloud.com>
Subject: Re: 512 Pool St - Biddeford

CAUTION: This email originated outside the SJWG organization.

Yes, see below for depths and attached corresponding plans. We want to leave the rear lot under our ownership, with potential future expansion. But no plans for that at the moment.

On Thu, Dec 19, 2024 at 3:33 PM Drew Olehowski <dolehowski@haleyward.com> wrote:

Thanks, Patrick.

- I'll let Ethan weigh in, but there are no plans for additional lots at this time.
- We just confirmed with the fire department that a hydrant will be required.

- It's my understanding that test pits may have already been done on Pool Street. Ethan can you confirm?

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488

This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author or HaleyWard, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone the information contained herein, and you should not take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

From: Patrick Gere <Patrick.Gere@MaineWater.com>
Sent: Tuesday, December 17, 2024 2:31 PM
To: Drew Olehowski <dolehowski@haleyward.com>
Cc: Ethan Scott <ethanscottdevelopment@gmail.com>
Subject: RE: 512 Pool St - Biddeford

Hi Drew,

See attached plan markups and questions below.

- Are there plans for future expansion / additional units in Lot 9 remaining land?
- Are hydrants required?
- We will need to review test pits to confirm depth to ledge / ability to directional drill under Pool Street.
- Extend the proposed main through the Sokokis Rd intersection.

Thank you,

Patrick

Patrick Gere, PE

Project Engineer



Cell: 207-468-8808

From: Drew Olehowski <dolehowski@haleyward.com>
Sent: Tuesday, December 3, 2024 8:05 AM
To: Patrick Gere <Patrick.Gere@MaineWater.com>
Cc: Ethan Scott <ethanscottdevelopment@gmail.com>
Subject: RE: 512 Pool St - Biddeford

CAUTION: This email originated outside the SJWG organization.

Hi Patrick,

For this Preliminary Subdivision review, the City doesn't explicitly ask for the Ability to Serve determination, but they do require "Review by the water company." I'll need to check with the fire department on if a new hydrant is required.

I have attached our current plan set. Lot 1 already contains a serviced single-family home. Each of the other 7 lots will have a single-family home; the expected floor plan for these homes is attached.

As you'll see, our water infrastructure is still fairly schematic at this point. I am trying to get a hold of the City to see if they need more detail for this preliminary submission. Regarding additional info, are items such as sizes/materials/valves/blow off locations something you'd like us to show for your review, or is that something your department will request as needed?

Thank you,

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488

This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author or HaleyWard, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone the information contained herein, and you should not take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyward.com.

From: Patrick Gere <Patrick.Gere@MaineWater.com>
Sent: Monday, December 2, 2024 11:44 AM

To: Drew Olehowski <dolehowski@haleyward.com>

Subject: RE: 512 Pool St - Biddeford

You don't often get email from patrick.gere@mainewater.com. [Learn why this is important](#)

Hi Drew,

You can send the plans to me for review. Do you need an Ability to Serve determination to support project permitting? If so, please provide us with either a fixture count or complete and return the IAPMO Water Demand Calculator to support the domestic service size determination.

<https://www.iapmo.org/we-stand/water-demand-calculator/>

Also include the fire service demand if required and currently known. Are you proposing hydrants within the subdivision?

Thank you,

Patrick

Patrick Gere, PE

Project Engineer



Cell: 207-468-8808

From: mintzh@mintz-hoke.com <mintzh@mintz-hoke.com>

Sent: Wednesday, November 27, 2024 8:59 AM

To: MWC - Mailbox - Customer Service <CustomerService@MaineWater.com>

Subject: The Form 'Contact Us Form' was submitted

CAUTION: This email originated outside the SJWG organization.



Contact Us Submission

Submission Details

Full Name

Drew J Olehowski

Company

Haley Ward

Street Address

512 Pool Street

City

Biddeford

State

Maine

Zip Code

04005

Phone

2075766488

Email Address

dolehowski@haleyward.com

Request for Copies

Other

Other

Hello, I am currently working on a proposed subdivision application for a 9-lot subdivision at 512 Pool Street in Biddeford. As part of municipal review, we are required to have our plans reviewed by the local water authority. Please let me know who I can share these plans with. Thank you,

Your Message or Question

▪

Drew Olehowski

From: Drew Olehowski
Sent: Tuesday, December 3, 2024 8:12 AM
To: Milligan, Tom; Chekan, Craig; edward.dexter@biddefordmaine.org; steven.gorton@biddefordmaine.org; Fecteau, Roby
Cc: Galbraith, David; Ethan Scott
Subject: 512 Pool Street preliminary subdivision
Attachments: 13871.019-SET.pdf

Good morning,

Attached is the current plan set for the proposed 512 Pool street subdivision. Per the City's Subdivision Required Information checklist, we are required to have this plan reviewed by City Engineering, Police, and Fire Departments. I am not sure if these reviews are supposed to happen before or after a formal submission; I have cc'd David for further instruction.

David,

Would it be possible for us to submit 1 copy of this application for a "completeness review," prior to the production of the additional copies?

Roby,

Ethan let me know you were looking for a plan set depicting existing and future wetland impacts. As shown on Sheet C101, the only impacts will be 1,500 SF directly adjacent to Pool Street. Building development areas will be restricted on each lot to avoid further impacts.

Thank you,



HALEY WARD
AN EMPLOYEE-OWNED COMPANY
HALEYWARD.COM

Drew Olehowski, PE
Project Manager
t: 207.283.9151 m: 207.576.6488
a: 120 Main Street, Suite 132, Saco, ME 04072



This e-mail may be confidential and is intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Halley Ward, Inc. If you are not the intended recipient (or responsible for delivery of the message to such person), you may not use, copy, distribute or deliver to anyone this message (or any part of its contents) or take any action in reliance on it. In such case, you should delete this message, and notify us immediately at 207 989 4824 or by email bangor@haleyard.com.



APPENDIX I

STORMWATER MANAGEMENT REPORT



STORMWATER MANAGEMENT

NARRATIVE

The intent of this Stormwater Management Plan is to comply with the requirements of the Maine Department of Environmental Protection (MDEP) Chapter 500 regulations and The City of Biddeford's Land Use Ordinance. This project involves the development of a 9-lot subdivision at 512 Pool Street in Biddeford, Maine.

The subject parcel is approximately 17.45 acres and is undeveloped and wooded except for one single-family home that was constructed in 2024. The proposed subdivision area was also selectively harvested of existing woody vegetation, in accordance with a State-approved forestry plan (Harvest #2301688.)

Erosion control measures will be in place prior to the start of any construction. Temporary and permanent measures will be installed in accordance with the Erosion and Sedimentation Control Plan provided with this application. Upon completion of the construction and stabilization of all disturbed areas, the temporary erosion control measures will be removed.

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION – CHAPTER 500 STANDARDS.

The proposed development has been designed to adhere to the stormwater standards listed within The City's Land Use Ordinance. Because the applicant is proposing to develop both the access road and the lots, efforts have been made to keep the total proposed impervious area quantity below 1 acre, removing the need for an MDEP stormwater permit. The drawings include restrictions on the impervious area allowed per lot to ensure this limitation will be adhered to. Because the project will disturb greater than 1 acre of land area, a Permit by Rule will be filed with the MDEP.

CITY OF BIDDEFORD STANDARDS

The following sections of the Biddeford Land Use Code dictate the stormwater management requirements for this project. The ordinance language has been provided in bold italics, followed by a demonstration of how the applicable criteria have been met.

Article IV, Section 61 – Stormwater Management



- 1. All new construction and development, whether or not served by a stormwater collection and transportation system, shall be designed to reflect or resemble, as nearly as possible, natural runoff conditions in terms of volume, velocity and location of runoff.**
- 2. If runoff, after development, would exceed predevelopment runoff conditions, the offsite impact must be evaluated in terms of potential soil erosion and sedimentation, drainage capacity, and the land use/land cover characteristics. Appropriate methods of reducing off-site impact shall be employed.**
- 3. Stormwater management evaluations and designs shall be based on a twenty-four-hour, twenty-five-year occurrence interval storm.**
- 4. The Planning Board may, when it deems it appropriate, require calculations that are based on a fifty-year storm.**

To meet this standard, HydroCAD calculations were performed to compare pre-development and post-development conditions. Curve numbers and peak runoff flows were calculated using HydroCAD.

The pre-development site is undeveloped woodland. Soils on the site per the USDA web soil survey are classified as loams and rock outcrops (hydrologic group D.) Slopes on site vary, with some flat areas (0-2%), and many steep areas (15%+)

The pre-development drainage analysis area was broken into three sub-watersheds, with three summation points. The northeastern portion of the site drains to the northeast, with runoff collected alongside Pool Street and conveyed to the eastern side of the road via an existing cross culvert (Summation Point 1.) The center of the site drains to the southeast to a large wetland area (Summation Point 2.) The western corner of the site drains to the northwest, to another large wetland area (Summation Point 3.) The southern corner of the site drains to the south (Summation Point 4.)

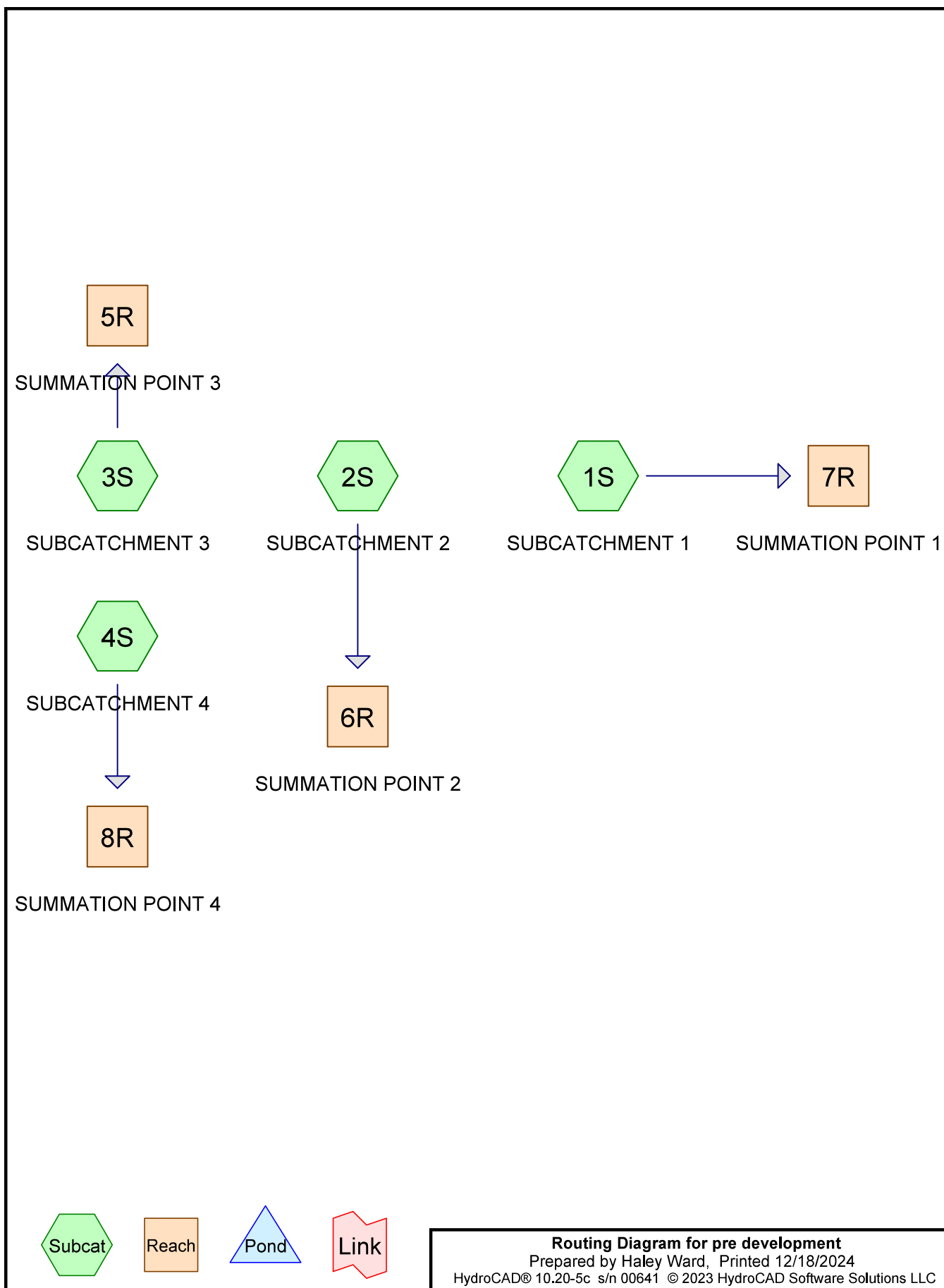
The post-development site was broken into 7 subareas encompassing the same footprint as the pre-development analysis area. Summation Points were chosen in similar areas between pre-development and post-development to compare peak flow runoff for the 2-year, 10-year, and 25-year storm events.

Based on results of the HydroCAD, it is expected that stormwater runoff from the site will be similar or lessened in post-development conditions as in pre-development conditions. Overall, it is expected that runoff from the site will be similar to post-development conditions and a similar stormwater runoff will be realized. A comparison of each of the watershed areas in both Pre- and Post-Development is organized in the table below.



		2 Year (cfs)	10 Year (cfs)	25 Year (cfs)	25 Year Net Change (cfs)
Summation Point 1	Pre	2.28	4.54	6.48	-0.16
	Post	2.89	4.80	6.32	
Summation Point 2	Pre	3.32	6.73	9.71	-0.25
	Post	4.01	7.01	9.46	
Summation Point 3	Pre	1.81	3.67	5.28	+0.36
	Post	2.14	4.04	5.64	
Summation Point 4	Pre	0.28	0.58	0.83	0
	Post	0.28	0.58	0.83	

As can be seen in the table above, all summation points will see similar post development flow rates. This was accomplished through the use of two stormwater detention areas with outlet controls. While there are minor increases observed, they are based on conservative modeling and can be considered insignificant (<1 cfs increase.) Within the HydroCAD model, each of the subdivision parcels were given the "1-acre/2-acre lot" cover type designation, implying that the entire lot would be developed. This is conservative, as each lot has been given an allowed development area envelope (shown on the subdivision plan,) which is only a fraction of the parcel size.



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 2

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=88,998 sf 6.84% Impervious Runoff Depth>1.24"
Flow Length=410' Tc=16.7 min CN=78 Runoff=2.28 cfs 0.210 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=201,036 sf 0.00% Impervious Runoff Depth>1.16"
Flow Length=730' Tc=40.2 min CN=77 Runoff=3.32 cfs 0.447 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=68,129 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=260' Tc=13.1 min CN=77 Runoff=1.81 cfs 0.153 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.28 cfs 0.023 af

Reach 5R: SUMMATIONPOINT 3 Inflow=1.81 cfs 0.153 af
Outflow=1.81 cfs 0.153 af

Reach 6R: SUMMATIONPOINT 2 Inflow=3.32 cfs 0.447 af
Outflow=3.32 cfs 0.447 af

Reach 7R: SUMMATIONPOINT 1 Inflow=2.28 cfs 0.210 af
Outflow=2.28 cfs 0.210 af

Reach 8R: SUMMATIONPOINT 4 Inflow=0.28 cfs 0.023 af
Outflow=0.28 cfs 0.023 af

Total Runoff Area = 8.452 ac Runoff Volume = 0.833 af Average Runoff Depth = 1.18"
98.35% Pervious = 8.312 ac 1.65% Impervious = 0.140 ac

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 3

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 2.28 cfs @ 12.24 hrs, Volume= 0.210 af, Depth> 1.24"
 Routed to Reach 7R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
82,911	77	Woods, Good, HSG D
* 6,087	98	IMPERVIOUS
88,998	78	Weighted Average
82,911		93.16% Pervious Area
6,087		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 3.32 cfs @ 12.58 hrs, Volume= 0.447 af, Depth> 1.16"
 Routed to Reach 6R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
201,036	77	Woods, Good, HSG D
201,036		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 4

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 1.81 cfs @ 12.19 hrs, Volume= 0.153 af, Depth> 1.18"
 Routed to Reach 5R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
68,129	77	Woods, Good, HSG D
68,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.5	45	0.1100	1.66		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.1	260	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 0.28 cfs @ 12.16 hrs, Volume= 0.023 af, Depth> 1.18"
 Routed to Reach 8R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 YEAR Rainfall=3.30"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			

Summary for Reach 5R: SUMMATION POINT 3

Inflow Area = 1.564 ac, 0.00% Impervious, Inflow Depth > 1.18" for 2 YEAR event
 Inflow = 1.81 cfs @ 12.19 hrs, Volume= 0.153 af
 Outflow = 1.81 cfs @ 12.19 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 5

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 6R: SUMMATION POINT 2

Inflow Area = 4.615 ac, 0.00% Impervious, Inflow Depth > 1.16" for 2 YEAR event
Inflow = 3.32 cfs @ 12.58 hrs, Volume= 0.447 af
Outflow = 3.32 cfs @ 12.58 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 7R: SUMMATION POINT 1

Inflow Area = 2.043 ac, 6.84% Impervious, Inflow Depth > 1.24" for 2 YEAR event
Inflow = 2.28 cfs @ 12.24 hrs, Volume= 0.210 af
Outflow = 2.28 cfs @ 12.24 hrs, Volume= 0.210 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 8R: SUMMATION POINT 4

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 1.18" for 2 YEAR event
Inflow = 0.28 cfs @ 12.16 hrs, Volume= 0.023 af
Outflow = 0.28 cfs @ 12.16 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=88,998 sf 6.84% Impervious Runoff Depth>2.44"
Flow Length=410' Tc=16.7 min CN=78 Runoff=4.54 cfs 0.415 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=201,036 sf 0.00% Impervious Runoff Depth>2.33"
Flow Length=730' Tc=40.2 min CN=77 Runoff=6.73 cfs 0.897 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=68,129 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=260' Tc=13.1 min CN=77 Runoff=3.67 cfs 0.307 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.58 cfs 0.045 af

Reach 5R: SUMMATIONPOINT 3 Inflow=3.67 cfs 0.307 af
Outflow=3.67 cfs 0.307 af

Reach 6R: SUMMATIONPOINT 2 Inflow=6.73 cfs 0.897 af
Outflow=6.73 cfs 0.897 af

Reach 7R: SUMMATIONPOINT 1 Inflow=4.54 cfs 0.415 af
Outflow=4.54 cfs 0.415 af

Reach 8R: SUMMATIONPOINT 4 Inflow=0.58 cfs 0.045 af
Outflow=0.58 cfs 0.045 af

Total Runoff Area = 8.452 ac Runoff Volume = 1.664 af Average Runoff Depth = 2.36"
98.35% Pervious = 8.312 ac 1.65% Impervious = 0.140 ac

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 2

Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 4.54 cfs @ 12.23 hrs, Volume= 0.415 af, Depth> 2.44"
 Routed to Reach 7R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
82,911	77	Woods, Good, HSG D
* 6,087	98	IMPERVIOUS
88,998	78	Weighted Average
82,911		93.16% Pervious Area
6,087		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			

Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 6.73 cfs @ 12.56 hrs, Volume= 0.897 af, Depth> 2.33"
 Routed to Reach 6R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
201,036	77	Woods, Good, HSG D
201,036		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 3

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 3.67 cfs @ 12.19 hrs, Volume= 0.307 af, Depth> 2.36"
 Routed to Reach 5R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
68,129	77	Woods, Good, HSG D
68,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.5	45	0.1100	1.66		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.1	260	Total			

Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 0.58 cfs @ 12.16 hrs, Volume= 0.045 af, Depth> 2.36"
 Routed to Reach 8R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 YEAR Rainfall=4.90"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			

Summary for Reach 5R: SUMMATION POINT 3

Inflow Area = 1.564 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10 YEAR event
 Inflow = 3.67 cfs @ 12.19 hrs, Volume= 0.307 af
 Outflow = 3.67 cfs @ 12.19 hrs, Volume= 0.307 af, Atten= 0%, Lag= 0.0 min

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 4

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 6R: SUMMATION POINT 2

Inflow Area = 4.615 ac, 0.00% Impervious, Inflow Depth > 2.33" for 10 YEAR event
Inflow = 6.73 cfs @ 12.56 hrs, Volume= 0.897 af
Outflow = 6.73 cfs @ 12.56 hrs, Volume= 0.897 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 7R: SUMMATION POINT 1

Inflow Area = 2.043 ac, 6.84% Impervious, Inflow Depth > 2.44" for 10 YEAR event
Inflow = 4.54 cfs @ 12.23 hrs, Volume= 0.415 af
Outflow = 4.54 cfs @ 12.23 hrs, Volume= 0.415 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach 8R: SUMMATION POINT 4

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 2.36" for 10 YEAR event
Inflow = 0.58 cfs @ 12.16 hrs, Volume= 0.045 af
Outflow = 0.58 cfs @ 12.16 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=88,998 sf 6.84% Impervious Runoff Depth>3.50"
Flow Length=410' Tc=16.7 min CN=78 Runoff=6.48 cfs 0.596 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=201,036 sf 0.00% Impervious Runoff Depth>3.38"
Flow Length=730' Tc=40.2 min CN=77 Runoff=9.71 cfs 1.299 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=68,129 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=260' Tc=13.1 min CN=77 Runoff=5.28 cfs 0.444 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.83 cfs 0.065 af

Reach 5R: SUMMATIONPOINT 3 Inflow=5.28 cfs 0.444 af
Outflow=5.28 cfs 0.444 af

Reach 6R: SUMMATIONPOINT 2 Inflow=9.71 cfs 1.299 af
Outflow=9.71 cfs 1.299 af

Reach 7R: SUMMATIONPOINT 1 Inflow=6.48 cfs 0.596 af
Outflow=6.48 cfs 0.596 af

Reach 8R: SUMMATIONPOINT 4 Inflow=0.83 cfs 0.065 af
Outflow=0.83 cfs 0.065 af

Total Runoff Area = 8.452 ac Runoff Volume = 2.405 af Average Runoff Depth = 3.41"
98.35% Pervious = 8.312 ac 1.65% Impervious = 0.140 ac

pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 2

Summary for Subcatchment 1S: SUBCATCHMENT 1

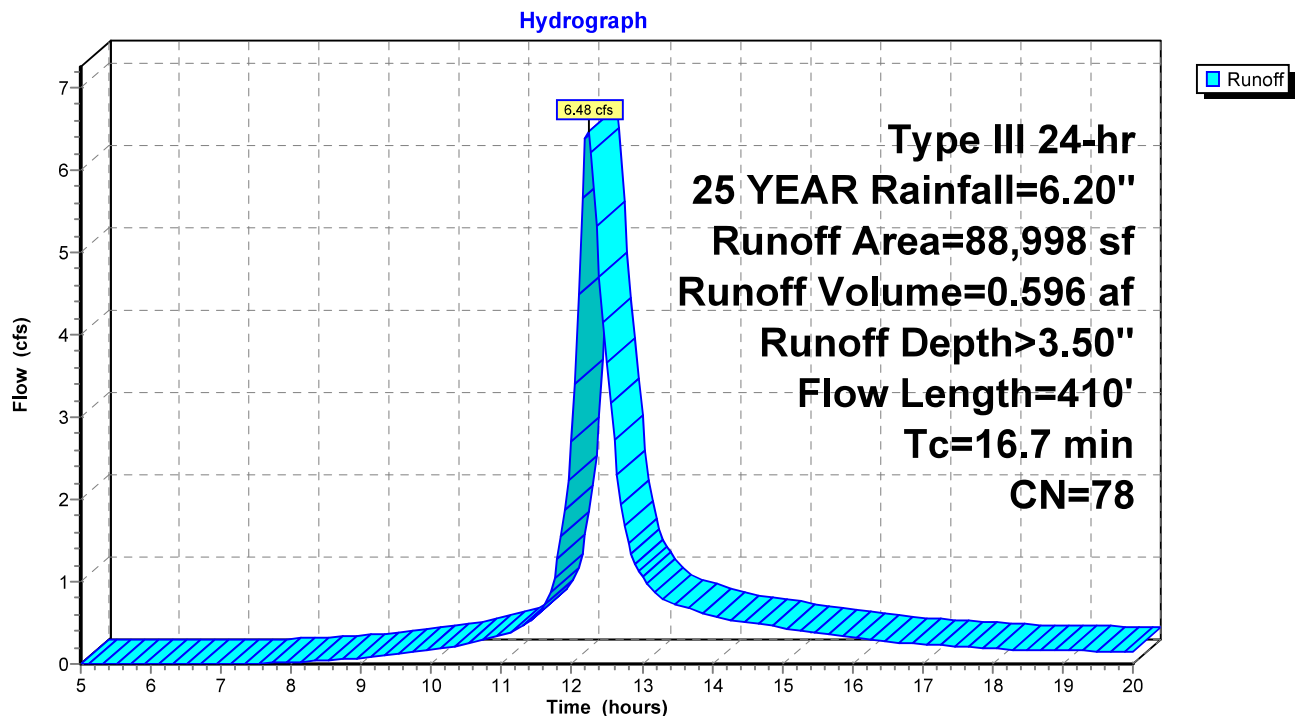
Runoff = 6.48 cfs @ 12.23 hrs, Volume= 0.596 af, Depth> 3.50"
Routed to Reach 7R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
82,911	77	Woods, Good, HSG D
* 6,087	98	IMPERVIOUS
88,998	78	Weighted Average
82,911		93.16% Pervious Area
6,087		6.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			

Subcatchment 1S: SUBCATCHMENT 1



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 3

Summary for Subcatchment 2S: SUBCATCHMENT 2

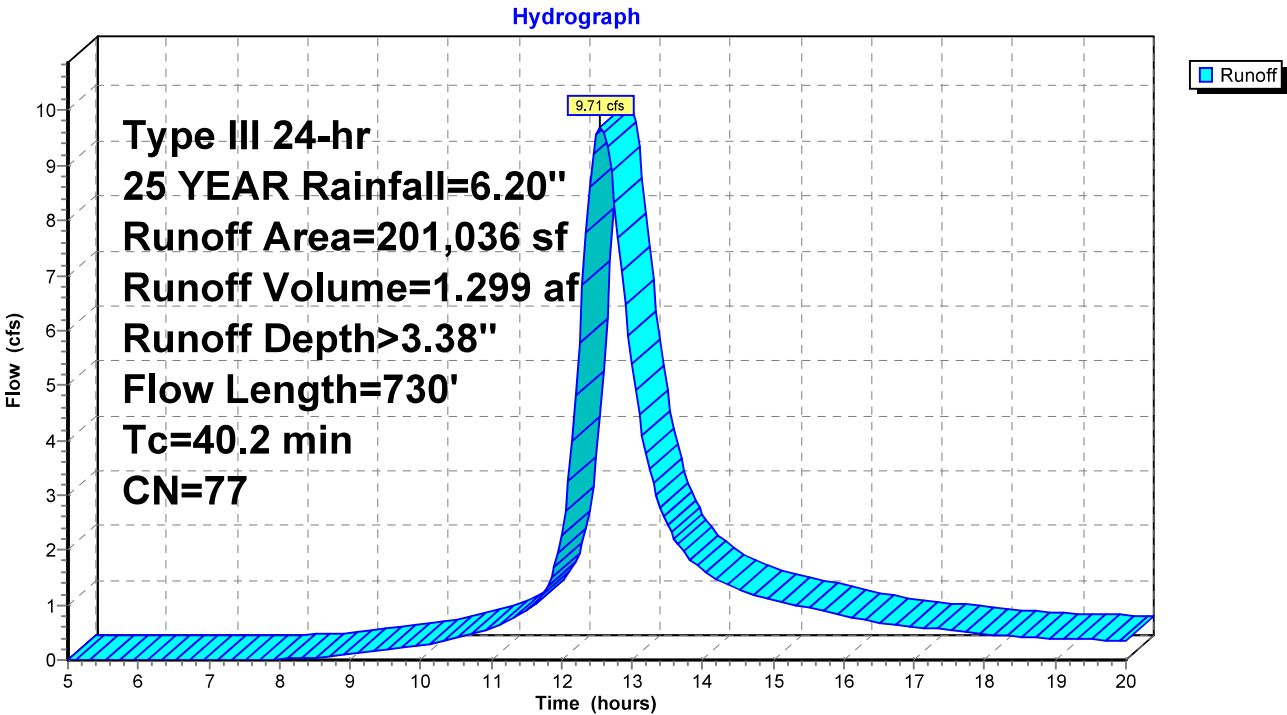
Runoff = 9.71 cfs @ 12.55 hrs, Volume= 1.299 af, Depth> 3.38"
Routed to Reach 6R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
201,036	77	Woods, Good, HSG D
201,036		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			

Subcatchment 2S: SUBCATCHMENT 2



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 4

Summary for Subcatchment 3S: SUBCATCHMENT 3

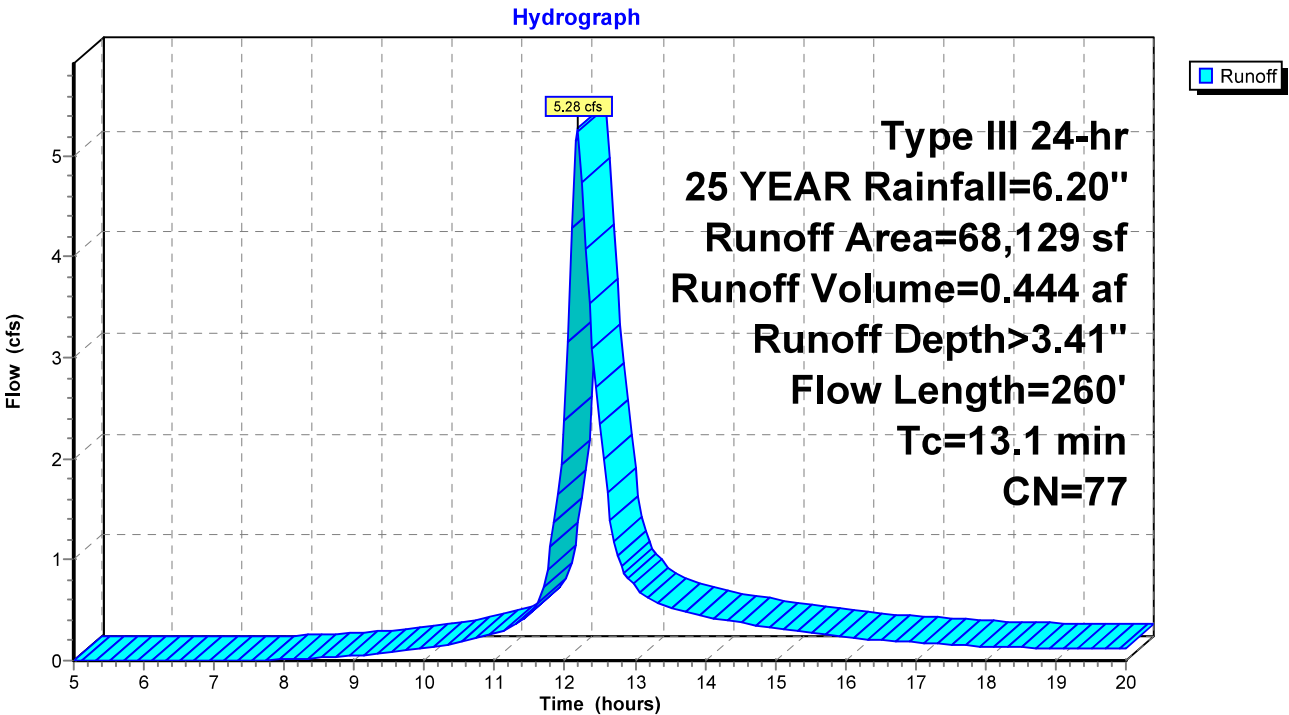
Runoff = 5.28 cfs @ 12.18 hrs, Volume= 0.444 af, Depth> 3.41"
Routed to Reach 5R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
68,129	77	Woods, Good, HSG D
68,129		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.5	45	0.1100	1.66		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
13.1	260	Total			

Subcatchment 3S: SUBCATCHMENT 3



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 5

Summary for Subcatchment 4S: SUBCATCHMENT 4

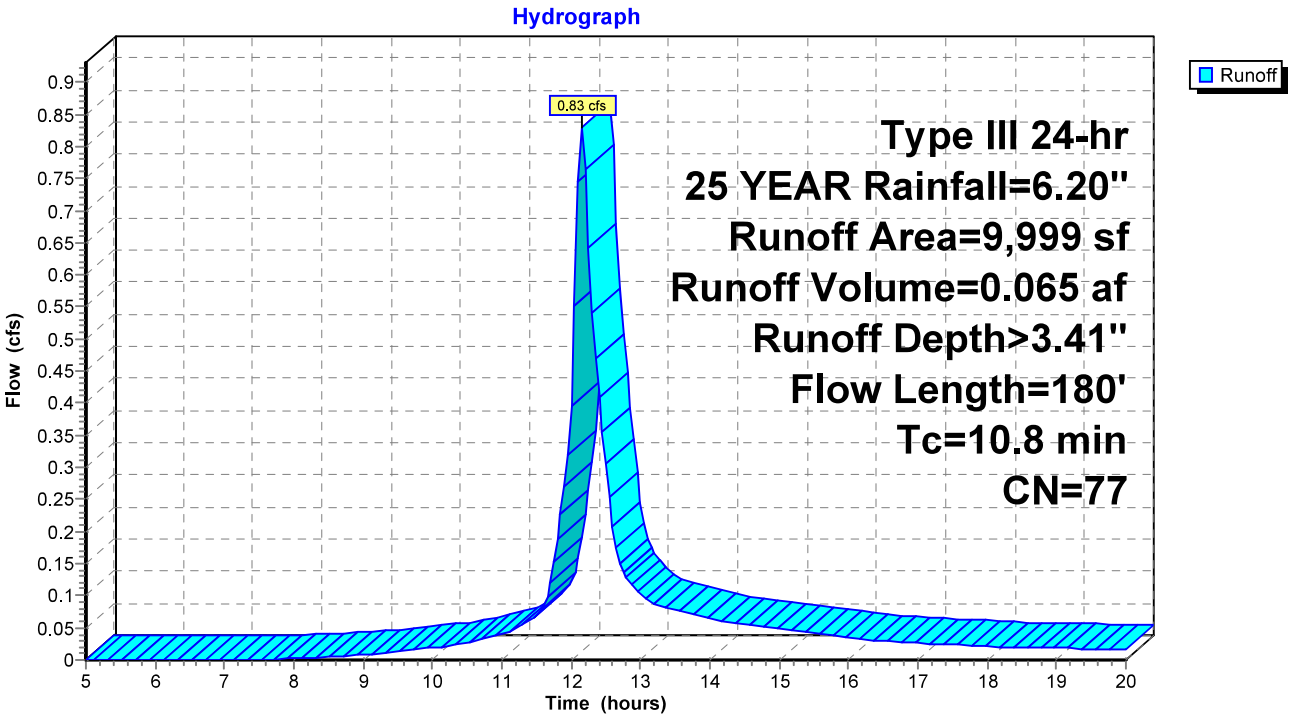
Runoff = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af, Depth> 3.41"
Routed to Reach 8R : SUMMATION POINT 4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			

Subcatchment 4S: SUBCATCHMENT 4



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 6

Summary for Reach 5R: SUMMATION POINT 3

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

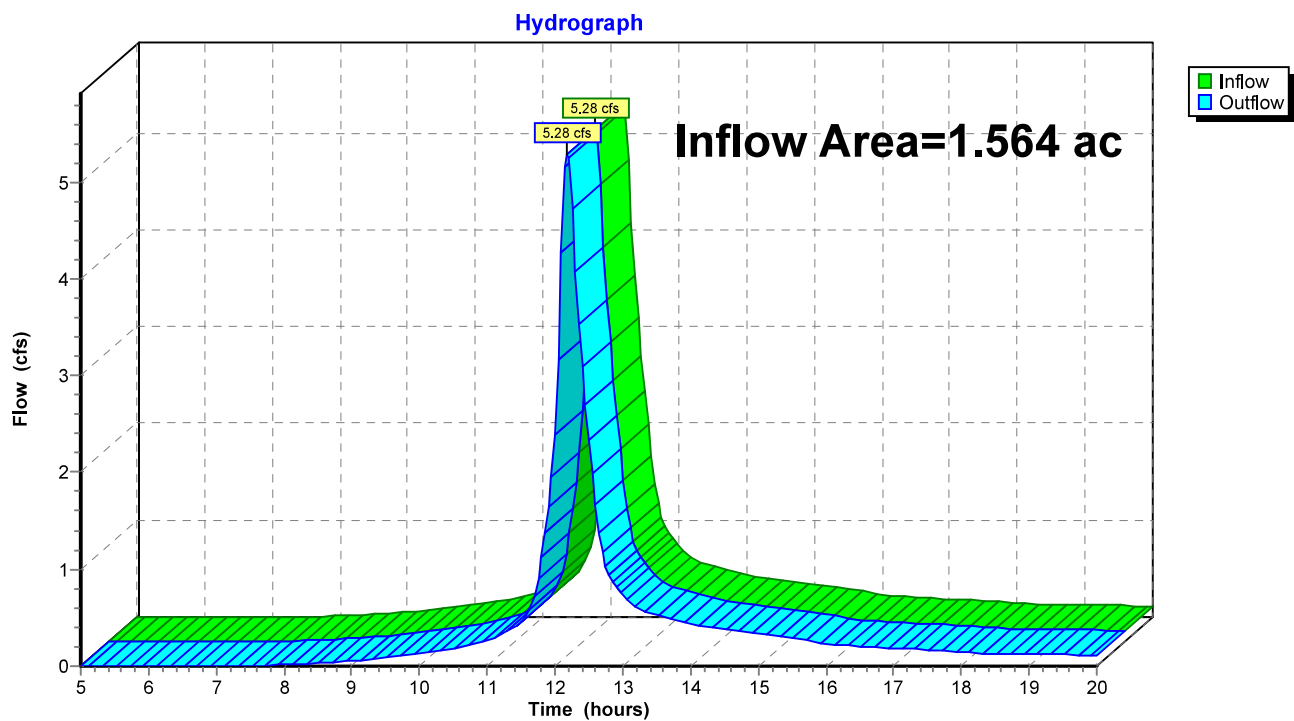
Inflow Area = 1.564 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25 YEAR event

Inflow = 5.28 cfs @ 12.18 hrs, Volume= 0.444 af

Outflow = 5.28 cfs @ 12.18 hrs, Volume= 0.444 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 5R: SUMMATION POINT 3



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 7

Summary for Reach 6R: SUMMATION POINT 2

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

Inflow Area = 4.615 ac, 0.00% Impervious, Inflow Depth > 3.38" for 25 YEAR event

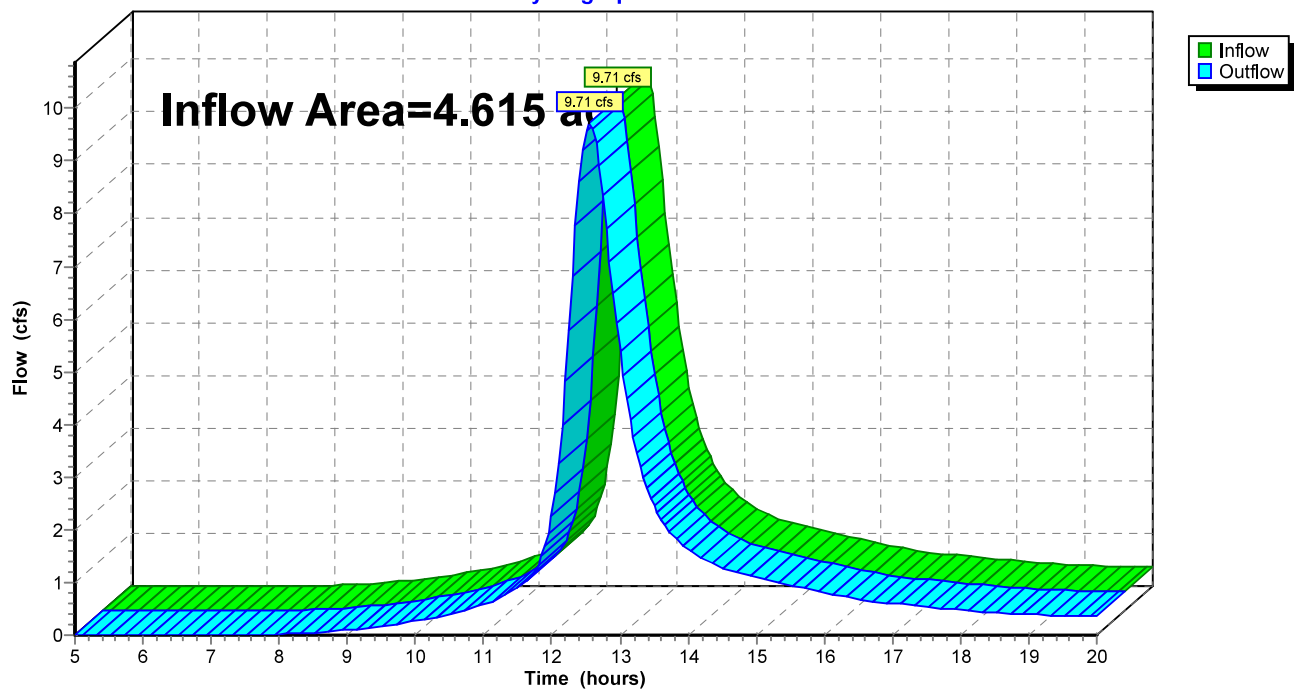
Inflow = 9.71 cfs @ 12.55 hrs, Volume= 1.299 af

Outflow = 9.71 cfs @ 12.55 hrs, Volume= 1.299 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 6R: SUMMATION POINT 2

Hydrograph



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 8

Summary for Reach 7R: SUMMATION POINT 1

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

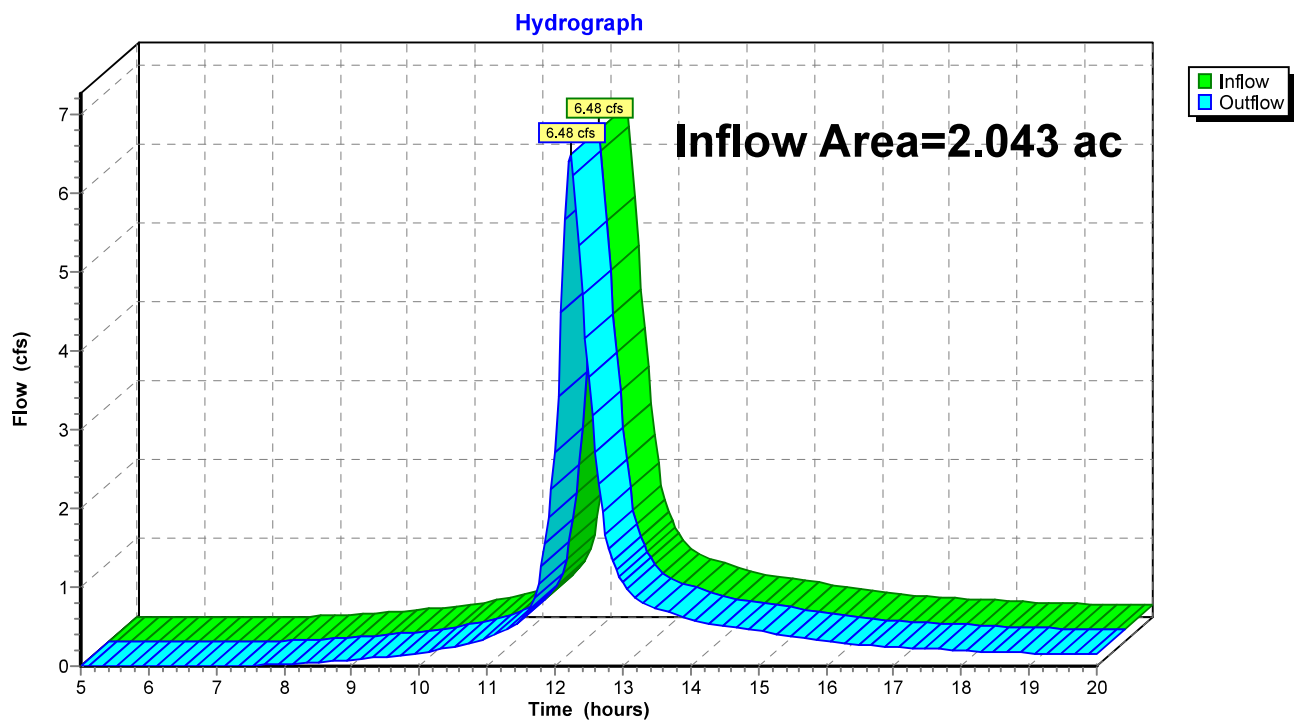
Inflow Area = 2.043 ac, 6.84% Impervious, Inflow Depth > 3.50" for 25 YEAR event

Inflow = 6.48 cfs @ 12.23 hrs, Volume= 0.596 af

Outflow = 6.48 cfs @ 12.23 hrs, Volume= 0.596 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 7R: SUMMATION POINT 1



pre development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 9

Summary for Reach 8R: SUMMATION POINT 4

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

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25 YEAR event

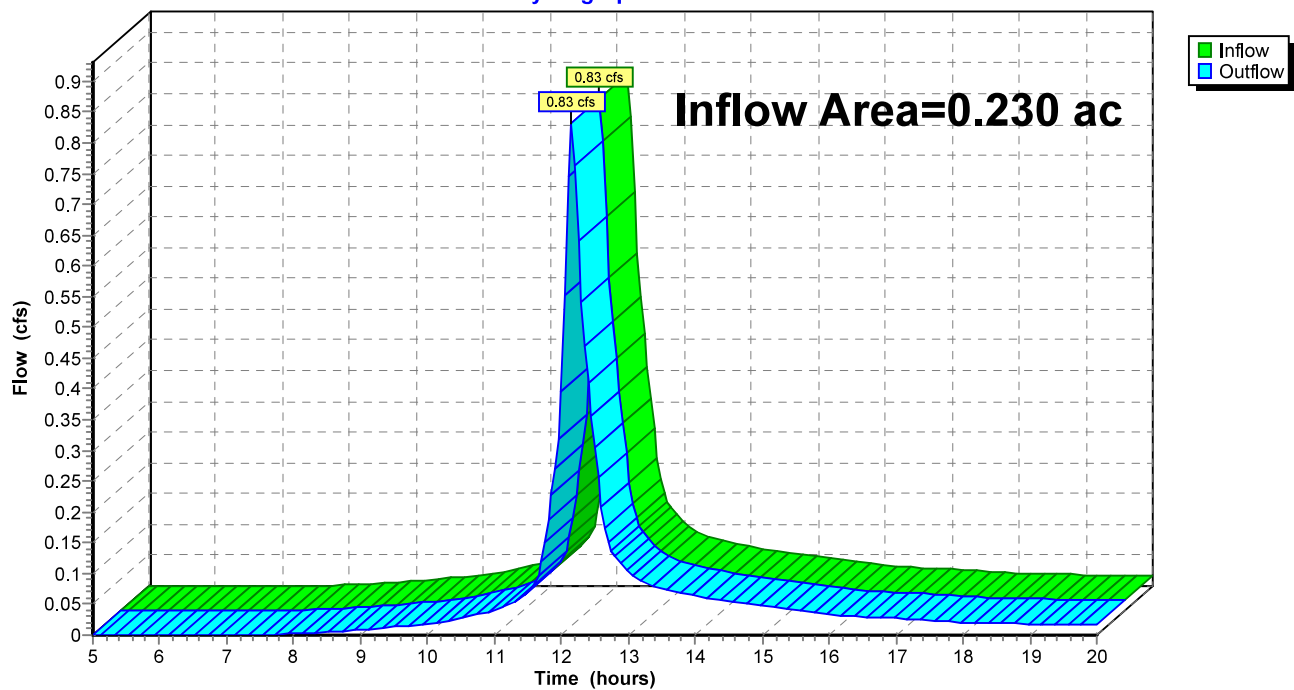
Inflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af

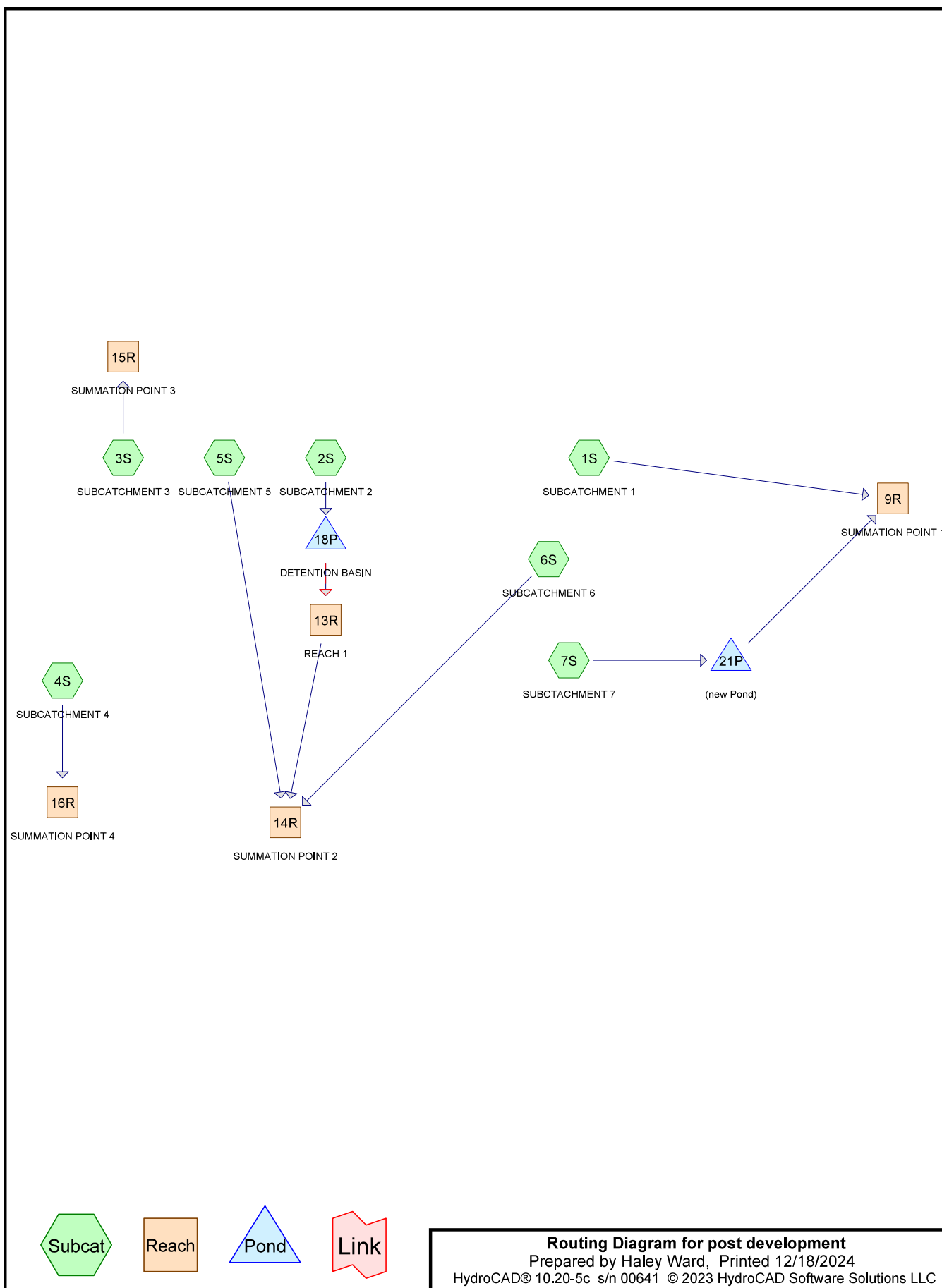
Outflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: SUMMATION POINT 4

Hydrograph





post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2 YEAR Rainfall=3.30"

Printed 12/18/2024

Page 2

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=59,711 sf 28.77% Impervious Runoff Depth>1.71"
Flow Length=410' Tc=16.7 min CN=85 Runoff=2.14 cfs 0.196 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=43,473 sf 28.04% Impervious Runoff Depth>1.71"
Flow Length=206' Slope=0.0600 '/' Tc=14.6 min CN=85 Runoff=1.64 cfs 0.143 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=65,439 sf 12.31% Impervious Runoff Depth>1.43"
Flow Length=260' Tc=12.9 min CN=81 Runoff=2.14 cfs 0.179 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>1.18"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.28 cfs 0.023 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=10,683 sf 42.72% Impervious Runoff Depth>1.88"
Tc=5.0 min CN=87 Runoff=0.57 cfs 0.038 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=146,086 sf 17.30% Impervious Runoff Depth>1.55"
Flow Length=730' Tc=40.2 min CN=83 Runoff=3.26 cfs 0.434 af

Subcatchment7S: SUBCATCHMENT7 Runoff Area=32,744 sf 29.08% Impervious Runoff Depth>1.72"
Flow Length=215' Tc=8.2 min CN=85 Runoff=1.49 cfs 0.108 af

Reach 9R: SUMMATIONPOINT 1 Inflow=2.89 cfs 0.303 af
Outflow=2.89 cfs 0.303 af

Reach 13R: REACH 1 Avg. Flow Depth=0.05' Max Vel=0.95 fps Inflow=0.66 cfs 0.138 af
n=0.035 L=130.0' S=0.0300 '/' Capacity=118.23 cfs Outflow=0.66 cfs 0.137 af

Reach 14R: SUMMATIONPOINT 2 Inflow=4.01 cfs 0.610 af
Outflow=4.01 cfs 0.610 af

Reach 15R: SUMMATIONPOINT 3 Inflow=2.14 cfs 0.179 af
Outflow=2.14 cfs 0.179 af

Reach 16R: SUMMATIONPOINT 4 Inflow=0.28 cfs 0.023 af
Outflow=0.28 cfs 0.023 af

Pond 18P: DETENTION BASIN Peak Elev=59.03' Storage=1,902 cf Inflow=1.64 cfs 0.143 af
Primary=0.66 cfs 0.138 af Secondary=0.00 cfs 0.000 af Outflow=0.66 cfs 0.138 af

Pond 21P: (new Pond) Peak Elev=53.47' Storage=811 cf Inflow=1.49 cfs 0.108 af
Outflow=0.76 cfs 0.107 af

Total Runoff Area = 8.451 ac Runoff Volume = 1.120 af Average Runoff Depth = 1.59"
79.14% Pervious = 6.688 ac 20.86% Impervious = 1.763 ac

post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10 YEAR Rainfall=4.90"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=59,711 sf 28.77% Impervious Runoff Depth>3.07"
Flow Length=410' Tc=16.7 min CN=85 Runoff=3.77 cfs 0.350 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=43,473 sf 28.04% Impervious Runoff Depth>3.07"
Flow Length=206' Slope=0.0600 '/' Tc=14.6 min CN=85 Runoff=2.90 cfs 0.255 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=65,439 sf 12.31% Impervious Runoff Depth>2.70"
Flow Length=260' Tc=12.9 min CN=81 Runoff=4.04 cfs 0.338 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>2.36"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.58 cfs 0.045 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=10,683 sf 42.72% Impervious Runoff Depth>3.27"
Tc=5.0 min CN=87 Runoff=0.99 cfs 0.067 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=146,086 sf 17.30% Impervious Runoff Depth>2.86"
Flow Length=730' Tc=40.2 min CN=83 Runoff=5.94 cfs 0.799 af

Subcatchment7S: SUBCATCHMENT7 Runoff Area=32,744 sf 29.08% Impervious Runoff Depth>3.08"
Flow Length=215' Tc=8.2 min CN=85 Runoff=2.62 cfs 0.193 af

Reach 9R: SUMMATIONPOINT 1 Inflow=4.80 cfs 0.543 af
Outflow=4.80 cfs 0.543 af

Reach 13R: REACH 1 Avg. Flow Depth=0.06' Max Vel=1.08 fps Inflow=0.92 cfs 0.249 af
n=0.035 L=130.0' S=0.0300 '/' Capacity=118.23 cfs Outflow=0.92 cfs 0.249 af

Reach 14R: SUMMATIONPOINT 2 Inflow=7.01 cfs 1.115 af
Outflow=7.01 cfs 1.115 af

Reach 15R: SUMMATIONPOINT 3 Inflow=4.04 cfs 0.338 af
Outflow=4.04 cfs 0.338 af

Reach 16R: SUMMATIONPOINT 4 Inflow=0.58 cfs 0.045 af
Outflow=0.58 cfs 0.045 af

Pond 18P: DETENTION BASIN Peak Elev=59.77' Storage=3,717 cf Inflow=2.90 cfs 0.255 af
Primary=0.92 cfs 0.249 af Secondary=0.00 cfs 0.000 af Outflow=0.92 cfs 0.249 af

Pond 21P: (new Pond) Peak Elev=53.85' Storage=1,809 cf Inflow=2.62 cfs 0.193 af
Outflow=1.07 cfs 0.192 af

Total Runoff Area = 8.451 ac Runoff Volume = 2.048 af Average Runoff Depth = 2.91"
79.14% Pervious = 6.688 ac 20.86% Impervious = 1.763 ac

post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 1

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: SUBCATCHMENT1 Runoff Area=59,711 sf 28.77% Impervious Runoff Depth>4.22"
Flow Length=410' Tc=16.7 min CN=85 Runoff=5.14 cfs 0.482 af

Subcatchment2S: SUBCATCHMENT2 Runoff Area=43,473 sf 28.04% Impervious Runoff Depth>4.22"
Flow Length=206' Slope=0.0600 '/' Tc=14.6 min CN=85 Runoff=3.93 cfs 0.351 af

Subcatchment3S: SUBCATCHMENT3 Runoff Area=65,439 sf 12.31% Impervious Runoff Depth>3.81"
Flow Length=260' Tc=12.9 min CN=81 Runoff=5.64 cfs 0.477 af

Subcatchment4S: SUBCATCHMENT4 Runoff Area=9,999 sf 0.00% Impervious Runoff Depth>3.41"
Flow Length=180' Tc=10.8 min CN=77 Runoff=0.83 cfs 0.065 af

Subcatchment5S: SUBCATCHMENT5 Runoff Area=10,683 sf 42.72% Impervious Runoff Depth>4.45"
Tc=5.0 min CN=87 Runoff=1.32 cfs 0.091 af

Subcatchment6S: SUBCATCHMENT6 Runoff Area=146,086 sf 17.30% Impervious Runoff Depth>3.98"
Flow Length=730' Tc=40.2 min CN=83 Runoff=8.19 cfs 1.113 af

Subcatchment7S: SUBCATCHMENT7 Runoff Area=32,744 sf 29.08% Impervious Runoff Depth>4.23"
Flow Length=215' Tc=8.2 min CN=85 Runoff=3.55 cfs 0.265 af

Reach 9R: SUMMATIONPOINT 1 Inflow=6.32 cfs 0.747 af
Outflow=6.32 cfs 0.747 af

Reach 13R: REACH 1 Avg. Flow Depth=0.06' Max Vel=1.14 fps Inflow=1.08 cfs 0.344 af
n=0.035 L=130.0' S=0.0300 '/' Capacity=118.23 cfs Outflow=1.08 cfs 0.344 af

Reach 14R: SUMMATIONPOINT 2 Inflow=9.46 cfs 1.548 af
Outflow=9.46 cfs 1.548 af

Reach 15R: SUMMATIONPOINT 3 Inflow=5.64 cfs 0.477 af
Outflow=5.64 cfs 0.477 af

Reach 16R: SUMMATIONPOINT 4 Inflow=0.83 cfs 0.065 af
Outflow=0.83 cfs 0.065 af

Pond 18P: DETENTION BASIN Peak Elev=60.34' Storage=5,385 cf Inflow=3.93 cfs 0.351 af
Primary=1.08 cfs 0.344 af Secondary=0.00 cfs 0.000 af Outflow=1.08 cfs 0.344 af

Pond 21P: (new Pond) Peak Elev=54.15' Storage=2,791 cf Inflow=3.55 cfs 0.265 af
Outflow=1.26 cfs 0.265 af

Total Runoff Area = 8.451 ac Runoff Volume = 2.845 af Average Runoff Depth = 4.04"
79.14% Pervious = 6.688 ac 20.86% Impervious = 1.763 ac

post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 2

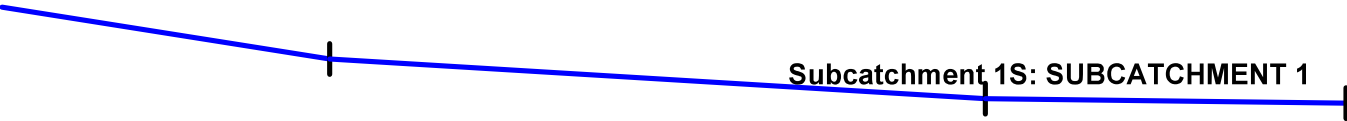
Summary for Subcatchment 1S: SUBCATCHMENT 1

Runoff = 5.14 cfs @ 12.22 hrs, Volume= 0.482 af, Depth> 4.22"
Routed to Reach 9R : SUMMATION POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
	8,027	77	Woods, Good, HSG D
*	6,604	98	IMPERVIOUS
	2,772	80	>75% Grass cover, Good, HSG D
	42,308	85	1/2 acre lots, 25% imp, HSG D
	59,711	85	Weighted Average
	42,530		71.23% Pervious Area
	17,181		28.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1300	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.0	200	0.0500	1.12		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.7	110	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.7	410	Total			



post development

Prepared by Haley Ward

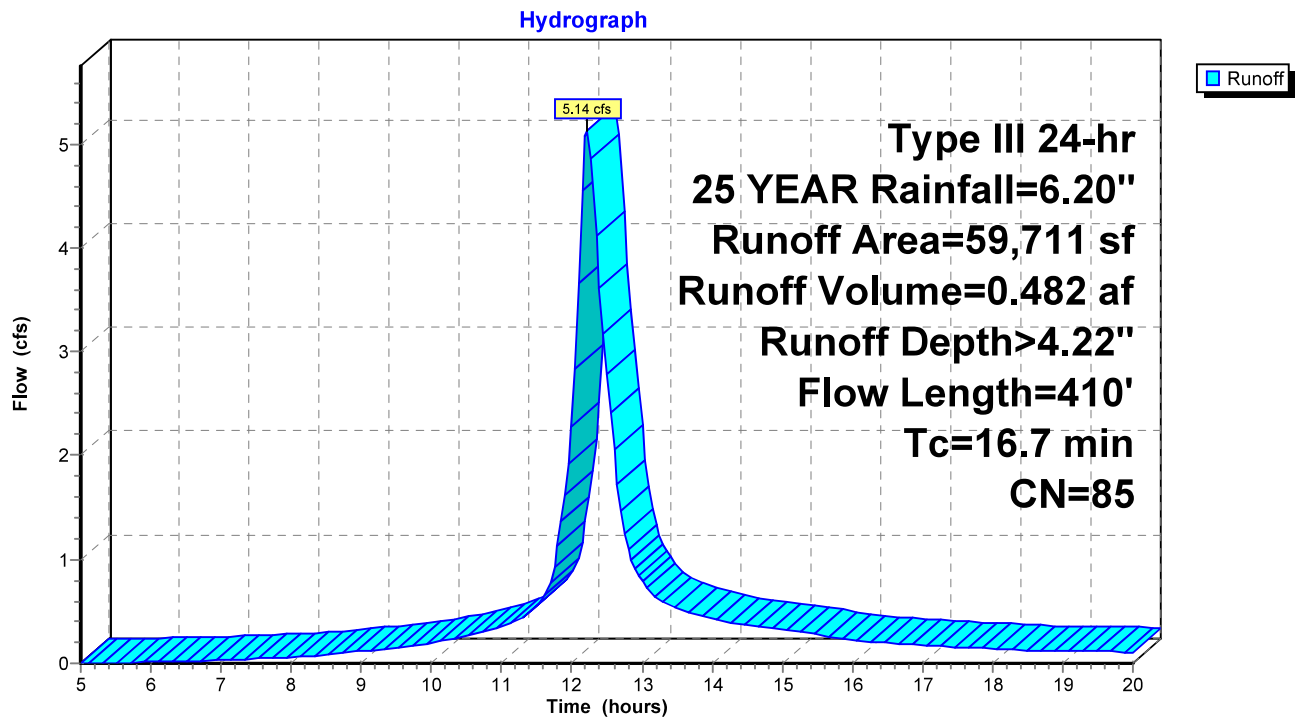
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 3

Subcatchment 1S: SUBCATCHMENT 1



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 4

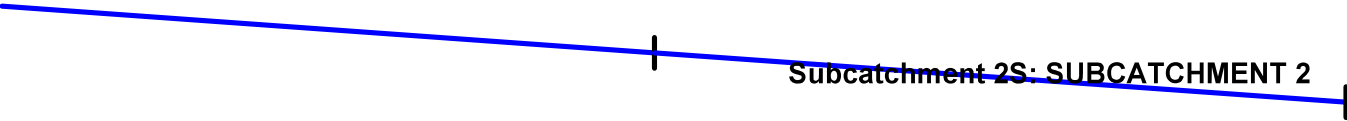
Summary for Subcatchment 2S: SUBCATCHMENT 2

Runoff = 3.93 cfs @ 12.20 hrs, Volume= 0.351 af, Depth> 4.22"
Routed to Pond 18P : DETENTION BASIN

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 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
	761	77	Woods, Good, HSG D
*	4,834	98	IMPERVIOUS
	8,459	80	>75% Grass cover, Good, HSG D
	29,419	85	1/2 acre lots, 25% imp, HSG D
	43,473	85	Weighted Average
	31,284		71.96% Pervious Area
	12,189		28.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	100	0.0600	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.0	106	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
14.6	206	Total			



post development

Prepared by Haley Ward

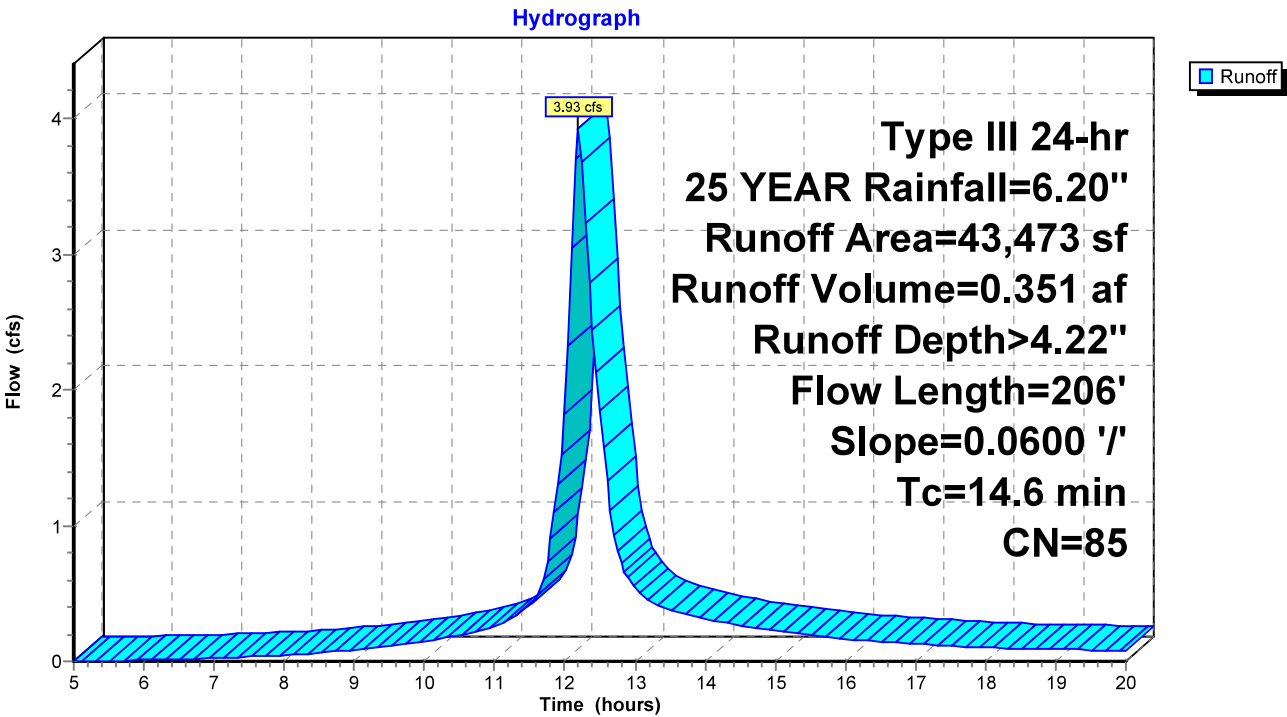
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 5

Subcatchment 2S: SUBCATCHMENT 2



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 6

Summary for Subcatchment 3S: SUBCATCHMENT 3

Runoff = 5.64 cfs @ 12.18 hrs, Volume= 0.477 af, Depth> 3.81"
Routed to Reach 15R : SUMMATION POINT 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
33,227	77	Woods, Good, HSG D
32,212	85	1/2 acre lots, 25% imp, HSG D
65,439	81	Weighted Average
57,386		87.69% Pervious Area
8,053		12.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2000	0.17		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.3	45	0.1100	2.32		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.8	165	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.9	260	Total			



post development

Prepared by Haley Ward

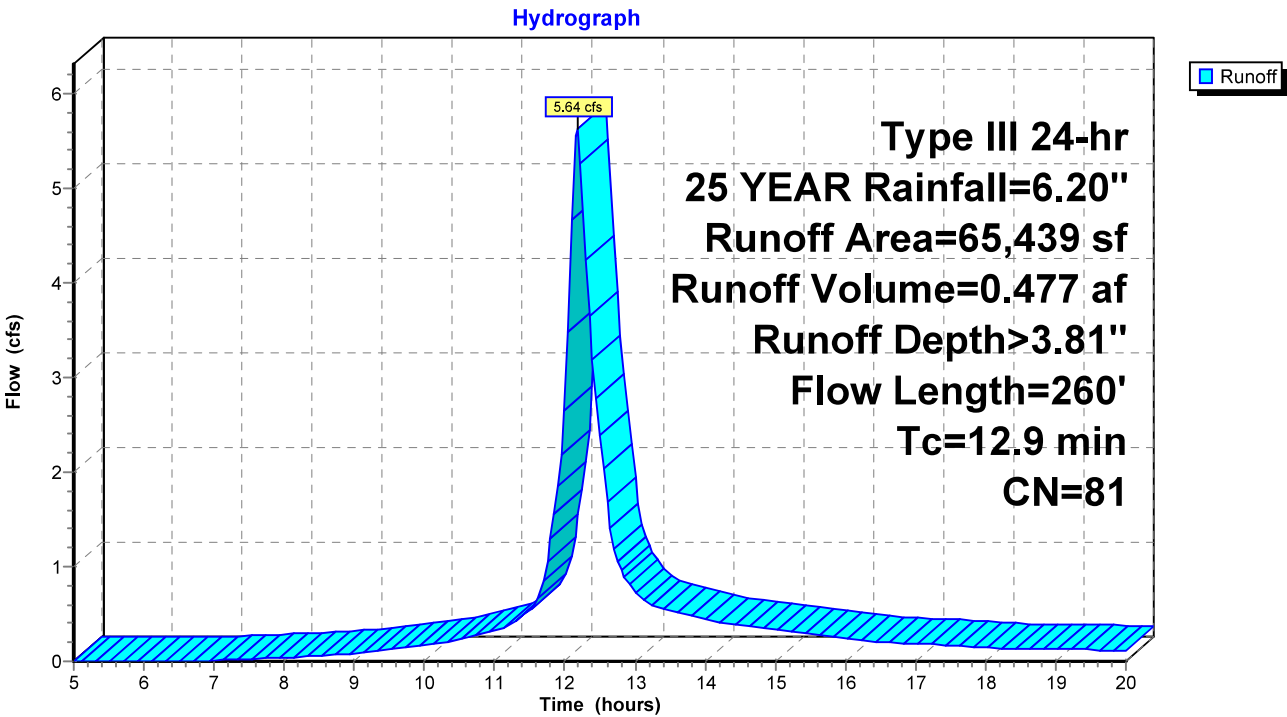
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 7

Subcatchment 3S: SUBCATCHMENT 3



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 8

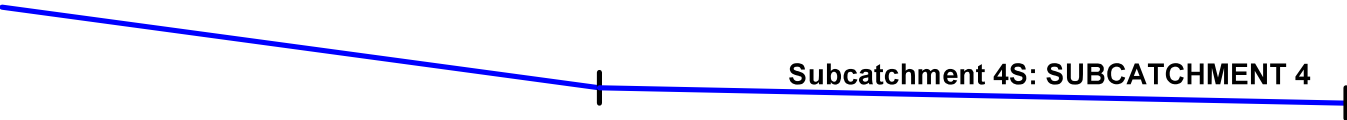
Summary for Subcatchment 4S: SUBCATCHMENT 4

Runoff = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af, Depth> 3.41"
Routed to Reach 16R : SUMMATION POINT 4

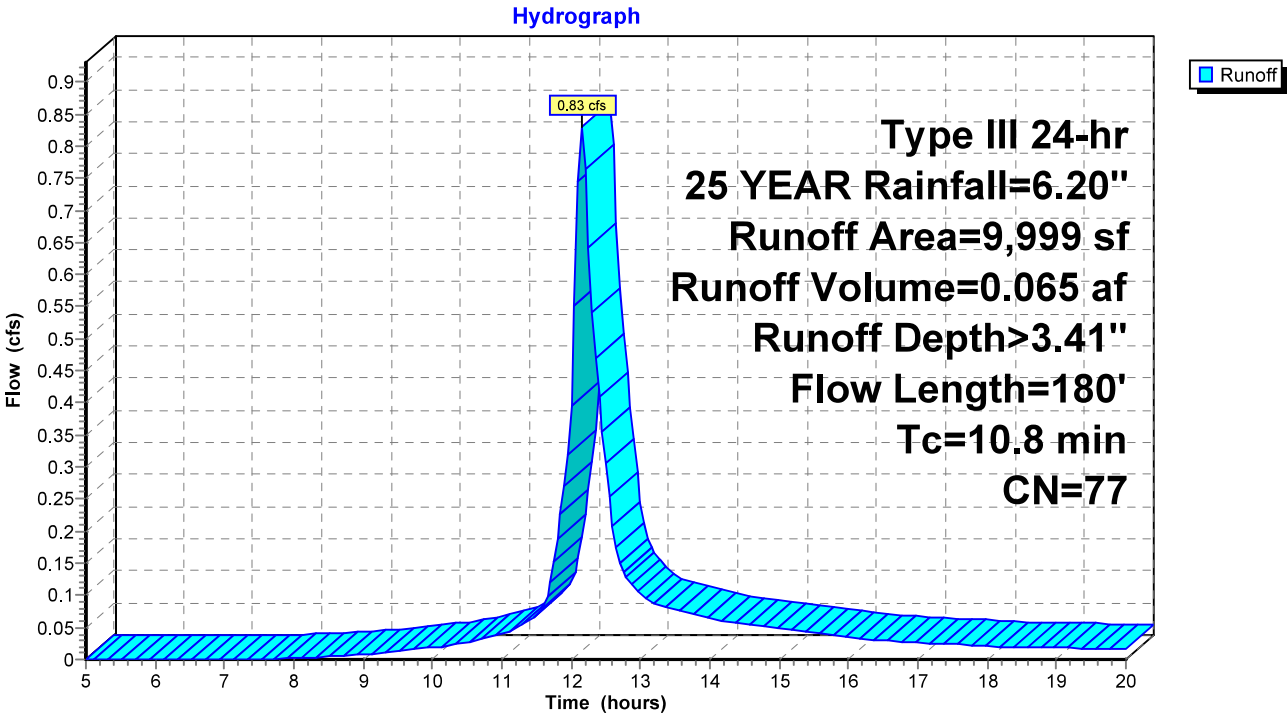
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

Area (sf)	CN	Description
9,999	77	Woods, Good, HSG D
9,999		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	80	0.1300	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
2.4	100	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
10.8	180	Total			



Subcatchment 4S: SUBCATCHMENT 4



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 9

Summary for Subcatchment 5S: SUBCATCHMENT 5[49] Hint: $T_c < 2dt$ may require smaller dt

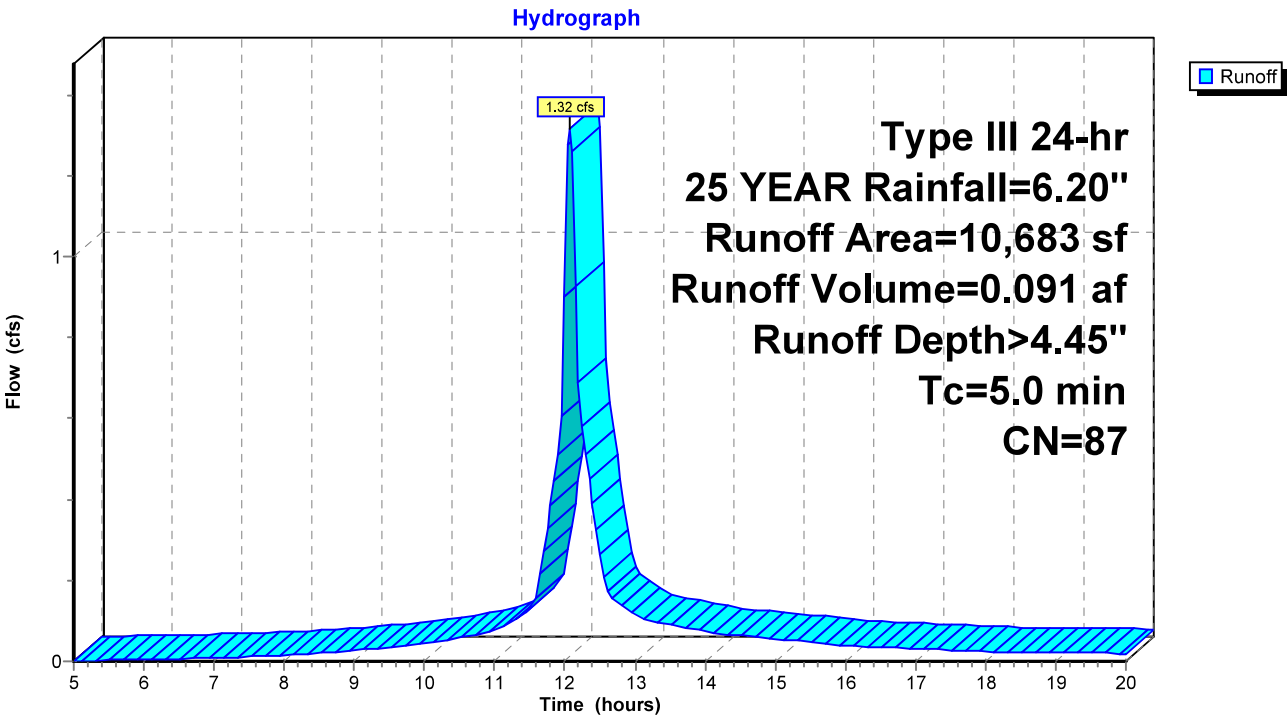
Runoff = 1.32 cfs @ 12.07 hrs, Volume= 0.091 af, Depth> 4.45"
Routed to Reach 14R : SUMMATION POINT 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
	767	77	Woods, Good, HSG D
*	4,473	98	IMPERVIOUS
	5,078	80	>75% Grass cover, Good, HSG D
	365	85	1/2 acre lots, 25% imp, HSG D
	10,683	87	Weighted Average
	6,119		57.28% Pervious Area
	4,564		42.72% Impervious Area

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

Subcatchment 5S: SUBCATCHMENT 5



Summary for Subcatchment 6S: SUBCATCHMENT 6

Runoff = 8.19 cfs @ 12.54 hrs, Volume= 1.113 af, Depth> 3.98"
Routed to Reach 14R : SUMMATION POINT 2

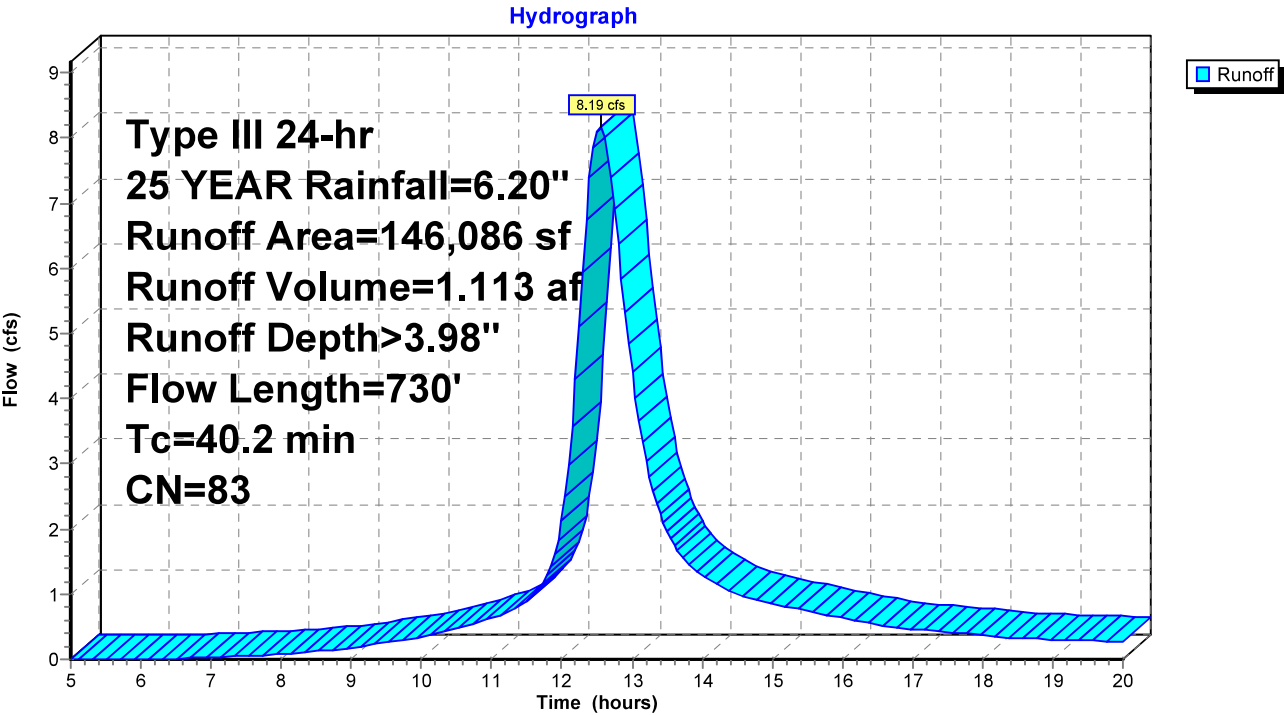
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
*	40,697	77	Woods, Good, HSG D
	6,376	98	IMPERVIOUS
	4,512	80	>75% Grass cover, Good, HSG D
	94,501	84	1 acre lots, 20% imp, HSG D
	146,086	83	Weighted Average
	120,810		82.70% Pervious Area
	25,276		17.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	50	0.2600	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
35.8	680	0.0040	0.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
40.2	730	Total			



Subcatchment 6S: SUBCATCHMENT 6



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 13

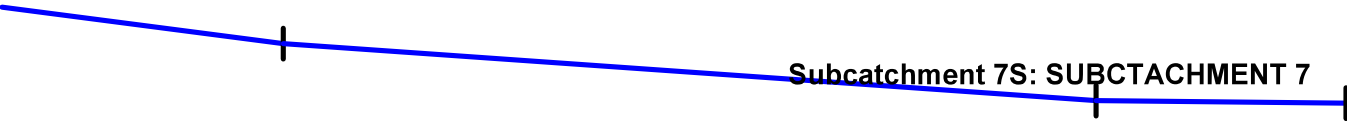
Summary for Subcatchment 7S: SUBCTACHMENT 7

Runoff = 3.55 cfs @ 12.11 hrs, Volume= 0.265 af, Depth> 4.23"
Routed to Pond 21P : (new Pond)

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 YEAR Rainfall=6.20"

	Area (sf)	CN	Description
	2,462	77	Woods, Good, HSG D
*	4,964	98	IMPERVIOUS
	2,525	80	>75% Grass cover, Good, HSG D
	22,793	84	1 acre lots, 20% imp, HSG D
	32,744	85	Weighted Average
	23,221		70.92% Pervious Area
	9,523		29.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	45	0.1300	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.6	130	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.3	40	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.2	215	Total			



post development

Prepared by Haley Ward

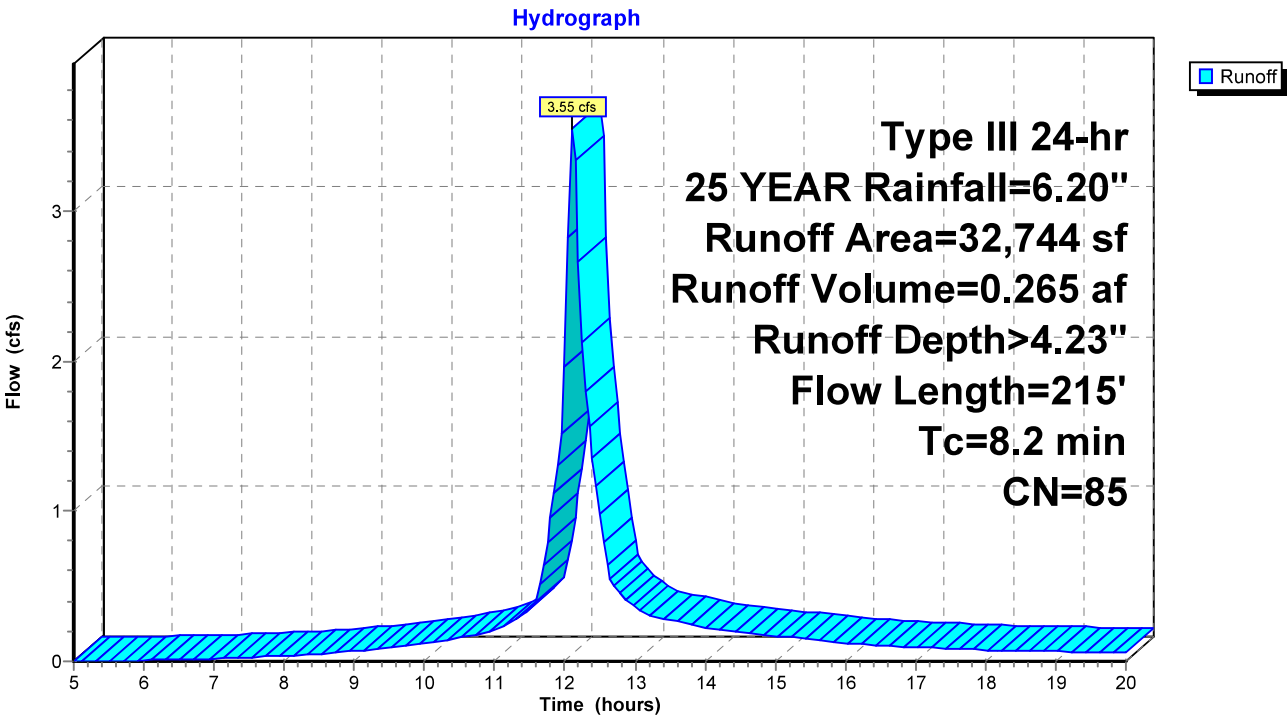
HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 14

Subcatchment 7S: SUBCTACHMENT 7



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 15

Summary for Reach 9R: SUMMATION POINT 1

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

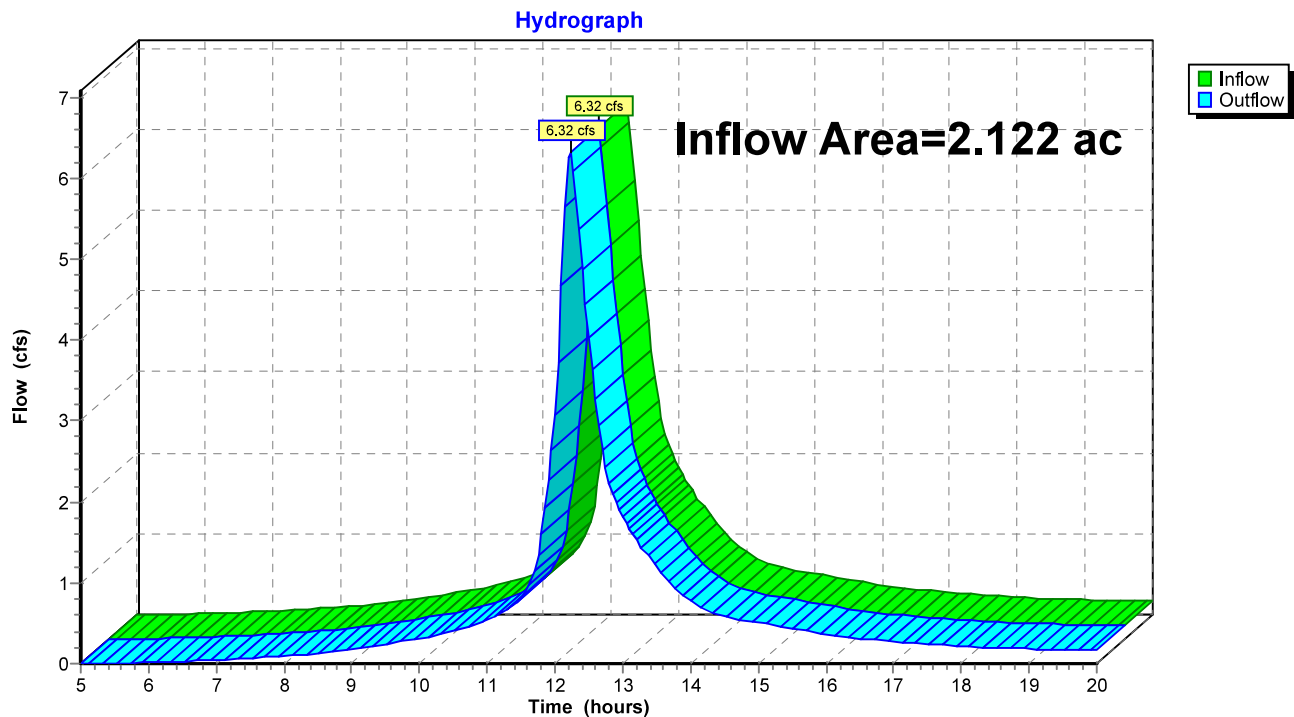
Inflow Area = 2.122 ac, 28.88% Impervious, Inflow Depth > 4.22" for 25 YEAR event

Inflow = 6.32 cfs @ 12.23 hrs, Volume= 0.747 af

Outflow = 6.32 cfs @ 12.23 hrs, Volume= 0.747 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 9R: SUMMATION POINT 1



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 16

Summary for Reach 13R: REACH 1

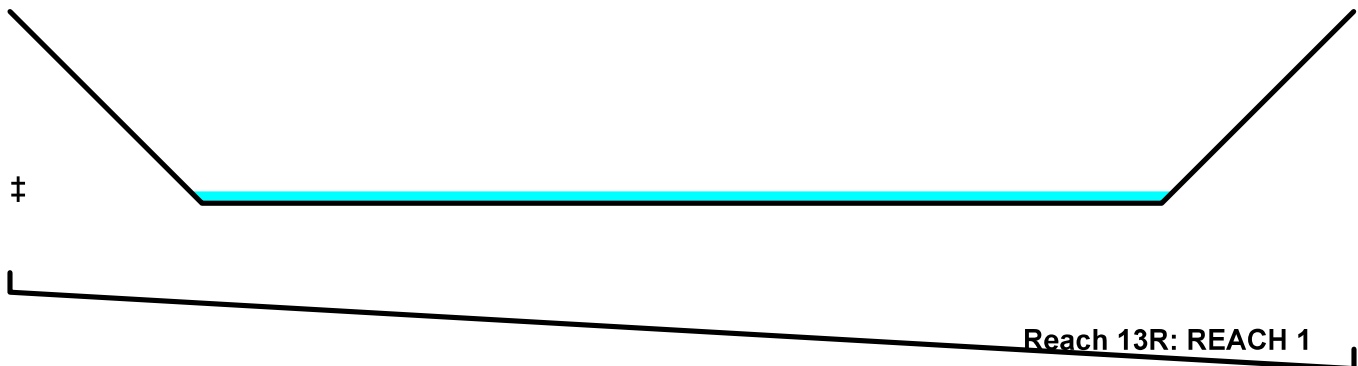
[65] Warning: Inlet elevation not specified

Inflow Area = 0.998 ac, 28.04% Impervious, Inflow Depth > 4.14" for 25 YEAR event
Inflow = 1.08 cfs @ 12.66 hrs, Volume= 0.344 af
Outflow = 1.08 cfs @ 12.71 hrs, Volume= 0.344 af, Atten= 0%, Lag= 3.1 min
Routed to Reach 14R : SUMMATION POINT 2

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.14 fps, Min. Travel Time= 1.9 min
Avg. Velocity= 0.61 fps, Avg. Travel Time= 3.6 min

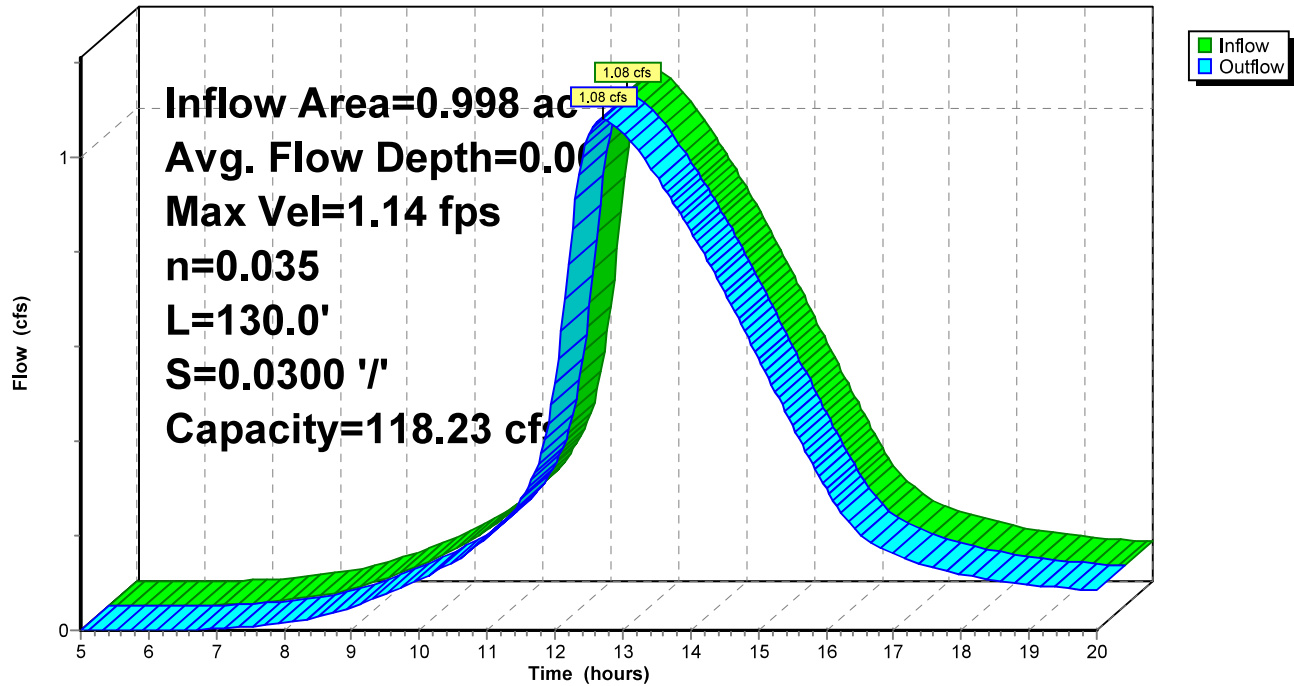
Peak Storage= 123 cf @ 12.68 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 15.37'
Bank-Full Depth= 1.00' Flow Area= 18.0 sf, Capacity= 118.23 cfs

15.00' x 1.00' deep channel, n= 0.035 Earth, dense weeds
Side Slope Z-value= 3.0 '/' Top Width= 21.00'
Length= 130.0' Slope= 0.0300 '/'
Inlet Invert= 0.00', Outlet Invert= -3.90'



Reach 13R: REACH 1

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 18

Summary for Reach 14R: SUMMATION POINT 2

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

Inflow Area = 4.597 ac, 20.99% Impervious, Inflow Depth > 4.04" for 25 YEAR event

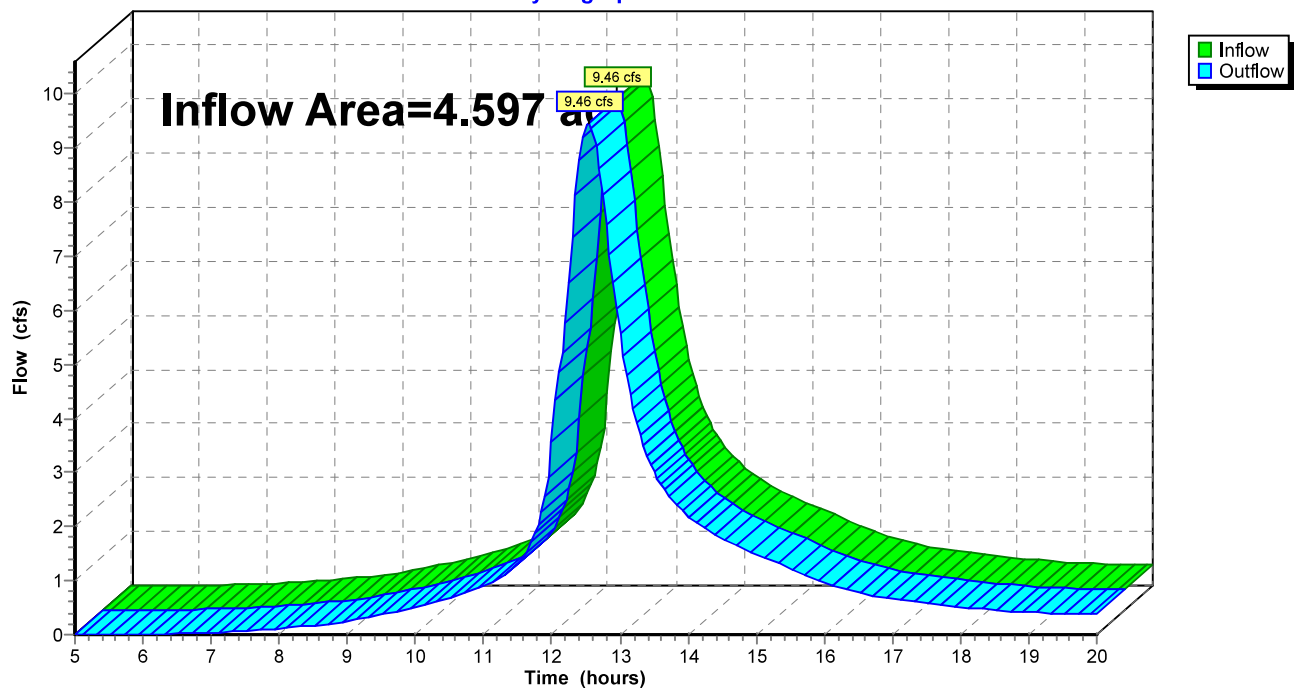
Inflow = 9.46 cfs @ 12.54 hrs, Volume= 1.548 af

Outflow = 9.46 cfs @ 12.54 hrs, Volume= 1.548 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 14R: SUMMATION POINT 2

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 19

Summary for Reach 15R: SUMMATION POINT 3

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

Inflow Area = 1.502 ac, 12.31% Impervious, Inflow Depth > 3.81" for 25 YEAR event

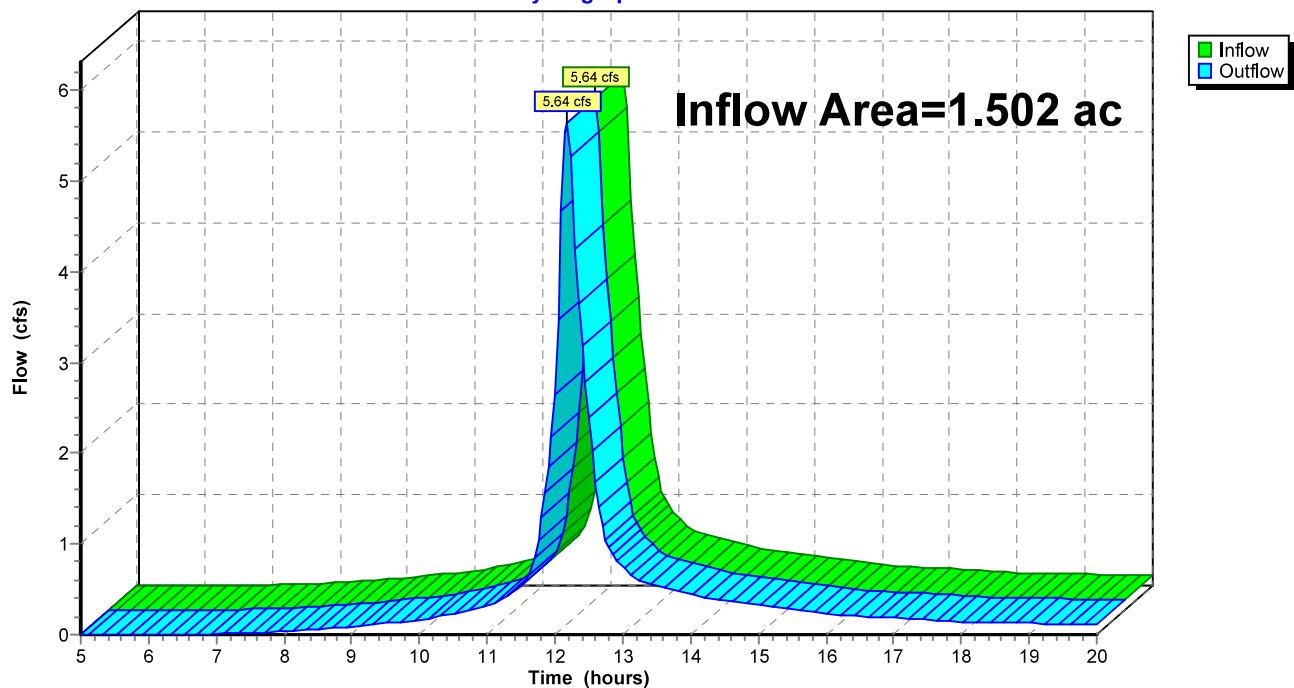
Inflow = 5.64 cfs @ 12.18 hrs, Volume= 0.477 af

Outflow = 5.64 cfs @ 12.18 hrs, Volume= 0.477 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 15R: SUMMATION POINT 3

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 20

Summary for Reach 16R: SUMMATION POINT 4

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

Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth > 3.41" for 25 YEAR event

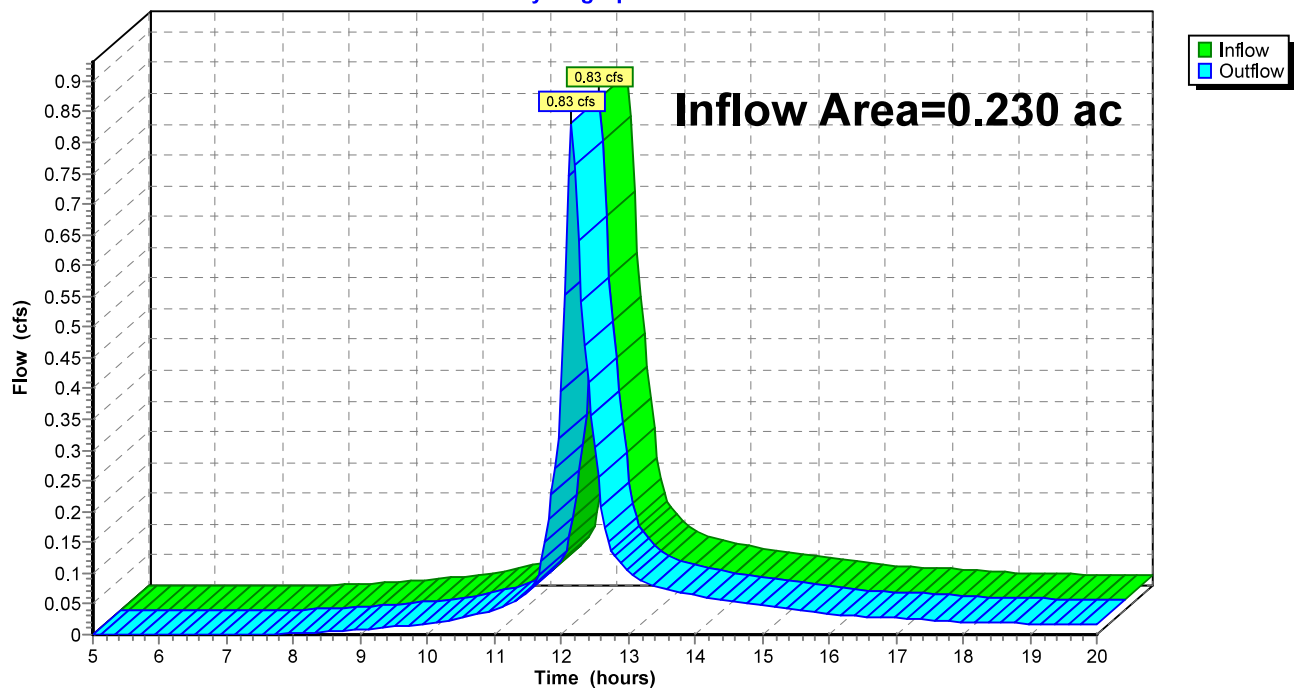
Inflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 af

Outflow = 0.83 cfs @ 12.15 hrs, Volume= 0.065 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 16R: SUMMATION POINT 4

Hydrograph



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 21

Summary for Pond 18P: DETENTION BASIN

Inflow Area = 0.998 ac, 28.04% Impervious, Inflow Depth > 4.22" for 25 YEAR event
 Inflow = 3.93 cfs @ 12.20 hrs, Volume= 0.351 af
 Outflow = 1.08 cfs @ 12.66 hrs, Volume= 0.344 af, Atten= 73%, Lag= 27.7 min
 Primary = 1.08 cfs @ 12.66 hrs, Volume= 0.344 af
 Routed to Reach 13R : REACH 1
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Routed to Reach 13R : REACH 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 60.34' @ 12.66 hrs Surf.Area= 3,125 sf Storage= 5,385 cf

Plug-Flow detention time= 58.5 min calculated for 0.343 af (98% of inflow)
 Center-of-Mass det. time= 50.7 min (825.8 - 775.1)

Volume	Invert	Avail.Storage	Storage Description
#1	58.00'	9,478 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.00	1,481	0	0
59.00	2,175	1,828	1,828
61.50	3,945	7,650	9,478

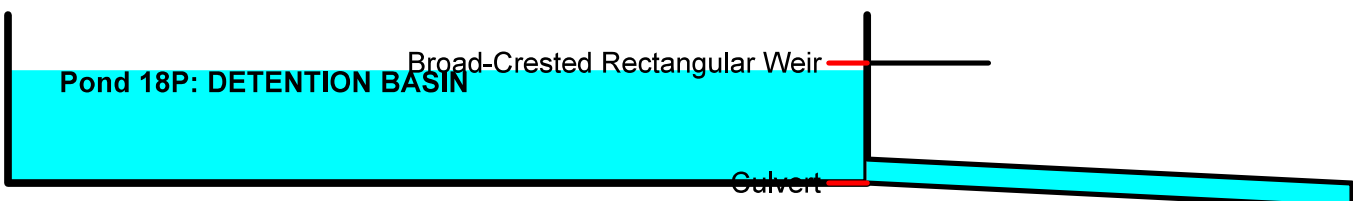
Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	6.0" Round Culvert L= 20.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 58.00' / 57.50' S= 0.0250 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	60.50'	10.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=1.08 cfs @ 12.66 hrs HW=60.34' (Free Discharge)

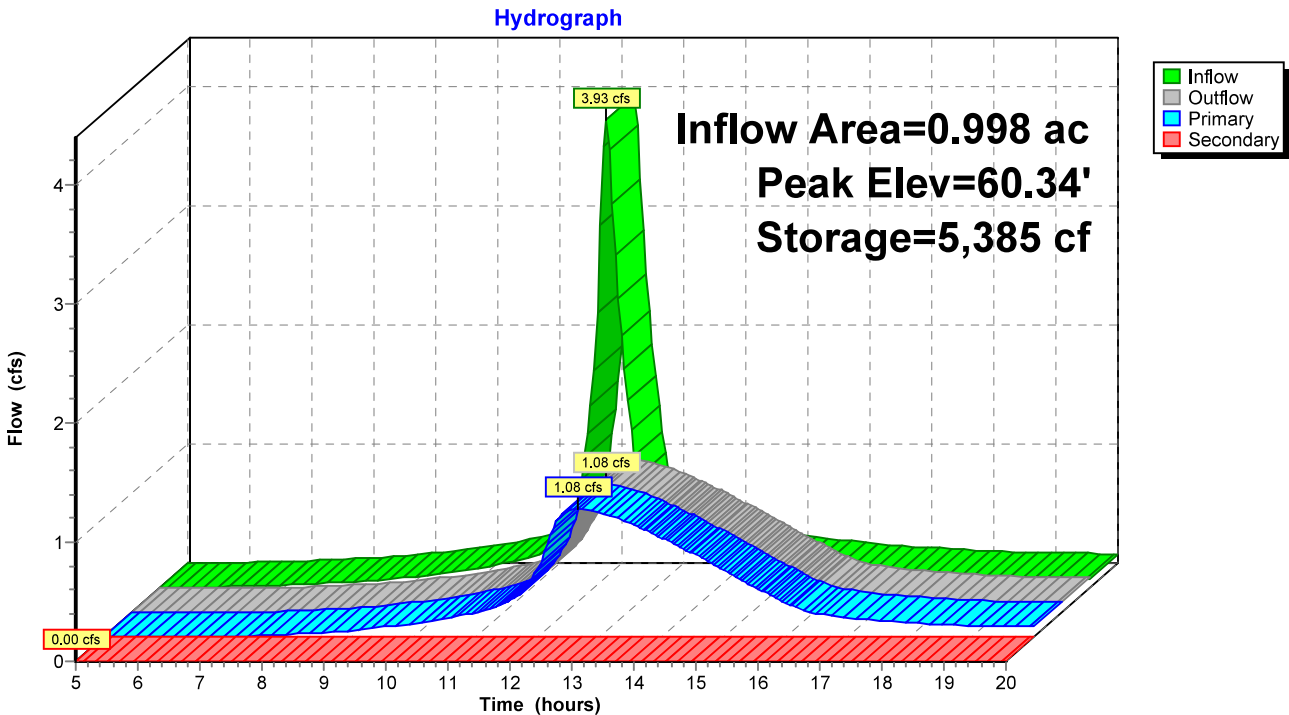
↑ **1=Culvert** (Inlet Controls 1.08 cfs @ 5.50 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=58.00' (Free Discharge)

↑ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)



Pond 18P: DETENTION BASIN



post development

Prepared by Haley Ward

HydroCAD® 10.20-5c s/n 00641 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25 YEAR Rainfall=6.20"

Printed 12/18/2024

Page 23

Summary for Pond 21P: (new Pond)

[44] Hint: Outlet device #3 is below defined storage

Inflow Area = 0.752 ac, 29.08% Impervious, Inflow Depth > 4.23" for 25 YEAR event
 Inflow = 3.55 cfs @ 12.11 hrs, Volume= 0.265 af
 Outflow = 1.26 cfs @ 12.43 hrs, Volume= 0.265 af, Atten= 65%, Lag= 18.7 min
 Primary = 1.26 cfs @ 12.43 hrs, Volume= 0.265 af
 Routed to Reach 9R : SUMMATION POINT 1

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 54.15' @ 12.43 hrs Surf.Area= 3,581 sf Storage= 2,791 cf

Plug-Flow detention time= 18.3 min calculated for 0.265 af (100% of inflow)
 Center-of-Mass det. time= 17.8 min (787.8 - 769.9)

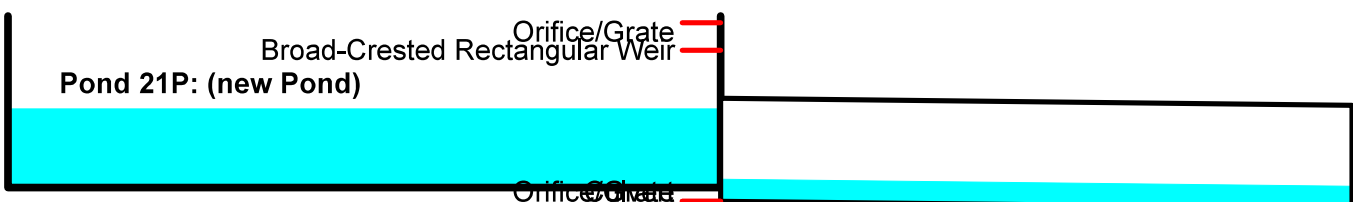
Volume	Invert	Avail.Storage	Storage Description
#1	53.00'	9,380 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	1,256	0	0
54.00	3,321	2,289	2,289
55.00	5,109	4,215	6,504
55.50	6,398	2,877	9,380

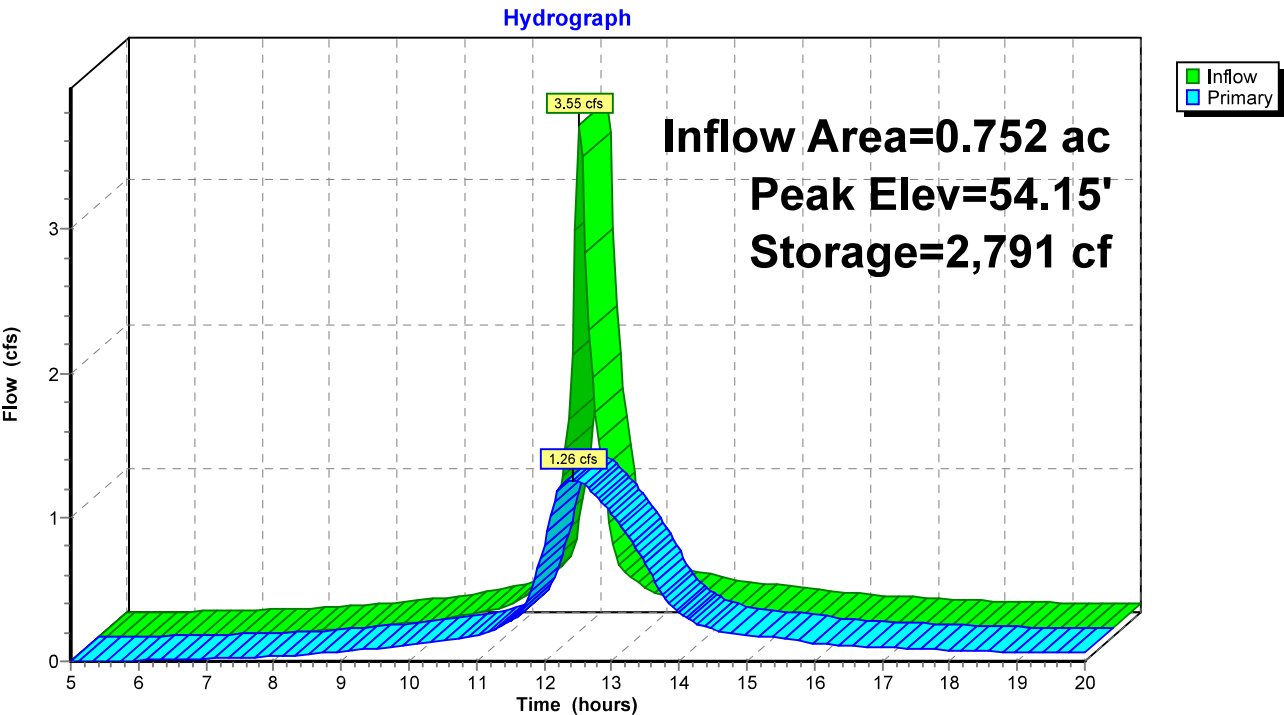
Device	Routing	Invert	Outlet Devices
#1	Primary	52.80'	18.0" Round Culvert L= 40.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.80' / 52.70' S= 0.0025 ' S= 0.0025 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	55.00'	1.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	52.80'	6.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	55.40'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.26 cfs @ 12.43 hrs HW=54.14' (Free Discharge)

1=Culvert (Passes 1.26 cfs of 4.24 cfs potential flow)
 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
 3=Orifice/Grate (Orifice Controls 1.26 cfs @ 5.03 fps)
 4=Orifice/Grate (Controls 0.00 cfs)



Pond 21P: (new Pond)





APPENDIX J

EROSION AND SEDIMENTATION CONTROL PLAN



EROSION AND SEDIMENTATION CONTROL PLAN

- A. Narrative. The proposed construction will require the implementation of temporary and permanent erosion control measures. These measures will be implemented in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual, prior to removal of any on-site vegetation or disturbance of any on-site soil. The general erosion and sediment control specifications and details, as provided within this section, are intended to describe measures to be used by contractors working on the site to maintain compliance with the standards established in the BMPs. These standards include information on temporary and permanent erosion control measures, rates of seeding and applied mulch, slope and soil stabilization, effect of construction schedule, and other details.

The proposed location and use of erosion control measures on-site are shown on the site plan. There are no known existing erosion control concerns with the site. Implementation of proper erosion control measures will be required by site contractors to confine sediment and debris within the limit of soil disturbance. Proper use and maintenance of erosion control measures will provide protection against off-site transport of sediment and discharge of sediment to undisturbed areas of the development.

- B. Completion Date. Fall 2025
- C. Site Features. For site features please refer to the enclosed plan.
- D. Temporary and Permanent Erosion Control Measures. For temporary and permanent erosion control measures please refer to the enclosed plan.
- E. Limits of Disturbed Areas. Areas of disturbance will be limited to the proposed work shown on the enclosed plan. All areas disturbed areas not made impervious will be seeded and mulched to establish vegetated growth.
- F. Design Drawings and Specifications. For design drawings please refer to the enclosed plan. The following specifications will be utilized by the site contractor during construction of the project.



EROSION CONTROL PLAN SPECIFICATIONS

A. General

1. All work and measures will be as per the Maine Erosion and Sediment Control BMPs manual.
2. The following specifications will be employed.

B. Prior to Construction

1. Prior to beginning construction, erosion and sedimentation controls shall be in place.

C. During Construction

1. Exposed soil surfaces will be treated immediately if they are to remain ungraded more than 30 days, or if they are at final grades.
2. Drainage ways, either designed or incidental, will have filter barriers installed.
3. All work and materials necessary to minimize sediment loss from the site will be provided.
4. All erosion control measures will be inspected and repaired after every rainfall greater than ½-inch and at least daily during rain events lasting longer than 24 hours.

D. Post Construction

1. Erosion control measures will be maintained until permanent soil stabilization has been achieved with a growth of vegetation greater than 90%.



SOIL PROTECTION AND EROSION CONTROL

PART 1 - GENERAL

1.01 Description of Work

- A. Provide and maintain devices to control erosion, siltation, sedimentation, and dust that occur during construction operations. Undertake every reasonable precaution and do whatever is necessary to avoid erosion of soil and to prevent silting of wetland areas and drainage ditches.
- B. Provide measures to control dust caused whether on or off the project site.
- C. Deficiencies in erosion control measures indicated by failures or erosion will be corrected as soon as reasonably possible by providing additional measures or different techniques to correct the situation and prevent subsequent erosion.
- D. Exposure of soils on embankments, excavations, and graded areas will be kept as short as possible. Initiate seeding and other erosion control practices as soon as reasonably possible.

1.02 Quality Assurance

- A. Conform to all requirements of applicable Federal, State and local permits and conform to the recommendations of the Maine Erosion and Sediment Control BMPs whether the measures are specifically noted herein, or not.
- B. Standards: Maine Erosion and Sediment Control BMPs Manual, hereinafter called Erosion Control Handbook.

PART 2 - PRODUCTS

2.01 **Materials:** Use the following materials to implement and construct erosion control measures.

- A. Hay Bale: Rectangular shaped bales of hay or straw weighting at least 40 pounds per bale; free from noxious weed seeds and rough or woody materials.
- B. Mulch: Type and use as specified by the Erosion Control Handbook
 - 1. Long fibered hay or straw in dry condition and which are relatively free of weeds and foreign matter detrimental to plant life.
 - 2. Mulch netting: Plastic or nylon mesh netting with approximate openings of ¼-inch to 1-inch.



C. Permanent Seeding: Cut and fill slopes and disturbed areas will be stabilized as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.
2. In lieu of tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil additives will be incorporated into the soil prior to seeding.
3. Following seed bed preparation, back slopes will be seeded to a mixture of 83% creeping red fescue, and 17% rye grass. Seeding rate is 3 lbs. per 1,000 square feet. Lawn quality sod may be substituted for seed.
4. Hay mulch at the rate of 90 lbs. per 1,000 square feet of a hydro-application of asphalt, wood, or paper fiber will be applied following seeding. A suitable binder such as curason or terrtack will be used on hay mulch for wind control.
5. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and a cover crop of rye at the rate of 112 lbs/acre or 3 lbs/1,000 sq. ft. will be applied. The rye seeding will be preceded by an application of 3 tons of lime and 800 lbs. of 10-20-20 fertilizer or its equivalent and covered by a layer of jute mat to aide in stabilization.

PART 3 - EXECUTION

3.01 Construction

A. Hay Bales:

1. Install as directed by Erosion Control Handbook, and stake with required stakes.

B. Mulch:

1. Undertake after each area has been properly prepared.
2. When seed for erosion control is sown prior to placing the mulch, place mulch on the seeded areas within 48 hours after seeding.
3. Blowing chopped mulch will be permitted.
4. Hay mulch should cover the ground enough to shade it, but the mulch should not be so thick that a person standing cannot see the ground through the mulch.
5. Remove matted mulch or bunches.

C. Temporary Erosion Control Matting (where necessary):

1. Surface Preparation:
 - a. Conform to grades for slopes and ditches shown of the drawings.
 - b. Finish to a smooth and even condition with all debris, roots, stones, and lumps raked out and removed.



- c. Loosen soil surface to permit bedding of the matting.
 - d. Unless otherwise directed, apply seed prior to placement.
2. Installation:
- a. Place strips lengthwise in the direction of the flow of water.
 - b. Where strips are laid parallel or meet as in a tee, overlap at least four inches.
 - c. Overlap ends at least six inches in a shingle fashion.
 - d. The up-slope end of each strip of the matting will be turned down and buried to a depth of not less than six inches with the soil firmly tamped against it.
 - e. Build check slots at right angles to the direction of the flow of water. Space so that one check slot or one end occurs within each 50 feet of slope length. Construct by placing a tight fold of the matting at least six inches vertically into the ground, and tamp the same as up-slope ends.
 - f. Bury edges of matting around the edges of the catch basins and other structures.
 - g. Where determined by the Engineers, additional seed will be spread over matting, particularly at those locations disturbed by building the slots. Matting will then be pressed onto the ground with a light lawn roller or by other satisfactory means.
 - h. Drive staples vertically into the ground flush with the surface.
 - i. On slopes flatter than 4:1, space staples not more than three feet and one row, alternately spaced, down the center.
 - j. On grades 4:1 or steeper, place in the same three rows, but spaced two feet apart.
 - k. On all overlapping or butting edges, double the number of staples, with the spacing halved; all ends of the matting and all required check slots will likewise have staples spaced every foot.
- D. Permanent Seeding:
- 1. Seed with appropriate seeds and application rates as noted in Section 2.01D.
 - 2. Mulch areas where seeding has been applied. Do not mulch seeded areas where matting will be immediately installed.
- E. Topsoil Storage:
- 1. Topsoil which is stockpiled on the site for use in loam applications will be placed out of natural drainages, in piles that have side slopes of 2:1 to 1.5:1.
 - 2. A trench (depth as required) will be constructed around the base of the pile to prevent eroding soil from washing into drainages.
- F. Dust Control: Utilize the application of sprinkled water to reduce the emission of airborne soil particulates from the Project site.



- G. Temporary Berms: Construct temporary barriers along the toe of embankments using side drains as necessary.
- H. Temporary Basins: Construct temporary sedimentation basins adequate to avoid siltation of surface water bodies.
- I. Other Temporary Measures:
 - 1. Type and use will be as specified in the Erosion Control Handbook.
- J. Winter Stabilization Notes
 - 1. At this time it is not expected that significant soil disturbance will occur during winter months or periods of heavy icing. If construction is performed during these times, the following construction practices will be followed.
 - a. All disturbed areas not stabilized with stone or other measures will have approved erosion control matting installed and be dormant seeded.
 - b. No frozen soil material or material containing significant snow or ice will be used for fill material.
 - c. All material stockpiles will have silt fence and/or hay bales installed downgradient of piles.
 - d. Follow general erosion control notes described previously wherever possible and as conditions permit.

3.02 Maintenance

- A. Inspect erosion control practices immediately after each rainfall greater than ½-inch and at least daily during rainfall lasting longer than 24 hours or snowmelt for damage. Provide maintenance and make appropriate repairs or replacement.
- B. Remove silt from around hay bales when it has reached one foot above grade or prior to expected heavy runoff or siltation.
- C. Repair matting if any staples become loosened or raised, or if any matting becomes loose, torn, or undermined, make satisfactory repairs immediately.

3.03 Removal of Temporary Erosion Control

- A. Remove temporary materials and devices when permanent soil stabilization has been substantially achieved. For vegetated areas, substantially complete means 95% vegetated cover has been established.



- B. Level and grade to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.
- C. Remove unsuitable materials from site and dispose of in a lawful manner.



INSPECTION AND MAINTENANCE

The following Maintenance Plan will be employed for this facility. Coastal Oaks, LLC will be responsible for all inspection and maintenance during construction. The Homeowner's Association will be responsible post construction. Erosion control measures for this site were designed by:

Drew Olehowski, P.E.
Haley Ward, Inc.
120 Main Street, #132
Saco, Maine 04072
207-989-4824
dolehowski@haleyward.com

A Pre- and Post-Construction Maintenance Plan for the stormwater management system and erosion control measures are included in this section.



MAINTENANCE PLAN

The MDEP's Stormwater Management for Maine: Best Management Practices (2006), and the MDEP's Chapter 500: Stormwater Management were used as guidelines in the development of this Maintenance Plan. General maintenance requirements are listed below.

A. DURING CONSTRUCTION

The general contractor will be responsible for the inspection and maintenance of all stormwater management system components during construction.

Inspection: Inspection of disturbed and impervious areas, erosion control measures, materials' storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site will be performed at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. Inspections shall be conducted by a person with knowledge of erosion and stormwater control, including the standards and conditions in the permit.

Maintenance: All erosion control measures will be kept in effective operating condition until areas are permanently stabilized. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation will be completed within 7 calendar days and prior to any rainfall event.

Documentation: A log shall be kept summarizing the inspections and any corrective action taken. A copy of the log is provided at the end of this section, and is titled, Construction Inspection Log.

B. POST-CONSTRUCTION

The Owner or their assigns will be responsible for the inspection and maintenance of all stormwater management system components.

Inspection and Corrective Action

1. Vegetated Areas: Inspections and maintenance of vegetated areas will be performed early in the growing season or after significant rainfall to identify any erosion problems. Areas where erosion is evident will be covered with an appropriate lining, or erosive flows will be diverted to an area able to handle the flows. Any bare areas or areas with sparse growth will be replanted.
2. Detention areas:
 - Detention areas should be inspected semi-annually and following major storm events. Debris and sediment buildup should be removed from the basin and outlet structures as needed.



3. Inspection: shall be performed by an individual with experience and/or training on the maintenance and functions of these devices.



HOUSEKEEPING

1. Spill Prevention - During construction, controls will be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
2. Groundwater Protection - During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater will not be stored or handled in areas of the site draining to an infiltration area. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
3. Fugitive Sediment and Dust - Actions will be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil will not be used for dust control. Water will be used for dust control during construction.

Operations during wet months that cause mud to be tracked off the site onto public roads will provide sweeping of the road areas at least once per week and prior to significant storm events.

4. Debris and Other Materials - Litter, construction debris, and chemicals exposed to stormwater will be prevented from becoming a pollutant source. The nature of this development will not cause problems related to debris and other materials.
5. Trench or Foundation De-Watering - If de-watering is necessary, the collected water will be removed from the ponded area and spread through natural wooded buffers or discharged into a construction sedimentation basin. The water will not be allowed to flow over disturbed areas to the site.



Coastal Oaks, LLC
CONSTRUCTION INSPECTION LOG

INSPECTION DATE	INSPECTOR (NAME AND QUALIFICATIONS)	MAJOR OBSERVATIONS	WORK PERFORMED

Notes

- 1) Major Observations include the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major Observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.
- 2) Work Performed will include a description of the corrective action taken, the date the corrective action was taken, and the name and qualifications of the person taking the corrective actions
- 3) The log must be made accessible to MDEP staff and a copy must be provided upon request.
- 4) The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

13871.019

512 POOL STREET
MAJOR SUBDIVISION REVIEW



COASTAL OAKS, LLC
BMP INSPECTION LOG

DATE	INSPECTOR (NAME AND QUALIFICATIONS)	ID NUMBER	BMP STRUCTURE	WORK PERFORMED	COMMENTS

Notes

- 1) If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal.
- 2) BMP structures shall be numbered sequentially and located on attached site map.
- 3) The log must be made accessible to MDEP staff and a copy must be provided upon request.
- 4) The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.



INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)		
	INSPECTION SCHEDULE	CORRECTIVE ACTIONS
VEGETATED AREAS	Annually early spring and after heavy rains	Inspect all slopes and embankments and replant areas of bare soil or with sparse growth
		Armor rill erosion areas with riprap or divert the runoff to a stable area
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and late fall and after heavy rains	Remove obstructions, sediments or debris from ditches, swales and other open channels
		Repair any erosion of the ditch lining
		Mow vegetated ditches
		Remove woody vegetation growing through riprap
		Repair any slumping side slopes
CULVERTS	Spring and late fall and after heavy rains	Repair riprap where underlying filter fabric or gravel is showing or if stones have dislodge
		Remove accumulated sediments and debris at the inlet, outlet, or within the conduit
		Remove any obstruction to flow
CATCHBASINS	Annually in the spring	Repair any erosion damage at the culvert's inlet and outlet
		Remove sediments and debris from the bottom of the basin and inlet grates
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed	Remove floating debris and oils (using oil absorptive pads) from any trap
		Clear and remove accumulated winter sand in parking lots and along roadways
		Sweep pavement to remove sediment
		Grade road shoulders and remove accumulated winter sand
		Grade gravel roads and gravel shoulders
		Clean-out the sediment within water bars or open-top culverts
RESOURCE AND TREATMENT BUFFERS	Annually in the spring	Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
		Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development
		Manage the buffer's vegetation with the requirements in any deed restrictions
		Repair any sign of erosion within a buffer
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains	Clean-out any accumulation of sediment within the spreader bays or turnout pools
		Mow non-wooded buffers no shorter than six inches and less than three times per year
		Inspect the embankments for settlement, slope erosion, piping, and slumping
		Mow the embankment to control woody vegetation
		Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks
		Remove and dispose of sediments and debris within the control structure
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall	Repair any damage to trash racks or debris guards
		Replace any dislodged stone in riprap spillways
		Remove and dispose of accumulated sediments within the impoundment and forebay
		Clean the basin of debris, sediment and hydrocarbons
		Provide for the removal and disposal of accumulated sediments within the basin
PROPRIETARY DEVICES	As specified by manufacturer	Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event
		Till, seed and mulch the basin if vegetation is sparse
OTHER PRACTICES	As specified for devices	Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
		Contact with a third-party for inspection and maintenance
OTHER PRACTICES	As specified for devices	Follow the manufacturer's plan for cleaning of devices
		Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.



APPENDIX K

PROPOSED LIGHTING FIXTURES

VIPER Area/Site

VIPER LUMINAIRE

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID+ and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped



CONTROL TECHNOLOGY



SERVICE PROGRAMS



SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high powered LEDs. Strike optics are held in place with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQU) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater than 20ft, a vibration damper is recommended

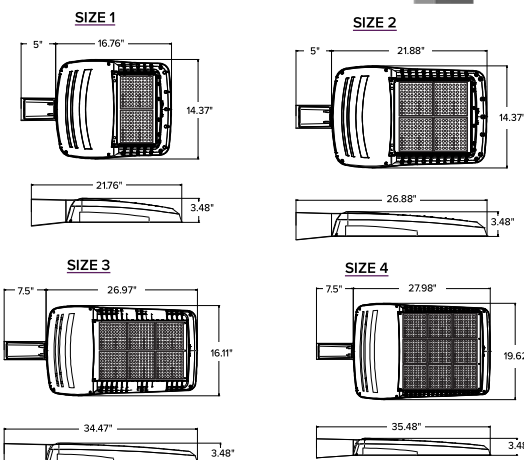
ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire, where Dual Power Feed provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0-10V Dimming Drivers are standard. Select CD option to have dimming leads extended outside the luminaire. Must specify if wiring leads are to be greater than the 6" standard.
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID+ available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

MICROSTRIKE | STRIKE OPTICS



	EPA				Config
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to <http://www.designlights.org> for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy America(n) Solutions (link to <https://www.currentlighting.com/resources/america-solutions>).
- FCC CFR Title 47 Part 15, Class A

WARRANTY

- 5 year warranty

VIPER Area/Site

VIPER LUMINAIRE

MICROSTRIKE OPTICS – ORDERING GUIDE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

Gray Shading

 = Service Program
 Limit of 15 luminaires

QS10
Example: VP-2-320L-145-3K7-2-R-UNV-A3-BLT

CATALOG #

VP	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
Series							
VP Viper	Micro Strike	1 Size 1	160L-35 ⁶ 5500 lumens 160L-50 ⁶ 7500 lumens 160L-75 10000 lumens 160L-100 12500 lumens 160L-115 15000 lumens 160L-135 18000 lumens 160L-160 21000 lumens 320L-145 21000 lumens 320L-170 24000 lumens 320L-185 27000 lumens 320L-210 30000 lumens 320L-235 33000 lumens 320L-255 36000 lumens 320L-315 ⁶ 40000 lumens 480L-285 40000 lumens 480L-320 44000 lumens 480L-340 48000 lumens 480L-390 52000 lumens 480L-425 55000 lumens 480L-470 60000 lumens 720L-435 60000 lumens 720L-475 65000 lumens 720L-515 70000 lumens 720L-565 ⁶ 75000 lumens 720L-600 ⁶ 80000 lumens CLO Custom Lumen Output ¹	AP AP-Amber Phosphor Converted 27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 35K8 3500K, 80 CRI 3K9 3000K, 90 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QW Type 5 Square Wide	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2					
		3 Size 3					
		4 Size 4					

Mounting	Color	Options	Network Control Options
A Arm mount for square pole/flat surface (B3 Drill Pattern) (Does not include round pole adapter) A_ Arm mount for round pole ² ASQU Universal arm mount for square pole. Can be used with B3 or S2 Drill Pattern A_U Universal arm mount for round pole ² AAU Adjustable arm for pole mounting (universal drill pattern) AA_U Adjustable arm mount for round pole ² ADU Decorative upswept Arm (universal drill pattern) AD_U Decorative upswept arm mount for round pole ² MAF Mast arm fitter for 2-3/8" OD horizontal arm K Knuckle T Trunnion WB Wall Bracket, horizontal tenon with MAF WM Wall mount bracket with decorative upswept arm WA Wall mount bracket with adjustable arm	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 LGT Light Grey Gloss Textured PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color	F Fusing 2PF Dual Power Feed 2DR Dual Driver TE Tooless Entry BC Backlight Control ⁸ TB Terminal Block CD Customer Dimming	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,3,4} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,3,4} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{3,4} WIR LightGRID+ In-Fixture Module ^{3,4} WIRSC LightGRID+ Module and Occupancy Sensor ^{3,4} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens 7PR 7-Pin Receptacle ⁴ 7PR-SC 7-Pin Receptacle with shorting cap ⁴ 7PR-TL 7-Pin PCR with photocontrol 3PR 3-Pin twist lock ⁴ 3PR-SC 3-Pin receptacle with shorting cap ⁴ 3PR-TL 3-Pin PCR with photocontrol ⁴ Programmed Controls SCP_F Sensor Control Programmable, 8F or 40F ⁹ ADD AutoDim Timer Based Dimming ¹⁰ ADT AutoDim Time of Day Dimming ¹⁰ Photocontrols PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information.

2 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole

3 – Networked Controls cannot be combined with other control options

4 – Not available with 2PF option

5 – Not available with Dual Driver option

6 – Some voltage restrictions may apply when combined with controls

7 – Not available with 480V

8 – BC not available on 4F and type 5 distributions

9 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.

10 – Please refer to page 8 for AutoDim ordering guide



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

STRIKE OPTIC – ORDERING GUIDE

Example: VP-ST-1-36L-39-3K7-2-UNV-A-BLT

CATALOG #							
VP							
Series	Optic Platform	Size	Light Engine	CCT/CRI	Distribution	Optic Rotation	Voltage
VP Viper	ST Strike	1 Size 1	36L-39 ⁸ 5500 lumens 36L-55 ⁸ 7500 lumens 36L-85 10000 lumens 36L-105 12500 lumens 36L-120 14000 lumens	27K8 2700K, 80 CRI 3K7 3000K, 70 CRI 3K8 3000K, 80 CRI 3K9 3000K, 90 CRI 35K8 3500K, 80 CRI 4K7 4000K, 70 CRI 4K8 4000K, 80 CRI 4K9 4000K, 90 CRI 5K7 5000K, 70 CRI 5K8 5000K, 80 CRI	FR Auto Front Row 2 Type 2 3 Type 3 4F Type 4 Forward 4W Type 4 Wide 5QN Type 5 Square Narrow 5QW Type 5 Square Wide 5QM Type 5 Square Medium 5W Type 5 Wide (Round) 5RW Type 5 Rectangular C Corner Optic TC Tennis Court Optic	BLANK No Rotation L Optic rotation left R Optic rotation right	UNV 120-277V 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V
		2 Size 2	72L-115 15000 lumens 72L-145 18000 lumens 72L-180 21000 lumens 72L-210 24000 lumens 72L-240 27000 lumens				
		3 Size 3	108L-215 ⁸ 27000 lumens 108L-250 30000 lumens 108L-280 33000 lumens 108L-325 36000 lumens 108L-365 40000 lumens				
		4 Size 4	162L-320 40000 lumens 162L-365 ¹⁰ 44000 lumens 162L-405 48000 lumens 162L-445 52000 lumens 162L-485 55000 lumens 162L-545 ⁸ 60000 lumens				
			CLO Custom Lumen Output ¹				

Mounting	Color	Options	Network Control Options
A Arm mount for square pole/flat surface A_ Arm mount for round pole ³ ASQU Universal arm mount for square pole A_U Universal arm mount for round pole ³ AAU Adjustable arm for pole mounting (universal drill pattern) AA_U Adjustable arm mount for round pole ³ ADU Decorative upswept Arm (universal drill pattern) AD_U Decorative upswept arm mount for round pole ³ MAF Mast arm fitter for 2-3/8" OD horizontal arm K Knuckle T Trunnion WB Wall Bracket, horizontal tenon with MAF WM Wall mount bracket with decorative upswept arm WA Wall mount bracket with adjustable arm	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 LGT Light Grey Gloss Textured PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured Color Option CC Custom Color	F Fusing E Battery Backup ^{1,2,7,8,9} 2PF Dual Power Feed 2DR Dual Driver TE Toolless Entry BC Backlight Control TB Terminal Block CD Customer Dimming	NXWS16F NX Networked Wireless Enabled Integral NXSMP2-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,4,5} NXWS40F NX Networked Wireless Enabled Integral NXSMP2-HMO PIR Occupancy Sensor with Automatic Dimming Photocell and Bluetooth Programming ^{1,4,5} NXW NX Networked Wireless Radio Module NXRM2 and Bluetooth Programming, without Sensor ^{4,5} WIR LightGRID+ In-Fixture Module ^{4,5} WIRSC LightGRID+ Module and Occupancy Sensor ^{4,5} Stand Alone Sensors BTS-14F Bluetooth® Programmable, BTSMP-LMO PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens BTS-40F Bluetooth® Programmable, BTSMP-HMO PIR Occupancy Sensor with Automatic Dimming® Photocell and 360° Lens BTSO-12F Bluetooth® Programmable, BTSMP-OMNI-O PIR Occupancy Sensor with Automatic Dimming Photocell and 360° Lens 7PR 7-Pin Receptacle ⁴ 7PR-SC 7-Pin Receptacle with shorting cap ⁴ 7PR-TL 7-Pin PCR with photocontrol 3PR 3-Pin twist lock ⁴ 3PR-SC 3-Pin receptacle with shorting cap ⁴ 3PR-TL 3-Pin PCR with photocontrol ⁴ Programmed Controls SCP-_F Sensor Control Programmable, 8F or 40F ¹¹ ADD AutoDim Timer Based Dimming ¹² ADT AutoDim Time of Day Dimming ¹² Photocontrols PC Button Photocontrol ^{4,7}

1 – Items with a grey background can be done as a custom order. Contact brand representative for more information
2 – Battery temperature rating -20C to 55C
3 – Replace “_” with “3” for 3.5”-4.13” OD pole, “4” for 4.18”-5.25” OD pole, “5” for 5.5”-6.5” OD pole
4 – Networked Controls cannot be combined with other control options
5 – Not available with 2PF option
6 – Not available with 480V
7 – Not available with 347 or 480V
8 – Not available with Dual Driver option
9 – Only available in Size 1 housing, up to 105 Watts
10 – Some voltage restrictions may apply when combined with controls
11 – At least one SCPREMOTE required to program SCP motion sensor. Must select 8ft or 40ft.
12 – Please refer to page 8 for AutoDim ordering guide

VIPER Area/Site

VIPER LUMINAIRE

ORDERING GUIDE (CONT'D)

CATALOG #

Accessory Type		Size	Option	Color	Current Control Solutions — Accessories (Sold Separately)		
SHD	Shield	1	Size 1	HSS-90-B	House Side Shield 90° Back	NX Lighting Controls ☐ NXOFM-1R1D-UNV On-fixture Module (7-pin), On / Off / Dim, Daylight Sensor with NX Radio and Bluetooth® Radio, 120–480VAC LightGRID+ Lighting Control ☐ WIR-RME-L On-fixture Module (7-pin or 5-pin), On / Off / Dim, Daylight Sensor with LightGRID+ Radio, 110–480VAC ☐ SCP-REMOTE Remote Control for SCP/_F option. Order at least one per project to program and control the occupancy sensor For additional information related to these accessories please visit currentlighting.com/beacon . Options provided for use with integrated sensor, please view specification sheet ordering information table for details.	
		2	Size 2	HSS-90-F	House Side Shield 90° Front		
		3	Size 3	HSS-90-S	House Side Shield 90° Side		
		4	Size 4	HSS-270-BSS	House Side Shield 270° Back/Side/Side		
				HSS-270-FSS	House Side Shield 270° Front/Side/Side		
				HSS-270-FSB	House Side Shield 270° Front/Side/Back		
				HSS-360	House Side Shield 360°		
				BC	Back Light Control		
		MTG	Mounting		A		Arm Mount for square pole/flat surface
				ASQU	Universal Arm Mount for square pole		
AAU	Adjustable Arm for pole mounting						
ADU	Decorative upswept Arm						
RPA	Round Pole Adapter						
MAF	Mast Arm Fitter for 2-3/8" OD horizontal arm						
K	Knuckle						
T	Trunnion						
WB	Wall Bracket (compatible with universal arm mounts)						
Accessory Type			Option	Color Option			
MSC	Miscellaneous		BIRD SPK	Bird Spike	CC	Custom Color	

VIPER Area/Site

VIPER LUMINAIRE

VIPER POLE EXPRESS COMBO – ORDERING GUIDE



Catalog Number	Pole	Single or Double Head	Fixture	Lumens*	Wattage	Distribution	CCT/CRI	Mounting	Finish
VP-1-160-4K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-3-LS	19584	158W	Type 3	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-4K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-4K-4F-LS	19426	158W	Type 4F	4000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20	20' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S20-2X	20' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-3-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-3-LS	19499	158W	Type 3	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25	25' Square Straight Steel	Single	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured
VP-1-160-5K-4F-LS-S25-2X	25' Square Straight Steel	Double	VP-1-160-5K-4F-LS	19186	158W	Type 4F	5000K/70CRI	Universal Arm	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – STOCK LUMINAIRE SKUS

Catalog Number	Lumens	LPW	Distribution	Wattage	CCT/CRI	Voltage	Mounting	Finish
VP-1-160-4K-3-LS	19584	123.9	3	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-4K-4F-LS	19426	122.9	4F	158W	4000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-3-LS	19499	123.4	3	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured
VP-1-160-5K-4F-LS	19186	121.4	4F	158W	5000K/70CRI	120-277V	Universal Arm with RPA (A3U)	Dark Bronze Textured

VIPER POLE EXPRESS COMBO – ACCESSORIES

Catalog Number	Description
VM14DB	Vibration Dampener, mounts to top of pole for reduced vibration



OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY



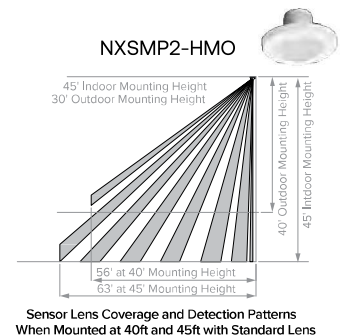
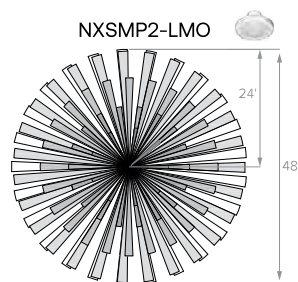
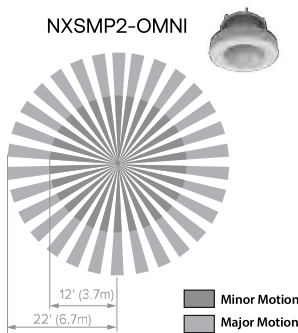
Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
		Networkable	Grouping	Scheduling	Occupancy/Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
NX Wireless	NXOFM1R1D-UV	✓	✓	✓	Paired with external control	✓	✓	✓	✓	-		NXOFM1R1D-UV
	NXW	✓	✓	✓	-	-	✓	✓	✓	-		NXRM2-H
	NXWS12F	✓	✓	✓	✓	✓	✓	✓	✓	12ft		NXSMP2-OMNI-O
	NXWS16F	✓	✓	✓	✓	✓	✓	✓	✓	16ft		NXSMP2-LMO
	NXWS40F	✓	✓	✓	✓	✓	✓	✓	✓	40ft		NXSMP2-HMO
LightGRID+	WIR	✓	-	✓	-	-	✓	✓	Gateway	-		WIR
	WIR-RME-L	✓	-	✓	-	-	✓	✓	Gateway	-		WIR-RME-L
	WIRSC	✓	✓	✓	✓	✓	✓	✓	Gateway	14ft - 40ft		BTMSP
Independent	BTSO-12F	-	-	-	✓	✓	✓	✓	✓	12ft		BTSMP-OMNI-O
	BTS-14F	-	-	-	✓	✓	✓	✓	✓	14ft		BTSMP-LMO
	BTS-40F	-	-	-	✓	✓	✓	✓	✓	40ft		BTSMP-HMO

DEFAULT SETTINGS

NX Wireless	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	15 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	0%
	Daylight Sensor	Disabled
	Bluetooth	Enabled
	2.4GHz Wireless Mesh	On
	"Passcode Factory Passcode: HubbN3T!"	Enabled

Stand Alone	Occupancy Sensor	Enabled
	Occupancy Sensor Sensitivity	7
	Occupancy Sensor Timeout	8 Minutes
	Occupied Dim Level	100%
	Unoccupied Dim Level	50%
	Daylight Sensor	Disabled

NX WIRELESS COVERAGE PATTERNS



NX LIGHTING CONTROLS FREE APP

CONTROLS TECH SUPPORT 800-888-8006 (7:00 AM - 7:00 PM)



The NX Lighting Controls App is free to use mobile application for programming both NX Lighting Controls System or Standalone Bluetooth Sensors. The mobile app allows you to configure devices, discover and setup wireless enable luminaires and program NX system settings.

Apple App: <https://apps.apple.com/us/app/nx-lighting-controls/id962112904>

Google Play: https://play.google.com/store/apps/details?id=io.cordova.NXBTR&hl=en_US&q=US



Apple App



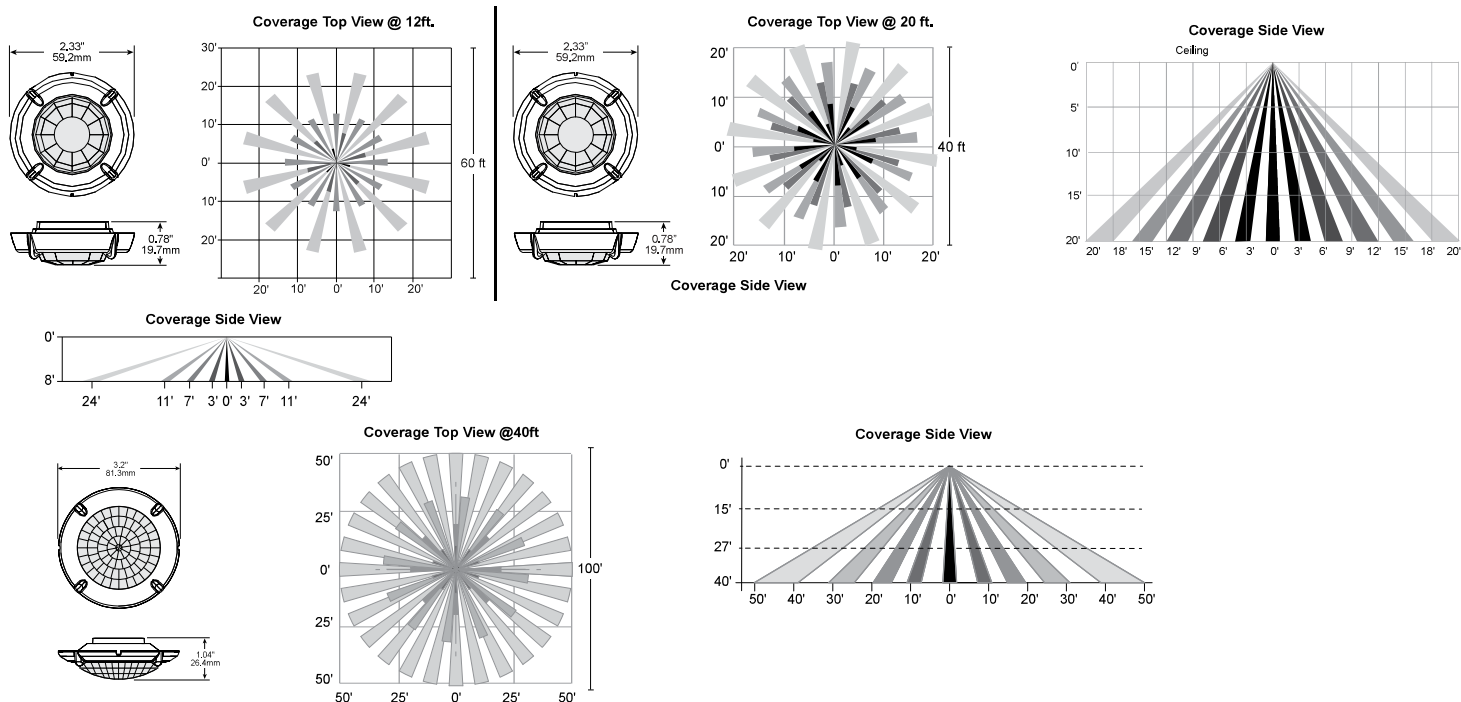
Google Play

OUTDOOR LIGHTING CONTROLS OPTIONS

CONTROLS FUNCTIONALITY

Control Option Ordering Logic & Description		Control Option Functionality									Control Option Components	
		Networkable	Grouping	Scheduling	Occupancy/ Motion	Daylight Harvesting	0-10V Dimming	On/Off Control	Bluetooth App Programming	Sensor Height		
Independent	SCP_F	Sensor Control Programmable, 8F or 40F	-	-	-	✓	✓	✓	✓	-	8ft or 40ft	SCP_F
	ADD	AutoDIM Timer Based Dimming	-	-	✓	-	-	-	✓	-	-	ADD
	ADT	AutoDIM Time of Day Dimming	-	-	✓	-	-	-	✓	-	-	ADT
	7PR	7-Pin Receptacle	-	-	Paired with external control	-	Paired with external control	-	Paired with external control	-	-	7PR
	7PR-SC	7-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-	-	 7PR-SC
	3PR	3-Pin twist lock	-	-	-	-	-	-	Paired with external control	-	-	3PR
	3PR-SC	3-Pin Receptacle with shorting cap	-	-	-	-	-	-	-	-	-	 3PR-SC
	3PR-TL	3-Pin with photocontrol	-	-	-	-	✓	-	✓	-	-	 3PR-TL

COVERAGE PATTERNS FOR SCP_F



VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

PROGRAMMED CONTROLS

ADD-AutoDim Timer Based Options

- Light delay options from 1-9 hours after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1-9 hours after the light has been dimmed previously.

EX: ADD-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	1-9 Hours	6 - Delay 6 hours
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50% brightness
Auto-Dim Return	Delay 0-9 Hours	R6 - Return to full output after 6 hours

ADT-AutoDim Time of Day Based Option

- Light delay options from 1AM-9PM after the light is turned on to dim the light by 10-100%. To return the luminaire to its original light level there are dim return options from 1AM-9PM after the light has been dimmed previously.

EX: ADT-6-5-R6

ADD Control Options	Configurations Choices	Example Choice Picked
Auto-Dim Options	12-3 AM and 6-11 PM	6 - Dim at 6PM
Auto-Dim Brightness	10-100% Brightness	5 - Dim to 50%
Auto-Dim Return	12-6 AM and 9-11P	R6 - Return to full output at 6AM

ORDERING GUIDE

Auto Dim Code	Timer Base (ADD) Auto-Dim Options		Auto Dim Cod	Time of Day (ADT) Auto-Dim Options	Code	Auto-Dim Brightness	Code	Auto-Dim Return Options	Code	Auto-Dim Brightness
D1	Delay 1 hour	OR	T0	Delay Midnight	0	100% Brightness	R1	Delay 1 hour or 1 AM	0	100% Brightness
D2	Delay 2 hours		T1	Delay 1 AM	1	10% Brightness	R2	Delay 2 hours or 2 AM	1	10% Brightness
D3	Delay 3 hours		T2	Delay 2 AM	2	20% Brightness	R3	Delay 3 hours or 3 AM	2	20% Brightness
D4	Delay 4 hours		T3	Delay 3 AM	3	30% Brightness	R4	Delay 4 hours or 4 AM	3	30% Brightness
D5	Delay 5 hours		T4	Delay 10 PM	4	40% Brightness	R5	Delay 5 hours or 5 AM	4	40% Brightness
D6	Delay 6 hours		T5	Delay 11 PM	5	50% Brightness	R6	Delay 6 hours or 6 AM	5	50% Brightness
D7	Delay 7 hours		T6	Delay 6 PM	6	60% Brightness	R7	Delay 7 hours or 7 AM	6	60% Brightness
D8	Delay 8 hours		T7	Delay 7 PM	7	70% Brightness	R8	Delay 8 hours or 8 AM	7	70% Brightness
D9	Delay 9 hours		T8	Delay 8 PM	8	80% Brightness	R9	Delay 9 hours or 9 AM	8	80% Brightness
D0	Delay 0 hours		T9	Delay 9 PM	9	90% Brightness	R0	Delay 0 hours or 12 AM	9	90% Brightness

DELIVERED LUMENS

For delivered lumens, please see Lumens Data PDF on www.Currentlighting.com

PROJECTED LUMEN MAINTENANCE

Ambient Temp.	0	25,000	*TM-21-11 36,000	50,000	100,000	Calculated L ₇₀ (Hours)
25°C / 77°F	1.00	0.97	0.96	0.95	0.91	408,000
40°C / 104°F	0.99	0.96	0.95	0.94	0.89	356,000

LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

Ambient Temperature		Lumen Multiplier	Micro Strike Lumen Multiplier				Strike Lumen Multiplier			
0°C	32°F	1.03	CCT	70 CRI	80 CRI	90 CRI	CCT	70 CRI	80 CRI	90 CRI
10°C	50°F	1.01	2700K	—	0.841	—	2700K	0.9	0.81	0.62
20°C	68°F	1.00	3000K	0.977	0.861	0.647	3000K	0.933	0.853	0.659
25°C	77°F	1.00	3500K	—	0.900	—	3500K	0.959	0.894	0.711
30°C	86°F	0.99	4000K	1	0.926	0.699	4000K	1	0.9	0.732
40°C	104°F	0.98	5000K	1	0.937	0.791	5000K	1	0.9	0.732
			AP-Amber Phosphor Converted Multiplier				Monochromatic Amber Multiplier			
			Amber	0.710			Amber	See Amber Spec Sheet		

VIPER Area/Site

VIPER LUMINAIRE

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ELECTRICAL DATA: MICRO STRIKE

# OF LEDS	160						
NOMINAL WATTAGE	35	50	75	100	115	135	160
SYSTEM POWER (W)	34.9	50.5	72.1	97.2	111.9	132.2	157.8
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	0.29	0.42	0.63	0.83	0.96	1.13	1.33
208	0.17	0.24	0.36	0.48	0.55	0.65	0.77
240	0.15	0.21	0.31	0.42	0.48	0.56	0.67
277	0.13	0.18	0.27	0.36	0.42	0.49	0.58
347	0.10	0.14	0.22	0.29	0.33	0.39	0.46
480	0.07	0.10	0.16	0.21	0.24	0.28	0.33

# OF LEDS	320						
NOMINAL WATTAGE	145	170	185	210	235	255	315
SYSTEM POWER (W)	150	166.8	185.7	216.2	240.9	261.5	312
INPUT VOLTAGE (V)	CURRENT (Amps)						
120	1.21	1.42	1.54	1.75	1.96	2.13	2.63
208	0.70	0.82	0.89	1.01	1.13	1.23	1.51
240	0.60	0.71	0.77	0.88	0.98	1.06	1.31
277	0.52	0.61	0.67	0.76	0.85	0.92	1.14
347	0.42	0.49	0.53	0.61	0.68	0.73	0.91
480	0.30	0.35	0.39	0.44	0.49	0.53	0.66

# OF LEDS	480					
NOMINAL WATTAGE	285	320	340	390	425	470
SYSTEM POWER (W)	286.2	316.7	338.4	392.2	423.2	468
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.38	2.67	2.83	3.25	3.54	3.92
208	1.37	1.54	1.63	1.88	2.04	2.26
240	1.19	1.33	1.42	1.63	1.77	1.96
277	1.03	1.16	1.23	1.41	1.53	1.70
347	0.82	0.92	0.98	1.12	1.22	1.35
480	0.59	0.67	0.71	0.81	0.89	0.98

# OF LEDS	720				
NOMINAL WATTAGE	435	475	515	565	600
SYSTEM POWER (W)	429.3	475	519.1	565.2	599.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	3.63	3.96	4.29	4.71	5.00
208	2.09	2.28	2.48	2.72	2.88
240	1.81	1.98	2.15	2.35	2.50
277	1.57	1.71	1.86	2.04	2.17
347	1.25	1.37	1.48	1.63	1.73
480	0.91	0.99	1.07	1.18	1.25

VIPER Area/Site

VIPER LUMINAIRE

ELECTRICAL DATA: STRIKE

# OF LEDS	36				
NOMINAL WATTAGE	39	55	85	105	120
SYSTEM POWER (W)	39.6	56.8	83.6	108.2	120.9
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	0.33	0.46	0.71	0.88	0.96
208	0.19	0.26	0.41	0.50	0.55
240	0.16	0.23	0.35	0.44	0.48
277	0.14	0.20	0.31	0.38	0.42
347	0.11	0.16	0.24	0.30	0.33
480	0.08	0.11	0.18	0.22	0.24

# OF LEDS	72				
NOMINAL WATTAGE	115	145	180	210	240
SYSTEM POWER (W)	113.7	143.2	179.4	210.2	241.7
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	1.00	1.21	1.50	1.75	1.79
208	0.58	0.70	0.87	1.01	1.03
240	0.50	0.60	0.75	0.88	0.90
277	0.43	0.52	0.65	0.76	0.78
347	0.35	0.42	0.52	0.61	0.62
480	0.25	0.30	0.38	0.44	0.45

# OF LEDS	108				
NOMINAL WATTAGE	215	250	280	325	365
SYSTEM POWER (W)	214.8	250.8	278.3	324.7	362.6
INPUT VOLTAGE (V)	CURRENT (Amps)				
120	2.00	2.08	2.33	3.04	2.67
208	1.15	1.20	1.35	1.75	1.54
240	1.00	1.04	1.17	1.52	1.33
277	0.87	0.90	1.01	1.32	1.16
347	0.69	0.72	0.81	1.05	0.92
480	0.50	0.52	0.58	0.76	0.67

# OF LEDS	162					
NOMINAL WATTAGE	320	365	405	445	485	545
SYSTEM POWER (W)	322.1	362.6	403.6	445.1	487.1	543.9
INPUT VOLTAGE (V)	CURRENT (Amps)					
120	2.71	2.67	3.38	3.71	4.04	4.54
208	1.56	1.54	1.95	2.14	2.33	2.62
240	1.35	1.33	1.69	1.85	2.02	2.27
277	1.17	1.16	1.46	1.61	1.75	1.97
347	0.94	0.92	1.17	1.28	1.40	1.57
480	0.68	0.67	0.84	0.93	1.01	1.14

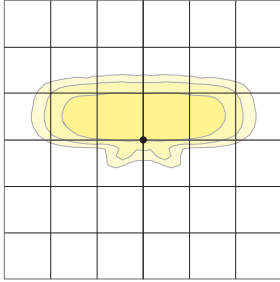
VIPER Area/Site

VIPER LUMINAIRE

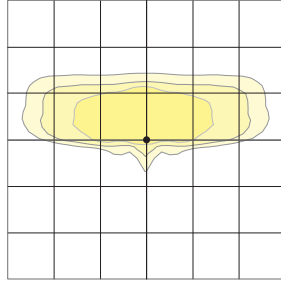
MICRO STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

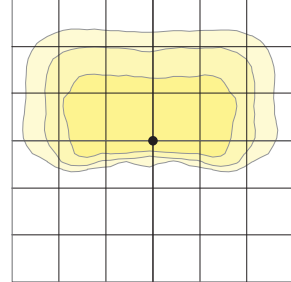
Type 2



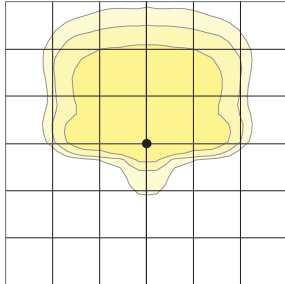
Type 3



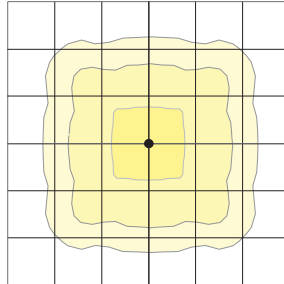
Type 4 Wide



Type 4F



Type 5QW



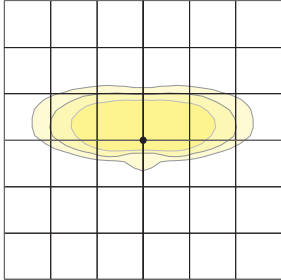
VIPER Area/Site

VIPER LUMINAIRE

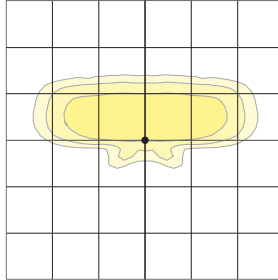
OPTIC STRIKE PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

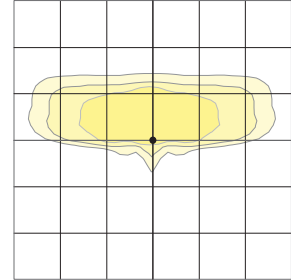
Type FR – Front Row/Auto Optic



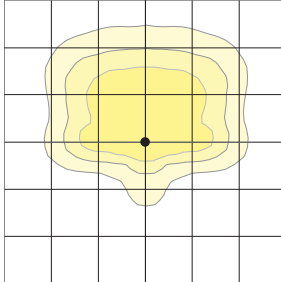
Type 2



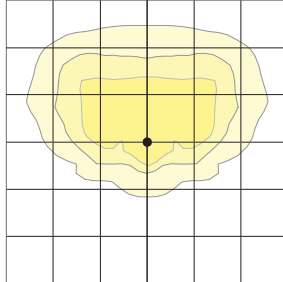
Type 3



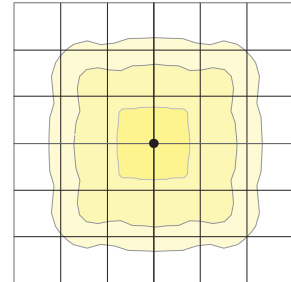
Type 4 Forward



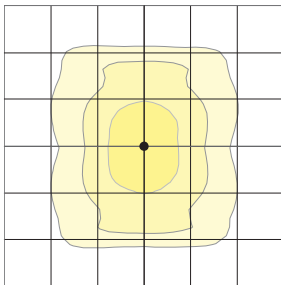
Type 4 Wide



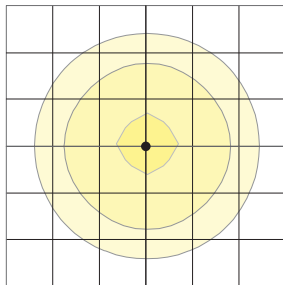
Type 5QM



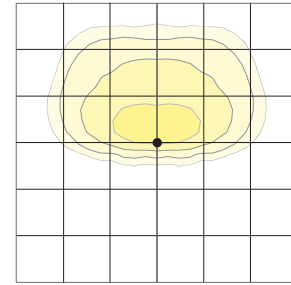
Type 5RW (rectangular)



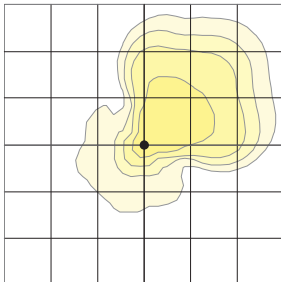
Type 5W (round wide)



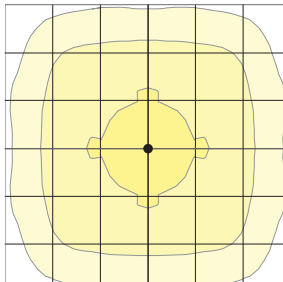
Type TC



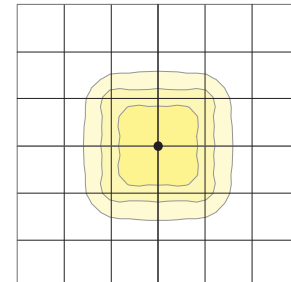
Type Corner



Type 5QW



Type 5QN



VIPER Area/Site

VIPER LUMINAIRE

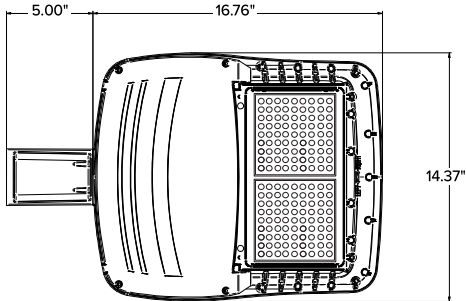
DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

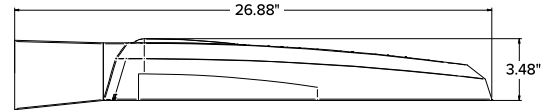
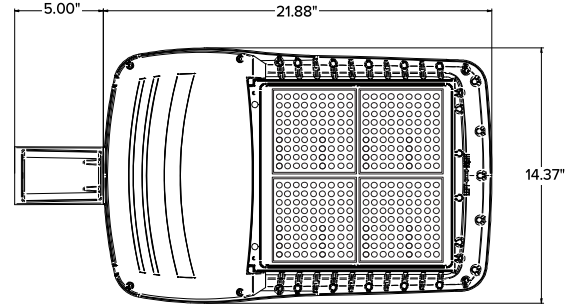
CATALOG #: _____

DIMENSIONS

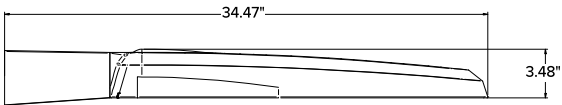
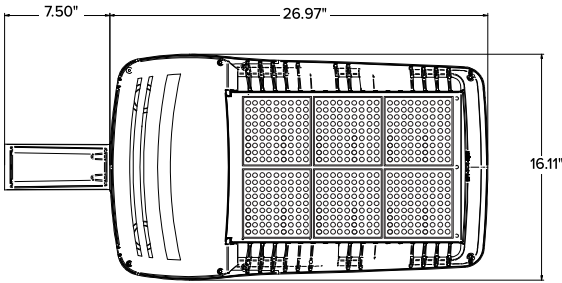
SIZE 1



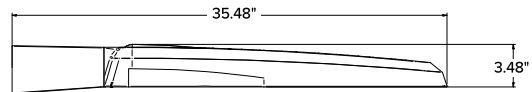
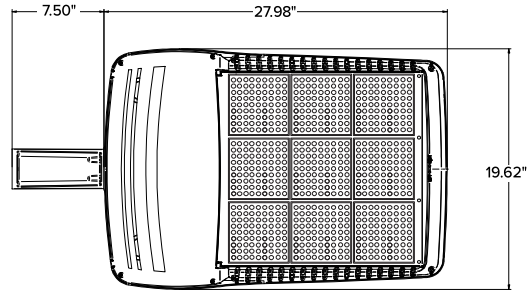
SIZE 2



SIZE 3



SIZE 4



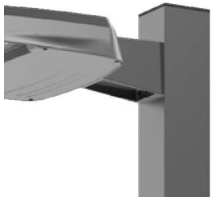
	EPA				Config.
	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	
Single Fixture	0.454	0.555	0.655	0.698	
Two at 180	0.908	1.110	1.310	1.396	
Two at 90	0.583	0.711	0.857	0.948	
Three at 90	1.037	1.266	1.512	1.646	
Three at 120	0.943	1.155	1.392	1.680	
Four at 90	1.166	1.422	1.714	1.896	

	Weight	
	lbs	kgs
VP1 (Size 1)	13.7	6.2
VP2 (Size 2)	16.0	7.26
VP3 (Size 3)	25.9	11.7
VP4 (Size 4)	30.8	13.9

VIPER Area/Site

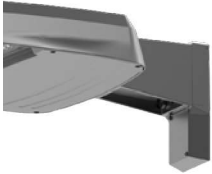
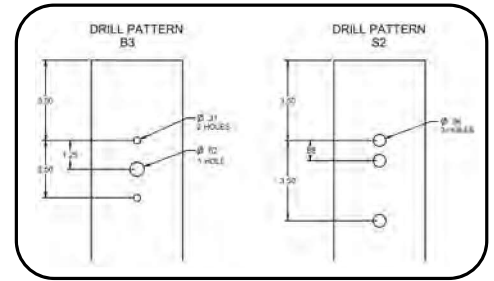
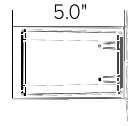
VIPER LUMINAIRE

MOUNTING



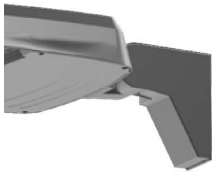
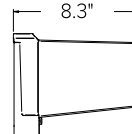
A-STRAIGHT ARM MOUNT

Fixture ships with integral arm for ease of installation. Compatible with Current Outdoor B3 drill pattern for ease of installation on square poles. For round poles add applicable suffix (2/3/4/5)



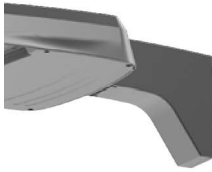
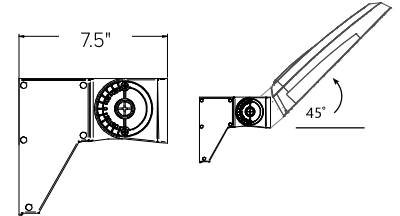
ASQU-UNIVERSAL ARM MOUNT

Universal mounting block for ease of installation. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5)



AAU-ADJUSTABLE ARM FOR POLE MOUNTING

Rotatable arm mounts directly to pole. Compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2 and B3. For round poles add applicable suffix (2/3/4/5). Rotatable in 5° aiming angle increments. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



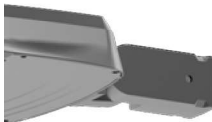
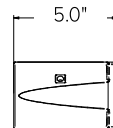
ADU-DECORATIVE UPSWEPT ARM

Upswept Arm compatible with drill patterns from 1.5" to 5.25" and Current drill pattern S2. For round poles add applicable suffix (2/3/4/5).



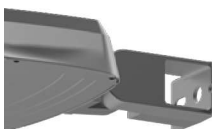
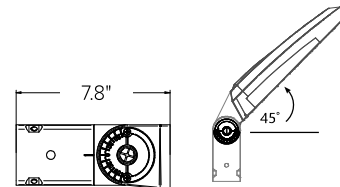
MAF-MAST ARM FITTER

Fits 2-3/8" OD horizontal tenons.



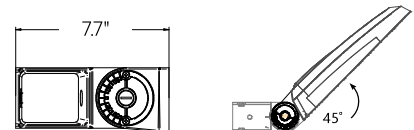
K-KNUCKLE

Rotatable in 5-degree aiming angle increments, fits 2-3/8" tenons or pipes. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



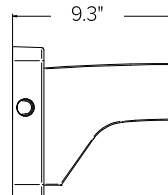
T-TRUNNION

Trunnion for surface and crossarm mounting using (1) 3/4" or (2) 1/2" size through bolts. Micro Strike configurations have a 45° aiming limitation. Strike configurations have a 30° aiming limitation.



WM-WALL MOUNT

Compatible with universal arm mount, adjustable arm mount, and decorative arm mount. The WA option uses the same wall bracket but replaces the decorative arm with an adjustable arm.



VIPER Area/Site

VIPER LUMINAIRE

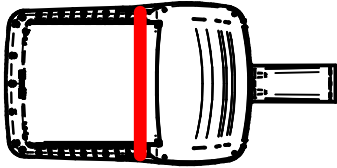
ADDITIONAL INFORMATION (CONTINUED)

HOUSE SIDE SHIELD FIELD INSTALL ACCESSORIES

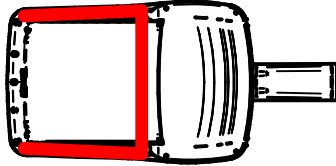
HSS has a depth of 5" for all Viper sizes

Not to be used with Occupancy Sensors as the shield may block the light to the sensor.

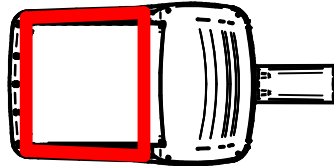
VPR2x HSS-90-B-xx



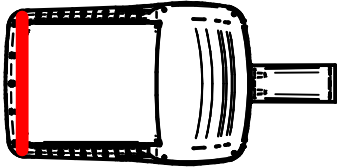
VPR2x HSS-270-BSS-xx



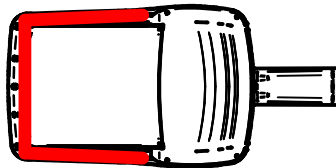
VPR2x HSS-360-xx



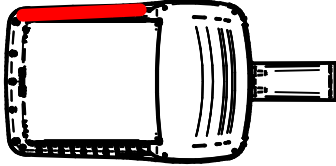
VPR2x HSS-90-F-xx



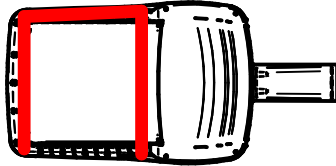
VPR2x HSS-270-FSS-xx



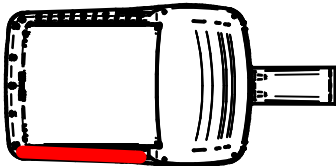
VPR2x HSS-90-S-xx



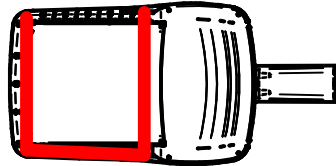
VPR2x HSS-270-FSB-xx



VPR2x HSS-90-S-xx



VPR2x HSS-270-FSB-xx



Required Signatures:

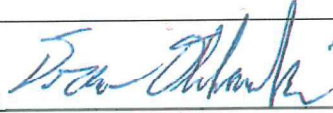
By signing this application, as the foresaid applicant or authorized agent:

- 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 02/26/2025

Signature of Property Owner:



Date 2/24/25

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_INDIVIDUAL 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 INDIVIDUAL 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 REQUIREMENT		APPLICANT RESPONSE		
ITEM NUMBER	DESCRIPTION	INFORMATION PROVIDED (YES/NO)	LIST DRAWING SHEET NUMBER WHERE INFORMATION IS PROVIDED	REASON NOT PROVIDED/COMMENT
1	GENERAL PLAN REQUIREMENTS			
A	Drawing specific legends (linetypes, hatches, etc.)	YES	C001	
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		
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	C000	
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	C000	
C	Site Location Map	YES	C000	
D	Sheet Set List of Drawings	YES	C000	
E	Tax Map and Lot ID	YES	C101	
F	Zoning & Shoreland Zone Information	YES	C101	
G	Existing Use Description	YES	SEE APPLICATION	
H	Proposed Use Description	YES	SEE APPLICATION	
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variiances requesting	YES	SEE APPLICATION	
J	Name of Drainage Watershed	YES	SEE APPLICATION	
K	Within the MS4 Urbanized Area (Yes/No)	YES	SEE APPLICATION	
L	Natural resources (streams, wetlands, etc.) located on-site or adjacent to the property (Yes/No)	YES	SEE APPLICATION	
M	Within the 100-year Flood Zone (Yes/No)	YES	SEE APPLICATION	
N	Public Road Proposed (Yes/No)	YES	SEE APPLICATION	
O	Private Road Proposed (Yes/No)	YES	SEE APPLICATION	
P	Public Sewer Connection (Yes/No)	YES	SEE APPLICATION	
Q	Public Storm Drain Connection (Yes/No)	YES	SEE APPLICATION	
R	Limits of Disturbance in square feet and acres	YES	SEE APPLICATION	
S	Pervious Land Cover square footage, existing and proposed	YES	SEE APPLICATION	
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	SEE APPLICATION	
U	Building Roof square footage, existing and proposed	YES	SEE APPLICATION	
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	1/V102	
B	Property & Right-of-Way Lines	YES	1/V102	
C	Boundary line information (bearings, distances, etc.)	YES	1/V102	

D	Property pin and monumentation locations	YES	1/V102	
E	Existing easements with proper ownership identified	YES	1/V102	
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	1/V102	
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	1/V102	
H	100-year Flood Zone Limits & Elevation	NO		NOT APPLICABLE
I	Existing contours with adequate contour labelling; minimum 1' contour interval	YES	1/V102	
J	Existing building FFEs annotated	NO		NOT APPLICABLE - NO SIGNIFICANT CHANGES TO EXISTING BUILDING
K	Spot elevations for all tie-in locations (curb cuts, property line)	YES	C103	
L	Existing buildings & structures	YES	V102	
M	Existing pavement areas & number of parking spaces	YES	V102	
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	NO		NOT APPLICABLE - NO ADA FEATURE CURRENTLY ON SITE
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	YES	1/V102	
P	Existing signage and striping	YES	1/V102	
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	1/V102	
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	1/V102	
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	1/V102	
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	YES	1/V102	
U	Location of any borings, drinking wells, and monitoring wells	YES	1/V102	
4	SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN			
A	Limits-of-disturbance outlined and acreage annotated	YES	C100	
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C100	
C	100-year Flood Zone Limits	YES	C100	
D	Callout existing site features to be demolished/removed/replaced	YES	C100	
E	Callout existing utilities to be demolished/removed/abandoned-in-place	YES	C100	
F	Hatch existing buildings and pavement to be removed	YES	C100	
G	Construction Entrance location(s)	YES	C100	
H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	C100	
I	Stockpile and staging area(s) identified (with proper perimeter control)	YES	C100	
J	Inlet protection location(s)	YES	C100	
K	Note requiring contractor to implement dust control measures throughout construction	YES	C100	
L	Note requiring contractor to pave utility trenches within right-of-way within 3 days of excavation or prior to any rain event	YES	C100	
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	C101	
C	Proposed subdivision lot lines and labels	YES	C101	
D	Required Zoning Setbacks shown with dimensions and annotation	YES	C101	
E	Bulk requirement summary table (zoning/parking calculations)	YES	C101	
F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C101	
G	100-year Flood Zone Limits	YES	C101	
H	Proposed building outlines, door entrances and loading docks	YES	C101	TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE
I	Proposed building labels	YES	C101	TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE
J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	YES	C101	
K	Proposed parking and accessible parking locations; annotate parking space counts	NO		NO PARKING PROPOSED - TO BE PROVIDED BY PRIVATE DRIVEWAYS AND/OR GARAGES
L	Proposed signage, parking striping, and traffic striping	YES	C101	

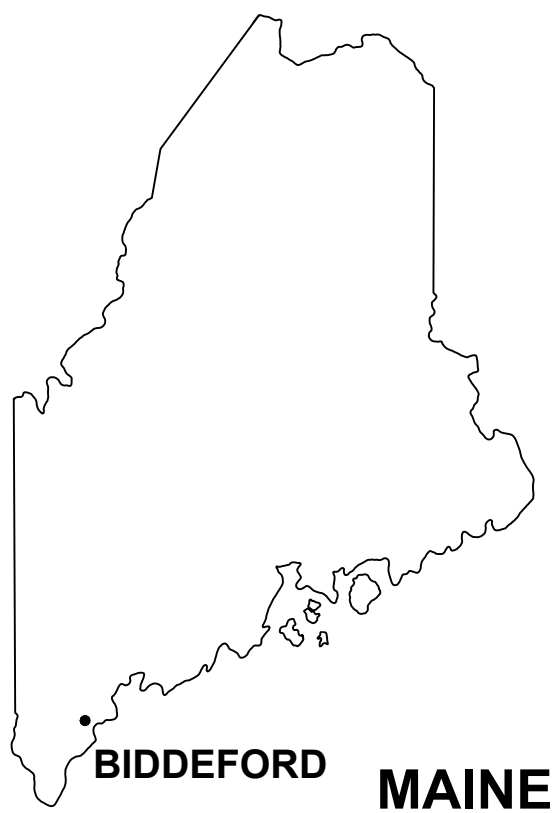
M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	NO		NO ADA FEATURES EXISTING OR PROPOSED
N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	C101	
O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	C101	
P	Designated snow storage areas	YES	C101	
Q	Proposed dumpster locations and trash removal access	YES	C101	TRASH REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS.
R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	C102	
S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	C102	
T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	YES	C102	
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	YES	C101	
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	YES	C101	
W	Planning Board signature block for final recording	YES	C101	
6	GRADING PLAN			
A	Partial Grading Plans needed for any viewport greater than 1"=20'			
B	Limits-of-disturbance outlined and acreage annotated	YES	C103	
C	Proposed Building Labels with Individual Finished Floor Elevations (FFE's)	NO		TOTAL ALLOWABLE BUILDING ENVELOPE SHOWN - BUILDING DESIGN TO COME AT A LATER DATE
D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	C103	
E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	C103	
F	Detailed grading for all ditches, swales, outfalls, and riprap	YES	C103	
G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	C103	
H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	C103	
I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	C103	
J	100-year Flood Zone Limits	YES	C103	
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	YES	C103	
B	Proposed surface; continuous and bold	YES	C103	
C	Road design speed must be clearly identified	YES	C103	
D	Corresponding centerline stationing and curve data annotation	YES	C103	
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	YES	C103	
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	C103	
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	C103	
8	UTILITY PLAN			
A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	C102	
B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	C102	
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	C102	

D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	C102	
E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	C102	
F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	C102	
G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	C102	
H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	C102	
I	Flow directional arrows for storm & sewer pipes	YES	C102	
J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	C102	
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	YES	C501	
B	Sidewalk, paver, crosswalk, and any other pavement section details	YES	C501	
C	Pavement sawcut & shi lap details	YES	C501	
D	Utility trench/backfill detail	YES	C501/C502	
E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	C501/C502	
F	Signage, striping, and ADA details	YES	C501	
G	E&S notes and details	YES	C001	PROVIDED ON NOTES SHEET
H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	C501/C502	
I	Storm outfall & riprap details	YES	C100	PROVIDED ON EROSION CONTROL PLAN
J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	YES	C501	
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	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)	NO		REQUEST SENT, APPROVAL NOT YET RECEIVED.
D	A Performance Guarantee Cost Estimate utilizing Planning’s template	NO		TO BE PROVIDED FOR FINAL APPROVAL
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		SLODA NOT APPLICABLE
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			

BELLE WOODS PRELIMINARY SUBDIVISION REVIEW

512 POOL STREET, BIDDEFORD, MAINE



PROJECT INFORMATION

CIVIL ENGINEER HALEY WARD, INC. ATTN: DREW OLEHOWSKI, PE 120 MAIN STREET, SUITE 132 SACO, MAINE 04072 T: 207.283.9151	OWNER/APPLICANT COASTAL OAKS, LLC ATTN: ETHAN SCOTT 198 SACO AVENUE OLD ORCHARD BEACH, MAINE T: 207.710.7570	
SURVEYOR COLLIERS ENGINEERING & DESIGN ATTN: JOSHUA EON, PLS 234 MAIN STREET, 1st & 2nd FLOOR BIDDEFORD, MAINE 04005 T: 207.481.7080	ENVIRONMENTAL CONSULTANT MAINELY SOILS LLC. ATTN: ALEX FINAMORE, ME-LSE 440 SWAMP ROAD DURHAM, MAINE 04222 T: 207.650.4313	
UTILITY PROVIDERS		
WATER MAINE WATER COMPANY 93 INDUSTRIAL PARK ROAD SACO, MAINE 04072 T: 800.287.1643	SEWER CITY OF BIDDEFORD WASTEWATER DIVISION 63 WATER STREET BIDDEFORD, MAINE 04005 T: 207.282.1350	ELECTRIC CENTRAL MAINE POWER 83 EDISON DRIVE AUGUSTA, MAINE 04330 T: 800.750.4000

- PERMITS AND APPROVALS:**
- CITY OF BIDDEFORD SITE PLAN REVIEW - UNDER REVIEW
 - CITY OF BIDDEFORD SUBDIVISION APPLICATION - UNDER REVIEW



LOCATION MAP

INDEX OF DRAWINGS

C000	COVER SHEET
C001	GENERAL NOTES, ABBREVIATIONS, & LEGEND
1	TOPOGRAPHIC & BOUNDARY SURVEY
V102	EXISTING CONDITIONS & HIGH INTENSITY SOIL SURVEY
C100	SITE DEMOLITION AND EROSION CONTROL PLAN
C101	PRELIMINARY SUBDIVISION PLAN
C102	SITE LAYOUT & UTILITY PLAN
C103	OVERALL GRADING & UTILITY PLAN
C501	SITE DETAILS
C701	PRE-DEVELOPMENT HYDROLOGY PLAN
C702	POST-DEVELOPMENT HYDROLOGY PLAN

NOT FOR CONSTRUCTION
FEBRUARY 25, 2025



HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING
www.haleyward.com

FILE LOCATION: P:\MET\1887-1882\WEINS\TENS\19-112 POOL ST. 04066.CAD, J:\ESCHVAL\1887-1882\CR\DWG, 2025.02.21, 10:28 AM

EROSION CONTROL NOTES

- ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BMPS, PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
- SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
- DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
- SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
- ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
- A SUITABLE BINDER SUCH AS CURASOL OR TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
- IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDINGS WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
- IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
- ALL CATCH BASINS ARE TO BE PROTECTED BY STRAW BALE OR SILTFENCE IN ACCORDANCE WITH SECTION B-3. STORM DRAIN INLET PROTECTION OF THE MAINE BMP HANDBOOK. SURROUNDING AREAS CAN BE EXCAVATED OR LEFT LOW AS A SEDIMENT TRAP. CURB INLETS SHALL BE PROTECTED BY GUTTERGATORS, OR APPROVED EQUIVALENT.
- INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 9 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
- THE CONTRACTOR SHALL PROVIDE A SEDIMENT BASIN FOR ALL WATER PUMPED FROM EXCAVATIONS. BASIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES". THE CONTRACTOR SHALL SUBMIT FOR REVIEW/APPROVAL PRIOR TO BEGINNING ANY PROJECT WORK.
- CONSTRUCTION OVERSIGHT:
THE CONTRACTOR WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF 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 DAYS TO STATE THAT THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.
- LOT GRADING AND DRIVEWAY LOCATION
INSPECTIONS BY A PROFESSIONAL ENGINEER WILL CONSIST OF A VISIT TO THE SITE PRIOR TO CONSTRUCTION TO CONSULT WITH THE EARTHWORK CONTRACTOR AND A POST CONSTRUCTION MEETING TO CONFIRM GRADING ON LOTS AND FOR ALL DRIVEWAYS TO ENSURE RUNOFF IS DIRECTED ACCORDING TO PLANS AND TO OVERSEE THE RE-STABILIZATION OF THE LOT INTO A VEGETATED COVER.
- DEWATERING
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRADE IN EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE. PLEASE FOLLOW THE DETAILS OF SUCH A PLAN.
- BASIC STANDARDS - EROSION CONTROL MEASURES:
MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

CONTRACTOR WILL BE RESPONSIBLE FOR FOLLOWING PROCEDURES FOUND IN THE "MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS" (PUBLISHED MARCH 2015). THE PUBLICATION CAN BE FOUND AT: [HTTP://WWW.MAINE.GOV/DEP/LAND/EROSION/BMPS/INDEX.HTML](http://www.maine.gov/dep/land/erosion/bmps/index.html)

GENERAL CONSTRUCTION NOTES

- CONTRACTOR TO PROVIDE OWNER AND ENGINEER WITH A WORK PLAN OUTLINING THE WORK SCHEDULE, TRAFFIC CONTROL PLAN, AND WORK AREA BARRICADING PLAN TO BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD, UTILITY COMPANIES, DIG SAFE, AND EMERGENCY SERVICES, WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IN WRITING OF ANY CONDITION OR OCCURRENCE THAT REPRESENTS A CHANGE IN PROJECT SCOPE. VERBAL NOTIFICATION IS REQUIRED PRIOR TO PROCEEDING WITH THE WORK OF THE PROJECT AND WRITTEN NOTIFICATION MUST BE PROVIDED. REQUESTS FOR FEE ADJUSTMENTS WILL NOT BE CONSIDERED UNLESS PROPER NOTICE IS GIVEN.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS AS REQUIRED TO PERFORM THE WORK AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS. PERMIT APPLICATIONS SHALL BE SUBMITTED WITH ADEQUATE TIME SO AS NOT TO DELAY CONSTRUCTION.
- THE CONTRACTOR SHALL SUPERVISE AND INSPECT THE WORK OF THIS PROJECT IN AN EFFICIENT AND COMPETENT MANNER. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE WORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. A REPRESENTATIVE OF THE GENERAL CONTRACTOR SHALL BE PRESENT DURING ALL PHASES OF THE WORK.
- SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY STANDARDS OF APPLICABLE LAWS, BUILDING AND CONSTRUCTION CODES, THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" PUBLISHED BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND THE REQUIREMENTS OF TITLE 9 OF THE CODE OF FEDERAL REGULATIONS, PART 1926, "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION".
- THE LOCATIONS OF ALL PROPERTY LINES AND RIGHT OF WAYS ARE APPROXIMATE (SHOWN FOR REFERENCE ONLY). UNLESS NOTED OTHERWISE. PROPERTY LINES AND RIGHT OF WAYS SHOWN ARE NOT INTENDED TO REPRESENT LEGAL BOUNDARIES.
- THE LOCATION, TYPE AND SIZE OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR IS IT WARRANTED THAT ALL UNDERGROUND STRUCTURES ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. DEPTH OF SERVICES ARE UNKNOWN AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. EXCAVATING TEST PITS AS NECESSARY TO VERIFY UTILITY LOCATIONS AND DEPTHS SHALL BE INCIDENTAL TO THIS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING TOPOGRAPHY AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING PIPE SIZES, INVERTS, AND LOCATIONS, AND SHALL INCLUDE IN SUBMITTAL PRIOR TO ORDERING.
- LAYOUT OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL GRADE AND LAYOUT CONTROL. LAYOUT SHOULD BE PERFORMED WITH SURVEY EQUIPMENT AND OVERSEEN BY A LICENSED SURVEYOR. A CAD FILE WILL BE AVAILABLE TO THE CONTRACTOR.
- THE WORK SHALL INCORPORATE EROSION CONTROL MEASURES WHICH ARE COMPLIANT WITH THE LATEST VERSION OF "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES".
- CONTRACTOR SHALL BE REQUIRED TO PROVIDE DUST CONTROL FOR PROJECT WHICH CAN INCLUDE, BUT IS NOT LIMITED TO, WATER AND CALCIUM CHLORIDE. COST IS INCIDENTAL TO THE PROJECT.
- RESTRICT ACCESS TO SITE THROUGH THE USE OF APPROPRIATE SIGNAGE, GATES, BARRIERS, FENCES, ETC. SITE SHALL BE LEFT SAFE WITH APPROPRIATE SAFETY MEASURES IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
- HOURS FOR THE PROJECT WILL BE MONDAY THROUGH FRIDAY, FROM 7:00 AM TO 7:00 PM, UNLESS OTHERWISE AUTHORIZED BY THE OWNER.
- CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT WITHIN THE CONFINES OF THE RIGHT OF WAY OF THE STREETS AND UTILITY EASEMENTS. ANY ACTIVITY, MATERIAL STORAGE ETC., TAKING PLACE ON PRIVATE PROPERTY SHALL BE WITH THE EXPRESS WRITTEN PERMISSION OF THE OWNER AND PROPERTY OWNER AND COORDINATED WITH THE OWNER. WORK OUTSIDE OF THESE LIMITS MAY BE REQUIRED. THE OWNER WILL COORDINATE SECURING EASEMENTS FOR THIS WORK.
- DO NOT PARK, IMPEDE ACCESS TO, OR STORE EQUIPMENT ON ADJACENT TOWN OR PRIVATELY OWNED LOTS, UNLESS PERMISSION HAS BEEN GRANTED IN WRITING BY TOWN AND/OR LAND OWNER.

- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT EQUIPMENT FLUIDS FROM REACHING ANY WATER COURSE. ANY INADVERTENT FLUID DISCHARGES SHALL BE IMMEDIATELY CLEANED FROM THE WATERS USING WHATEVER MEANS NECESSARY, AS DETERMINED BY THE ENGINEER.
- ALL WATER MAINS AND SERVICES WILL HAVE A MINIMUM 6.0 FEET OF COVER UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
- DECHLORINATION OF DISINFECTION WATER WILL BE A REQUIREMENT DURING THE PIPE DISINFECTION PROCESS.
- THE CONTRACTOR SHALL PROVIDE THRUST BLOCKS AT ALL TEES AND BENDS IN THE NEW WATER MAIN PIPING UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL BACKFILL TRENCH FOLLOWING EACH DAYS CONSTRUCTION. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT UNLESS APPROVED BY ENGINEER AND PROPERLY BARRICADED (IE. SNOW FENCING, CHAIN LINK FENCING, JERSEY BARRIER OR APPROVED EQUAL. CAUTION RIBBON AND EQUIPMENT PLACEMENT WILL NOT BE APPROVED AS BARRICADING. CONTRACTOR IS RESPONSIBLE TO MAINTAIN TRENCH AS DIRECTED BY THE ENGINEER
- ALL FINISH SURFACES SHALL BE INSTALLED TO PROMOTE POSITIVE DRAINAGE. IN NO WAY SHALL THE NEW FINISH SURFACES CREATE DRAINAGE PROBLEMS THAT DID NOT EXIST PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL CONTACT UTILITY POLE OWNERS ADJACENT TO AREAS OF EXCAVATION TO ARRANGE POLE SUPPORT DURING EXCAVATION. BRACING OF UTILITY POLES WHERE REQUIRED SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE UNLESS OTHERWISE NOTED.
- ALL SIGNING, SIGNAL, AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MDOT STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- RESTORE ALL AREAS DISTURBED BY CONTRACTORS OPERATION TO ORIGINAL CONDITIONS (GRAVEL, PAVEMENT, GRASS, CURB, ETC.) UNLESS NOTED OTHERWISE ON THE PLANS. RESTORATION OF ROADS, CURBS, PARKING SURFACES AND LAWNS DAMAGED BY THE CONTRACTOR SHALL BE INCIDENTAL TO THE PROJECT.
- EXISTING FACILITIES, PLANTINGS AND IMPROVEMENTS (I.E. TREES, LIGHT POLES, SIGNS, CONCRETE SIDEWALK, ETC.) SHALL BE REMOVED AND REPLACED OR PROTECTED AS REQUIRED DURING CONSTRUCTION. THE ASSOCIATED COSTS ARE INCIDENTAL TO THE PROJECT.
- ALL MATERIALS SCHEDULED FOR REMOVAL SHALL BE DISPOSED OF IN A LEGAL MANNER BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY DEMOLITION MATERIALS.
- DISPOSAL OF SURPLUS SOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SURPLUS MATERIAL SHALL NOT BE DISPOSED OF ON THE PROJECT SITE. DISPOSAL SHALL BE MADE ONLY AT WASTE AREAS WHICH ARE LICENSED TO ACCEPT SUCH MATERIALS. UNLESS THE MATERIAL IS ACCEPTABLE FOR USE AS FILL IN OTHER AREAS OF THE PROJECT. THE OWNER HAS THE FIRST RIGHT AND REFUSAL FOR ANY SURPLUS SOIL MATERIALS.
- ALL PROPOSED WATER MAIN PIPING SHALL BE CLASS 52 DUCTILE IRON AND ALL PROPOSED STORM DRAIN PIPING SHALL BE HDPE SMOOTH INTERIOR/CORRUGATED EXTERIOR.
- ALL PROPOSED WATER SERVICE PIPING SHALL BE 1" TYPE K COPPER UNLESS OTHERWISE NOTED.
- INSTALL FOUR BRONZE WEDGES AT ALL DUCTILE IRON BELL & SPIGOT JOINTS IN WATER MAIN, COST INCIDENTAL TO WATER MAIN INSTALLATION.
- ALL MATERIALS, COMPONENTS, PRODUCTS, SYSTEMS AND COATINGS THAT COME INTO CONTACT WITH DRINKING WATER MUST BE CERTIFIED TO MEET NSF/ANSI STANDARD 61.
- JOINTS SHALL BE RUBBER GASKETED PUSH-ON OR MECHANICAL JOINT TYPE. GASKETS SHALL BE MADE OF SBR RUBBER. FOR WATER MAIN LOCATED WITHIN PETROLEUM HYDROCARBON AND/OR CHLORINATED SOLVENT CONTAMINATED SOILS, GASKETS SHALL BE MADE OF OIL RESISTANT BUNA-N NITRILE RUBBER. WHEN CONTAMINATED SOIL IS ENCOUNTERED UNEXPECTEDLY IN THE FIELD, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER. ALL JOINTS SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF ANSI/AWWA C111/A21.11.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY WATER SERVICE TO THE RESIDENCES, AS NEEDED, TO MAINTAIN WATER SERVICE DURING THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN TEMPORARY WATER THROUGHOUT CONSTRUCTION OF THE PROJECT. A PAY ITEM HAS BEEN PROVIDED FOR THIS WORK. THE CONTRACTOR SHALL PROVIDE A TEMPORARY WATER SERVICE PLAN TO THE OWNER AND ENGINEER FOR APPROVAL PRIOR TO INSTALLATION SYSTEM. COST TO PROVIDE PLAN SHALL BE INCIDENTAL TO ITEM. TEMPORARY WATER SERVICE PLAN SHALL INCLUDE PIPE MATERIAL, PIPE ROUTING, BURIAL DEPTHS WHERE NEEDED, DISINFECTION PROCESS AND ANY OTHER INFORMATION THAT MAY BE REQUIRED FOR APPROVAL.
- AT THE END OF EACH DAY'S WORK, THE CONTRACTOR SHALL SPRAY THE INSIDE OF THE END OF WATER PIPE WITH SODIUM HYPOCHLORITE AND BLOCK PIPE OVERNIGHT WITH SANITARY WATERTIGHT PLUG TO PREVENT ANIMALS FROM ENTERING PIPE.
- PROPOSED SERVICES SHALL BE PROVIDED FROM THE NEW MAIN TO THE RIGHT-OF-WAY, OR AS INDICATED ON THE PLANS.
- CONTRACTOR SHALL INSTALL A WATER SERVICE TO EACH LOT.
- COORDINATE DISRUPTION OF PRIVATE UTILITY SERVICES WITH LANDOWNERS AT LEAST TWO DAYS (48 HOURS) PRIOR TO DISRUPTION. ALL UTILITY COORDINATION IS RESPONSIBILITY OF CONTRACTOR.
- WATER SERVICES SHALL NOT BE DISCONTINUED AT ANY HOUSE PRIOR TO 10:00 AM WITHOUT WRITTEN NOTIFICATION TO THE PROPERTY OWNER.
- ALL EXISTING WATER MAINS, STORM DRAINS AND SEWER MAINS ABANDONED SHALL BE CAPPED AND FILLED WITH FLOWABLE FILL, COST SHALL BE INCIDENTAL TO PROJECT.
- UNLESS OTHERWISE NOTED, RIM ELEVATIONS FOR PROPOSED MANHOLE AND CATCH BASIN STRUCTURES SHALL BE FIELD ADJUSTED TO FINISHED GRADES IN ACCORDANCE WITH DETAILS.
- ALL TEST PITS NECESSARY TO LOCATE SERVICES SHALL BE INCIDENTAL TO THE PROJECT.
- CONTRACTOR SHALL MAINTAIN TRAFFIC IN A SAFE MANNER AT ALL TIMES DURING CONSTRUCTION. MDOT TRAFFIC CONTROL AND SIGNAGE REQUIREMENTS SHALL APPLY ON THE TOWN OF MILFORD STREETS. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION. THE ROADS SHALL NOT BE CLOSED TO TRAFFIC WITHOUT PERMISSION FROM THE TOWN OF MILFORD.
- DRIVEWAY APRONS SHALL BE PAVED TO MATCH PROPOSED ROADWAY. APRON DIMENSIONS SHALL BE APPROVED BEFORE PAVING. APRON AREAS SHOWN ON THE PLANS ARE APPROXIMATE.
- PROPERLY PROTECT AND DO NOT DISTURB PROPERTY IRONS AND MONUMENTS. IF DISTURBED, THE PROPERTY MONUMENT WILL BE RESET AT THE CONTRACTOR'S EXPENSE, BY A REGISTERED LAND SURVEYOR APPROVED BY THE ENGINEER.

ABBREVIATIONS

@	AT	MAX.	MAXIMUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MDOT	MAINE DEPT. OF TRANSPORTATION
APPROX.±	APPROXIMATELY	MH MIN	MANHOLE MINIMUM
BLDG	BUILDING	N	NORTHING
CL	CENTERLINE	NE	NORTHEAST
CLB	CATCH BASIN	N.T.S.	NOT TO SCALE
CLR	CLEAR	NWT	NON WOVEN GEOTEXTILE
CMP	CORRUGATED METAL PIPE	OD	OUTSIDE DIAMETER
CO	CLEANOUT	O.C.	ON CENTER
CPE	CORRUGATED POLYETHYLENE	OH	OVERHEAD
		OZ	OUNCES
		PERF	PERFORATED
DI	DUCTILE IRON		
DIA.	DIAMETER	PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
E	EASTING	PVC	POLYVINYL CHLORIDE
EL	ELEVATION	PL	PROPERTY LINE
EFM	EXISTING FORCE MAIN	POH	PROPOSED OVERHEAD ELECTRIC
EPS	EXTRUDED POLYSTYRENE	FUGE	PROPOSED UNDERGROUND ELECTRIC
FM	FORCEMAIN	R	RADIUS
GAL	GALLON	S	SLOPE
GALV	GALVANIZED	SCL	STORMWATER COLLECTION LINE
		SCS	STORMWATER COLLECTION SYSTEM
GPH	GALLONS PER HOUR	SDR	STANDARD DIMENSION RATIO
GP	GALLONS PER MINUTE	SE	SOUTHEAST
		SHT	SHEET
HDPE	HIGH DENSITY POLYETHYLENE	SO	SQUARE
HP	HORSEPOWER	SS	STAINLESS STEEL
		SY	SQUARE YARD
ID	INSIDE DIAMETER		
IN.	INCHES	TBM	TEMPORARY BENCH MARK
INT.	INTERSECTION	TOC	TOP OF CONCRETE
INV.	INVERT	TYP	TYPICAL

LEGEND:

ITEMS SHOWN MAY NOT APPEAR ON PLANS

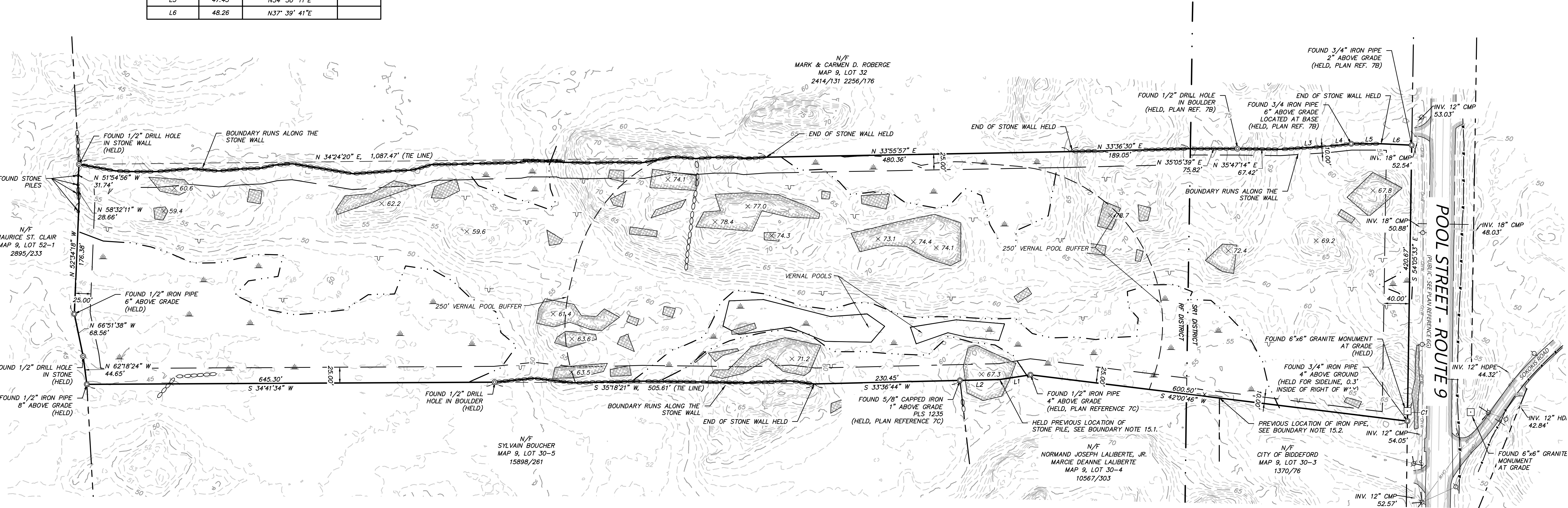
DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		
BENCHMARK		
SURVEY STATION		
IRON PIN		
DRILL HOLE		
BOUND		
TEST PIT		
SEWER MANHOLE		
GAS VALVE		
UTILITY POLE		
GUY ANCHOR		
ELECTRICAL MANHOLE		
TRANSFORMER		
PULLBOX		
WELL		
WATER VALVE		
WATER SHUTOFF		
HYDRANT		
AIR RELIEF VALVE		
DRAINAGE MANHOLE		
CATCH BASIN		
CURB INLET		
PARKING LIGHT		
FLOOD LIGHT		
SITE LIGHT		
SIGN		
TRASH CAN		
FLAGPOLE		
MONITORING WELL		
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
CURBING		
MAJOR FOOT CONTOUR	----- 100 -----	100
MINOR FOOT CONTOUR	----- 98 -----	98
WATERLINE	— W —	W
STORM DRAIN	— SD —	SD
UNDER DRAIN		UD
SANITARY SEWER	— SS —	SS
FORCE MAIN		FM
OVERHEAD UTILITIES	— OHU —	OHU
UNDERGROUND UTILITIES	— UGU —	UGU
GAS LINE	— GAS —	GAS
CHAIN LINK FENCE	— X —	X
GUARDRAIL		
SILT FENCE		SF
TREE LINE		

GRAVEL SURFACE	
PAVED SURFACE	
CONCRETE SURFACE	
BUILDING FOOTPRINT	
WETLANDS	
RIPRAP	
LEDGE OUTCROPPING	
BUILDING ENVELOPE	

REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
GENERAL NOTES, ABBREVIATIONS & LEGEND				
DATE 2025.02.25		SCALE NTS		
DRAWN BY PJM	DESIGNED BY ---	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
DRAWING No.		C001		



PARCEL LINE AND CURVE SEGMENTS			
SEGMENT	LENGTH	BEARING / DELTA	RADIUS
C1	15.82	0°02'22"	22918.33
L1	49.51	S26° 17' 50"W	
L2	62.70	S33° 46' 05"W	
L3	75.82	N31° 25' 40"E	
L4	37.16	N28° 47' 23"E	
L5	47.43	N34° 50' 11"E	
L6	48.26	N37° 39' 41"E	



LEGEND	
	PROPERTY LINE
	EDGE OF PAVEMENT
	WETLAND LINE
	TREELINE
	OVERHEAD WIRE
	UNDER GROUND WATER MAIN
	STORM PIPE
	LEDGE
	MAJOR CONTOUR
	MINOR CONTOUR
	SPOT ELEVATION
	ABUTTER LINE
	MUNICIPAL ZONE BOUNDARY
	WATER SERVICE BOX
	HYDRANT
	REBAR
	MONUMENT FND
	SIGN
	MAILBOX
	UTILITY POLE
	GUY WIRE
	STONE PILE
	LEDGE
	GPS POINT

GENERAL NOTES:

1. THE RECORD OWNERS OF THE LOCUS PARCEL IS AS FOLLOWS:

PAUL J. BARTON & TERESA M. BARTON BY DEED DATED DECEMBER 31, 2009 AND RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS (YCRD) IN BOOK 15821, PAGE 456.

2. THE PROPERTY IS SHOWN AS LOT 31 ON THE CITY OF BIDDEFORD, MAINE TAX MAP 9, AND IS LOCATED IN BOTH THE RURAL FARM (RF) DISTRICT & SUBURBAN RESIDENTIAL (SR1) DISTRICT.

3. SPACE AND BULK CRITERIA FOR THE SR1 & RF DISTRICTS ARE AS FOLLOWS:

	RF DISTRICT 20,000 S.F.*	SR1 DISTRICT 20,000 S.F.*
MINIMUM LOT SIZE:	120 FEET*	100 FEET*
MINIMUM STREET FRONTAGE:	25 FEET*	40 FEET*
MINIMUM FRONT YARD:	25 FEET	10 FEET
MINIMUM SIDE YARD:	25 FEET	10 FEET
MINIMUM REAR YARD:	25 FEET	10 FEET
MAXIMUM BUILDING HEIGHT:	35 FEET	35 FEET

* SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.

4. TOTAL AREA OF PARCEL IS APPROXIMATELY 17.45 ACRES.

5. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY COLLIERS ENGINEERING & DESIGN INC. IN APRIL OF 2023.

6. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON FIELD WORK PERFORMED BY COLLIERS ENGINEERING & DESIGN INC. IN APRIL OF 2023. TRADITIONAL SURVEY MEANS AND METHODS SUPPLEMENTED WITH SUAS BASED LIDAR WERE EMPLOYED IN THE COLLECTION OF THIS TOPOGRAPHIC INFORMATION. ALL DATA REMOTELY COLLECTED HAS BEEN TESTED TO MEET AND/OR EXCEED THE NATIONAL MAPPING STANDARDS FOR 1 FOOT CONTOUR INTERVALS SET FORTH BY THE AMERICAN SOCIETY FOR PHOTOGRAMMETRY & REMOTE SENSING (ASPRS).

7. PLAN REFERENCES:

- "MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP - STATE AID HIGHWAY NO. 2 - FEDERAL AID SECONDARY PROJECT 5 0112 (4) - S.H.C. FILE NO. 16-116 - SHEET 5 OF 5, DATED JANUARY, 1957 AND RECORDED IN PLAN BOOK 31, PAGE 7.
- "PLAN OF LAND OF CARMEN & MARK ROBERGE ON THE NEW POOL ROAD - BIDDEFORD, ME" PREPARED BY ASSOCIATED PLANNING, DATED SEPTEMBER 15, 1979 AND RECORDED IN PLAN BOOK 101, PAGE 39.
- "PLAN SHOWING A STANDARD BOUNDARY SURVEY OF PROPERTY OF JAMES F. CHRETIEN" PREPARED BY WILLIAM PIERCE, P.L.S. #1235, DATED DECEMBER 13, 2000 AND RECORDED IN PLAN BOOK 261, PAGE 33.

8. BOOK AND PAGE REFERENCES SHOWN HEREON ARE IN REFERENCE TO THE YORK COUNTY REGISTRY OF DEEDS (Y.C.R.D.).

9. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NADE83. ELEVATIONS DEPICTED HEREON ARE NAVD83, BASED ON DUAL FREQUENCY GPS OBSERVATIONS.

10. UTILITY INFORMATION DEPICTED HEREON, UNLESS OTHERWISE NOTED, IS OF QUALITY LEVEL D PER AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD C/ASCE 38-02. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION AND/OR EXCAVATION.

11. LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR BIDDEFORD, MAINE, YORK COUNTY, COMMUNITY-PANEL NUMBER 2301450005B HAVING AN EFFECTIVE DATE OF MAY 15, 1994. THE ENTIRETY OF THE PARCEL FALLS WITHIN AN AREA IDENTIFIED AS ZONE C, AREAS OF MINIMAL FLOODING.

12. A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE IN JANUARY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINELY SOILS LLC. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS. ALL WETLAND FLAGS WERE LOCATED USING GLOBAL POSITIONING SYSTEMS (GPS) TECHNOLOGY CAPABLE OF SUB-METER ACCURACY.

13. A VERNAL POOL SURVEY WAS PERFORMED DURING APRIL AND MAY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINELY SOILS LLC. THIS SURVEY CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN CHAPTER 335, SECTION 9, OF THE NATURAL RESOURCE PROTECTION ACT, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

14. DEED REFERENCES:

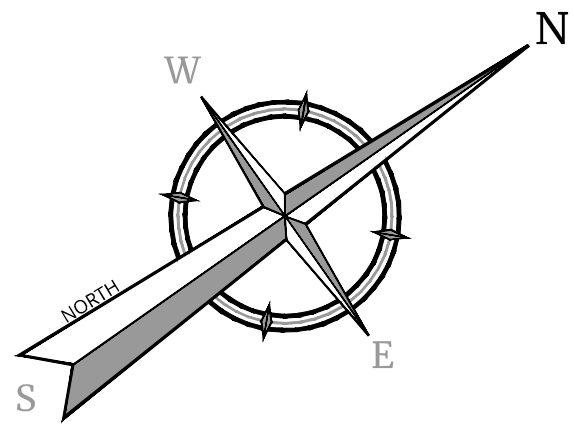
14.1. JOSEPH CARMINE SERPICO (ESTATE) TO MARY A. & PAUL J. BARTON, DATED OCTOBER 19, 1998, RECORDED IN DEED BOOK 9095, PAGE 336.

15. BOUNDARY NOTES:

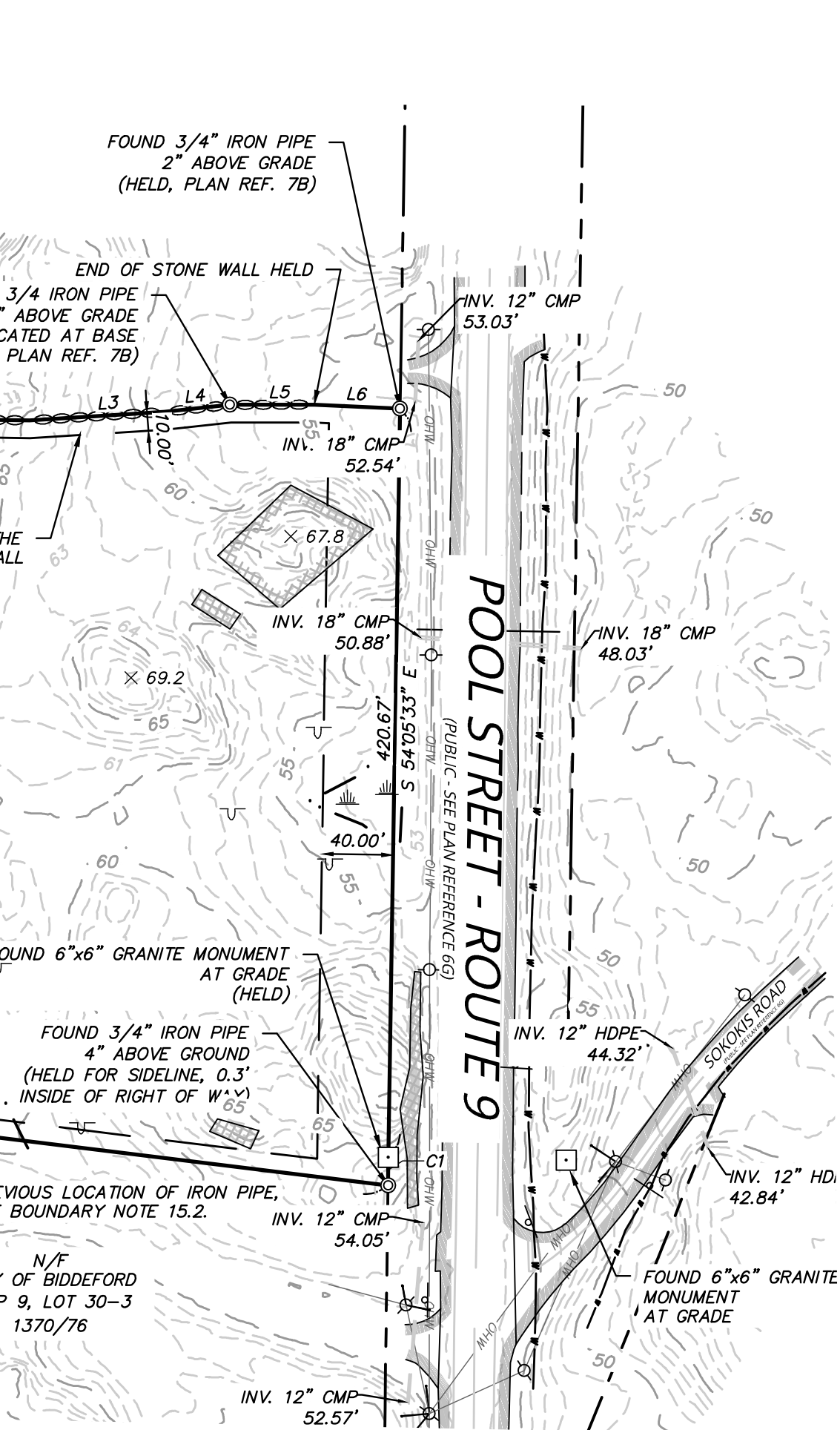
15.1. THE STONE HEAP AS CALLED FOR IN DEED REFERENCE 14.1 AND SHOWN ON PLAN REFERENCE 7C WAS NOT RECOVERED IN THE FIELD. THE BEARINGS SHOWN ON PLAN REFERENCE 7C AND MONUMENTS FOUND IN THE FIELD WERE USED TO REESTABLISH ITS LOCATION.

15.2. THE IRON PIPE SHOWN ON PLAN REFERENCE 7C WAS NOT RECOVERED. THE PREVIOUS LOCATION WAS DETERMINED UTILIZING PLAN REFERENCE 7C AS WELL AS HOLDING A DISTANCE OF 300.9' NORTH EASTERLY FROM THE FOUND IRON PIPE TO THE SOUTH WEST.

16. THE BOUNDARY BETWEEN THE RF ZONE & THE SR1 ZONE WAS DETERMINED UTILIZING THE ONLINE GIS SERVICES PROVIDED BY THE CITY OF BIDDEFORD. 350 FEET FROM THE SOUTHERLY SIDE OF THE POOL STREET RIGHT OF WAY WAS HELD AS MEASURED.



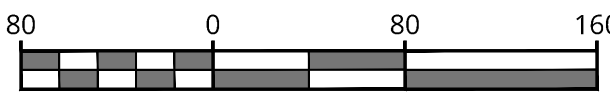
VICINITY MAP
BIDDEFORD, MAINE N.T.S.



SURVEYORS CERTIFICATION:

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT WAS PERFORMED IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

JOSHUA R. EGAN, MAINE, PLS 2558
DATE: 6/30/2023



SCALE: 1" = 80'

Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m)

Colliers

Engineering
& Design

www.colliersengineering.com

Copyright © 2023, Colliers Engineering & Design All Rights Reserved. This drawing and all the information contained herein is authorized for use only by the party for whom the service was contracted or to whom it is certified. This drawing may not be copied, reused, disclosed, distributed or relied upon for any other purpose without the express written consent of Colliers Engineering & Design.

Doing Business as

MASER CONSULTING

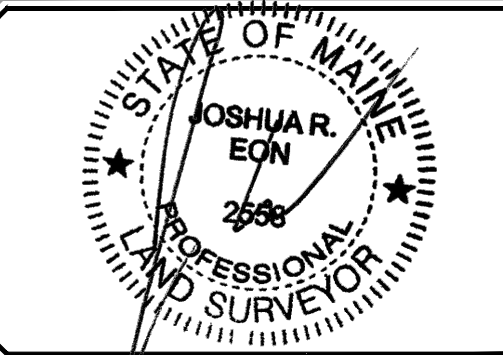


Know what's below.
Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS
VISIT: WWW.CALL811.COM

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF
EXCAVATORS, DESIGNERS, OR ANY PERSON
PREPARING TO DISTURB THE EARTH'S
SURFACE ANYWHERE IN ANY STATE

REV	DATE	DRAWN BY	DESCRIPTION
1	6/30/23	JRE	ISSUED TO CLIENT
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			



TOPOGRAPHIC & BOUNDARY
SURVEY

FOR
COASTAL OAKS LLC

512 POOL ST
YORK COUNTY
BIDDEFORD, MAINE
TAX MAP 9 LOT 31

RECORD OWNER
ANTHONY & MARGARET
SERPICO
16 GOODALE AVE
SACO, ME

Colliers
Engineering
& Design
#

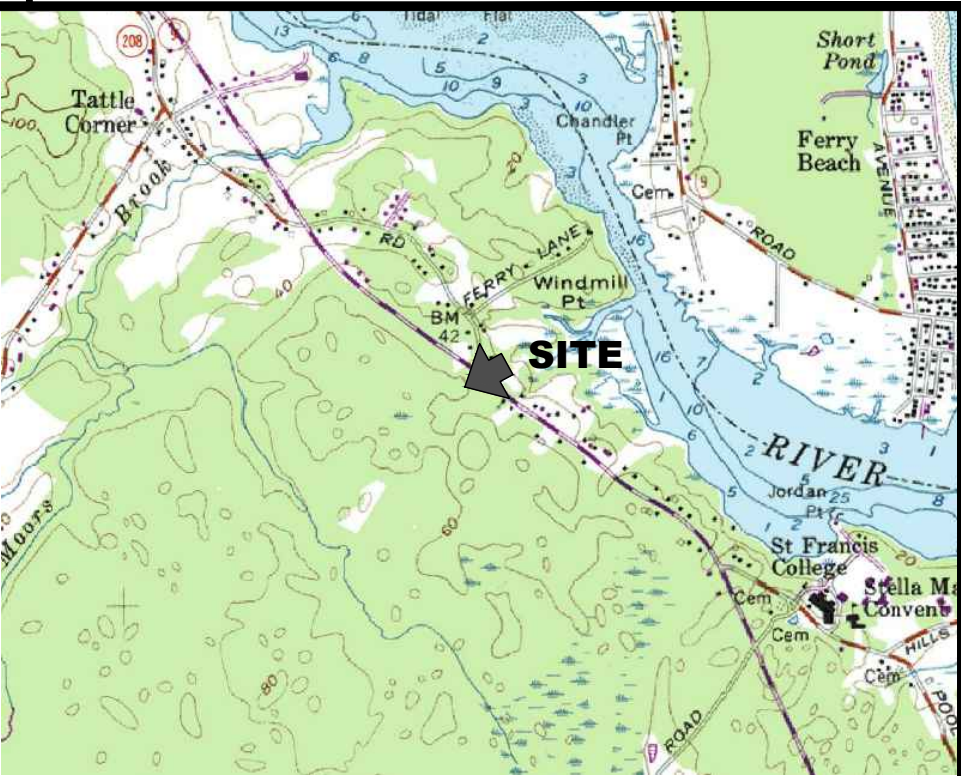
Scale: 1" = 80'
DATE: 05/17/2023
PROJECT NUMBER: 23002285A
DRAWING NAME: 23002285A_POOLRD_BIDDEFORD

BOUNDARY AND
TOPOGRAPHIC SURVEY

1 of 1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

FILE LOCATION: P:\MET13871\HND_WENSTEN\019\512 POOL ST_010\025.CAD; FILESCHEMATIC: S13871 011\BASE.DWG, 2025.02.21, 10:28 AM

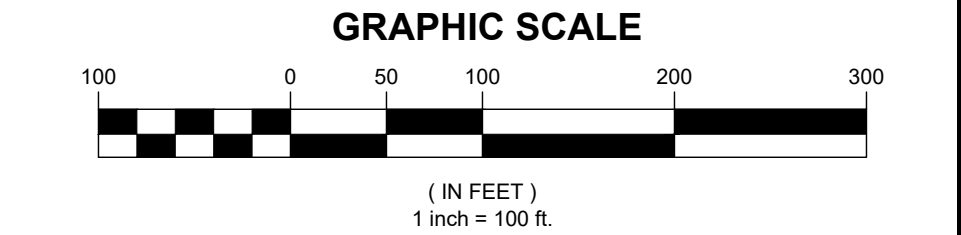


LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
MAPTECH® USGS TOPOGRAPHIC SERIES™
SCALE: 1"=2000'
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

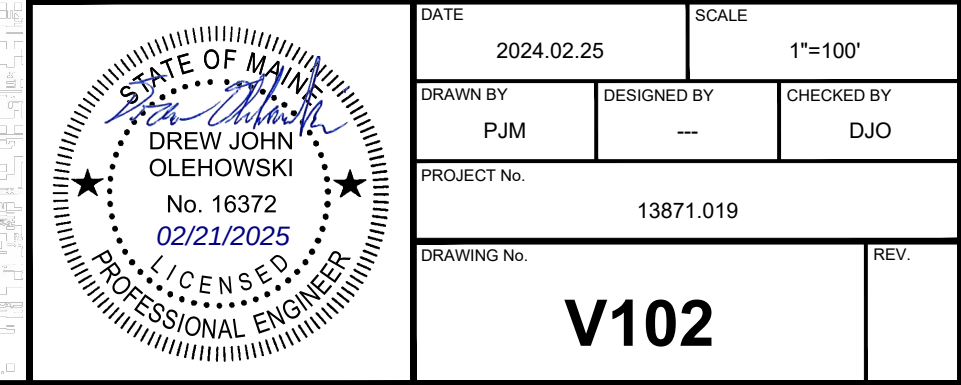
LEGEND:	
DESCRIPTION	EXISTING
DEED AND LAID OUT	D&L
BENCHMARK	
SURVEY STATION	
MONUMENT	
PIN FOUND	
PIPE FOUND	
SET 5/8" REBAR WITH SURVEYOR'S CAP (PLS #2324)	
SEWER MANHOLE	
UTILITY POLE	
CATCH BASIN	
HYDRANT	
WELL	
TREES	
PROPERTY LINE	
APPROXIMATE EXTERIOR PROPERTY LINE	
OVERHEAD UTILITY LINE	
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CENTERLINE	
TIE / REFERENCE LINE	
STONE WALL	
FENCE	
HIGH WATER MARK (SEE NOTE 4)	
TREELINE	
MINOR FOOT CONTOUR	
MAJOR FOOT CONTOUR	

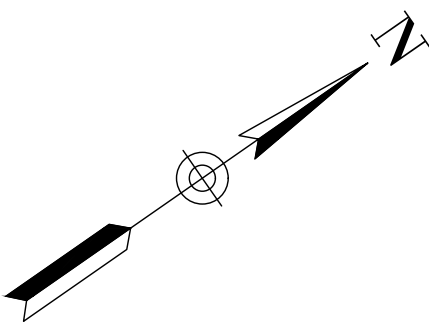
LEGEND FOR SOIL MAPS:	
DRAINAGE CLASS	
• EXCESSIVELY WELL DRAINED	EWD
• WELL DRAINED	WD
• MODERATELY WELL DRAINED	MWD
• SOMEWHAT POORLY DRAINED	SPD
• POORLY DRAINED	PD
• VERY POORLY DRAINED	VPD
SLOPE DESIGNATION	
• 0-3%	A
• 3-8%	B
• 8-15%	C
• 15-25%	D
• >25%	E

NOTE:
HIGH INTENSITY SOIL SURVEY HAS BEEN PREPARED BY MARK HAMPTON ASSOCIATES, INC. IN ACCORDANCE WITH THE STANDARDS ADOPTED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS, AND THE MAINE BOARD OF CERTIFICATION OF GEOLOGISTS AND SOIL SCIENTISTS.



REV	DATE	DESCRIPTION	BY	CHK
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824 WWW.HALEYWARD.COM				
PROJECT 512 POOL STREET BIDDEFORD, MAINE, 04005				
TITLE EXISTING CONDITIONS & HIGH INTENSITY SOILS SURVEY				
DATE 2024.02.25		SCALE 1"=100'		
DRAWN BY PJM	DESIGNED BY —	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
DRAWING No. V102				





NOTES:

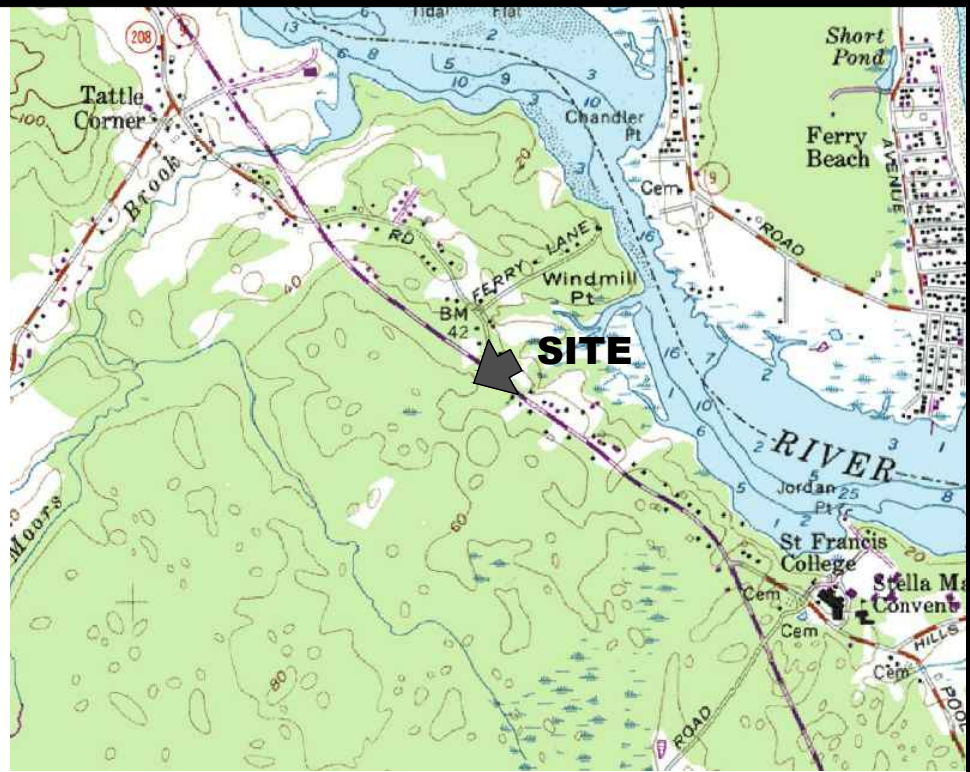
- BELLE WOODS IS PROPOSED AS A PRIVATE ROAD. PROPOSED PRIVATE ROADS SHALL NOT BE SUBMITTED FUTURE PUBLIC ROAD ACCEPTANCE.
- PRIVATE ROADWAY SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE CITY OF BIDDEFORD SHALL NOT BE RESPONSIBLE FOR ANY MAINTAINANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
- ROAD IS DESIGNED TO MEET MINOR RESIDENTIAL ROAD WAY STANDARDS AS DEFINED IN THE CITY OF BIDDEFORD, ME CODE OF ORDINANCES, ARTICLE VI, SECTION 51.
- THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD, UTILITY COMPANIES, DIG SAFE, AND EMERGENCY SERVICES WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
- WETLAND IMPACTS ARE CUMULATIVE FOR ALL LOTS. ANY WETLAND IMPACTS BY INDIVIDUAL LOT OWNER MAY REQUIRE PERMITTING THROUGH MDEP.
- REFER TO PARCEL 2 FOR TYPICAL SR1 DISTRICT SETBACKS, REFER TO PARCEL 6 FOR TYPICAL RF DISTRICT SETBACKS.
- TRASH STORAGE & REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS, PICKED UP & MANAGED BY PRIVATE COMPANY, NO DUMPSTER IS PROPOSED.

PLAN REFERENCES:

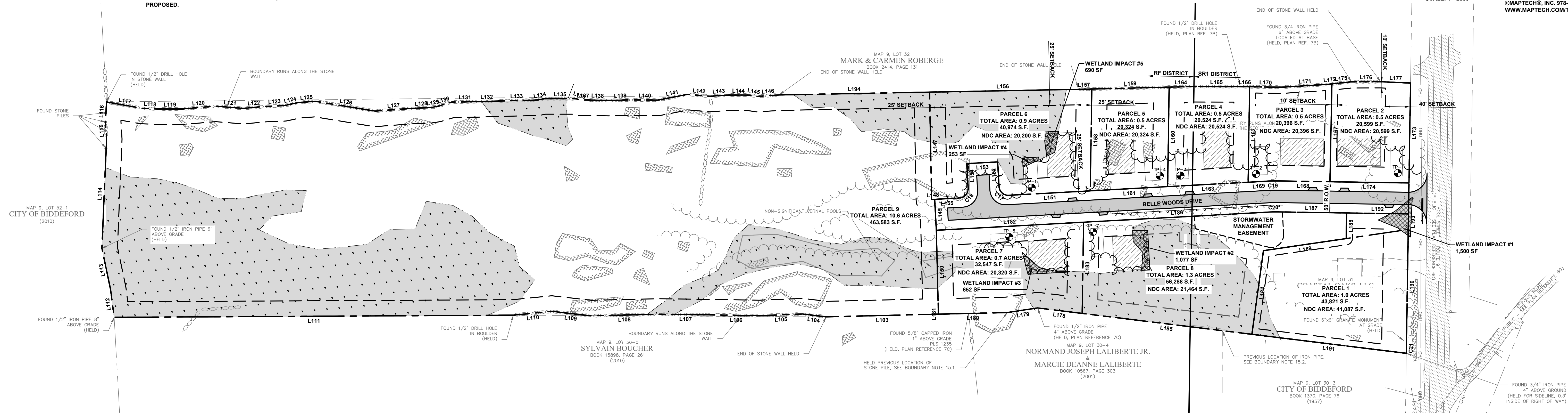
- REFERENCE IS MADE TO A PLAN ENTITLED "TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY COLLERS ENGINEERING & DESIGN & DATED MAY 17, 2023.

NATURAL RESOURCE NOTES:

- A WETLAND DELINEATION WAS PERFORMED ON THIS PROJECT SITE IN JANUARY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINLY SOILS LLC. THIS DELINEATION CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN THE 1987 WETLANDS DELINEATION MANUAL AND NORTHEAST REGIONAL SUPPLEMENT AUTHORED AND PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS. ALL WETLAND FLAGS WERE LOCATED USING GLOBAL POSITIONING SYSTEMS (GPS) TECHNOLOGY CAPABLE OF SUB-METER ACCURACY.
- A VERNAL POOL SURVEY WAS PERFORMED DURING APRIL AND MAY OF 2023 BY ALEX FINAMORE, LICENSED SOIL SCIENTIST OF MAINLY SOILS LLC. THIS SURVEY CONFORMS TO THE STANDARDS AND METHODS OUTLINED IN CHAPTER 335, SECTION 9, OF THE NATURAL RESOURCE PROTECTION ACT, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- VERNAL POOLS DELINEATED ON THIS PLAN ARE CONSIDERED NON-SIGNIFICANT, REFER TO NATURAL RESOURCE SURVEY & REPORT.



LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
MAPTECH® USGS TOPOGRAPHIC SERIES™
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO



PARCEL INFORMATION

MAP / LOT:	MAP 9, LOT 31	
LOT AREA (ACRES):	17.45	
ZONE OR DISTRICT:	RF/SR1	
EXISTING USE:	SINGLE FAMILY RESIDENTIAL	
FLOOD ZONE:	N/A	
WATER:	PUBLIC	
SEWER:	PRIVATE SEPTIC	
RECORD OWNER/APPLICANT:	COASTAL OAKS, LLC	

SITE DEVELOPMENT DATA

	SF	AC
EXISTING IMPERVIOUS (TO BE REMOVED):	2251	0.05
EXISTING IMPERVIOUS (TO REMAIN):	1302	0.03
NEW PAVEMENT	16185	0.37
TOTAL IMPERVIOUS (ROAD & EX. LOT):	17487	0.40

DESIGN STANDARDS

	REQ'D	PROVIDED
MINIMUM ROAD FRONTAGE (FT)	120 RF / 100 SR1	125 (MIN.)
MINIMUM SETBACK, FRONT YARD (FT)	25 RF / 40 SR1	25 RF / 40 SR1
MINIMUM SETBACK, OTHER YARDS (FT)	25 RF / 10 SR1	25 RF / 10 SR1
MINIMUM LOT SIZE	20,000 SF	20,188 SF (MIN.)
MAXIMUM BUILDING HEIGHT (FT)	35 FT	<35 FT

PROJECT INFORMATION

APPLICANT:	COASTAL OAKS LLC ATTN: ETHAN SCOTT 198 SACO AVENUE OLD ORCHARD BEACH, MAINE 04064
ENGINEER:	HALEY WARD, INC. ATTN: DREW OLEHOWSKI, P.E. 120 MAIN STREET SUITE 132 SACO, MAINE 04072

Line Table

Line #	Length	Direction
L103	181.655	S33° 36' 43.72"W
L104	38.409	S41° 58' 20.48"W
L105	69.756	S32° 41' 22.12"W
L106	74.329	S36° 00' 35.70"W
L107	89.473	S35° 42' 13.79"W
L108	108.844	S33° 39' 01.81"W
L109	63.465	S41° 32' 14.19"W
L110	62.442	S29° 16' 48.64"W
L111	645.301	S34° 41' 34.18"W
L112	44.646	N62° 18' 23.58"W
L113	68.565	N66° 51' 37.96"W
L114	176.379	N52° 34' 17.60"W
L115	28.657	N58° 32' 10.73"W
L116	31.735	N51° 54' 56.46"W
L117	58.434	N45° 08' 59.14"E
L118	25.633	N37° 23' 10.48"E
L119	38.948	N35° 07' 35.02"E
L120	54.724	N30° 07' 44.93"E
L121	44.705	N39° 41' 53.11"E
L122	35.451	N29° 45' 25.60"E

Line Table

Line #	Length	Direction
L123	30.978	N32° 37' 57.95"E
L124	22.921	N22° 34' 07.38"E
L125	28.215	N30° 54' 13.88"E
L126	97.598	N44° 19' 40.50"E
L127	61.021	N30° 47' 11.27"E
L128	27.924	N32° 39' 07.24"E
L129	11.822	N25° 37' 51.13"E
L130	24.421	N18° 20' 21.27"E
L131	42.142	N34° 02' 13.15"E
L132	29.608	N33° 10' 11.92"E
L133	67.040	N33° 35' 10.48"E
L134	10.662	N23° 31' 15.83"E
L135	52.133	N35° 01' 29.90"E
L136	6.372	N53° 40' 23.43"E
L137	9.835	N34° 56' 32.59"E
L138	37.389	N36° 02' 44.66"E
L139	36.408	N35° 36' 57.12"E
L140	42.496	N35° 34' 55.88"E
L141	48.829	N23° 54' 52.54"E
L142	36.192	N39° 59' 55.47"E

Line Table

Line #	Length	Direction
L143	29.704	N30° 58' 10.96"E
L144	33.367	N35° 08' 30.62"E
L145	13.963	N43° 49' 18.70"E
L146	35.185	N31° 14' 46.97"E
L147	173.488	S56° 04' 03.28"E
L148	5.000	N31° 52' 21.63"E
L149	50.000	S58° 07' 38.37"E
L150	135.480	S56° 23' 16.28"E
L151	131.888	S31° 52' 21.63"W
L152	39.849	N58° 07' 38.37"W
L153	50.000	S31° 52' 21.63"W
L154	39.849	S58° 07' 38.37"E
L155	40.000	S31° 52' 21.63"W
L156	237.117	N33° 55' 56.72"E
L157	25.191	N33° 36' 29.51"E
L158	164.493	S54° 07' 18.00"E
L159	125.098	N33° 36' 29.51"E
L160	160.695	S54° 07' 18.00"E
L161	125.306	S31° 52' 21.63"W
L162	154.189	S54° 07' 18.00"E

Line Table

Line #	Length	Direction
L163	130.318	S31° 52' 21.63"W
L164	38.763	N33° 36' 29.51"E
L165	75.821	N35° 05' 39.23"E
L166	15.454	N35° 47' 13.67"E
L167	158.043	S53° 50' 39.13"E
L168	86.252	S35° 52' 42.00"W
L169	33.839	S31° 52' 21.63"W
L170	51.965	N35° 47' 13.67"E
L171	75.818	N31° 25' 39.86"E
L172	5.487	N28° 47' 22.73"E
L173	161.310	S54° 05' 32.64"E
L174	127.767	S35° 52' 42.00"W
L175	31.669	N28° 47' 22.73"E
L176	47.432	N34° 50' 10.53"E
L177	48.256	N37° 39' 41.04"E
L178	72.614	S42° 00' 46.19"W
L179	49.506	S28° 17' 49.91"W
L180	111.489	S33° 38' 44.54"W
L181	0.105	N56° 23' 16.27"W
L182	238.362	N31° 52' 21.63"E

Line Table

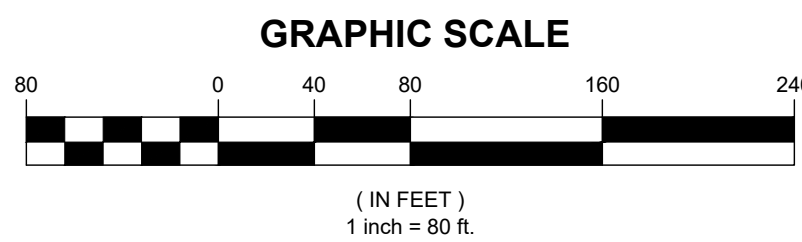
Line #	Length	Direction
L183	147.306	S54° 07' 18.00"E
L184	136.410	S47° 08' 09.00"E
L185	276.458	S42° 00' 46.19"W
L186	302.990	N31° 52' 21.63"E
L187	113.993	N35° 52' 42.00"E
L188	41.352	S54° 05' 32.64"E
L189	135.220	S28° 41' 56.00"W
L190	184.174	S54° 05' 32.64"E
L191	251.430	S42° 00' 46.19"W
L192	100.000	N35° 52' 42.00"E
L193	25.191	S54° 05' 32.64"E
L194	243.247	N33° 55' 56.72"E

Curve Table

Curve #	Length	Radius	Delta
C17	23.562	15,000	90.0000
C18	23.562	15,000	90.0000
C21	15.824	22918.330	0.0396
C19	12.235	175,000	4.0057
C20	8.739	125,000	4.0057

NET DENSITY CALCULATIONS

GROSS PARCEL AREA	760,178 SF
UNSUITABLE LAND:	
1. PORTIONS OF LOT WITHIN 100-YEAR FLOODPLAIN	0 SF
2. UNSUITABLE LAND (STEEP SLOPES, DRAINAGE OR SUBSOIL CONDITIONS) *SEE NOTE A	60,590 SF
3. SUBJECT TO EASEMENTS/ROW	0 SF
4. COVERED BY SURFACE WATERS (PONDS, WETLAND, ETC.)	224,874 SF
5. SOILS OF STATEWIDE SIGNIFIGANCE WITHIN RF ZONE	0 SF
6. LAND WITHIN RESOURCE PROTECTION ZONE	0 SF
6. LAND IN RF ZONE WITHIN SHORELAND ZONE SETBACK	0 SF
7. UNRECLAIMED EXTRACTIVE INDUSTRY OPERATIONS	0 SF
NOTES:	
A. POORLY DRAINED SOILS IDENTIFIED BY HIGH INTENSITY SOIL SURVEY ARE CONFINED TO WETLAND AREAS AND ARE INCLUDED UNDER SECTION 4. COVERED BY SURFACE WATERS.	
SUBTOTAL	285,464 SF
TOTAL NET RESIDENTIAL AREA	474,714 SF
MIN. LOT AREA	20,000 SF
PERMITTED NET DENSITY (NET RESIDENTIAL AREA/MIN. LOT AREA)	24 UNITS



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				

NOT FOR CONSTRUCTION

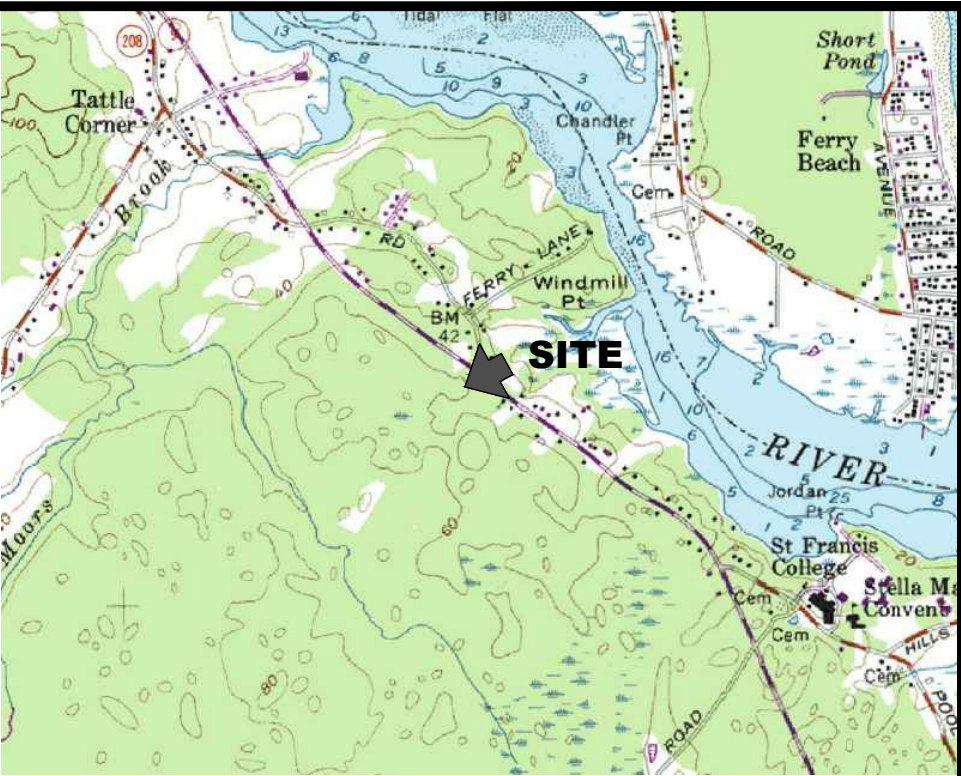
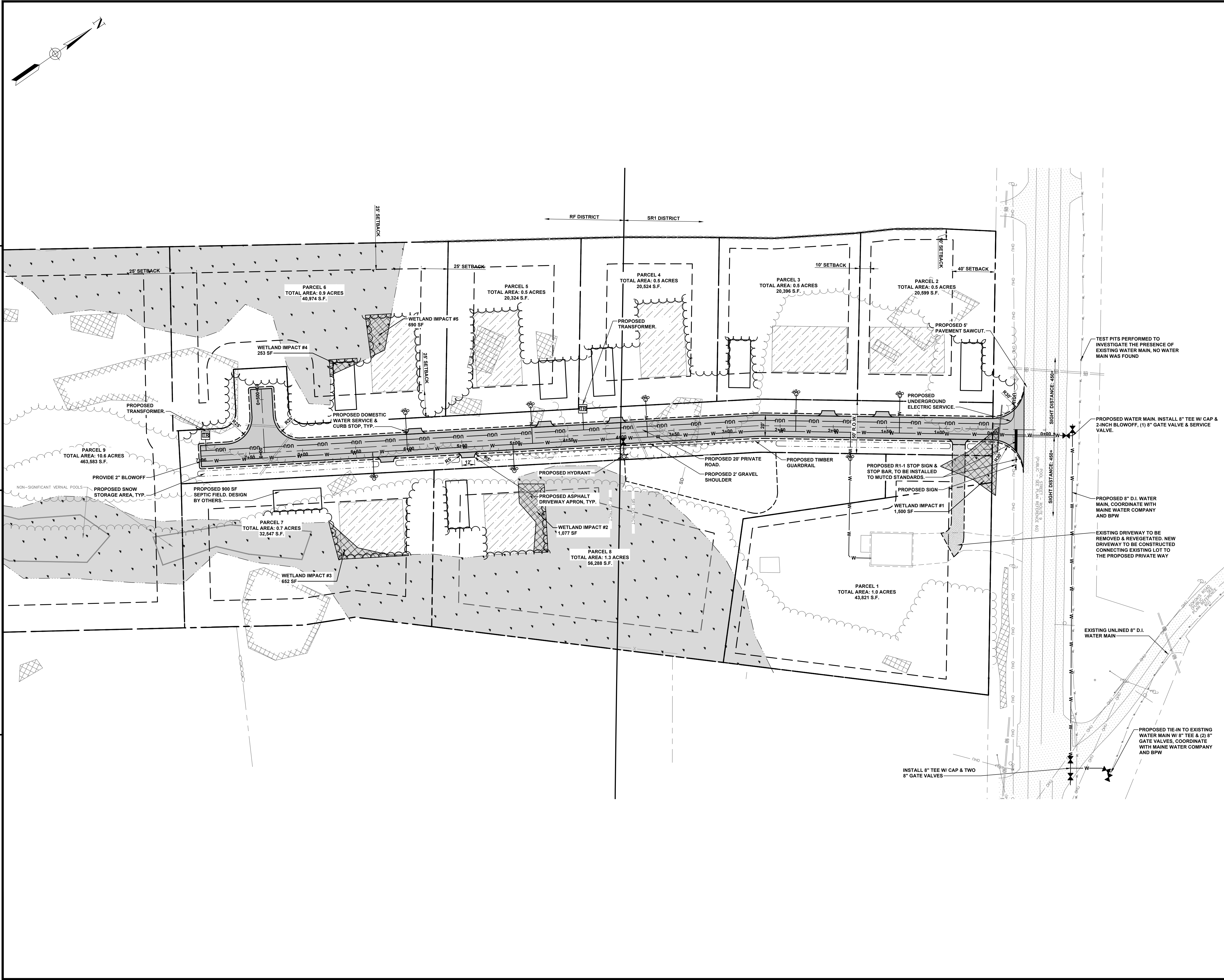


COASTAL OAKS LLC
198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064
BELLE WOODS - SUBDIVISION
512 POOL STREET, BIDDEFORD, MAINE 04005

PRELIMINARY SUBDIVISION PLAN

DATE	2025.02.25	SCALE	1"=80'
DRAWN BY	PJM	DESIGNED BY	PJM
CHECKED BY	DJO		
PROJECT No.	13871.019		
DRAWING No.			
REV.			
C101			

FILE LOCATION: P:\MET1887\HNDL\WEINS\TENG\1912\POOL ST. 030525.CAD, FILESCHEM\13871\018AC-SP.DWG, 2025.02.21, 10:28 AM

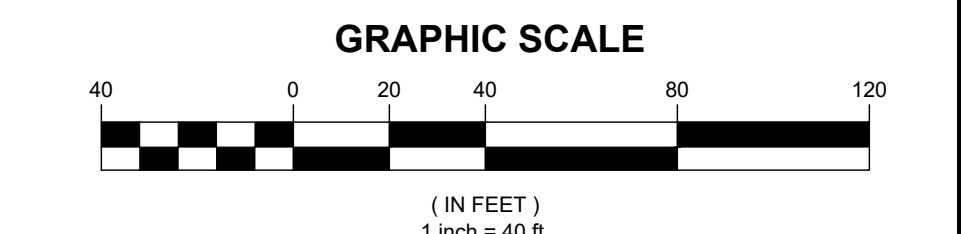


LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

- WATER UTILITY NOTES:**
1. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 5' OF COVER WITH NO MORE THAN 5.5'.
 2. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 10' SEPARATION FROM OTHER UTILITIES, UNLESS MUTUALLY AGREED UPON BY ALL.
 3. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 3' SEPARATION FROM EXISTING MAINE WATER INFRASTRUCTURE, UNLESS CONNECTING TO EXISTING INFRASTRUCTURE.
 4. ALL NEW WATER INFRASTRUCTURE MUST MAINTAIN 5' SEPARATION FROM PROPERTY LINES.
 5. ALL NEW NON-METALLIC WATER LINES MUST BE RUN WITH TRACER WIRE.
 6. ANY MATERIALS SPECIFIED AS HDPE WILL BE PE4710 CC3. ALL LINES 4" OR GREATER WILL BE DR9 DIPS.
 7. ALL WATER INFRASTRUCTURE WILL COMPLY WITH MAINE WATER SPECIFICATIONS.
 8. ANY DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON EXISTING RECORDS AND MAY NOT REFLECT ACTUAL REQUIRED LENGTHS.

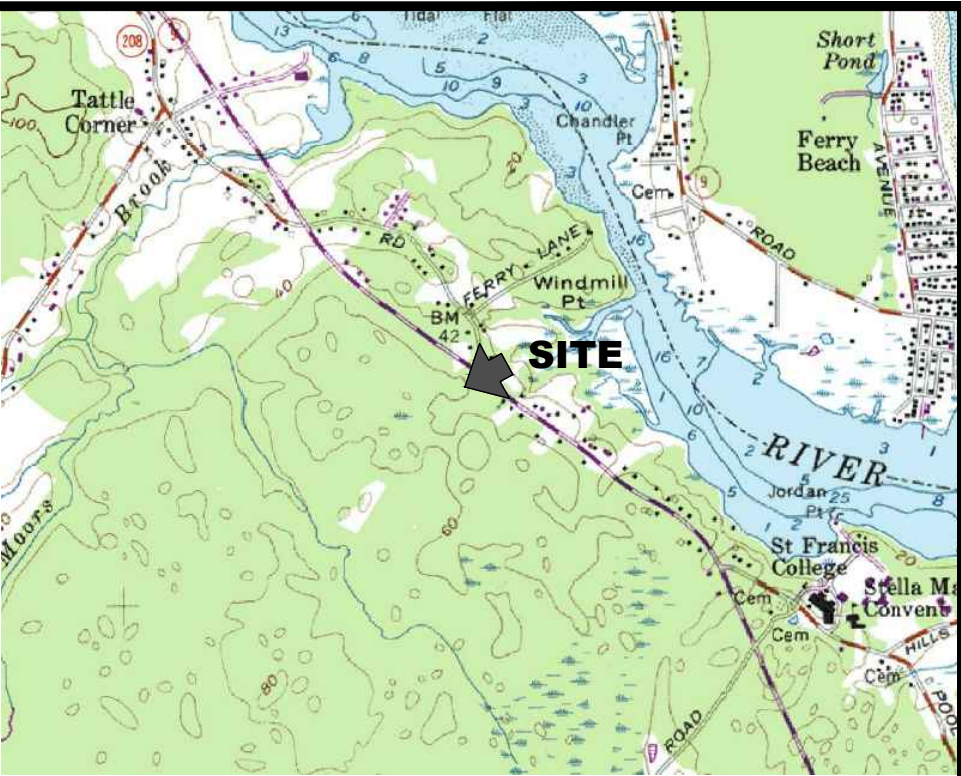
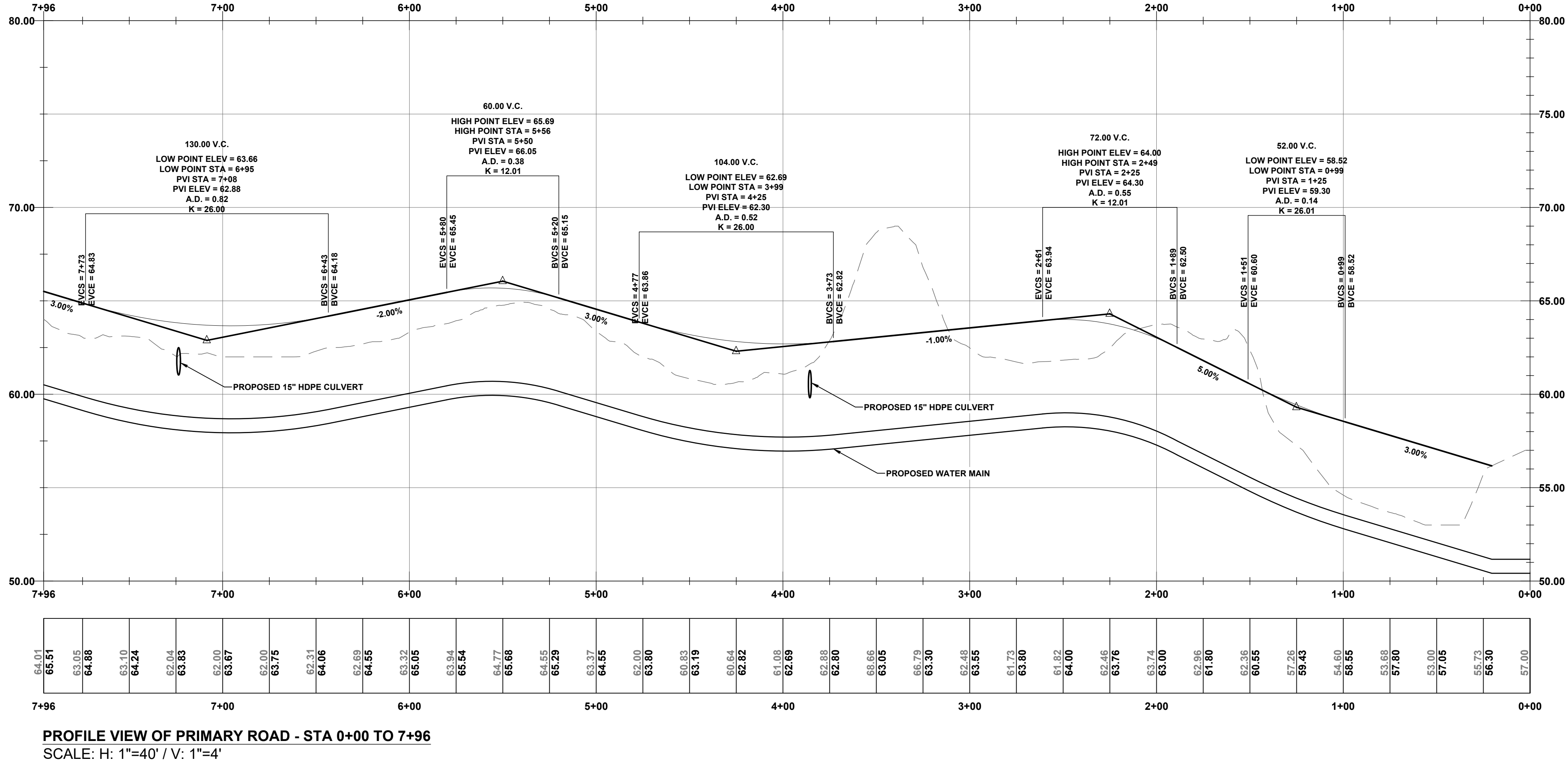
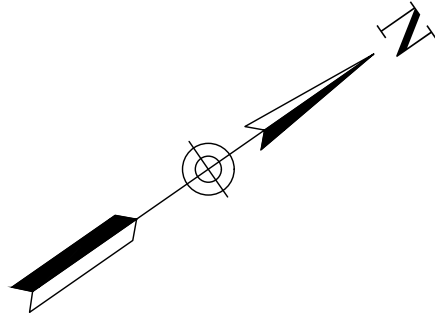
- ELECTRICAL UTILITY NOTES:**
1. FINAL ELECTRICAL INFRASTRUCTURE LAYOUT TO BE COORDINATED WITH CMP.

PLAN REFERENCE:
1. REFERENCE IS MADE TO A MADE ENTITLED "TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY COLLERS ENGINEERING & DESIGN & DATED MAY 17, 2023.



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824 WWW.HALEYWARD.COM				
PROJECT COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE SITE LAYOUT & UTILITY PLAN				
DATE 2025.02.25		SCALE 1"=40'		
DRAWN BY PJM	DESIGNED BY PJM	CHECKED BY DJO		
PROJECT No. 13871.019		REV.		
		C102		

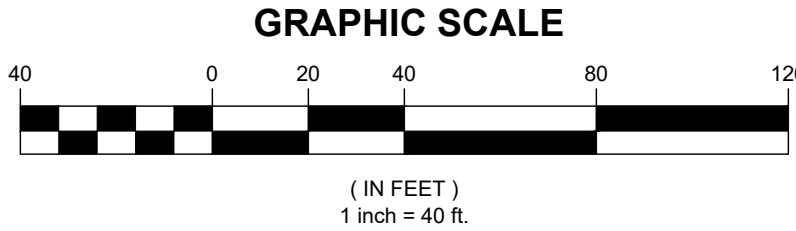
FILE LOCATION: P:\MET1807\LAND\WEINSTEIN\019\512 POOL ST. 04066.CAD, FILESCHEM\11807\019\512 POOL ST. 04066.CAD, DATE: 2025.02.21, 10:28 AM



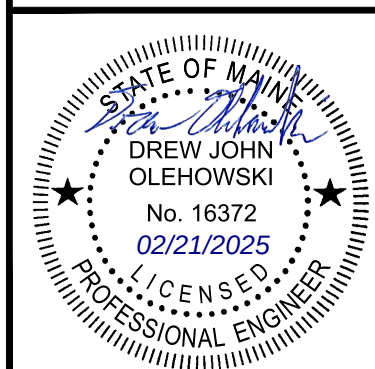
LOCATION MAP: USGS QUADRANGLE: BIDDEFORD
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™
©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

- NOTES:**
- BELLE WOODS IS PROPOSED AS A PRIVATE ROAD. PROPOSED PRIVATE ROADS SHALL NOT BE SUBMITTED FOR FUTURE PUBLIC ROAD ACCEPTANCE.
 - PRIVATE ROADWAY SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE CITY OF BIDDEFORD SHALL NOT BE RESPONSIBLE FOR ANY MAINTENANCE, REPAIR, PLOWING, OR TRASH REMOVAL OF PROPOSED PRIVATE ROADS.
 - ROAD IS DESIGNED TO MEET MINOR RESIDENTIAL ROADWAY STANDARDS AS DEFINED IN THE CITY OF BIDDEFORD, ME CODE OF ORDINANCES, ARTICLE VI, SECTION 51.
 - THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE CITY OF BIDDEFORD, UTILITY COMPANIES, DIG SAFE, AND EMERGENCY SERVICES WHERE APPLICABLE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK TO ALLOW SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF ALL BURIED UTILITIES. CONTRACTOR SHALL ALSO CONTACT "DIG SAFE", TELEPHONE NO 811 OR 888-DIG-SAFE. REPAIR OF ANY DAMAGED UTILITY WILL BE INCIDENTAL TO THIS PROJECT.
 - WETLAND IMPACTS ARE CUMULATIVE FOR ALL LOTS, ANY WETLAND IMPACTS BY INDIVIDUAL LOT OWNER MAY REQUIRE PERMITTING THROUGH MDEP.
 - REFER TO PARCEL 2 FOR TYPICAL SR1 DISTRICT SETBACKS, REFER TO PARCEL 6 FOR TYPICAL RF DISTRICT SETBACKS.
 - TRASH STORAGE & REMOVAL TO BE PROVIDED BY INDIVIDUAL BINS, PICKED UP & MANAGED BY PRIVATE COMPANY, NO DUMPSTER IS PROPOSED.

PLAN REFERENCE:
1. REFERENCE IS MADE TO A MADE ENTITLED "TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY COLLERS ENGINEERING & DESIGN & DATED MAY 17, 2023.



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 ENGINEERING ENVIRONMENTAL SURVEYING One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
OVERALL GRADING PLAN & PROFILE				
DATE		2025.02.25		SCALE
DRAWN BY		DESIGNED BY		CHECKED BY
PJM		PJM		DJO
PROJECT No.		13871.019		REV.
DRAWING No.		C103		

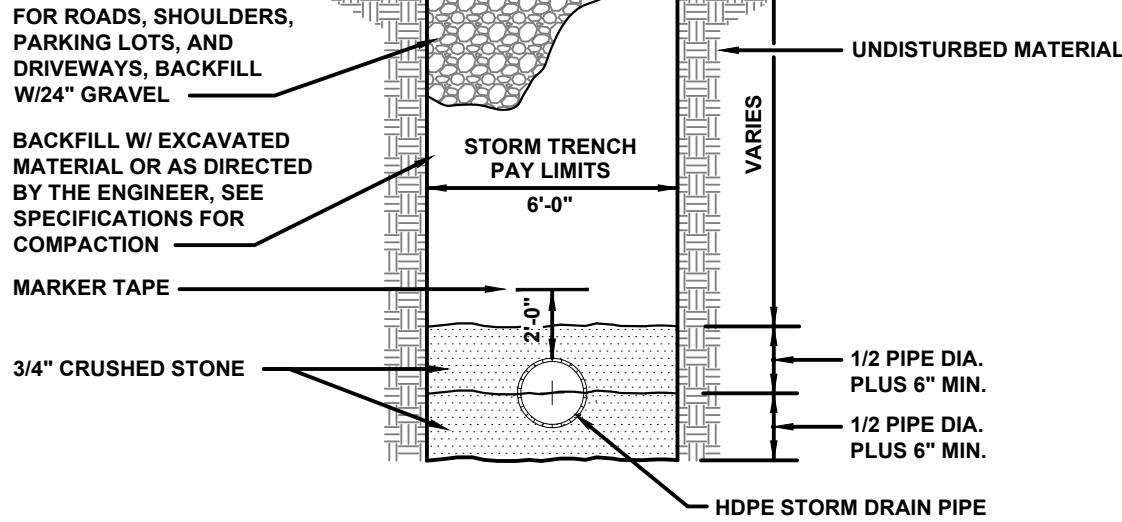




- TYPICAL ASPHALT PAVEMENT GRINDING DETAIL**
NTS

Page 558 of 707

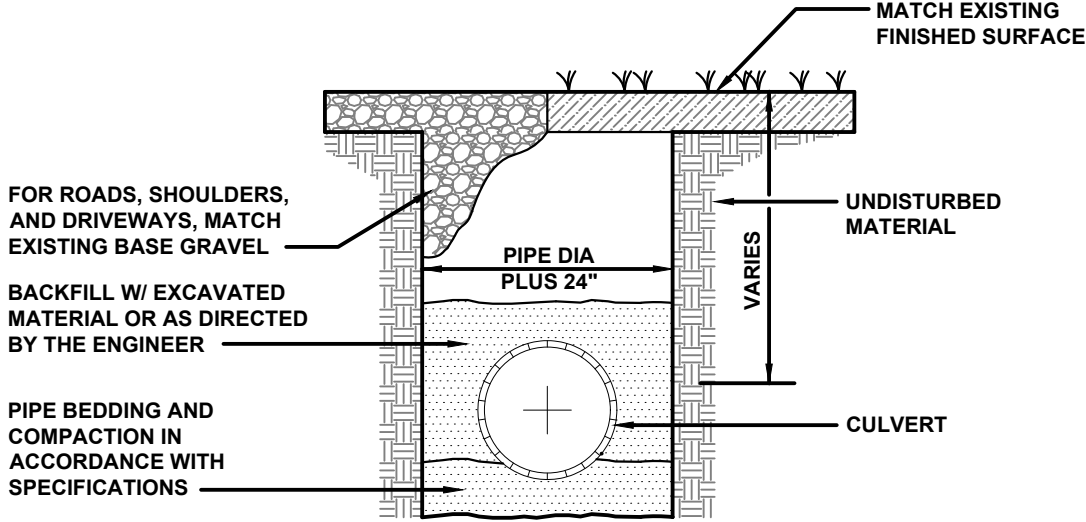
SEE TYPICAL ROADWAY
BUILDUP DETAIL AND
TYPICAL ASPHALT
PAVEMENT GRINDING
DETAIL (4" LOAM, SEED, &
MULCH NON PAVED AREAS)



NOTE:
1. MATCH EXISTING SURFACE FINISH, EXCEPT WHERE NOTED.
IN LAWN AREAS INSTALL 4" OF LOAM AND SEED AND MULCH.

TYPICAL STORM DRAIN TRENCH DETAIL

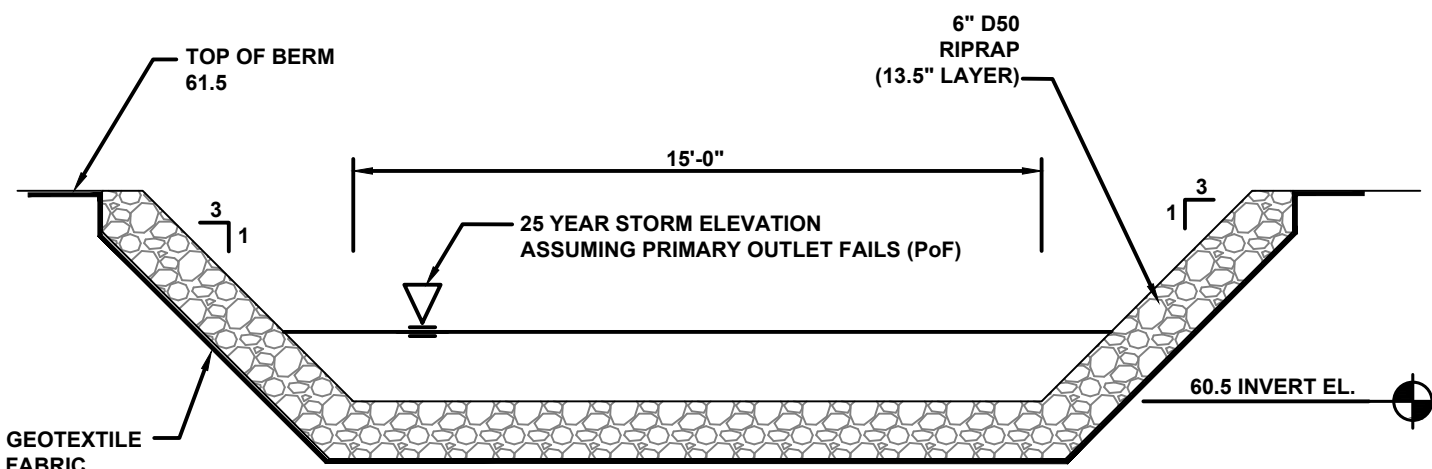
NTS



NOTE:
1. PAYMENT LIMITS SHALL BE 6' WIDE (3' EACH SIDE OF
CULVERT)

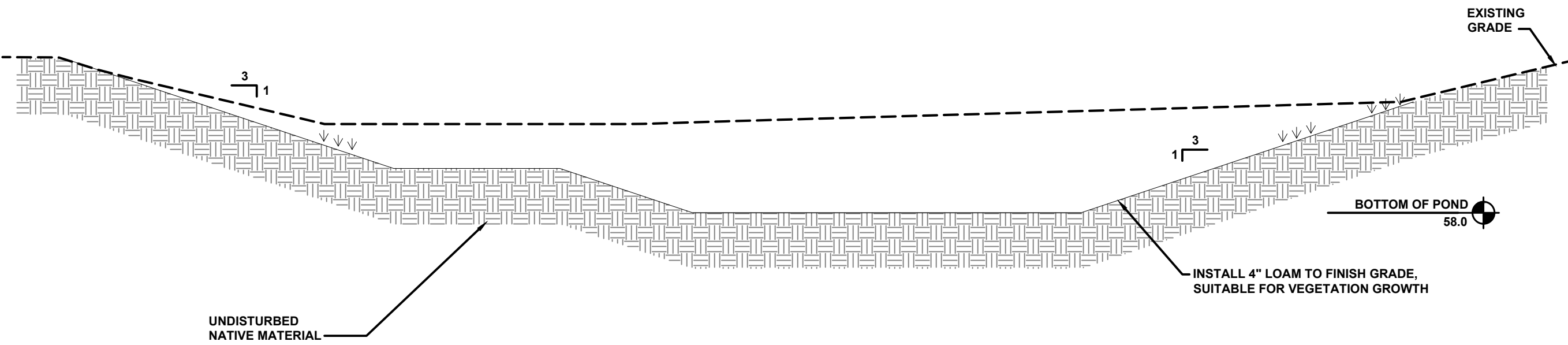
TYPICAL CULVERT TRENCH DETAIL

NTS



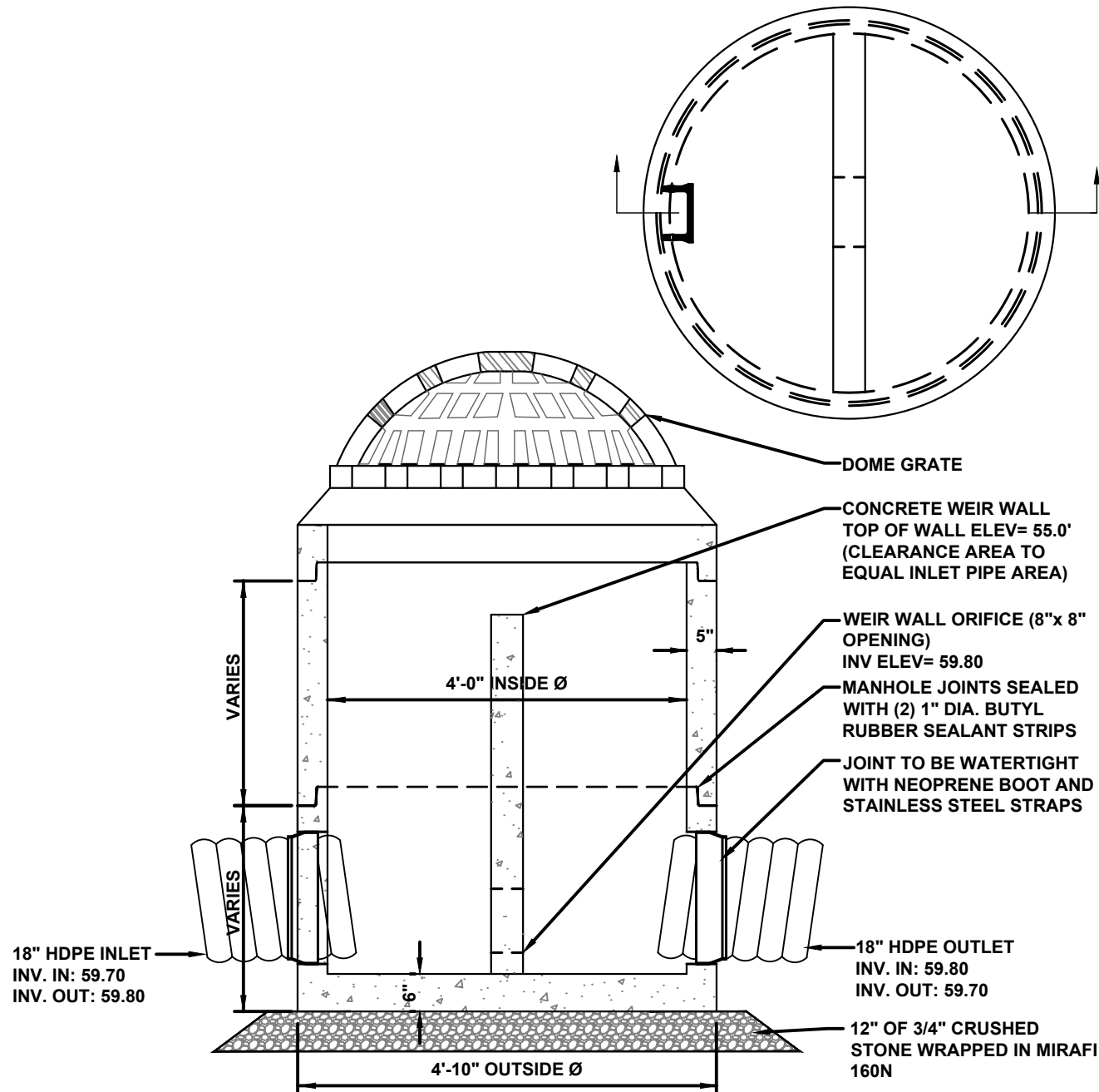
EMERGENCY SPILLWAY DETAIL

N.T.S.



DETENTION POND SECTION

N.T.S.

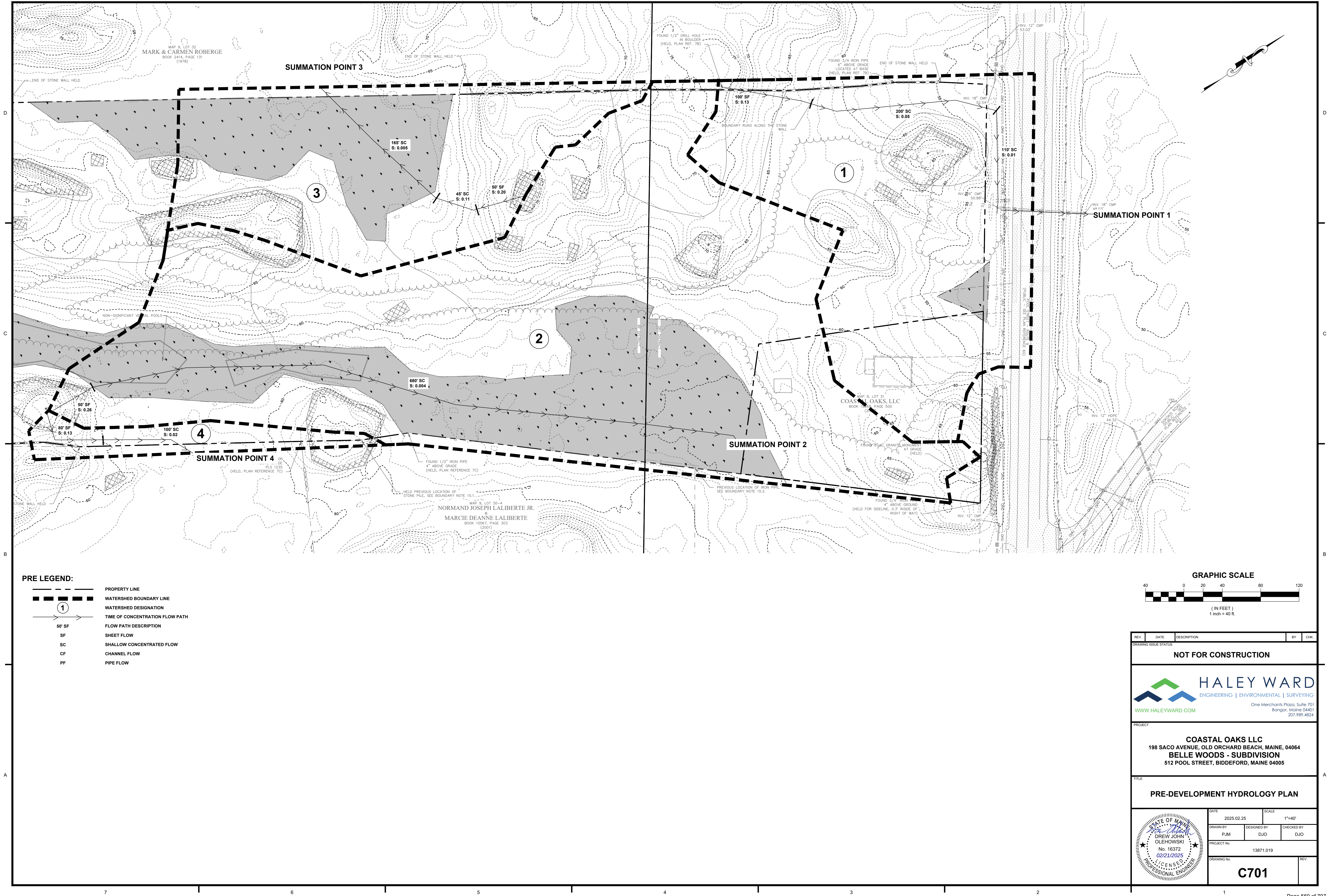


STORMWATER CONTROL STRUCTURE DETAIL

N.T.S.

REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING WWW.HALEYWARD.COM One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
SITE DETAILS				
DATE		SCALE		
2025.02.25		NTS		
DRAWN BY	DESIGNED BY	CHECKED BY		
PJM	PJM	DJO		
PROJECT No.		13871.019		
DRAWING No.		C502		REV.

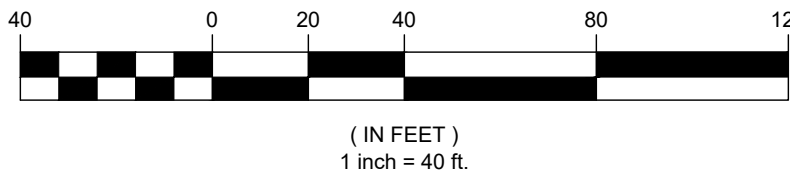
FILE LOCATION: P:\MET1887\HNDL\WEINS\TENG\19\512 POOL ST\04005.CAD, FILESCONV\19871018\CONV.DWG, 2025.02.21, 10:28 AM



PRE LEGEND:

- PROPERTY LINE
- WATERSHED BOUNDARY LINE
- WATERSHED DESIGNATION
- TIME OF CONCENTRATION FLOW PATH
- FLOW PATH DESCRIPTION
- 50' SF
- SF
- SC
- CF
- PF
- SHEET FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW
- PIPE FLOW

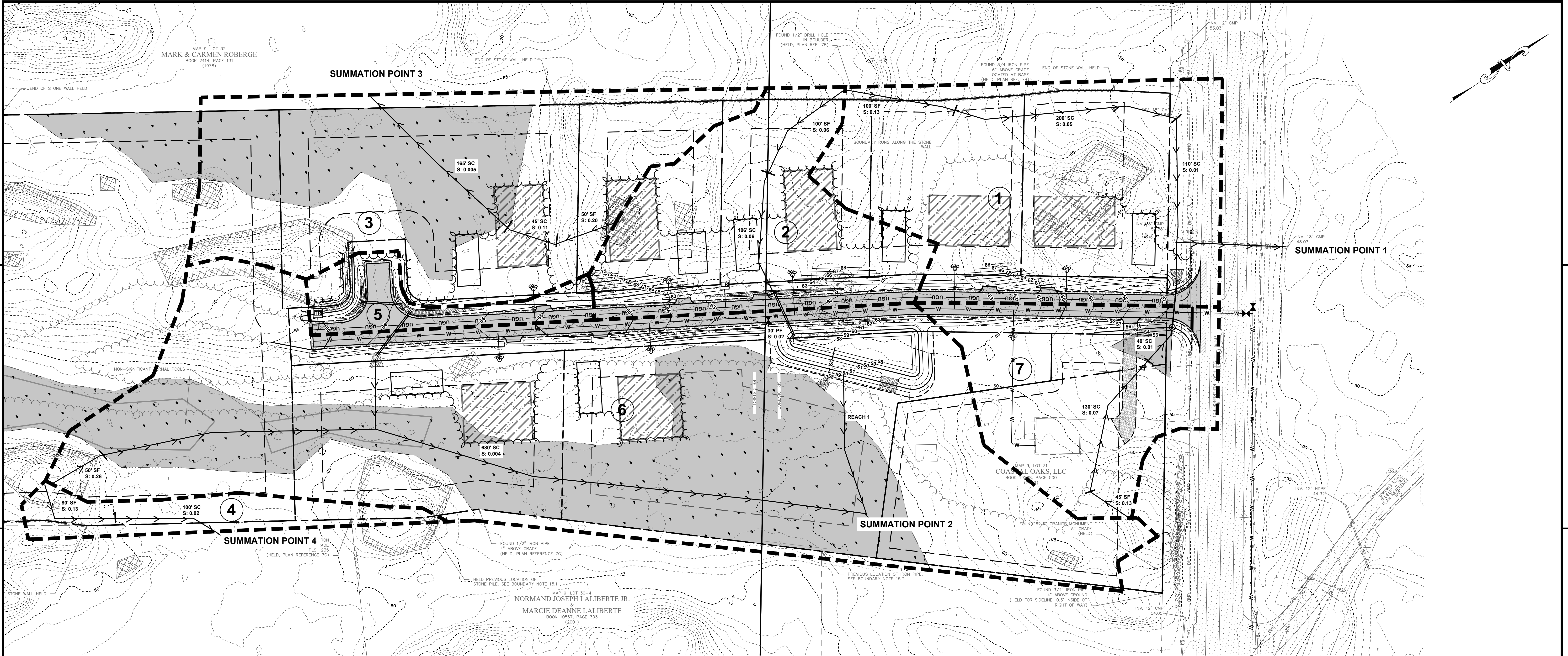
GRAPHIC SCALE



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
 HALEY WARD ENGINEERING ENVIRONMENTAL SURVEYING www.haleyward.com One Merchants Plaza, Suite 701 Bangor, Maine 04401 207.989.4824				
PROJECT				
COASTAL OAKS LLC				
198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064				
BELLE WOODS - SUBDIVISION				
512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
PRE-DEVELOPMENT HYDROLOGY PLAN				
DATE		SCALE		
2025.02.25		1"=40'		
DRAWN BY	DESIGNED BY	CHECKED BY		
PJM	DJO	DJO		
PROJECT No.		13871.019		
DRAWING No.		C701		
REV.				

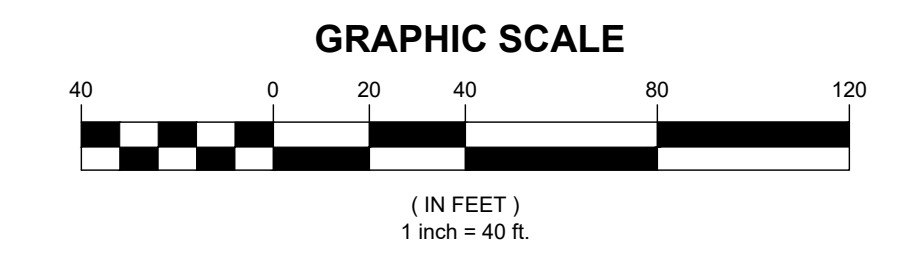


FILE LOCATION: P:\MET1887\HNDL WEINS TEN\919-512 POOL ST SUBDIVISION\1887\018\CH\HY DWG 2025.02.25.10.28 AM

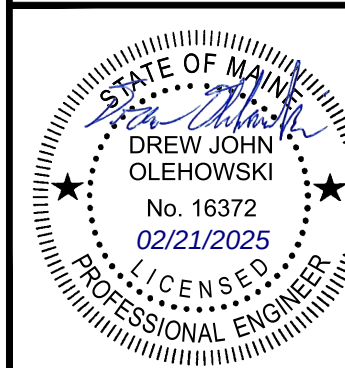


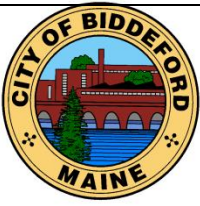
POST LEGEND:

	PROPERTY LINE
	WATERSHED BOUNDARY LINE
	WATERSHED DESIGNATION
	TIME OF CONCENTRATION FLOW PATH
	FLOW PATH DESCRIPTION
	SHEET FLOW
	SHALLOW CONCENTRATED FLOW
	CHANNEL FLOW
	PIPE FLOW



REV.	DATE	DESCRIPTION	BY	CHK.
DRAWING ISSUE STATUS				
NOT FOR CONSTRUCTION				
PROJECT				
COASTAL OAKS LLC 198 SACO AVENUE, OLD ORCHARD BEACH, MAINE, 04064 BELLE WOODS - SUBDIVISION 512 POOL STREET, BIDDEFORD, MAINE 04005				
TITLE				
POST-DEVELOPMENT HYDROLOGY PLAN				
DATE		SCALE		
2025.02.25		1"=40'		
DRAWN BY	DESIGNED BY	CHECKED BY		
PJM	DJO	DJO		
PROJECT No.		13871.019		
DRAWING No.		C702		





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: March 12, 2025

RE: 2025.01 Sketch Site Plan Review for Bedard's Roofing Company, LLC, to construct a 7,500-sf building and parking for five mixed-use rental units on Digital Drive (Tax Map 15, Lot 7-4) in the I-1 zone.

MEETING DATE: March 19, 2025, at 6:00 PM

1) INTRODUCTION

The applicant proposes constructing a 7,500-square-foot multi-tenant building off Digital Drive (Tax Map 15, Lot 7-4) in the I-1 Zone. The project will create 22,691 square feet of impervious surface. As the site is located within the Thatcher Brook Watershed, the applicant plans to implement soil filter BMPs to enhance water quality treatment by capturing 86% of the impervious areas.



Figure 1 A vertical view of the property

2) PROJECT INFORMATION

1.	Applicant:	T & T Leasing, LLC 109 Cascade Road, Old Orchard Beach, ME 04064
2.	Owner of Property:	Same As Applicant
3.	Agent:	Paul P. Gadbois P.O. Box 327 Saco, ME, 04072
4.	Surveyor:	Same As Agent
5.	Project Location:	3 Digital Drive
6.	Project Tax Map /Lot #:	Tax Map 15, Lots 7-4
7.	Lot Size:	2.18 Acres
8.	Base Zoning:	I-1
9.	Overlay Zoning:	N/A
10.	Existing Use:	Vacant
11.	Proposed Use:	7,500 square foot multi-tenant building
12.	Minimum Lot Size Required: Provided:	N/A N/A
13.	Frontage Required: Provided:	50' 50'+
14.	Front Setback Required: Provided:	40' 40'
15.	Side Setbacks Required: Provided:	25' 25'
16.	Rear Setback Requires: Provided:	25' 25'
17.	Height Requirements: Provided:	60' 60'-
18.	Water Supply:	Public Water
	Sewage Disposal:	Private Sewer in Digital Drive connected to City Sewer
19.	Solid Waste Disposal:	Private Hauler
20.	Parking Spaces Required: Parking Spaces Proposed:	9 15, including 1 ADA
21.	Ownership of Road:	Digital Drive is A Private Road
22.	Approvals Required:	Site Plan Review
23.	Uses in the Vicinity:	Commercial
24.	Waivers Needed:	N/A
25.	Waivers Granted:	Grading Plan Waiver: Keep Existing Contours at 2' intervals.
26.	Other Non-City Permits Required:	N/A
27.	LDR Attachment A: Fees Paid:	Yes
28.	Planning Board Review History:	Sketch Plan: March 19, 25

3) Existing conditions

The lot is vacant, and a 100' Central Maine Power Right-of-Way runs along its rear and eastern boundary. See the figure below for illustration.

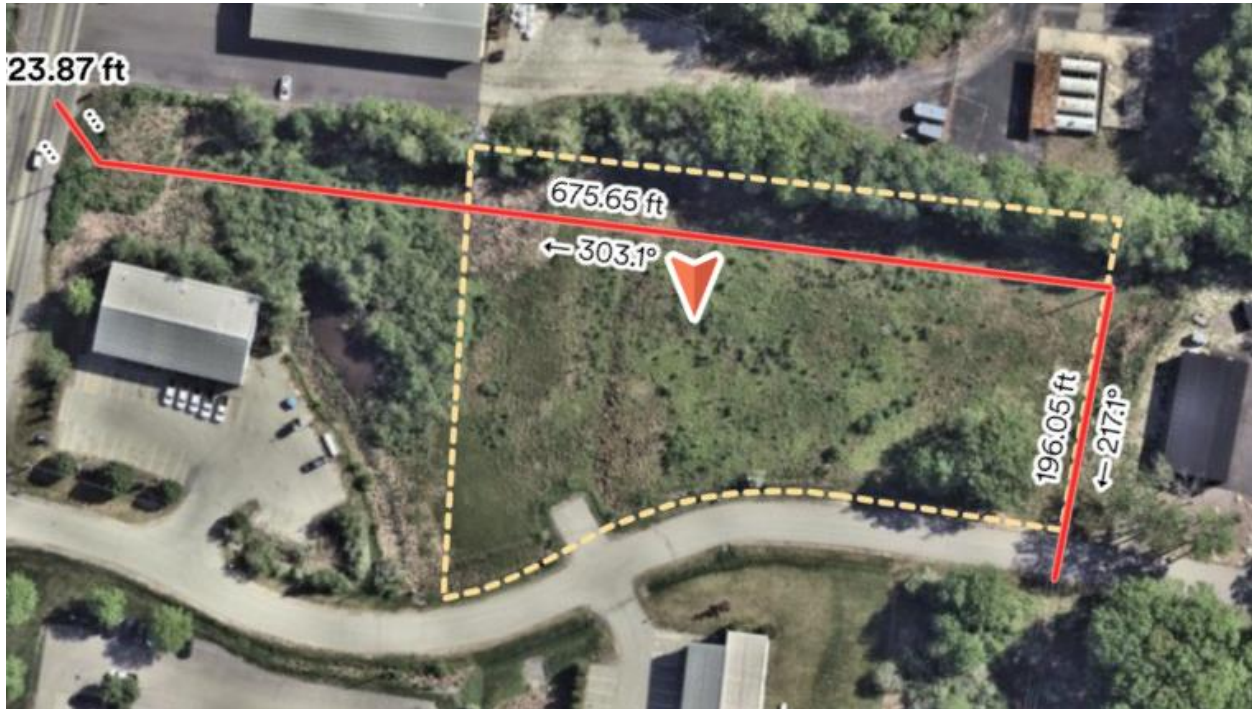


Figure 2 A vertical view of the property showing the CMP ROW Powerline

Since the property is within the Thatcher Brook Watershed, the applicant must pay the **\$10,750.00** Thatcher Brook Impact Fee. As such, the project's impervious area has been reduced from 22,155 square feet to 19,914 square feet by reducing the amount of pavement.

4) Proposed Project

The building will include offices, businesses, professional spaces, and proposed storage areas. The applicant is proposing 15 parking spaces, including one designated handicap space. A sign permit from Code Enforcement and a stormwater permit from the City's Engineering Department are required. The total disturbed area is 44,825 square feet. The diagram below illustrates the building's location in relation to the proposed lot and parking spaces.

2025.01 Sketch Site Plan Review for Bedard's Roofing Company, LLC, to construct a 7,500-sf building and parking for five mixed-use rental units on Digital Drive (Tax Map 15, Lot 7-4) in the I-1 zone.

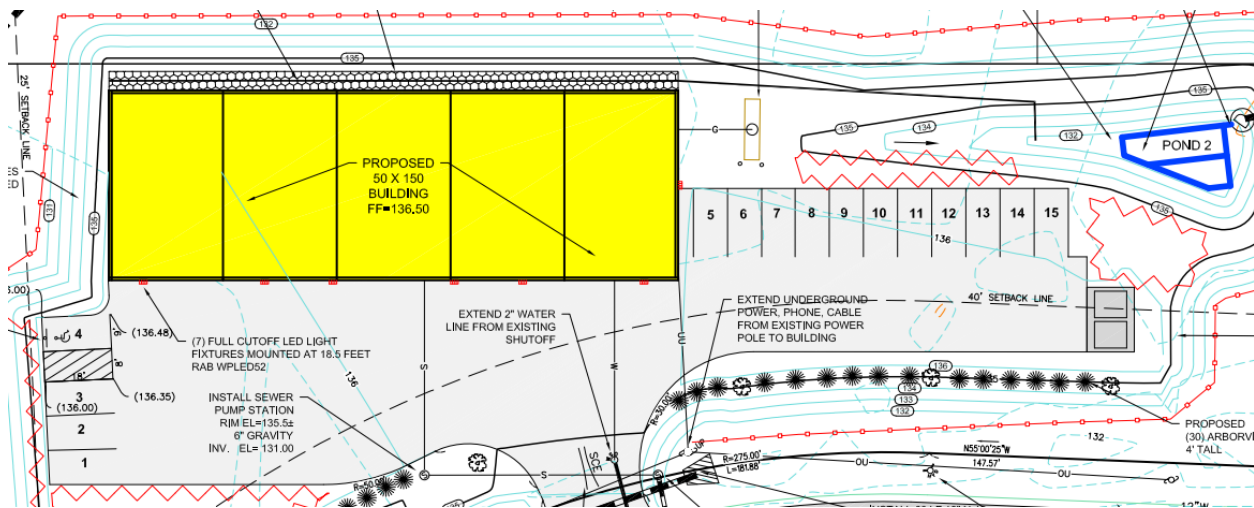


Figure 3 Paul P. Gadbois Engineering and Surveying Company prepared the proposed site plan for the building and private way.

A private way will provide access to the lot, with the City of Biddeford assuming no responsibility for its maintenance, repair, or plowing. Without prior approval from the Planning Board, further division of the lot using the private way is prohibited. The applicant has been informed that snow may not be placed within infiltration ponds and that outdoor storage on the property is not permitted.

The following image illustrates the proposed building design, which will have five stores and five operating upward doors (with a total of 7 doors being proposed.)



Figure 4 The building design will contain five units of small offices of 200', each 30x50 or 1500'.

5) Review Process

Per the City Ordinance, this application is for a "Sketch Plan" review and is subject to the Planning Board's Site Plan (Land Development Regulations, Article XI) review and approval.

Waivers: The applicant requests to use the initially approved grading plan, using the 2' contour interval for the existing one and the 1' contour interval for the proposed one. This means the applicant wants to use the initially approved grading plan, which shows how the land is shaped or will be shaped. The contour intervals represent the elevation changes on a map:

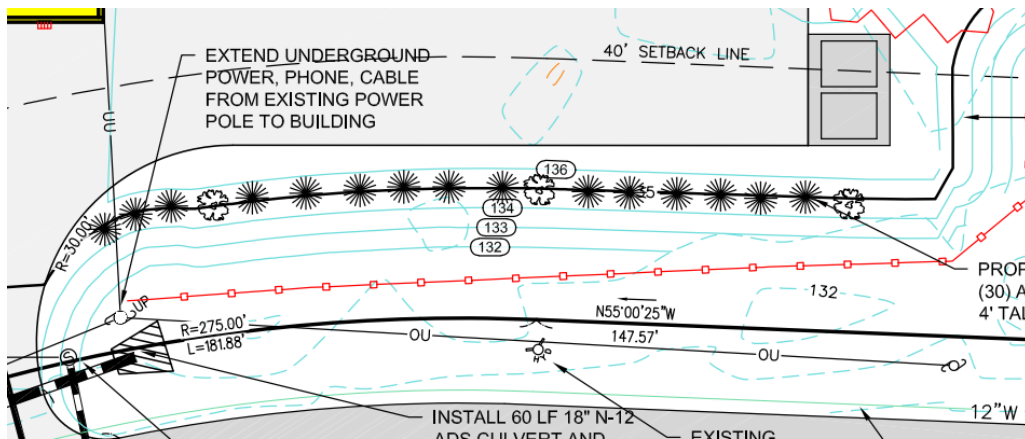
- The existing land conditions are shown with **2-foot contour intervals** (meaning each contour line represents a 2-foot change in elevation.)
- The proposed grading (the planned modifications to the land) is shown with **1-foot contour intervals** (meaning each contour line represents a 1-foot change in elevation.)

This suggests that the proposed grading plan provides more detailed elevation changes than the existing conditions.

Departmental Review Comments:

A. Public Comment:

Since the Sketch Plan Approval in 2018, the owner of 8 Digital Drive requested the addition of landscaping, which the applicant has delightfully accepted and provided:



B. Planning Department:

1. The Applicant must submit elevation drawings and building designs as part of the Preliminary Plan Application.
- ~~2. Confirm whether the applicant still plans to install six upward operating doors.~~
- ~~3. Confirm whether the applicant intends to dedicate the building to skilled trades (e.g., plumbers, mechanics, electricians) rather than retail tenants.~~
- ~~4. An Existing Conditions Survey must be submitted.~~
5. A detailed project narrative must be provided, including information on using individual tenant spaces, deliveries, outdoor storage, estimated number of employees, etc.
- ~~6. Stormwater calculations shall be submitted.~~
- ~~7. The narrative must outline refuse and recycling maintenance/pick-up procedures.~~

2025.01 Sketch Site Plan Review for Bedard's Roofing Company, LLC, to construct a 7,500-sf building and parking for five mixed-use rental units on Digital Drive (Tax Map 15, Lot 7-4) in the I-1 zone.

- ~~8. Specify the size of the largest delivery vehicle utilizing the site. The plans must show all truck turning movements, and all delivery vehicle maneuvering must occur on-site without using public roadways.~~
- ~~9. There is a discrepancy in the site plan regarding the number of proposed parking spaces. The plan currently shows 15 spaces, while note #7 (formerly Note #6 in the December 2, 2024, site plan draft) states 17 spaces. The applicant must clarify.~~
- ~~10. The applicant must confirm the total number of proposed vegetation trees. The current plan indicates 30 proposed Arborvitae and six proposed Ash trees.~~

C. Code Enforcement:

There are no comments/concerns at this time.

D. Engineering / Public Works:

There are no comments/concerns at this time.

E. Fire Department:

There are no comments/concerns at this time.

6. Sample Motions:

The application before the Board is a 'Sketch Plan,' meaning no formal vote is required. However, the Board should provide the applicant with guidance on any items that should be included in the formal Preliminary 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:

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

Applicant Information:

Name: T & T Leasing LLC
Mailing Address: 109 Cascade Road, Old Orchard Beach, ME 04064
Telephone: (207) 229-4979
Email: kevin@atlanticdevelopers.biz
What is your legal interest in the property?
☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: Same as Applicant
Mailing Address: _____
Telephone: _____
Email: _____

Agent's Information:

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

Engineer/Surveyor's Information:

Name: Paul P. Gadbois
Mailing Address: P.O. Box 327 Saco, ME 04072
Telephone: (207) 283-3980
Email: pgadbois53@gmail.com

Project Location and Lot Information:

Street Address: 3 Digital Dr. Drainage Watershed: Thatcher Brook
Tax Map: 15 Lot: 7-4
Current Zoning: I-1 Shoreland Zoning: No
Size of Lot: 2.18 (☒) acres () s.f. Lot Frontage: 426'
Existing Use of Property: 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 owner intends to construct a 7,500-sf facility to rent units for commercial activities.

Property to be Serviced by:

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

Limits of Disturbance: 44,825 () acres (☒) s.f.

Net change in impervious cover: 19,914 () 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%): _____

Percent of structure expansion (Max 30%): _____

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: 7,500

Total new square feet paving/parking: 12,414

Waiver Requests (attach details):

1. _____
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
 - ☐ 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?: 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

Signature of Property Owner:

Date Dec 6-24

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_INDIVIDUAL 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 INDIVIDUAL 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:	
Planning Board # (if available):	
Applicant Name/Info:	
Submittal #/Type (Prelim/Final):	
Submittal Date:	

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				
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	SH 2			
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		PREVIOUSLY APPROVED SUBDIVISION		
2	COVER SHEET					
A	Project Name & Property Address	YES	SH 2			
B	Project Team Contact Information (Owner, Engineer, Contractor, etc.)	YES	SH 2			
C	Site Location Map	YES	SH'S 1 & 2			
D	Sheet Set List of Drawings	YES	SH 1			
E	Tax Map and Lot ID	YES	SH 2			
F	Zoning & Shoreland Zone Information	YES	SH 2			
G	Existing Use Description	YES		Application and cover letter		
H	Proposed Use Description	YES		Application and cover letter		
I	Required Waiver/Variances (Yes/No); if yes, plan must clearly list waivers/variances requesting	YES		Asking to keep exsiting contours at 2 foot intervals.		
J	Name of Drainage Watershed	THATCHER BRK				
K	Within the MS4 Urbanized Area (Yes/No)	YES				
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)	NO	SH 2			
N	Public Road Proposed (Yes/No)	NO		EXISTING PRIVATE WAY		
O	Private Road Proposed (Yes/No)	NO		EXISTING PRIVATE WAY		
P	Public Sewer Connection (Yes/No)	YES	SH 2	PRIVATE SEWER CONNECTS TO PUBLIC SEWER VIA FORCE MAIN		
Q	Public Storm Drain Connection (Yes/No)	NO				
R	Limits of Disturbance in square feet and acres	YES	SH 2	DESIGNATED BY SILT FENCE		
S	Pervious Land Cover square footage, existing and proposed	YES	SH 2			
T	Impervious Land Cover square footage (Pavement/Gravel), existing and proposed	YES	SH 2			
U	Building Roof square footage, existing and proposed	YES	SH 2			
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	SH 2			
B	Property & Right-of-Way Lines	YES				
C	Boundary line information (bearings, distances, etc.)	YES	SH 2 and 3			
D	Property pin and monumentation locations	YES	Sh 2 and 3			
E	Existing easements with proper ownership identified	YES	Sh 2 and 3			
F	Road Names & Individual Lot Labels (Map, Lot, Owner, Acreage)	YES	Sh 2			
G	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	Sh 2			
H	100-year Flood Zone Limits & Elevation	YES	SH 2	Note 20		
I	Existing contours with adequate contour labelling; minimum 1' contour interval	YES		Shown at 2' intervals originally submitted in 2018. Requesting Waiver		
J	Existing building FFEs annotated	N/A				
K	Spot elevations for all tie-in locations (curb cuts, property line)	N/A				
L	Existing buildings & structures	N/A				
M	Existing pavement areas & number of parking spaces	N/A				
N	Existing ADA ramp geometry, detectable warning plates, and ADA parking spaces	N/A				
O	Existing site features (sidewalks, retaining walls, curbing, lightpoles, guide rails, dumpsters, fencing)	N/A				
P	Existing signage and striping	N/A				
Q	Existing underground utility locations (storm, sewer, force main, water, gas, elec, tele)	YES	SH 3			
R	Existing above-ground utility locations (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	SH 3			
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	SH 2			
T	Existing tree lines, street trees, free-standing trees (12" or larger diameter at breast height), and vegetation	N/A				
U	Location of any borings, drinking wells, and monitoring wells	N/A				
4	SITE DEMOLITION & EROSION CONTROL (E&SC) PLAN					
A	Limits-of-disturbance outlined and acreage annotated	YES	SH 2			
B	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	SH 2			
C	100-year Flood Zone Limits	N/A				

	D	Callout existing site features to be demolished/removed/replaced	YES	SH 2	REMOVE EXISTING TURN-AROUND		
	E	Callout existing utilities to be demolished/removed/abandoned-in-place	N/A				
	F	Hatch existing buildings and pavement to be removed	N/A				
	G	Construction Entrance location(s)	YES	SH 2			
	H	Perimeter E&SC control location(s) (i.e. silt fence, erosion berm mix)	YES	SH 2			
	I	Stockpile and staging area(s) identified (with proper perimeter control)	NO		TO BE DETERMINED BY SITE CONTRACTOR AT PRE-CONSTRUCTION MEETING		
	J	Inlet protection location(s)	YES	SH 2			
	K	Note requiring contractor to implement dust control measures throughout construction	YES	Sh 7	APPENDIX C HOUSEKEEPING		
	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				
	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 trans/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	SH 2			
	C	Proposed subdivision lot lines and labels	YES	SH 2			
	D	Required Zoning Setbacks shown with dimensions and annotation	YES	SH 2			
	E	Bulk requirement summary table (zoning/parking calculations)	YES	SH 2			
	F	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	SH 2			
	G	100-year Flood Zone Limits	N/A	Sh 2	Note 20		
	H	Proposed building outlines, door entrances and loading docks	YES	SH 2			
	I	Proposed building labels	YES	SH 2			
	J	Proposed road & sidewalk extents; provide clear annotation if roads will be public or private	N/A		EXISTING PRIVATE WAY		
	K	Proposed parking and accessible parking locations; annotate parking space counts	YES	SH 2			
	L	Proposed signage, parking striping, and traffic striping	YES	SH 2			
	M	Detailed ADA ramp geometry, detectable warning surfaces, and ADA parking striping/signage; existing & proposed	YES	SH 2 & 4			
	N	Proposed site features (i.e. curbing, walls, fencing, guiderail, fire hydrant, transformers, light pole locations)	YES	SH 2 and 3			
	O	Proposed landscaping; detailed landscaping design should be shown on separate plans	YES	SH 2			
	P	Designated snow storage areas	YES	SH 2			
	Q	Proposed dumpster locations and trash removal access	YES	SH 2			
	R	Linear dimensions of all drive aisles, sidewalk widths, parking spaces, loading docks	YES	SH 4			
	S	Radial dimensions for all curbs, landscaped islands, sidewalks	YES	SH 4			
	T	Public/private road centerline stationing shown, labelled every 0+50' with curve data	N/A		EXISTING PRIVATE WAY		
	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	SH 2			
6		GRADING PLAN					
	A	Partial Grading Plans needed for any viewport greater than 1"=20'					
	B	Limits-of-disturbance outlined and acreage annotated	YES	SH 2	SILT FENCE DEFINES LIMITS OF DISTRUBANCE		
	C	Proposed Building Labels with Individual Finished Floor Elevations (FFE's)	YES	SH 2			
	D	Existing contours with adequate contour labelling, screened; minimum 1' contour interval	YES	SH 2			
	E	Proposed contours with adequate contour labelling; minimum 1' contour interval	YES	SH 2			
	F	Detailed grading for all ditches, swales, outfalls, and riprap	YES	SH 2			
	G	All proposed contours tie-into existing contours at limits-of-disturbance outline	YES	SH 2			
	H	Existing spot elevations for all asphalt, curb, and SWM BMP tie-in locations	YES	SH 4			
	I	Location of any Natural Resources and their respective buffers (wetlands, streams, etc.)	YES	SH 2			
	J	100-year Flood Zone Limits	N/A		NOT LOCATED IN FLOOD ZONE		
	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)	N/A				
	A	Existing surface; dashed and screened	N/A				
	B	Proposed surface; continuous and bold	N/A				
	C	Road design speed must be clearly identified	N/A				
	D	Corresponding centerline stationing and curve data annotation	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	N/A				
	F	Clear annotation if proposed road will be public or private	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	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	N/A				
8		UTILITY PLAN					
	A	Existing underground utility locations; screened (storm, sewer, force main, water, gas, electric, telecom)	YES	SH 2 & 3			
	B	Existing above-ground utility locations; screened (manholes, catch basins, utility poles, hydrants, riprap)	YES	SH 2 & 3			

	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	SH 2 & 3		
	D	Proposed underground utility locations; bold (storm, sewer, force main, water, gas, electric, telecom, lighting)	YES	SH 2		
	E	Proposed above-ground utility locations; bold (manholes, catch basins, utility poles, hydrants, transformers, riprap)	YES	SH 2		
	F	Proposed storm culverts, outfalls, and riprap locations and sizes	YES	SH 2		
	G	Storm/sewer structure labels must include: rim, inverts in, inverts out, pipe sizes, cardinal directions (N, E, S, W)	YES	SH 2		
	H	Storm/sewer pipe labels must include: linear footage, pipe size, material, slope	YES	SH 2		
	I	Flow directional arrows for storm & sewer pipes	YES	SH 2		
	J	Proposed & existing site features shown that could conflict with proposed utilities (trees, signs, lightpoles, bollards, foundations, guiderails)	YES	SH 2		
	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	YES	SH 6	TYPICAL PAVEMENT SECTION	
	B	Sidewalk, paver, crosswalk, and any other pavement section details	N/A			
	C	Pavement sawcut & shiplap details	YES	SH 6		
	D	Utility trench/backfill detail	YES	SH 6		
	E	All site feature details; curbing, retaining walls, fencing, guiderails, dumpsters, etc.	YES	SH 2		
	F	Signage, striping, and ADA details	YES	SH 2 & 4		
	G	E&S notes and details	YES			
	H	Utility structure details (manholes, cleanouts, fittings, handholes, transformer pads, hydrants)	YES	Sh 5 and 6		
	I	Storm outfall & riprap details	YES	SH 5 and 6		
	J	Drainage ditch cross section identifying minimum depth, minimum bed width, and maximum side slopes	N/A		EXISTING ROADWAY DITCH	
	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. City Checklist for Built Inspections post construction	OK			

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	STORMWATER SHEETS 1 & 2			
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		PROJECT ESTIMATES 20 GPD PER PERSON = 20 X 20 =400 GPD		
D	A Performance Guarantee Cost Estimate utilizing Planning’s template	NO		WILL SUBMIT AT FINAL SUBMISSION		
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)	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					



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois53@gmail.com

January 29, 2025

David Galbraith, Planner
City of Biddeford
205 Main Street
Biddeford, ME

Re: T & T Leasing, LLC, 3 Digital Drive Map 15, Lot 7-4.

Dear Mr. Galbraith,

In response to your comments listed in an Email dated December 31, 2024, I have the following comments and response:

- Added existing conditions plan.
- Submitted stormwater plans and calculations.
- Building elevation.

Project Narrative:

The owner T & T Leasing LLC purchased the property in November 2024, the subdivision was approved in 2005 creating 8 lots. In 2018 the planning board approved the site plan for Bedard's Roofing Company, LLC.

The owner intends to lease portions of the building to individuals looking for uses permitted within the Industrial Zone (I-1). The following uses will be permitted:

- Offices, business and professional.
- Services.
- Light manufacturing.
- Warehousing and storage.

Note #31 of the site plan states no outdoor storage on the property.

The plan shows 15 outdoor parking spaces. Most probably these units will each contain a small office of 200 square feet and the remaining being used to park commercial vehicles and storage. Using each unit, 30 x 50 or 1500 square feet, which requires 2 parking spaces, we are providing 3 per unit.



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois53@gmail.com

Since the approval granted in 2018 Thatcher Brook has become an impaired stream. The projects impervious areas have been reduced from 22,155 square feet to 19,914 square feet by reducing the amount of pavement.

The project proposes to treat runoff by capturing 86% of the impervious areas. A roof drip line BMP is proposed to treat the runoff from the proposed 7,500 square foot building. The pavement runoff will run into two detention and infiltration ponds to provide treatment.

Stormwater Management:

The project qualifies for a stormwater PBR since it will create less than 20,000 square feet of impervious area and less than 5 acres of developed area.

Waste Management:

The units will be served by a private waste management company and recycled at their facility. Note #9 on site plan states the city will not be responsible for trash pickup.

Vehicle Access:

The site will accommodate a 30' box truck as shown on SP-1. Also, the site can accommodate a fire ladder truck as shown on Sheet #4 of the plan set.

Building Design:

We are submitting the original photo showing a building design.

Ability to serve:

We have reached out to the Fire Department, Maine Water Co., Engineering Department and CMP requesting the ability to serve. The project is estimated to use 400 GPD approximately the size of a 4-bedroom house. We will submit letters of approval when received.

Waivers:

We would like to use the originally approved grading plan using the 2' contour interval for existing and 1' contour interval for proposed.



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois53@gmail.com

Should you have any questions, please call.

Sincerely,

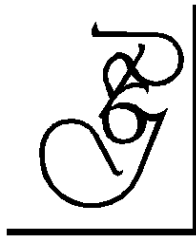
Paul P. Gadbois, P.E., P.L.S.



Site Photo



Site Photo



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois@maine.rr.com

February 5, 2025

David Galbraith, Planner
City of Biddeford
205 Main Street
Biddeford, ME

Re: T & T Leasing, LLC 3 Digital Drive, Biddeford, Maine

Dear Mr. Galbraith,

Enclosed please find the stormwater calculations for T & T Leasing, LLC project located at 3 Digital Drive Tax Map 15, Lot 7-4.

The project is located in the Thatcher Brook Watershed therefore the project has been designed to limit the impervious area to 20,000 square feet. The project proposes to construct a 7,500 square foot structure, remove 940 square feet of pavement within the existing turnaround and add 13,354 square feet of new pavement. This results in a net increase in the impervious area of 19,914 square feet.

Since the site is located within MS4 District our stormwater management plan was developed to minimize the amount of stormwater leaving the site and provide for treatment of 86% of new impervious area.

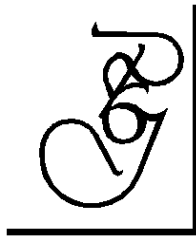
Water Quality

The water quality control plan includes the creation of a roof drip line BMP and filter ponds to provide treatment to 86% of the impervious surfaces.

The roof dripline BMP will be constructed at the roof eave overhang along the backside of the building.

The quantity peak flow summary is shown below for each development condition. We have shown results for the 2-, 10-, 25- and 100-year events

FLOODING STANDARD RESULTS			
	Reach 1R	Reach 1R	
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	C.F.S.
2 Year	1.45	1.09	-0.36
10 Year	2.81	1.93	-0.91
25 Year	3.96	2.63	-1.33
100 Year	6.20	4.20	-2.00



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois@maine.rr.com

FLOODING STANDARD RESULTS			
	Reach 2R	Reach 2R	
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	C.F.S.
2 Year	0.99	1.09	+0.10
10 Year	1.94	1.93	-0.1
25 Year	2.74	2.62	-0.12
100 Year	4.31	5.03	+0.72

There is a slight increase at Pond 2, Reach 2R for the 2-Year event. Overall, there is a decrease in offsite flows during storm events. The spillway for reach 2R was set above the 100 year peak elevation.

In conclusion this project will not result in any downstream impacts and also provide for treatment.

Should you have questions, please call.

Very truly yours,

Paul P. Gadbois, P.E., P.L.S.

(DLN): 2152656

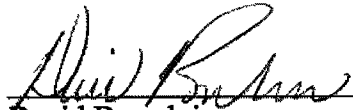
QUITCLAIM DEED
(with Covenant)

DAVID BEAUDOIN and JACOBIE BEAUDOIN (together, "Grantor"), individuals residing in Saco, Maine, with a mailing address of 17 Edgewater Lane, Saco, ME 04072, for consideration paid, grant to **T & T LEASING LLC** ("Grantee"), a Maine limited liability company with a place of business in Old Orchard Beach, Maine, with a mailing address of 109 Cascade Road, Old Orchard Beach, ME 04064, with Quitclaim Covenant, the real property located on Digital Drive, in the City of Biddeford, York County, Maine, more particularly described on Exhibit A.

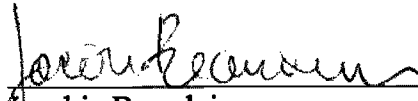
Meaning and intending to convey the premises conveyed to Grantor by deed from Bedard's Roofing Company, LLC, dated October 30, 2020, and recorded in the York County Registry of Deeds in Book 18436, Page 500.

IN WITNESS WHEREOF, the Grantor has executed this deed under seal as of November 22, 2024.


Witness


David Beaudoin

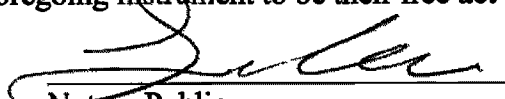

Witness


Jacobie Beaudoin

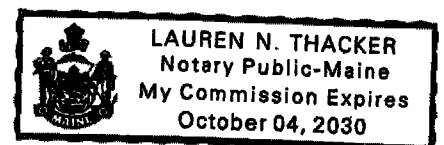
State of Maine
County of Cumberland, ss

Date: November 22, 2024

Then personally appeared before me the above-named David Beaudoin and Jacobie Beaudoin, and each acknowledged the foregoing instrument to be their free act and deed.


Notary Public
Printed Name: Lauren N. Thacker

Date Commission Expires:



Maine R.E. Transfer Tax Paid

Exhibit A
David Beaudoin and Jacobie Beaudoin to T & T Leasing LLC
(page 1 of 2)

A certain lot or parcel of land, together with the buildings thereon, situated on the easterly side of Route One in the said City of Biddeford, as shown as Lot B on the Final Subdivision Plan of 1st Digital Business Park prepared by Paul P. Gadbois Engineering, Surveying and Land Planning, as recorded in the York County Registry of Deeds in Plan Book 300, at Page 38-42 on April 20, 2005, said parcel being more particularly bounded and described as follows:

Said parcel being 2.18 acres, more or less, and having a 1.07 acre net area.

Together with a 50.00 foot easement/right of way for purposes of ingress and egress to the property described herein over the private way known as Digital Drive. Said private way as depicted in the aforementioned Plan of Paul P. Gadbois.

This conveyance herein is made subject to the following:

1. Rights and easements granted by Joseph Alfred Webber Chasse, et al. to Central Maine Power Company by instrument dated July 29, 1952 and recorded in the York County Registry of Deeds in Book 1214, Page 168.
2. Rights and easements granted by Treffle Chasse, et al., to Central Maine Power Company by instrument dated July 11, 1952 and recorded in the York County Registry of Deeds in Book 1218, Page 179.
3. Rights and easements granted by Richard H. Howard and Sharlene G. Howard to Central Maine Power Company by instrument dated December 2, 1977 and recorded in the York County Registry of Deeds in Book 2322, Page 158.

Also conveying those easement rights set forth in the Deed of Real Estate Holdings, LLC to the Microlife American Holding Corp. recorded in the York County Registry of Deeds in Book 12899, Page 136 to which reference may be had for a more particular description.

This conveyance is made subject to a Mutual Grading and Drainage Easement as more fully set forth in a deed from Microlife American Holding Corp. recorded on May 20, 2003 and recorded in the York County Registry of Deeds in Book 12899, Page 138.

This conveyance is made subject to all Notes as set forth in the Final Subdivision Plan approved by the City of Biddeford on April 6, 2005. Said Plan recorded in the York County Registry of Deeds on April 20, 2005 in Plan Book 300, Pages 38-42.

Exhibit A
David Beaudoin and Jacobie Beaudoin to T & T Leasing LLC
(page 2 of 2)

This conveyance is made subject to a drainage grading and utility easement for installation and maintenance of same and right of way 15 feet in width along all lot sidelines and rear lines and 30 feet in width along the front lines (Digital Drive).

This conveyance is made subject to a Roadway, Infrastructure and Utility Maintenance Agreement recorded on May 16, 2005 in the York County Registry of Deeds in Book 14461, Page 374.



Similar Building Design

ENVIRONMENT

34 Attachment 2

City of Biddeford

Appendix 1

Maintenance Agreement for Stormwater Management Facilities

This Maintenance Agreement is made this day of _____ 20__ by and between _____ and the City of Biddeford, Maine.

The project name is _____.

The location is: _____, Biddeford, Maine.

The project's Tax Map and Lot Numbers are Tax Map Lot _____

The project is shown on a plan entitled" _____" dated _____ and most recently revised on _____, approved by the _____ [Municipal Permitting Board] on _____ and recorded in the _____ County Registry of Deeds in Plan Book _____ Page _____ (the "Project").

WHEREAS, the approval of the Project includes Stormwater Management Facilities which requires periodic maintenance; and

WHEREAS, in consideration of the approval of the Project the City of Biddeford requires that periodic maintenance be performed on the Stormwater Management Facilities;

NOW, THEREFORE, in consideration of the mutual benefits accruing from the approval of the Project by the City and the agreement of _____ to maintain the Stormwater Management Facilities, the parties hereby agree as follows:

1. _____, for itself, and its successors and assigns, agrees to the following:
 - (a) To inspect, clean, maintain, and repair the Stormwater Management Facilities, which includes, to the extent they exist, parking areas, catch basins, detention basins or ponds, drainage swales, pipes and related structures, at least annually, to prevent the build up and storage of sediment and debris in the system;
 - (b) To repair any deficiencies in the Stormwater Management Facilities noted during the annual inspection;
 - (c) To provide a summary report on the inspection, maintenance, and repair activities performed annually on the Stormwater Management Facilities to the City Enforcement Authority;
 - (d) To allow access by City personnel or the City's designee for inspecting the Stormwater Management Facilities for conformance with these requirements.
 - (e) To create a homeowners' association for the purpose of maintaining the Stormwater Management Facilities.

BIDDEFORD CODE

2. Upon creation of the homeowners' association, the homeowners' association shall become responsible for compliance with the terms of this Agreement.
3. This Agreement shall constitute a covenant running with the land, and _____ shall reference this Agreement in all deeds to lots and/or units within the Project.

Witness

By: _____
Its: _____

CITY OF BIDDEFORD

Witness

By: _____
Its: _____

STATE OF MAINE

_____, ss. _____, 20__

Personally appeared the above-named _____,
the _____ of _____, and
acknowledged the foregoing Agreement to be said person's free act and deed in said capacity.

Before me,

Notary Public/Attorney at Law

Print Name: _____

STATE OF MAINE

_____, ss. _____, 20__

Personally appeared the above-named _____,
the _____ of the City of Biddeford, and acknowledged the foregoing
Agreement to be said his/her free act and deed in said capacity.

Before me,

Notary Public/Attorney at Law

Print Name: _____

T & T Leasing LLC Development Property Maintenance:
3 Digital Drive

PART 1: RESPONSIBILITY FOR MAINTENANCE

Dave Dube (Owner) will be responsible for maintenance of the stormwater system.

PART 2: INSPECTIONS – During Construction and Post Construction

- Detention Facilities: Wet Ponds, Filter Ponds, etc.
 - Embankment inspection and maintenance
 - Spillway maintenance
 - Outlet Structure sump cleaning and maintenance
 - Sediment removal and disposal
- Detention Facilities: Detention Pond
 - Debris removal from stone storage area (leaves, branches, trash, etc.)
 - Sediment removal and disposal
- Ditches, Swales, or other open stormwater channels
 - Embankment inspection and maintenance
 - Channel inspection
 - Sediment removal and disposal
- Culverts, catch basins, stormwater control structures
 - Embankment inspection and maintenance
 - Inlet and Outlet inspection
 - Debris removal and disposal
- Roof Dripline Filter BMP Maintenance
 - Sediment removal and disposal
 - Filter and Underdrain replacement
 - Debris removal and disposal
 - Stone Dripline Replacement
 - Foundation Sealant
 - Foundation Backfill

The owner or owners representative will inspect the detention ponds, roof driplines, swales, channels, stormwater structures to determine if the soil blockage or impaired capacity to pass flow exists. Inspections will be performed on a monthly basis from March to November, and quarterly during the remainder of the year. A record of inspections and maintenance or corrective measures shall be kept by the owner / maintenance personnel (see part 4).

PART 3: MAINTENANCE AND CLEANING

The owner or owners representative will regularly inspect for sediment accumulation, obstructions, debris, and other potential causes for operational difficulty in the conveyance and detention system as described in Part 2. Immediate action shall be taken to remedy detrimental obstructions. This may include replacing the filter pond and roof driplines filter beds as necessary to allow infiltration and treatment to occur.

Cleaning out of catch basins, culvert cleaning, and other means necessary to ensure the stormwater system is maintained. Some additional measures (but not limited to) are shown below:

- Wet Pond maintenance
 - Gravel Drain Inspection
 - Gravel Drain replacement
 - Outlet Structure sump cleaning and maintenance
 - Sediment removal and disposal
 - Mowing
 - Harvesting and Weeding

The owner or owners representative will regularly inspect the wet ponds after every major storm event in the first few months to ensure proper function. There after the pond should be inspected bi-annually to ensure that it is draining within 24 hours. Sediment shall be removed from the pond when sediment reduces the pond volume by 25%. The removed sediment shall be hauled off site and disposed of. Mowing of the pond area shall be limited to 2 times per year to maintain grass heights to less than 12". Weeding and pruning of growth within the pond and pond back slopes will be completed as necessary. The pond outlet shall be inspected for erosion and make repairs as needed annually.

- Under drained filter Maintenance:
 - Soil Filter Inspection
 - Soil Filter replacement
 - Outlet Structure sump cleaning and maintenance
 - Sediment removal and disposal
 - Mowing
 - Harvesting and Weeding

The owner or owners representative will regularly inspect the soil filter after every major storm event in the first few months to ensure proper function. There after the filter should be inspected bi-annually to ensure that it is draining within 24 hours. The top several inches of the filter shall be replaced with fresh material when water ponds on the surface of the bed for more than 72 hours. Sediment shall be removed from the filter bed annually. The bed shall be hand raked and re-seeded as necessary. The removed sediment shall be hauled off site and disposed of in a stabilized area. Mowing of the filter area shall be limited to 2 times per year to maintain grass heights to less than 12". Weeding and pruning of growth within the filter zone will be completed as necessary.

- **Detention Facilities:**

A mandatory scheduled maintenance will be performed every four weeks for a period of one hundred and twenty (120) days and will begin after satisfactory completion and acceptance of landscape construction. Ongoing maintenance will be required as necessary.

- **Parking/Display Areas:**

All sand, salt, etc. accumulated when sweeping the parking and display areas, shall be trucked off-site for disposal. The parking lot shall be swept annually in the spring.

- **Catch Basins, Culverts, Pipe inlets/outlets, Pond outlets, and swales:**

Catch basins shall be cleaned of sediment and debris as required when flow is blocked or impaired. The roads shall be swept annually in the spring to minimize sediment build up in basins. Check culvert and pipe outlets for erosion and make repairs as required. Re-seed or armor with riprap as conditions require.

PART 4: RECORD KEEPING

The owner or owners representative will maintain inspection records, with recordings of condition of basins, and pipes and annotation of substantial precipitation events or mitigating circumstances in the intervening time for trending to develop the anticipated preventive maintenance schedule.

PART 5: MAINTENANCE CONTRACT

Should proprietary devices be utilized, a maintenance contract will be established with the manufacturer for regular maintenance and cleaning of the device.

PART 6: RE-CERTIFICATION

The owner or owners representative shall submit a certification to Maine DEP within three months of the expiration of each five year interval from the date of issuance of the permit. The owner shall submit the maintenance log which identifies inspections completed, erosion problems found, when corrective action was taken, and who completed the work. The certification will include a statement indicating that the stormwater system is working and is being maintained in working condition in accordance with the permit requirements.

Maintenance Log Sheet

3 Digital Drive

[illegible]

Maine DEP Chapter 500 Appendix C. Housekeeping – Updated 2019

These performance standards apply to all projects.

1. Spill prevention. Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

NOTE: Any spill or release of toxic or hazardous substances must be reported to the Department. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at <http://www.maine.gov/dep/spills/emergspillresp/>

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

See Appendix D for license by rule standards for infiltration of stormwater.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

NOTE: Dewatering a stream without a permit from the Department may violate state water quality standards and the Natural Resources Protection Act.

4. Debris and other materials. Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. Excavation de-watering. Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.

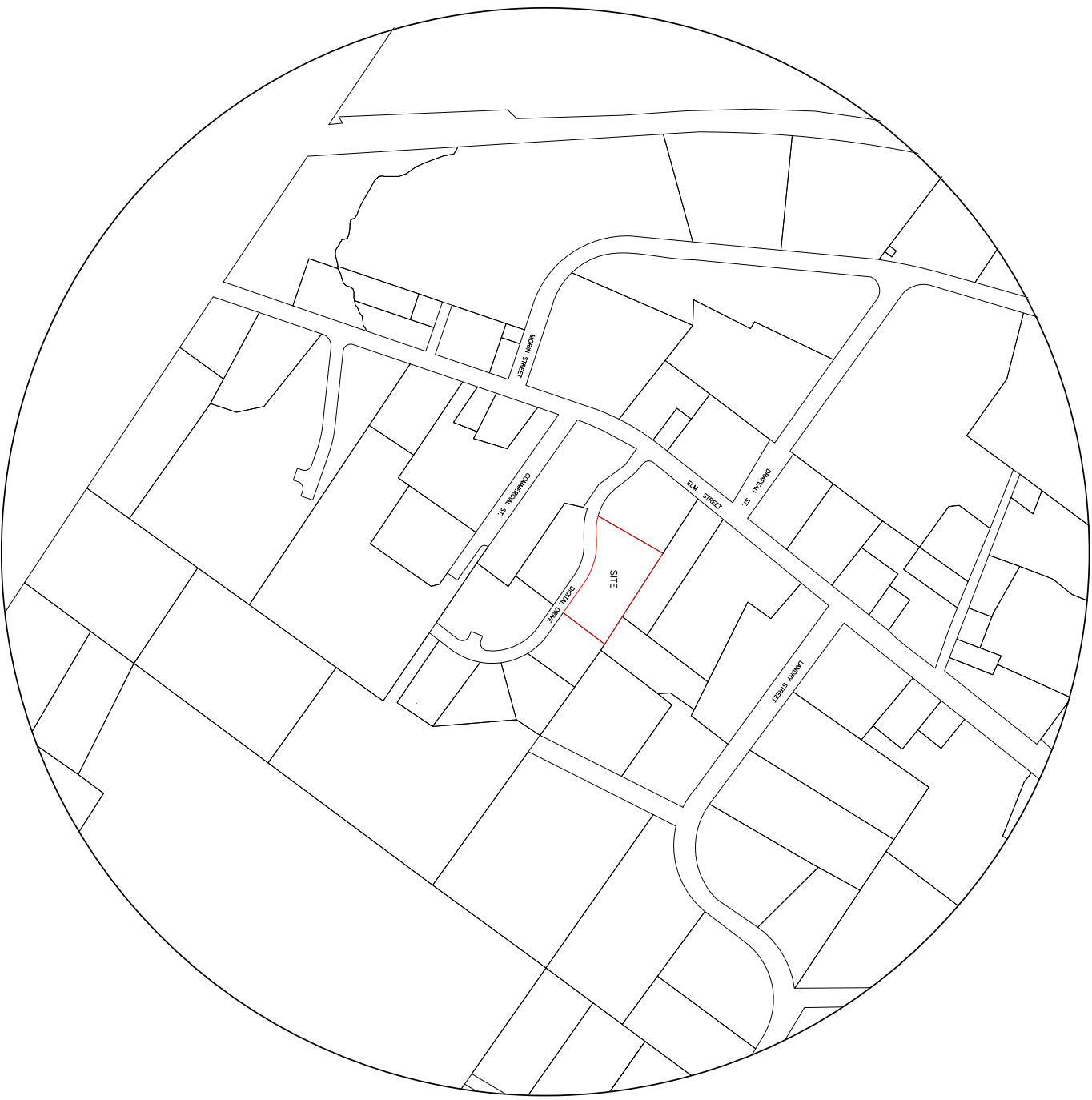
NOTE: Dewatering controls are discussed in the “Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection.”

6. Authorized Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

- (a) Discharges from firefighting activity;
- (b) Fire hydrant flushings;
- (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
- (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
- (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
- (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
- (g) Uncontaminated air conditioning or compressor condensate;
- (h) Uncontaminated groundwater or spring water;
- (i) Foundation or footer drain-water where flows are not contaminated;
- (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
- (k) Potable water sources including waterline flushings; and
- (l) Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non_stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:

- (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
 - (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
 - (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
 - (d) Toxic or hazardous substances from a spill or other release.
- (8) Additional requirements. Additional requirements may be applied on a site-specific basis.



LOCATION MAP
1"= 200'

PLAN INDEX

- 1. COVER SHEET
 - 2. SITE PLAN
 - 3. EXISTING CONDITIONS PLAN
 - 4. GEOMETRIC PLAN
 - 5. DETAILS 2
 - 6. DETAILS 1
 - 7. EROSION
- STORMWATER INDEX
- 1. PRE CONDITIONS PLAN
 - 2. POST CONDITIONS PLAN

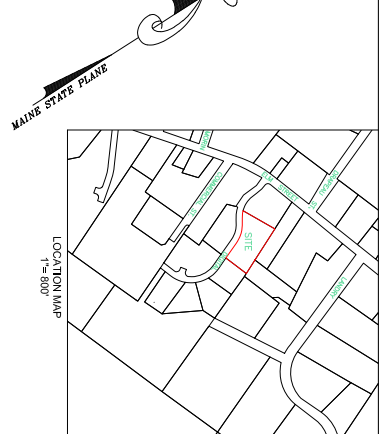


PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

COVER SHEET
T & T LEASING LLC
3 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
T & T LEASING LLC
109 CASCADE ROAD
OLD ORCHARD BEACH, ME

DRAWN: P.P.G.	REVISIONS:
CHECKED: P.P.G.	
SCALE: 1"= 200'	
FIELD BOOK:	
DATE: 02-05-2025	
JOB NO. 1646	
SHEET 1 OF 7	

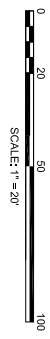
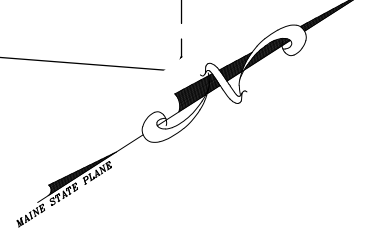
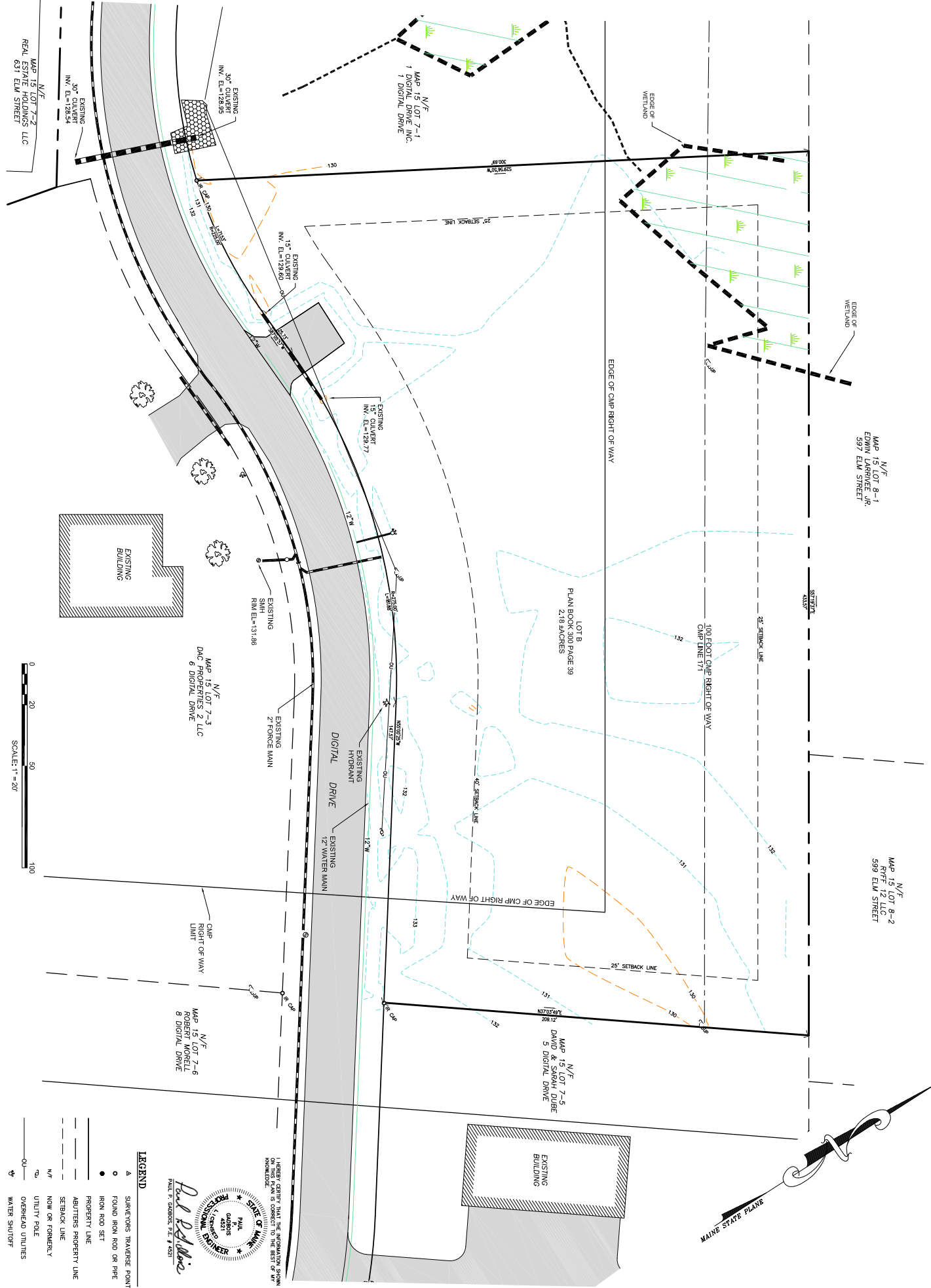


- [illegible]

RECORD OWNER
T & T LEASING LLC
109 CASCADE ROAD
OLD ORCHARD BEACH, ME 04064

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

SCALE: 1" = 20'



LEGEND

- ▲ SURVEYORS TRAVERSE POINT
- FOUND IRON ROD OR PIPE
- ABUTTERS PROPERTY LINE
- PROPERTY LINE
- SETBACK LINE
- NOW OR FORMERLY
- UTILITY POLE
- OVERHEAD UTILITIES
- WATER SHUTOFF

I HEREBY CERTIFY THAT THE INFORMATION SHOWN ON THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE.

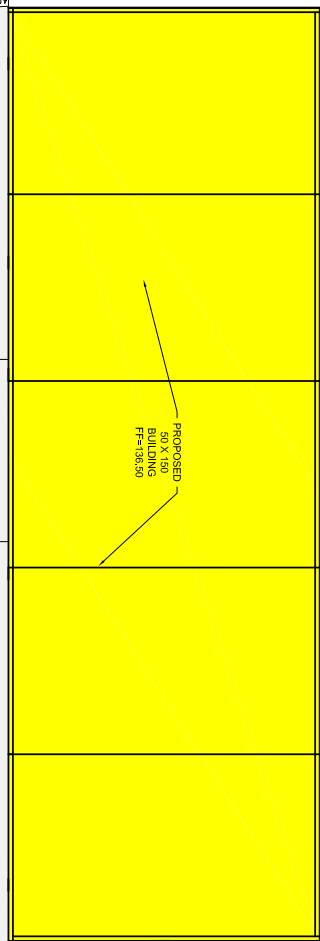
Paul P. Gadbois
 PAUL P. GADBOIS, P.E. # 4521
 REGISTERED PROFESSIONAL ENGINEER

PAUL P. GADBOIS
 ENGINEERING SURVEYING
 LAND PLANNING
 P.O. BOX 327, SACO, MAINE 04072
 (207) 283-3980

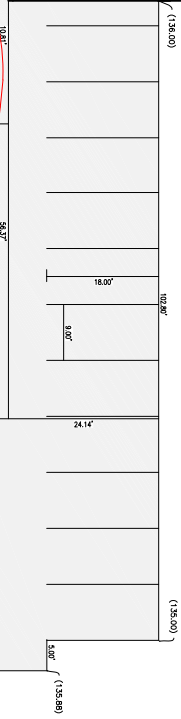
EXISTING CONDITIONS PLAN
 T & T LEASING LLC
 3 DIGITAL DRIVE
 BIDEFORD, MAINE

RECORD OWNER
 T & T LEASING LLC
 109 CASCADE ROAD
 OLD ORCHARD BEACH, ME 04064

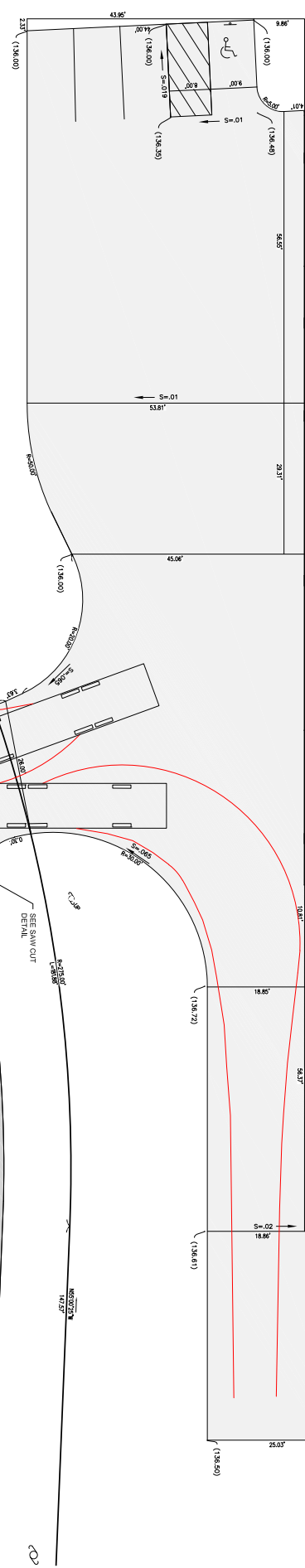
DRAWN: P.P.G.	REVISIONS:
CHECKED: P.P.G.	
SCALE: 1"=20'	
FIELD BOOK:	
DATE: 02-05-2025	
JOB NO. 1646	
SHEET 3 OF 7	



PROPOSED
BUILDING
50 X 150
17'-10" X 15'-0"

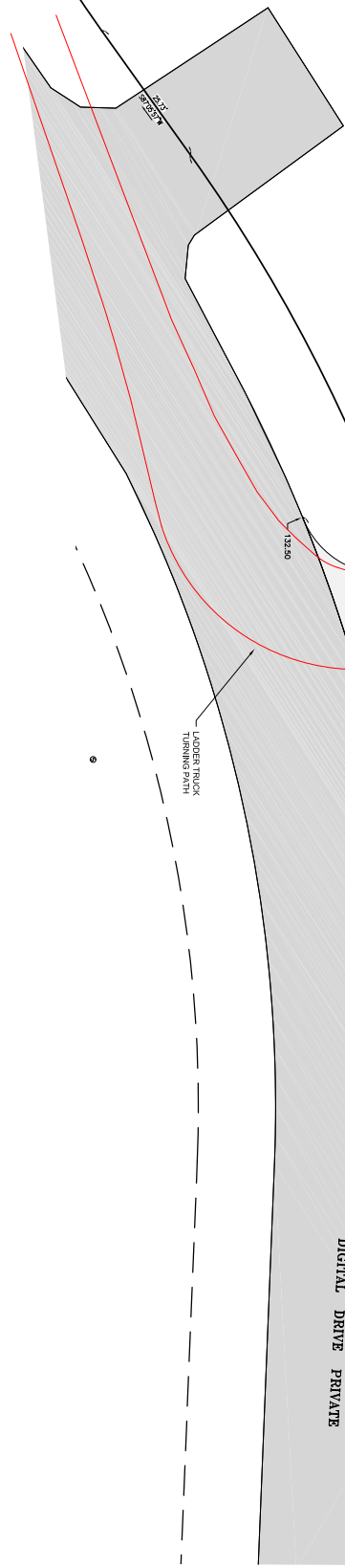


MAINE STATE PLANE



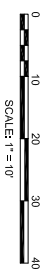
DIGITAL DRIVE PRIVATE

LOADER TRUCK
TURNING PATH



LEGEND

- PROPERTY LINE
- ADJUTERS PROPERTY LINE
- UTILITY POLE
- OVERHEAD UTILITIES
- WATER SHUTOFF
- SEWER MANHOLE
- PROPOSED SPOT GRADES
- DRAINAGE DIRECTION



PROGRESS PLAN
NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THE INFORMATION SHOWN
ON THIS PLAN IS THE BEST OF MY
KNOWLEDGE.

PAUL P. GADBOIS
REGISTERED PROFESSIONAL ENGINEER
MAINE
04072
283-3980

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

GEOMETRIC LAYOUT PLAN
T & T LEASING LLC
3 DIGITAL DRIVE
BIDDEFORD, MAINE

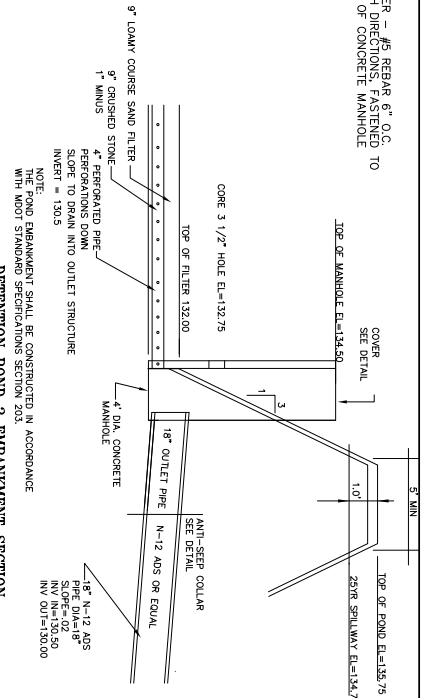
RECORD OWNER
T & T LEASING LLC
109 CASCADE ROAD
OLD ORCHARD BEACH, ME 04064

DRAWN: P.P.G.
CHECKED: P.P.G.
SCALE: 1"=10'
FIELD BOOK:
DATE: 02-05-2025
JOB NO. 1646
SHEET 4 OF 7

REVISIONS:



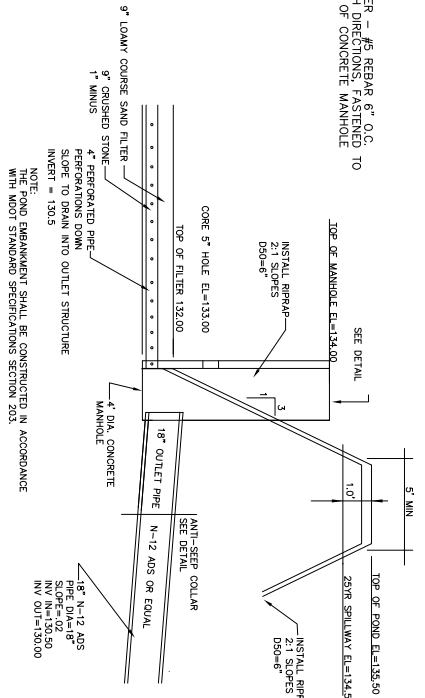
COVER - #5 REBAR 6" O.C.
BOTH DIRECTIONS, FASTENED TO
TOP OF CONCRETE MANHOLE



DEFENTION POND 2 EMBANKMENT SECTION
N.T.S.



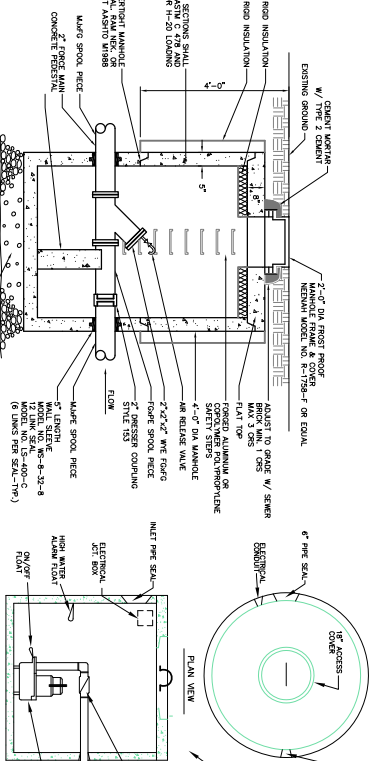
COVER - #5 REBAR 6" O.C.
BOTH DIRECTIONS, FASTENED TO
TOP OF CONCRETE MANHOLE



DEFENTION POND 1 EMBANKMENT SECTION
N.T.S.

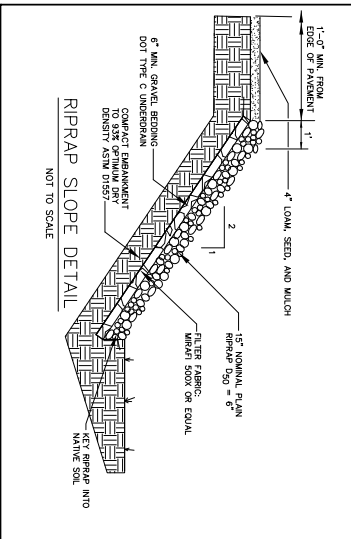
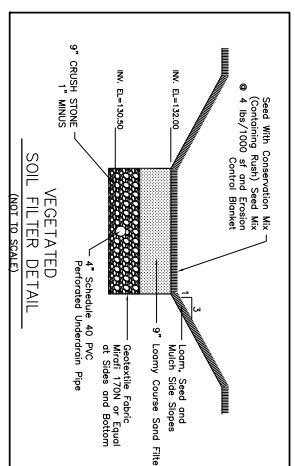
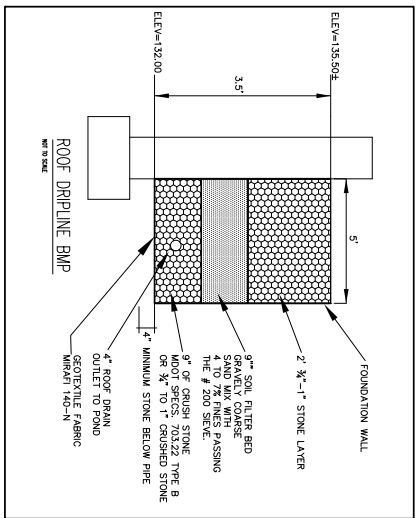
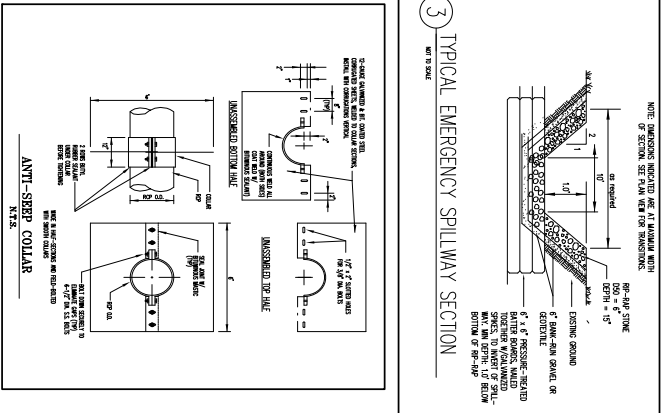
NOTES:

1. ALL CONCRETE TO HAVE A MIN. 4000 PSI COMPRESSIVE STRENGTH
2. DESIGN FOR H-20 WHEEL LOADINGS
3. REFERENCE TO 0.12 N. SQ./FT.
4. ALL RELEASE VALVES SHALL ONLY BE INSTALLED WITHIN HIGH POINT MANHOLES.
5. ALL RELEASE VALVES SHALL CONSIST OF AN 8\"/>



CLEAN-OUT/ AIR RELEASE MANHOLE
OR
CLEAN-OUT/ AIR RELEASE MANHOLE
N.T.S.

3 TYPICAL EMERGENCY SPILLWAY SECTION
NOT TO SCALE



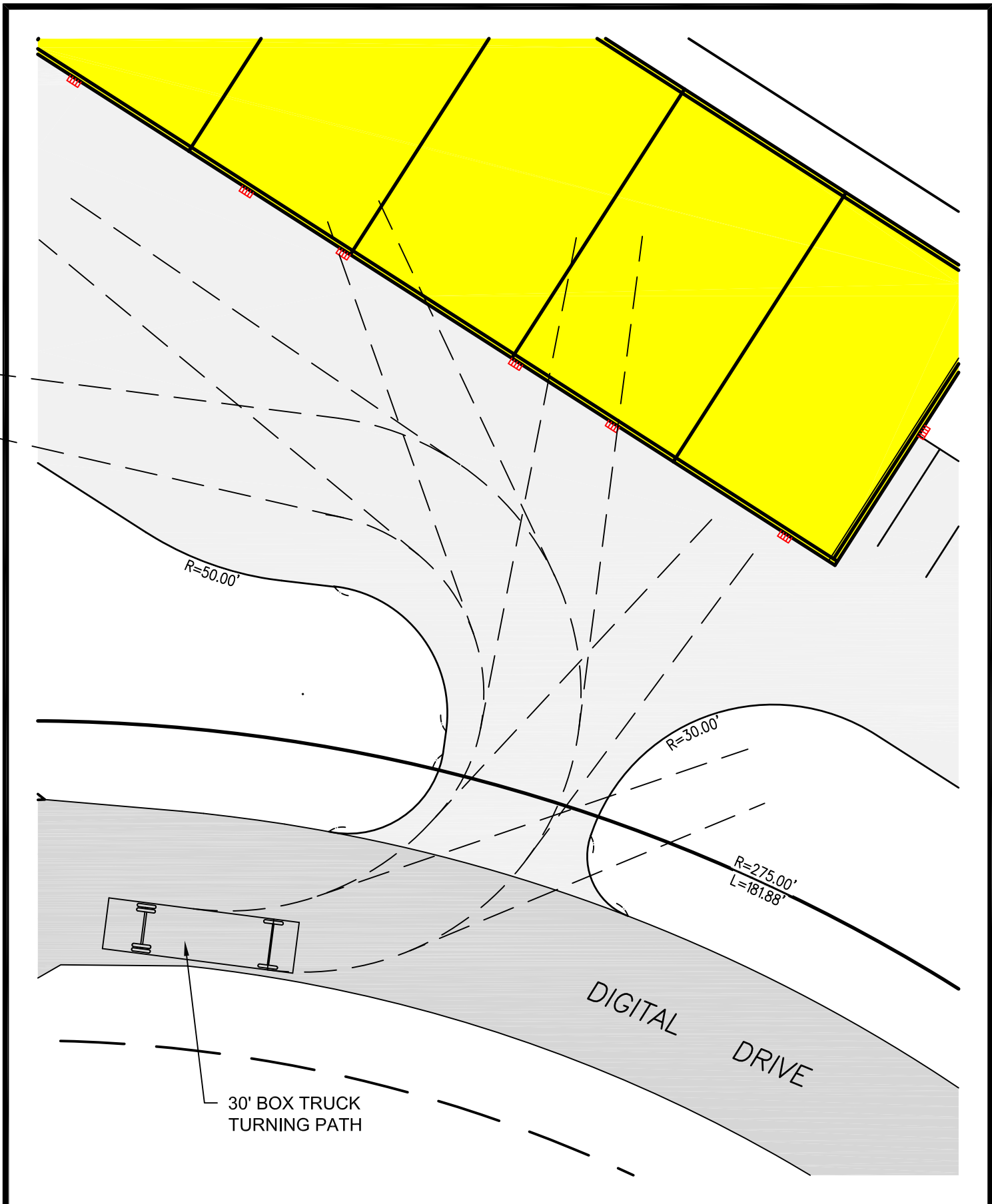
PROGRESS PLAN
NOT FOR CONSTRUCTION
THIS DOCUMENT IS ISSUED FOR
INFORMATION PURPOSES ONLY.
IT IS SUBJECT TO REVISION.

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980

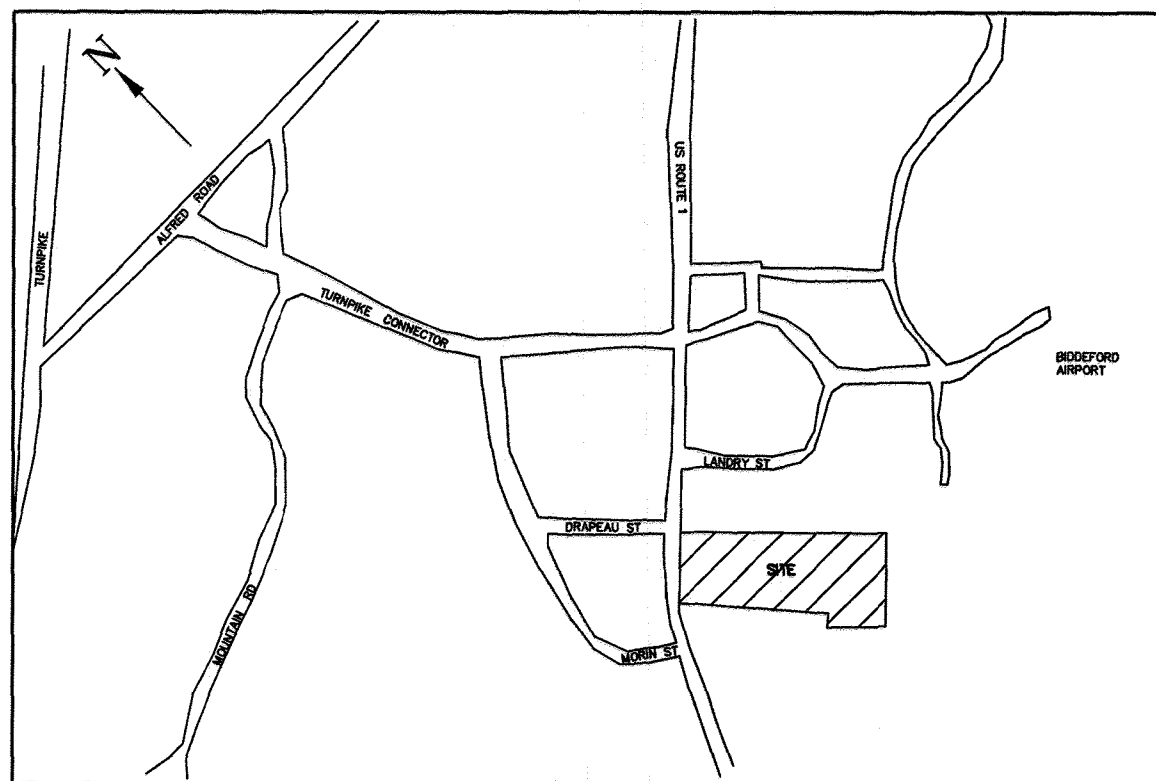
EROSION CONTROL AND DETAIL SHEET
T & T LEASING LLC
3 DIGITAL DRIVE
BIDDEFORD, MAINE

RECORD OWNER
T & T LEASING LLC
109 CASCADE ROAD
OLD ORCHARD BEACH, ME

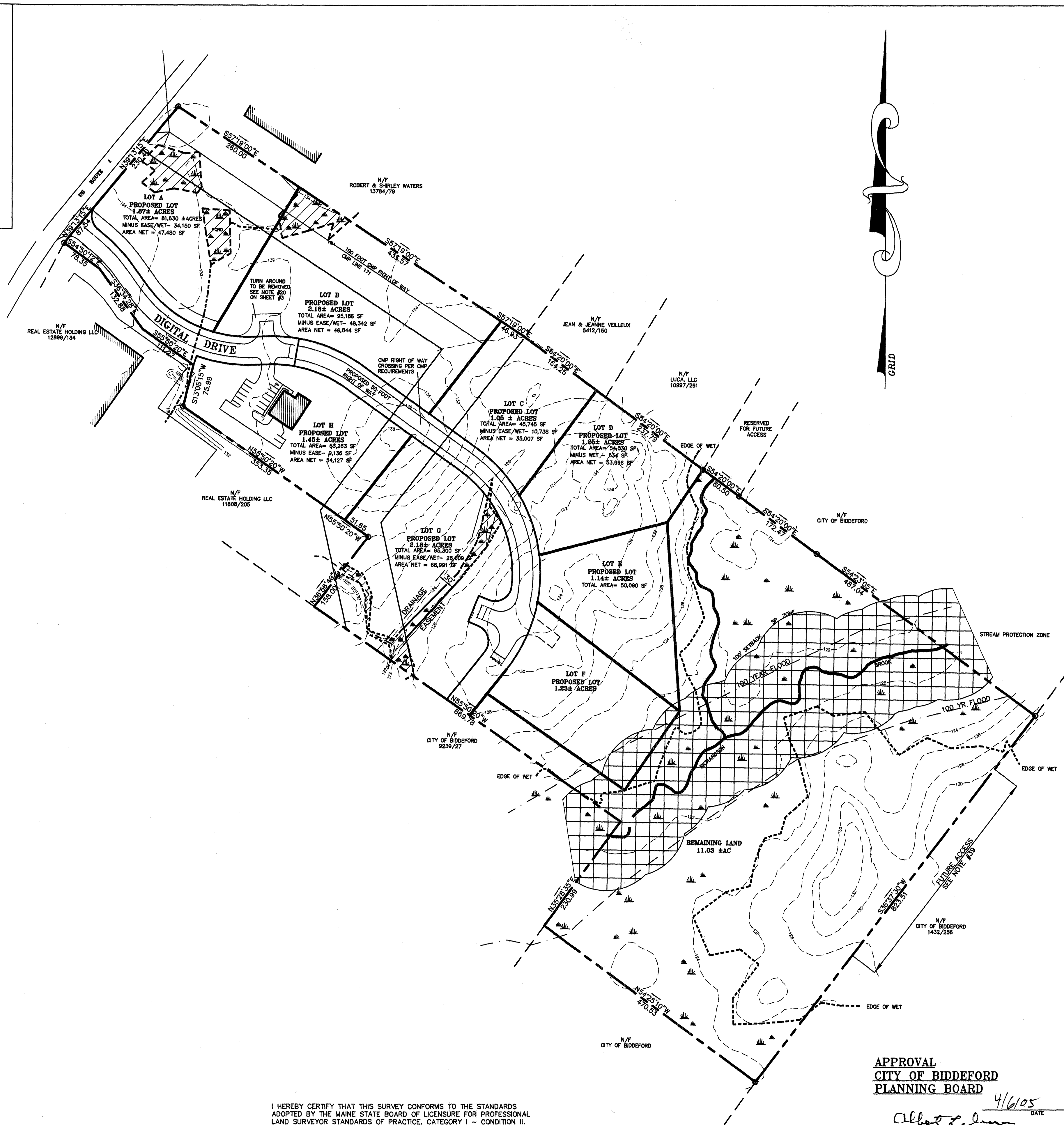
DRAWN: P.P.G.
CHECKED: P.P.G.
SCALE: NONE
FILE BOOK:
DATE: 02-05-2025
JOB NO. 1646
SHEET 5 OF 7



CLIENT/PROJECT: T & T Leasing LLC Map 15 Lot 7-4	PAUL P. GADBOIS ENGINEERING SURVEYING LAND PLANNING P.O. BOX 327, SACO, MAINE 04072 (207) 283-3980	SHEET TITLE: SU 30 TURNING RADIUS	SP 1 PROJ. NO. 164624
LOCATION: 3 Digital Drive		SCALE: 1"=20'	
TOWN: Biddeford COUNTY: YORK STATE: MAINE		DATE: 02-05-25	



LOCATION MAP
NTS

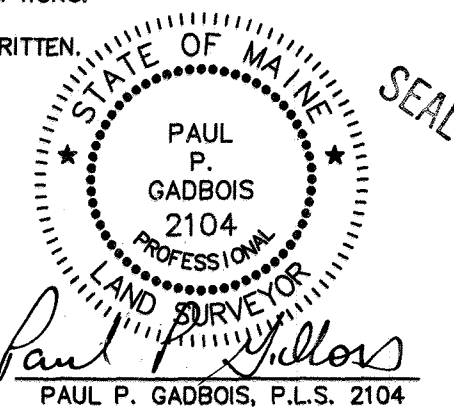


LEGEND

- ▲ SURVEYORS TRAVERSE POINT
- FOUND IRON ROD OR PIPE
- FOUND MONUMENT
- PROPERTY LINE
- ABUTTERS PROPERTY LINE
- N/F NOW OR FORMERLY
- UTILITY POLE
- ▲ EXISTING STREET LIGHT
- ▲ EXISTING FLOOD LIGHT
- ☆ EXISTING AREA LIGHT
- PROPOSED AREA LIGHT
- EXISTING STREET TREE
- DRAINAGE FLOW DIRECTION
- (100) PROPOSED GRADE
- SF SILT FENCE
- ▲ EXISTING FIRE HYDRANT
- CATCH BASIN
- SEWER MANHOLE
- OU OVERHEAD UTILITIES

I HEREBY CERTIFY THAT THIS SURVEY CONFORMS TO THE STANDARDS ADOPTED BY THE MAINE STATE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS STANDARDS OF PRACTICE, CATEGORY I - CONDITION II, WITH THE FOLLOWING EXCEPTIONS:

1. NO REPORT WAS WRITTEN.



000151

YORK, ss REGISTRY OF DEEDS
Received APR 20, 2005
at 10 h 40 m 17 A.M. and
Filed in Plan Book 300 Page 38
ATTEST: Debra L. Anderson
Register

APPROVAL
CITY OF BIDDEFORD
PLANNING BOARD

4/6/05 DATE
Albert J. Linn CHAIRPERSON
Debra L. Anderson
Guy Farrell

NOTES:

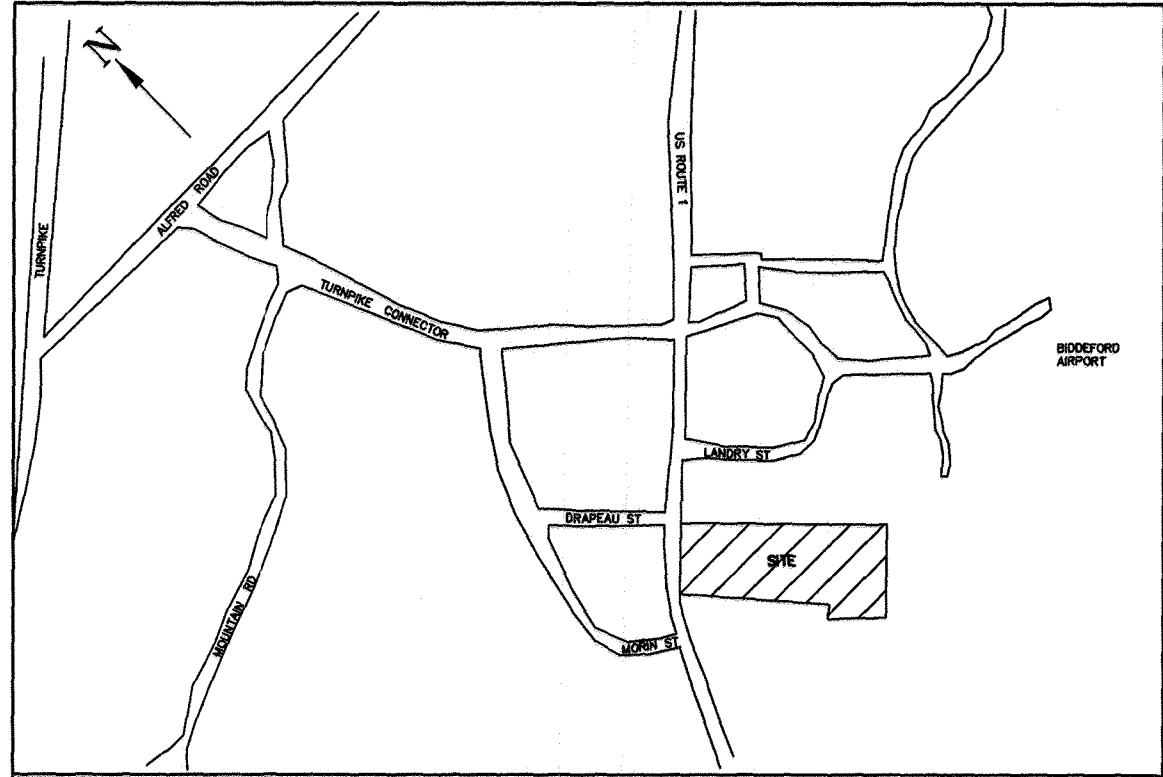
1. RECORD OWNER: MD ASSOCIATES LLC
169 PORT ROAD UNIT 28
KENNEBUNK, MAINE 04043
2. DEED REFERENCE: Y.C.R.D. BOOK 13927, PAGE 63.
3. PROPERTY IS SHOWN AS LOT 7 ON THE CITY OF BIDDEFORD TAX MAP 15.
4. PROPERTY IS LOCATED IN THE (I-1) AND (SP) OVERLAY ZONE.
MIN. LOT SIZE NONE
MIN. STREET FRONTAGE 50 FEET
MIN. FRONT SETBACK 40 FEET
MIN. SIDE & REAR SETBACK 25 FEET
MAX. BUILDING HEIGHT 60 FEET
5. TOTAL AREA OF PROPERTY IS 25.1± ACRES. TOTAL AREA OF PROPOSED DEVELOPMENT IS 14.42 ACRES.
6. PROPOSED USE: OFFICE, RETAIL, BUSINESS, MANUFACTURING, WAREHOUSE AND STORAGE.
7. THE PROPOSED ROADWAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 51 OF THE ZONING ORDINANCE FOR PRIVATE WAYS AND ROADS.
8. WETLANDS SHOWN ON THIS PLAN ARE BASED ON A WETLAND DELINEATION PLAN PROVIDED BY NORMANDEAU ASSOCIATES INC. IN JANUARY 2000, ACCORDING TO THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. THE WETLAND DATA POINTS WERE LOCATED BY GPS. DATA ACCURACY AFTER POST PROCESSING WAS SUB-METER FOR THE MAJORITY OF POINTS.
9. TOPOGRAPHY SHOWN ON THIS PLAN IS BASED UPON AERIAL PHOTOGRAMMETRY AND SPOT CHECKED BY PAUL P. GADBOIS ENGINEERING AND SURVEYING COMPANY.
10. NO CITY SERVICES, SUCH AS SNOW PLOWING, TRASH PICKUP, OR STREET BUILDING, AND MAINTENANCE OF ANY KIND, SHALL BE PROVIDED TO LOTS ON THE PRIVATE ROAD SHOWN ON THIS PLAN.
11. THE CITY OF BIDDEFORD WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR, OR PLOWING OF THE PRIVATE WAY AND THAT FUTHER LOT DIVISION UTILIZING THE PRIVATE WAY ARE PROHIBITED WITHOUT PRIOR APPROVAL OF THE BOARD.
12. A MAINTENANCE AGREEMENT SHALL BE ON FILE WITH THE CITY (AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS) WHICH OUTLINES THE RESPONSIBILITY OF THE OWNERS OF THE LOTS ON THE PRIVATE WAY.
13. A PRE-CONSTRUCTION MEETING WITH THE CITY OF BIDDEFORD'S ENGINEERING DEPARTMENT IS REQUIRED PRIOR TO ANY SOIL DISTURBANCE.
14. THE CONTRACTOR SHALL NOTIFY THE CITY OF BIDDEFORD'S ENGINEERING DEPARTMENT FOR REQUIRED INSPECTIONS OF THE ROADWAY.
15. DRIVEWAY APRONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 62, SECTION 62-111; DRIVEWAY APRONS & CURB CUTS, AND THAT ALL DRIVEWAYS NEED A 15" CULVERT INSTALLED IN THE DITCH LINE WITHIN THE RIGHT-OF-WAY.
16. IN LIEU OF A PERFORMANCE GUARANTEE, THE APPLICANT SHALL NOT CONVEY OR SELL LOTS NOR RECEIVE A BUILDING PERMIT UNTIL THE PRIVATE WAY IS CONSTRUCTED TO THE ACCORDING TO THE APPROVED PLAN AND ACCEPTED BY THE CITY ENGINEER'S OFFICE, OR AN ACCEPTABLE LETTER OF CREDIT IS SUBMITTED TO THE CITY FOR 150% OF THE RIGHT-OF-WAY IMPROVEMENT COST.
17. LOTS TO BE SERVICED BY PRIVATE SEWER AND PUBLIC WATER.
18. PLAN REFERENCE:
A. EXISTING SITE CONDITIONS PLAN FOR BIDDEFORD BLANKET BY SEBAGO TECHNIQS, DATED 2-25-00. ON FILE WITH THE CITY OF BIDDEFORD'S ENGINEERING DEPARTMENT.
B. PLAN OF PRIVATE WAY & SITE PLAN FOR DIGITAL DRIVE BY PAUL P. GADBOIS ENGINEERING AND SURVEYING COMPANY RECORDED AT THE Y.C.R.D. IN PLAN BOOK 294, PAGE 25.
19. PROPERTY TO BE SERVICED BY OVERHEAD UTILITIES.
20. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE EROSION CONTROL PREVENTION PROVISIONS AS OUTLINED IN THE MAINE EROSION CONTROL HANDBOOK FOR CONSTRUCTION "BEST MANAGEMENT PRACTICES" (MARCH 2003 OR LATEST REVISION).
21. THE BEARINGS SHOWN ON THIS PLAN WERE DERIVED FROM LOCUS DEED.
22. THE OWNER RESERVES ONTO THEMSELVES, HEIRS, AND ASSIGNS EASEMENTS AND RIGHT-OF-WAY 15 FEET IN WIDTH ALONG ALL SIDELINES AND REAR LINES AND 30 FEET IN WIDTH ALONG ALL FRONT LINES OF ALL LOTS SHOWN HEREIN FOR THE PURPOSE RELATING TO THE INSTALLATIONS OF UTILITIES AND DRAINAGE STRUCTURES. THE EASEMENTS DESCRIBED ABOVE ARE LOCATED ENTIRELY WITHIN THE PROPOSED LOTS.
23. THE PROPOSED LOTS ARE NOT LOCATED WITHIN THE 100 YEAR FLOOD ZONE.
24. THE LOCATION OF THE UTILITY POLES AND MAY BE RELOCATED AS REQUIRED BY UTILITY COMPANY AND DEVELOPERS.
25. THE DEVELOPER PROPOSES TO USE GRANITE MONUMENTS, DRILL HOLES, OR IRON RODS AS PERMANENT MONUMENTS AS CONDITIONS PERMIT.
26. PRESERVE AS MANY EXISTING TREES AS POSSIBLE WITHIN LOT SETBACK LINES BOTH DURING AND AFTER CONSTRUCTION.
27. THERE SHALL BE NO TRANSFER OF THE PROPERTY, OR INTEREST IN THE DEVELOPMENT, WITHOUT PRIOR PLANNING BOARD APPROVAL. THIS APPROVAL IS CONTINGENT UPON SATISFACTORY PROOF THAT THE PURCHASER HAS THE NECESSARY TECHNICAL AND FINANCIAL CAPACITY TO COMPLETE THE PROJECT AS APPROVED).
28. NO BUILDING PERMIT SHALL BE ISSUED UNTIL ALL PROPERTY PINS, BOTH INTERIOR AND EXTERIOR HAVE BEEN SET AS SHOWN ON THIS PLAN.
29. THE APPLICANT SHALL OBTAIN ALL LOCAL, STATE AND FEDERAL APPROVALS REQUIRED FOR THIS PROJECT.
30. THIS PROJECT DOES NOT REQUIRE D.E.P. STORMWATER APPROVAL, HOWEVER PRIOR TO PAVING THE SHOULDERS AND OR CONSTRUCTING A SIDEWALK A DEP STORMWATER PERMIT IS REQUIRED.
31. NO FUTURE SUBDIVISION WITHOUT PRIOR PLANNING BOARD APPROVAL.
32. ALL AREAS NOT COVERED BY PAVEMENT, BUILDINGS, OR BARK MULCH SHALL BE LOAMED AND SEEDED.
33. SHOULD SIDEWALKS BE REQUIRED FOR ACCEPTANCE AS A PUBLIC ROAD, CONSTRUCTION SHALL BE INSPECTED BY THE CITY.
34. ROADWAY SHOULDERS SHALL BE PAVED AND STRIPED PRIOR TO ROADWAY ACCEPTANCE BY THE CITY.
35. ALL LOTS WITHIN THIS SUBDIVISION SHALL ONLY GAIN ACCESS TO THEIR SITE VIA DIGITAL DRIVE AND THAT ALL LOTS SHALL HAVE E-911 ADDRESSES ON DIGITAL DRIVE.
36. ALL LOTS WITHIN THIS SUBDIVISION MUST RECEIVE SITE PLAN APPROVAL FROM THE CITY OF BIDDEFORD PLANNING BOARD.
37. NO ADDITIONAL WETLAND FILL IS PERMITTED WITHOUT FIRST OBTAINING A WETLAND FILL PERMIT FROM THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
38. NO ADDITIONAL ROADWAY EXPANSION BEYOND THE PROPOSED ROADWAY SHOULDERS (I.E. SIDEWALK) IS PERMITTED WITHOUT FIRST OBTAINING A STORMWATER PERMIT FROM THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
39. FUTURE ACCESS TO THE REMAINING LAND SHALL BE FROM ABUTTING PROPERTY LOCATED ON THE SOUTHERLY SIDE OF RICHARDSON BROOK.
40. THE FOLLOWING WAIVER HAS BEEN GRANTED WITH THE APPROVAL OF THIS PROJECT: A. WILDLIFE STUDY.
41. ALL DEVELOPMENT ON THE PROPOSED LOTS WILL REQUIRE INDIVIDUAL SITE PLAN APPROVAL.
42. THIS PLAN AMENDS THE PLAN OF PRIVATE WAY APPROVED BY THE CITY OF BIDDEFORD PLANNING BOARD AND RECORDED IN THE Y.C.R.D. IN PLAN BOOK 294, PAGE 25.
43. IF THE ROADWAY IS TO BECOME PUBLIC DRIVEWAY APRONS SHALL BE PAVED TO THE PROPERTY LINES.
44. SEE SHEET #2 OF 6 FOR LOT LINE BEARINGS AND DISTANCES.
45. COST ESTIMATE PROVIDED IS FOR ROADWAY AND RELATED INFRASTRUCTURE CONSTRUCTION ONLY. EACH SITE WILL REQUIRE ITS OWN CONSTRUCTION COST ESTIMATE AND PERFORMANCE GUARANTEE.
46. TURNAROUND WILL NOT BE REMOVED UNTIL THE NEW ROADWAY AND TURNAROUND HAS BEEN CONSTRUCTED AND INSPECTED BY THE CITY.

RECORD OWNER
MD ASSOCIATES LLC
169 PORT ROAD UNIT 28
KENNEBUNK, MAINE 04043

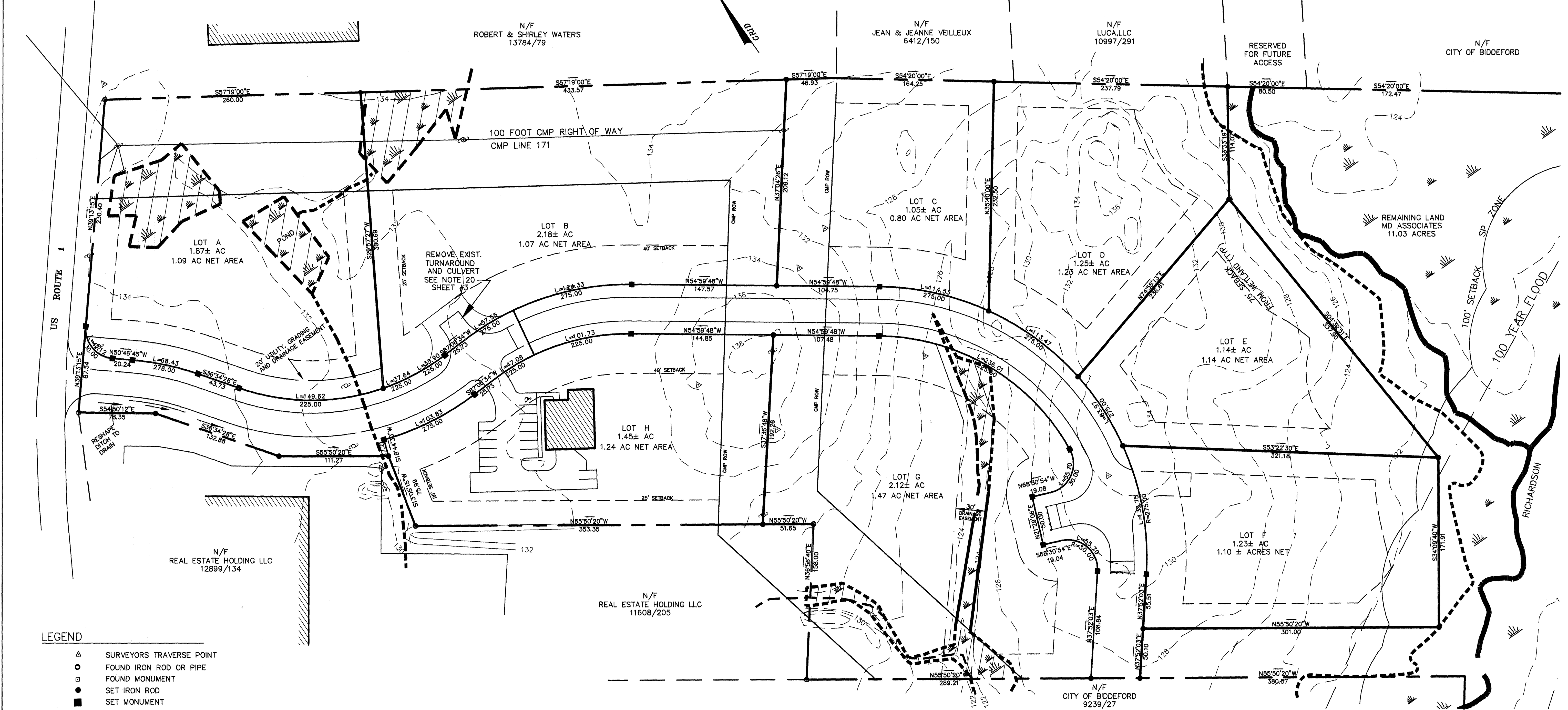
FINAL SUBDIVISION PLAN
1ST DIGITAL BUSINESS PARK
US ROUTE ONE
BIDDEFORD, MAINE

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING





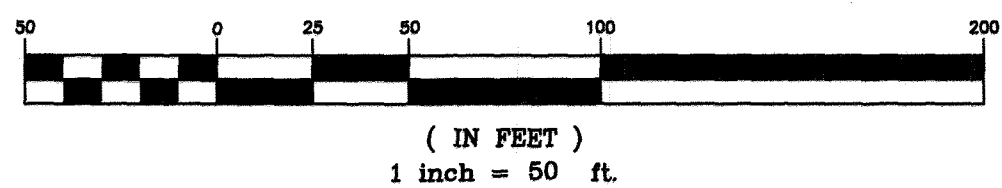
LOCATION MAP
NTS



LEGEND

- ▲ SURVEYORS TRAVERSE POINT
- FOUND IRON ROD OR PIPE
- FOUND MONUMENT
- SET IRON ROD
- SET MONUMENT
- PROPERTY LINE
- ABUTTERS PROPERTY LINE
- NOW OR FORMERLY
- UTILITY POLE
- ▲ EXISTING STREET LIGHT
- ★ EXISTING FLOOD LIGHT
- ★ EXISTING AREA LIGHT
- PROPOSED AREA LIGHT
- EXISTING STREET TREE
- DRAINAGE FLOW DIRECTION
- PROPOSED GRADE
- SILT FENCE
- EXISTING FIRE HYDRANT
- CATCH BASIN
- SEWER MANHOLE
- OVERHEAD UTILITIES

GRAPHIC SCALE



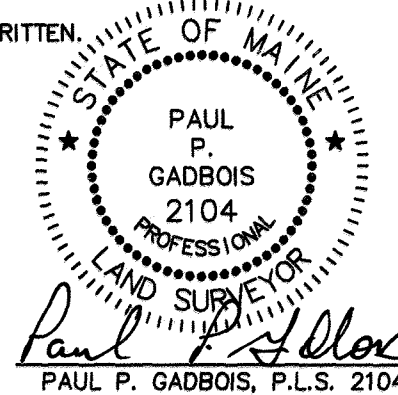
NOTE:

1. REFER TO SHEET #1 OF 5 FOR GENERAL NOTES AND REMAINING LAND BEARINGS AND DISTANCES.

I HEREBY CERTIFY THAT THIS SURVEY CONFORMS TO THE STANDARDS ADOPTED BY THE MAINE STATE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYOR STANDARDS OF PRACTICE, CATEGORY I - CONDITION II, WITH THE FOLLOWING EXCEPTIONS:

1. NO REPORT WAS WRITTEN.

YORK, ss REGISTRY OF DEEDS
Received APR 20, 2005
at 10 h 40 m 11 A.M., and
Filed in Plan Book 300 Page 59
ATTEST: Debra L. Anderson
Register



APPROVAL
CITY OF BIDDEFORD
PLANNING BOARD

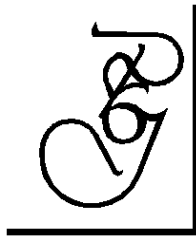
4/6/05 DATE
Chairperson CHAIRPERSON
Deputy Chairperson DEPUTY CHAIRPERSON
Member MEMBER
Member MEMBER
Member MEMBER
Member MEMBER

PAUL P. GADBOIS
ENGINEERING
LAND PLANNING

FINAL SUBDIVISION PLAN
1ST DIGITAL BUSINESS PARK
US ROUTE ONE
BIDDEFORD, MAINE

RECORD OWNER
MD ASSOCIATES LLC
169 PORT ROAD UNIT 28
KENNEBUNK, MAINE 04043

REVISIONS:	DRAWN: P.P.G.	CHECKED: P.P.G.
1. 2-7-05		
2. 3-15-05		
3. 3-31-05		
4. 4-6-05		
PER CITY MEMO		
PER CITY MEMO DATED 3-30-05		
CHANGED TITLE BLOCK AND LEGEND		
PER PLANNERS COMMENTS		



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois@maine.rr.com

February 5, 2025

David Galbraith, Planner
City of Biddeford
205 Main Street
Biddeford, ME

Re: T & T Leasing, LLC 3 Digital Drive, Biddeford, Maine

Dear Mr. Galbraith,

Enclosed please find the stormwater calculations for T & T Leasing, LLC project located at 3 Digital Drive Tax Map 15, Lot 7-4.

The project is located in the Thatcher Brook Watershed therefore the project has been designed to limit the impervious area to 20,000 square feet. The project proposes to construct a 7,500 square foot structure, remove 940 square feet of pavement within the existing turnaround and add 13,354 square feet of new pavement. This results in a net increase in the impervious area of 19,914 square feet.

Since the site is located within MS4 District our stormwater management plan was developed to minimize the amount of stormwater leaving the site and provide for treatment of 86% of new impervious area.

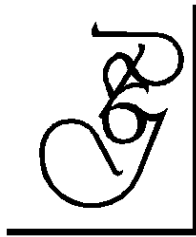
Water Quality

The water quality control plan includes the creation of a roof drip line BMP and filter ponds to provide treatment to 86% of the impervious surfaces.

The roof dripline BMP will be constructed at the roof eave overhang along the backside of the building.

The quantity peak flow summary is shown below for each development condition. We have shown results for the 2-, 10-, 25- and 100-year events

FLOODING STANDARD RESULTS			
	Reach 1R	Reach 1R	
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	C.F.S.
2 Year	1.45	1.09	-0.36
10 Year	2.81	1.93	-0.91
25 Year	3.96	2.63	-1.33
100 Year	6.20	4.20	-2.00



PAUL P. GADBOIS PE, PLS

Civil Engineering, Surveying, Land Planning
Structural Engineering, DEP Permitting

P.O. Box 327
Saco, ME 04072
Phone & Fax (207) 283-3980
Email: pgadbois@maine.rr.com

FLOODING STANDARD RESULTS			
	Reach 2R	Reach 2R	
Storm	PRE	POST	DIFFERENCE
	C.F.S.	C.F.S.	C.F.S.
2 Year	0.99	1.09	+0.10
10 Year	1.94	1.93	-0.1
25 Year	2.74	2.62	-0.12
100 Year	4.31	5.03	+0.72

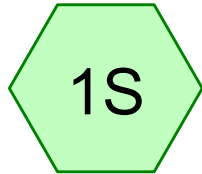
There is a slight increase at Pond 2, Reach 2R for the 2-Year event. Overall, there is a decrease in offsite flows during storm events. The spillway for reach 2R was set above the 100 year peak elevation.

In conclusion this project will not result in any downstream impacts and also provide for treatment.

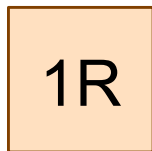
Should you have questions, please call.

Very truly yours,

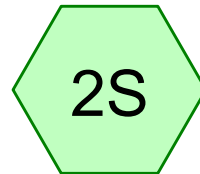
Paul P. Gadbois, P.E., P.L.S.



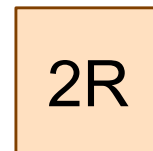
Existing Development
Areas



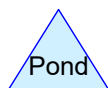
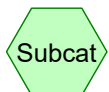
Ditch



Existing Development
Areas



Swale



Routing Diagram for Pre-1646 Rev 02-04-25
Prepared by Microsoft, Printed 2/5/2025
HydroCAD® 10.00 s/n 00910 © 2013 HydroCAD Software Solutions LLC

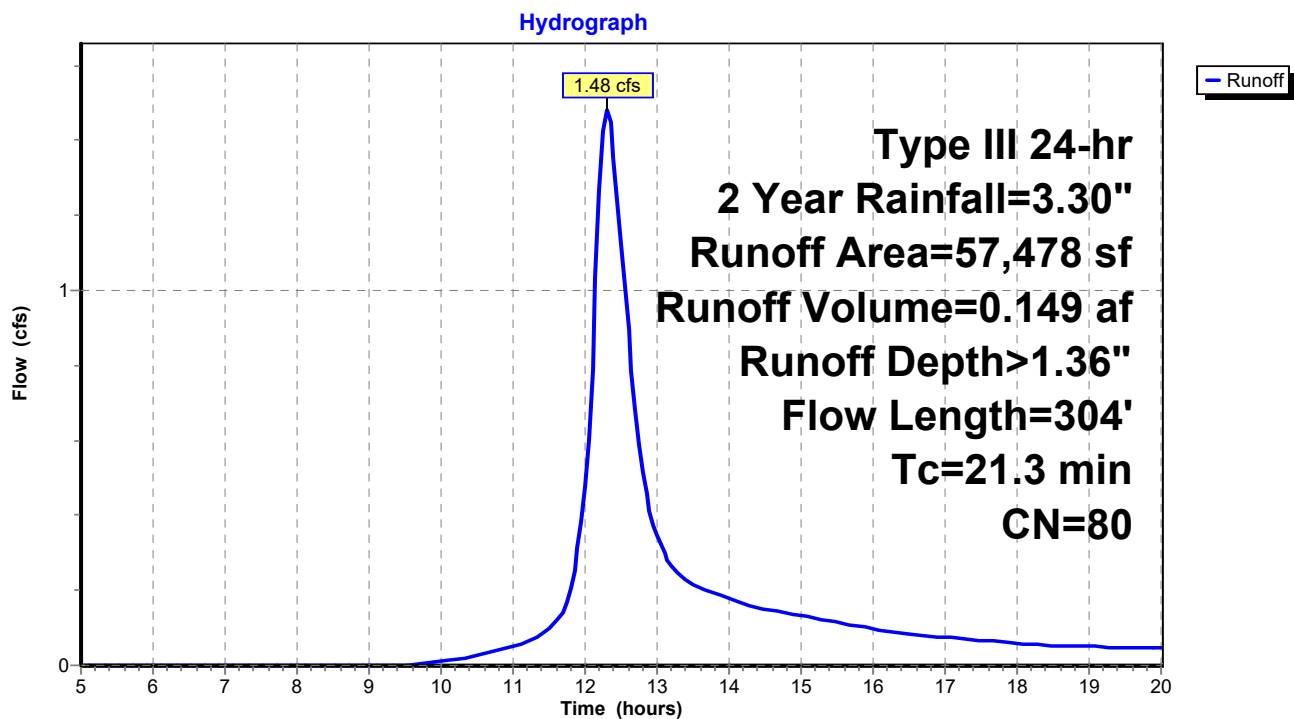
Summary for Subcatchment 1S: Existing Development Areas

Runoff = 1.48 cfs @ 12.31 hrs, Volume= 0.149 af, Depth> 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

Area (sf)	CN	Description
57,478	80	>75% Grass cover, Good, HSG D
57,478		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
7.2	254	0.0070	0.59		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
21.3	304	Total			

Subcatchment 1S: Existing Development Areas

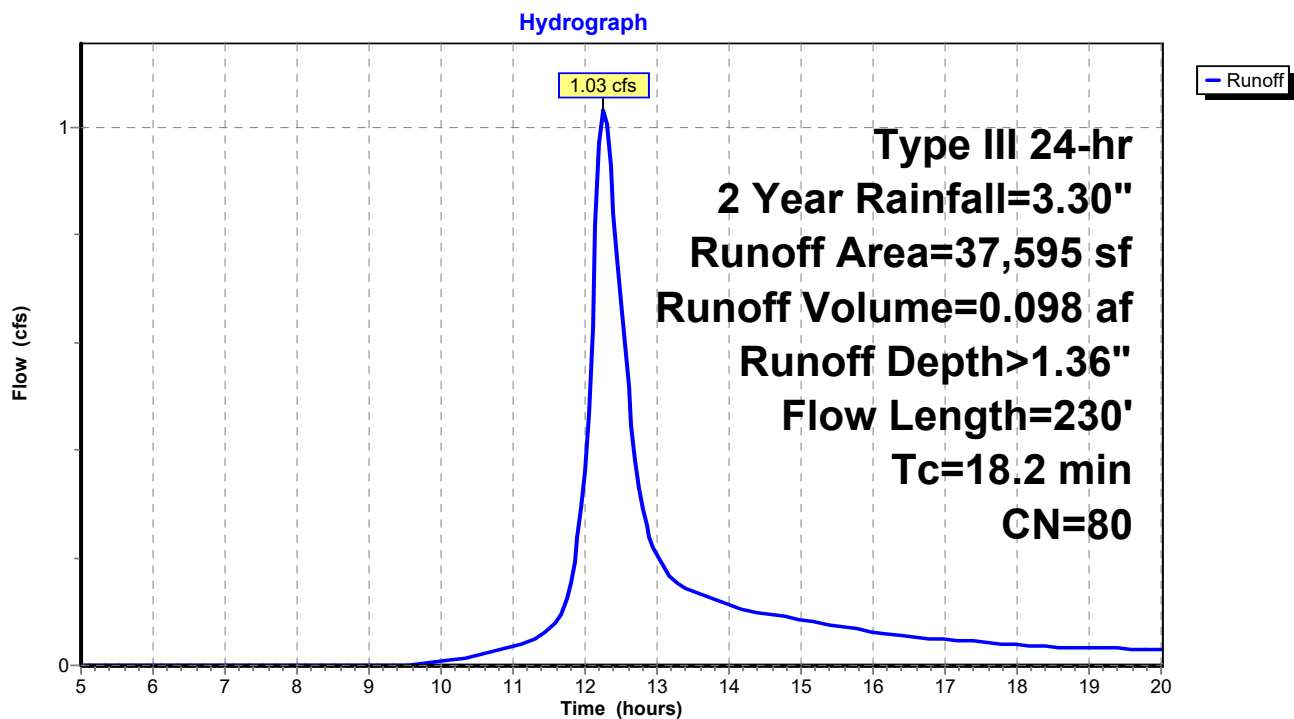
Summary for Subcatchment 2S: Existing Development Areas

Runoff = 1.03 cfs @ 12.26 hrs, Volume= 0.098 af, Depth> 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

Area (sf)	CN	Description
37,595	80	>75% Grass cover, Good, HSG D
37,595		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.30"
4.1	180	0.0110	0.73		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
18.2	230	Total			

Subcatchment 2S: Existing Development Areas

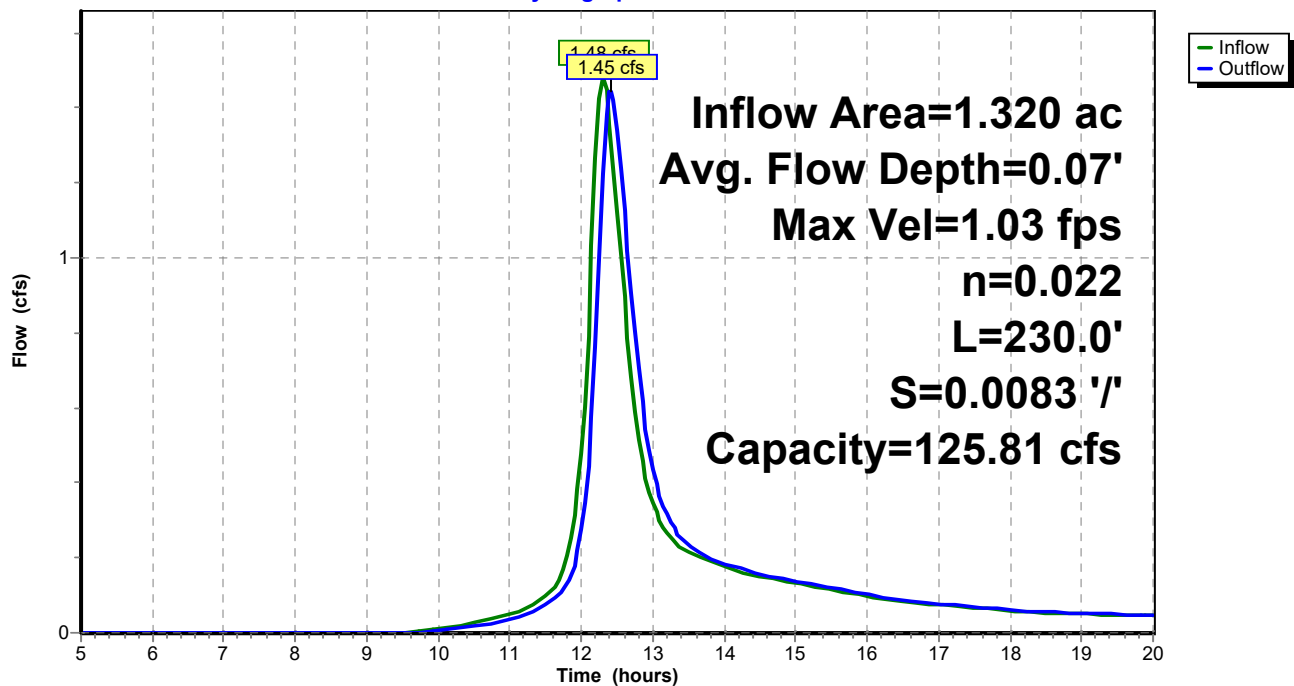
Summary for Reach 1R: Ditch

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth > 1.36" for 2 Year event
 Inflow = 1.48 cfs @ 12.31 hrs, Volume= 0.149 af
 Outflow = 1.45 cfs @ 12.41 hrs, Volume= 0.148 af, Atten= 2%, Lag= 6.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.03 fps, Min. Travel Time= 3.7 min
 Avg. Velocity= 0.40 fps, Avg. Travel Time= 9.7 min

Peak Storage= 323 cf @ 12.35 hrs
 Average Depth at Peak Storage= 0.07'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 1R: Ditch****Hydrograph**

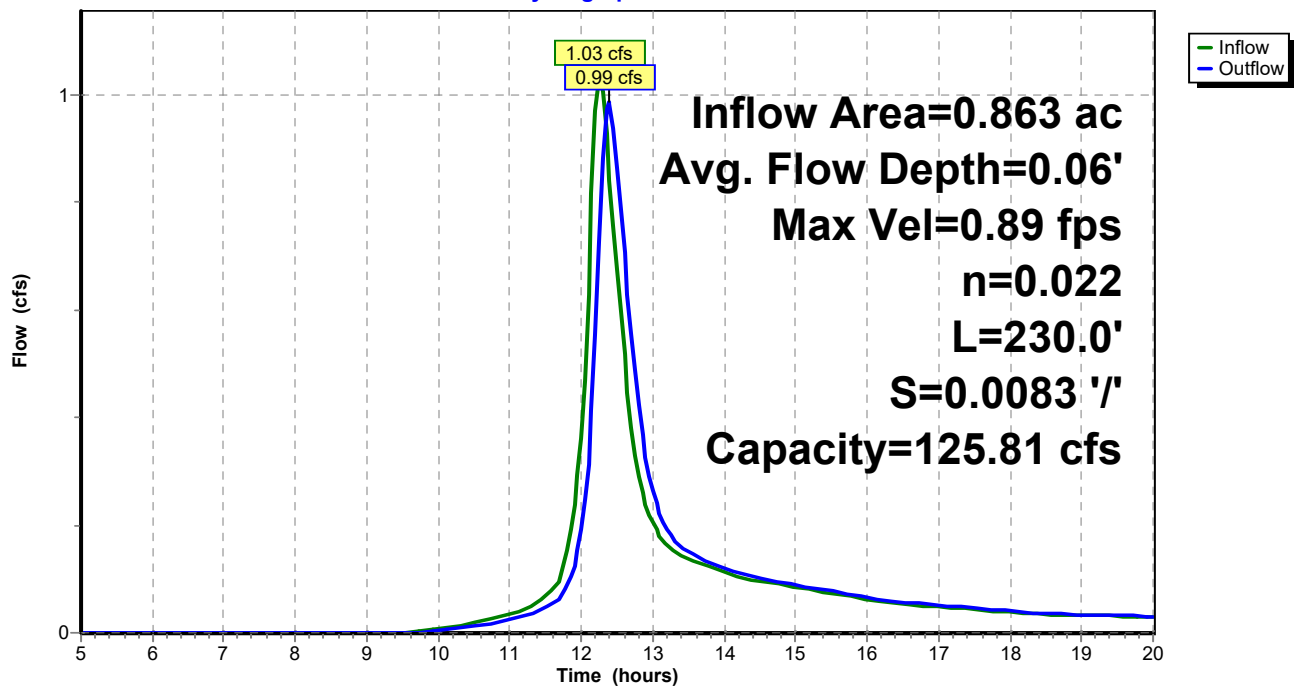
Summary for Reach 2R: Swale

Inflow Area = 0.863 ac, 0.00% Impervious, Inflow Depth > 1.36" for 2 Year event
 Inflow = 1.03 cfs @ 12.26 hrs, Volume= 0.098 af
 Outflow = 0.99 cfs @ 12.38 hrs, Volume= 0.097 af, Atten= 4%, Lag= 7.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 0.89 fps, Min. Travel Time= 4.3 min
 Avg. Velocity= 0.35 fps, Avg. Travel Time= 10.8 min

Peak Storage= 257 cf @ 12.31 hrs
 Average Depth at Peak Storage= 0.06'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 2R: Swale****Hydrograph**

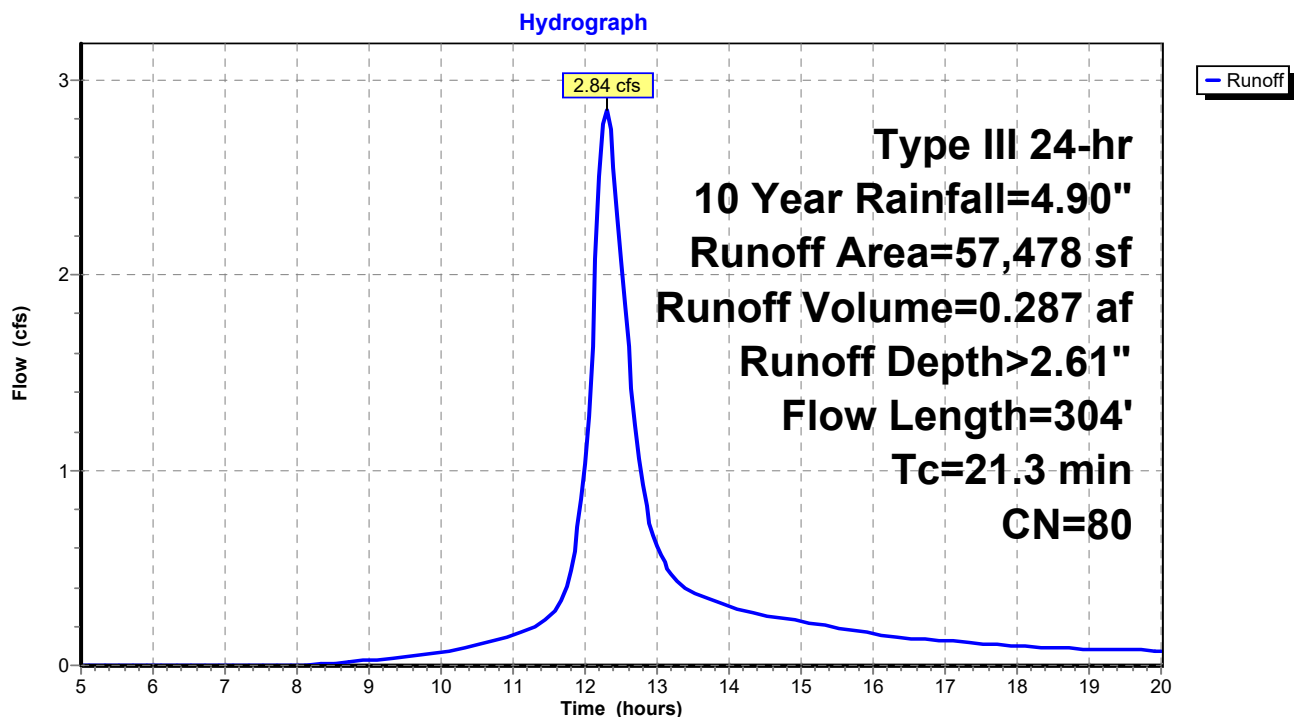
Summary for Subcatchment 1S: Existing Development Areas

Runoff = 2.84 cfs @ 12.30 hrs, Volume= 0.287 af, Depth> 2.61"

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 Year Rainfall=4.90"

Area (sf)	CN	Description
57,478	80	>75% Grass cover, Good, HSG D
57,478		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.30"
7.2	254	0.0070	0.59		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
21.3	304	Total			

Subcatchment 1S: Existing Development Areas

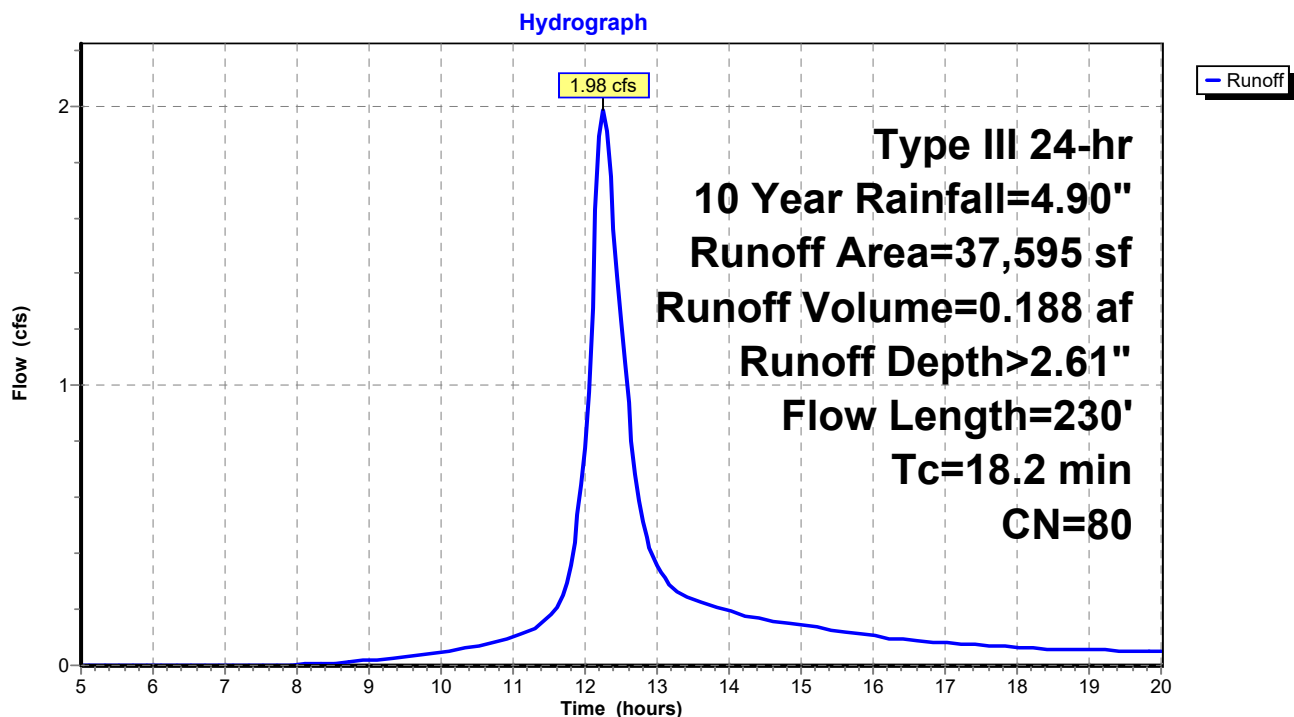
Summary for Subcatchment 2S: Existing Development Areas

Runoff = 1.98 cfs @ 12.25 hrs, Volume= 0.188 af, Depth> 2.61"

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 Year Rainfall=4.90"

Area (sf)	CN	Description
37,595	80	>75% Grass cover, Good, HSG D
37,595		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.30"
4.1	180	0.0110	0.73		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
18.2	230	Total			

Subcatchment 2S: Existing Development Areas

Summary for Reach 1R: Ditch

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth > 2.61" for 10 Year event
 Inflow = 2.84 cfs @ 12.30 hrs, Volume= 0.287 af
 Outflow = 2.81 cfs @ 12.37 hrs, Volume= 0.285 af, Atten= 1%, Lag= 4.7 min

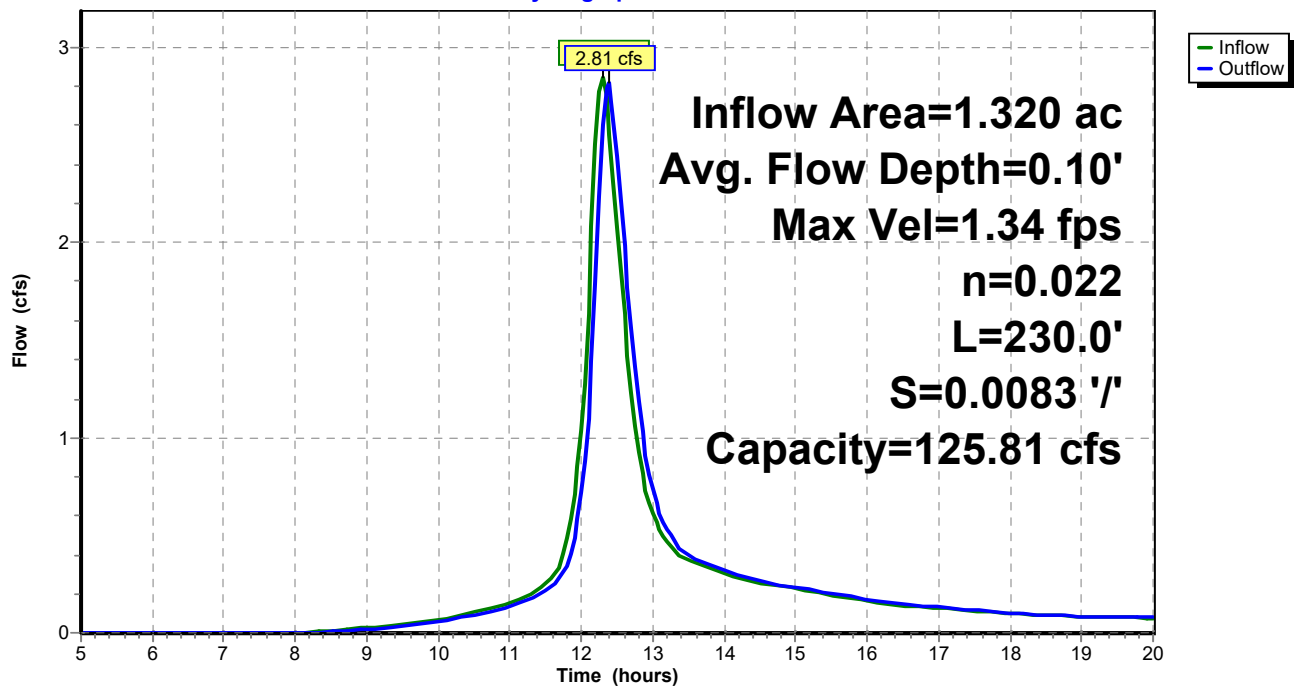
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.34 fps, Min. Travel Time= 2.9 min
 Avg. Velocity= 0.47 fps, Avg. Travel Time= 8.2 min

Peak Storage= 481 cf @ 12.33 hrs
 Average Depth at Peak Storage= 0.10'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 1R: Ditch**

Hydrograph



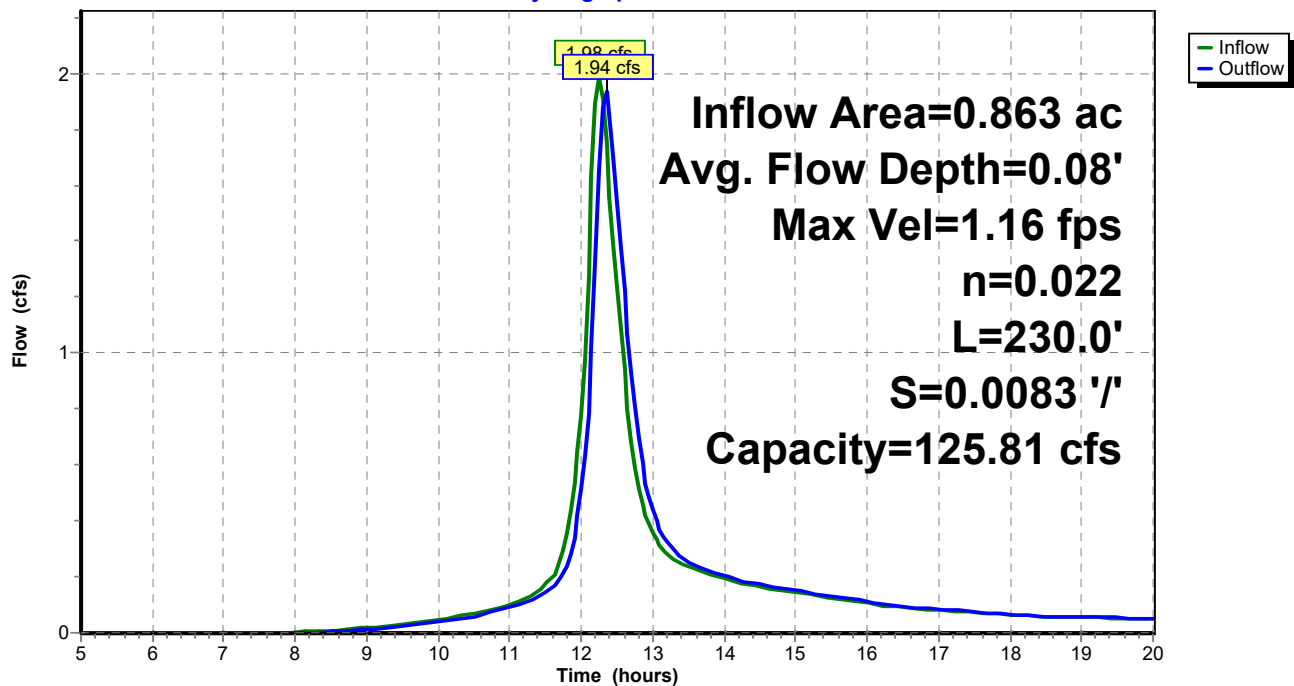
Summary for Reach 2R: Swale

Inflow Area = 0.863 ac, 0.00% Impervious, Inflow Depth > 2.61" for 10 Year event
 Inflow = 1.98 cfs @ 12.25 hrs, Volume= 0.188 af
 Outflow = 1.94 cfs @ 12.35 hrs, Volume= 0.187 af, Atten= 2%, Lag= 5.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.16 fps, Min. Travel Time= 3.3 min
 Avg. Velocity= 0.40 fps, Avg. Travel Time= 9.5 min

Peak Storage= 385 cf @ 12.29 hrs
 Average Depth at Peak Storage= 0.08'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 2R: Swale****Hydrograph**

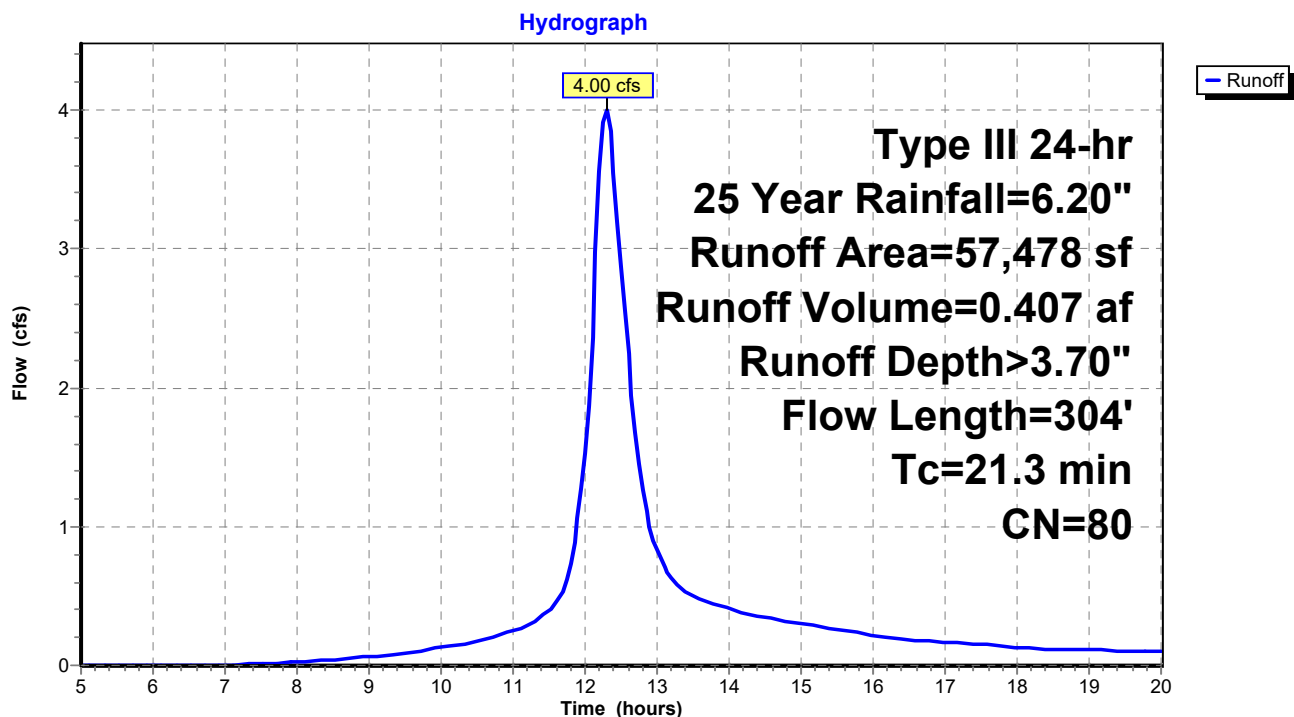
Summary for Subcatchment 1S: Existing Development Areas

Runoff = 4.00 cfs @ 12.29 hrs, Volume= 0.407 af, Depth> 3.70"

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 Year Rainfall=6.20"

Area (sf)	CN	Description
57,478	80	>75% Grass cover, Good, HSG D
57,478		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.30"
7.2	254	0.0070	0.59		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
21.3	304	Total			

Subcatchment 1S: Existing Development Areas

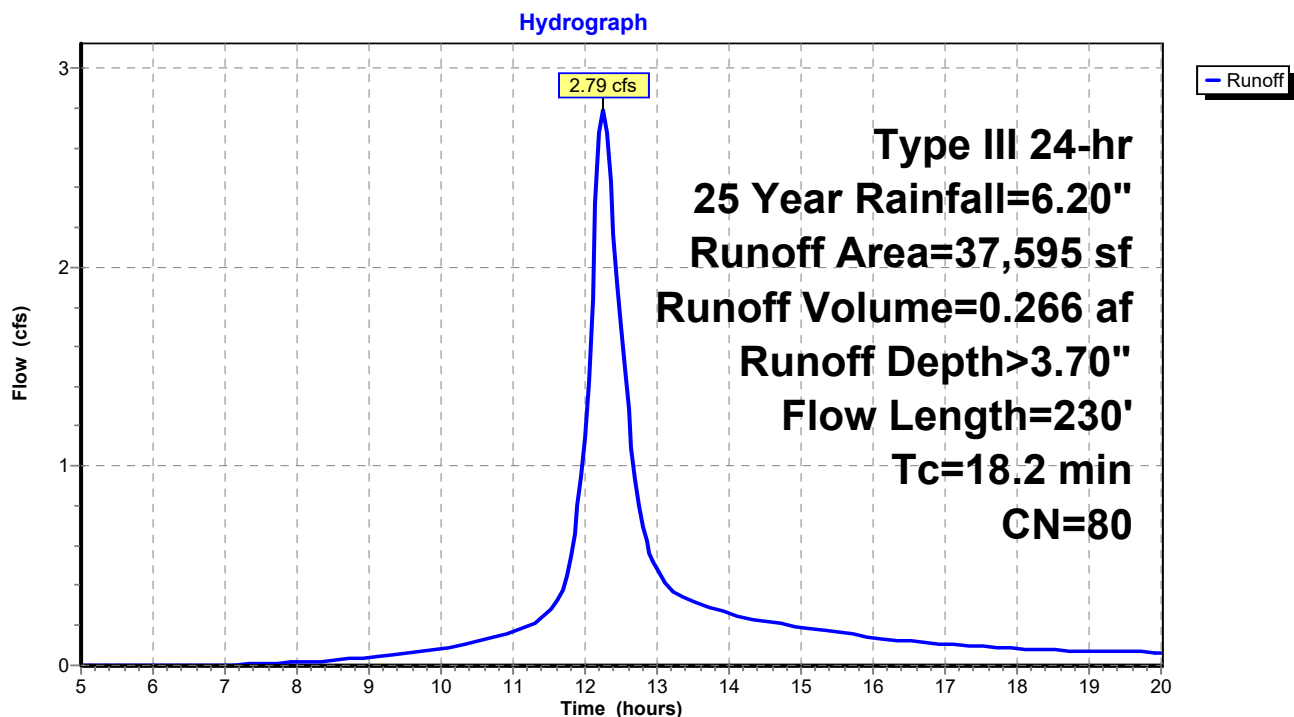
Summary for Subcatchment 2S: Existing Development Areas

Runoff = 2.79 cfs @ 12.25 hrs, Volume= 0.266 af, Depth> 3.70"

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 Year Rainfall=6.20"

Area (sf)	CN	Description
37,595	80	>75% Grass cover, Good, HSG D
37,595		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.30"
4.1	180	0.0110	0.73		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
18.2	230	Total			

Subcatchment 2S: Existing Development Areas

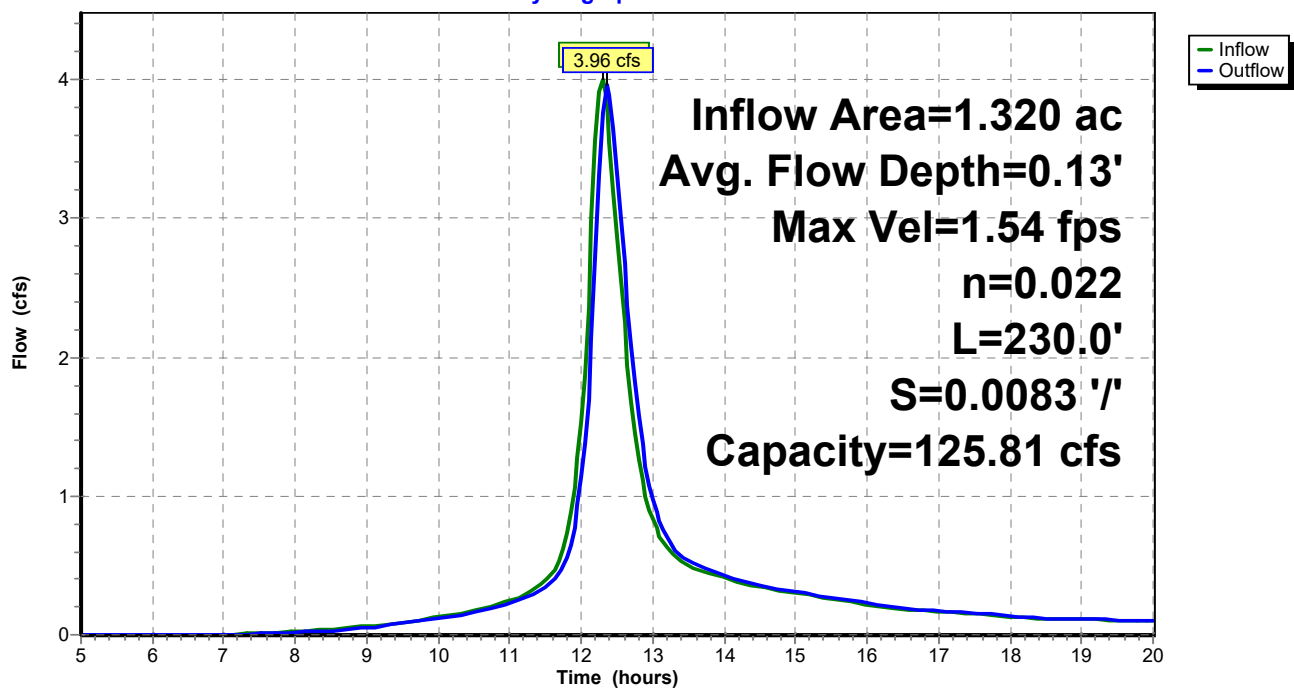
Summary for Reach 1R: Ditch

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth > 3.70" for 25 Year event
 Inflow = 4.00 cfs @ 12.29 hrs, Volume= 0.407 af
 Outflow = 3.96 cfs @ 12.36 hrs, Volume= 0.405 af, Atten= 1%, Lag= 4.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.54 fps, Min. Travel Time= 2.5 min
 Avg. Velocity= 0.51 fps, Avg. Travel Time= 7.5 min

Peak Storage= 594 cf @ 12.32 hrs
 Average Depth at Peak Storage= 0.13'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 1R: Ditch****Hydrograph**

Summary for Reach 2R: Swale

Inflow Area = 0.863 ac, 0.00% Impervious, Inflow Depth > 3.70" for 25 Year event
 Inflow = 2.79 cfs @ 12.25 hrs, Volume= 0.266 af
 Outflow = 2.74 cfs @ 12.33 hrs, Volume= 0.265 af, Atten= 2%, Lag= 4.8 min

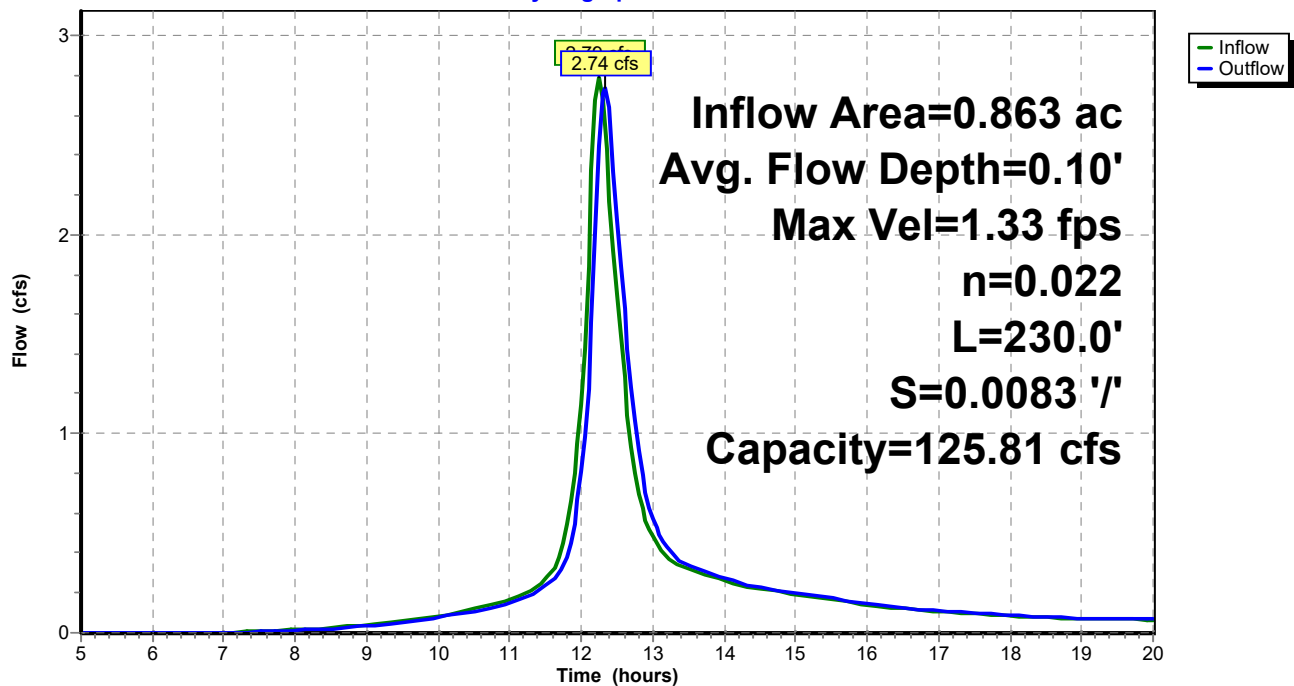
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.33 fps, Min. Travel Time= 2.9 min
 Avg. Velocity= 0.44 fps, Avg. Travel Time= 8.7 min

Peak Storage= 475 cf @ 12.28 hrs
 Average Depth at Peak Storage= 0.10'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 2R: Swale**

Hydrograph



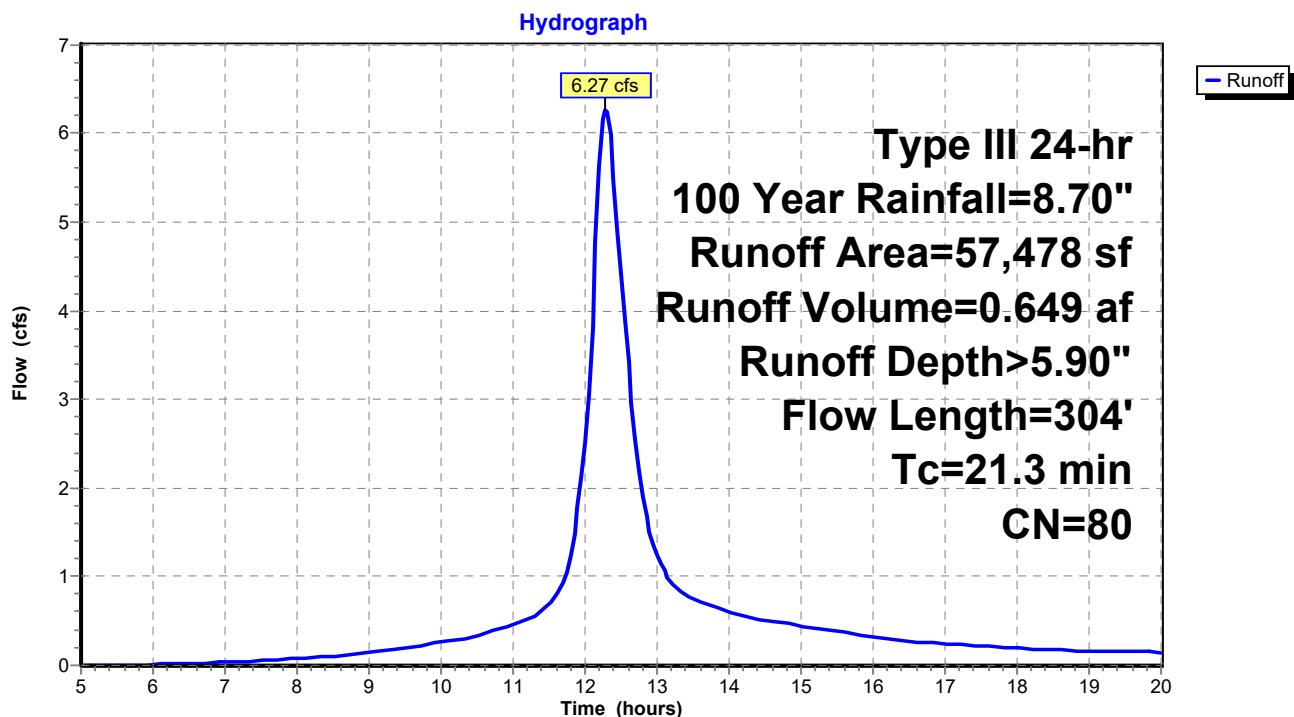
Summary for Subcatchment 1S: Existing Development Areas

Runoff = 6.27 cfs @ 12.29 hrs, Volume= 0.649 af, Depth> 5.90"

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 Year Rainfall=8.70"

Area (sf)	CN	Description
57,478	80	>75% Grass cover, Good, HSG D
57,478		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
7.2	254	0.0070	0.59		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
21.3	304	Total			

Subcatchment 1S: Existing Development Areas

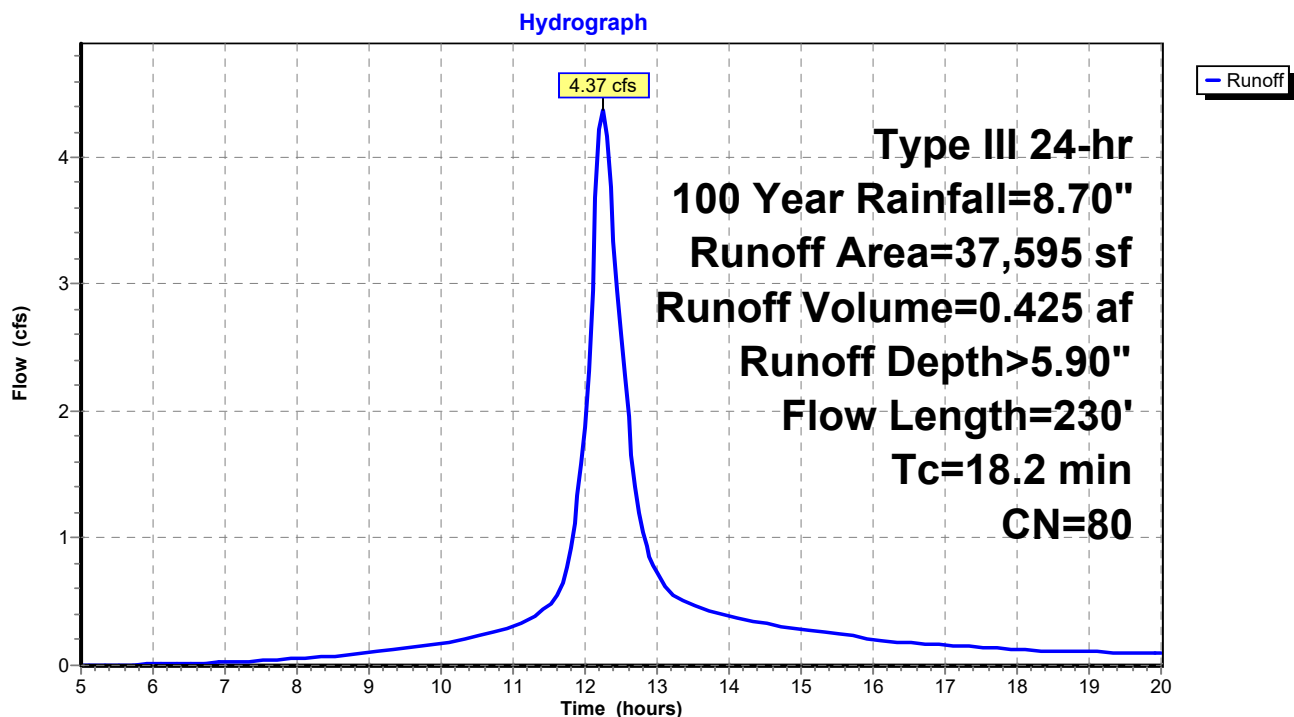
Summary for Subcatchment 2S: Existing Development Areas

Runoff = 4.37 cfs @ 12.25 hrs, Volume= 0.425 af, Depth> 5.90"

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 Year Rainfall=8.70"

Area (sf)	CN	Description
37,595	80	>75% Grass cover, Good, HSG D
37,595		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	50	0.0050	0.06		Sheet Flow, AB Grass: Dense n= 0.240 P2= 3.30"
4.1	180	0.0110	0.73		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
18.2	230	Total			

Subcatchment 2S: Existing Development Areas

Summary for Reach 1R: Ditch

Inflow Area = 1.320 ac, 0.00% Impervious, Inflow Depth > 5.90" for 100 Year event
 Inflow = 6.27 cfs @ 12.29 hrs, Volume= 0.649 af
 Outflow = 6.20 cfs @ 12.35 hrs, Volume= 0.646 af, Atten= 1%, Lag= 3.6 min

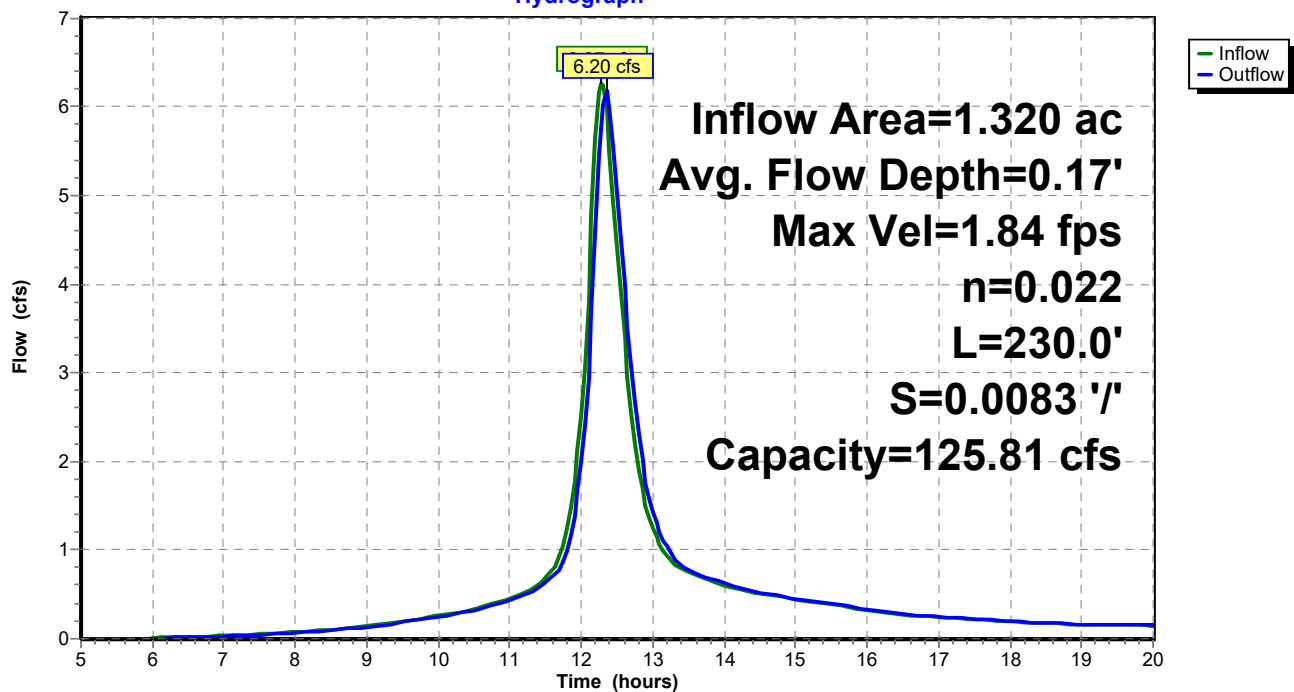
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.84 fps, Min. Travel Time= 2.1 min
 Avg. Velocity= 0.58 fps, Avg. Travel Time= 6.6 min

Peak Storage= 781 cf @ 12.31 hrs
 Average Depth at Peak Storage= 0.17'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 1R: Ditch**

Hydrograph



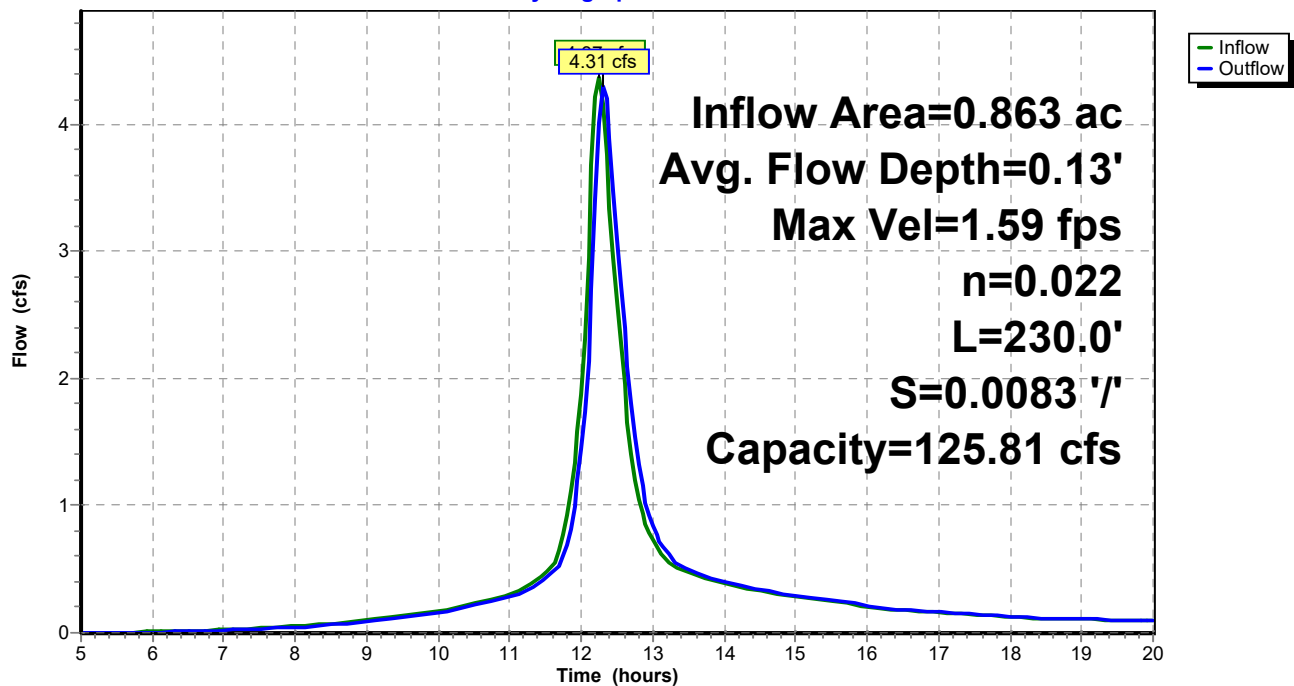
Summary for Reach 2R: Swale

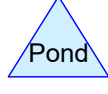
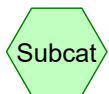
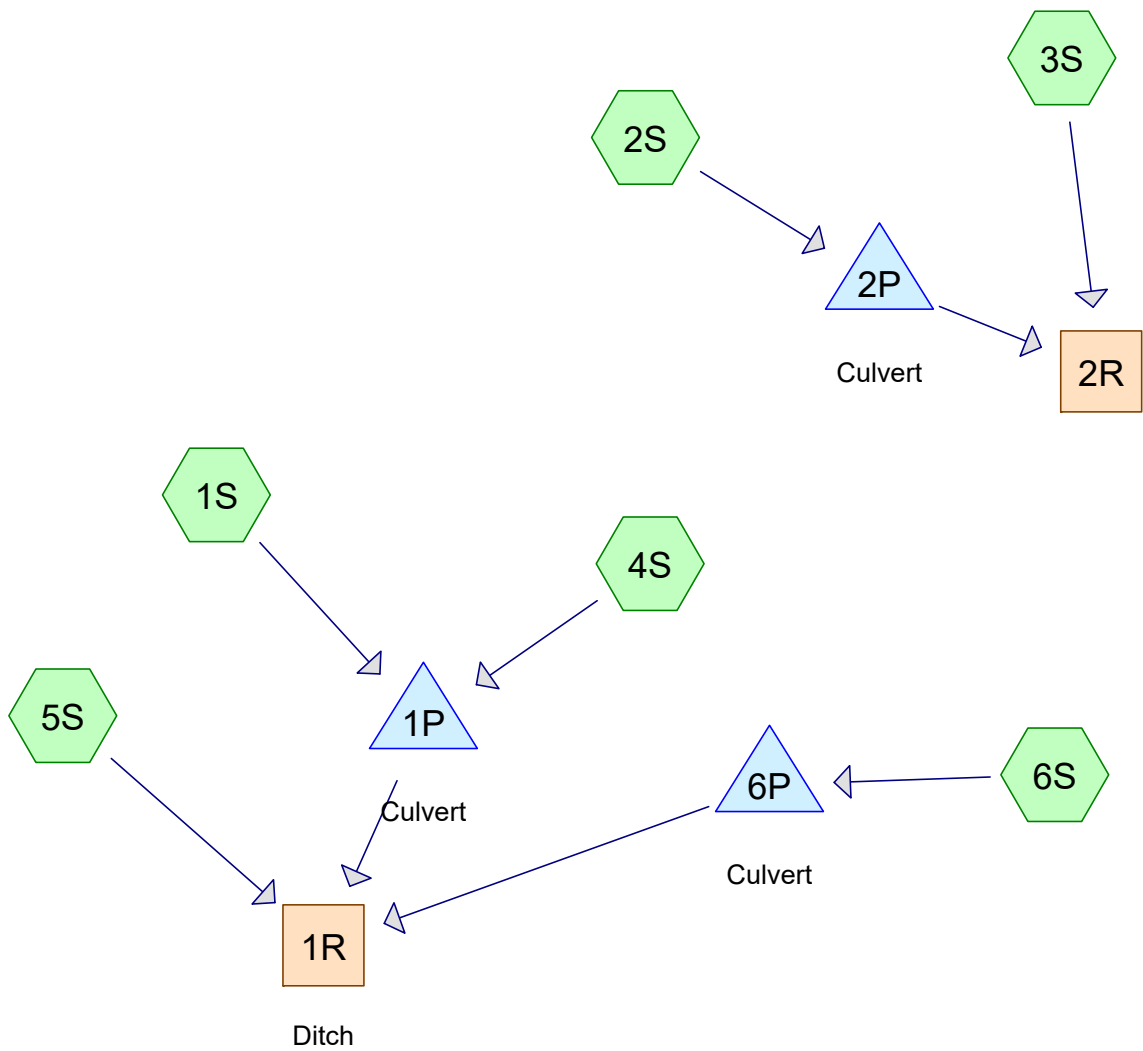
Inflow Area = 0.863 ac, 0.00% Impervious, Inflow Depth > 5.90" for 100 Year event
 Inflow = 4.37 cfs @ 12.25 hrs, Volume= 0.425 af
 Outflow = 4.31 cfs @ 12.31 hrs, Volume= 0.423 af, Atten= 2%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.59 fps, Min. Travel Time= 2.4 min
 Avg. Velocity= 0.50 fps, Avg. Travel Time= 7.7 min

Peak Storage= 626 cf @ 12.27 hrs
 Average Depth at Peak Storage= 0.13'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 125.81 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 230.0' Slope= 0.0083 '/'
 Inlet Invert= 39.21', Outlet Invert= 37.31'

**Reach 2R: Swale****Hydrograph**



Routing Diagram for Post-1646 Rev 02-04-25
 Prepared by Microsoft, Printed 2/5/2025
 HydroCAD® 10.00 s/n 00910 © 2013 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S:

Runoff = 0.65 cfs @ 12.02 hrs, Volume= 0.040 af, Depth> 2.13"

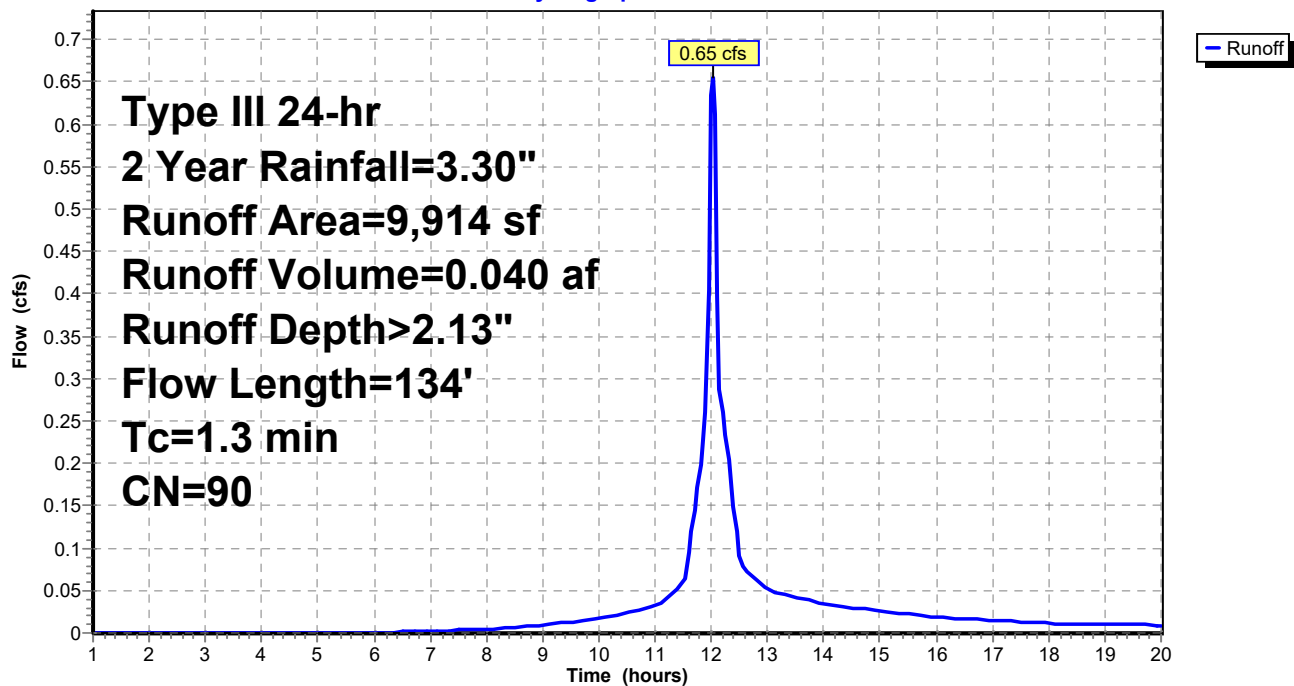
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

	Area (sf)	CN	Description
*	5,275	98	Pavement
	4,639	80	>75% Grass cover, Good, HSG D
	9,914	90	Weighted Average
	4,639		46.79% Pervious Area
	5,275		53.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0170	1.03		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.3	50	0.0170	2.65		Shallow Concentrated Flow, BC Paved Kv= 20.3 fps
0.5	54	0.0560	1.66		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.3	134	Total			

Subcatchment 1S:

Hydrograph



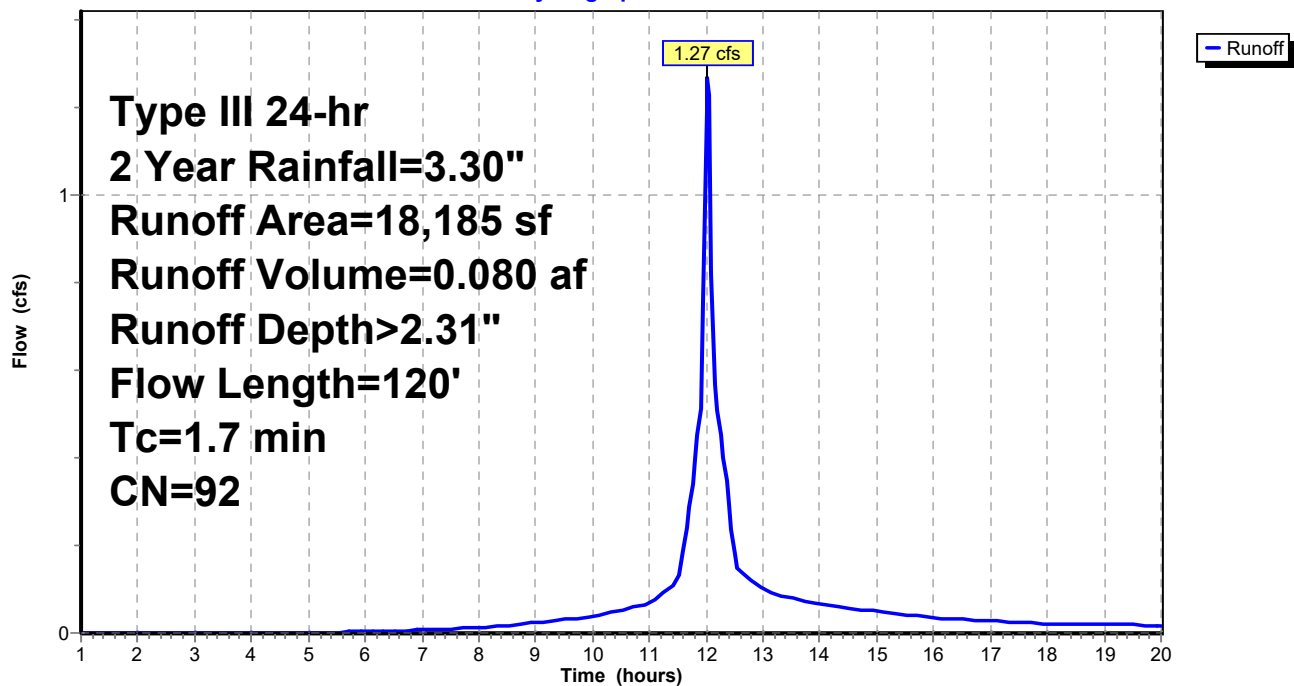
Summary for Subcatchment 2S:

Runoff = 1.27 cfs @ 12.03 hrs, Volume= 0.080 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

Area (sf)	CN	Description
* 12,000	98	Pavement / Buildings
6,185	80	>75% Grass cover, Good, HSG D
18,185	92	Weighted Average
6,185		34.01% Pervious Area
12,000		65.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.22		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.0	10	0.2500	3.50		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
1.0	60	0.0200	0.99		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.7	120	Total			

Subcatchment 2S:**Hydrograph**

Summary for Subcatchment 3S:

Runoff = 0.82 cfs @ 12.27 hrs, Volume= 0.079 af, Depth> 1.36"

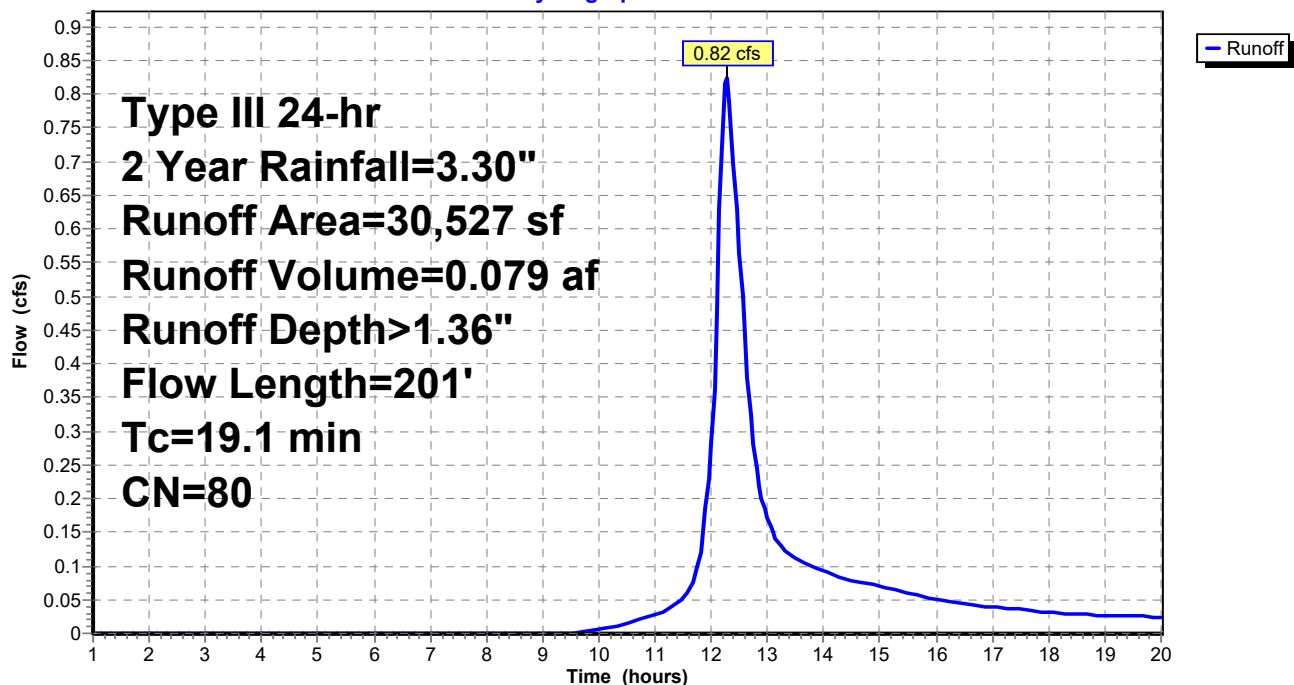
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

Area (sf)	CN	Description
30,527	80	>75% Grass cover, Good, HSG D
30,527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	51	0.0140	0.06		Sheet Flow, AB
					Grass: Bermuda n= 0.410 P2= 3.30"
4.6	150	0.0120	0.55		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
19.1	201	Total			

Subcatchment 3S:

Hydrograph



Summary for Subcatchment 4S:

Runoff = 0.34 cfs @ 12.05 hrs, Volume= 0.022 af, Depth> 2.22"

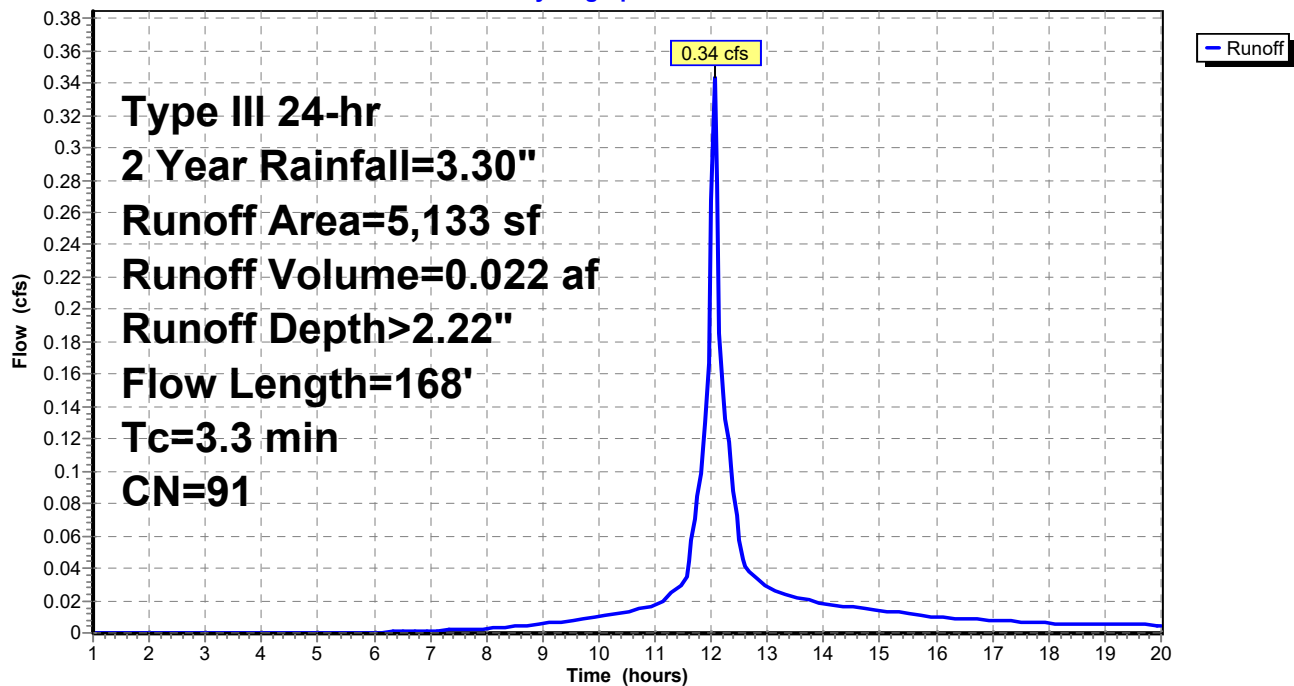
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

	Area (sf)	CN	Description
*	3,189	98	Pavement
	1,944	80	>75% Grass cover, Good, HSG D
	5,133	91	Weighted Average
	1,944		37.87% Pervious Area
	3,189		62.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	65	0.0200	1.28		Sheet Flow, AB
					Smooth surfaces n= 0.011 P2= 3.30"
2.5	103	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
3.3	168	Total			

Subcatchment 4S:

Hydrograph



Summary for Subcatchment 5S:

Runoff = 0.70 cfs @ 12.35 hrs, Volume= 0.075 af, Depth> 1.36"

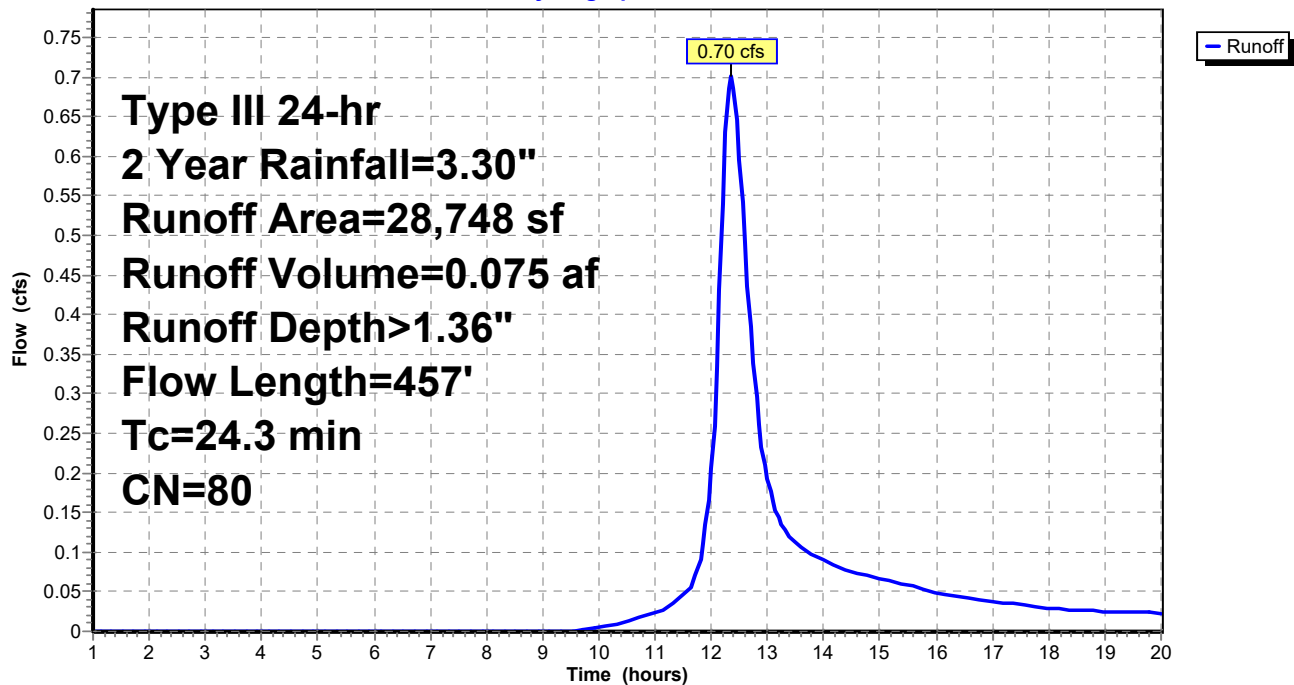
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

Area (sf)	CN	Description
28,748	80	>75% Grass cover, Good, HSG D
28,748		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	50	0.0100	0.08		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
13.7	407	0.0050	0.49		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
24.3	457	Total			

Subcatchment 5S:

Hydrograph



Summary for Subcatchment 6S:

Runoff = 0.11 cfs @ 12.05 hrs, Volume= 0.007 af, Depth> 1.37"

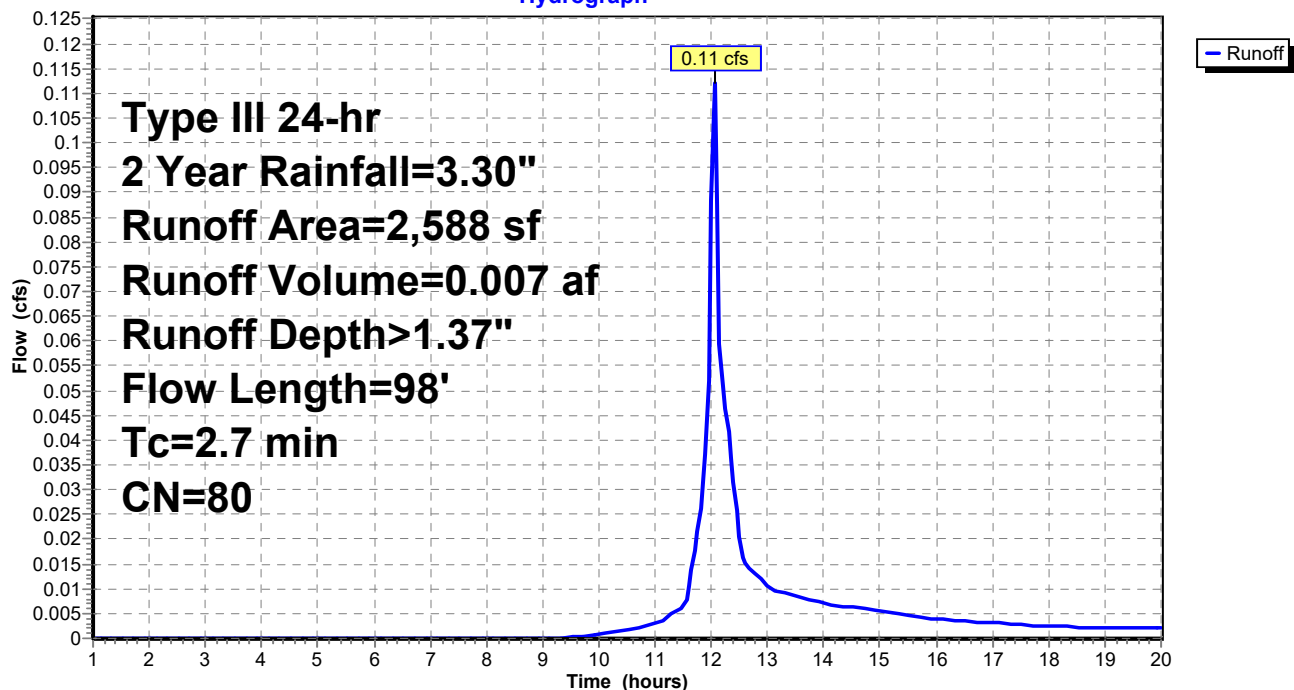
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.30"

Area (sf)	CN	Description
2,588	80	>75% Grass cover, Good, HSG D
2,588		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2100	0.22		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
1.2	78	0.0050	1.06		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
2.7	98	Total			

Subcatchment 6S:

Hydrograph



Summary for Reach 1R: Ditch

Inflow Area = 1.065 ac, 18.25% Impervious, Inflow Depth > 1.37" for 2 Year event
 Inflow = 1.09 cfs @ 12.34 hrs, Volume= 0.122 af
 Outflow = 1.09 cfs @ 12.34 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.29 fps, Min. Travel Time= 0.3 min
 Avg. Velocity= 0.58 fps, Avg. Travel Time= 0.6 min

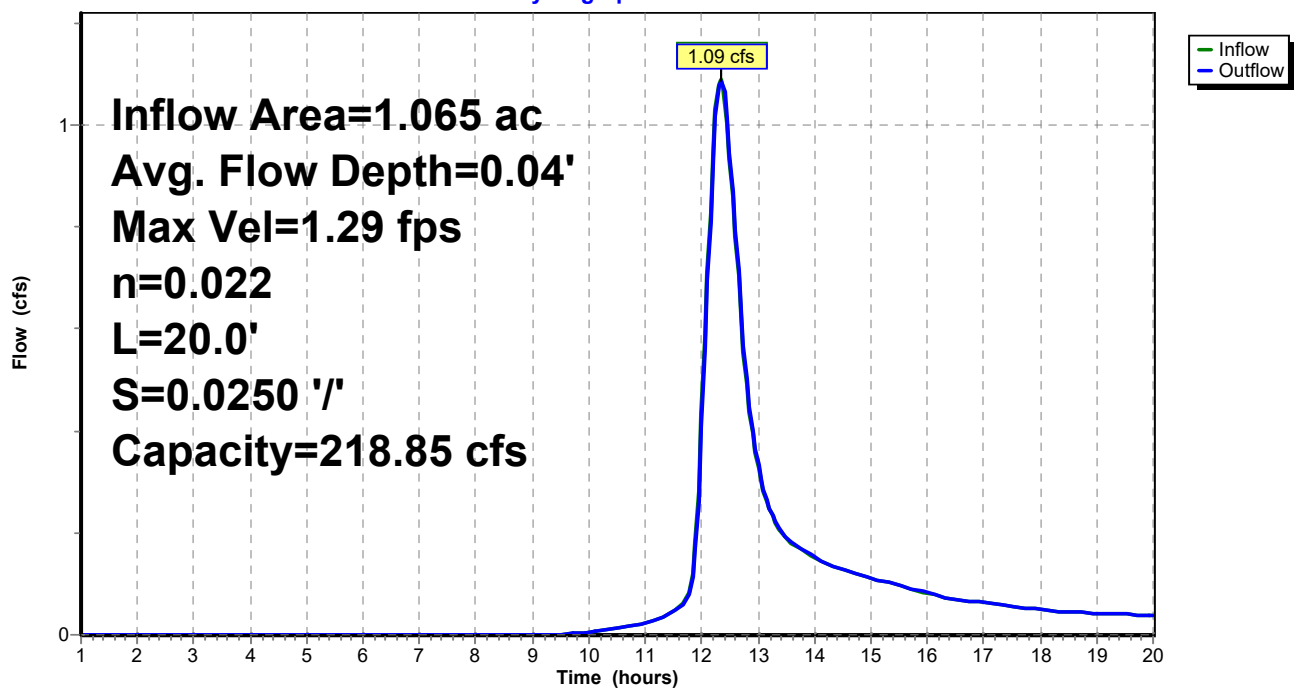
Peak Storage= 17 cf @ 12.34 hrs
 Average Depth at Peak Storage= 0.04'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 1R: Ditch

Hydrograph



Summary for Reach 2R:

Inflow Area = 1.118 ac, 24.63% Impervious, Inflow Depth > 1.55" for 2 Year event
 Inflow = 1.10 cfs @ 12.27 hrs, Volume= 0.144 af
 Outflow = 1.09 cfs @ 12.28 hrs, Volume= 0.144 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 1.29 fps, Min. Travel Time= 0.3 min
 Avg. Velocity= 0.61 fps, Avg. Travel Time= 0.5 min

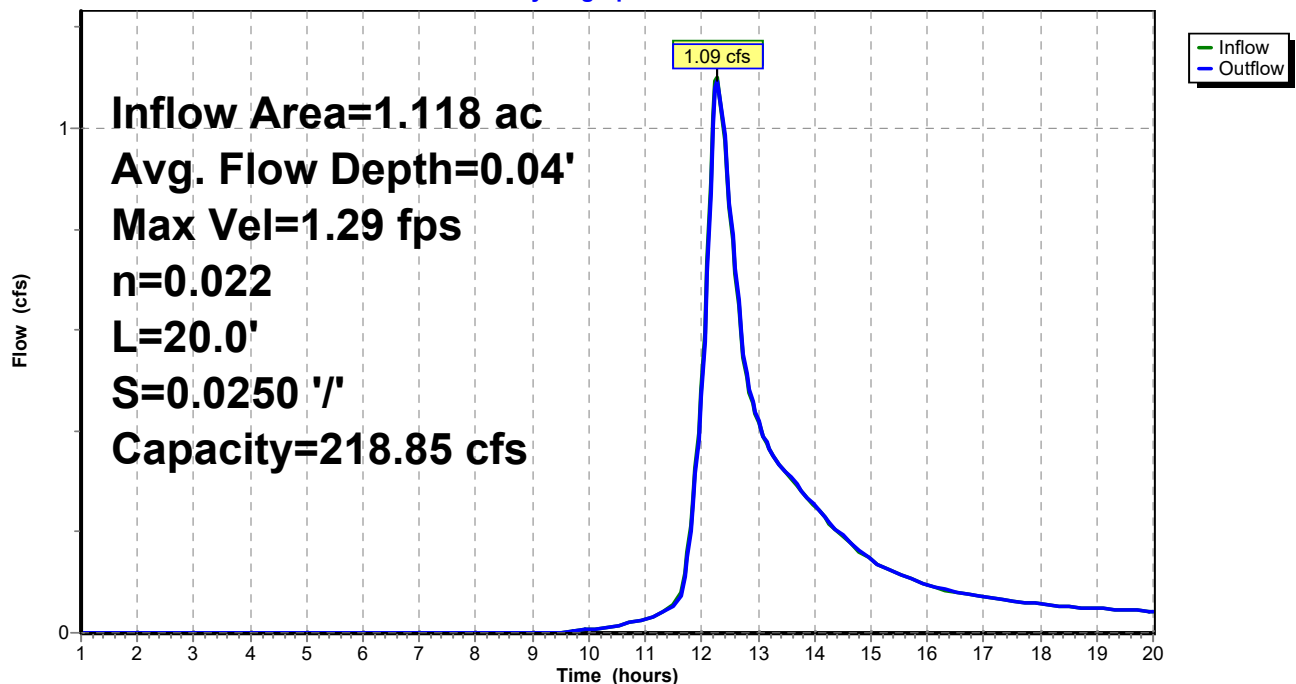
Peak Storage= 17 cf @ 12.28 hrs
 Average Depth at Peak Storage= 0.04'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 2R:

Hydrograph



Summary for Pond 1P: Culvert

Inflow Area = 0.345 ac, 56.25% Impervious, Inflow Depth > 2.16" for 2 Year event
 Inflow = 0.97 cfs @ 12.03 hrs, Volume= 0.062 af
 Outflow = 0.40 cfs @ 12.21 hrs, Volume= 0.047 af, Atten= 59%, Lag= 10.9 min
 Primary = 0.40 cfs @ 12.21 hrs, Volume= 0.047 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 133.58' @ 12.21 hrs Surf.Area= 1,034 sf Storage= 1,124 cf

Plug-Flow detention time= 115.2 min calculated for 0.047 af (76% of inflow)
 Center-of-Mass det. time= 55.6 min (824.7 - 769.0)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	3,198 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	443	0	0
133.00	764	604	604
134.00	1,231	998	1,601
135.00	1,962	1,597	3,198

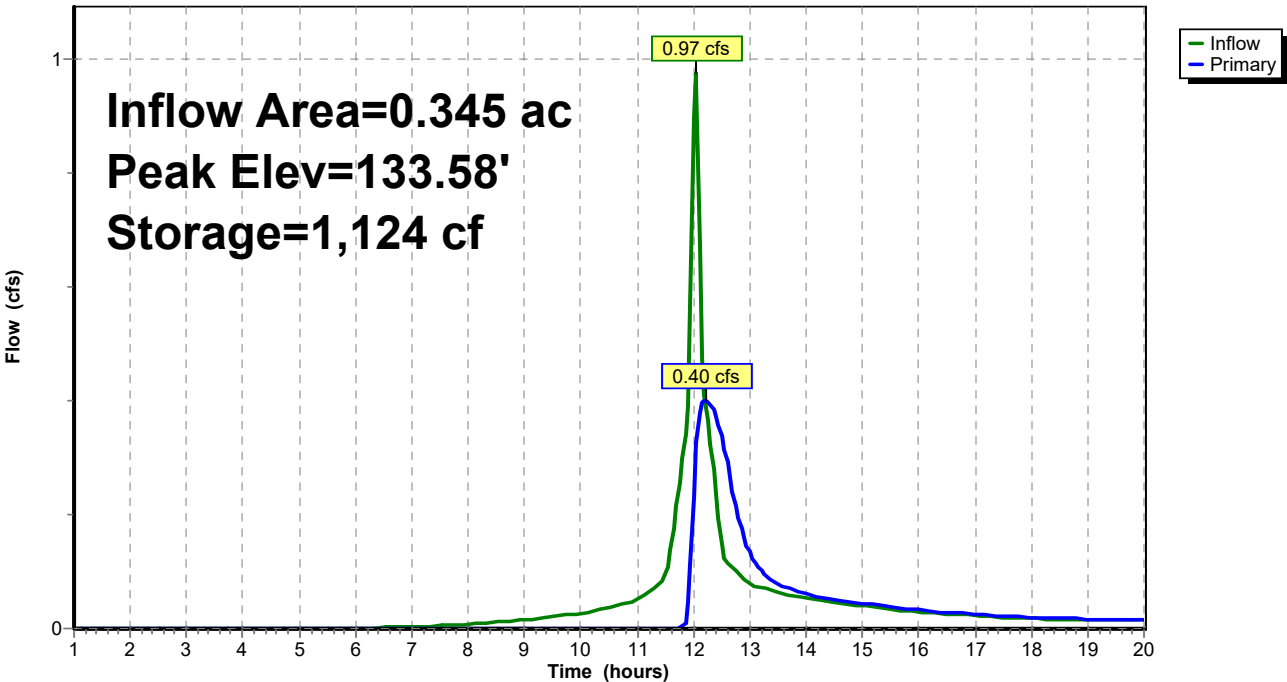
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	133.00'	5.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.40 cfs @ 12.21 hrs HW=133.58' (Free Discharge)

1=Culvert (Passes 0.40 cfs of 12.98 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.40 cfs @ 2.93 fps)
 3=Orifice/Grate (Controls 0.00 cfs)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Culvert

Hydrograph



Summary for Pond 2P: Culvert

Inflow Area = 0.417 ac, 65.99% Impervious, Inflow Depth > 2.31" for 2 Year event
 Inflow = 1.27 cfs @ 12.03 hrs, Volume= 0.080 af
 Outflow = 0.28 cfs @ 12.41 hrs, Volume= 0.065 af, Atten= 78%, Lag= 22.9 min
 Primary = 0.28 cfs @ 12.41 hrs, Volume= 0.065 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 133.65' @ 12.41 hrs Surf.Area= 1,569 sf Storage= 1,700 cf

Plug-Flow detention time= 126.5 min calculated for 0.065 af (81% of inflow)
 Center-of-Mass det. time= 74.6 min (836.9 - 762.3)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	4,605 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	610	0	0
133.00	1,065	838	838
134.00	1,835	1,450	2,288
135.00	2,800	2,318	4,605

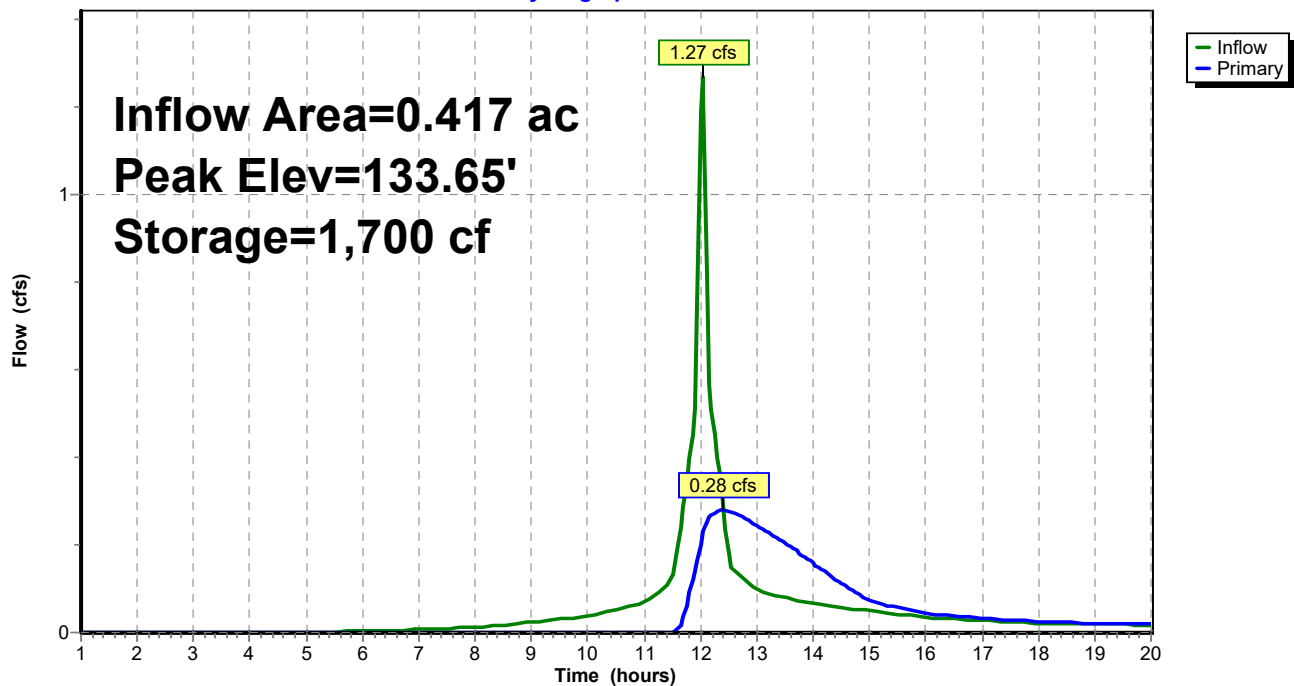
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	132.75'	3.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.75'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.28 cfs @ 12.41 hrs HW=133.65' (Free Discharge)

- 1=Culvert (Passes 0.28 cfs of 13.19 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.28 cfs @ 4.19 fps)
 3=Orifice/Grate (Controls 0.00 cfs)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Culvert

Hydrograph



Summary for Pond 6P: Culvert

Inflow Area = 0.059 ac, 0.00% Impervious, Inflow Depth > 1.37" for 2 Year event
 Inflow = 0.11 cfs @ 12.05 hrs, Volume= 0.007 af
 Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 131.59' @ 20.00 hrs Surf.Area= 698 sf Storage= 295 cf

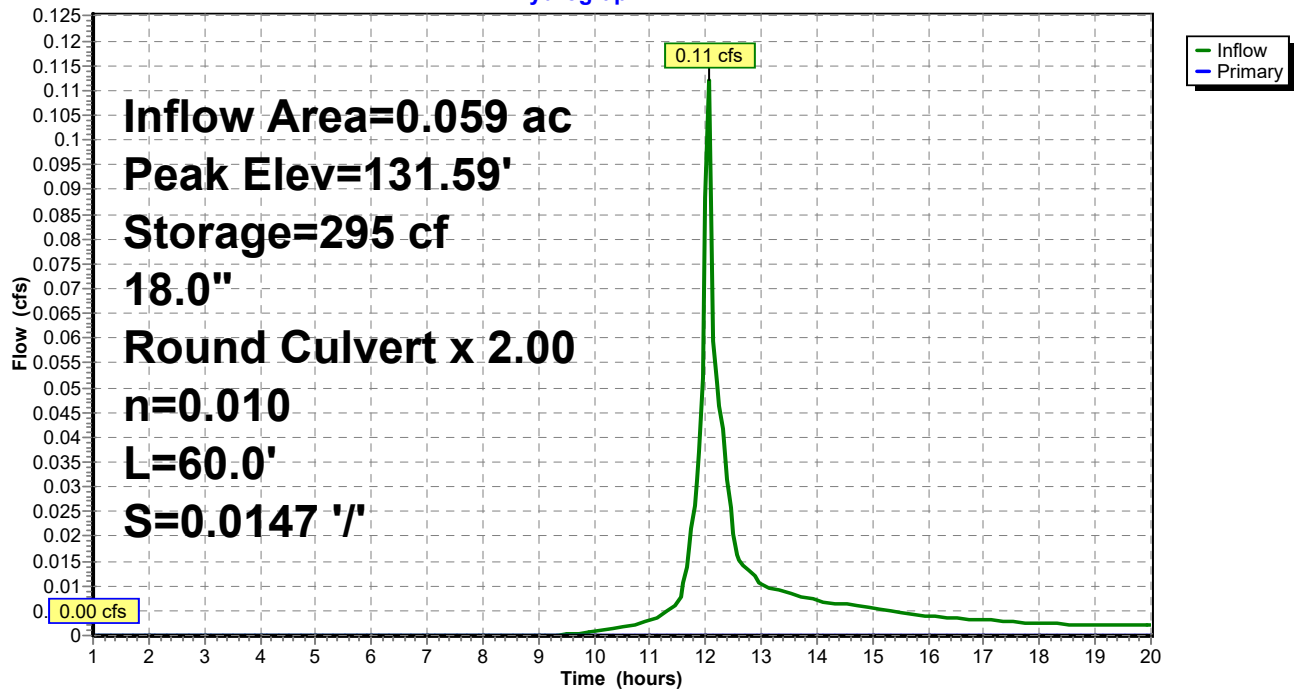
Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	131.00'	2,656 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
131.00	300	0	0
132.00	973	637	637
133.00	3,065	2,019	2,656

Device	Routing	Invert	Outlet Devices
#1	Primary	132.00'	18.0" Round Culvert X 2.00 L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 132.00' / 131.12' S= 0.0147 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=131.00' (Free Discharge)
 ↑1=Culvert (Controls 0.00 cfs)

Pond 6P: Culvert**Hydrograph**

Summary for Subcatchment 1S:

Runoff = 1.07 cfs @ 12.02 hrs, Volume= 0.068 af, Depth> 3.58"

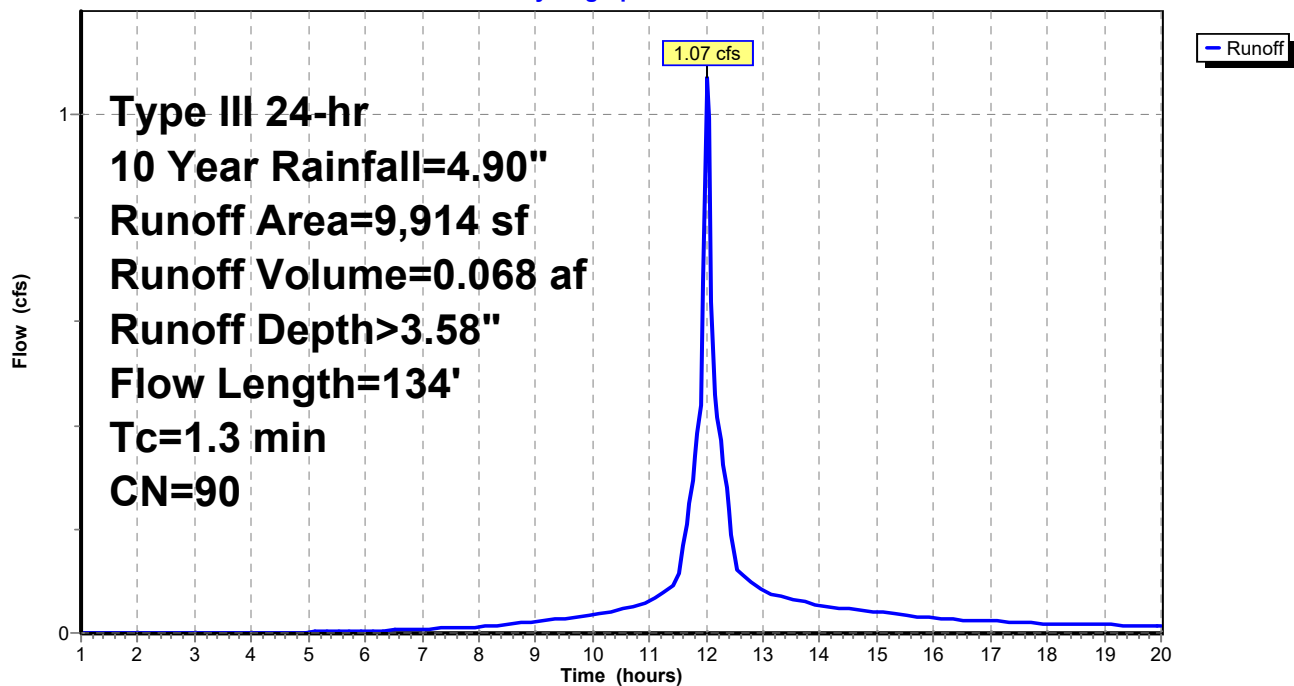
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.90"

	Area (sf)	CN	Description
*	5,275	98	Pavement
	4,639	80	>75% Grass cover, Good, HSG D
	9,914	90	Weighted Average
	4,639		46.79% Pervious Area
	5,275		53.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0170	1.03		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.3	50	0.0170	2.65		Shallow Concentrated Flow, BC Paved Kv= 20.3 fps
0.5	54	0.0560	1.66		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.3	134	Total			

Subcatchment 1S:

Hydrograph



Summary for Subcatchment 2S:

Runoff = 2.02 cfs @ 12.03 hrs, Volume= 0.132 af, Depth> 3.79"

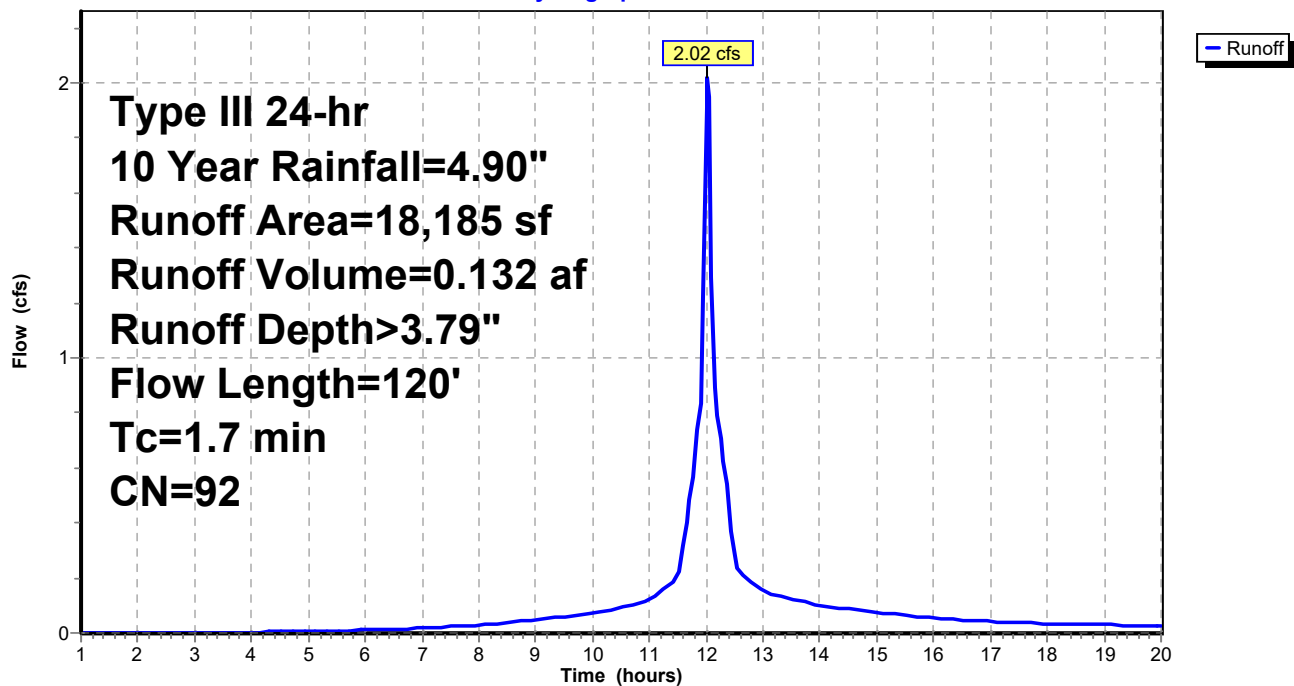
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.90"

	Area (sf)	CN	Description
*	12,000	98	Pavement / Buildings
	6,185	80	>75% Grass cover, Good, HSG D
	18,185	92	Weighted Average
	6,185		34.01% Pervious Area
	12,000		65.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.22		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.0	10	0.2500	3.50		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
1.0	60	0.0200	0.99		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.7	120	Total			

Subcatchment 2S:

Hydrograph



Summary for Subcatchment 3S:

Runoff = 1.58 cfs @ 12.26 hrs, Volume= 0.152 af, Depth> 2.61"

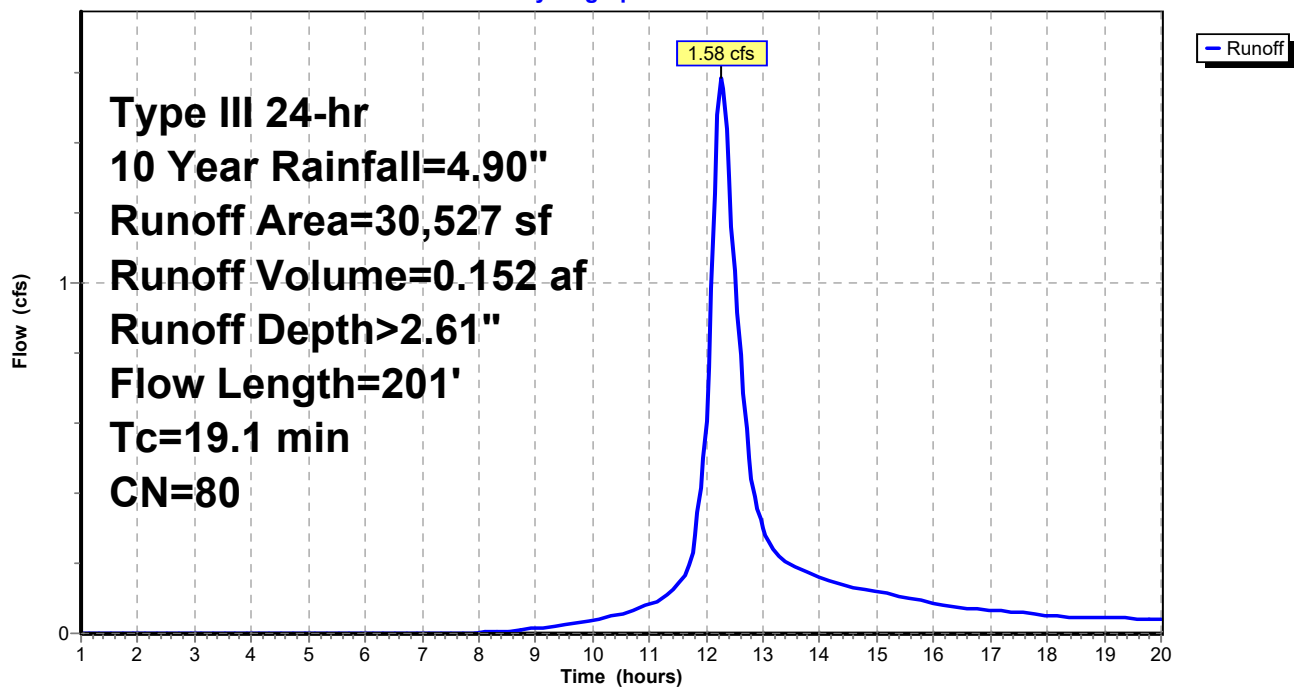
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.90"

Area (sf)	CN	Description
30,527	80	>75% Grass cover, Good, HSG D
30,527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	51	0.0140	0.06		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.30"
4.6	150	0.0120	0.55		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
19.1	201	Total			

Subcatchment 3S:

Hydrograph



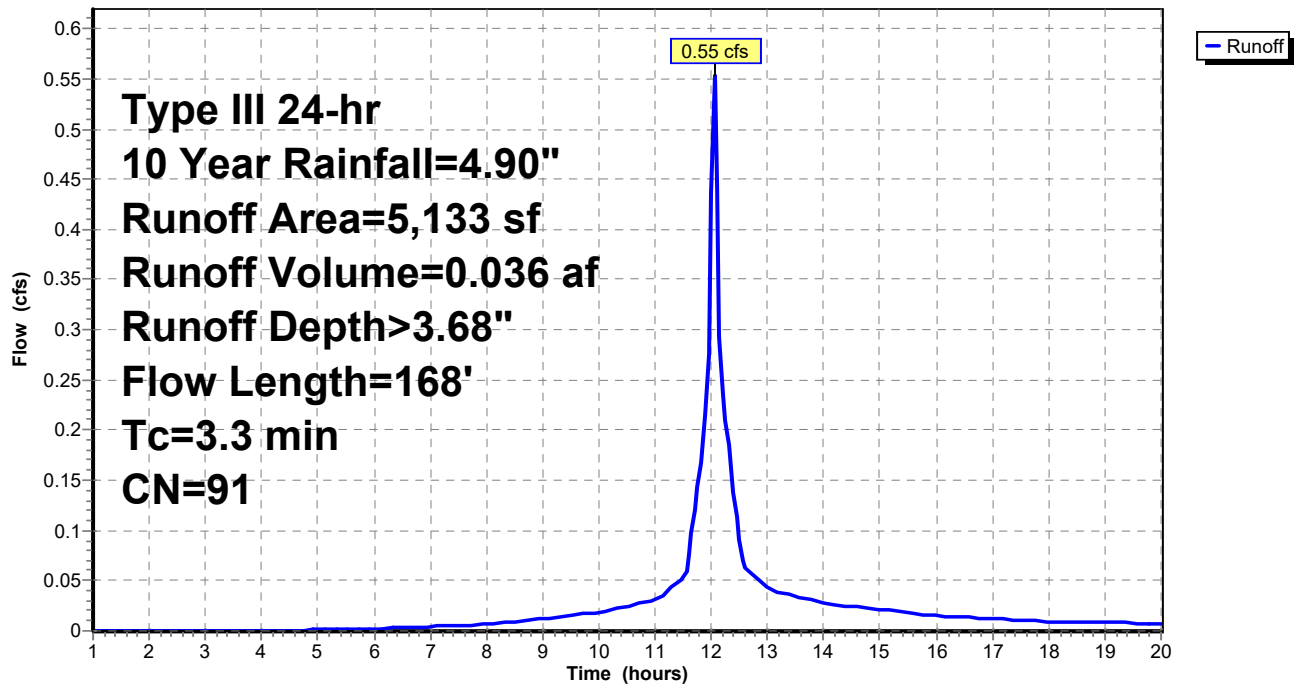
Summary for Subcatchment 4S:

Runoff = 0.55 cfs @ 12.05 hrs, Volume= 0.036 af, Depth> 3.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.90"

	Area (sf)	CN	Description
*	3,189	98	Pavement
	1,944	80	>75% Grass cover, Good, HSG D
	5,133	91	Weighted Average
	1,944		37.87% Pervious Area
	3,189		62.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	65	0.0200	1.28		Sheet Flow, AB
					Smooth surfaces n= 0.011 P2= 3.30"
2.5	103	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
3.3	168	Total			

Subcatchment 4S:**Hydrograph**

Summary for Subcatchment 5S:

Runoff = 1.35 cfs @ 12.34 hrs, Volume= 0.143 af, Depth> 2.60"

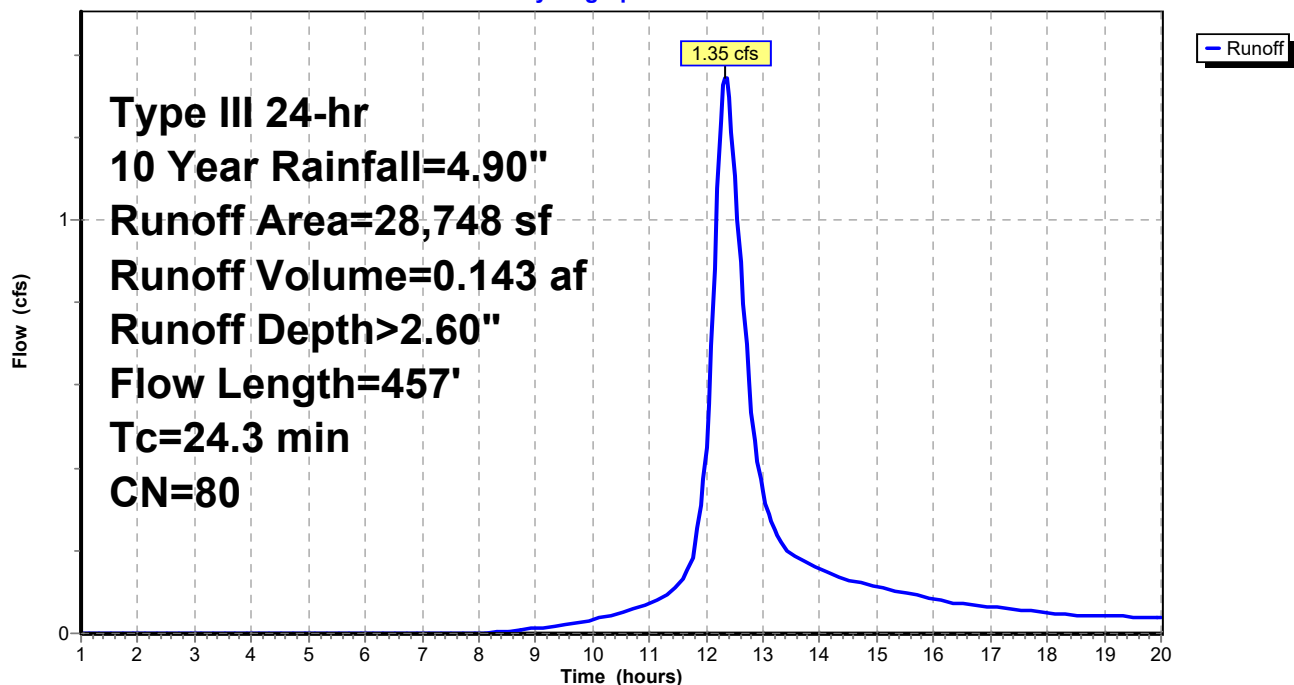
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.90"

Area (sf)	CN	Description
28,748	80	>75% Grass cover, Good, HSG D
28,748		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	50	0.0100	0.08		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
13.7	407	0.0050	0.49		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
24.3	457	Total			

Subcatchment 5S:

Hydrograph



Summary for Subcatchment 6S:

Runoff = 0.21 cfs @ 12.05 hrs, Volume= 0.013 af, Depth> 2.62"

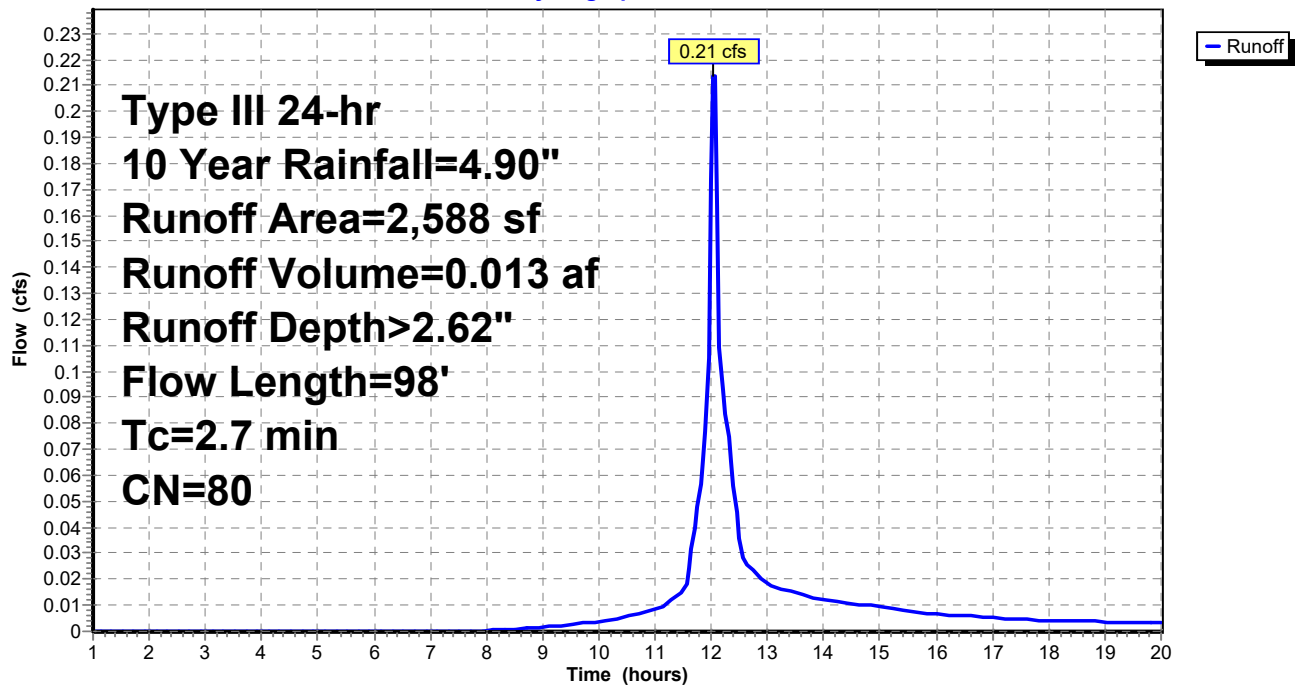
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Rainfall=4.90"

Area (sf)	CN	Description
2,588	80	>75% Grass cover, Good, HSG D
2,588		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2100	0.22		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
1.2	78	0.0050	1.06		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
2.7	98	Total			

Subcatchment 6S:

Hydrograph



Summary for Reach 1R: Ditch

Inflow Area = 1.065 ac, 18.25% Impervious, Inflow Depth > 2.61" for 10 Year event
 Inflow = 1.93 cfs @ 12.32 hrs, Volume= 0.232 af
 Outflow = 1.93 cfs @ 12.33 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.62 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 0.64 fps, Avg. Travel Time= 0.5 min

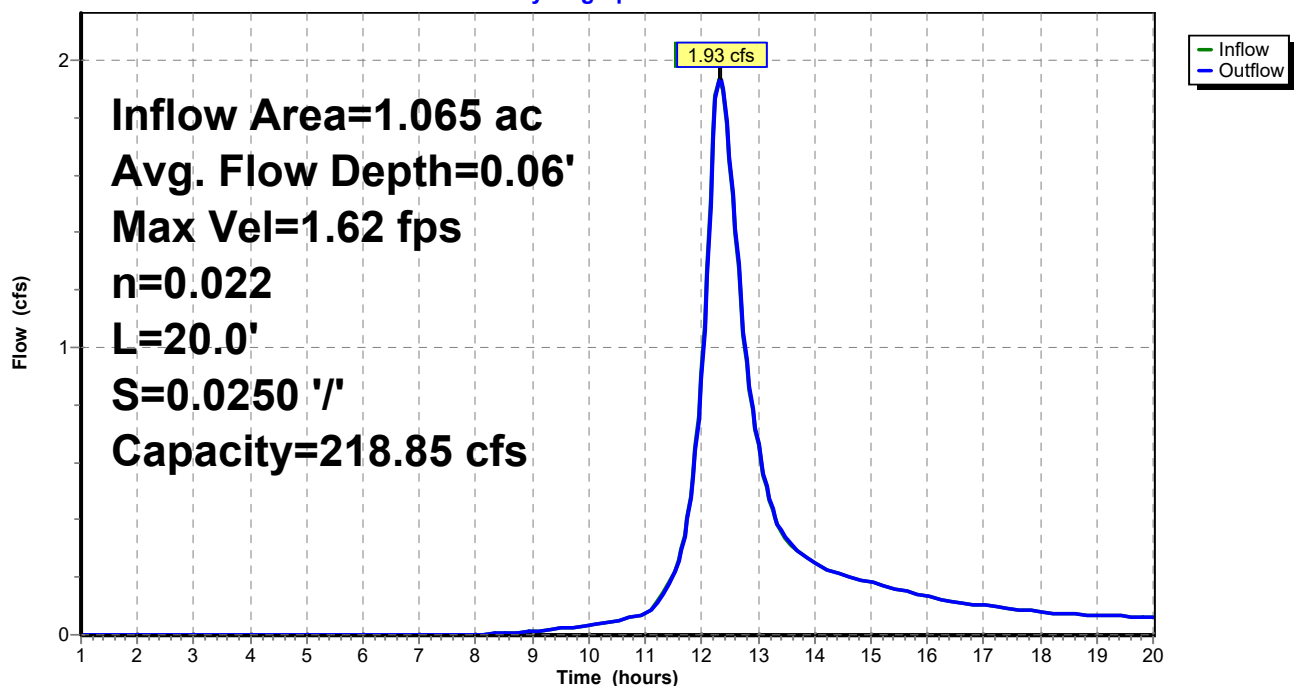
Peak Storage= 24 cf @ 12.32 hrs
 Average Depth at Peak Storage= 0.06'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 1R: Ditch

Hydrograph



Summary for Reach 2R:

Inflow Area = 1.118 ac, 24.63% Impervious, Inflow Depth > 2.88" for 10 Year event
 Inflow = 1.94 cfs @ 12.27 hrs, Volume= 0.268 af
 Outflow = 1.93 cfs @ 12.27 hrs, Volume= 0.268 af, Atten= 1%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 1.62 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 0.69 fps, Avg. Travel Time= 0.5 min

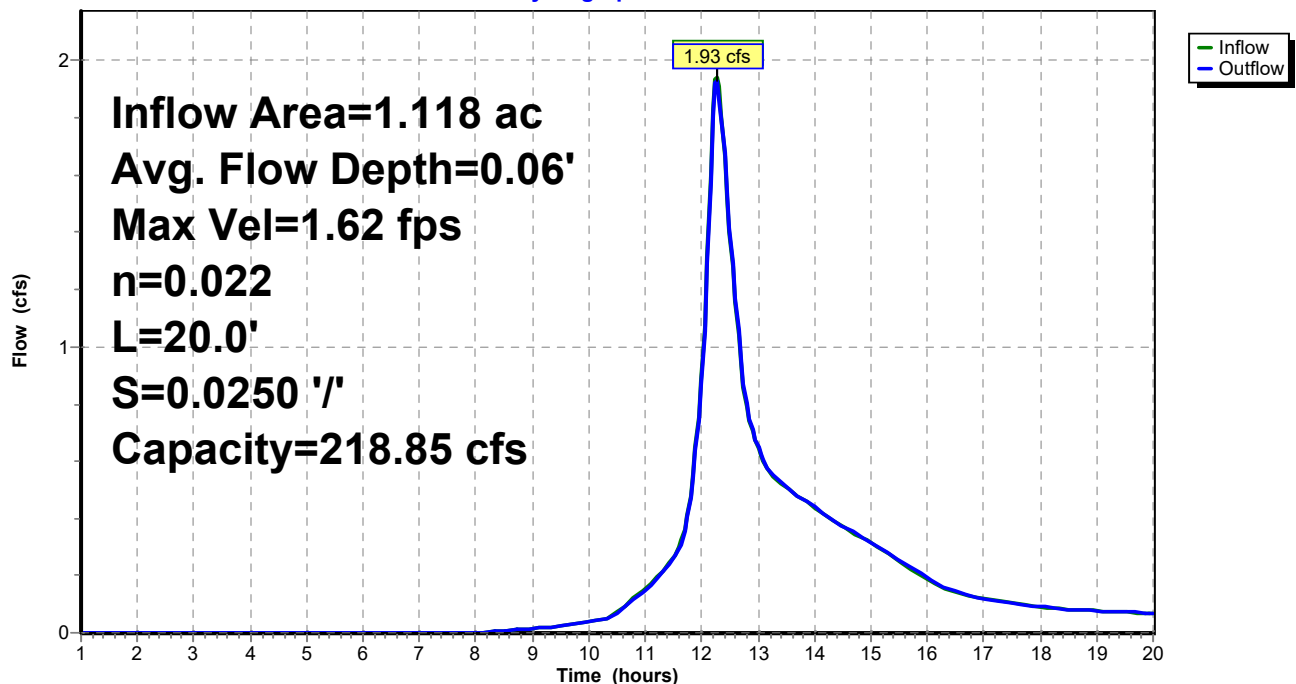
Peak Storage= 24 cf @ 12.27 hrs
 Average Depth at Peak Storage= 0.06'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 2R:

Hydrograph



Summary for Pond 1P: Culvert

Inflow Area = 0.345 ac, 56.25% Impervious, Inflow Depth > 3.61" for 10 Year event
 Inflow = 1.58 cfs @ 12.03 hrs, Volume= 0.104 af
 Outflow = 0.67 cfs @ 12.20 hrs, Volume= 0.089 af, Atten= 58%, Lag= 10.1 min
 Primary = 0.67 cfs @ 12.20 hrs, Volume= 0.089 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 134.02' @ 12.20 hrs Surf.Area= 1,247 sf Storage= 1,628 cf

Plug-Flow detention time= 94.4 min calculated for 0.089 af (85% of inflow)
 Center-of-Mass det. time= 50.4 min (807.1 - 756.7)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	3,198 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	443	0	0
133.00	764	604	604
134.00	1,231	998	1,601
135.00	1,962	1,597	3,198

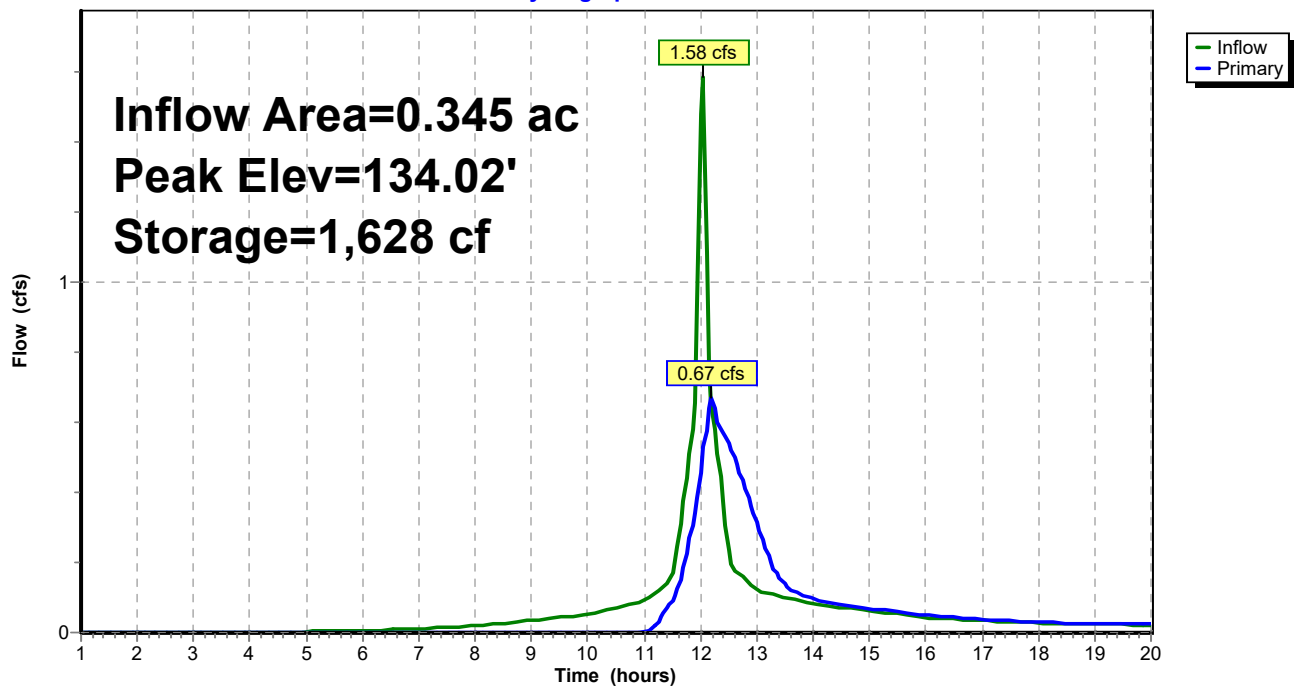
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	133.00'	5.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.66 cfs @ 12.20 hrs HW=134.02' (Free Discharge)

1=Culvert (Passes 0.66 cfs of 14.17 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.59 cfs @ 4.34 fps)
 3=Orifice/Grate (Weir Controls 0.07 cfs @ 0.48 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Culvert

Hydrograph



Summary for Pond 2P: Culvert

Inflow Area = 0.417 ac, 65.99% Impervious, Inflow Depth > 3.79" for 10 Year event
 Inflow = 2.02 cfs @ 12.03 hrs, Volume= 0.132 af
 Outflow = 0.37 cfs @ 12.45 hrs, Volume= 0.116 af, Atten= 82%, Lag= 25.3 min
 Primary = 0.37 cfs @ 12.45 hrs, Volume= 0.116 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 134.20' @ 12.45 hrs Surf.Area= 2,025 sf Storage= 2,667 cf

Plug-Flow detention time= 123.0 min calculated for 0.116 af (88% of inflow)
 Center-of-Mass det. time= 84.5 min (834.9 - 750.4)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	4,605 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	610	0	0
133.00	1,065	838	838
134.00	1,835	1,450	2,288
135.00	2,800	2,318	4,605

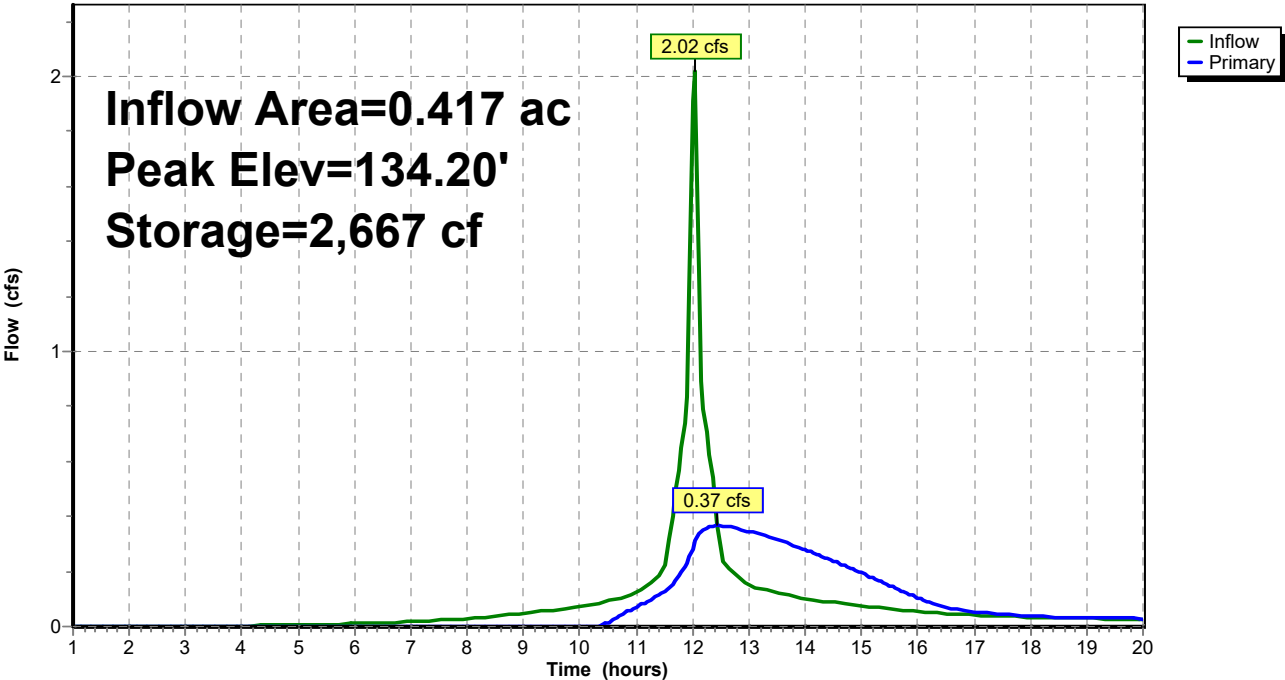
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	132.75'	3.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.75'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.37 cfs @ 12.45 hrs HW=134.20' (Free Discharge)

1=Culvert (Passes 0.37 cfs of 14.61 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.37 cfs @ 5.49 fps)
 3=Orifice/Grate (Controls 0.00 cfs)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Culvert

Hydrograph



Summary for Pond 6P: Culvert

Inflow Area = 0.059 ac, 0.00% Impervious, Inflow Depth > 2.62" for 10 Year event
 Inflow = 0.21 cfs @ 12.05 hrs, Volume= 0.013 af
 Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 131.92' @ 20.00 hrs Surf.Area= 922 sf Storage= 565 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	131.00'	2,656 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

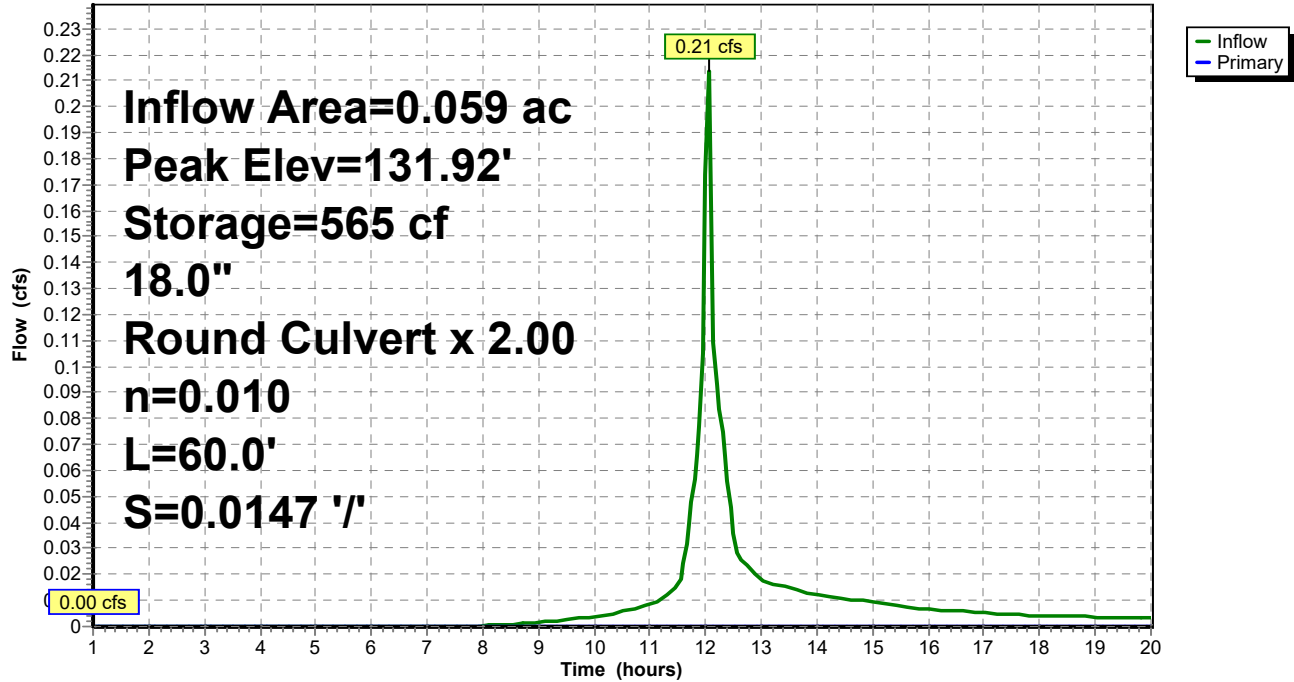
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
131.00	300	0	0
132.00	973	637	637
133.00	3,065	2,019	2,656

Device	Routing	Invert	Outlet Devices
#1	Primary	132.00'	18.0" Round Culvert X 2.00 L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 132.00' / 131.12' S= 0.0147 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=131.00' (Free Discharge)
 ↑1=Culvert (Controls 0.00 cfs)

Pond 6P: Culvert

Hydrograph



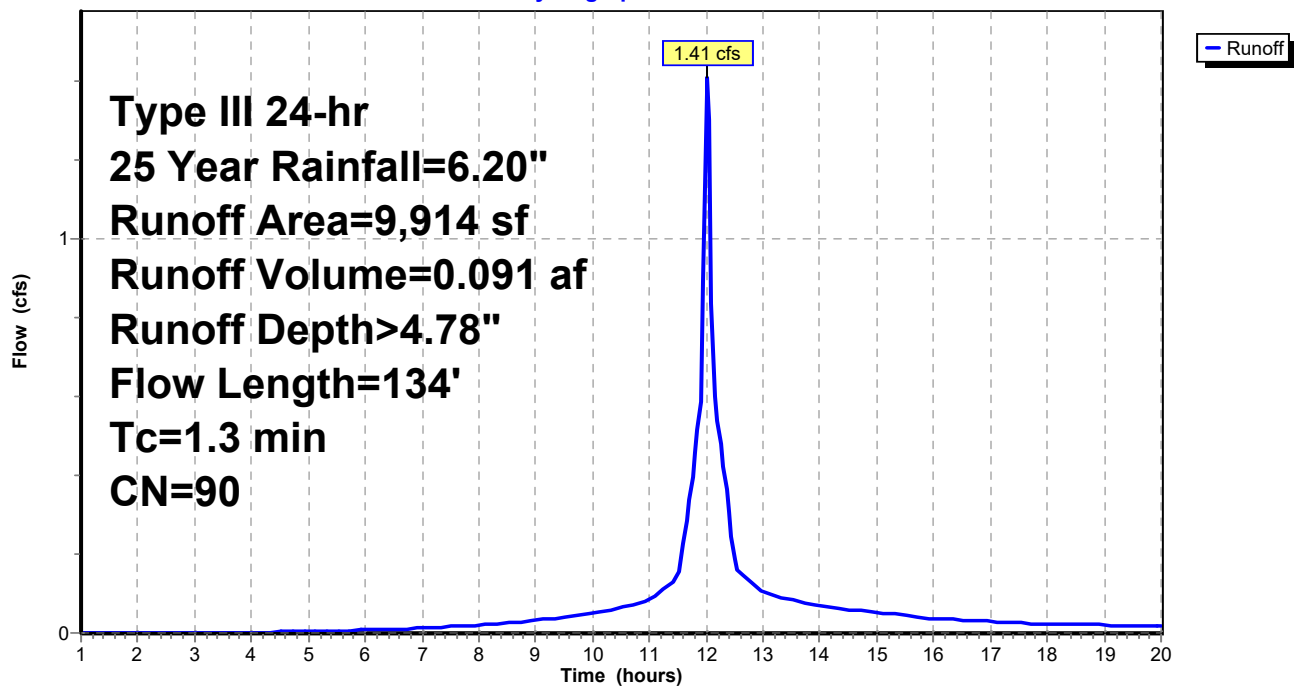
Summary for Subcatchment 1S:

Runoff = 1.41 cfs @ 12.02 hrs, Volume= 0.091 af, Depth> 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=6.20"

Area (sf)	CN	Description
* 5,275	98	Pavement
4,639	80	>75% Grass cover, Good, HSG D
9,914	90	Weighted Average
4,639		46.79% Pervious Area
5,275		53.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0170	1.03		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.3	50	0.0170	2.65		Shallow Concentrated Flow, BC Paved Kv= 20.3 fps
0.5	54	0.0560	1.66		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.3	134	Total			

Subcatchment 1S:**Hydrograph**

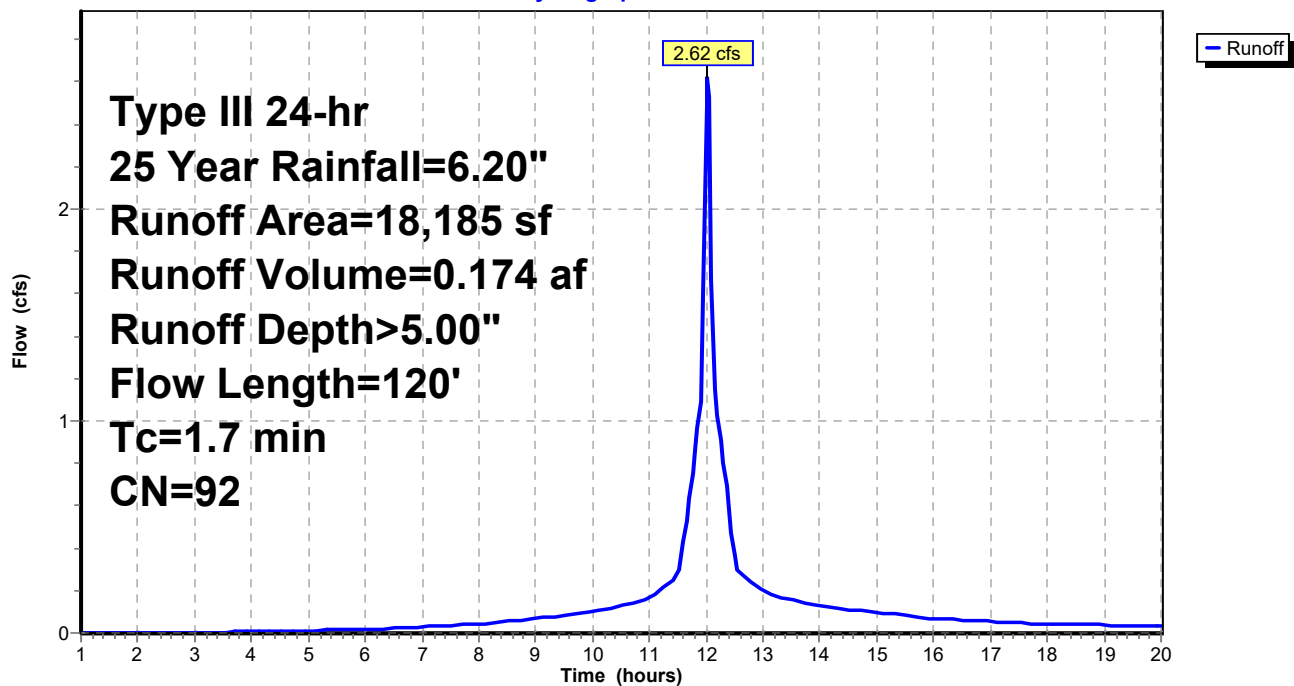
Summary for Subcatchment 2S:

Runoff = 2.62 cfs @ 12.03 hrs, Volume= 0.174 af, Depth> 5.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=6.20"

	Area (sf)	CN	Description
*	12,000	98	Pavement / Buildings
	6,185	80	>75% Grass cover, Good, HSG D
	18,185	92	Weighted Average
	6,185		34.01% Pervious Area
	12,000		65.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.22		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.0	10	0.2500	3.50		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
1.0	60	0.0200	0.99		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.7	120	Total			

Subcatchment 2S:**Hydrograph**

Summary for Subcatchment 3S:

Runoff = 2.23 cfs @ 12.26 hrs, Volume= 0.216 af, Depth> 3.70"

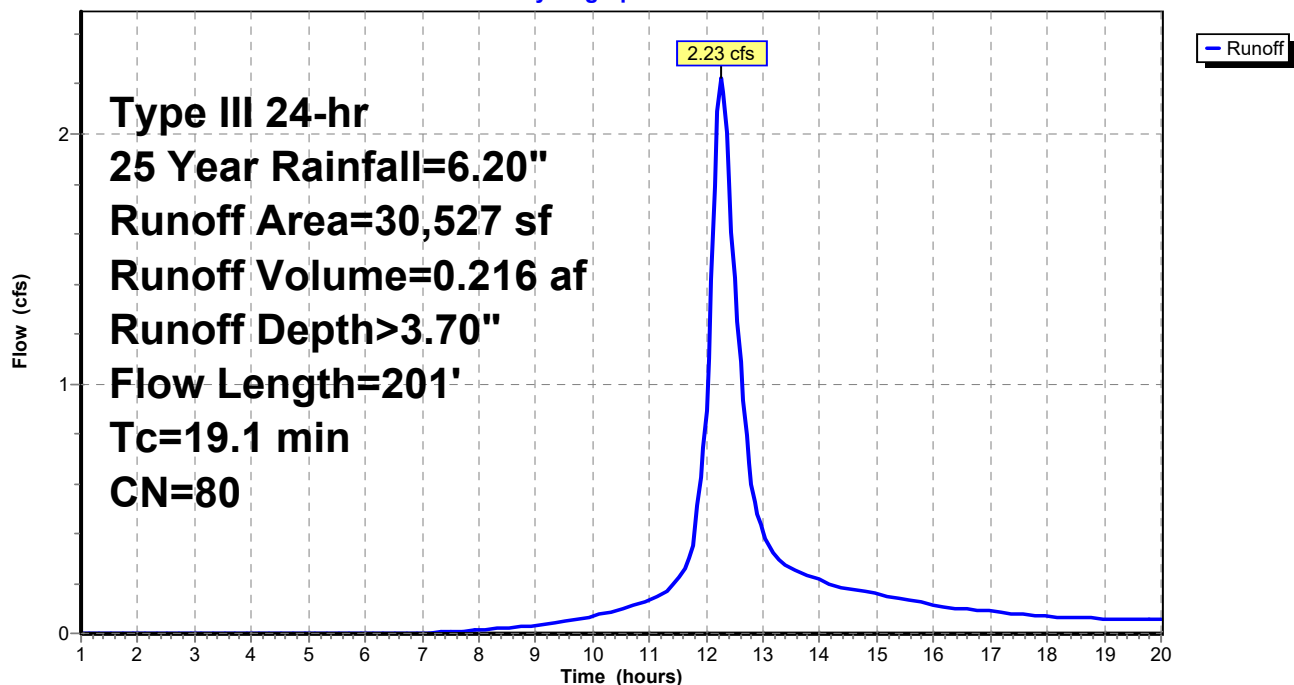
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=6.20"

Area (sf)	CN	Description
30,527	80	>75% Grass cover, Good, HSG D
30,527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	51	0.0140	0.06		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.30"
4.6	150	0.0120	0.55		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
19.1	201	Total			

Subcatchment 3S:

Hydrograph



Summary for Subcatchment 4S:

Runoff = 0.72 cfs @ 12.05 hrs, Volume= 0.048 af, Depth> 4.89"

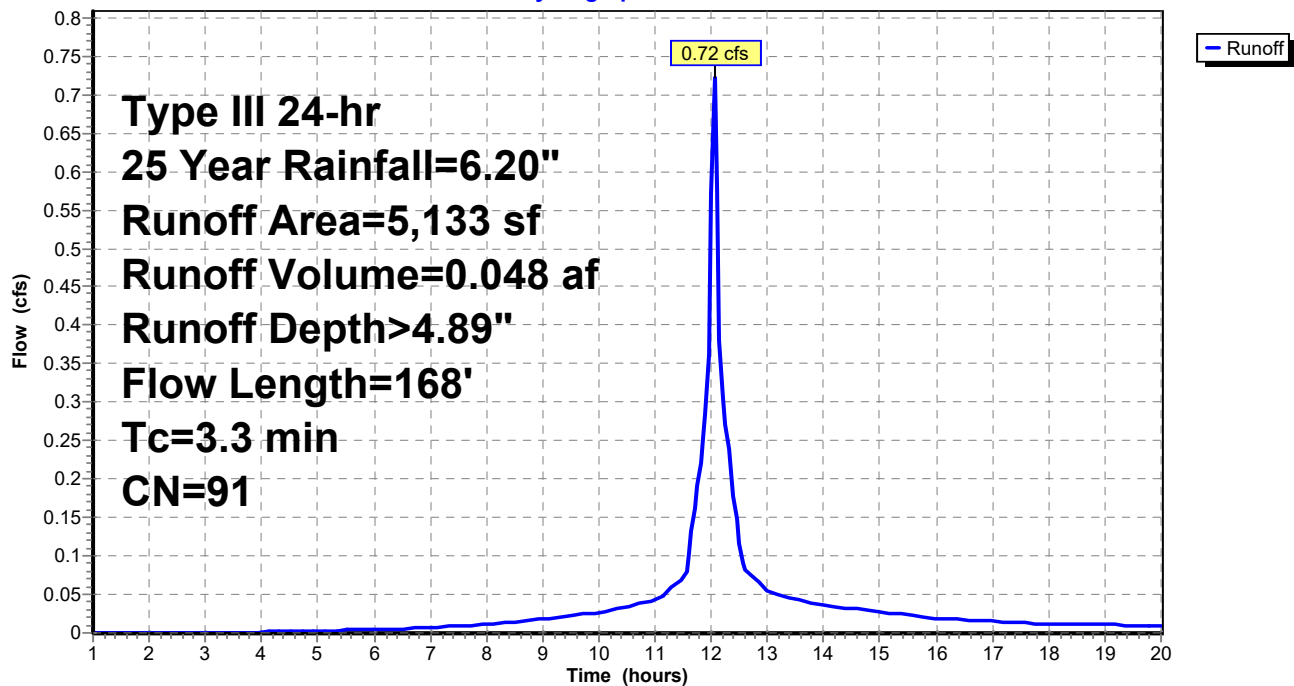
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=6.20"

	Area (sf)	CN	Description
*	3,189	98	Pavement
	1,944	80	>75% Grass cover, Good, HSG D
	5,133	91	Weighted Average
	1,944		37.87% Pervious Area
	3,189		62.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	65	0.0200	1.28		Sheet Flow, AB
					Smooth surfaces n= 0.011 P2= 3.30"
2.5	103	0.0100	0.70		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
3.3	168	Total			

Subcatchment 4S:

Hydrograph



Summary for Subcatchment 5S:

Runoff = 1.89 cfs @ 12.33 hrs, Volume= 0.203 af, Depth> 3.70"

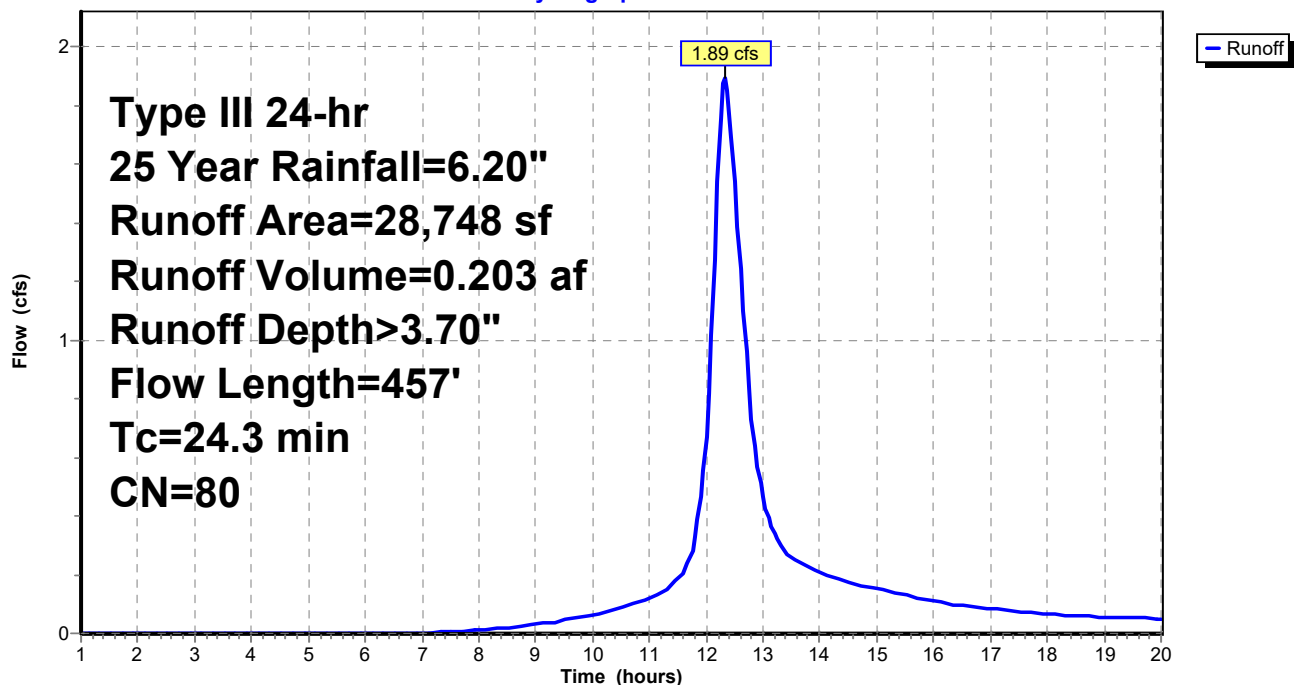
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=6.20"

Area (sf)	CN	Description
28,748	80	>75% Grass cover, Good, HSG D
28,748		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	50	0.0100	0.08		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
13.7	407	0.0050	0.49		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
24.3	457	Total			

Subcatchment 5S:

Hydrograph



Summary for Subcatchment 6S:

Runoff = 0.30 cfs @ 12.05 hrs, Volume= 0.018 af, Depth> 3.72"

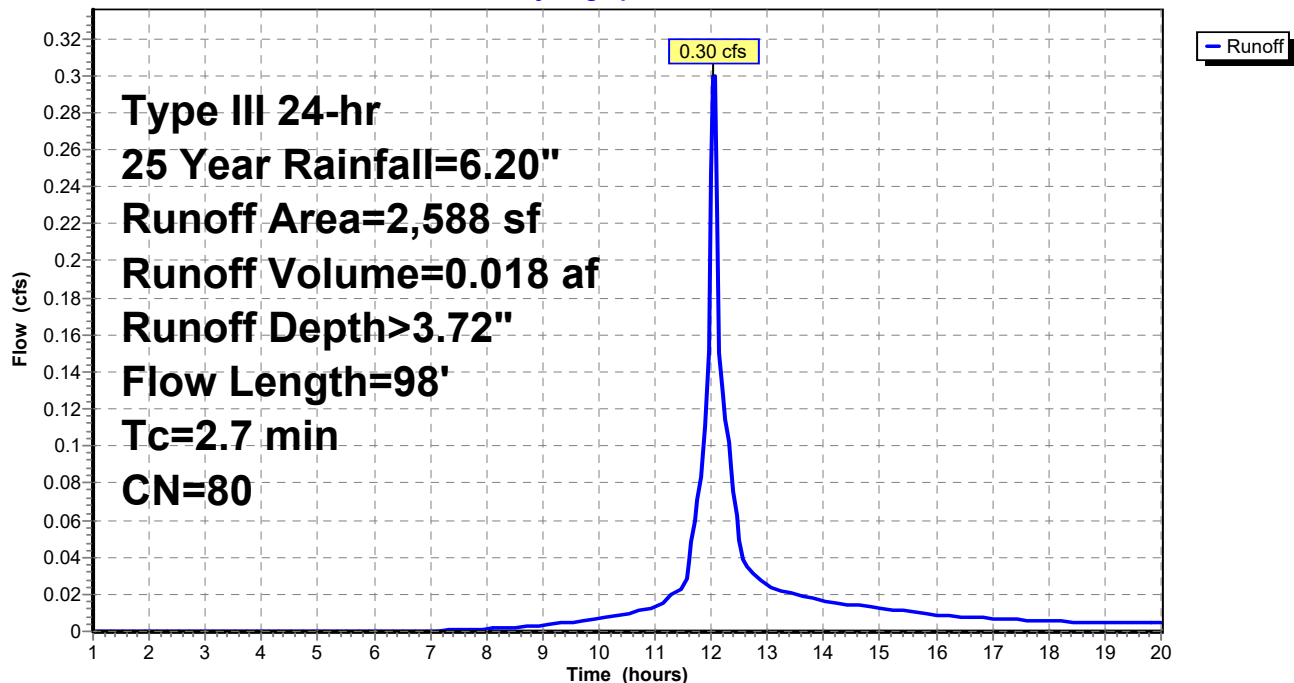
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Rainfall=6.20"

Area (sf)	CN	Description
2,588	80	>75% Grass cover, Good, HSG D
2,588		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2100	0.22		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
1.2	78	0.0050	1.06		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
2.7	98	Total			

Subcatchment 6S:

Hydrograph



Summary for Reach 1R: Ditch

Inflow Area = 1.065 ac, 18.25% Impervious, Inflow Depth > 3.72" for 25 Year event
 Inflow = 2.63 cfs @ 12.28 hrs, Volume= 0.330 af
 Outflow = 2.63 cfs @ 12.29 hrs, Volume= 0.330 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 1.83 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 0.70 fps, Avg. Travel Time= 0.5 min

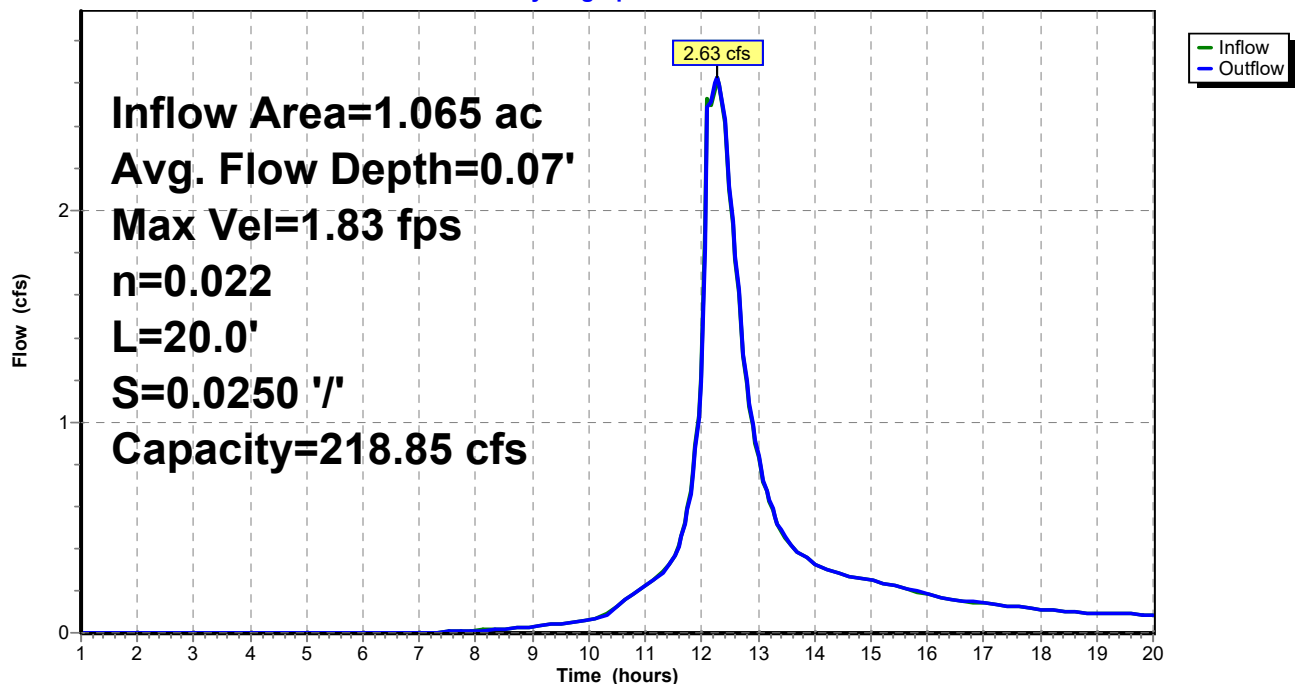
Peak Storage= 29 cf @ 12.29 hrs
 Average Depth at Peak Storage= 0.07'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 1R: Ditch

Hydrograph



Summary for Reach 2R:

Inflow Area = 1.118 ac, 24.63% Impervious, Inflow Depth > 4.01" for 25 Year event
 Inflow = 2.63 cfs @ 12.26 hrs, Volume= 0.374 af
 Outflow = 2.62 cfs @ 12.27 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 1.83 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 0.74 fps, Avg. Travel Time= 0.4 min

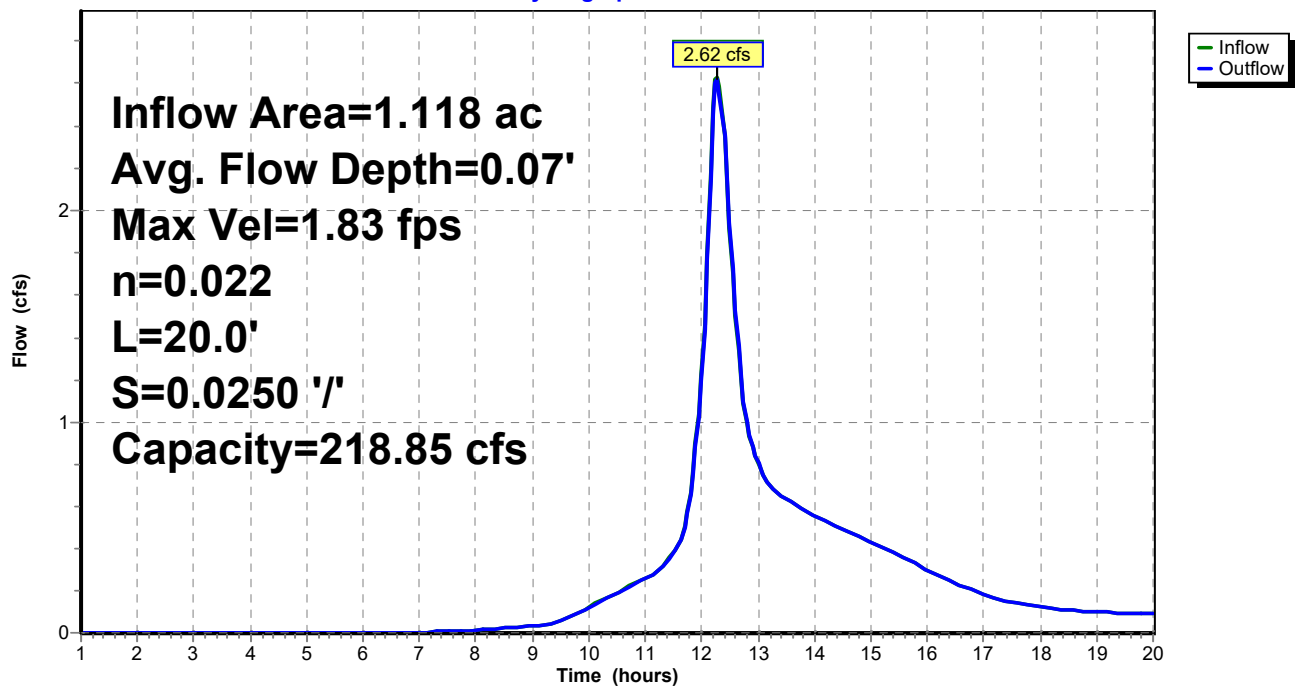
Peak Storage= 29 cf @ 12.27 hrs
 Average Depth at Peak Storage= 0.07'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 2R:

Hydrograph



Summary for Pond 1P: Culvert

Inflow Area = 0.345 ac, 56.25% Impervious, Inflow Depth > 4.82" for 25 Year event
 Inflow = 2.07 cfs @ 12.03 hrs, Volume= 0.139 af
 Outflow = 1.52 cfs @ 12.10 hrs, Volume= 0.123 af, Atten= 26%, Lag= 4.4 min
 Primary = 1.52 cfs @ 12.10 hrs, Volume= 0.123 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 134.12' @ 12.11 hrs Surf.Area= 1,321 sf Storage= 1,759 cf

Plug-Flow detention time= 81.4 min calculated for 0.123 af (89% of inflow)
 Center-of-Mass det. time= 45.5 min (795.3 - 749.8)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	3,198 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	443	0	0
133.00	764	604	604
134.00	1,231	998	1,601
135.00	1,962	1,597	3,198

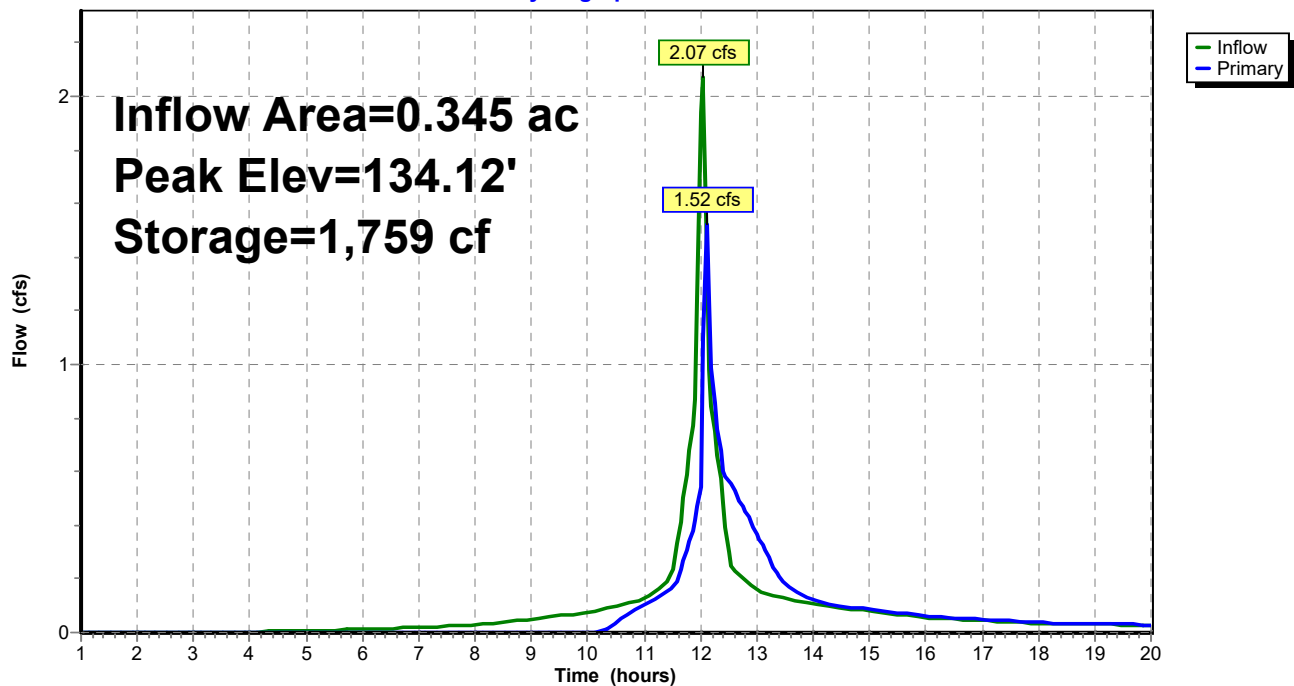
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	133.00'	5.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.49 cfs @ 12.10 hrs HW=134.12' (Free Discharge)

1=Culvert (Passes 1.49 cfs of 14.42 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.63 cfs @ 4.60 fps)
 3=Orifice/Grate (Weir Controls 0.86 cfs @ 1.14 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Culvert

Hydrograph



Summary for Pond 2P: Culvert

Inflow Area = 0.417 ac, 65.99% Impervious, Inflow Depth > 5.00" for 25 Year event
 Inflow = 2.62 cfs @ 12.03 hrs, Volume= 0.174 af
 Outflow = 0.55 cfs @ 12.42 hrs, Volume= 0.158 af, Atten= 79%, Lag= 23.4 min
 Primary = 0.55 cfs @ 12.42 hrs, Volume= 0.158 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 134.53' @ 12.42 hrs Surf.Area= 2,351 sf Storage= 3,406 cf

Plug-Flow detention time= 122.9 min calculated for 0.158 af (91% of inflow)
 Center-of-Mass det. time= 90.8 min (834.6 - 743.8)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	4,605 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	610	0	0
133.00	1,065	838	838
134.00	1,835	1,450	2,288
135.00	2,800	2,318	4,605

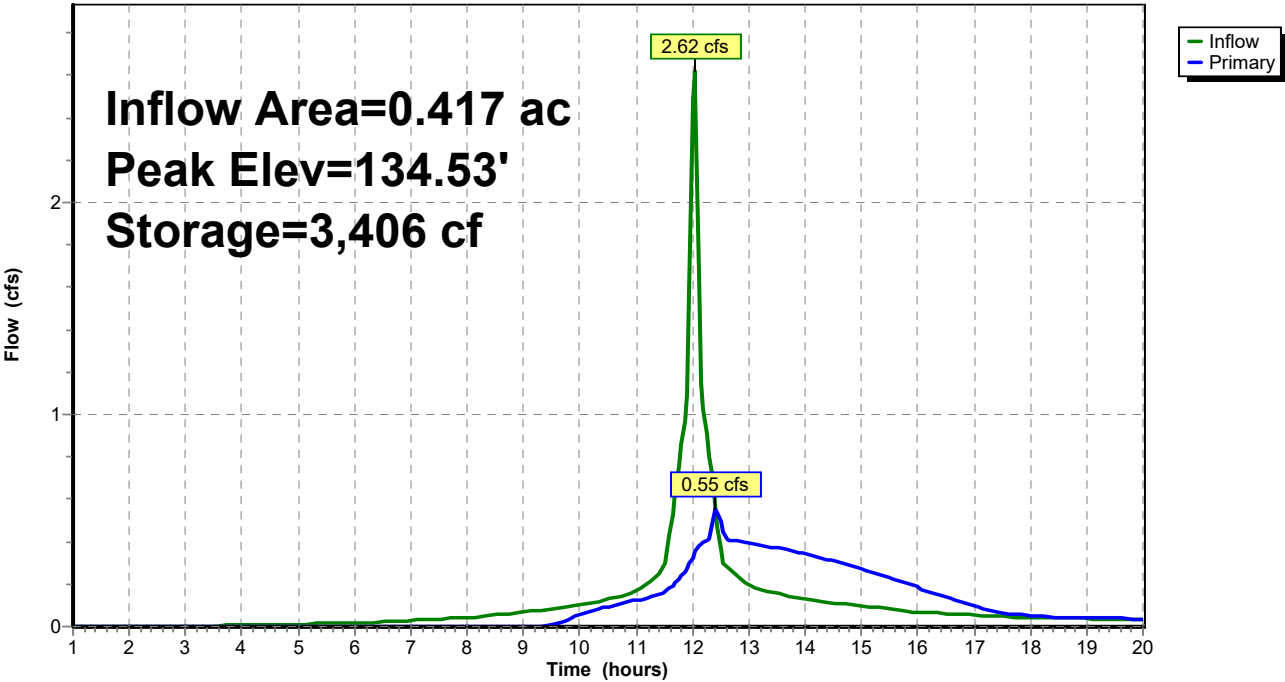
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	132.75'	3.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.75'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.54 cfs @ 12.42 hrs HW=134.53' (Free Discharge)

- 1=Culvert (Passes 0.54 cfs of 15.42 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.41 cfs @ 6.16 fps)
 3=Orifice/Grate (Weir Controls 0.12 cfs @ 0.60 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Culvert

Hydrograph



Summary for Pond 6P: Culvert

Inflow Area = 0.059 ac, 0.00% Impervious, Inflow Depth > 3.72" for 25 Year event
 Inflow = 0.30 cfs @ 12.05 hrs, Volume= 0.018 af
 Outflow = 0.01 cfs @ 15.46 hrs, Volume= 0.003 af, Atten= 96%, Lag= 205.1 min
 Primary = 0.01 cfs @ 15.46 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 132.03' @ 15.46 hrs Surf.Area= 1,035 sf Storage= 666 cf

Plug-Flow detention time= 366.8 min calculated for 0.003 af (18% of inflow)
 Center-of-Mass det. time= 238.5 min (1,015.4 - 776.9)

Volume	Invert	Avail.Storage	Storage Description
#1	131.00'	2,656 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
131.00	300	0	0
132.00	973	637	637
133.00	3,065	2,019	2,656

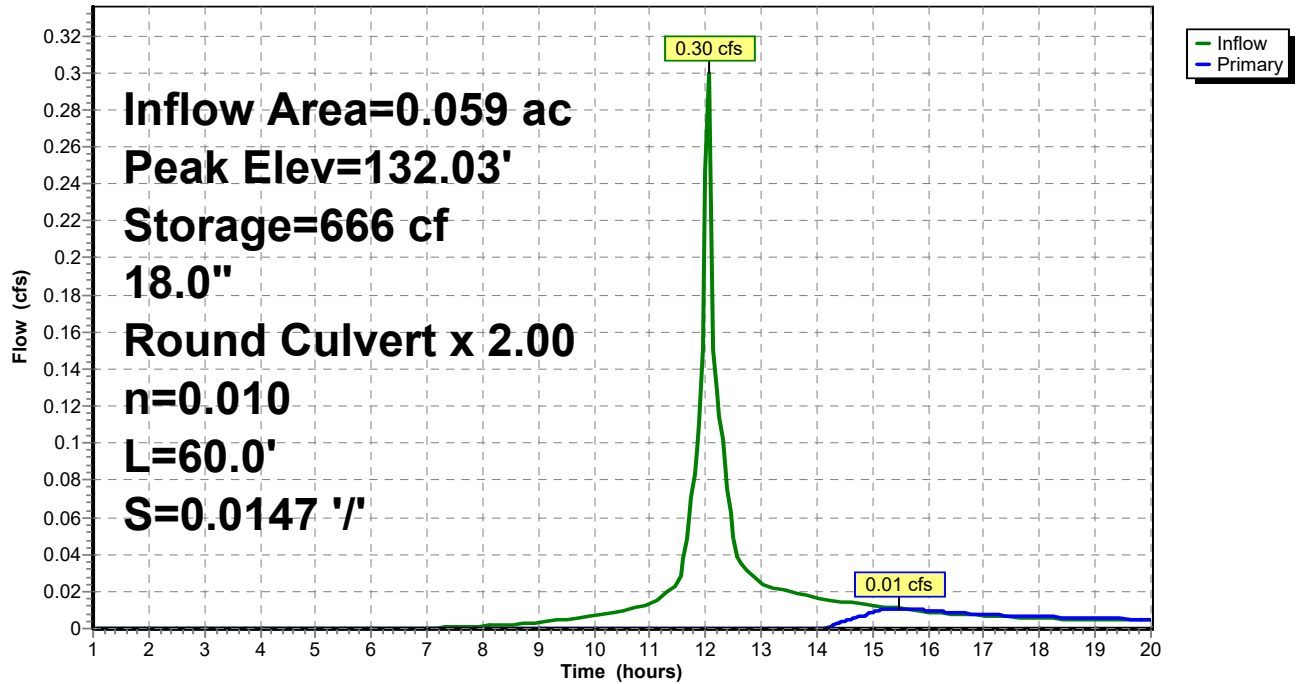
Device	Routing	Invert	Outlet Devices
#1	Primary	132.00'	18.0" Round Culvert X 2.00 L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 132.00' / 131.12' S= 0.0147 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.01 cfs @ 15.46 hrs HW=132.03' (Free Discharge)

↑1=Culvert (Inlet Controls 0.01 cfs @ 0.59 fps)

Pond 6P: Culvert

Hydrograph



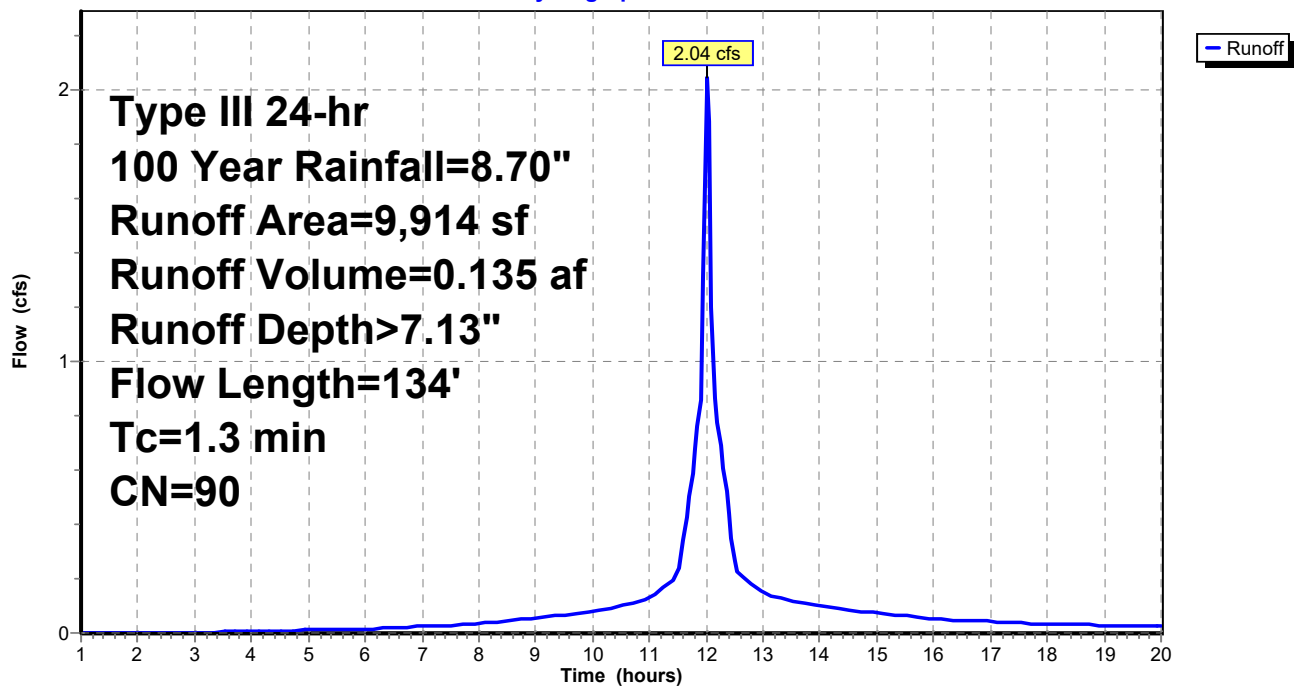
Summary for Subcatchment 1S:

Runoff = 2.04 cfs @ 12.02 hrs, Volume= 0.135 af, Depth> 7.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Rainfall=8.70"

	Area (sf)	CN	Description
*	5,275	98	Pavement
	4,639	80	>75% Grass cover, Good, HSG D
	9,914	90	Weighted Average
	4,639		46.79% Pervious Area
	5,275		53.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	30	0.0170	1.03		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.3	50	0.0170	2.65		Shallow Concentrated Flow, BC Paved Kv= 20.3 fps
0.5	54	0.0560	1.66		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.3	134	Total			

Subcatchment 1S:**Hydrograph**

Summary for Subcatchment 2S:

Runoff = 3.76 cfs @ 12.03 hrs, Volume= 0.256 af, Depth> 7.37"

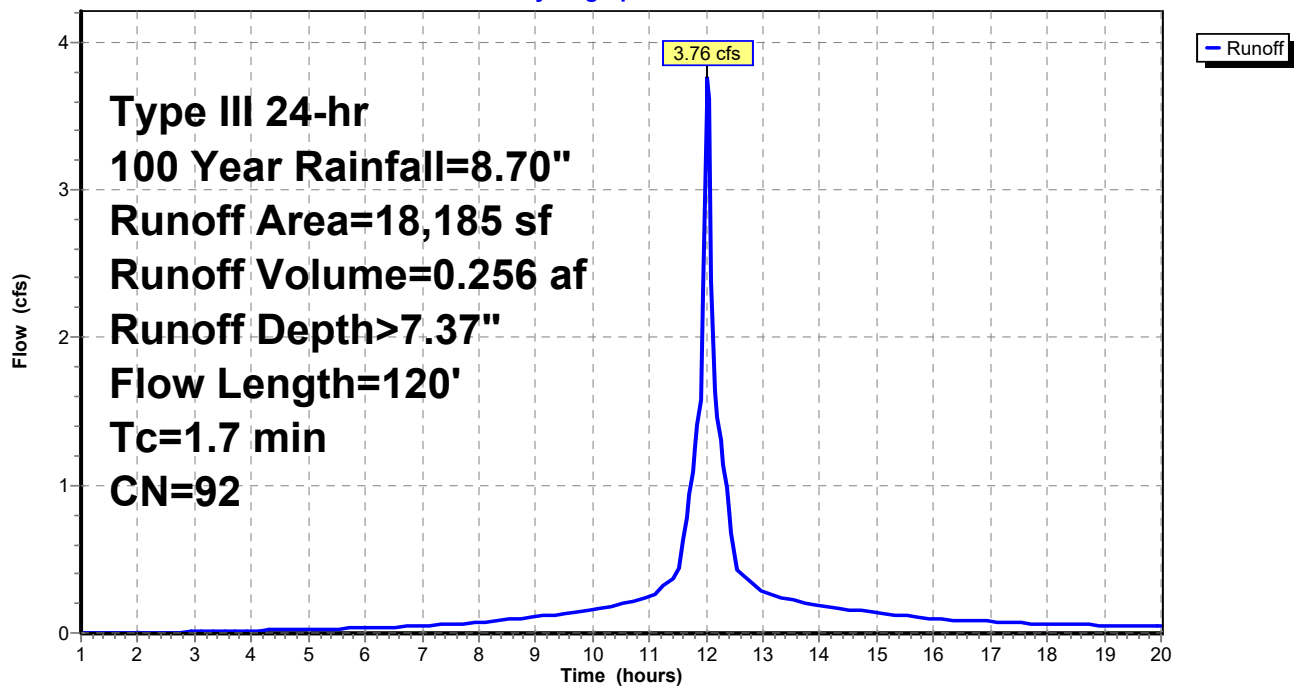
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Rainfall=8.70"

	Area (sf)	CN	Description
*	12,000	98	Pavement / Buildings
	6,185	80	>75% Grass cover, Good, HSG D
	18,185	92	Weighted Average
	6,185		34.01% Pervious Area
	12,000		65.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	50	0.0200	1.22		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
0.0	10	0.2500	3.50		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
1.0	60	0.0200	0.99		Shallow Concentrated Flow, C-D Short Grass Pasture Kv= 7.0 fps
1.7	120	Total			

Subcatchment 2S:

Hydrograph



Summary for Subcatchment 3S:

Runoff = 3.48 cfs @ 12.26 hrs, Volume= 0.345 af, Depth> 5.90"

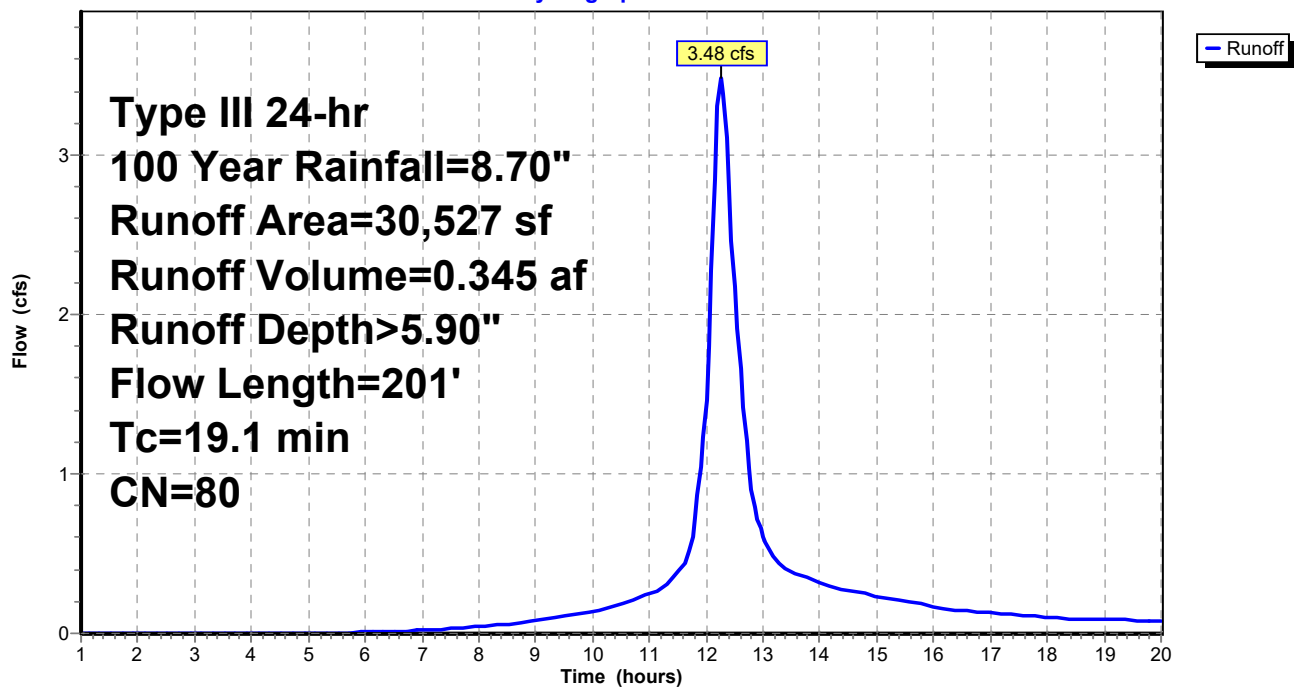
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Rainfall=8.70"

Area (sf)	CN	Description
30,527	80	>75% Grass cover, Good, HSG D
30,527		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	51	0.0140	0.06		Sheet Flow, AB Grass: Bermuda n= 0.410 P2= 3.30"
4.6	150	0.0120	0.55		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
19.1	201	Total			

Subcatchment 3S:

Hydrograph



Summary for Subcatchment 4S:

Runoff = 1.04 cfs @ 12.05 hrs, Volume= 0.071 af, Depth> 7.24"

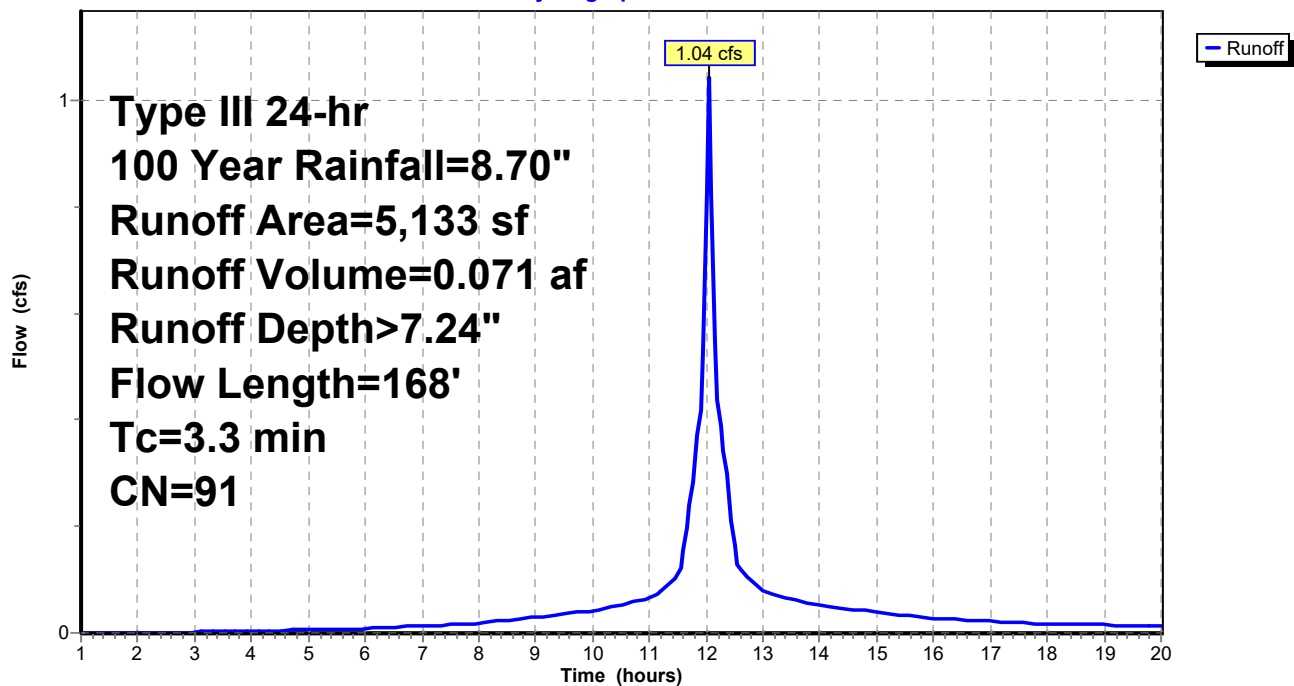
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Rainfall=8.70"

	Area (sf)	CN	Description
*	3,189	98	Pavement
	1,944	80	>75% Grass cover, Good, HSG D
	5,133	91	Weighted Average
	1,944		37.87% Pervious Area
	3,189		62.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	65	0.0200	1.28		Sheet Flow, AB Smooth surfaces n= 0.011 P2= 3.30"
2.5	103	0.0100	0.70		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
3.3	168	Total			

Subcatchment 4S:

Hydrograph



Summary for Subcatchment 5S:

Runoff = 2.97 cfs @ 12.33 hrs, Volume= 0.324 af, Depth> 5.89"

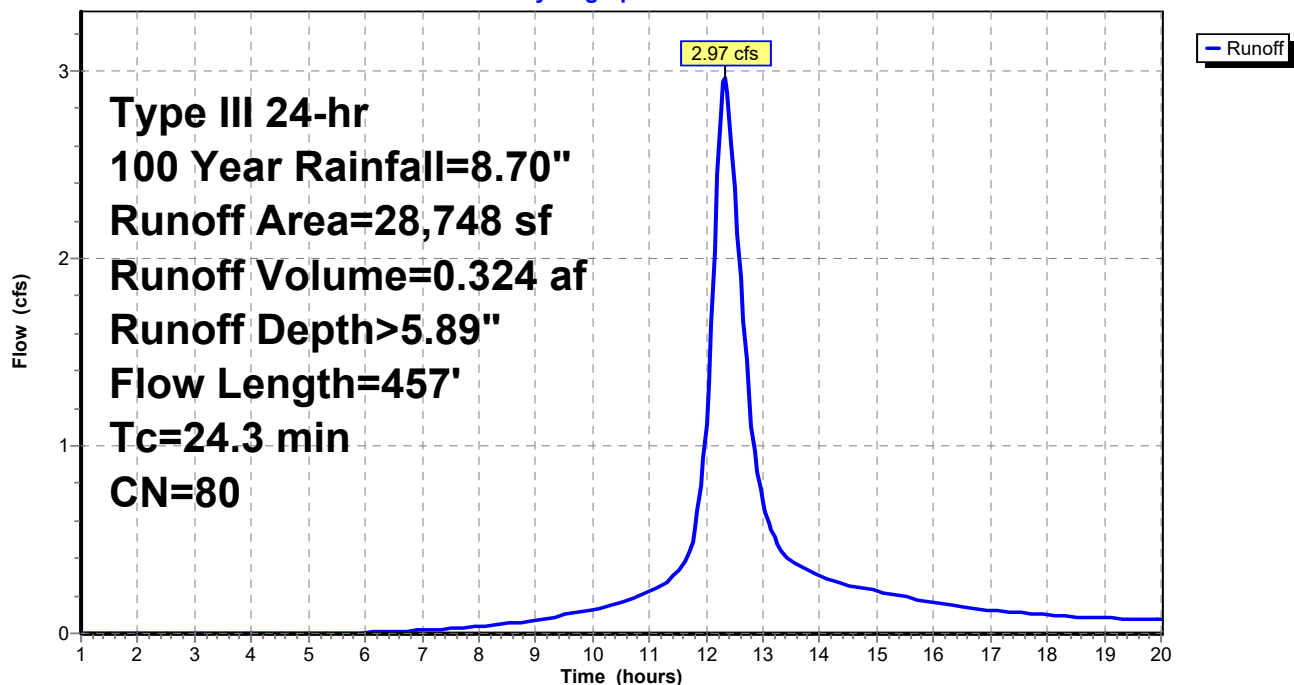
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Rainfall=8.70"

Area (sf)	CN	Description
28,748	80	>75% Grass cover, Good, HSG D
28,748		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	50	0.0100	0.08		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
13.7	407	0.0050	0.49		Shallow Concentrated Flow, BC
					Short Grass Pasture Kv= 7.0 fps
24.3	457	Total			

Subcatchment 5S:

Hydrograph



Summary for Subcatchment 6S:

Runoff = 0.47 cfs @ 12.04 hrs, Volume= 0.029 af, Depth> 5.93"

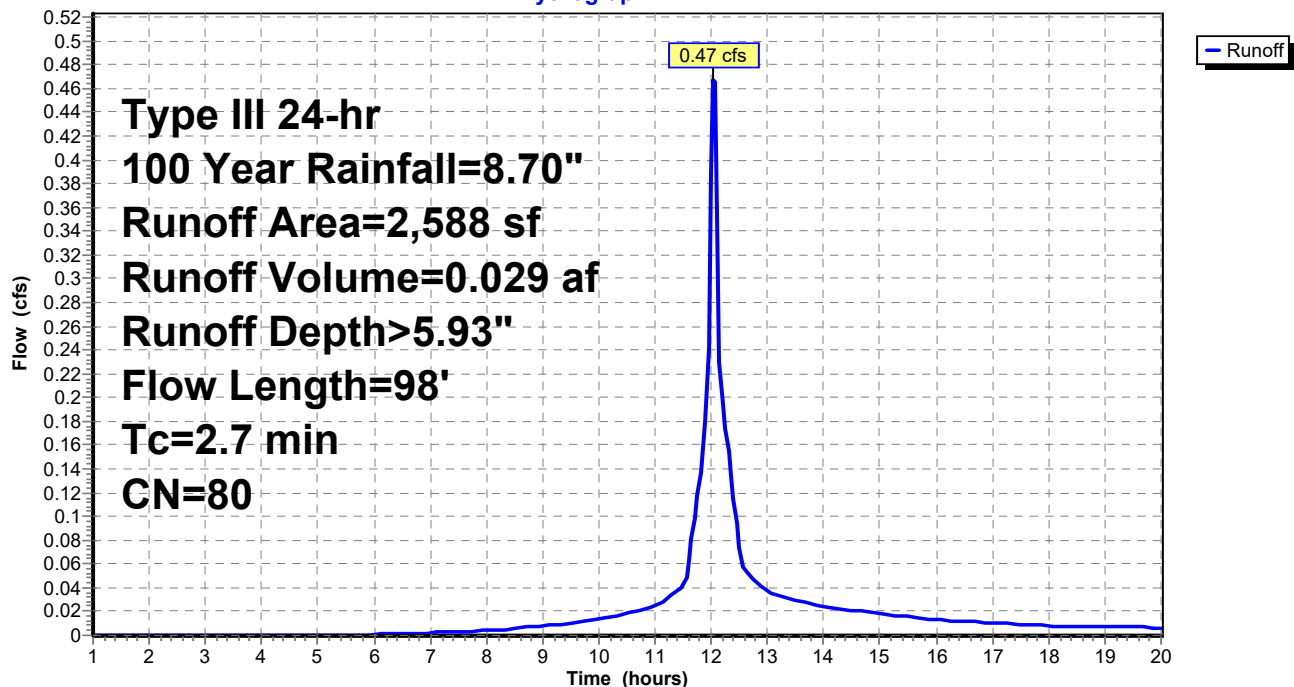
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 Year Rainfall=8.70"

Area (sf)	CN	Description
2,588	80	>75% Grass cover, Good, HSG D
2,588		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	20	0.2100	0.22		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.30"
1.2	78	0.0050	1.06		Shallow Concentrated Flow, BC
					Grassed Waterway Kv= 15.0 fps
2.7	98	Total			

Subcatchment 6S:

Hydrograph



Summary for Reach 1R: Ditch

Inflow Area = 1.065 ac, 18.25% Impervious, Inflow Depth > 5.95" for 100 Year event
 Inflow = 4.21 cfs @ 12.07 hrs, Volume= 0.528 af
 Outflow = 4.20 cfs @ 12.07 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 2.18 fps, Min. Travel Time= 0.2 min
 Avg. Velocity= 0.78 fps, Avg. Travel Time= 0.4 min

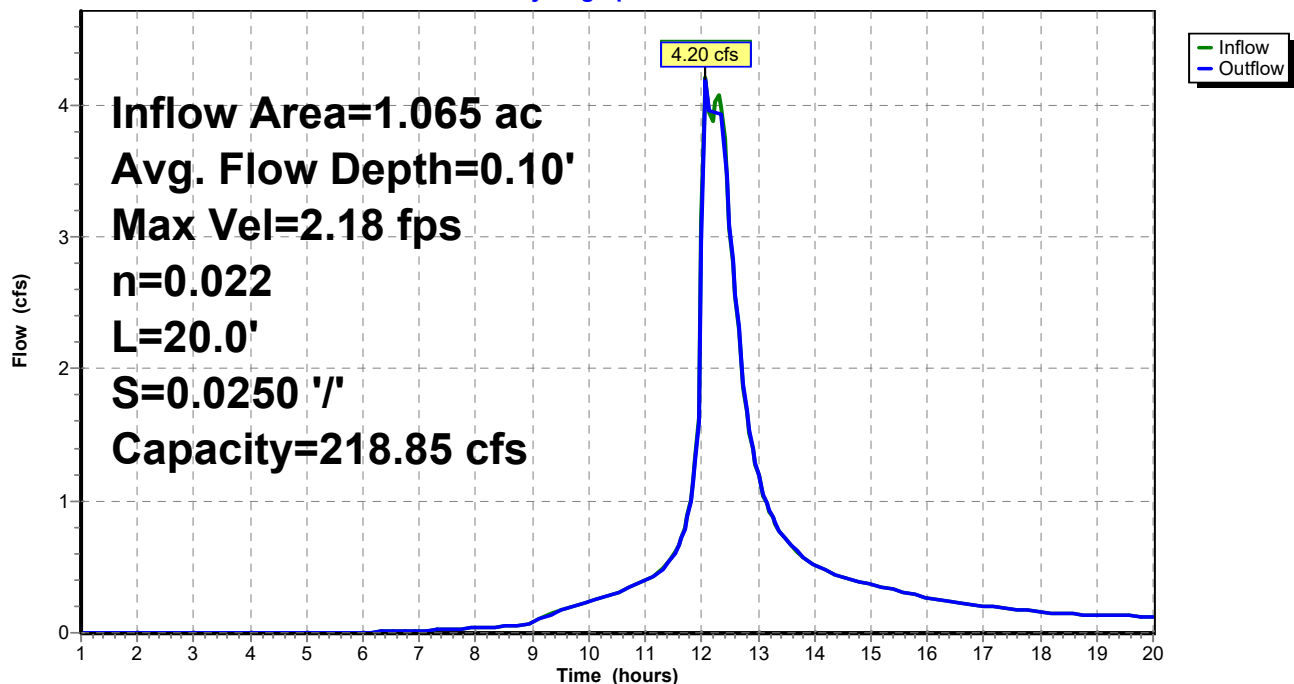
Peak Storage= 38 cf @ 12.07 hrs
 Average Depth at Peak Storage= 0.10'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 1R: Ditch

Hydrograph



Summary for Reach 2R:

Inflow Area = 1.118 ac, 24.63% Impervious, Inflow Depth > 6.27" for 100 Year event
 Inflow = 5.04 cfs @ 12.22 hrs, Volume= 0.584 af
 Outflow = 5.03 cfs @ 12.22 hrs, Volume= 0.584 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 2
 Max. Velocity= 2.36 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 0.82 fps, Avg. Travel Time= 0.4 min

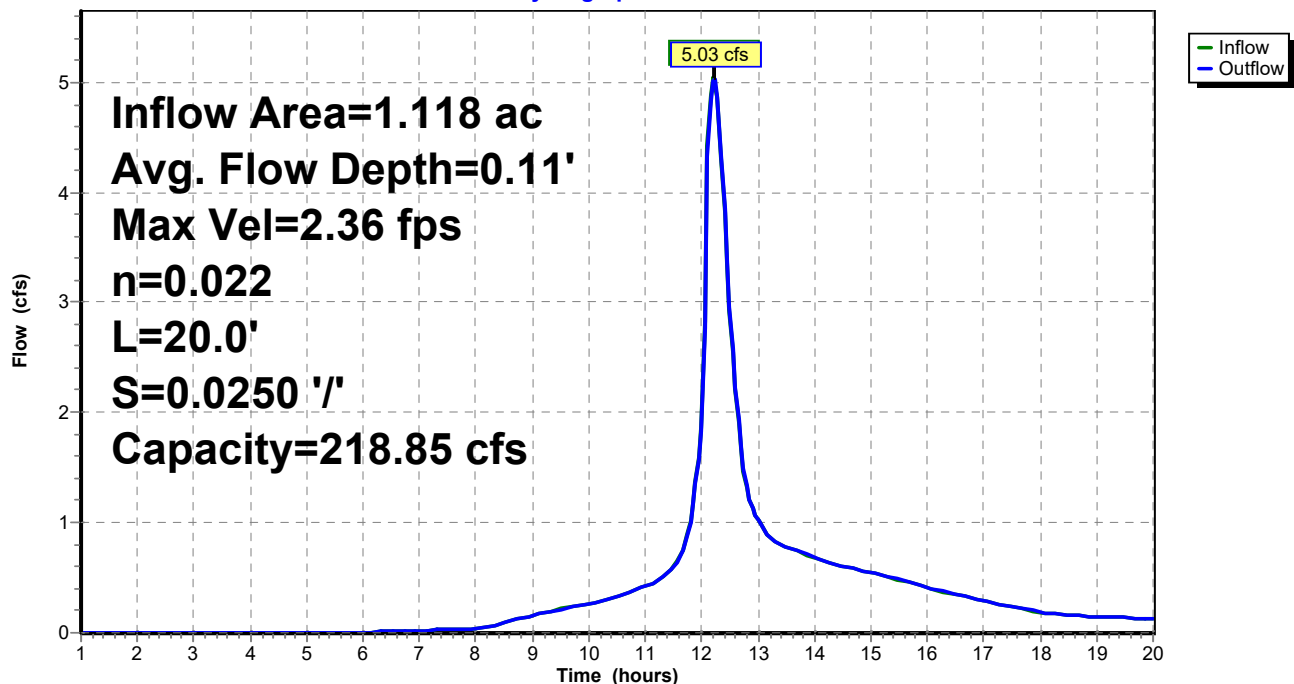
Peak Storage= 43 cf @ 12.22 hrs
 Average Depth at Peak Storage= 0.11'
 Bank-Full Depth= 1.00' Flow Area= 22.0 sf, Capacity= 218.85 cfs

20.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
 Side Slope Z-value= 2.0 '/' Top Width= 24.00'
 Length= 20.0' Slope= 0.0250 '/'
 Inlet Invert= 130.00', Outlet Invert= 129.50'



Reach 2R:

Hydrograph



Summary for Pond 1P: Culvert

Inflow Area = 0.345 ac, 56.25% Impervious, Inflow Depth > 7.17" for 100 Year event
 Inflow = 3.00 cfs @ 12.03 hrs, Volume= 0.206 af
 Outflow = 2.78 cfs @ 12.06 hrs, Volume= 0.190 af, Atten= 8%, Lag= 1.7 min
 Primary = 2.78 cfs @ 12.06 hrs, Volume= 0.190 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 134.22' @ 12.06 hrs Surf.Area= 1,392 sf Storage= 1,889 cf

Plug-Flow detention time= 66.7 min calculated for 0.190 af (92% of inflow)
 Center-of-Mass det. time= 39.1 min (779.7 - 740.6)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	3,198 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	443	0	0
133.00	764	604	604
134.00	1,231	998	1,601
135.00	1,962	1,597	3,198

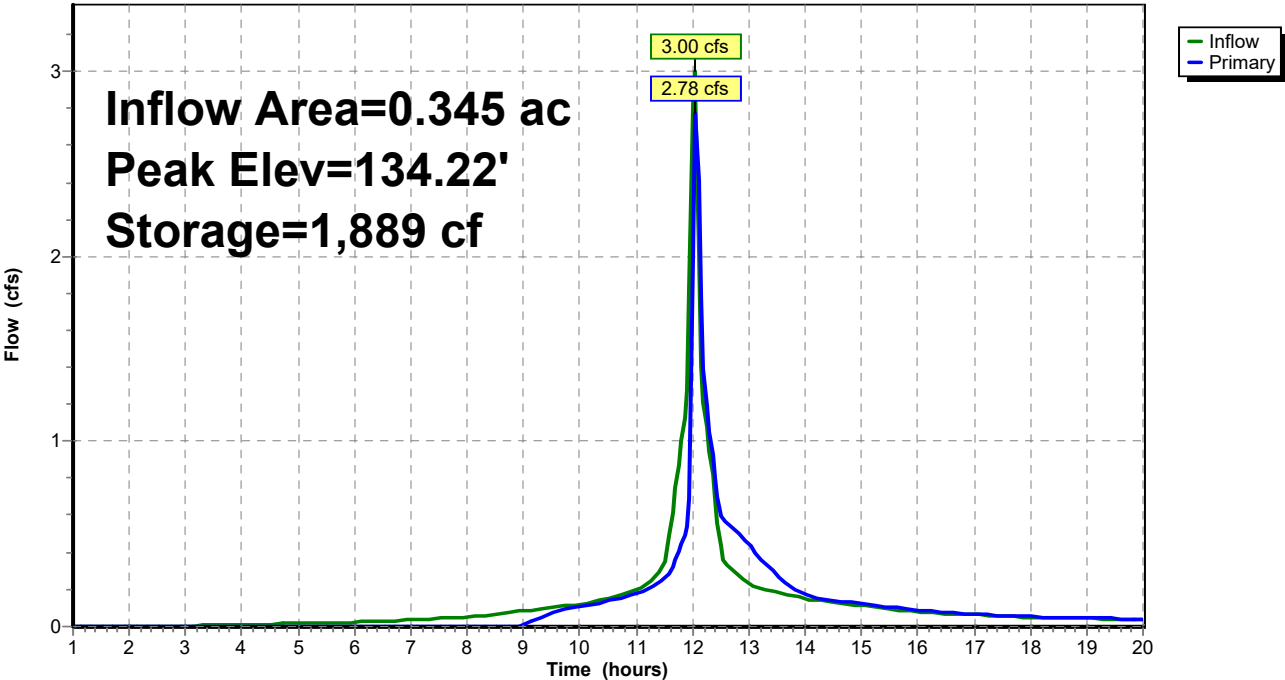
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	133.00'	5.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.69 cfs @ 12.06 hrs HW=134.21' (Free Discharge)

1=Culvert (Passes 2.69 cfs of 14.65 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.66 cfs @ 4.83 fps)
 3=Orifice/Grate (Weir Controls 2.03 cfs @ 1.51 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Culvert

Hydrograph



Summary for Pond 2P: Culvert

Inflow Area = 0.417 ac, 65.99% Impervious, Inflow Depth > 7.37" for 100 Year event
 Inflow = 3.76 cfs @ 12.03 hrs, Volume= 0.256 af
 Outflow = 2.24 cfs @ 12.12 hrs, Volume= 0.239 af, Atten= 40%, Lag= 5.6 min
 Primary = 2.24 cfs @ 12.12 hrs, Volume= 0.239 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 134.70' @ 12.12 hrs Surf.Area= 2,510 sf Storage= 3,806 cf

Plug-Flow detention time= 101.8 min calculated for 0.239 af (93% of inflow)
 Center-of-Mass det. time= 77.3 min (812.5 - 735.2)

Volume	Invert	Avail.Storage	Storage Description
#1	132.00'	4,605 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
132.00	610	0	0
133.00	1,065	838	838
134.00	1,835	1,450	2,288
135.00	2,800	2,318	4,605

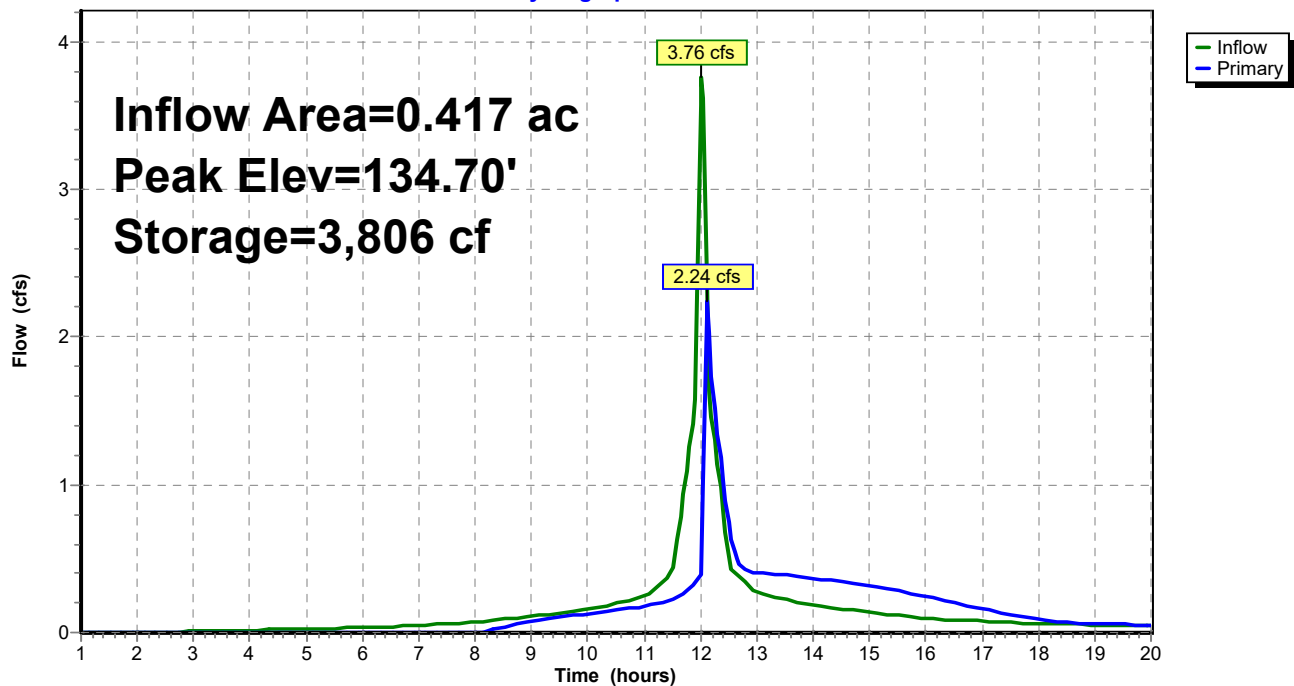
Device	Routing	Invert	Outlet Devices
#1	Primary	130.50'	18.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 130.50' / 130.00' S= 0.0167 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf
#2	Device 1	132.75'	3.5" Vert. Orifice/Grate C= 0.600
#3	Device 1	134.50'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Primary	134.75'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.09 cfs @ 12.12 hrs HW=134.69' (Free Discharge)

- 1=Culvert (Passes 2.09 cfs of 15.77 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.43 cfs @ 6.44 fps)
 3=Orifice/Grate (Weir Controls 1.66 cfs @ 1.41 fps)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: Culvert

Hydrograph



Summary for Pond 6P: Culvert

Inflow Area = 0.059 ac, 0.00% Impervious, Inflow Depth > 5.93" for 100 Year event
 Inflow = 0.47 cfs @ 12.04 hrs, Volume= 0.029 af
 Outflow = 0.10 cfs @ 12.43 hrs, Volume= 0.014 af, Atten= 78%, Lag= 23.1 min
 Primary = 0.10 cfs @ 12.43 hrs, Volume= 0.014 af

Routing by Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 132.10' @ 12.43 hrs Surf.Area= 1,175 sf Storage= 740 cf

Plug-Flow detention time= 186.9 min calculated for 0.014 af (48% of inflow)
 Center-of-Mass det. time= 101.4 min (867.2 - 765.8)

Volume	Invert	Avail.Storage	Storage Description
#1	131.00'	2,656 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
131.00	300	0	0
132.00	973	637	637
133.00	3,065	2,019	2,656

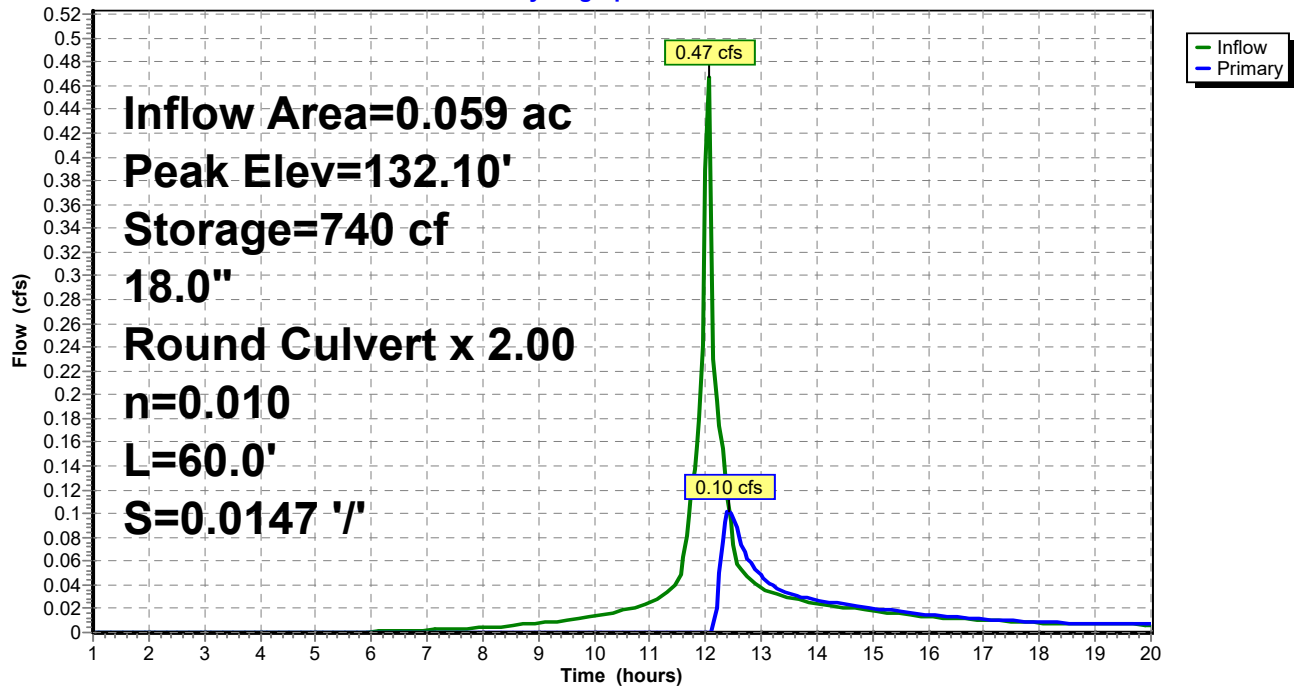
Device	Routing	Invert	Outlet Devices
#1	Primary	132.00'	18.0" Round Culvert X 2.00 L= 60.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 132.00' / 131.12' S= 0.0147 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

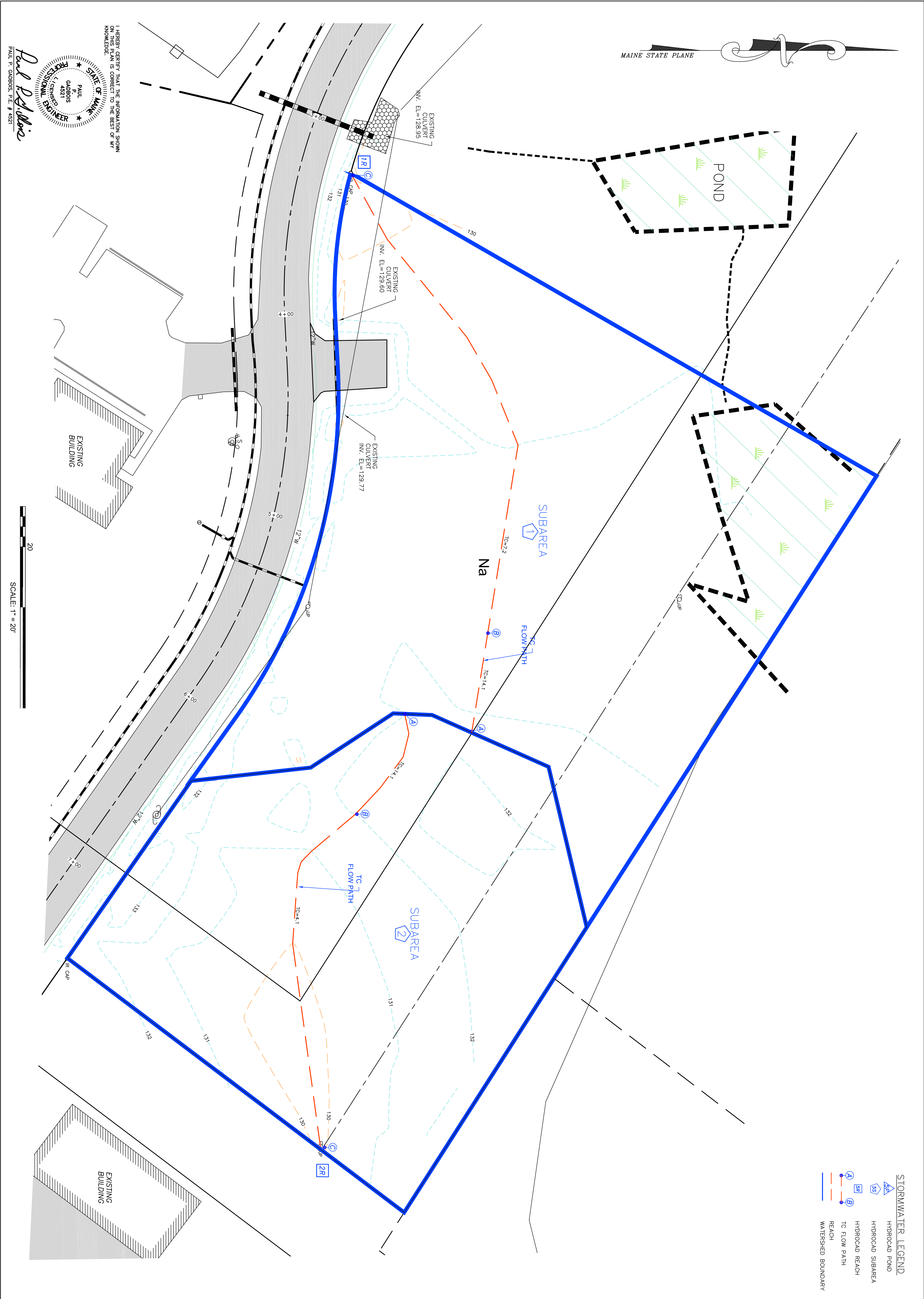
Primary OutFlow Max=0.10 cfs @ 12.43 hrs HW=132.10' (Free Discharge)

↑**1=Culvert** (Inlet Controls 0.10 cfs @ 1.06 fps)

Pond 6P: Culvert

Hydrograph

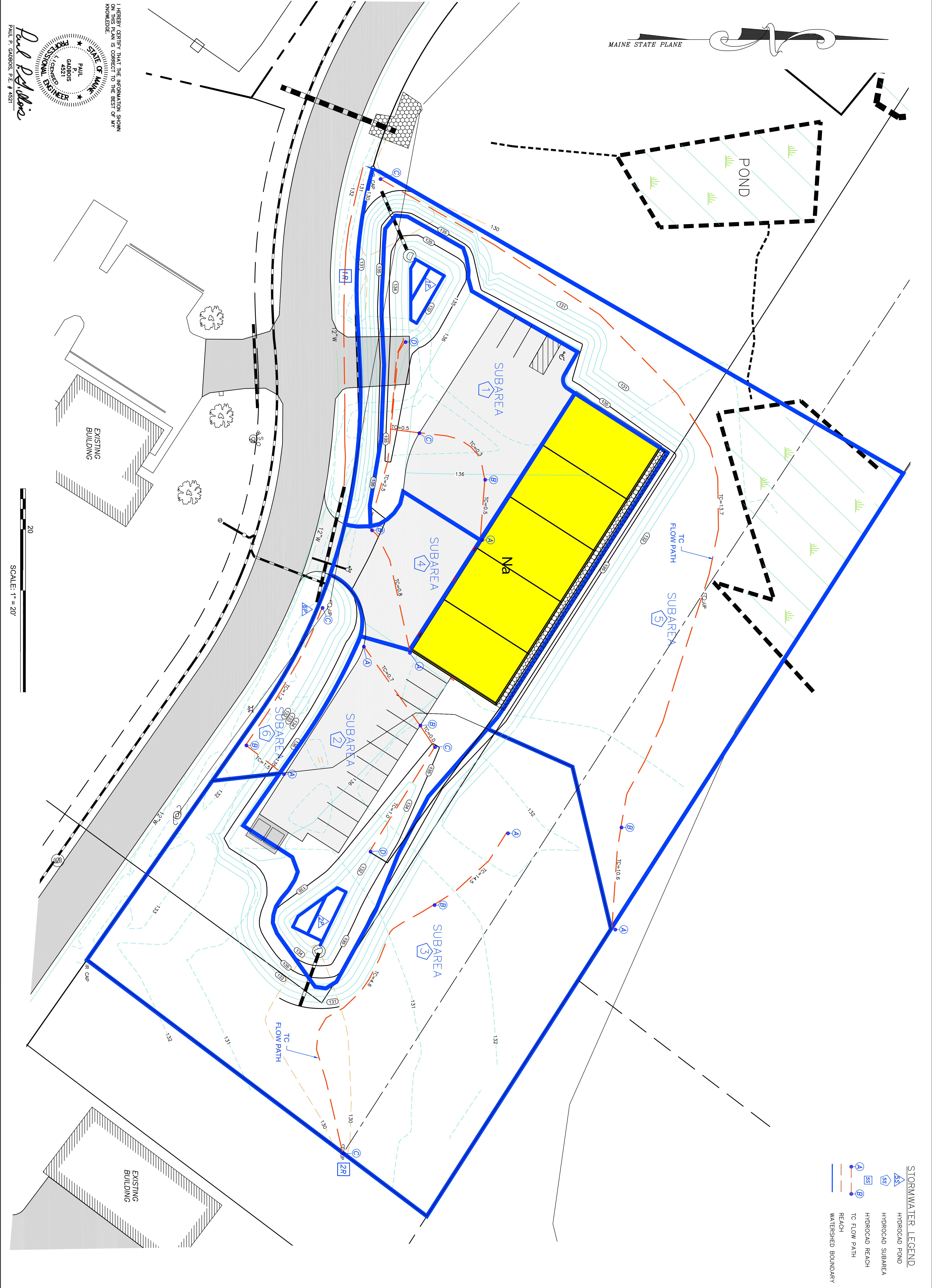




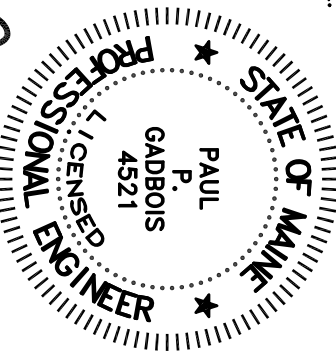
STORMWATER LEGEND

- HYDROCAD POND
- HYDROCAD SUBAREA
- HYDROCAD REACH
- TC FLOW PATH
- REACH
- WATERSHED BOUNDARY

 PAUL P. GADBOIS ENGINEERING SURVEYING LAND PLANNING P.O. BOX 327, SACO, MAINE 04072 (207) 283-3980	PRE DEVELOPMENT PLAN COCOA BEDARD DIGITAL DRIVE BIDDEFORD, MAINE	RECORD OWNER COCOA BEDARD 62 BEAULIEU DRIVE LYMAN, MAINE	DRAWN: P.P.G.	REVISIONS:	
			CHECKED: P.P.G.		
			SCALE: 1"= 20'		
			FIELD BOOK:		
			DATE: 02-05-2025		
			JOB NO. 1646		
			SHEET 1 OF 2		



I HEREBY CERTIFY THAT THE INFORMATION SHOWN ON THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE.



Paul P. Gadbois
PAUL P. GADBOIS, P.E. # 4521

- STORMWATER LEGEND**
- 55 HYDROCAD POND
 - 55 HYDROCAD SUBAREA
 - 55 HYDROCAD REACH
 - TC FLOW PATH
 - REACH
 - WATERSHED BOUNDARY

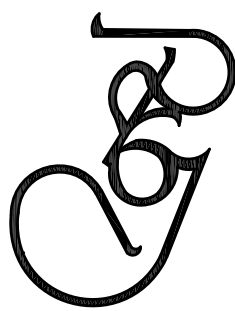
POST DEVELOPMENT PLAN
COCOA BEDARD
DIGITAL DRIVE
BIDDEFORD, MAINE

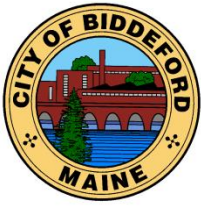
RECORD OWNER
COCOA BEDARD
62 BEAULIEU DRIVE
LYMAN, MAINE 04002

DRAWN: P.P.G.
CHECKED: P.P.G.
SCALE: 1"= 20'
FIELD BOOK:
DATE: 04-11-2018
JOB NO. 1646
SHEET 2 OF 2

REVISIONS:

PAUL P. GADBOIS
ENGINEERING SURVEYING
LAND PLANNING
P.O. BOX 327, SACO, MAINE 04072
(207) 283-3980





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

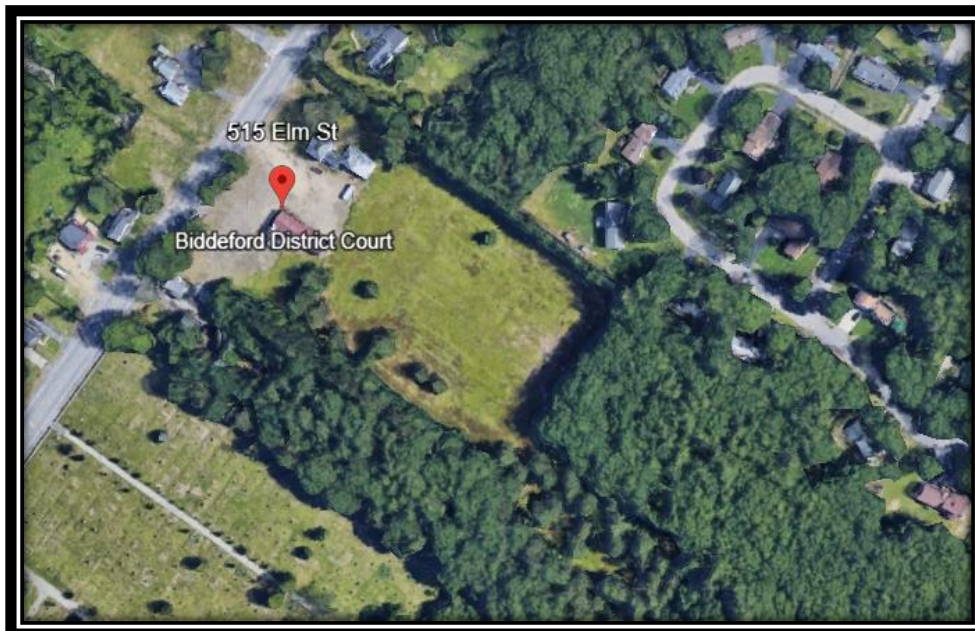
DATE: March 11, 2025

RE: **2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.**

MEETING DATE: March 19, 2025, at 6:00 PM

1. INTRODUCTION

In March 2017 the City of Biddeford conveyed three parcels of land to the Maine Governmental Facilities Authority to facilitate plans for the consolidation of the York County District and Superior Courts into one judicial facility off Elm Street (Route 1). The location is south of Marden's on the east side of Route 1 on a property that was locally referred to as the 'Pate' property, although the total property included land continuing to Hill Street.



York County Judicial Center Property Circa 2005 / 511-515 Elm Street

2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.

Planning Board Meeting Date: March 19, 2025



Existing Site Conditions May 7, 2024

On April 30, 2020, the Planning Board approved Case #2019.36 which included:

- A. A new building with a footprint of approximately 34,545 SF
- B. The facility is four (4) stories in height, the top story being a utility penthouse, which required the Planning Board review and approval in addition to a recommendation to the City Council for a Contract Zone to accommodate the 70' (+/-) height of the structure in an otherwise 35' zone (B-2). The City Council approved Contract Zone #19 in June 2020, and a Contract Zone Amendment (solar panels) was further granted in July 2021.

The proposed use (Public Facility) is a Permitted (P) Use in the B-2 Zone and is a Conditional (C) Use in the R1-A and I-2 Zones. The judicial center building itself is proposed entirely within the parcel of land zoned B-2. Due to the proposed height of the structure (approximately 68.5 feet), the project required a zoning adjustment since the maximum height in the B-2 (and R1-A) Zone

2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.

Planning Board Meeting Date: March 19, 2025

where the building would be located is only 35'. Following Planning Board review and site plan approval the Board forwarded a positive recommendation to the City Council to approve Contract Zone # 19 as recommended. Contract Zone # 19 was approved by the City Council and the project was constructed. One of the stipulations within the subject Contract Zone is shown below:

5. All trees within required 30' buffer areas around the parcel not shown as removed as part of the project shall remain. Trees within the buffer areas may only be removed if deemed hazardous and approved for removal by the Planning Department. Buffer areas shall be maintained and any removed trees shall be revegetated with new trees, approved by the Planning Board, as sufficient for re-establishing any loss of buffer as a result of their removal within a reasonable time-period. The Planning Board may enlist the services of a 3rd Party to assist in the review of any revegetation plans in buffer areas, at the expense of the project owner.

As outlined in the submitted project narrative:

"The Maine Judicial Branch (MJB) did remove some dead standing trees and limbs in the area of concern shortly after occupancy and without authorization from the Biddeford Planning Board. MJB accepts fault and desires to resolve the situation and be a good neighbor in the community".

Following the removal of dead trees and dead limbs off living trees, the City's Code Enforcement and Planning Departments received complaints that some of the natural screening had been removed. Since that time the Planning and Code Office have been working with Jeremy Gray, the City's primary contact at the Court House, developing a plan that would resolve the raised screening / landscaping issues.

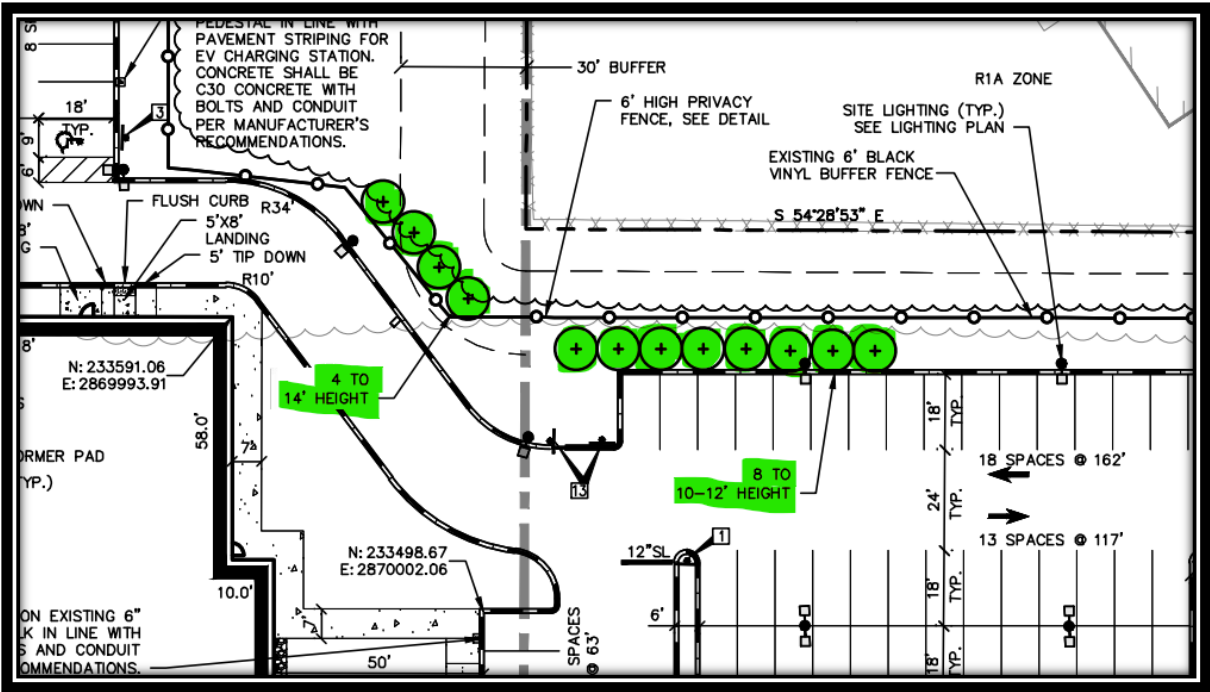
During the Planning Board's initial review of the project the Staff report discusses the proposed buffers as follows (shown in *italics*):

***Buffers:** The applicant proposes a 30' buffer around the entire property. This buffer does not permit parking lots and structures within it. The majority of the buffer will keep existing vegetation intact. Additional landscape is provided to augment the buffer between the project site and 507 Elm Street (Tax Map 88, Lot 6). A 6' Privacy fence will be installed along the perimeter of the property with residential neighbors to the north. Additional fence continues along the easternmost area of development (parking lot as shown on the plans).*

The Planning Board was comfortable with the buffers as proposed.

2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.

Planning Board Meeting Date: March 19, 2025



Proposed Supplemental Landscaping / Buffering

When City Staff began working with Mr. Gray / the Courts, they had proposed planting 12 new trees, in the areas where the trimming / thinning had created some gaps in the canopy. Following the receipt of their proposed planting plan Staff consulted with Jake Pierson from Pierson’s Nursey and following his review of the plan, he advised the City that in the problematic corner which screens the building, the 4 proposed arborvitae should be increased in size to 14’ and that the 8 proposed arborvitae should be installed at 10’-12’ as measured from grade. Staff discussed the proposed increased tree heights with Mr. Gray, and they modified their plans to conform to the recommendation the City received from Pierson’s Nursery.

2. PROJECT DATA/INFORMATION

1.	Applicant:	Maine Governmental Facilities Authority 127 Community Drive P.O. Box 2268 Augusta, ME 04338-2268 207-622-9386
2.	Owner of Property:	Maine Governmental Facilities Authority 127 Community Drive P.O. Box 2268 Augusta, ME 04338-2268 207-622-9386
3.	Agent:	Jeremy Gray, YCJC
4.	Engineer:	Gorrill-Palmer 707 Sable Oaks Drive, Suite 30 South Portland, ME 04106 207-772-2515
5.	Project Location:	511-515 Elm Street and 384 Hill Street
6.	Project Tax Map #/Lot #:	Tax Maps 88 & 3, Lots 5 & 66-1

2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.

Planning Board Meeting Date: March 19, 2025

7.	Lot Size:	28.5 Acres Total
8.	Base Zoning:	B-2 and R1-A. I-2 on the Hill Street side.
9.	Overlay Zoning:	N/A
10.	Existing Use:	York County Judicial Center (YCJC)
11.	Proposed Use:	York County Judicial Center (YCJC)
12.	Approvals Required:	Site Plan Amendment – Landscaping Improvements
13.	Uses in the Vicinity:	Industrial, Commercial, Residential
14.	Waivers Needed:	a. None
18.	Waivers Granted:	a. None
22.	Other Non-City Permits Required:	
23.	Fees Paid:	Yes
25.	Planning Board Review History: Site Plan Amendment – Landscaping 3-19-2025	

3. REVIEW PROCESS

The proposal is seeking Site Plan Amendment to an approved development plan. This amendment requires review and approval by the Planning Board (Land Development Regulations, Article XI)

This Amendment Application requires the following:

- A. Site Plan Amendment Review which may be heard and granted in a single public hearing.

4. WAIVERS: None requested at this time

5. DEPARTMENTAL REVIEW COMMENTS:

A. Planning and Code Enforcement Department Comments:

This proposed amendment has been reviewed by the Planning and Code Enforcement Departments as it relates to amending the approved Landscape Plan as approved, by adding additional landscape screening to previously approved green areas. These modifications will not have an impact on the approved site plans nor require modifications to the approved stormwater management plans.

6. STAFF RECOMMENDATION

As outlined above, Staff has consulted with a local, trusted landscaper who recommended the Court install larger materials that were initially proposed, and the Courts have agreed to the recommended changes. Therefore, Staff is supportive of the Amendment as proposed as recommends the Planning Board approve this request.

2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.

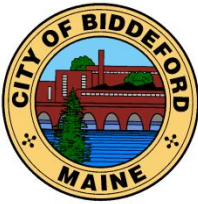
Planning Board Meeting Date: March 19, 2025

6. SAMPLE MOTIONS

- A. Motion to Approve: I motion to APPROVE Case # 2024.56 a Site Plan Amendment for the York County Judicial Center (YCJC) located at 511-515 Elm Street (Route 1) for a Landscaping Plan Amendment, as recommended in the attached Findings of fact (FOF) and Conditions of Approval (COA) as written.

- B. Motion to Deny I motion to DENY Case # 2024.56 a Site Plan Amendment for the York County Judicial Center (YCJC) located at 511-515 Elm Street (Route 1) for a Landscaping Plan Amendment, for the following reasons:
 - 1) _____.
 - 2) _____.
 - 3) _____.

- C. Motion to Table: I motion to TABLE Case # 2024.56 a Site Plan Amendment for the York County Judicial Center (YCJC) located at 511-515 Elm Street (Route 1) for a Landscaping Plan Amendment, for the following reasons:
 - 1) _____.
 - 2) _____.
 - 3) _____.



CITY OF BIDDEFORD

Planning and Development Department

David Galbraith
City Planner & Deputy Director of Planning &
Development
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 284-9115
David.galbraith@biddefordmaine.org

FINDINGS OF FACT AND CONCLUSIONS OF LAW

**York County Judicial Center
511-515 Elm Street (Route 1) and 384 Hill Street
Landscaping Plan Amendment
March 19, 2025**

RE: PB Case # 2024.56 Site Plan Amendment / York County Judicial Center / 511-515 Elm Street (Route 1) and 384 Hill Street / Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1 / within the B2, R-1-A, and I-2 zones / Landscaping Plan Amendment.

Pursuant to the provisions of the City of Biddeford Code of Ordinances Land Development Regulations, Article XI (Site Plan Review), the Biddeford Planning Board has considered the Site Plan Amendment for the York County Judicial Center, located at 515 Elm Street for an amended Landscape Plan to install 12 new arborvitaes ranging from 12-14' tall at installation to provide additional buffering / screening for the abutting property owners. 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:

FINDINGS OF FACT:

1.	Applicant:	Maine Governmental Facilities Authority 127 Community Drive P.O. Box 2268 Augusta, ME 04338-2268 207-622-9386
2.	Owner of Property:	Maine Governmental Facilities Authority 127 Community Drive P.O. Box 2268 Augusta, ME 04338-2268 207-622-9386
3.	Agent:	Jeremy Gray, YCJC
4.	Engineer:	Gorrill-Palmer 707 Sable Oaks Drive, Suite 300 South Portland, ME 04106 207-772-2515
5.	Project Location:	511-515 Elm Street and 384 Hill Street
6.	Project Tax Map #/Lot #:	Tax Maps 88 & 3, Lots 5 & 66-1
7.	Lot Size:	28.5 Acres Total
8.	Base Zoning:	B-2 and R1-A. I-2 on the Hill Street side.
9.	Overlay Zoning:	N/A
10.	Existing Use:	York County Judicial Center (YCJC)
11.	Proposed Use:	York County Judicial Center (YCJC)
12.	Approvals Required:	Site Plan Amendment – Landscaping Improvements
13.	Uses in the Vicinity:	Industrial, Commercial, Residential
14.	Waivers Needed:	a. None
18.	Waivers Granted:	a. None
22.	Other Non-City Permits Required:	
23.	Fees Paid:	Yes
25.	Planning Board Review History:	Site Plan Amendment – Landscaping 3-19-2025

FINDINGS OF FACT AND CONCLUSIONS OF LAW

**York County Judicial Center
511-515 Elm Street (Route 1) and 384 Hill Street
Landscaping Plan Amendment
March 19, 2025**

CONCLUSIONS OF LAW:

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 to 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, odor, 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 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;

FINDINGS OF FACT AND CONCLUSIONS OF LAW

**York County Judicial Center
511-515 Elm Street (Route 1) and 384 Hill Street
Landscaping Plan Amendment
March 19, 2025**

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.

APPROVAL GRANTED – CONDITIONS OF APPROVAL (COA):

Based on the evidence available and the conclusions above, the Biddeford Planning Board approves the proposed project summarized within the attached Staff report and pursuant to the provisions of the City of Biddeford Code of Ordinances Land Development Regulations, Article XI (Site Plan Review), and hereby approves Case # 2024.56 a Site Plan Amendment for the York County Judicial Center, located at 511-515 Elm Street (Route 1) and 384 Hill Street (Tax Map 88, Lots 5 and 44 and Tax Map 3, Lot 66-1) within the B2, R-1-A, and I-2 zones, for a Landscaping Plan Amendment to increase the landscape buffer adjacent to neighbors, with the following Conditions of Approval (COA):

1. Standard Conditions of Approval apply.
2. All Conditions of Approval previously approved are hereby reaffirmed.
3. All agreements and Conditions outlined within Contract Zone #19 are hereby reaffirmed.
4. The proposed landscaping as approved shall be installed in the Spring / Summer of 2025.
5. Prior to the installation of the proposed landscaping the Applicant shall meet with City Planner and Director of Code Enforcement on site to review the tree installation specific locations.
6. Upon completion of the proposed landscaping the Applicant shall meet with City Planner and Director of Code Enforcement on site, to inspect the tree installation, confirming that it meets the plans and intent of the buffering plan.

Alexa Plotkin, Planning Board Chair

Date

**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: Jeremy Gray, Director of Court Facilities
Mailing Address: PO Box 4820 Portland, ME 04112
Telephone: 207-822-0792
Email: jeremy.gray@courts.maine.gov
What is your legal interest in the property?
☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Information:

Name: Maine Judicial Branch, Administrative Office of the Courts
Mailing Address: PO Box 4820 Portland, ME 04112
Telephone: 207-822-0792
Email: jeremy.gray@courts.maine.gov

Agent's Information:

Name: Jeremy Gray, Director of Court Facilities
Mailing Address: PO Box 4820 Portland, ME 04112
Telephone: 207-822-0797
Email: jeremy.gray@courts.maine.gov

Engineer/Surveyor's Information:

Name: Doug Reynolds
Mailing Address: 300 Southborough Drive, Suite 200 Scarborough, ME 04106
Telephone: 207-329-5584
Email: dreynolds@gorrillpalmer.com

Project Location and Lot Information:

Street Address: 515 Elm Street Drainage Watershed: Thacher Brook
Tax Map: 88 and 3 Lot: 5 & 44 and 66-1
Current Zoning: Contract Zone #19 Shoreland Zoning: _____
Size of Lot: 12.7 (X) acres () s.f. Lot Frontage: 350'
Existing Use of Property: York County Courthouse

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: York County Courthouse

Property to be Serviced by:

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

Limits of Disturbance: <1,000 () acres (☒) s.f.

Net change in impervious cover: 0 () 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%): _____

Percent of structure expansion (Max 30%): _____

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: _____

Waiver Requests (attach details):

1. _____
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
 - ☐ 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) 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 2/7/25

Signature of Property Owner: 

Date

2/7/25

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_INDIVIDUAL 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 LINWORK)
 - *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 INDIVIDUAL 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



State of Maine Judicial Branch
Administrative Office of the Courts
125 Presumpscot Street, Portland, ME 04103
PO Box 4820, Portland, ME 04112-4820

Jeremy Gray, Director of Court Facilities
Telephone: (Office) 207-822-0797
(Mobile) 207-699-6184

David Galbraith
City Planner, Deputy Director of Planning and Development
205 Main Street
Biddeford, ME 04005
207.284.9115
david.galbraith@biddefordmaine.org

Subject: York Judicial Center tree buffer narrative

David,

The Maine Judicial Branch (MJB), through Biddeford Planning Board, is aware of abutter comments related to the tree buffer integrity at the York Judicial Center (YJC) at 515 Elm Street. Specifically, the abutter claims modifications were made to the tree buffer that were not approved by the Biddeford Planning Board, a condition of the project's contract zone. Relevant excerpt below.

5. All trees within required 30' buffer areas around the parcel not shown as removed as part of the project shall remain. Trees within the buffer areas may only be removed if deemed hazardous and approved for removal by the Planning Department. Buffer areas shall be maintained and any removed trees shall be revegetated with new trees, approved by the Planning Board, as sufficient for re-establishing any loss of buffer as a result of their removal within a reasonable time-period. The Planning Board may enlist the services of a 3rd Party to assist in the review of any revegetation plans in buffer areas, at the expense of the project owner.

MJB did remove some dead standing trees and limbs in the area of concern shortly after occupancy and without authorization from the Biddeford Planning Board. MJB accepts fault and desires to resolve the situation and be a good neighbor in the community.

According to the Biddeford Planning Board, the residential neighbor at 12 Pinewood Circle has provided several photos of the pre-existing conditions taken during the Summer of 2023. These are shown below looking through the tree line to the YJC building.



Pre-existing tree buffer – Abutter's perspective - Summer 2023

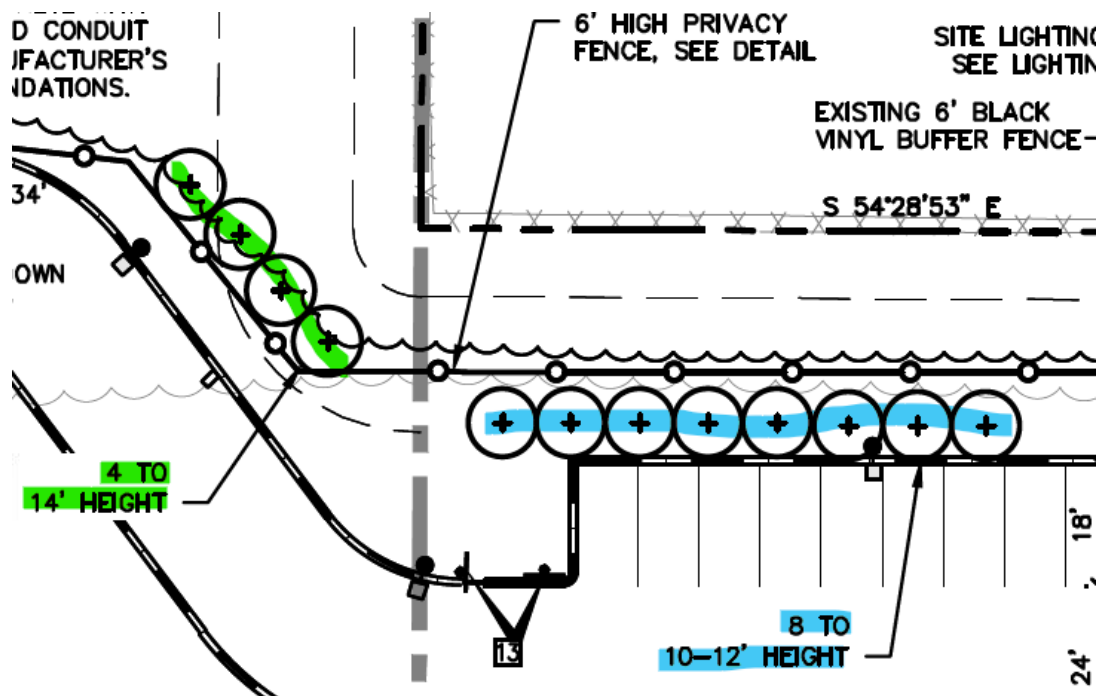
Below are pictures taken by MJB staff in early October 2024 from the perspective of the York Judicial Center. The specific angles taken are meant to provide the reverse perspective of the abutter's images from Summer 2023.



Current buffer – MJB perspective - Fall 2024

Through 2024, the MJB worked with the project's civil engineer and landscape architect for a recommendation to improve the tree buffer in the area in question. The following is the sum of our efforts.

The MJB proposes to install a quantity of twelve (12) arborvitae trees to revegetate the buffer zone between the YJC and 12 Pinewood Circle. The MJB and our consultants believe 12 trees will address the concern. It is our understanding that the area of concern is between the top of the privacy fence (~6') and the lower-level existing canopy (~12'). Through negotiation, taller trees were selected for this application. See below.



The actual location of each individual tree isn't detailed on the plan. The intent is for these trees to occupy the space between the existing vegetation. The selected contractor will be instructed as such.

MJB believes this plan meets the intent of the contract zone with respect to restoring the tree buffer. Thank you for the opportunity to address the comments from the abutter and MJB believes these added plantings will resolve the concerns.

Prepared by:

Jeremy A. Gray
Jeremy A. Gray, Director of Court Facilities
jeremy.gray@courts.maine.gov
Office: 207.822.0797

2.24.24
Date

CC: Roby Fecteau, Nan Whitten



State of Maine Judicial Branch
Administrative Office of the Courts
125 Presumpscot Street, Portland, ME 04103
PO Box 4820, Portland, ME 04112-4820

Jeremy Gray, Director of Court Facilities
Telephone: (Office) 207-822-0797
(Mobile) 207-699-6184

David Galbraith
City Planner, Deputy Director of Planning and Development
205 Main Street
Biddeford, ME 04005
207.284.9115
david.galbraith@biddefordmaine.org

Subject: York Judicial Center tree buffer and lighting comments

David,

The Maine Judicial Branch (MJB), through Biddeford Planning Board, is aware of abutter comments related to the tree buffer integrity at the York Judicial Center (YJC) at 515 Elm Street. Specifically, the abutter claims modifications were made to the tree buffer that were not approved by the Biddeford Planning Board, a condition of the project's contract zone. Relevant excerpt below.

5. All trees within required 30' buffer areas around the parcel not shown as removed as part of the project shall remain. Trees within the buffer areas may only be removed if deemed hazardous and approved for removal by the Planning Department. Buffer areas shall be maintained and any removed trees shall be revegetated with new trees, approved by the Planning Board, as sufficient for re-establishing any loss of buffer as a result of their removal within a reasonable time-period. The Planning Board may enlist the services of a 3rd Party to assist in the review of any revegetation plans in buffer areas, at the expense of the project owner.

MJB accepts fault and desires to resolve the situation and be a good neighbor in the community.

According to the Biddeford Planning Board, the residential neighbor at 12 Pinewood Circle has provided several photos of the pre-existing conditions taken during the Summer of 2023. These are shown below looking through the tree line to the YJC building.



Pre-existing tree buffer – Summer 2023

To illustrate the abutter's concern, additional photos from early Spring 2024 were provided. MJB feels the seasonal difference does not lend this to be an effective nor appropriate comparison to those above.



Modified buffer – Spring 2024

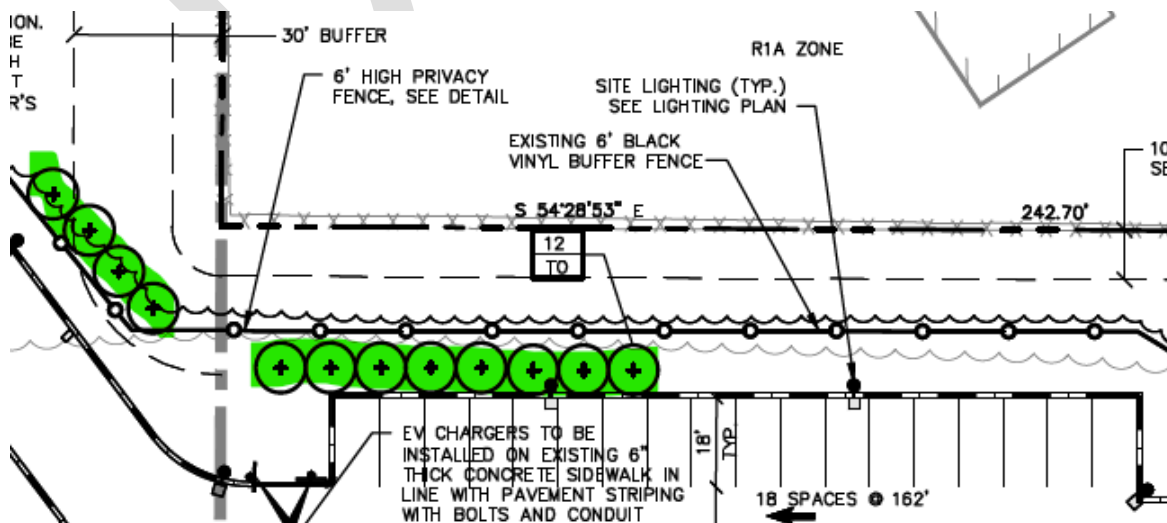
Below are pictures taken by MJB staff in early October 2024 from the perspective of the York Judicial Center. The specific angles taken are meant to provide the reverse perspective of the abutter's images from Summer 2023.



Current buffer – Fall 2024

Through 2024, the MJB worked with the project's civil engineer and landscape architect for a recommendation to improve the tree buffer in the area in question. The following is the sum of our efforts.

The MJB proposes to install a quantity of twelve (12) arborvitae trees to revegetate the buffer zone between the YJC and 12 Pinewood Circle. The MJB and our consultants believe 12 trees will address the concern. It is our understanding that the area of concern is between the top of the privacy fence (~6') and the lower-level existing canopy (~12'). Taller trees, 8'-10' tall, are selected for this application.



The actual location of each individual tree isn't detailed on the plan. The intent is for these trees to occupy the space between the existing vegetation. The selected contractor will be instructed as such.

The below pictures show smaller arborvitae (5'-6' at installation) at 2 years and 7 years following planting. These pictures are shown to demonstrate how the taller (8'-10') plants selected by the MJB will have a more immediate impact to the buffer.



14' at 2 years



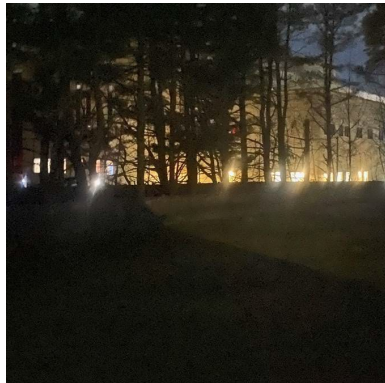
25' @ 7 years

These taller trees are document on the plan drawing. Snapshot below:

PLANT LIST			
KEY	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
TO	THUJA OCCIDENTALIS NIGRA	DARK AMERICAN ARBORVITAE	8' - 10' HGT.

MJB believes we have met the intent of the contract zone with respect to restoring the tree buffer. The MJB will maintain the additional plantings as part of the tree buffer per the contract zone language. That said, MJB believes storm damage and any similar 'act of God' are not an impetus for future buffer restorative action.

On or about the same time as the tree buffer comments surfaced, pictures were provided showing apparent after-hours light pollution from the building. See below:



Add a Caption

Tuesday • Apr 30, 2024 • 12:09 AM [Adjust](#)

IMG_1987

Apple iPhone 11 Pro Max

HEIF

Wide Camera — 26 mm f1.8



During construction the MJB worked openly with City of Biddeford to modify our lighting controls to accommodate abutters' requests while still meeting code requirements. No comments have been received by the MJB regarding the lighting since May 2024. At present, the MJB believes all lighting is operating as intended. It is important to note that exterior bollard lighting remains at 100% intensity at all times for emergency egress and interior lights will be turned on to support janitorial operations (times vary) and time-off after 15 minutes of inactivity in the space in question.

Thank you for the opportunity to address the comments from the abutter and MJB believes these added plantings will resolve the concerns.

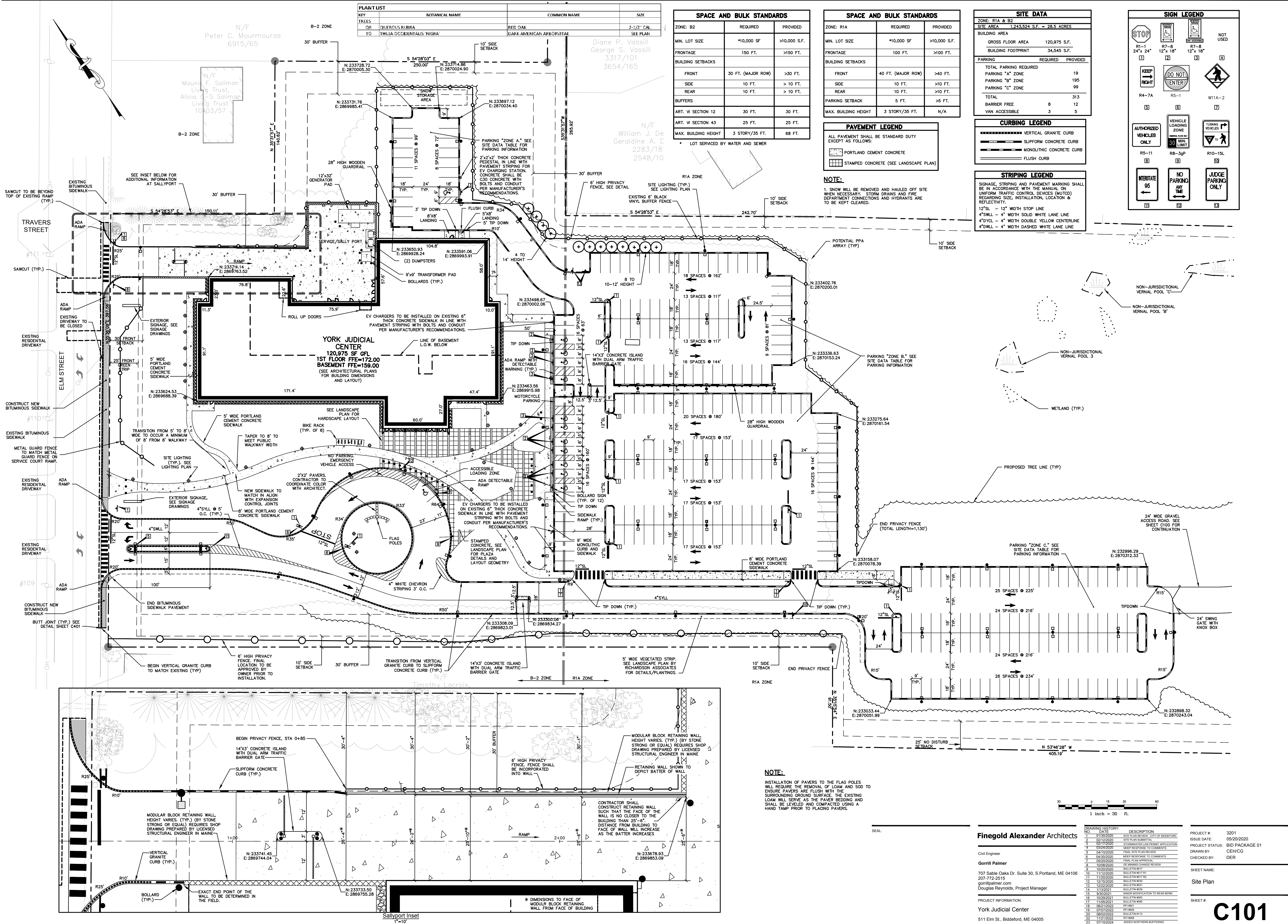
Prepared by:

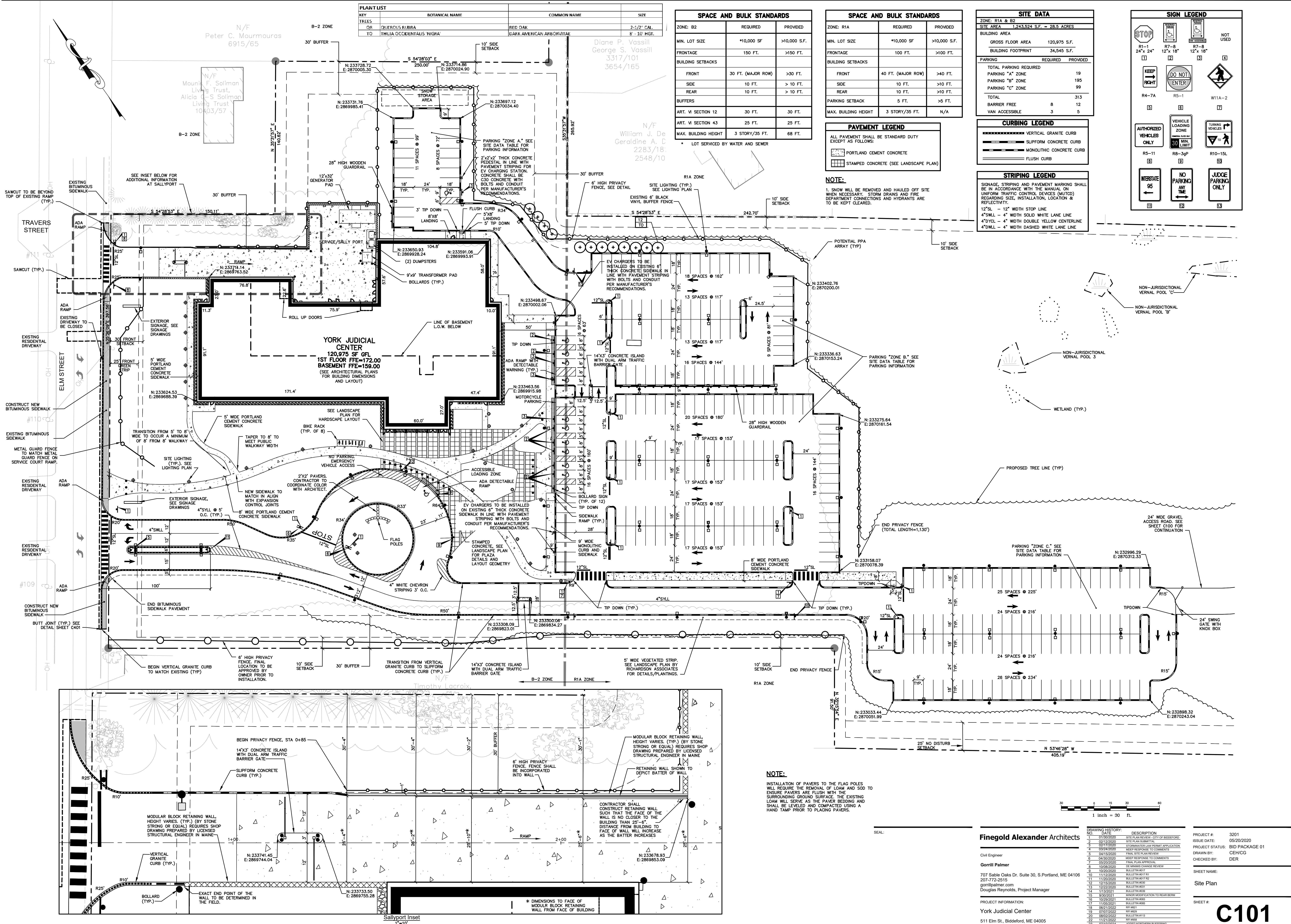
Jeremy A. Gray, Director of Court Facilities
jeremy.gray@courts.maine.gov
Office: 207.822.0797

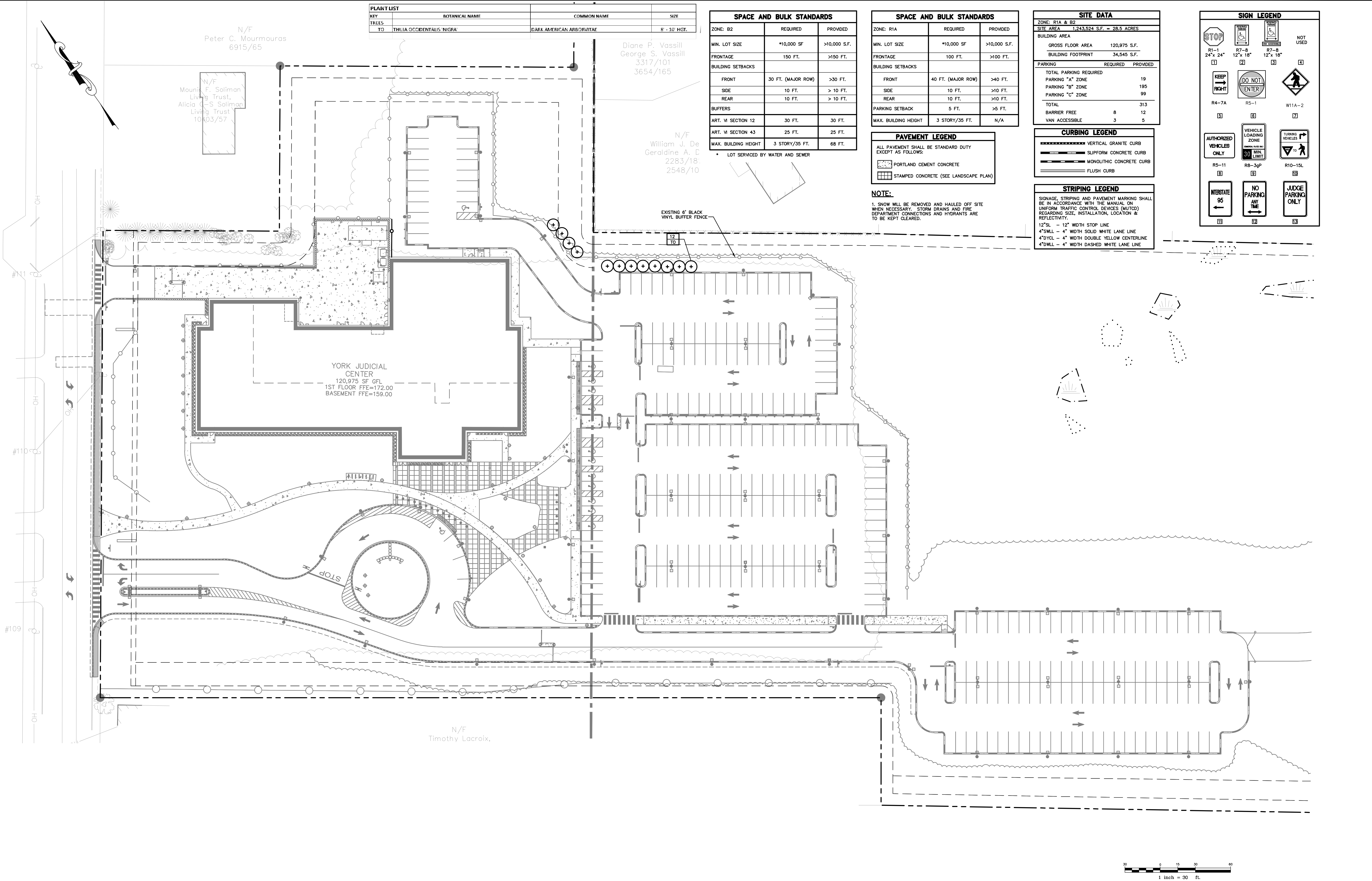
11.22.24

Date

Enclosures: YJC Sheet C101, Site Plan – 2 versions
CC: Roby Fecteau, Doug Reynolds, Nan Whitten







PLANT LIST			
KEY	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
TO	THUJA OCCIDENTALIS 'NIGRA'	DARK AMERICAN ARBORVITAE	8" x 10' HGT.

SPACE AND BULK STANDARDS		
ZONE: B2	REQUIRED	PROVIDED
MIN. LOT SIZE	*10,000 SF	>10,000 S.F.
FRONTAGE	150 FT.	>150 FT.
BUILDING SETBACKS		
FRONT	30 FT. (MAJOR ROW)	>30 FT.
SIDE	10 FT.	> 10 FT.
REAR	10 FT.	> 10 FT.
BUFFERS		
ART. VI SECTION 12	30 FT.	30 FT.
ART. VI SECTION 43	25 FT.	25 FT.
MAX. BUILDING HEIGHT	3 STORY/35 FT.	68 FT.

• LOT SERVICED BY WATER AND SEWER

SPACE AND BULK STANDARDS		
ZONE: R1A	REQUIRED	PROVIDED
MIN. LOT SIZE	*10,000 SF	>10,000 S.F.
FRONTAGE	100 FT.	>100 FT.
BUILDING SETBACKS		
FRONT	40 FT. (MAJOR ROW)	>40 FT.
SIDE	10 FT.	>10 FT.
REAR	10 FT.	>10 FT.
PARKING SETBACK	5 FT.	>5 FT.
MAX. BUILDING HEIGHT	3 STORY/35 FT.	N/A

PAVEMENT LEGEND	
ALL PAVEMENT SHALL BE STANDARD DUTY EXCEPT AS FOLLOWS:	
	PORTLAND CEMENT CONCRETE
	STAMPED CONCRETE (SEE LANDSCAPE PLAN)

NOTE:
1. SNOW WILL BE REMOVED AND HAULED OFF SITE WHEN NECESSARY. STORM DRAINS AND FIRE DEPARTMENT CONNECTIONS AND HYDRANTS ARE TO BE KEPT CLEARED.

SITE DATA	
ZONE: R1A & B2	
SITE AREA	1,243,524 S.F. ≈ 28.5 ACRES
BUILDING AREA	
GROSS FLOOR AREA	120,975 S.F.
BUILDING FOOTPRINT	34,545 S.F.
PARKING	REQUIRED PROVIDED
TOTAL PARKING REQUIRED	19
PARKING "A" ZONE	195
PARKING "B" ZONE	99
TOTAL	313
BARRIER FREE	8
VAN ACCESSIBLE	3

CURBING LEGEND	
	VERTICAL GRANITE CURB
	SLIPFORM CONCRETE CURB
	MONOLITHIC CONCRETE CURB
	FLUSH CURB

STRIPING LEGEND	
SIGNAGE, STRIPING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REGARDING SIZE, INSTALLATION, LOCATION & REFLECTIVITY.	
12"SL	12" WIDTH STOP LINE
4"SWL	4" WIDTH SOLID WHITE LANE LINE
4"DWL	4" WIDTH DOUBLE YELLOW CENTERLINE
4"DWL	4" WIDTH DASHED WHITE LANE LINE

SIGN LEGEND			
			NOT USED
R1-1 24" x 24"	R7-8 12" x 18"	R7-8 12" x 18"	
[1]	[2]	[3]	[4]
R4-7A	RS-1	W11A-2	
[5]	[6]	[7]	
RS-11	R8-3gP	R10-15L	
[8]	[9]	[10]	
[11]	[12]	[13]	

SEAL:

Finegold Alexander Architects

Civil Engineer
Gorriil Palmer
707 Sable Oaks Dr. Suite 30, S. Portland, ME 04106
207-772-2515
gorriilpalmer.com
Douglas Reynolds, Project Manager

PROJECT INFORMATION:
York Judicial Center
511 Elm St., Biddeford, ME 04005

NO.	DATE	DESCRIPTION
1	01/30/2020	SITE PLAN REVIEW - CITY OF BIDDEFORD
2	02/12/2020	SITE PLAN SUBMITTAL
3	02/17/2020	STORMWATER LAW PERMIT APPLICATION
4	03/24/2020	MEEP RESPONSE TO COMMENTS
5	04/15/2020	FINAL SITE PLAN REVIEW
6	04/30/2020	MEEP RESPONSE TO COMMENTS
7	05/01/2020	FINAL PLAN APPROVAL
8	10/08/2020	DE VARIANCE CHANGE REVIEW
9	10/20/2020	BULLETIN #017
10	11/12/2020	BULLETIN #018
11	11/20/2020	BULLETIN #019
12	12/15/2020	BULLETIN #020
13	12/22/2020	BULLETIN #021
14	11/13/2021	BULLETIN #022
15	8/30/2021	MINOR MODIFICATION TO REAR BERM
16	10/26/2021	BULLETIN #023
17	11/05/2021	BULLETIN #024
18	06/21/2022	RFI #021
19	07/07/2022	RFI #020
20	08/02/2022	BULLETIN #113
22	11/21/2022	RFI #020
23	07/10/2024	ADDED NORTHERN BUFFERING

PROJECT #: 3201
ISSUE DATE: 05/20/2020
PROJECT STATUS: BID PACKAGE 01
DRAWN BY: CEH/CG
CHECKED BY: DER

SHEET NAME:

Site Plan

SHEET #:

C101



Figure 1: SMALLER TREES (~14 FEET) PLANTED 2 YEARS AGO AT 5-6 FEET.



Figure 2: LARGER TREES (~25 FEET) PLANTED 7 YEARS AGO AT 5-6 FEET

TO: Biddeford Planning Board
FROM: Liam LaFountain, City Councilor - Ward 7
DATE: March 16, 2025
RE: York County Judicial Center Site Plan Amendment

Dear Chair Plotkin and Members of the Biddeford Planning Board,

Thank you for your time and effort in reviewing the proposed site plan amendment for the York County Judicial Center. Your attention to ensuring compliance with prior approvals, particularly regarding landscaping and site conditions, is greatly appreciated.

I am writing on this issue because, over the past three-plus years on the City Council, several constituents have contacted me with concerns about the Judicial Center's lighting and its impact on their neighborhood. This has been one of the most persistent complaints I have received from residents in this area, with issues ranging from excessive brightness to lights remaining on throughout the night, over weekends, and during holidays. Additionally, unauthorized tree trimming and limb removal occurred without approval, further reducing the natural buffer that was intended to shield nearby homes from the effects of lighting.

The proposed landscaping updates are a positive step in addressing some of these concerns, as dense, mature trees could help mitigate the impact of lighting over time. However, several abutters have expressed concerns to me that the newly planted trees, even at 12 feet, will take years to grow to a height and density necessary to provide a reasonable buffer. Given this reality, I have heard from abutters who have suggested that interim measures be implemented to reduce the immediate impact on their homes, and I am thus sharing these suggestions for your consideration:

Specifically, residents have suggested that the Judicial Center adopt additional conditions that would provide a more immediate improvement, namely:

- Planting additional trees along the full length of the parking lot to better obscure the brightness of the parking lot lights, which remain a significant issue for abutters.
- Implementing a structured lighting schedule to dim or turn off non-essential exterior lights earlier in the evening.
- Ensuring that interior lights are turned off in unoccupied areas, particularly after work hours.
- Addressing any malfunctioning lighting in a timely manner to prevent prolonged periods of unnecessary brightness.
- Requiring the Judicial Center to self-monitor and report lighting issues and malfunctions rather than relying on abutters or the Code Enforcement Department to identify and report problems.

Constituents have also encouraged me to drive by and pull into the Judicial Center parking lot after 8 PM, when most, if not all, employees have left, to observe firsthand the excessive lighting in the parking lot and inside the building. If you have the opportunity to do so, I would recommend it, as it may provide additional insight into the concerns raised by nearby residents.

I understand that several residents plan to attend Wednesday's meeting to share their experiences directly with the Planning Board. At least two constituents have confirmed they intend to speak,

and they may also provide pictures illustrating the impact of the lighting on their homes. Additionally, the Code Enforcement Department can confirm the frequency and nature of the calls and emails they have received regarding these ongoing lighting issues.

I trust in the Planning Board's expertise in reviewing these matters and appreciate your consideration of these perspectives as you assess the site plan amendment. These suggested measures may help achieve the outcome that many abutters are seeking—reduced light pollution and an improved quality of life—without unduly burdening the operations of the Judicial Center.

Thank you again for your thoughtful approach to ensuring that the Judicial Center remains a responsible neighbor. If I can provide any additional information, please let me know.

Good luck with your deliberations. Thank you for your time and for all that you do for the City.

With appreciation,
Liam

Liam LaFountain
City Councilor, Ward 7
liam.lafountain@biddefordmaine.org